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FOR THE CHIEF OF ARMY FIELD FORCES:

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The real danger from the effects of extreme cold or low temperature on personnel lies in the rapid cooling effect of the combination of low temperatures and wind, called wind chill. For example, in similar conditions of sunshine, the wind chill factor for a temperature of minus 40 degrees F. with a wind of two (2) mph has been calculated to be about the same as that for a temperature of plus 10 degrees F. with a wind of 15 mph. At minus 3 degrees F outside, the wind chill factor in the turret of the M26 tank is equal to a temperature of minus 35 degrees F. due to the type of ventilating and cooling system of the crew and engine compartments. With the outside temperature below 40 degrees the wind chill factor in the M4 series tanks is beyond human endurance. (CONFIDENTIAL)

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The lack of armored infantry to support tanks and to hold ground seized by tanks reduces the overall effectiveness of the tank units by at least 50%. There have been numerous occasions where friendly tanks have seized ground but have had to withdraw prior to darkness because friendly infantry could not keep up or could not advance through enemy SA and mortar fire. This lack of armored infantry is one of the most serious troop shortages in IX Corps. (RESTRICTED)

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LESSONS LEARNED - Offensive Operations

Tank-borne infantry cannot perform the armored infantry role. Infantry units employed as part of an armored task force for deep penetrations into the enemy rear must be provided armored personnel carriers.

A tank dozer should be included as a part of all large armored task forces in KOREA.
The CCF antitank doctrine calls for the maximum use of tank hunter teams employing rocket launchers, pole charges, satchel charges, and Bangalore torpedoes.

Effective infantry-tank communication and methods of target designation from infantry to tanks must be prearranged and understood by all elements.

Any armored column containing a Company or more of tanks should be supported by a tank recovery vehicle.

Small provisional armored infantry units can be formed when time permits, by utilizing half tracks and M39 AUV’s from Armored FA Battalions to mount existing available standard infantry elements.

The method of having tanks and infantry converge on the objective from different directions is particularly applicable to the attack of CCF reverse slope positions. (RESTRICTED)

Defensive Operations

Tanks should normally be included in the combat outpost when terrain permits. They may serve as the entire combat outpost; however, they must be screened by dismounted personnel at night.

Fewer tanks are lost to tank hunter teams when tank commanders fight with their hatches open than when "buttoned up." This does not apply to the driver.

A tank commander is more effective when he fights his crew than when he spends a large part of the action firing the turret mounted cal .50 machine gun. The .50 cal turret gun is advantageous when tanks are giving overhead fire support to advancing infantry, not when the attack is primarily a tank action.

Tank unit leaders command by means of their radio net and movement of their tank. A dismounted tank platoon leader is relatively ineffective in attempting to run over the battlefield to direct his tanks.

Mutual confidence between tanks and infantry is essential to success. Each must feel that the other will remain and fight when the situation is serious.
Tanks employed on the MIR are very effective against enemy personnel in the open.

Rocket launchers are relatively ineffective against properly supported tank attacks in open terrain. They are effective against tanks operating in close terrain, defiles, woods and built-up areas. When operating in such areas, tanks should be adequately supported by infantry. (RESTRICTED)

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The CCF attack principally at night. In the early light of dawn and just after dawn, CCF forces apparently are still in their attack formations or assembly areas. Counterattacks during this period have greater possibility of achieving surprise. (CONFIDENTIAL)

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Tanks and friendly rocket launcher teams form an excellent team to combat enemy armor. (RESTRICTED)

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DATE: May 1951

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1. The following items of equipment have been found to be ineffective:

   Pneumatic Nail-Driven. It is recommended that a better nail-driver be developed. Some form of cushion block is required in this tool to ensure that each blow of the piston is delivered to the nail-head. The driver now in use tends to bounce and ride off.

2. The below listed item of equipment is defective:

   Locke Hand Level. Of several tested, none reads true. In the present form, it is virtually impracticable to adjust. The level bulb should be secured to the level so as to permit the insertion of shims for truing. The adjustment, once made, should remain permanent.

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UNCLASSIFIED
OCAFF Form No 73
(Revised 15 Oct 51)
5. Strips secured to the bottom flanges of 40" built-up beams should be welded securely with filler material placed from the point where the strip meets the splice plate to its junction with the flange. Air spaces left in this region (when strip is appreciably thinner than the splice plate) lead to weld failures and buckling of the strip.

6. Cribbing placed under rollers should be solid. Pairs of 48" built-up beams can become canted in launching, thereby placing all the weight on one roller. Solid cribbing insures against failure and facilitates placing of jacks.

5. Shell-casing makes suitable forms for hand-rail post for concrete bridges. (Being used by contractor on Bok Há Bridge near Ichon.)

6. Clips presently being furnished for securing decking to 48" built-up beams have too small an opening to fit around the beams at the splice plates. An "I" shaped clip of standard commercial design would be preferable.

7. By applying the principles of aeronautical engineering design to the problem of fixed and floating military bridges, it is possible to develop bridging of much less weight per foot and for far greater span lengths than is now available. It is estimated that bridging so designed of aluminum for the Seoul Highway Bridge would aggregate only 150 to 175 tons. The tonnage of supplies actually required for this bridge was over 1100 tons disregarding such accessories as rafts, foot walks, and other construction aids. It is recommended that a strong emphasis be placed on furthering the development of long span, light weight, fixed bridging, and of rigid light weight floating bridging. Such bridging would have great tactical value, conserve tonnage, and greatly increase the useful output of engineer units. (CONFIDENTIAL)
The "pipeline" is not providing enough specialist skills. As a result, the majority of the men now holding specialist jobs cannot be rotated without reducing the operational efficiency of the 6th Medium Tank Battalion. Holding these men with no promise of relief in the future will also result in a reduction of operational efficiency. (SECRET)

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The 73d Heavy Tank Battalion has a quartermaster pump, gasoline dispenser, mobile, gasoline engine driven, 100 gallons per minute, Model PM-100. A tank battalion in full operation requires twelve (12) men, working sixteen (16) to eighteen (18) hours, to fill about 1500 five (5) gallon gas cans from 55-gallon drums by hand. A tank battalion in a static position needs a crew of twelve (12) men to fill 500 five (5) gallon gas cans in five (5) hours by hand. However, with the Model PM-100 pump, seven (7) men can fill 500 five (5) gallon cans in one (1) hour and fifteen (15) minutes without wastage. EUA Armory is attempting to obtain one (1) PM-100 pump for each tank battalion. However, PM-30 pumps (30 gallons per minute) may be substituted therefor. (RESTRICTED)

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FLAIL TANKS

The AT Mine warfare of the enemy has accounted for an estimated 34% of all UN Tank losses. On the I Corps front good tank terrain has been mined extensively by the enemy. In order to overcome this restriction on tank mobility, a special mine exploder or "flail" tank is being designed and constructed in the 30th Ordnance Group. Several of these can be made available to each Corps if tests are successful. It is a much better conceived and constructed "flail" than the WW II model. Improvements include a laminated steel spindle, 155-mm recoil springs to absorb the "shock" of exploding mines on the hydraulic lift system, and a separate power source to operate the "spindle." The biggest disadvantage is in the increased width of the tank and the problem of negotiating narrow KOREAN roads. (SECRET)
In the attack north from Yudong-ni, the enemy positions encountered were well dug-in and camouflaged. Artillery was placed on these positions with little or no result. If a direct hit was obtained, the position would be neutralized. However, this took many rounds of artillery and entailed the loss of much time. Tanks were ordered up to the front and with their direct fire weapon had the emplacements neutralized in a matter of seconds. In a few instances, the recoilless rifles were brought up and would neutralize the targets after a few rounds. (CONFIDENTIAL)

Tank fire is most accurate and effective in destroying enemy bunkers. (RESTRICTED)

The present mess kit should be discontinued and replaced by a serving tray kept at the company kitchen. (RESTRICTED)

CONCLUSION

Operations during February followed the general pattern developed during the previous month's actions: (1) isolation of enemy strong points; (2) intense artillery concentrations delivered against the dug-in enemy; (3) infantry assault supported by tremendous expenditures of tank ammunition. (RESTRICTED)

Throughout the month's operations, the enemy gave a convincing demonstration of his ability to camouflage his positions and to maintain fire discipline. Indicative of this capacity for concealment was the action fought by the Reconnaissance Platoon, 89th
Medium Tank Battalion, on 8 February. In this engagement, highly trained reconnaissance personnel were unable to observe the enemy although he was in position within 100 yards of their route of advance. Previous air reconnaissance had failed to locate his positions and artillery concentrations had failed to drive him from them. Furthermore, reconnaissance by fire conducted by the Reconnaissance Platoon from positions within 500 yards of his defenses failed to draw return fire. It was this ability of the enemy to conceal and ambush which constituted the primary limitation upon armored operations during the month of February. (SECRET)

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The effectiveness of the cautious tank-infantry team in flushing out the enemy cannot be overstated. Tank Company commanders employed their units over terrain which appeared, from map reconnaissance, impossible for tank operations. There were, in fact, few places in which infantry was placed where armor was not alongside in direct support. Tanks were placed on hill sides and advanced along trails on which it was virtually impossible to find a firm foundation for both tracks. On rare occasions when it was found after trial to be actually impossible to bring tanks into the forward infantry positions, the tanks were employed in the nearest available supporting positions. Although these operations were not spectacular in the usual sense of the armored break-through, they were conducted with splendid coordination on all levels and achieved complete success in driving the enemy from his positions.

A significant elaboration upon the basic pattern of the slow moving tank-infantry team was the use of the armored Task Force to increase the effectiveness of the cautious advance. The peculiarities of the Korean terrain and more particularly of Chinese tactics resulted in several modifications upon what has generally been assumed to be the mission of armored Task Forces of this nature. In general, these armored forces have been assigned the mission of penetration and maximum exploitation of the enemy's rear areas. Throughout the first phase of Task Force DOLVIN, however, definite limitations were placed upon the armored units despite the fact that the enemy did not appear to possess the capacity to stop an armored drive through his positions to the rear, had this been the intention of the Task Force Commander. Such a penetration might have been delayed by
enemy minefields for a short time, but its ultimate success seems to have been assured. The enemy did, however, possess the capacity to inflict serious damage upon such a Task Force in an unlimited attack, especially in its return to friendly lines, by utilizing his massed infantry forces to defend a series of easily constructed road-block strong points.

Within the definite limitations placed upon it in its initial operations, however, Task Force DOLVIN played a key role in the drive to the HAN. By virtue of its mobility, the Task Force was able to drive through the front lines of the slowly moving tank–infantry teams and thus relieve pressure upon them. Furthermore, the Task Force denied to the enemy the use of the chief road net in this region, with its hub at ANYANG, to reinforce his units operating on both flanks of the Task Force. Handicapped by his uncertainty as to Task Force DOLVIN'S intentions, the enemy doubtless realized that the Task Force possessed the capacity to attack to the North, East or West from ANYANG. Movement to the East or West would place the armored force with all its firepower between large enemy forces, already under frontal attack, and their rear areas. These capabilities inherent in the armored force kept the enemy off balance and insured friendly infantry force, engaged in the actual assaults of the two (2) hill masses, against large scale enemy reinforcement.

In these successive operations in the vicinity of ANYANG, Task Force DOLVIN made extensive use of an often overlooked advantage peculiar to armor: the ability to disengage. Maintaining constant pressure against the enemy strong points during the day and seizing them on three (3) successive occasions, the Task Force was nevertheless able to avoid massed infantry attack during the night by the slow moving enemy infantry. As a consequence, the enemy was unable to launch a strong counterattack against the Task Force which had displaced approximately four (4) miles to the rear each evening. The enemy, therefore, was never in a position to compensate by a night attack for the severe casualties inflicted upon his forces by Task Force DOLVIN in daylight operations. It seems reasonable to assume, therefore, that the enemy's main line of resistance was broken by the successes of Task Force DOLVIN'S operations in the vicinity of ANYANG. When these defenses were penetrated, enemy resistance along the entire western front weakened and Task Force ALLEN was able to dash to the HAN. (CONFIDENTIAL)
Lessons Learned

1. Tank-infantry teams utilized over appropriate terrain jar the enemy from his position, inflict maximum casualties and readily assist the advance of friendly forces against a well dug-in enemy.

2. Searchlights provided for night illumination are of definite value against an enemy attacking in mass at night. They are not too unwieldy to move over a limited road net, and are very desirable tactically. (RESTRICTED)

Recent T/O&E changes appreciably reduce machine gun armament of the Field Artillery Battalion. It is urgently recommended that this trend not be followed in this theatre - and that appropriate recommendations discouraging this trend be made to the Department of the Army.

The ability of an Artillery Battalion to defend itself on the march and in perimeter is proportional to the number of machine guns available. Comparisons between armored and towed artillery battalions greatly favor the T/O&E of the armored battalion by their machine gun superiority and their proven ability to defend themselves under attack here in Korea. The foregoing mentioned changes reflect opinions formed from the European type of warfare and are in opposition to current combat lessons being learned in Korea. (SECRET)

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Power Telephone

It is recommended that current allowances of Power Telephone (TP-9) be increased from two (2) to six (6) to allow one per battery in addition to the two (2) per battalion. With batteries widely
distributed, communication with them could be greatly improved if the battery had a power telephone (TP-9). With Service Battery invariably well to the rear, communications could also be improved by the use of the TP-9. (CONFIDENTIAL)

SOURCE: Command Report - 38th Inf Regt, 2d Inf Div
DATE: 1-28 February 1951

Evidence of enemy AT mines continued to increase during the period. Minefields encountered were of irregular pattern and of various sizes. As a rule AT mines were laid in pairs, one mine on each side of the road. These mines were laid the same width as our tank tracks thereby engaging both tank tracks simultaneously. In some instances three (3) or four (4) mines would be placed upon each other in order to give them more power. Many vehicles were lost by hitting mines that were laid on the shoulders of the roads. (CONFIDENTIAL)

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During the early part of the period two (2) of our patrols were ambushed. Neither patrol had cleared the high ground on the sides of the ambush point prior to moving through it. Patrols dispatched during the latter part of the month were directed to clear the high ground prior to advancing through a valley. This countermeasure proved very effective. (RESTRICTED)

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Again it was noted that enemy counterattacks were successful only when friendly troops were not dug-in. On occasions where friendly units were dug-in, the enemy counterattacks were beaten back. (RESTRICTED)

** ** ** ** ** **

During the attack on the Netherlands Detachment's defense line the enemy employed new tactics to take advantage of a penetration.
As soon as the penetration was made, illuminating grenades were set off on each flank of the penetration. Enemy troops in rear of the attackers quickly poured through the area between the illuminating grenades and exploited the penetration without loss of time and personnel. (RESTRICTED)

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Organic vehicles with forward units should be kept to a minimum and should be parked off roads in such a manner that march order formation can be effected without delay. Vehicles should be kept loaded with equipment not being used and drivers should know the location of equipment that must be loaded. Whenever retrograde movements are imminent, motor vehicles, with the exception of litter 1/4 ton trucks and communications vehicles, should be loaded and displaced to the rear. Remaining vehicles when forced to displace, should move with armored protection. (RESTRICTED)

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Battalions should conduct sufficient training to assure that Battalion Headquarters Company and extraneous personnel can reorganize quickly into fighting units. (RESTRICTED)

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On a number of occasions tanks and AAA AW SP vehicles furnished covering fires that permitted the withdrawal of platoon and company size units. Such employment should be exploited. (RESTRICTED)

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More training in destruction of equipment is needed and periodic checks should be made to assure that incendiary grenades and/or other means are readily available. (RESTRICTED)

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In tactical situations deteriorating into retrograde movements, where a regiment is widely extended in depth, and all battalions are not under operational control of the parent unit, early release to such control is imperative. Delay in receiving operational control of 3d Battalion denied effective employment and resulted in a loss of maneuver initiative. When such control was eventually received the tactical situation had reached a critically serious stage and only by sustaining abnormally high casualties in personnel and equipment
was this battalion capable of extricating itself. (SECRET)

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Many streams had to be forded on the MSR. This resulted in the failure of brakes. Many brakes had to be completely disassembled and cleaned before they would operate. (CONFIDENTIAL)

SOURCE: Command Report - 17th Inf - 7th Inf Div
DATE: May 1951

Due to the lack of experienced replacements being received in the regiment, it has become necessary to initiate an extensive training program within each unit. Schools have been established to train the following personnel: medical aid men, tank men, switchboard operators, radio repairmen, cooks and bakers, wiremen, heavy mortar crews, drivers, administrative personnel, message center clerks, clerk typists, antitank and mine personnel, intelligence personnel, and counterfire personnel. (CONFIDENTIAL)

SOURCE: Command Report - 7th Inf Div
DATE: May 1951

It is noted that supply discipline was being emphasized by all units. During the month of April, 348 Statements of Charges were received. (RESTRICTED)
ADMINISTRATION

Due to the distance between the battalion CP and its personnel section at Division Rear (usually 75-100 miles) administration within the unit is seriously hampered. This could be overcome by returning the personnel section to this unit. It could perform its duties very efficiently at Service Battery. (REstricted)

From their present positions Battery "B" could effectively reinforce the fires of the New Zealand artillery with good depth even though there were high peaks on all sides, and in spite of Battery "B"'s inability to give high-angle fire. There seems to be over-emphasis on the necessity for high-angle fire in Korea, although it is definitely a desirable characteristic to have with all weapons. (CONFIDENTIAL)

With our superior training, firepower and equipment we can and must teach our men to rally around their equipment and protect it. This equipment, if manned, will contribute greatly towards the individual's protection. All men must be made to fight as infantry if and when necessary. Panic, not the enemy, was the most influential contributory factor in the abandonment and destruction of equipment. (CONFIDENTIAL)
Of particular importance was the skillful employment of massed artillery fires. The division artillery, reinforced, inflicted an estimated 18,000 casualties on the enemy during the critical period, 16 through 21 May. (RESTRICTED)

** * * * * * *

Radar controlled medium bombers operating at night were instrumental in disorganizing attacking Chinese forces. Again and again, accurate bombing dispersed and disorganized enemy troop concentrations prior to their attacks. The effectiveness of medium bombardment was found to be directly proportional to the functioning of intelligence agencies, with emphasis on speed of transmission of information. (SECRET)

** * * * * * *

About the 16th of May the great CCF offensive hit the 2d Division and the supply services were called on to supply unheard of quantities of ammunition, gasoline, etc. For example, in a 24 hour period (1800 00 to 1900 00 May) over 44,000 rounds of artillery of all types were expended by the Division Artillery. Yet, the supply was kept up and a favorable stock level of over 18,000 rounds maintained in the ASP. (RESTRICTED)

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EVALUATION AND RECOMMENDATIONS

Under present regulation, the 2d Division is limited to one helicopter. When this aircraft is made unavailable because of repairs, many precious hours are lost. The time required to repair the plane and the number of times repairs are necessary make this a serious problem. The number of helicopters assigned to a division headquarters could, with profit, be quadrupled. (RESTRICTED)

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It was observed on numerous occasions that frontline commanders hesitated to call for close artillery support because of a frequently justified fear of short rounds. It is important that constant
attention be directed to the elimination of faulty range estimation and firing techniques. They can spell the difference between an easy victory and a costly defeat. (RESTRICTED)

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Tactical units frequently failed to observe basic rules of camouflage and both tents and shelters were placed on prominent terrain features where they invited enemy fire. (RESTRICTED)

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Interrogation of prisoners of war indicates that the one weapon in the UN arsenal which creates the greatest panic in the enemy ranks is the massed fire of our artillery. (RESTRICTED)

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The use of Korean carrying parties organized into Civilian Transport Companies (CTC), proved an excellent expedient in the wild terrain of Korea, and should be studied for application in future actions. All Infantry regiments were unanimous in their praise of this augmentation to the transportation facilities. (RESTRICTED)

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Periodic Operations Reports were utilized during the month of May to disseminate information of immediate importance to the tactical units. This expedient supplemented letters of instruction and other more common media. (RESTRICTED)

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DATE: April 1951

Maps were lacking in accuracy and there was an appalling lack of aerial photographs. Readable 1/25,000 meter grid photo mosaics would have been most helpful. (SECRET)

UNCLASSIFIED

OCAFF Form No 73

(Revised 15 Oct 51)
Certain combat vehicles have been received from the Red River Arsenal for processing which were difficult or, in some cases, impossible to process due to defective major assemblies such as engines, clutches, steering brakes, bearings, etc. One carriage, motor, gun, from Red River Arsenal had water instead of oil in the recoil mechanism. (SECRET)

Mission: port clearance, troop movement, reinforcing transportation of units in Pusan area.

Vehicle daily average availability

<table>
<thead>
<tr>
<th>Ton Truck</th>
<th>Tractor Trailer</th>
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<tr>
<td>113-2/3</td>
<td>91-5/10</td>
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Total monthly load carried

<table>
<thead>
<tr>
<th>Personnel</th>
<th>Cargo</th>
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<tbody>
<tr>
<td>76689</td>
<td>106877</td>
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Daily average load carried

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<thead>
<tr>
<th>Personnel</th>
<th>Cargo</th>
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<tr>
<td>2474</td>
<td>3448</td>
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Total monthly mileage

<table>
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<th>Personnel</th>
<th>Cargo</th>
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<tbody>
<tr>
<td>27272</td>
<td>143660</td>
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Total gasoline drawn

<table>
<thead>
<tr>
<th>Gallons</th>
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<tr>
<td>174,000</td>
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Searchlights were first used for battle illumination on the 12th of April and were used frequently until the 22d. The Infantry
Regiments were not overly-impressed with the value of the lights and felt that they were kept too far in the rear. It was decided toward the end of the month that the lights would be utilized only after a major enemy attack was launched against the 2d Division defense line. (CONFIDENTIAL)

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An attempt was made to train all members of gun crews in the position of gunner. Units not on the frontline were directed to improvise targets and improve their gunnery. (RESTRICTED)

**SOURCE:** Command Report - 11th Engr C Bn
**DATE:** April 1951
Source No. 140

As the enemy continued his attack, both companies were ordered to lift the M-2 bridge on the Han-ton River. Work began at 1800 and by 2130 approximately 300 feet of M-2 bridging was disassembled and hauled to the I Corps Engineer Dump. (RESTRICTED)

**SOURCE:** Command Report - 1169th Engr C Group
**DATE:** April 1951
Source No. 141

Recommend that Engineer Combat units be assigned one (1) mobile road grader per company; that an Engineer recovery team be organized to follow up advancing Engineer units with sufficient heavy equipment to salvage up to a D-8 dozer; and that one (1) 5-KVA diesel generator be assigned to each company in an engineer combat battalion inasmuch as the companies are usually separated and much of their work is continuous throughout the day and night. (CONFIDENTIAL)
In order to enforce specifications and to improve the quality of workmanship, particularly on bridge projects, it was found necessary to emphasize the system of continuing job inspections. Completion inspections of projects were accomplished prior to releasing units from assigned responsibilities. (RESTRICTED)

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Breakdown of roads in the CHECHON area during the week 25-30 March was partially due to poor sub-grade and lack of rock base, however, the use of so-called decomposed granite for surfacing material proved to be a contributing factor. Such material often contained such a high percentage of clay and fines that it was subject to rapid disintegration during periods of wet weather. It is essential that patrols operate continuously during heavy rains to open side ditches and culverts to assure uninterrupted flow of water away from and off the roads. (RESTRICTED)

*************

If indigenous civilian laborers are to be utilized efficiently in the forward areas, they must be provided with adequate food, shelter, clothing and medical care from Army Sources. (RESTRICTED)

*************

The supply section of a group headquarters should be augmented with sufficient personnel, equipment and transportation to enable it to draw, breakdown and issue Class I and Class III supplies for all assigned and/or attached units. (RESTRICTED)

The Battalion was committed as Infantry in a blocking position. This was difficult due to the lack of time to reorganize for an Infantry mission, lack of mortars, and lack of communications with supporting and flank elements. (CONFIDENTIAL)

*************
It is felt that Engineers should be used as Infantry only in extreme emergency, and then should be reinforced with high angle weapons and given time to reorganize as Infantry rifle companies. Information should be given as to the mission, friendly and enemy situation, and how contact with Division CP should be established. More information would give better assurance of successful completion of any such Infantry missions. (RESTRICTED)

SOURCE: Command Report - 76th Engr Const Bn
DATE: March 1951

The Battalion was given the mission of putting the Mojin Bridge, one mile south of the 38th parallel and across the Pukhan-gang River, back into operation. The decision was made to use Bailey Bridging. Three (3) spans had been blown out of the bridge leaving two (2) gaps - one of 100' and another of 320'. The repair job was complicated by the fact that one of the concrete piers was badly damaged and still had debris from the original bridge hanging from it. Demolitions and steel cutting torches were used to clear away the debris. It was found that the pier was 16 feet below the level of the original bridge. The Bailey was launched over the long gap. When it reached a point directly over the damaged pier, a double Bailey panel pier was placed on the existing concrete pier, a rocking roller was placed on top of the Bailey pier, and the bridge pushed across the remaining gap. Then the bridge was jacked up, the roller removed, and after minor adjustments, was ready for traffic. (RESTRICTED)

Company "B" was forced to cut the two (2) M-2 bridges across the Pukhan-gang River loose and anchor them parallel to the bank to protect them from the flood waters released from the Hwachon Reservoir by the Chinese Communist Forces. The Pukhan-gang River made a rise of 8 feet within 12 hours. (RESTRICTED)
The unit laid a great many antipersonnel mines of all types in blocking routes of approach to the pass. The use of SCHU mines provided a problem in pattern and recording, as no standard pattern for laying the mines is known to the unit. A pattern used by the ARTY platoon identical to the six-row antitank minefield pattern but with 1/2 the distance between mines (a density of 1 mine per foot of front) worked well. (RESTRICTED)

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An estimated 175 tons of enemy ammunition was destroyed by placing it (in original crates) in a gulley and burning it with gasoline and diesel oil. The method worked exceptionally well. The crates helped the fire and the gulley kept the ammunition from being scattered before it was detonated. (RESTRICTED)

Communications

1. Generally unsatisfactory. During the entire Korean campaign line companies have always been separated from the battalion CP. Laying miles of wire, operating a switchboard and trouble shooting is a task too great for the small communications section of this Battalion.

2. The use of radio, AN/GR 9 has been attempted by the Battalion; however, due to the mountainous terrain, results were unsatisfactory. (RESTRICTED)
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<td></td>
<td>A total of 228 Prisoners of War were taken of which 30 carried a &quot;Safe Conduct Pass.&quot; (CONFIDENTIAL)</td>
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<th>SOURCE:</th>
<th>Command Report - 72d Tank Bn, 2d Inf Div</th>
<th>DATE:</th>
<th>May 1951</th>
<th>Source No. 148</th>
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<tr>
<td></td>
<td>EVALUATION</td>
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<td></td>
<td>A tank battalion headquarters is not capable of serving as command headquarters for a large task force operation without additional personnel.</td>
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<td>The infantry sustains heavy losses from small arms fire when riding into the battle zone on the decks of tanks. They should be transported in armored personnel carriers. (CONFIDENTIAL)</td>
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<tr>
<th>SOURCE:</th>
<th>Command Report - 73d Engr C Bn</th>
<th>DATE:</th>
<th>January 1951</th>
<th>Source No. 149</th>
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<tr>
<td></td>
<td>RECOMMEND</td>
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<td></td>
<td>1. One D-7 angle dozer per combat platoon for a total of three (3) per Engineer combat company.</td>
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<td>2. A smaller rear loading trailer to replace the front loading semi-trailer. The latter is too long and wide for the narrow, twisting and mountainous roads in Korea. (CONFIDENTIAL)</td>
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UNCLASSIFIED
The unit received two (2) Flame Throwers which were not used at all. The Flame Thrower is an excellent weapon against the enemy when he is dug-in. However, because of its weight and the difficulty of carrying it over this terrain, its employment is sometimes impractical. (RESTRICTED)

RECOMMENDATIONS

1. That in road construction in this theatre extremely deep ditches be constructed along side all roads to intercept the subsurface water before it reaches the road bed.

2. It is suggested that more consideration be given to the repair of bridges rather than the construction of temporary bypasses. It has been found that raising spans and restoring abutments took relatively no more time than the construction of a bypass. (CONFIDENTIAL)

The Ammunition Storage Areas and Railhead experienced their first operations in outloading of ammunition by lot number. The problems encountered, primarily the lack of lights and unsegregated stacks, were numerous. The resulting errors that had to be corrected by the day shift indicates that the feasibility of outloading by lot number at night is out of the question at this time. (The 335th Ordnance Battalion is responsible for the operation of Hume Ammunition Depot) (CONFIDENTIAL)
| SOURCE: | Command Report - Ord Sec - 2d Log Comd (C) - 226th Ord Base Depot |
| DATE:   | April 1951 Source No. 153 |

A survey was made regarding Dues Out on wrist watches. It was learned that Dues Out at Field Depots to Forward units have been filled and Field Depots now had watches in stock. Due to the fact that Ordnance Base Depot #1 had 8711 still Due Out, it was the belief that duplications have been reported. (Watches have been controlled and allocated by EUSA since March 1951.) It was recommended that Ordnance Base Depot #1 screen and cancel all requisitions prior to that date. (SECRET)

| SOURCE: | Command Report - 60th Ord Gp |
| DATE:   | 1-30 April 1951 Source No. 154 |

An investigation was conducted during the reported period to ascertain the reasons for failures of the hydropneumatic type of recoil mechanisms. After a complete check with the 250th Ordnance Ballistics Team, the **using** units and Ordnance maintenance support units, it was determined that the major factors contributing to the failure of these mechanisms were as follows:

1. Excessive rate of sustained fire, causing overheating of the mechanisms.

2. Excessive use of Charge 7, which subjected the mechanism to continued extreme shocks and pressures. (CONFIDENTIAL)

| SOURCE: | Command Report - 2d Engr Spol Brig |
| DATE:   | March 1951 Source No. 155 |

Valuable cargo hauling time was lost during the period due to numerous flat tires caused by shell fragments and nails around the Inchon area. To solve this problem plans were made by A Co, 562d
EBM Bn, to construct an electromagnet for use in sweeping local roads. (RESTRICTED)

**SOURCE:** Command Report - 328th Ord Bn

**DATE:** December 1950

Winter weather conditions greatly curtailed maintenance production, particularly during hours of darkness. It is recommended that tents, maintenance shelter, with frames and adequate heating units be added to each Ordnance Maintenance Company operating in snow or extreme cold. (RESTRICTED)

***

In order for this command to perform its assigned mission, it was necessary to utilize a large percentage of unit personnel as vehicle drivers. Driver training in trucks, 2½-ton, .6x6, should be included in the training of the Ordnance soldier. (RESTRICTED)

***

Artillery maintenance sections experienced considerable difficulty in heating artillery pieces for manometer tests. Improvised heaters proved unsatisfactory from a mobility or capacity standpoint. Heating units suitable for artillery manometer testing would prove of great benefit. (RESTRICTED)

***

The operation of a vehicle and artillery park, in addition to supply of Ordnance Class II & IV, required maintenance support for the Ordnance Field Depot. Furnishing maintenance personnel for stock vehicles and artillery detracted from the assigned maintenance mission. It is recommended that Maintenance Teams (T/O&E 9-500) be attached to an Ordnance Field Depot in proportion to the vehicles and artillery being received by the Depot. (RESTRICTED)
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Fort Monroe, Virginia

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FOR THE CHIEF OF ARMY FIELD FORCES:

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157 thru 182

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203-204 Supt, USM, West Point, NY
The Commanding General directed that all vehicles in the Division be marked at the highest position possible in addition to the normal markings on the front and rear bumper of each vehicle. The step was taken in order to easily identify units to which the vehicles belonged and thereby expedite traffic control of convoys. The constant presence of either mud or dust obliterated bumper markings. (RESTRICTED)

Pressure from higher headquarters continued on searching for, reporting and evacuating captured enemy material. The problem now became one of coordination between the reporting and evacuating agencies. It has been found that items were reported incorrectly, both in types and quantities, and were therefore impossible to evacuate as requested. When large ammunition dumps were found, it was particularly hard to make initial inventories and final evacuation agree. There was also the problem of who was going to evacuate these items when found in large quantities; units were responsible for evacuation to the limit of their capabilities, but these were soon exhausted. The Division was meeting the problem by detailing transportation to ordnance for such recovery while the units remained responsible for guarding the dumps. No solution has yet been reached to balance the daily reports and the monthly technical service captured material reports. (RESTRICTED)

Once again a critical shortage of oxygen and acetylene existed. It was often impossible to perform maintenance on vehicles without these items. It was never possible to keep much oxygen and acetylene on hand because, as in the present case, so many vehicles pile up on the deadline awaiting arrival of oxygen and acetylene, that the new stock is immediately dissipated. (RESTRICTED)
The problems involved in accomplishing the tremendous task of maintaining the Division’s vehicles and other Ordnance equipment were magnified by the rapid advances of the Division. The maintenance section of the Ordnance Company, by using a leap-frog system that enabled one platoon to remain in place for a longer time and to work unmolested, increased its production a great deal. (RESTRICTED)

Source: Command Report - 6th Medium Tank Bn
Date: March 1951

Air observers should critically regard the width of a road before its projected use by heavy vehicles. (RESTRICTED)

Source: Command Report - 70th Tank Bn (Heavy)
Date: April 1951

The first and third Platoons of Company "D", from opposite sides of ridge of Hill 278, placed fire on entrenchments. Upon assault by 1st Platoon tanks, the Chinese ran over the ridge, coming under fire from 3d Platoon tanks. Many Chinese then retreated to the opposite side and once again came under the deadly fire of the 1st Platoon. This continued until all Chinese on the ridge were destroyed. (RESTRICTED)

Source: Command Report - 6th Medium Tank Bn
Date: April 1951

During the period 1-22 April 1951, five (5) tank patrols were conducted from ten (10) to fifteen (15) miles into enemy territory. Artillery Forward Observers, and in some cases, Air Forward Controllers, accompanied the patrols and achieved excellent results. (RESTRICTED)

* * * * * * * *

OCAFF Form No 73
(Revised 15 Oct 51)
The major problem involved in the rotation program is reconciling the low state of training of replacements received as compared to the highly skilled rotteees returned to the ZI. As long as replacements are received in relatively small groups, they can be integrated into tank crews on the line and trained by the old crewmen. This method of training would least affect the combat efficiency of the organization. (CONFIDENTIAL)

* * * * * * * *

It has been found that M-32 recovery vehicles with radial engines are inadequate for towing M-46 tanks due to their lack of power. The M-32 recovery vehicle with a Ford engine performs admirably. (CONFIDENTIAL)

SOURCE: Command Report - Aviation Section NUSAK

DATE: May 1951

RECOMMENDATIONS

1. That SR 385-10-43 be amended to clarify distinction between major and minor aircraft accidents.

2. Future personnel planning should include greater availability of trained and qualified Army aviators so as to permit a rotation of flying duties.

3. That the replacement stream provide a flow of school trained aircraft mechanics.

4. All limited standard aircraft should be returned and only one model of aircraft for each class, i.e., rotary, two (2) and multi-passenger fixed wing, should be used.

5. Engineer pilots, helicopter qualified should be provided for Engineer units. (CONFIDENTIAL)
The caliber of replacement personnel appears to be very satisfactory. The majority are draftees with fourteen (14) weeks basic training. (CONFIDENTIAL)

Most halted columns were caused by inconsiderate drivers and ineffective officer supervision. On two (2) occasions, halts of 30 minutes or more, affecting miles of vehicles packed bumper to bumper, were caused in each case by one disabled vehicle and the build-up of vehicles three (3) abreast trying to pass. Evidence indicated that too many officers were prone to sit back in their vehicles and let circumstances work themselves out. In neither case was a justifiable obstacle found for the halting of the column, yet these halts caused the column to build-up from Ayang-Ni to Yongdong-Po, a distance of about ten (10) miles, and critically affected the evacuation of units from Seoul. (RESTRICTED)

Recommend that an Ordnance Artillery Vehicle Park Company be assigned to this command to combat load, control issue and complete processing of major items. Currently, field depots are performing this mission, using qualified mechanics and inspectors detailed from the direct support Ordnance Medium Maintenance Companies. (RESTRICTED)
Several items of unserviceable equipment were received during the period, indicating sabotage, carelessness in assembly, and faulty manufacture. Examples are:

1. 155-mm Howitzers - right hand studs on both wheels.

2. Vehicle, tank recovery, M-32 - gas tanks full of oil; ground electrode broken off close to base, and center electrode broken off close to porcelain on spark plug.


4. Engine assembly for M/T Vehicle - main bearing oil seal leaking very badly.

5. Carriage, motor, multiple gun, M-16 - inlet gas line filled with lead.

6. Tank, M-4A3EC - fuel system and gas tanks full of water.

(DIRECT)

During the month of May the Artillery with X Corps used VT fuse with 26 percent of the ammunition expended. (CONFIDENTIAL)

REQUIREMENTS FOR L-19 PROPELLER MODIFICATION

Request consideration be afforded the matter of developing a two (2) position propeller for use on the L-19 aircraft in order
to increase the speed. To minimize the damage from enemy fire it is essential that the aircraft be capable of developing speeds which will limit the duration of exposure to such fire. In addition, a much greater time is required to accomplish courier missions than would be the case if a faster cruise were available. (CONFIDENTIAL)

***

L-19 PARKING BRAKE MATERIAL FAILURE

Malfunction of the parking brake of the L-19 aircraft has recently developed. It has been found that an excessive build-up of pressure when releasing the parking brake has caused failure of the brake housing. It is believed that improper parking brake setting by the pilots is the primary cause of the malfunction; however, the units have been advised to disconnect the parking brake in order to prevent future failures of this nature. It is recommended to the aviation units that the control lock be used in lieu of the parking brake when securing the aircraft. (CONFIDENTIAL)

SOURCE: OCAFF Observer Team

DATE: 12 October 1951 Source No. 168

The Corps G3 Air stated that in his opinion the Division G3 Air was not in a position to properly advise the division commander on air support matters while stationed in the FSCC. As a result, commanders and G3s were selecting the targets and the G3 Air merely acted as a forwarding agency for the requests. He felt that the Division G3 Air adequately fulfilled his role as a coordinator, but not as an air advisor to the commander. (CONFIDENTIAL)

SOURCE: Command Report - 38th Inf Regt, 2d Inf Div

DATE: April 1951 Source No. 169

REORGANIZATION AND RECEIPT OF REPLACEMENTS

Except for the first six (6) days of the month, the regiment was in reserve, yet the regiment had a total of 204 non-battle casualties. This was an excessive number. It was found that over
100 of the non-battle casualty cases were men who joined the regiment since the February 12 action and, as pointed out in the March evaluation report, the majority of these replacements came from ordnance, quartermaster, and engineer units and truck companies located in rear areas. Although these recent replacements made up only 30% of the regimental strength, they accounted for 50% of the non-battle casualties. Also during the month the regiment had seven (7) self-inflicted wounds, five (5) of which were men who had joined the regiment since 12 February. Stragglers were numerous during the first six (6) days of the month and the main offenders were new men who had become exhausted or lost; or, never having received infantry training before, became confused and lacked confidence in themselves. (SECRET)

**********

A great number of cases came up where enlisted men had physical defects, such as bad eyesight not corrected by glasses, severe flat feet, disturbances from old wounds and other similar defects that rendered the men unfit for duty in an infantry regiment. These men were given a new profile but still remained in the regiment after several attempts to have them reassigned to jobs in rear areas. Medical channels would not handle such cases, as individuals were not sick but only had physical defects. (CONFIDENTIAL)

**********

Again during the month, while the regiment was in reserve, a group of replacements was received from every branch of service but the infantry. Men from ordnance, transportation, engineer units, etc., had not had any training with the infantry since their basic training days two (2) or three (3) years ago. In addition, many of the new replacements were unfit physically for assignment in an infantry unit. As a result these individuals were a "drag" on the rest of the outfit. (CONFIDENTIAL)

**********

It is sincerely believed that greater emphasis should be placed on the physical profile. A warm body is not enough in a combat unit and is frequently a handicap rather than a help. Soldiers lacking in stamina and/or courage are best employed elsewhere. (CONFIDENTIAL)
<table>
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<th>SOURCE:</th>
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<th>DATE:</th>
<th>April 1951</th>
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Many of these replacements were re-profiles without previous experience in Ordnance. This necessitated an intensive program of on the job training. (CONFIDENTIAL)

<table>
<thead>
<tr>
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The Control Point at the 1st Ordnance Maintenance Battalion (Prov) was given authority to turn away organizational vehicles being submitted for repair or turn-in if organizational maintenance had not been performed to meet the required standards.

Roadside "spot check" inspection teams were put into operation. These teams operated at fifteen (15) different points. Two (2) teams were manned daily to cover the greatest number of available vehicles. These inspections have been instrumental in decreasing the organizational deficiencies from an unsatisfactory rating to a satisfactory rating of 2.21 deficiencies per vehicle during the month of operation.

Contact teams visited organizational motor pools for the prime purpose of reducing the number of vehicles on deadline. The teams were hampered by the lack of adequate transportation and could only carry a limited amount of spare parts and sub-assemblies to the using units. Despite this fact, they accounted for a twenty-five percent reduction in the number of deadlined vehicles in organization motor pools. (RESTRICTED)

|--------|-------------------------------------------|-------|---------------|---------------|

While wires and mine obstacles were excellent in slowing down the first waves of enemy, their inclination to utilize column attacks made these obstacles effective only against the first few waves. (RESTRICTED)
The use of artillery in support of patrols proved very effective. A forward observer moved with each patrol. As the patrol advanced, the FO would periodically call for a registration. As a result, when the patrol ran into the enemy, there was no time lag between the adjusted fires and the "fire for effect." It is recommended that all patrols probing deep into enemy territory use this system, for maximum enemy casualties. (RESTRICTED)

Patrols departing from various company areas would have to be guided through the minefield. By observing these departures the enemy could ascertain the safe lanes in the minefield. To offset this, a certain portion of the minefield would be disarmed just prior to daylight and the patrol would pass through the area, just as if there was nothing there. This proved to be very effective in deceiving the enemy. (RESTRICTED)

Our greatest asset was the bunker-type emplacement with overhead cover. This overhead cover should be thick enough to withstand our artillery "f" fires. Time and time again the Chinese would penetrate our positions only to be repulsed by artillery "f" fires which we called on our position. In addition, it was learned that, if possible, bunker-type emplacements should have apertures in all directions. Then the enemy cannot assault the position from flank or rear without being detected. Also, these bunkers should be constructed for three (3) men to insure maximum firepower as well as a feeling of security among the men. (RESTRICTED)

The use of tactical wire in conjunction with minefields did much to stem the Chinese. However, it is felt that a 5-strand (toward enemy) double apron fence is the most effective barrier. (RESTRICTED)

It is recommended that in operating over difficult terrain, the 3.5 rocket launcher be replaced by a light machine gun to increase the firepower. At no time during the past month was the 3.5 rocket launcher used when the same mission could be accomplished by the 57-mm recoilless rifle. A 3.5 rocket launcher ammunition bearer is only able to carry a few rounds due to the weight. As yet, suitable targets for the 3.5, such as tanks, have not been encountered. The
3.5 rocket launcher could be left in the trains and if an operation is made over tank country then the 3.5 rocket launcher could be utilized. (RESTRICTED)

Civilians approaching friendly tactical wire and minefields should not be turned back, but should be allowed to pass through friendly lines and assembled, under guard, in the rear areas. It is felt that on some occasions, civilians that approached our positions and were turned back relayed vital information concerning our defense area to the enemy. (RESTRICTED)

During the period 1-15 May, a new system of patrolling was introduced: a series of phase lines were set up and as each phase line was reached, the patrols halted, made lateral communication, and awaited orders from regiment to move to the succeeding phase line. This method minimized the opportunity for enemy encirclement, concentrated the firepower of patrols, and gave members of the patrols an added sense of security. This method proved to be very satisfactory and is highly recommended. (RESTRICTED)

SOURCE: Command Report - 61st Heavy Tank Bn
DATE: February 1951

MAINTENANCE

It is believed that most of the maintenance difficulties are due to:

1. Poor driving habits.
2. Lack of proper emphasis on care and maintenance of vehicles.
3. Lack of supervision by officers and NCOs.
4. Lackadaisical attitude on part of all concerned.
5. Lack of trained maintenance personnel.
6. Inherent weak points of the tank. (RESTRICTED)
When the tank battalion is employed in the unusual manner of Operation Punch (the force was dispatched daily and recalled daily) it is recommended that time and an assembly area be provided to accomplish refueling, replenishment of ammunition and required daily maintenance. During the first two (2) days of Operation Punch the task force was assigned a segment of the main line of resistance which had to be occupied by dark. The unit was recalled so late that resupply and maintenance, with its inevitable noise and movement, had to be conducted on the forward positions. (R.STRICTED)

************

On 12-February, while tanks were traveling over very rough terrain during the regrouping and movement to a rear area (about fifty miles) approximately thirty (30) tanks developed oil cooler fan trouble. Also two (2) final drive shafts were broken and three (3) transmissions were burned out, making a total of approximately thirty-five (35) tanks in ordnance at one time out of fifty-eight (58) in the battalion. Since parts were not available for the oil cooler fans, the 30th, 26th, 1st, 21st and 703d Ordnance, working as a team, rebuilt clutches and fans to get the tanks back into action. The total number of tanks for duty at the end of the month was fifty-four (54). (CONFIDENTIAL)

************

Much trouble was experienced with the auxiliary idler mounting bolts being sheared off. Inspections with a subsequent follow-up proved that crew members were not tightening these mounting bolts. Since correcting this we have had no such failures. (CONFIDENTIAL)

************

Quarterly checks on the M-46 have proven that the fan tower units become loose and should be tightened monthly. Also that many gas tank leaks develop in places impossible to see without pulling the power-pack. (CONFIDENTIAL)

SOURCE: Command Report - 151st Engr Co Bn

DATE: April 1951

SOURCE No. 174

The matter of shipping men to the Zone of Interior for discharge or emergency leave is being delayed due to the fact that soldiers
may not depart Korea without their military pay card, and the finance office is located 110 miles away. There should be provisions for forwarding the records to the next finance office without holding up the soldier concerned. (CONFIDENTIAL)

SOURCE: Command Report – 68th AA Gun Bn
DATE: May 1951

RECOMMENDATIONS

That the replacements for the unit include non-commissioned officers of all grades.

That the replacements sent to units in Korea from those in Japan be of an equitable cross section of personnel and not those who have undesirable disciplinary records.

That specialists, who have been trained in a particular anti-aircraft MOS by extensive schooling, be assigned to antiaircraft units – not to Infantry or Field Artillery units where the specialization cannot be used. (RESTRICTED)

SOURCE: Command Report – Hq Japan Replacement Training Center
DATE: May 1951

Replacements continued to arrive with personal, medical and supply records in far from perfect condition. This resulted in the expenditure of several thousand man-hours of work correcting deficiencies which existed prior to departure from the Zone of the Interior. As an example, 11,464 immunizations were needed by the first 23,615 men processed at the Initial Receiving Point during the month. (RESTRICTED)

SOURCE: Command Report – 8th Cav Regt
DATE: February 1951

In retreating from the hill, the enemy was caught in a cross-fire from a tank platoon which had previously been sent out to
reconnoiter the area from the rear. Heavy enemy casualties resulted. (RESTRICTED)  

* * * * * * * * *

Throughout the entire campaign there has been a complete lack of aerial photographs for use by the ground elements. The few air photographs that have been received were delivered too late to be of material value to the unit. It is recommended that a photomap service be established so as to deliver the required information within twenty-four (24) hours. (CONFIDENTIAL)

SOURCE: Command Report - 5th Cav. Regt

DATE: March 1951

Source No.: 178

Comments on Winter Clothing

Ski socks - wear out too easily on the heel.

Shoe Pats - Approximately 25% of the shoes rip at the seams near the instep.

Overcoat, field - Too heavy and long for active troops.

Parka - Best liked in the field. It is light and warm. Does not restrict movement.

Gloves - Should be designed with a free trigger finger and lined for warmth.

Items best liked - parka; cap, pile liner; jacket, pile liner. (CONFIDENTIAL)
Difficulty in supply processing of replacements, due to necessity of posting forms 189 and 191 to date prior to showdown inspections, continued. The collection of forms 146, 147 and non-standard mimeographed issue and turn-in slips so posted from six ships from Camp Stoneman and Fort Lawton weighed seven hundred and fifty pounds. Time studies showed that the return to the Government as a result of statements of charges following posting and showdown inspection was not economical, as 1034 man-hours of posting resulted in collection of $1043 from enlisted men in one shipment. Recommendation was made that a single form be substituted, at Zone of Interior ports of embarkation, for the forms 146, 147, 189 and 191; the form to be a mimeographed list of clothing and equipment in possession of the soldier, receipted by him and witnessed by an officer. (RESTRICTED)

The Engineer Company is conducting a four (4) week course for the Battalion Pioneer and Ammunition Platoons and the Regimental Antitank and Mine Platoon. Upon completion of the course, the units will have received limited instruction in the following: Laying of minefields (AT and AP); recording minefields (AT and AP); booby trapping of all type minefields; proper handling and use of all types of explosives; engineer road reconnaissance; booby traps; employment of wire entanglement and trip flares; use of native materials for construction purposes. It is felt that familiarization with this type of work will be a decided benefit for the respective battalions concerned. (RESTRICTED)
**UNCLASSIFIED**

<table>
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<th>SOURCE:</th>
<th>Command Report - 96th QM Bn</th>
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<td>April 1951</td>
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Plugs and bungs for POL drums are lost at an excessive rate. Twenty-five percent of emptied drums are returned without them. During the month 180,000 each of plugs and bungs were needed to replace those which were lost, but only 100,000 of each were received. A stock on hand made up the difference. Either resupply must be increased, or loss must be decreased. (RESTRICTED)

<table>
<thead>
<tr>
<th>SOURCE:</th>
<th>38th Inf Regt - Critique of Battle for Hill 1243</th>
</tr>
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<tbody>
<tr>
<td>DATE:</td>
<td>3 September 1951</td>
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<td>Source No. 182</td>
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At the very outset a serious error was made by the lead company. It had failed to clear paths through the minefield surrounding its defensive position. This meant that much of the effect of the heavy preparation for the attack was wasted. When the unit did go through the field, however, it did the job well. It cleared multiple lanes on a broad front, thereby preventing the enemy from stopping our advance by bringing fire to bear on a single point. (RESTRICTED)

***

Although good results were obtained from the 57-mm recoilless rifle, it was the 75-mm recoilless rifle which proved to be more effective in destroying bunkers. Initial attempts to use the flame thrower were soon abandoned. It was simply too heavy and of too short a range to do much good. Rifle grenades were used with good results in one of the companies. Other companies, which had not trained in marksmanship with the rifle grenade, disclaimed that they were of much value. The lack of training probably accounted for the difference in opinion. (CONFIDENTIAL)

***

One battalion pre-planned a resupply system which proved to be most effective. Each man advancing up the trail carried three (3) rounds of 60-mm mortar or one round of 75 recoilless ammunition. When approaching the spot where he left the trail to go into the dune, he simply dropped his load, leaving it to be picked up later by the ammunition bearers. (RESTRICTED)

***
The supporting artillery fire left little to be desired. This was due primarily to two reasons: good forward observers and accurate shooting. The forward observers with lead companies were each allowed to control two guns of the battery directly, and in this way "walked the fire" ahead of them during the movement of the infantry. By far the best feature of infantry-artillery coordination was the close support by the artillery, allowing the infantry to "lean into it." When heavy small arms fire was received from the enemy, company commanders quickly backed off from the scene and put heavy concentrations of HE and VT on the area, and then charged back again. It worked. (RESTRICTED)

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Air support played a negligible role in this attack. As usual, in this type of terrain, it was found that strafing was of practically no value, rocketing of limited value, and napalm the only really effective weapon. But even the napalm drops were quite inaccurate. Several major defects in technique were revealed; defects which need correcting before we can get maximum use from air support. First, the mosquito dominated the control of the air by telling it when and where to strike. Granted that an air observer may occasionally spot a target of opportunity which is of greater value than that seen by the ground commander, the latter undoubtedly knows best what is holding up his advance and should, in the majority of cases, be allowed to influence the conduct of his battle. Another serious defect lies in the lack of close timing between the fires of the air and the artillery. Upon learning that air was due or in the vicinity, the artillery immediately suspended its firing so as not to endanger the aircraft. And then again for minutes and sometimes hours after the strike was finished, the artillery liaison officer could not ascertain whether or not the air attack was indeed finished. At one crucial time during the attack no artillery was available for 21/2 hours; 15 minutes of which were actually consumed by an air strike. The need for better coordination is obvious. (CONFIDENTIAL)

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The new replacements reacted fairly true to pattern: a few performed very well, but the majority have to learn by experience before the bravery that is in them can be demonstrated. Outstanding deficiencies which need more emphasis in training are their failure to recognize the sound of friendly supporting fire (small arms and recoilless as well as mortar and artillery), ignorance of the basic principles of first-aid, and unfamiliarity with the automatic rifle and the hand grenade. As a general rule they were in poor physical condition. (RESTRICTED)
Shell Reports submitted during this action were practically nil. This is a serious deficiency which needs more emphasis in training. Our troops were subjected to long periods of shelling. It must be stressed that enemy guns can be silenced by our artillery if there is sufficient data available. (RESTRICTED)

*** *** *** *** ***

The battalion surgeons and company aid men handled medical evacuation in a superb manner. But among the men in ranks too little knowledge of first-aid was displayed. In two instances men bled to death who might have lived had their comrades known where and how to apply tourniquets. Another serious error developed: The riflemen of one company went to the aid of the wounded in such large numbers that at one time over half the company was engaged in carrying or assisting wounded to the rear. More training is required to indoctrinate men to the fact that the wounded are the problem of the aid men. It is natural and quite understandable that a man wants to help his comrade. But he must be impressed with the fact that it is vitally necessary to keep the attack moving; that only in this way does he assist and hence protect those still fighting. Lack of trained medical replacements was perhaps largely to blame. In order to help overcome this deficiency a 10% over-strength has been assigned the Medical Company at the expense of riflemen for the battalions. It is believed that this will serve not only to augment the strength in order to better cope with peak loads, but will make a greater number of men available for centralized training in medical subjects. (RESTRICTED)

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Perhaps the most serious defect of all in medical evacuation was the total ineffectiveness of evacuation by helicopter. The long hand-carry of evacués resulted in the death of several persons who might otherwise have lived. The refusal of helicopter pilots to land (reportedly because of rarefied atmosphere at the 3500 ft elevation, as well as for a host of other reasons given which do not appear to be valid to the laymen) have made for general dissatisfaction among infantrymen. The "pilot's choice" whereby the pilot can decide whether or not it is safe to land does not sit well with the fighting soldier. He would prefer to have higher authority survey the conditions, decide whether or not a reasonable risk is involved, and then order the pilot to go in or stay out accordingly.

UNCLASSIFIED
The reasoning is self-evident — the infantry officer does not have a choice of "safe" or "unsafe" objectives, his mind is made up for him by higher authority. True, the helicopter did transport a number of wounded from the collecting station back to the rear. But the loss of life occurred during the long carry to the collecting station — often as much as 24 hours — and not from there on back. It appeared that speed was less essential in getting a man to better medical care once he got some care other than that possible on the front line. (RESTRICTED)

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Individual sand bags were found to be convenient receptacles in which to carry ammunition and other supplies, thus discarding the extra weight of the outside packaging and crating. This gave two strings to the bow: not only were the supplies more easily handled, but the bags themselves were available for immediate use. (RESTRICTED)
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OFFICE, CHIEF OF ARMY FIELD FORCES
Fort Monroe, Virginia

ATTNG-64 350.05/30(DC)(C)(7 Dec 51) 7 December 1951

SUBJECT: Dissemination of Combat Information

TO: See distribution

1. In accordance with SR 565-25, Processing of Combat Information, the attached EXTRACTS are forwarded to Department of the Army, Army Field Forces and the Service Schools for evaluation and necessary action. It may be appropriate, in certain cases, for these agencies to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and often, the extracted item serves to reaffirm our doctrines and techniques.

2. Copies of Dissemination of Combat Information are forwarded, with Department of the Army approval, to information addressees for use at the headquarters of the installation or activity concerned to keep them informed concerning theatre problems from front line through the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office downgrades each extracted item to the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.

4. Generally, the EXTRACTS which pertain to training appear under the classification of RESTRICTED. For combat information of training value at the Company-Battery level, addressees are referred to Army Field Forces TRAINING BULLETINS, which are also published under the classification of RESTRICTED.

DECLASSIFIED BY AUTHORITY:

AGO 76227

1976

P. C. CASPERSON
Major, AGC
Asst Adjutant General

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103 thru 208

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Due to the enemy's preference for night attacks and the time-factor involved in setting up defensive installations, it is more effective to lay trip flares first, AP mines next, and then barbed wire. For the time and transportation required the trip flares are particularly effective. 3/49's can safely and quickly be laid by the infantry (or engineers) across the entire front and should be used whenever the unit moves into a defensive position. (RESTRICTED)

During the month, some items of T/O&E equipment were received in duplicate -- one issue through requisitions submitted to the technical services after the unit's arrival in Korea, and the duplicating issue through POM requisition that was filled at the POE and eventually shipped overseas to the unit. The long delay in receipt of items requisitioned on POM requisition in ZI necessitated duplication of requisition to local theater technical services in order to obtain missing items authorized on Table of Equipment. It is recommended that POE's in ZI not attempt to fill POM requisitions in the event such requisitions cannot be promptly filled and immediately shipped to the unit overseas. It is felt that duplicate requisitioning could be eliminated if items not immediately available for shipment in the ZI be "zeroed" and the unit instructed to requisition such items from the appropriate overseas technical service. This battalion received items on POM requisition from ZI POE as late as two (2) months after its arrival at overseas destination. (RESTRICTED)

* * * * * * *
An alarming weakness developed in rear idlers for the carriage, motor, 105-mm Howitzer M7, and M7BL. The outer and inner rim of the idler broke away where the rim is welded to the outer band. This condition allowed a crack to develop at the weld of the band to the outer and inner disc. Final deterioration results in a radial cracking of the outer and inner disc from the junction of the disc and band to the hub of the disc. Ordnance could not supply replacement idlers, so it became imperative to make an attempt to repair idlers as soon as cracking first appeared. Rims were heavily welded to the band. The junction of the band and outer and inner disc was reinforced with more weld. A preliminary test of the durability of these "rebuilt" idlers based on actual use indicates that these rebuilt idlers will stand up better than idlers issued heretofore. It is recommended that a technical study be made with the object of developing a heavy duty idler which will take the punishment received by normal operation over the sandy, rocky terrain of Korea.

DATE: March 1951

SHIELDS FOR M-16's

A modification of the M-16 Motor Carriage was recommended. The proposal was approved and modification undertaken to effect approximately 300 vehicles. The addition of a protective armor plate is being employed without appreciable hindrance to the effectiveness of vehicle and weapon. Shields are fabricated in Japan and air-lifted, as they become available, to Division and/or unit ordnance personnel where they are mounted on vehicles. Approximately 39 vehicles are completed as of the end of the month. (RESTRICTED)

SOURCE: Command Report - 21st AAA AW (SP) Bn
DATE: February 1951

The electrically operated turret, which, it is believed, is not required for ground firing, adds further maintenance problems.

The crew of the M-16 is exposed to enemy small arms and shell fragments because of the high silhouette and inadequate armor protection of the M-16 carriage. (RESTRICTED)

OCAF Form No 72
(Revised 15 Oct 5)

UNCLASSIFIED
DISCUSSION AND RECOMMENDATIONS

1. Barbed Wire. In conjunction with the tactical principle of digging in for perimeter defense, it was learned that it was wise to have barbed wire readily available to continue the preparation of defensive positions on short notice. (RESTRICTED)

2. Rocket Launcher. The superiority of the 3.5 rocket launcher is such that it should replace the 2.36 entirely. (RESTRICTED)

3. Civilians. The enemy used partisan and guerrilla warfare as an integral part of his military doctrine. He is not bound by Western concepts of the rules of warfare, nor is he bound by past treaties or conventions. He, therefore, resorts to disguising himself in civilian clothing to infiltrate. Hence, civilians must be evacuated from the battle area, and no civilian movement permitted in the direction of the enemy. (When both friend and enemy are of the same nationality, it is especially difficult to detect espionage agents, or enemy troops, disguised in civilian clothing.) In the event the enemy makes use of airpower, more stringent measures would be required to prevent the enemy in civilian clothing from giving ground-to-air signals. It is recommended that partisan and guerrilla warfare and espionage activities, studied at first hand in Korea, fill more space in the Intelligence Bloc of the Programs of Instruction at the Service Schools, particularly those for the combat arms. We should not handicap future replacements by putting an atrocity label or a war crime label on what might better be defined as normal enemy doctrines and tactics. (RESTRICTED)
The month of April witnessed the battalion's full-scale entrance into combat. On the basis of our experience, it is considered most desirable to attach a fresh artillery battalion to a division for its initial employment in combat. The close contact with such a tightly knit and smoothly functioning organization provides valuable experience. (RESTRICTED)

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Recommend that an all-weather map roll be developed and included in the T/O&E of this type unit. (RESTRICTED)

The "turn-around" time of 36 hours, experienced during the month of April, renders it nearly impossible to maintain a sufficient supply of medium artillery ammunition on hand. This problem was partially solved by having the service battery ammunition train haul from the ASP to a forward dump. The battery ammunition vehicles were then used as a train to haul from the forward dump to the battalion position. (REDACTED)

A definite lesson was learned during the month of February 1951 when heavy enemy fire was placed on the Intelligence and Reconnaissance Platoon. Machine guns mounted on the vehicles were of no use, because personnel were pinned down on the ground. The addition of two (2) Browning Automatic Rifles per squad is recommended. Thus, men would have firepower either in or out of the vehicles. (REDACTED)
1. During the latter half of April, the battalion at times was required to furnish Liaison and Forward Observer parties to two (2) divisions. T/3E 6-165 provides for one Liaison Officer with no section and three (3) Forward Observers each with a section. This was not sufficient to meet the requirements. Recommend that the divisional column of the T/3E be used to provide the necessary personnel and equipment for these sections. Drawing personnel and equipment from other sections for these requirements necessarily results in decreased efficiency.

2. The D6 bulldozer is too small and too slow for use in an artillery battalion. Recommend that the present D6's be replaced with D8's, or that at least a suitable means of transporting the D6's be provided. (RESTRICTED)

The boxing requirements for the 40th Infantry Division, as anticipated by the Division Engineer, were very accurate. About 2000 five (5) cubic foot boxes and about 500 three (3) cubic foot boxes are required.

It is recommended that packing and crating supplies be available on the Post in order that training in proper processing and packing methods may be presented to the troops, in accordance with the ATP, during advanced training. Instruction should be given to troops to include proper placing and securing of vehicles on flat cars, and loading of impedimenta in box cars. If necessary, this can be accomplished by the use of mock-ups. An up-to-date manual or circular is recommended, covering latest processing requirements, oils, preservatives and other materials. The manuals should be available on the Post for use during the training phase. (RESTRICTED)
In the future, the SI section will not take the morning report and casualty section forward, but will process work sheets and send them to the rear stationary command post by courier. (RESTRICTED)

A lesson learned during the construction of these bridges was that any unit detailed for floating bridge construction should be well-rested before the operation commences even though starting time must be delayed as much as twelve (12) hours. This time will be more than compensated for during construction and a better job will result because the same unit can complete the entire bridge in one continuous operation without relief. (RESTRICTED)

An order was received directing that all bayonets would be well sharpened. Immediate investigation revealed that proper facilities to accomplish this were lacking. The Quartermaster requested individual pocket stones for each man authorized a bayonet. (RESTRICTED)

It became increasingly apparent that a more basic training program was necessary. This was felt to be due to the large number of officers and NCOs in the Battalion who had not had previous Artillery experience, and had not had sufficient opportunity, since recall to active duty, to learn their jobs. (RESTRICTED)
The use of searchlights has proved highly successful, not only as a morale factor for friendly troops but also because, according to PW reports, the enemy is afraid to move at night while the searchlights are on. It is recommended that a searchlight unit be made available to the regiment on call. (RESTRICTED)

Recommend that shell, illuminating, 105-mm Howitzer be provided for this theater. (CONFIDENTIAL)

Recommend that consideration be given to development and test of rubber grousers; or to tracks equipped with alternate steel and rubber blocks; or to the issue of rubber tracks for winter campaigns. Also, that a one (1) ton Cargo trailer be an authorized item of issue for the firing battery maintenance section of the 155-mm Armored Field Artillery Battalion equipped with M-39 personnel carriers. (RESTRICTED)
Information from wire crews indicates that friendly troops are to blame for at least 90% of the wire failures that occur. Some examples are: Building fires on wire lines; deliberate driving of vehicles through wire lines; improving roads; tanks pulling off the main road, etc. (RESTRICTED)

Aerial photo interpretation, shelling reports, and aerial observation served as the chief means by which hostile artillery was located. No sound, flash, or radar teams were available. It is felt that assistance from such sources would have materially aided counterbattery work. Had the enemy employed a more extensive artillery program, the lack of sound, flash, and radar teams would have seriously hampered one of the most important functions of the Corps Artillery, that of locating and destroying enemy artillery and mortars.

Shelling reports were used extensively in order to locate active hostile artillery pieces or mortars. They were of considerable value in this respect. However, in many instances, the enemy fired a single gun or battery at only one limited sector. This precluded the securing of shelling reports from widely separated points which would have facilitated the locating of enemy weapons. Accurate azimuths, showing direction of enemy artillery fires, were obtained from some shelling reports and were valuable in determining which suspect areas air observers should search. All elements of UN Forces were found to be deficient in reporting vital pertinent data connected with reports of enemy shelling. Troops should receive more training in this respect. (RESTRICTED)

In attempting to identify caliber of enemy artillery rounds through analysis of shell fragments, it was found that lack of training hindered these efforts. Subsequent developments proved that personnel could be easily trained in shell fragment analysis, using current DA and theater publications for reference. (RESTRICTED)
LESSONS LEARNED

Best results can be obtained through use of standard methods of wire communication. Wire lines must be securely tied, tested and tagged, and whenever possible, elevated. Laying wire several yards off roads is not a sufficient guarantee of protection from vehicular traffic. Wire lines must be laid well off the road and, if possible, cross country by hand reel. Although it is time-consuming, the cross country laying of wire insures the best guarantee of continuous wire communications.

Lateral communications between adjacent units should be encouraged. Too often lateral lines are laid only when ordered by higher headquarters.

Continuity of communications is not always maintained during displacement of artillery units. Proper utilization of radios will provide units with a means of communication especially adaptable for use while displacing. Benefit will also be gained by laying of wire to rear artillery position areas selected for future occupation. Forward position areas, if accessible to wire crews, should be treated in the same manner. Continuity of communications, in every situation, is enhanced if each unit will keep one or more wire trucks completely loaded and ready for use at all times.

Radio operators often break net contact needlessly, or without proper authority. Thus, at a critical time, a tested alternate means of communication may be unavailable. In order to prevent this, strict radio net control must be exercised. (RESTRICTED)

Artillery must sometimes, of necessity, be emplaced in valleys from which there is only one avenue of withdrawal. Plans must be made to insure success in case retrograde movement is necessary. Engineer construction or pioneer work must be considered in these plans. (RESTRICTED)

It is necessary, in defensive combat, to direct artillery fire on enemy areas located well to the rear of the line of contact. Thus, enemy supplies and troops can be neutralized before the enemy can employ them in an attack. The 8" Howitzer and 155 gun are ideal for this purpose. When used in the defense, these weapons should be placed well forward in order to exploit their range and effectiveness to the maximum. (RESTRICTED)
Artillery must be prepared to use its automatic weapons to the fullest extent, both when on the move and when in position, in order to repel the local attacks which are almost certain to materialize. (RESTRICTED)

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Artillery forward observers and liaison officers must make determined efforts to assist the infantry toward a better understanding of artillery support. They should help improve the infantryman's knowledge of the conduct of fire and submission and use of shelling reports. They should obtain the supported infantry's coordinated fire plan and must constantly report changes or contemplated changes in location of infantry elements. (RESTRICTED)

* * * * * * * * *

The technique of employing artillery barrages, during emergencies, in order to place a protective curtain of fire around friendly troops, must not be forgotten. A fine example of this use of artillery fire occurred during the "Battle of the Soyang River." An infantry battalion had been caught in a road block and surrounded on all sides by a well positioned enemy. A friendly artillery barrage was adjusted around the entrapped unit. At an opportune time, a portion of the barrage, covering the rear of this unit, was lifted. The friendly force then fought a withdrawal action in that direction. Since artillery fire protected it on three (3) sides the battalion was able to concentrate its strength against the enemy covering its rear. A successful withdrawal, with negligible losses, was effected. The use of the artillery barrage is credited with making this possible. (RESTRICTED)

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Artillery units are sometimes too slow in producing fire plans. This is especially true when, on short notice, a shift is made from defensive combat to offensive combat. All artillery battalions, especially those in a direct support role, should be able to prepare fire plans on short notice under all types of combat conditions. (RESTRICTED)

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Through faulty intelligence, it is often impossible to assess the value of a target. For the same reason, worthwhile targets were sometimes classified as undeserving of fire. Accurate reporting of
intelligence data will correct this situation. All personnel should be trained in processing of both oral and written messages. (RESTRICTED)

************************************************

Use of light aircraft for aerial observation should be coordinated for all artillery by Corps Artillery Headquarters. Zones of observation should be assigned consistent with a unit's mission and the availability of aircraft. The practice of placing Division Artillery light aircraft under division control is not desirable. (RESTRICTED)

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The enemy tries to compensate for inferiority in arms and equipment by using superiority in numbers, and by fighting in mountainous terrain unsuited for mobile warfare. These tactics definitely accounted for most of the gains made by the enemy. (RESTRICTED)

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Command posts, field artillery batteries, and key points along MSR's are prime objectives for enemy infiltration parties. He has proven himself adept at reaching these objectives and all such installations must be adequately protected. Units should stress defense against infiltration and train in anti-guerrilla measures. (RESTRICTED)

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The capture of supplies, weapons and ammunition is a vital part of the enemy's plan for resupplying his troops. If forced to abandon such items, friendly troops should insure their total destruction. (RESTRICTED)

************************************************

The enemy quickly ascertains the approximate range capabilities of artillery that is opposing him. He then makes every effort to confine the bulk of his activities to areas just beyond reach of our artillery. It is therefore advantageous for friendly artillery, preferably 155 Howitzers or 155 guns, to be moved forward into day-light positions in order to reach targets in rear areas. (RESTRICTED)
After an enemy gun position has been neutralized, the enemy will make every attempt to salvage equipment. For this reason precision adjustment should be made on enemy guns after neutralization of the gun position. Following this, harassing fires should be placed periodically to prevent salvage operations. (RESTRICTED)

* * * * * * * * *

Attacks are made by the enemy over extremely rugged and almost inaccessible approaches to our lines. This enhances the element of surprise. An example of this sort was Hill 1051 in the US 2d Div Sector. The enemy made this mountain a focal point of his attack even though it was the most rugged and the highest point along the entire I Corps defensive line. No approach to our lines, however difficult, should be ignored as a possible point of enemy attack. Artillery defensive fires and disposition of artillery in support of the infantry should be planned accordingly. (RESTRICTED)

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One of the chief complaints of enemy PWS is our devastating artillery fire. No opportunity to exploit the use of our artillery to the maximum should be overlooked. Many PWS stated that at night they used ridge lines and avoided valleys since our harassing and interdiction fires seem to be placed mostly in the valleys. Any H&I program must be well balanced with concentrations placed on key spots in all types of terrain. (RESTRICTED)

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The enemy is adept in the art of camouflage, using natural material such as trees or brush. Air and ground observers find it difficult to locate his gun positions and other installations. This must be accomplished, oftentimes, through use of aerial photo interpretation. A round of artillery fire, placed in a suspect area, will also serve to disclose enemy installations by destroying any existing camouflage or exciting enemy personnel to activity. (RESTRICTED)
Battalion has great need for Browning Automatic Rifles and .30 cal. machine guns for use in perimeter defense. (RESTRICTED)

RECOMMENDATIONS

1. That one truck 2½ ton, 6x6, cargo, LWB, be issued to Service Battery, in addition to present allowance, to be used for transporting POL supplies. The one truck, presently authorized, is incapable of hauling enough POL products to keep the Battalion supplied during a constantly changing situation.

2. That one carrier, universal, T16, be issued to Headquarters Battery of each 155-mm Howitzer Battalion for the purpose of laying wire communications in bad weather.

3. That a special authorization be made to issue eight (8) .30 caliber light machine guns per battery for perimeter defense. (RESTRICTED)

A test was conducted by the 2d Battalion of the 5th RCT on use of heat tablets by individuals in front line units to dry ski socks in foxholes. The test proved successful. This should assist in reducing frostbite of the feet for those men who are unable to build fires because of the tactical situation. (RESTRICTED)
The direct support artillery battalion commander is the officer best qualified to decide when and where to displace since he is in closest contact with the infantry regimental commander and knows best where the latter requires the support. (RESTRICTED)

Due to the wide frontages assigned infantry regiments in Korea, the direct support artillery battalion cannot assume that there will be infantry to its front at all times. The battalion must be prepared to provide its own perimeter (and front line) defenses. To do this it must have additional weapons, specifically light .30 caliber machine guns and Browning Automatic Rifles. The infantry battalions usually attack during the daylight hours and at night go into fairly tight perimeters. This leaves the direct support artillery battalion wide open and vulnerable to attack at night - in effect just as much of a front line unit as the infantry battalion. It is seldom that any of the infantry battalions of the regiment can or will assist in the protection of the artillery. The artillery is not manned or equipped to repel enemy infantry attacks. The artillery battalion needs a minimum of four (4) light .30 caliber machine guns and four (4) BARs per battery, total twenty (20) MGs and twenty (20) BARs, to protect its perimeter. (RESTRICTED)

RECOMMENDATIONS

The following changes to T/O&Es of the Infantry Rifle and Heavy Weapons Companies, designed to increase the ratio of firepower to manpower, are recommended:

1. Delete one M-1 rifle per rifle squad and add, in lieu thereof, one automatic rifle. Delete the pistol, cal .45 now carried by the automatic rifleman.
2. Add one 106-mm per weapons squad of the rifle platoon to be manned by the men of the rocket launcher squad, with the rocket launcher becoming a secondary weapon normally carried on the company vehicles.

3. Add one 60-mm mortar per mortar section, to provide an additional weapon for isolated strong points and patrols, without weakening the permanent position.

4. The addition of one section of 81-mm mortars to the mortar platoon, to provide the flexibility afforded by having one section per rifle company, each with its own forward observer. (RESTRICTED)

SOURCE: Command Report - 1st Cav Div
DATE: April 1951

From a Division Artillery viewpoint the lessons brought out in this operation were: (1) that the T/E allowances of mine detectors is entirely inadequate; (2) that medium artillery with a minimum amount of engineer support has practically the same mobility and position capability in mountainous terrain as light artillery and (3) that in mountainous terrain, medium artillery may have to be employed in a direct support role because of its greater range. In such instances its ammunition expenditures will be high and will consist entirely of white bag charges. (RESTRICTED)

SOURCE: Command Report - 15th Inf Regt
DATE: February 1951

This regiment was given the mission of crossing the K.N. RIVER in search of enemy positions and for the purpose of capturing prisoners. The only boats available for this work were the two (2) man boat, reconnaissance, canvas, and the nine (9) man plywood, assault boat, both issued by the Engineers. The first mentioned boat was found to be incapable of supporting two (2) men with equipment if they were not highly trained in its use. The latter type boat has to be hand carried. It is recommended that a boat similar to the six (6) man rubber pneumatic survival raft used by the Air Force be made available for river crossing patrols. All personnel crossing in small boats should be equipped with a suitable lightweight life preserver. (RESTRICTED)
OFFICE, CHIEF OF ARMY FIELD FORCES
Fort Monroe, Virginia

ATTNG-61 350.05/34(DOCI)(C)(28 Dec 51) 28 December 1951

SUBJECT: Dissemination of Combat Information

TO: See distribution

FEB 28 1952

1. In accordance with SR 525-85-5, Processing of Combat Information, the attached EXTRACTS are forwarded to Department of the Army, Army Field Forces and the Service Schools for evaluation and necessary action. It may be appropriate, in certain cases, for these agencies to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and often, the extracted item serves to reaffirm our doctrines and techniques.

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FOR THE CHIEF OF ARMY FIELD FORCES:

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Office, Chief of Army Field Forces

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TACTICAL DECEPTION

To further this secrecy and deception, a cover plan was put into effect five (5) days in advance of the actual crossing. This plan provided for the two (2) front line Regiments holding the main line to make a tank-infantry reconnaissance each morning to the river crossing sites and other sites along the river. This was carried out constantly each day, and at first drew considerable fire from the enemy. As it was continued each day, the enemy became accustomed to these "Morning patrols" and ceased fire on them. Thus, when the morning for the assault crossing arrived, the same movement was initiated toward the river bank. But this time the assault boats were brought forward hitched to tanks. It is believed that this cover plan contributed materially to the surprise achieved during the crossing. (CONFIDENTIAL)

** * * * * * * *

INDIVIDUAL WEAPONS

In compliance with an Eighth Army TAW, a survey on "Inadequacy of the Carbine and Pistol, caliber .45, in Combat" was conducted within three (3) Infantry Regiments and Tank Battalion. The following comments were submitted:

1. Carbine
   a. One company indicated that the carbine was too light and was considered inadequate, as it does not have sufficient stopping power.
   b. All units agreed that the weapon was unsatisfactory due to malfunction when moving parts became dirty and when used in cold weather.
   c. One regiment commented that the carbine was inaccurate when fired at ranges over two hundred (200) yards, and that

(Over)
ammunition supply creates a problem because the type of magazine used is not available for replacement as are clips and bandoliers for the other weapons.

2. Pistol, caliber .45:
   a. One regiment indicated the pistol to be adequate for the purpose for which it was intended, as a defensive weapon for close-in fighting.
   b. Two (2) regiments indicated that the pistol was too heavy and too complicated for field maintenance. One of these two (2) regiments recommended that the carbine and pistol be replaced with a light sub-machine gun. (RESTRICTED)

INFANTRY MATERIAL LOSSES

Operations during the "Battle of the SOYang" presented a tremendous supply problem. Vehicles used in supply transport were kept mobile-loaded within the battalion perimeters. The tactical situation resulted in a large scale enemy road block being established to the rear of two (2) battalions, which denied the use of the MSR as an avenue of withdrawal. This resulted in complete loss of seventy two (72) quarter ton, sixteen (16) three-quarter ton and fourteen (14) two and a half ton vehicles with numerous quarter and one ton trailers. These vehicles carried the organic loads, kitchens, P&A equipment, communications equipment, battalion ammunition supply, etc, to include two (2) full platoons of 4.2 mortars. This costly operation clearly indicates the necessity for logistical operation from a regimental trains area established within reasonable supply radius in rear of regimental sector. (CONFIDENTIAL)
ARTILLERY MATERIEL LOSSES

The combat losses of artillery pieces due to direct enemy action have reached a total of 408 for all calibers. As has happened in previous attacks, the enemy infiltrated to the rear of the artillery positions and placed a fire block on each side of the road, making it impossible for the artillery to move its vehicles and weapons through the road. The loss by US Artillery units has been 212 weapons and by Korean Army units 196 weapons. (CONFIDENTIAL)

* * * * * * *

HIGH ANGLE FIRE

The percentages of high-angle missions of the various type units are as follows:

1. Division Artillery
   1st Marine Division
   105-mm  14.5%
   155-mm  1.1%
   7th Div Arty
   105-mm  4.0%
   155-mm  2.0%
   2d Div Arty
   105-mm  17.0%
   155-mm  5.0%
   1st Cav Div Arty
   105-mm  11.0%
   155-mm  1.0%
24th Div Arty

1% of all missions to 31 Dec 50.
8% of all missions from 1 Jan 51 to 28 Apr 51.

25th Div Arty

3% of all missions.

3d Div Arty

5% of all missions

2. Non-Divisional Units

17th FA Bn (8" H TD) 0%
955th FA Bn (155 H TD) 0%
936th FA Bn (155 H TD) 0%
96th FA Bn (155 H TD) 10%
196th FA Bn (155 H TD) 0%

3. All SP units 0%

COMMENT: Except for 24th Div Arty, source does not give period from which above percentages are taken. (RESTRICTED)

** * * * * * * *

M-37

The M-37 is extremely difficult to keep operational and there are insufficient replacement parts on hand. Further, it is not the proper equipment for a direct support battalion of an infantry division. The troop basis proposed by EUSAK to CINCPAC recommends reorganizing the 58th FA Bn into a 105-mm Howitzer Battalion (towed). (CONFIDENTIAL)

* * * * * * * * *

TRACK LAYING VEHICLES

1. Recommend that twelve (12) 2 1/2 ton trucks be authorized in lieu of twelve (12) M44 vehicles utility, armored, for each self-propelled 105-mm and 155-mm unit. Conditions under which SP battalions operate in Korea make the 2 1/2 ton truck a better vehicle for carrying ammunition. An important factor is the great distance to ASP's.
2. Recommend that the 1st FA Observation Battalion be authorized eight (8) four (4) ton cargo trucks in lieu of nineteen (19) M5 tractors. The 1st FA Observation Battalion has seven (7) radar sets and seven (7) generators. One 4 ton truck can be used in lieu of two (2) M5 tractors as the generator can be placed on the truck and the radar sets which are on trailers can be towed by the truck. The M5 tractor has proven unsatisfactory, and wheeled vehicles have proved more suitable over the terrain encountered in Korea.

3. Recommend 155-mm gun battalions SP, be authorized twenty-four (24) 2½ ton trucks and twenty-four (24) M10 trailers in lieu of nineteen (19) M6 tractors. There are no M6 tractors available. These units are equipped with M4 tractors (authorized substitute for M6 tractors), which are unsatisfactory as ammunition resupply vehicles primarily because they will not stand up under the long hauls to ASP's over the poor Korean roads. (CONFIDENTIAL)

COMMUNICATIONS

In addition to the lack of trained radio operators and repairmen, the communication system has been continually hampered by the mountainous terrain and the tactical dispositions of the companies far beyond the capabilities of the presently authorized SCR 694. It is felt that in Korea, the SCR 694 should be replaced by the SCR 193 for the Engineer Combat Troops. (CONFIDENTIAL)

ARMORED PERSONNEL CARRIER

A fully covered armored personnel carrier is needed that can go anywhere with tanks. The lack of overhead protection on
the half tracks required the TF Commander to leave his dismounted elements behind since they were unable to run the gauntlet of enemy fire in open half tracks. Also, the need for armored infantry in Korea was once again clearly demonstrated. Deep penetrations and armored operations where organized enemy positions must be bypassed require tanks, armored infantry, armored engineers and armored artillery. If any of the components of the team are unarmored, then armored results cannot be fully obtained. (CONFIDENTIAL)

* * * * * * * * *

APMOR TACTICS

This action also demonstrated the ability of armored forces, roving deep in the rear of established enemy defense lines, to surprise and terrorize the enemy. Such actions are favored by the fact that the enemy has very limited warning (communication) facilities. Every opportunity to employ armor, regardless of how small the scale, should be sought and exploited. Even platoon size employment of tanks achieves outstanding results. The enemy, in every engagement where armor has been employed according to doctrine, has been demoralized. (RESTRICTED)

DATE: February 1951

Keeping the combat team's vehicles moving over marginal roads (where one stalled vehicle means a blocked MSR) would be facilitated if a ½ ton wrecker were available in the regimental combat team. (RESTRICTED)

SOURCE: Command Report - Hq 8th US Army Korea (EUSAK)
DATE: May 1951

AMMUNITION SUPPLY

Ammunition situation remained critical. The 155-mm Howitzer ammunition (60,000 rounds) was being off-loaded at Pusan. The Gainesville Victory was not selectively loaded.

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Propellent charges were the first to be off-loaded. The projectiles were at the bottom of the ship and couldn't be off-loaded at the same time. As a result the charges were sent forward to Taegu, to be held there until the projectiles were off-loaded. Then complete trains were made up and forwarded. This caused a rail tie-up which lasted for approximately fifteen (15) days. (RESTRICTED)

**ARTILLERY DEFENSE**

Artillery battalions in Korea have proven to be a primary target for enemy troops. Present T/O&E's do not authorize sufficient automatic weapons for adequate defense. Therefore, it is recommended that twelve (12) machine guns and twelve (12) Browning Automatic Rifles be issued to each field artillery battalion above T/O&E allowances. (CONFIDENTIAL)

*** *** *** *** ***

**HIGH ANGLE FIRE**

Carriages motor M7 and M37 are not capable of high angle fire. Maximum elevations that can be fired are 33 and 45 degrees respectively.

Because of the rugged terrain encountered in Korea, these weapons, with their limited maximum elevations, introduce considerable dead space in the close support role. This aggravates the already difficult problem of finding suitable gun positions.

It is recommended that a program for the modification of carriages motor M7 and M37, so as to permit high angle fire, be initiated at an early date and that this program be given a high priority. (RESTRICTED)
WITHDRAWAL TECHNIQUE

In this withdrawal, the artillery was first displaced to temporary positions from which they could support the withdrawal. A battalion of infantry was sent to secure these temporary positions. Under cover of artillery fire a second battalion of Infantry, regimental combat team headquarters and the separate company units were withdrawn from the line, leaving one battalion to hold. As this second group passed the artillery temporary positions, they were joined by the artillery battalion (-) and the battalion of infantry securing the positions. One battery was left to support the battalion still holding the line. When this last battalion withdrew, the battery of artillery supporting it pulled out with them to the newly established friendly lines. (CONFIDENTIAL)

NIGHT AIR SUPPORT

5th Cavalry Regiment: A previously arranged bombing mission, composed of one illumination plane and two (2) B-26 bombers, struck Check Points 50 and 51 at 0325 hours. These points received a total of eight (8) napalm and sixteen (16) 250 lb fragmentation bombs, in addition to strafing by .50 cal machine guns. Civilians interrogated from the area reported between 300 and 400 CCF troops killed or wounded as a result of the bombardment. (RESTRICTED)

** ** ** ** ** ** **

LATERAL COMMUNICATION

During the period the 2d Battalion, adjusting defensive fire on the flank, delivered mortar fire into the 1st Battalion which was still on the move. The firing had been cleared by the Battalion Commanders concerned. However, last minute
clearances were not obtained. The basic fault lay in insufficient lateral communication. Greater emphasis must be placed on lateral communication; radio in a moving situation and radio and wire when units halt for an appreciable time. (RESTRICTED)

* * * * * * * *

GASOLINE CONSUMPTION FACTOR

Close conformity to the consumption factor guide for Korea on POL consumption is being maintained. The consumption quantity for gasoline on the number of gallons per man per day for this Division was 1.22 gallons which conforms closely to the 1.25 gallons per man per day as indicated in the tables published by the Japan area Petroleum Office. (CONFIDENTIAL)

SOURCE: Command Report - I US Corps
DATE: February 1951

VT FUZE FOR EIGHT INCH SHELLS

The use of VT (proximity) fuzes in 105-mm and 155-mm shells proved so successful that it was desired to use the fuzes in 8-inch shells and British 25-pound shells. However, the cavity in these shells would not accommodate the desired fuze. The task of providing tools to cavitize the 8-inch and 25-pound shells was given to the 538th Ordnance M&F Company. Although this was a new type of operation for the maintenance personnel, they manufactured an auger that would do the job. The operation was very successful on the 8-inch shell but the British 25-pounder did not react too well with the VT fuze. (SECRET)

SOURCE: Command Report - Section I - Part 4 EUSA
DATE: March 1951

REPLACEMENTS

Matching the stepped-up quantity was an improvement in the quality of replacements. Reports from combat units indicated that those recently received from the Zone of the Interior were better trained and both physically and mentally better suited
for combat than the ones the Army had been supplied with in the latter part of 1950 and early 1951, when most of the incoming replacements had been brought directly out of the Enlisted Reserve Corps and basic training camps. (RESTRICTED)

Command Report - Section I: Narrative
Hq 8th US Army Korea
June 1951

Communications

It is recommended that the present T/O&E of an MP Battalion be reviewed to give consideration to authorizing a radio set AN/CRC-9 for each platoon. It is also recommended that each platoon be authorized a radio set SCR 609 for use at platoon level as net control station for vehicular sets in motor patrols. (RESTRICTED)

Command Report - Section II: Supporting Documents
Book 1: Office of the CG, EUSAK
June 1951

Air Support Procedures

1. I Corps Staff Officers complained that Air-Force-operated L-19 type Mosquitoes were not permitted to reconnoiter for suitable targets as the AT-6 type formerly did. This resulted in the L-19 Mosquito, on ground standby, missing several targets and, on occasion, arriving at previously located targets later than the jet planes it was supposed to direct. The members of I Corps Staff preferred the former method of mosquito operation, i.e., the Mosquito cruising the front looking for targets of opportunity and standing by (in the air) for targets to be pointed out to it. It was then immediately available to direct air strikes.

2. I Corps Staff agreed that the basing of the Mosquito pilots on strips in the operating area was a sound idea, but suggested that Army personnel, as well as Air Force personnel, were capable of controlling air strikes from L-19 planes. (RESTRICTED)
Command Report - 780th Fa Bn

April 1951

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SOURCE: Command Report - 780th Fa Bn
DATE: April 1951

VEHICLES

Maintenance of equipment has been excellent. One inherent failure of the torque converter radiator on the M4 Tractors has caused considerable maintenance difficulties and loss of use of the tractors. Delay in receiving 7 1/2-ton ammunition trucks has hampered training of drivers and ammunition sections. Request is being made for special pintles for the 7 1/2-ton trucks to enable them to be used as alternate prime movers for the Howitzer. (CONFIDENTIAL)

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RECOMMENDATIONS

Present A-Frames and Hoists on the back of the 7 1/2-ton truck are too slow and tiresome for loading and unloading 8-inch shells. Recommend that a study be made with a view of providing a quicker and more efficient method of loading large shells into and out of those trucks. (CONFIDENTIAL)

Recommend that the T/O&E be changed to include one D-4 bulldozer per Howitzer battery, based on the fact that the size of the gun pit for an 8-inch Howitzer would make it difficult for one bulldozer to dig twelve (12) gun pits.

The present T/O&E does not authorize any bulldozers. (RESTRICTED)

Command Report - 10th Fa Bn

January 1951

UNIT PERSONNEL SECTIONS

At present, the personnel section is over two hundred (200) miles away from its parent unit. Administrative matter required in a normal day's operation is not available. Securing information of this nature entails a delay of from six (6) to seven (7)
days. Some personnel problems cannot be solved at all, or only after placing a great burden on other individuals that normally would not have been involved. It is therefore recommended that unit personnel sections be placed with the service units of the commands concerned, and divorced from the rear echelon of division. (RESTRICTED)

SOURCE: Command Report - 2d Engr C Bn
DATE: May 1951

MINES

A distinct need was shown in the defensive and counteroffensive action for a better system for disseminating present minefield doctrine. The principal arm concerned with friendly antipersonnel minefields is the infantry. It is recommended, therefore, that minefield doctrine be published in an infantry field manual of the "7" series. (RESTRICTED)

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SUPPLY OF MINES

In the defensive operation, considerable confusion resulted because of the prevalent opinion that the engineers, avowed specialists in the installation of activated antitank and antipersonnel mines, were also responsible for the supply of mines for all defensive installations of the division. (RESTRICTED)

* * * * * * * * * * * *

ARMORED PERSONNEL CARRIERS

A need was shown for armored personnel carriers to transport engineer personnel through enemy road blocks of small arms and mortar fire in order to accompany friendly armor-infantry thrusts. The bulk of the casualties of the 2d Engineer Battalion occurred when engineer elements accompanying friendly armor-infantry thrusts in the counteroffensive were caught by enemy fire, on the road and in trucks. (CONFIDENTIAL)
USE OF SMOKE IN PASSIVE AIR DEFENSE

1. The use of chemical smoke as a passive defense measure is limited.

2. The use of smoke precludes utilization of antiaircraft automatic weapons in smoked areas, and decreases the efficiency of antiaircraft gun batteries. (RESTRICTED)

TOW BARS

It is recommended that two (2) each tow bars be issued each platoon of a tank unit equipped with M-46 type tanks, as this tank cannot be towed with cables when the engine fails. (RESTRICTED)

COMMUNICATIONS

The complete reliance upon telephones or AN/GRC-9 radios for contact between various units within the Division has proved inadequate. This, combined with the delay caused in receipt of messages through a central message center, is often a great hindrance. It is recommended that all General Staff sections be furnished vehicles in which radio set SCR 193 can be mounted, and that radio sets similar to those in an armored division be adopted. This would enable more positive control at all times, especially during movement, and would make for much greater flexibility in establishing advance command posts. (RESTRICTED)
VEHICLE EXCHANGE

Recommend that quotas for the direct exchange of new or reconditioned vehicles, between division ordnance units and army ordnance vehicular pools, be stepped up to reduce the heavy deadlines in the combat units caused by complete wear out. (RESTRICTED)

* * * * * * * * *

WIRE LAYING VEHICLE

It is suggested that "Weasel-type" wire laying vehicles, issued on a basis of two (2) for each headquarters battery and one to each firing battery, would be of estimable value in carrying out the complex wiring problem of artillery units. (RESTRICTED)

SOURCE: Command Report - 82d AAA AW BN (SP)

DATE: May 1951

Recommendations:

1. That five (5) power telephones (TP-9) be issued over and above authorized T/O&E for utilization in battery CP's and operations sections.

2. That all M-16's be equipped with armor plate gunner's shields

3. Searchlight companies used on battlefield illumination missions should be assigned to Corps Artillery

4. That Mark IX Sight on M-16's be replaced by the Reflex Sight M-18.

5. That an antiaircraft ordnance company provide support for maintenance of remote control system of the M-19 and all sighting devices. (CONFIDENTIAL)

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OFFICE, CHIEF OF ARMY FIELD FORCES
Fort Monroe, Virginia

ATTN: 64 350.05/38(DOCJ)C)(25 Jan 52) 25 January 1952

SUBJECT: Dissemination of Combat Information

TO: See distribution

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FOR THE CHIEF OF ARMY FIELD FORCES:

W. H. Melhorn

W. H. MELHORN
Lt Col, AGC
Asst Adjutant General

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**Office, Chief of Army Field Forces**

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**Commandants**

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<td>155-156 The Armored School</td>
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<td>161-162 Army General School</td>
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<td>163-164 Asst Comdt, The Arty School, AA&amp;GM Br</td>
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**Presidents**

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ATMG-64 350.05/38(DOCI)(C)(25 Jan 52) 25 January 1952

Subject: Dissemination of Combat Information

DISTRIBUTION: Information Addressees

Copy No
170-179 CINC, European Comd
180-189 CG, Tristia US Troops
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285-286 Sixth Army
287-290 Army AE Comp, Ent AFB, Colo Springs, Colo
291-292 Supt, USMA, West Point, NY
293-294 CFE, TAC, Langley AFB
295-296 Chief, Army Advisory Gp, Air Comd & Staff Sch, Air Univ, Maxwell AFB, Ala
297-298 Comdt, Marine Corps Sch, Quantico, Va
299-300 Comdt, USAF Air Ground Sch, Southern Pines, NC
301-302 Comdt, Counter Intelligence Corps Sch, Fort Holabird, Baltimore 19, Md
303-304 Comdt, The Provost Marshal General's School
The time needed to complete plans for a new attack should be at least two (2) and preferably three (3) days. Three (3) hours are needed to register artillery if no forward displacement is involved. The principal time-consuming problem is hauling ammunition to the site in sufficient quantities for both preparatory fires and for stockpiling against the contingency of a counterattack. Proper reconnaissance by a Company Commander requires at least one day. Where possible, it is desirable for Company Commanders to reconnoiter by air in addition to making their map and ground reconnaissance. This takes an additional half day. (RESTRICTED)

FIRE SUPPORT PLANS

A typical fire support team consisted of three (3) groups of weapons: 75-mm recoilless rifles, .50 caliber machine guns and 81-mm mortars. There were usually six (6), sometimes eight (8) weapons in each group. Groups were tied into a Fire Direction Center by wire and radio. One officer was placed in charge of each group, and officers or non-commissioned observers were placed with the assaulting battalions. Fire requests were phoned or radiated to the FDC, which determined priority of fires and assigned missions to one or more groups. Emplacement sites for these groups were predetermined and stockpiling of ammunition was begun well in advance of the attack. (RESTRICTED)

PREPARATORY FOURS

Preparatory fires proved highly profitable, particularly where the time of attack was varied. Converged sheaf firing is recommended.
as the usual pattern in this terrain, otherwise much of the fire is wasted. However, artillery fire patterns must be varied if maximum casualties are to be inflicted on the enemy. Slack periods of friendly artillery fire usually occurred at meal times, just after dark, and before dawn; consequently the enemy moved around at these times, affording us a good chance to catch him in the open. Difficulty was experienced in accuracy of firing when registrations were made the day before an attack. It follows that artillery should be registered, preferably by individual battery, on the day of the attack. Aside from loss in accuracy, premature registration has "telegraphed the punch" on several occasions and allowed the enemy to reinforce his positions. (RESTRICTED)

* * * * * * * *

INFANTRY FOLLOW-UP OF ARTILLERY FIRE

Terrain has usually dictated how closely assault elements can follow artillery fires. In some instances troops have followed artillery fire by one hundred yards; in others, where vertical distance was involved, troops followed the fire by many times this distance. Precipitous terrain generally prohibits close follow-up of supporting artillery. Where this happens troops may move under the cover of an air strike, or under recoilless and automatic weapons fire. (RESTRICTED)

* * * * * * * *

NIGHT ATTACK

The successful night attack has certain requirements: (1) a simple plan; (2) a single objective; and (3) a thorough reconnaissance. Greatest success was experienced where men were mentally conditioned. This conditioning was achieved as a by-product of making detailed preparations for the attack. Orders should be received at least the night before and preferably several days before the attack. In one instance, to aid control, the route was marked by luminous markers placed by patrols prior to the attack. This proved highly successful. In other cases the attacking forces used the well-known technique of wearing white arm bands for easy identification. Streams, ridge lines and other features which were readily distinguishable were selected as phase lines. The formation used was invariably the file. Because lack of observation reduced safety to our own troops and because it involved sacrificing surprise,
preparatory fires were usually not used on night attacks. It was found that the best timed attacks were those which placed friendly forces on the objective just at dawn, thus eliminating the opportunity for the enemy to regroup under cover of darkness for a counterattack. The usual means of communication was radio. It was agreed that some light is preferable to complete darkness; when there was no moon indirect searchlight illumination was used. The use of flares in a night attack is not recommended as the enemy uses them extensively and confusion results. (RESTRICTED)

REDUCTION OF BUNKER BUNKERS

Generally, the weapons used in reduction of bunkers depend largely on the type of construction of the fortification and the availability of the desired weapon. Recoilless rifles were found to be quite effective against bunkers carved out of rock. Hand grenades, rifle grenades, and phosphorous grenades were particularly effective against log bunkers. The flame thrower has a great psychological effect on the enemy, but bulk and weight of this weapon make it unwieldy for use in steep terrain. The 105-mm and 155-mm Howitzers and five hundred (500) pound aerial bombs proved to be very effective. Counter to experience in the European campaign, the enemy did not relinquish adjacent positions when it became tactically disadvantageous to remain. Pre-planning the reduction of bunkers paid dividends. It assured teamwork rather than relying solely on the spontaneous inspiration of the individual. Where time permits, rehearsals prior to the attack are believed to be highly beneficial. (RESTRICTED)

ORGANIZATION OF DEFENSE

The main problem in organization of defensive positions was one of logistical support. Sectors of fire were properly designated. Wire was usually placed at night and installed correctly, employing protective fire. Range cards and aiming stakes were used, though not as extensively as they should be. Range cards for 81-mm Mortars were affixed to the mortar tubes so that planned concentrations could be fired. Close supervision was needed in clearing fields of fire and in building fortifications. Although communications were normally adequate, a signal plan for the use of pyrotechnics...
should be established in case of emergency. The fire power of the L-16 materially aided the Infantry in defensive roles and proved to be very satisfactory whenever the L-16's were suitably located. Tanks were best employed on the defense by assigning them a wide valley. Tank firing should have been restricted to direct fire missions, as indirect firing proved unsatisfactory. Contact points should have been designated by higher headquarters rather than allowing units concerned to pick them. Improved minefield doctrine and proper reporting and plotting of mine installations should materially reduce friendly casualties. It was recommended that flamethrowers be installed in defensive positions in the future to reduce an assault on the position. (RESTRICTED)

***

EMPLOYMENT OF PATROLS

Broad missions should be assigned, leaving details of the patrols to the unit given the mission. If the intent is to occupy the ground patrolled and if no enemy are on the position, the patrol should be reinforced quickly by enough personnel to defend adequately. The enemy will quite often move in and occupy an area which has been patrolled but not occupied by friendly forces simply because he realizes it is important to us. Patrols repeated to the same location or over the same route very quickly result in ambushes. Night patrol missions should be assigned at least twenty four (24) hours in advance if planning is to result. (RESTRICTED)

SOURCE: Command Report - 10th Engr C BN
DATE: February 1951

SIGNAL

The shortage of telephone wire and the short range of the present radios with which the battalion is now equipped present problems in communications. This battalion recommends that radios with longer range be added to the Engineer T/O&E. (CONFIDENTIAL)
ATTACHMENT OF SEARCHLIGHT UNITS

Battlefield illumination with searchlights continued during the day with considerable success in all except the worst weather conditions. It is recommended that either a platoon of searchlights be made organic to Division artillery or that an Engineer Searchlight Company be attached to the Corps artillery. (CONFIDENTIAL)

** ** ** ** ** **

EMPLOYMENT OF MEDIUM AND HEAVY ARTILLERY

Availability of long range heavy artillery provided greatly desired and needed depth to the battlefield, both on the offense and the defense. To some extent the employment of heavy artillery compensated for the inadequate Rommel of KORFA. It was necessary, however, due to the limited amount available and the still relatively broad Division and Corps fronts, to employ medium artillery in forward areas, in one case in front of the infantry, to cover daytime patrols. (CONFIDENTIAL)

RECOMMENDATIONS

1. Helicopters render superior service in patient evacuation and plans should be made to increase the number of this type aircraft.

2. All airborne operations behind enemy lines should include a surgical team for emergency operations.

3. There must be a full briefing of battalion surgeons on the tactical situation and plans for operations.

4. HOS's should be attached, if possible, in company size strength to be utilized as litter bearers. (CONFIDENTIAL)
Action on this date indicated clearly that units must investigate all high terrain features within their assigned areas. If this type terrain is bypassed completely on approach to final objective, the rear and flanks of the unit and adjacent units are extremely jeopardized. (RESTRICTED)

**ADVANCE GUARD AND COVERING FORCE COORDINATION**

Difficulty was experienced by the Advance Guard Commander in learning the situation of the Covering Force. The Covering Force Commander was responsible directly to the Task Force Commander, not the Advance Guard Commander, and his communications were governed accordingly.

The big weakness of this plan was the inability of the advance Guard Commander to know the situation and requirements of the Covering Force Commander in sufficient time to be of the utmost assistance to him.

Recommend that in future operations the Covering Force Commander be directly responsible to the Advance Guard Commander who in turn is responsible to the Task Force Commander. This method would give the advance Guard Commander a greater latitude of action, permitting him to commit his forces much more expeditiously to assist the Covering Force and in turn carry out his own mission of securing the uninterrupted march of the main body.

SP artillery, which was an integral part of the Covering Force, could not be placed in action due to the intense small arms fire being received from enemy forces. In addition, those guns blocked the road making it impossible to expedite ammunition resupply and evacuation of wounded personnel by vehicle. Towed howitzers were a part of the advance Guard. Due to the nature of the terrain it was impossible to place those guns in a firing position to be of assistance to the Covering Force as quickly as was desirable. This, plus the previously mentioned deficiency of command channels, denied use of artillery to the Covering Forces for a prolonged period of time.
Recommend that in a Task Force of this type, all artillery be eliminated from the Covering Force and SP artillery be used as part of the Advance Guard. Tank fire can be used for direct fire with the Covering Force. From the position in the column with the Advance Guard, the artillery will be free from enemy small arms fire. Utilizing SP guns, they can go quickly into action and furnish maximum artillery support to the Covering Force with a minimum of delay, particularly if the Covering Force is under the command of the Advance Guard Commander. If close-in artillery support is necessary to assist an advance guard too closely engaged for use of their own artillery, this fire can be given by the artillery with the Main Body. (RESTRICTED)

* * * * * *

ARTILLERY FIRES MASKED BY PLANES

The Battalion Commander again asked for the artillery. He was told that he could not get artillery because fire was masked by planes in the area. (RESTRICTED)

* * * * * *

CONTROL OF ARTILLERY FIRES

Artillery support was received by "L" Company at approximately 1900 hours and was very effective. During this action, a Forward Observer with the tanks cancelled the artillery fire supporting "L" Company by instructing the FDC that the artillery was landing too close to friendly ground troops ("L" Co). Actually, this fire was landing very accurately in the area desired by the Commanding Officer of Company "L".

It must be emphasized that the calling in or cancelling of supporting fires is a command function and responsibility. A Forward Observer is purely an advisor, even when attached to a command. But a Forward Observer not assigned or attached directly to a unit should never take it upon himself to interfere with missions being fired for the unit. (RESTRICTED)
COMMUNICATIONS

Difficulty was encountered in radio communication with surveillance radar sites. The transmitters at these sites have a rated power output of 40 watts. Tests were conducted with various types of antennae to determine the most suitable type for 24-hour operation. Distances range from twenty-two (22) to forty-seven (47) miles. A half-wave, two (2) wire, folded doublet type, fed by a 200 ohm coaxial transmission line, was found to provide satisfactory radio-telephone communication between the Antiaircraft Operations Room and these sites. This type of antenna will be installed at each surveillance radar site. (CONFIDENTIAL)

POWER GENERATOR

A staff study was prepared on electrical power for tactical equipment. It was recommended that diesel driven generators, Model RD-14A, be authorized for issue on a basis of one per 120-mm gun battery. (RESTRICTED)

SOURCE: Command Report - 3d Inf Div Art
DATE: March 1951

DEPLOYMENT OF TANKS AS ARTILLERY

Over a period 1 March through 9 March 1951, two (2) platoons of tanks were trained to the extent that on 7 March through 9 March they were used as artillery in support of 25th Infantry in their crossing of the Han River. One platoon of only four (4) guns fired 840 rounds in two (2) hours fifty (50) minutes for a rate of fire of 1.25 rounds per minute. For the above three (3) day operation approximately 1500 rounds were fired. (CONFIDENTIAL)

SOURCE: Command Report - 9th Inf Regt
DATE: May 1951

UNCLASSIFIED
PATROL OPERATIONS

1. Patrols must utilize high ground despite the physical effort and the slowness of progress. If low ground, valleys, villages, road junctions, etc., are to be searched, adequate security must be maintained on the high ground overlooking these features.

2. Artillery FO parties and the Battalion TAP must accompany the patrol. In this regiment it is often necessary for these groups to establish relay stations in order to insure continuous communication with the controlling agency.

3. Upon contacting and locating the enemy, it is usually far more advantageous to fall back to cover positions and make maximum use of supporting artillery and mortars than to remain in a small arms engagement.

4. Patrols must know channel and call signs of all adjacent units. Repeatedly patrols have had to rely on alternate means of communication to their base. It is feasible and highly desirable to extend wire lines on company size patrols. The SCR 619 is better suited for patrol action than the SCR 610, since the patrol need not stop and set up the radio for communication.

5. It must be kept in mind that Company size patrols are bulky and often times difficult to control. In many cases most Battalion and Company Commanders would prefer to utilize smaller groups, feeling that they can accomplish the same results. (RESTRICTED)

* * * * * * *

PREPARATION OF DEFENSIVE LINES AND FIELD FORTIFICATIONS

The basic concepts and principles of our doctrine, when employed in the preparation of defensive lines and field fortifications, have been proved sound. Properly applied, they have, in most instances, guaranteed the retention of any ground. (RESTRICTED)

* * * * * * *

ASSAULT OF FIXED POSITIONS

1. It has again been found that personnel and units will not follow closely their supporting fires. Too often there is a time
lag between the artillery concentrations and the actual assault. This likewise has held true with tactical air support.

2. One Battalion has successfully utilized "dry runs" by supporting aircraft to cover their assault. After the planes have made their strike the ground controller has the flight continue to make runs on the objective while the troops advance. This same unit has utilized .50 caliber machine runs in support of the attacking units. This has been in lieu of the 75-mm recoilless rifle which has limitation in this type of terrain.

3. Close liaison must be effected and maintained between the TACP and the artillery liaison officer. This unit has found that the best solution is to have both parties, with their communication equipment, at the regimental CP or forward CP. At this location the regimental CO and L-3 can request and control both air and artillery support.

4. Direct support (.50 caliber and 76-mm fires) by organic and attached tank units was found to be extremely effective. The commander of the leading echelon had direct communication (SCH 300) with the Tank Commander, and could request and control the fires as required. Also, tank fire was utilized to mark targets for air strikes. (RESTRICTED)

* * * * * * * * *

WATER SUPPLY

Due to appreciable increase in heat and the difficulty of obtaining water on the high ground generally occupied in a tactical situation, it is recommended that each man in the rifle companies, plus some elements of the heavy weapons company, be issued two (2) canteens for summer use. (RESTRICTED)
calling for concentrations both ahead of and on friendly positions. The Infantry had foxholes with overhead cover for each man, the plan being to fire VT on friendly positions in case of enemy infiltration tactics. The large amount of work that this necessitated later paid great dividends for our troops, for the enemy was driven off our positions by VT fused artillery shells fired over friendly troops. (RESTRICTED)

SOURCE: Command Report - 10th Engr C En
DATE: April 1951

ENGINEER RECONNAISSANCE

The Reconnaissance Section is continually out gathering engineer information. It would facilitate matters considerably if a "Land Polaroid" camera were added to that section's T/O&E. It would enable them to return from a reconnaissance with pictures of bridges needing repair, bad sections of road, etc. This would help in planning operations. (RESTRICTED)

SOURCE: Command Report - 3d Engr C En - Staff Journal
DATE: April 1951

TRAINING IN USE OF MINES

Since the area in which the Divisional elements were involved had been previously defended during the Eighth Army withdrawal, there were countless scattered minefields. Some of these had been properly recorded and were easily and quickly removed. The majority however, were small isolated groups or fields of mines, often booby-trapped and found only when friendly troops were injured within that area. Even with the aid of mine field reports the removal of the fields was made extremely difficult by the inaccuracies of the reports. More and better training is required for all ranks and branches if highest efficiency with minimum casualties to friendly troops is to be obtained. (RESTRICTED)
Experience in operations in Korea has proved a definite requirement of additional officers in Division headquarters, over and above those authorized in T/O&E 7-1N, to insure efficient, smooth and accurate functioning of the headquarters.

The T/O for the G-3 Section is:

G-3
Asst G-3
I&E Off
I&E Asst
G-3 Air
Liaison Off
Liaison Off
Liaison Off
Lt Col
Major
Major
Capt
Major
Capt
Capt

Except for the Assistant I&E Officer, all of the T/O positions are full time jobs which do not permit the use of these officers for any additional duty. When Psychological Warfare was transferred to G-3, with the requirement that an officer be put on full time duty in this assignment, the Assistant I&E Officer was deleted and the Psychological Warfare Officer was substituted in his place. Under the T/O&E, only the G-3 and assistant G-3 are available to actually operate as Plans and Operations personnel.

In order to adequately plan future operation, keep track of and inspect directed activities, conduct special projects such as task force operations, visit units to check operations and assure that all concepts of the Commanding General are carried out, and to provide qualified and trained replacements in the event of sudden loss of the G-3 or assistant G-3 it is recommended that the T/O be augmented by the addition of two (2) majors, G-3 Plans, Inspections and Special Projects Officers.

The T/O for the G-2 Section is:

G-2
Asst G-2
Lt Col
Major
Captain

OCAFF Form No 72
(Revised 15 Oct 5
Comment: Interrogators are assigned when specifically authorized by Department of the Army (Section IIB, T/O 15 Nov 1950).

Although the Photo Interpreters and Prisoner Interrogators are, on occasion, available for additional duties, their primary duties so often require their full attention that they cannot be relied on to regularly devote their time to additional duties.

In order to produce positive intelligence information in this Theatre, several agencies not normally associated with the office of the G-2, have been developed and are being exploited. The 3d CIC detachment, which normally employs a limited number of native agents in its routine counterintelligence functions, has been developed into a positive as well as a counterintelligence agency, employing a large number of native linecrossers. GSAK has attached a team of positive intelligence agents (TLO) to the Division. A ROK Intelligence Platoon, containing an agent team, has been operating with the Division. Central control of these various agencies is essential to insure coordination with the tactical units for the movement of linecrossers, coordination with the S3 for artillery fire, and coordination among these agencies to prevent duplication. In addition, logistical support must be given these agencies. All of this adds up to a full time job for a company grade officer from the G-2 Section. Since the job is too important and too time consuming to be given to an officer as an additional duty, it is recommended that the T/O be augmented by the addition of a Captain or Lieutenant, G-2 Agent Control Officer.

In order to coordinate the intelligence functions of the Division Light Aviation Section and to insure that the maximum amount of intelligence information is obtained through the section, it is necessary that an officer from the G-2 Section remain at the Division airstrip at all times. This officer briefs pilots and observers on the current enemy situation and outlines sensitive areas for observation, debriefs pilots and observers upon completion of mission, schedules observation flights, makes frequent flights himself to
observe critical areas to note changes in enemy disposition and
to check reports of other observers. All of the information thus
secured is sent immediately to HQFS, G-2. Since this is a full
time job, it is recommended that the T/O be augmented by the
addition of a Captain or Lieutenant, G-2 air Officer.

The T/O for the G-4 Section is:

G-4  Lt Col
Asst G-4  Major
Asst G-4 Transportation  Major
Motor Officer  "0"

The one transportation officer now authorized the Division
advises the G-4 on transportation requirements of the Division,
maintains a daily truck availability table, controls the allocation
and operation of cargo vehicles within the Division, and prepares
traffic circulation plans, including alternate routes and detours,
in coordination with G-3, Division Engineer and Provost Marshal.
On rail moves he maintains liaison with local RTOs regarding pro-
curement of rail transportation, prepares transportation annexes
for movement orders, and furnishes all units of the Division with
the railroad requirements for loading, blocking and bracing. On
water moves he coordinates with port authorities as to number and
type of ships required, supervises the activities of unit embarkation
officers, and coordinates with port authorities for movement of
both equipment and personnel in both the outloading and unloading
phases. He must coordinate with the Air Force on the air drop of
supplies when necessitated by the tactical situation. On Division
moves it is necessary that a transportation officer go forward
with the advance echelon and that a representative remain at the
rear until the move is completed. In view of the volume and variety
of work required of the transportation officer, it is recommended
that the T/O be augmented by the addition of a Captain, G-4 Motor
Transportation Regulating Officer and Assistant Supply Officer,
and a Captain, G-4 Passenger and Freight Transportation Officer
and Assistant Supply Officer.

No provision is made in the T/O of an Infantry Division for
a Post Exchange Office, and only one officer, in the grade of Major,
is allocated to the Special Service Section.

The Post Exchange System, as it operates in Korea, requires

UNCLASSIFIED
the full time assignment of two (2) officers at the division level. Supplies must be drawn at Pusan, signed for by an officer, moved to the division by truck or rail, broken down to units for sale, and accounted for on a strict accountability basis. This system requires one officer continuously working between Division and Pusan, drawing and moving supplies, and another officer working at the Division PX point, controlling and allocating stocks, supervising sales, and maintaining accountability records. It is recommended that the T/O be augmented by the addition of a Captain and a Lieutenant, Post Exchange Officer. (SECRET)

* * * * * * * * *

SNIPER FIRE

During the occupation of defensive positions, in order to inflict casualties on the enemy and to make the riverline untenable for him, sniper positions were prepared near the river bank in position to fire on enemy activity on the far shore. These positions were prepared at night and were well camouflaged. After completion, they were occupied prior to daylight and were vacated only after dark. The positions were more effective. Casualties were inflicted from them every day. To supplement these fires, platoons of the Tank Battalion and the Battalion occupied hull defilade positions on the low hills near the river to snipe at appropriate targets across the river. These fires, together with the fire of Division Artillery, made the enemy positions near the river so costly to maintain that they were virtually abandoned, even before the general withdrawal began. (SECRET)

SOURCE: Command Report - HQ 8th US Army Korea (SOGaK)
Sec II: Supporting Documents
Book 11: Chemical

DATE: June 1951

NAPALM MIXING

A napalm mixing team consisting of eight (8) enlisted members of this organization departed the company base 15 June and returned
to the company 23 June, after having mixed 43,000 gallons of napalm. (RESTRICTED)

** ***********

** INSTALLATION OF MECHANIZED FLAME THROWERS **

Four (4) mechanized flame throwers were installed in M4 tanks of the 7th Infantry Division by a team of five (5) enlisted men in two (2) working days. This installation included test firing of the flame throwers. (RESTRICTED)

** ***********

** CHEMICAL CLASS V ITEMS **

Experience in Korean operations has shown less Chemical Class V items are employed during an offensive than during a defensive operation. This is believed to be the reason for an overall 60% drop in issues from the 4USAK Advance Chemical Depot. (CONFIDENTIAL)

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** SOURCE:** Command Report - Hq 8th US Army Korea (4USAK)
** BOOK:** ACORS G-2
** DATE:** June 1951
** SOURCE NO.:** 242

** GUERRILLAS, ENSY **

The number of active guerrillas operating in friendly rear areas was estimated 7,500 on 25 June. Unless major reinforcements succeed in infiltrating friendly lines, it is believed that guerrilla strength will remain at approximately the same level indefinitely, losses being offset by local recruiting. Guerrilla activity during June was confined to raids on small towns and villages in isolated areas in search of food. (CONFIDENTIAL)

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** SOURCE:** Command Report - 187th Abn Inf Regt - 1st Bn
** DATE:** March 1951
** SOURCE NO.:** 243
### ACCURACY WITH GRENADES

Our personnel used grenades, but were not too accurate with this weapon. *(CONFIDENTIAL)*

<table>
<thead>
<tr>
<th>SOURCE:</th>
<th>Command Report - 36th Engr C Gp</th>
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<tbody>
<tr>
<td>DATE:</td>
<td>March 1951</td>
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### INTERIOR MANAGEMENT

Effective this month a report section has been established with the responsibility of coordinating all reports required by Group and by higher Headquarters. The large number of reports has made such a section necessary in order to keep subordinate units abreast of requirements and suspense dates. *(RESTRICTED)*

<table>
<thead>
<tr>
<th>SOURCE:</th>
<th>Report of US Army Aircraft Flying Accident from Commanding General, 2d Infantry Division to Commanding General EUSAK</th>
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<tbody>
<tr>
<td>DATE:</td>
<td>August 1951</td>
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### HELICOPTER LANDING AND TAKE OFF FIELDS

A combination of high altitude (1500 ft msl), high temperature (90°F), and no wind (under 10 mph) may make a normal helicopter landing and take off impossible. *(RESTRICTED)*

<table>
<thead>
<tr>
<th>SOURCE:</th>
<th>Command Report 2d Infantry Division</th>
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<tbody>
<tr>
<td>DATE:</td>
<td>May 1951</td>
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### PSYCHOLOGICAL WARFARE

A successful application of psychological warfare principles

| UNCLASSIFIED | 17 |

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OCAFF Form No 73  
(Revised 15 Oct 51)
was illustrated when an infantry regiment encountered an estimated 300 enemy in a road block. A division liaison plane effected a prearranged SCR 300 contact with the loudspeaker plane and with the Forward Air Controller. All ground fire was stopped while the Voice Plane broadcasted. The enemy was told that further resistance was hopeless, that the only alternative to destruction was surrender, and that surrender would be accepted if they would walk down the road toward the UN Forces. Several groups of enemy responded by walking down the road and surrendering. Other groups were seen moving north, apparently feeling that the promised lull would be a good time to effect an escape. In any event, there was no further resistance from that particular road block. After the time stipulated, a final message was broadcast to the effect that those who had not taken the opportunity to surrender would now be slain. The artillery immediately placed a heavy concentration on the road along which the enemy was retreating. The operation was successful, therefore, in convincing many of the Communists to surrender while, at the same time, lowering the will to fight of those who remained.

(RESTRICTED)

FOUGASSE

Units are urged to utilize fougasses in the organization of positions. Eight (8) dug-in improvised flame throwers (napalm thickened gasoline) already are installed covering the junction of two (2) valleys. These fougasses cover two (2) probable enemy avenues of approach to a portion of the Line manned by elements of an infantry battalion. Each fougasse will produce a mass of flame twenty-five (25) to forty (40) yards in range and one-third (1/3) that in width, similar in effect to a napalm bomb but on a reduced scale. Each is buried and sandbagged at a thirty degree (30°) angle from the horizontal, or is horizontal if the target is downhill, with the uncovered end facing the enemy approach avenue. A propelling, exploding, and igniting charge of 1½ to 2 pounds of block TNT (or equivalent explosive), two (2) M15 WP grenades (or one 81-mm mortar WP round) and a detonator either with or without
blasting cord (primacord) is taped to the center of the barrel head which is buried. Activation will be either by remote control through manually operated electric detonation, or by a primacord lead from the nearest foxhole, thus assuring detonation when a lucrative target presents itself. (RESTRICTED)

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LESSONS LEARNED IN RETROGRADE MOVEMENT

Although an all-out attempt to recapture SEOUL by the enemy appeared imminent during the first days of May, railheads for divisions were retained in SEOUL, together with the ammunition at ammunition supply point 54. Bridges and switches were left intact. This was as a result of lessons learned on previous retrograde movements and subsequent advances.

As the United Nations counteroffensive progressed northwards, only minor repairs were required to place rail lines in operation once again. (RESTRICTED)

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ADMINISTRATIVE OVERLOAD

The administrative reports required of the unit present a major problem. An example is the Command Report, of which this writing is a part, which consumed five hundred and sixty (560) pages, and is required monthly. (RESTRICTED)
SUBJECT: Dissemination of Combat Information

TO: See distribution

1. In accordance with SR 525-85-5, Processing of Combat Information, the attached EXTRACTS are forwarded to Department of the Army, Army Field Forces and the Service Schools for evaluation and necessary action. It may be appropriate, in certain cases, for these agencies to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and often, the extracted item serves to reaffirm our doctrines and techniques.

2. Copies of Dissemination of Combat Information are forwarded, with Department of the Army approval, to information addressees for use at the headquarters of the installation or activity concerned to keep them informed concerning theatre problems from front line through the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office downgrades each extracted item to the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.

4. Generally, the EXTRACTS which pertain to training appear under the classification of RESTRICTED. For combat information of training value at the Company-Battery level, addressees are referred to Army Field Forces TRAINING BULLETINS, which are also published under the classification of RESTRICTED.

FOR THE CHIEF OF ARMY FIELD FORCES:

W. H. Melhorn

(Over)

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# EXTRACTS OF COMBAT INFORMATION

**SOURCE:** Command Report - 38th FI An

**DATE:** July 1951

**SOURCE:** Command Report - 3d Inf Div

**DATE:** May 1951

## PHYSICAL CONDITIONING

One of the most important items of junior officer training in Korea is physical conditioning. None are physically conditioned sufficiently, upon arrival, to enable them to perform forward observer duties without severe physical strain. (RESTRICTED)

## PREPARATION OF SHELL REPORTS

Operations have demonstrated that the line units and attached FO have not properly exploited the intelligence and tactical importance of shell reports. It is believed that this is due, in part at least, to the shortage of adequately trained personnel and ignorance of the potential value of shell reports.

It is recommended that the FO parties assigned to infantry rifle companies be especially trained in the preparation of shell reports; that a school be conducted at Division level for the purpose of instructing key non-FOs of the rifle companies in the importance and preparation of shell reports; that the courses of instruction at the infantry service schools in the States put greater emphasis on the tactical importance of shell reports and the procedures for obtaining them. (RESTRICTED)
DEFIciENCIES IN TRAINING OF REPLACEMENTS

1. Combat formations.
2. Small unit tactics.
3. Familiarization with weapons other than their individual arms.
4. Training in camouflage discipline.
5. Physical conditioning.

Recommend additional training in subjects as listed above.

(RESTRICTED)

ENEMY ADEPTNESS AT CAMOUFLAGE

The Communist Forces have made excellent use of camouflage. Troop camouflage has been so effective that aircraft flying at tree top level over known troop concentration areas have difficulty in locating these troops. Armored vehicles, trucks and artillery pieces have also been very successfully camouflaged. They use all types of poorly camouflaged dummy materiel, while the actual materiel, well camouflaged, has been undetected. The enemy has also attempted to conceal his river crossing points by camouflage and subterfuge. This has included moving entire bridge spans out during daylight hours and moving them back into place for night traffic. (RESTRICTED)

EFFECTIVENESS OF HAND GRENADES

Tests were conducted to determine the comparative effectiveness
of all types fragmentation grenades known to be employed in Korea. The following conclusions can be drawn:

a. The most effective hand grenades at 5 yards range are those of the US type.

b. The order of effectiveness, gauged by the average number of perforations at this range, is (1) US, (2) Russian and (3) Korean.

c. None of the stick grenades tested approached the US types for fragmentation effect.

d. The maximum effective bursting range is ten (10) yards. Effectiveness diminishes rapidly between five (5) and ten (10) yards.

(RESTRICTED)

5-IN-1 RATION

The 5-in-1 ration is generally unacceptable for the following reasons:

1. Because of their tactical deployment, troops cannot assemble to eat.

2. Equal distribution of the ration is quite difficult under combat conditions.

3. Food must frequently be prepared in the mess gear, which is undesirable because washing facilities are not available to the individual soldier in contact with the enemy.

4. Transportation of the 5-in-1 presents a problem since the individual must carry his own food in combat.

5. There is a large percentage of waste because of the size of the food containers.

6. The ration is not palatable when eaten cold.

(RESTRICTED)

UNCLASSIFIED

OCAFF Form No 73
(Revised 15 Oct 51)
CLOSE ARTILLERY SUPPORT

It was observed on numerous occasions that frontline commanders hesitated to call for close artillery support.

It is important that constant attention be directed to the elimination of faulty range estimation and firing techniques. They can spell the difference between an easy victory and a costly defeat. (CONFIDENTIAL)

II-19 CARRIAGE

The firepower and maneuverability of the II-19 Motor Carriage with twin 10-mm guns make it highly desirable for the type of warfare fought in this theater. The II-19 Motor Carriage with quadruple mounted .50 caliber machine guns has been issued as a substitute item. However, the advantages of the II-19, i.e., the full track, the added maneuverability and the fragmentation type projectile, make it more effective in combat than the II-16 halftrack motor carriage. (CONFIDENTIAL)

PLANNING OF MINE FIelds

Additions were made in depth after all the front was initially covered with fortifications. The lack of adequate planning in the placing of mine fields was evident when it was found that reference points of some mine fields were in the midst of other mine fields. This presented a hazard to the unit which might later be required.
to remove the mine fields. The solution to the problem in such cases was advance planning of the mine fields by the Division Engineer and the interested Infantry commander. The engineer company which is to lay the mine field should be made fully aware of the locations of proposed mine fields before laying the first fields, so that reference points can be established well clear of sites selected for other fields and so that they can be reached safely at any time. (RESTRICTED)

SEARCHLIGHTS

Searchlights are used advantageously in illuminating patrol objectives while letting patrols move about in the shadows. They provide sufficient illumination for artillery adjustments. They have an adverse effect on enemy morale and tend to keep him in his foxhole. Using direct illumination, they will blind the enemy and aid in repulsing a night attack. (RESTRICTED)

REPLACEMENTS

Practically all the replacements received during this period were those who were new to the Army but had received both infantry and engineer basic training. This has proved to be good initial training for this theatre. (RESTRICTED)

TANK COMMUNICATIONS

It is recommended that each tank company be assigned five
frequencies for the operation of their SCR 508-528 series radios. Each platoon would then have its own channel and each company channel would be cleared of sixteen stations. (RESTRICTED)

* * * * * * *

OIL COOLER FAN FAILURE

Oil cooler fan failures still continued to be the major bug. During the period 1 February to date, there has been a total of fifty-one (51) such failures. (CONFIDENTIAL)

SOURCE: Command Report - Hq 8th US Army Korea (BUSAk)  
Soc II: Supp Doc, 3rd: Armor  
DATE: April 1951  
Source No 262

TANK FIRE ON HIGH RIDGES

Tanks were used in the valleys, but had difficulty negotiating the many obstacles and in elevating their guns high enough to fire at the tops of the ridges. (CONFIDENTIAL)

* * * * * * *

INFANTRY-TANK COMMUNICATIONS

Communication between the tanks and the infantry has been satisfactory when the SCR 300 was used in the command tank on the infantry frequency, or when a tank liaison party with a 500 series radio was attached to the infantry command column. The telephone on the rear of the tank is unsatisfactory. It is very difficult to get it out of the spring-loaded box in which it is housed, especially if dirt, mud, or ice have gotten into the springs. The cord on the telephone is so short that the infantryman using the phone cannot take cover, but must stand up or run along after the tank. The housing should be changed to eliminate moving parts, and should be moved down the tank hull so the infantryman can reach it from the prone position. It should be re-designed to provide cover from rain and snow. The cord should be longer so the infantryman can get back in his hole or in the ditch after he gets the phone. The head set should be re-designed to make it more rugged so that when the infantryman releases it the tanker can pull it back to the tank without damage. (CONFIDENTIAL)

* * * * * * *

UNCLASSIFIED

OCAFF Form No 10  
(Revised 15 Oct 51)
ELIMINATION OF REGT'L SVC CO IN SUPPLY CHANNEL FOR REG'T'L TK CO

Recommend Ordnance study possibility of eliminating regimental service company channel for supply and evacuation of the regimental tank companies' armored vehicles. (RESTRICTED)

SOURCE: Command Report - 6th Medium Tank Bn
DATE: April 1951

RECOVERY VEHICLES

Evacuation of disabled vehicles became a major problem during the month due to the shortage of adequate towing equipment. It has been found that due to their lack of power, the M-32 recovery vehicles with radial engines are inadequate for towing M-46 tanks. The M-32 recovery vehicles with Ford engines perform admirably. (CONFIDENTIAL)

DATE: 7 May 1951

DEFECTS IN T-7 MAIN PARACHUTES

In the inspection of T-7 main parachutes it has been found that small holes, poor workmanship and various malfunctions exist in the new allotment of this type parachute received at this station. All parachutes of this type are in the process of being unpacked and inspected. (CONFIDENTIAL)

SOURCE: Command Report - 44th Engineer Const Bn
DATE: April 1951

HYDRAULIC JACKS

It is recommended that hydraulic jacks of up to 40 ton capacity be included in the T/O&E to facilitate bridge construction. (RESTRICTED)
RAILWAY BRIDGE CONSTRUCTION

The 62d Engineer Construction Battalion had been assigned to the speedy construction of a low level railway bridge. This project was completed three (3) days ahead of schedule, due largely to an innovation in the use of bearing plates. Burning holes in I-beam flanges to correspond with holes in the bearing plates proved too slow for the operation, as immediate completion of the project was necessary to the logistical support of the Eighth Army advance. A plan to use double bearing plates and weld the I-beam to the top plate greatly increased the speed with which the assignment was completed. An entire forty-two-foot (42') bay could now be assembled with diaphragm (held in place by chain hoists), permitting the welding of diaphragm and bearing plates and the placing of crossties without reference to the center line. The entire unit could be jockeyed to the center with pinch bars. (RESTRICTED)

HEADQUARTERS IX CORPS
OFFICE OF THE COMMANING GENERAL

IX.03 LOO. 8 February 1951

SUBJECT: Logistic Support and Maintenance

TO: (Address deleted)

1. The Army system of logistic support and maintenance is premised on the following:

   a. Divisional service, maintenance, supply and other logistic functions are performed in close support of the combat element.

   b. Army service, maintenance, supply and other logistic functions in direct support of Divisions and Corps units are performed from positions as close as possible in rear of divisional service elements.

UNCLASSIFIED

OCAFF Form No 1
(Revised 15 Oct 51)
c. Impetus from the rear.

2. The effectiveness of the system has been reduced very considerably by two practices which have become prevalent in recent months.

a. Stationing of division service elements as far as 175 miles from regiments, thus making the rendering of proper divisional logistic support and maintenance difficult to impossible. This practice further renders Army direct logistic support and maintenance ineffectual by forcing Army support units to move to locations in rear of distant divisional elements.

b. Bypassing of Ord field depot companies by going direct to base depots to “scrounge” spare parts, major assemblies and other expendable items. This practice leads to hoarding and “false” shortages and has rendered ineffective the supply of Ord items through normal distribution channels.

3. The Army system is sound and battle-proven. It can and will be made to work in this command. Recommendations for remedial action with regard to weaknesses in Army direct logistic support and maintenance can not be properly made by me until our own errors are corrected.

4. The following policies are announced:

a. All elements of divisions (except Div Rear CP’s) will be located in zone forward of division rear boundaries unless specifically authorized to be located elsewhere by this headquarters.

b. Prescribed channels of resupply and maintenance will be strictly adhered to (see EUSA SOP for Adm, 25 Oct 50 w/changes).

/s/ Bryant E. Moore

BRYANT E. MOORE
Major General, United States Army
Commanding

(RESTRICTED)
Command Report - 7th Inf
June 1951
Source No 268

T/0&E INFANTRY

It is recommended that the battle lessons learned, tactical applications used, as well as organizational innovations resorted to in pursuing the Korean War be carefully appraised in the light of probable future enemy capabilities and the unusual nature of current operations. In most ways the war in Korea is an anachronism. The common use of human bearers, the long and arduous mountain climbing maneuvers and the stripping down of units in order to negotiate difficult terrain is the result, not necessarily of the terrain, but primarily because of the paucity of troops. The force necessary to allow for a crushing offensive of envelopment and destruction is not available. There is, and has been, ample terrain of a suitable nature, and enemy situations capable of being exploited by an armored-infantry deep penetration and encirclement; followed by a mop-up by infantry units operating against isolated units in mountainous terrain. Many times in the last five (5) months there have been opportunities to encircle and crush enemy units from the size of a regiment to a corps. The lack of sufficient troops has forced the UN forces to attack frontally and slowly and maintain a defensive attitude even during the conduct of the attack. This war is in every respect a "Poor Man's War."

Therefore, any recommendations based on the current Korean campaigns with regard to basic changes in T/0&E and/or tactics should be scrutinized primarily in the light of the future, rather than with respect to the present or past campaigns in Korea. It is a tribute to the basic organization of the infantry regiment that the present structure has been flexible enough to meet the requirements of the Korean War. (SECRET)

* * * * * * *

AT-LINE PLATOON

The present AT-Line Platoon has proved to be versatile, dependable and flexible. Its primary use has been to augment, or many times to replace, engineer troops at the regimental level. The regimental defense against armored attack could be greatly improved if the AT-Line Platoon had an active, as well as passive, means of antitank defense. If the 105-mm Recoilless Rifle mounted on the 1/4 ton truck
utilizing H.E.M.T. or "Squash-head" ammunition proves to be an acceptable antitank weapon, the inclusion of nine (9) to twelve (12) of such weapons, organic to the AT-Mine Platoon is recommended. This would require only twelve (12) additional men (driver-loaders), since the balance of the platoon could perform a dual mission. It is felt that the additional workload on Service Company Maintenance section can be absorbed inside the present T/O&E structure. (CONFIDENTIAL)

2-55 AA LOU RNT

It is recommended that a study be made of the practicality of introducing eight (8) 2-55 (quadruple-mounted Cal .50 MG) mounted 2½ ton trucks into the Infantry Regiment. These weapons are capable of being fired either from the bed of the truck or from ground mounts. On the offensive these weapons could be used truck-mounted for close ground support or for antiaircraft protection of motor columns, CP's or supply installations. On the defense or in a static situation they could be ground mounted for the same purpose and the trucks could be used other than for their primary purpose. The 2½ ton truck is a rugged and suitable mount for the quad-fifty and eliminates the maintenance and trafficability problems inherent in the M-16 vehicle. The additional firepower and particularly the antiaircraft potential of this weapon would make it a valuable organic addition to the Infantry Regiment. (CONFIDENTIAL)

SOURCE: Command Report - I Corps Transportation Report

DATE: April 1951

CORPS VEHICLES REQUIREMENTS

Corps should never have less than four (4) truck companies in its support. Even though there are periods of little utilization, trucks must be "on tap" for tactical operations. Four (4) truck units constitute a bare minimum. (RESTRICTED)
AIR OBSERVERS

The T/O should be implemented to furnish one (1) air observer for each organic aircraft authorized by the T/O. Forward observers are being directed to this job when they are urgently needed to meet the requirements of troops on the ground. (RESTRICTED)

TRUCK OPERATION

1. Experience with truck operation in all corps areas in the last two (2) months has shown that more centralized control of all phases of truck operation in forward areas is necessary if most efficient utilization and maximum availability of vehicles is to be realized.

2. The present practice of putting transportation units or, in some cases, a given number of trucks, in direct support of an organization has the following results:

   a. A lack of flexibility - there are often periods of time when the unit supported does not need all the trucks, yet they are not available for other use.

   b. On days when the unit has heavy commitments, they have a tendency to "ram" the trucks - without regard to proper operating practice and good maintenance policies.

   c. A great deal of "deadheading" in one direction results, although cargo may be available and could be offered and hauled if there were centralized control. This applies particularly to back hauling of empty FOL drums and brass.

   d. When a heavy, unexpected, army-wide need for a large
truck concentration occurs, e.g. - a large troop movement, it is very difficult to collect the vehicles and control their movement, dispatch and operation.

e. Truck operation is removed from those who are trained to handle it and often put in inexperienced hands, or people not properly staffed to handle it.

f. Operations being split up into small units, truck deadlines are not spread over a wide area, but are often concentrated.

g. Normal channels of command and administration are broken down.

3. Several solutions are possible:

a. Put all vehicles under Army control and give support missions, either continuing or temporary as needed.

b. Leave units in direct support, but only at Corps level, avoiding any breakdowns beyond battalion, all support lower than corps level to be by mission.

c. Use of transportation coordinator, machinery for which already exists, by proper use of 351st Transportation Highway Transport Group.

II. Recommend that Transportation Officer, USAR be requested to submit a study on truck operation as outlined herein, with his recommendations. (RESTRICTED)

PORT OPERATIONS

A bucket type conveyor should be built by engineers to speed up discharge of coal from barges. At present, coal is discharged from ship to barge by ship's gear, and removed from barges by laborers wearing "A" frames. This results in tying up barges on coal operations. (RESTRICTED)
**Command Report - I US Corps**

**June 1951**  
Source No. 273

**PROVOST MARSHAL INVESTIGATION SECTIONS**

During the month of June a Corps Investigation Section was organized, consisting of two (2) military police investigators from the 369th Military Police Company, to make preliminary investigations of crimes committed in the I Corps area. This section was set up because on numerous occasions when crimes were reported to the CID they were unable to dispatch a team of Agents immediately due to the overload of cases on hand, and in some instances witnesses disappeared and evidence was missing due to unavoidable delay. Under the present setup, as soon as a crime is reported to the military police or Provost Marshal, the KPI team is sent out to make an immediate investigation, and if sufficient leads, witnesses and suspects are located to show the probability that the alleged offense was committed and by whom, the case is turned over to the CID. When investigation reveals that the offense is of a minor nature or was committed through negligence with no criminal intent, a report of the preliminary investigation is sent to the commanding officer of the offender. The two (2) enlisted men who constitute the I Corps KPI team are both trained investigators, and in the one week in June in which they were organized they successfully solved several criminal cases that would very likely not have been solved prior to the setting up of the KPI team. It is believed that a team of trained investigators should be incorporated in the T/O&E of the Provost Marshal Sections of each division and corps operating in the field, to make preliminary investigation and take some of the workload off the CID. (RESTRICTED)

**Command Report - 3d AAA AT En**

**March 1951**  
Source No. 274

**POWER FOR M-45 TURRET**

1. Recommend that power for M-45 turret on M-16 mount be taken from vehicular power supply. Since vehicle operates on 12 volt system, power could be taken from vehicular battery to base of turret. Slip rings in base of turret could be used to transmit power to master switch of turret. This would eliminate the Power Charger.
Briggs and Stratton, presently mounted on the rear of the L-45 turret
and allow room for four (4) additional chests of ammunition. For
auxiliary power in cases where vehicle is in static position, a PE-210
could be used to provide power to storage battery.

2. Recommend that a manual system of operation be designed for
firing, traversing, and elevating the guns of the L-45 turret when
electrical power is off. The present shortage of solenoids in this
battalion has pointed out the need for some type of manual firing,
especially in ground support roles. (CONFIDENTIAL)

SOURCE: Command Report - 2d Inf Div
DATE: July 1951

USE OF CIC TEAMS

With the recommitment of the 2d Division to an active sector on
16 July 1951, CIC teams were sent out to each regiment in order that
on-the-spot coverage might be affected. Results, as of this date,
indicate that this is a more effective way of utilizing CIC personnel
within the Division. This marks a change in the detachments opera-
tional policy inasmuch as during the past several months these teams
had been based at detachment headquarters and sent out to the regi-
ments on call. (RESTRICTED)

****

LACK OF TRAINING IN MINE WARFARE

When the 2d Division moved back into the Kansas Line in the
middle of July, all units were warned to check their areas carefully
for mines. There were, nevertheless, heavy casualties caused by
friendly mines which had not been plotted when sown, or reported to
the relieving units when the 2d Division took over. It is extremely
important that units planting mine fields place them in patterns and
prepare detailed and accurate maps of their locations. In addition
to these precautions, the fields should be properly marked. All of
these are basic safety precautions but they have not been followed
in the Korean Theater. Many booby traps placed by individuals near
their foxholes were not deactivated when units were moved and these,
too, were the basic cause for many unnecessary casualties.

(CONFIDENTIAL)

15
USE OF SUPPORTING WEAPONS IN ATTACK

All 75-mm recoilless rifles and .50 calibre machine guns in the 38th Infantry Regiment were formed in battery and supported the assaulting echelons. Heavy Mortar Company, 9th Infantry Regiment was attached to Heavy Mortar Company, 38th Infantry Regiment and together formed a twenty (20) gun battery in support of this operation. Tank Company, 23rd Infantry, fired direct and indirect fire missions in the 38th Infantry sector to assist in the attack. (RESTRICTED)

DUG-IN POSITIONS

Training should emphasize the importance of well dug-in positions. It is reasonably certain that this battalion would have suffered numerous casualties had it not been so well dug-in while under hostile counterbattery fire. (RESTRICTED)

EFFECT OF ROUGH ROADS ON VEHICLES

Operation of vehicles over the rough roads predominant in Korea, points out a requirement for strengthening the mounting of the rear shock absorbers on 1/4 ton vehicles. The welds between the upper plates and the frames have often failed. (RESTRICTED)

GANISTER FOR 105-MM HOWITZER

Overall experience in light artillery units in Korea demonstrates the advisability of including Canister T18 as part of the basic ammunition load of each 105-mm howitzer section for employment against infiltrating ground troops at close range. Ten (10) rounds per piece would be sufficient. (CONFIDENTIAL)
NIGHT AIR OBSERVATION

Some means of night air observation should be provided in order to locate enemy artillery mortars. In the rugged terrain encountered in Korea, ground observation and location by flashes of enemy guns is often very difficult due to intervening ridges. Helicopters operating above friendly front lines might provide a solution to this problem. Orientation could be accomplished by properly emplaced searchlights or other visual beacons. (RESTRICTED)

105-mm AMMUNITION

All high explosive projectiles 105-mm should be issued with nose plugs, supplementary and charges not be ready fused. The reasons for this are as follows:

1. Manufacture, assembly, storage and resupply problems are greatly minimized by having a common HE projectile unfused. Balancing stocks in dumps, ASP's and even within batteries can be accomplished more readily by using a common unfused projectile and bulk issue of fuzes.

2. A greater degree of safety is attained when handling unfused projectiles as compared with handling the fused rounds.

3. Experience indicates that service of the piece is not slowed down by the use of unfused projectiles and in some cases is actually accelerated. In many instances difficulty has been encountered in removing fuzes which have been set-punched in place in order to install a different type. No such difficulty has been observed in removing nose plugs from projectiles.

4. During the Korean operations vast quantities of time fused shells have been used as point detonating when stocks of PD fused shell had been expended. This does not appear to be an economical practice and could be avoided. Time adjustments have been very infrequent and a small stock of time fuzes could be carried on hand in the event they were required.

5. In some instances of units relieving other units in place and taking over ammunition on hand in howitzer positions, ammunition has been repacked in the wrong containers and the markings on the packing as to type fuse did not coincide with the actual fuse contained therein, causing erroneous ammunition reporting and consequent additional labor in making physical inventories.
6. Ammunition status reports would be simplified by separating the fuze from the shell. (CONFIDENTIAL)

** ** ** ** ** ** **

**INGY ARtilLERY**

The replacement by the enemy of flat trajectory artillery on high ridges and hill tops has proven to be a thorn in our side. These positions are very difficult to hit and when our fires get close to the enemy piece he merely withdraws weapons and personnel into a previously prepared cave or dug-out (which is usually very cleverly camouflaged) until our fire is lifted. (RESTRICTED)

** ** ** ** ** ** **

**ARtILLERY AMBUSHES**

Our recent employment of artillery ambushes has proven to be effective. Based on intelligence reports, day time registrations have been made on points where night activity by the enemy has been observed. On signal from night patrols or other means, fire has been placed on these points and in one instance two (2) of four (4) trucks operating over one of these points were destroyed and numerous casualties were inflicted on enemy personnel and animals. (CONFIDENTIAL)

** SOURCE: Command Report - 2d Div Arty
** DATE: July 1951 Source No. 278

** COUNTERBATTERY-COUNTERARTILLERY ACTIVITY

** COUNTERBATTERY

A resourceful enemy who makes excellent use of the favorable terrain for hiding his pieces has made counterbattery an extremely difficult mission. The units of Division artillery have had only fair success but are redoubling their efforts to get better results. (RESTRICTED)

** UNCLASSIFIED
COUNTERMORTAR

Lack of radar equipment continues to hamper the effectiveness of the countermortar program. Under present conditions a mortar must be seen or its flash observed before neutralization or destruction can be effected. (CONFIDENTIAL)

FLASH OBSERVATION POSTS

The use of surveyed ground observation posts, manned on a twenty-four (24) hour basis, has enabled the artillery to locate many enemy weapons. This observation has also proved valuable in verifying other reported information. (RESTRICTED)

EVALUATION

Aerial photo and visual methods of countermortar and counterbattery have been only partially effective. Sound ranging has been unsuccessful in the mountains due to echoes and lack of surveyed bases. Radar would help immeasurably. The Division Artillery has the trained personnel, but does not have the equipment. (CONFIDENTIAL)

RECOMMENDATIONS

That countermortar radar equipment be obtained for the light battalions of this division. (CONFIDENTIAL)

That much greater emphasis be placed on the submission of timely and accurate shell reports and other enemy information by battalion S-2's in intelligence training programs. (RESTRICTED)

***************

LIMITATIONS ON AMMUNITION

An ammunition limitation of fifteen (15) rounds per day or two hundred forty (240) rounds per battalion per day, placed on the Division Artillery during July, proved too restrictive. Such an allowance does not afford proper protection of infantry patrols, does not allow for proper counterbattery fires, and generally restricts the Division to a passive defense. (RESTRICTED)

***************

UNCLASSIFIED
Despite the five (5) weeks of training, it required approximately ten (10) days of combat to enable the units to reach a high degree of efficiency. This was particularly noticeable in the units which had rotated the majority of their experienced personnel to the zone of the interior, leaving a minimum of battle experienced personnel on hand. (CONFIDENTIAL)
1. In accordance with SR 525-85-5, Processing of Combat Information, the attached EXTRACTS are forwarded to Department of the Army, Army Field Forces and the Service Schools for evaluation and necessary action. It may be appropriate, in certain cases, for these agencies to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and often, the extracted item serves to reaffirm our doctrines and techniques.

2. Copies of Dissemination of Combat Information are forwarded, with Department of the Army approval, to information addressees for use at the headquarters of the installation or activity concerned to keep them informed concerning theatre problems from front line through the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office downgrades each extracted item to the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.

4. Generally, the EXTRACTS which pertain to training appear under the classification of RESTRICTED. For combat information of training value at the Company-Battery level, addressees are referred to Army Field Forces TRAINING BULLETINS, which are also published under the classification of RESTRICTED.

FOR THE CHIEF OF ARMY FIELD FORCES:

1 Incl
Extracts from sources
279 thru 308

W. H. Mcllhorn
Lt Col, AGC
Asst Adjutant General

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ATTN-61 350.05/41(DOCI)(O)(14 Mar 52) 14 March 1952

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306-307 Comdt, The Provost Marshal General's School
EXTRACTS OF COMBAT INFORMATION

SOURCE: Command Report - 31st FA Bn
DATE: November 1951

Plotting Artillery Fire Missions

A great majority of the observed fire missions fired by this Battalion are fired by Air Observers. It has been the experience of this Battalion that the firing is speeded up considerably, if, after the initial data is plotted on the chart, and range and deflection read therefrom, the remainder of the problem is fired from the Graphical Firing Table using the 100 Yard Scale and the C Scale. Procedure is to use the 100 Yard Scale to determine the deflection and charge, applying the number of miles shown for that range in the appropriate direction. Value of 100 yard range charge is read for that range last fired, and applied to the quadrant elevation in the proper direction.

This procedure has been found to increase the speed of firing an air observed mission, and the accuracy of fire ranging as good as, or better than, the old method of plotting each correction on the chart, using the target grid and then measuring the deflection and range.

For missions where the Battalion is to mass on a target, the fire for effect data is replotted on the chart and data for the non-adjusting batteries read therefrom. Massing of fire has been entirely satisfactory.

The advantage of this method is that three air observed missions can be conducted by the computers simultaneously with the conduct of ground observer missions. (RESTRICTED)

SOURCE: Command Report - 39th Tank Bn
DATE: December 1951

Clearing Friendly Air Mine Fields with Tanks

Although Company "A" had been designated as the reserve company of the battalion, it was called upon almost daily to assist the
Division Engineers in the clearing of friendly AP mine fields. This operation was accomplished by buttoning the hatches on the tanks committed to this detail and driving them through the mine fields using the same pattern that a farmer would employ while plowing a field. Although much was accomplished, the resultant damage to suspension systems was rather severe. (RESTRICTED)

**SOURCE:** Command Report - 35th Inf Regt  
**DATE:** December 1951  
**Source No:** 261

### NIGHT PATROLLING

Night reconnaissance patrols conducted during December usually had more positive results than daylight patrols and enemy contact was frequent. Because of imminent enemy contact and the long distances traveled, it was deemed necessary to include two (2) and sometimes three (3) reinforced squads in the tactical composition of night patrols. One or two squads served as the main body of the patrol while the remaining or "drop off" squads were deployed along the route to provide maximum protection for the main body of the patrol. (RESTRICTED)

**SOURCE:** Command Report - 5th Inf  
**DATE:** November 1951  
**Source No:** 262

### .50 CAL MG WITH SNIPER'S SIGHT

A .50 cal machine gun was used by this Regiment as a sniping weapon during this month's static situation. In eight power Marine Corps Optical Sniper's Sight was attached to a .50 cal machine gun by Division Ordnance. Very accurate sniping can be done up to ranges of 2000 yards. In one instance three Chinese were killed and three wounded at a range of 1600 yards. The .50 cal machine gun with this attachment is a very effective long-range sniping weapon and it is being used effectively in this Regiment. (RESTRICTED)

**UNCLASSIFIED**

OCAFF Form No 7  
(Revised 15 Oct 5.)
"WHY WE FIGHT" INDOCTRINATION

The indoctrination of newly arrived personnel as to "Why We Fight" should begin and be pursued with vigor while the individuals are still in the United States. If this were accomplished the men would arrive eager and willing to fight and would have a very positive and healthy attitude. (RESTRICTED)

EMPTY GASOLINE DRUMS

The Japan Logistical Command reported that a Japanese barge carrying empty drums had exploded at KORE on 29 June, killing 6 persons and seriously injuring 3 others, and the barge was completely demolished. The cause of the explosion was traced to the fact that about 10% of the drums were without bungs and had not been washed with water. (RESTRICTED)

INTERCHANGE OF TIRES

It is recommended that the future design of the 8" Howitzer carriage and the wheeled ammunition carriers for this type unit be studied with the view of standardizing the wheel design on the carriages and trucks. Presently the tires for the 8" Howitzer are 1100-20 while those for the 7½-ton truck are 1200-21. These tires are so nearly the same size that a change to one or the other appears practicable and would allow an interchange between the two giving more flexibility and reducing supply difficulties. (RESTRICTED)
ENEMY ARTILLERY

The enemy continued to make excellent use of camouflage and fortifications to hide the position of his artillery from friendly observation. Instances were noted where the enemy hid his artillery in caves or tunnels and ran the pieces outside to fire and then immediately pulled them back into the hiding place. In other instances prisoners reported that artillery was moved forward to a firing location after dark and then pulled back into concealment before daylight. In most cases, however, it is believed that the enemy artillery was fired from carefully selected and fortified positions with cover and concealment for both the smoke and the flash. It has been apparent this past month that the enemy has successfully developed relatively smokeless and flashless powder. The comparison between the amount of flash and smoke produced by American propelling charges compared to that produced by enemy weapons leaves much to be desired from our point of view. (CONFIDENTIAL)

SOURCE: Command Report - 5th Inf Regt
DATE: October 1951

BATTLE TRAINING

Prior to this 10-day offensive, the Regiment had engaged in no severe combat as a regiment since the end of May. During that period rotation caused a tremendous loss in battle experienced junior officers and senior non-commissioned officers. The two-month training period during August and September helped to alleviate this trouble. However, the Regiment was an inexperienced unit on 13 October. The 10-day offensive proved to be the perfect answer to this problem. The fighting was heavy, but casualties were moderate. The action was continuous, and required quick and efficient movements by motor and foot, day and night. Supply and evacuation was difficult but not impossible.

In summary, each commander and staff officer in all echelons, and every enlisted man got a thorough workout in his particular job.

Steady improvement was apparent through the operation. This proves, I believe, that our teachings and doctrines are sound, that our officers and enlisted replacements are well trained, that our Army can and will fight, when properly led, and can and will beat the Communist forces when and where encountered. (RESTRICTED)

*** *** *** ***

UNCLASSIFIED
AIR-GROUND COMMUNICATIONS

It is recommended that all mosquitoes carry operational 300 radios for communication with ground units in the event the TACP radio goes out. It is realized that this is SCP, but very few of the mosquitoes which worked with this regiment during the last operation were so equipped. (RESTRICTED)

* * * * * *

DIVERSION OF PREARRANGED AIR STRIKES

On occasion, during the recent fighting, an air strike would be requested to reduce a strong Chinese position. The air strike would be approved, and planes dispatched for the mission. Success of the flight, in many instances, was hanging in the balance and would be directly influenced by the air strike. The FESC working in conjunction with the Division Artillery and under the influence of G3 would divert the air strike to another locality which appeared to be under greater stress and in need of an air strike. This policy completely disrupts the continuity of the expected unit's fire plan, and in my opinion prevented this unit from taking the objective at the minimum cost of time and men. Recommend that the diverting of an air strike be done only with the concurrence of the requesting commander. This will enable much more satisfactory use of effective tactical air power. The commander on the ground is in a better position to determine the need of an air strike and suitability of target than a person located at great range from the proximity of combat. (RESTRICTED)

* * * * * *

EFFECT OF ARTILLERY ON CHINESE BUNKERS

Chinese bunkers for personnel and weapons are constructed with four layers of 6-10 inch logs and from one to three feet of dirt over the logs preventing any direct effect on personnel from the explosion of 105mm, 155mm, and 8 inch direct hits. Recommend that more 500 pound fragmentation bombs and napalm be made available for use against this type of installation. (RESTRICTED)

* * * * * *

COUNTERBATTERY FIRE

While the Regiment was conducting the attack against a key terrain feature, six enemy 150 howitzers fired for a period of two hours without effective friendly counterbattery fire. It is felt that the
absence of enemy mortar and artillery fire in previous operations has
lured us away from practicing continuous counterbattery fire. Recom-
mand that more attention be paid to placing friendly counterbattery
fire on enemy guns in future operations. Improved use of available
communications and coordinated air OPs will tend to remedy this
situation. (RESTRICTED)

* * * * * * *

OFFICER QUALIFICATIONS

It is recommended that officers selected for overseas shipment
as replacement officers be given additional training with troops to
include actual command of Infantry companies and platoons. Many
officers are received as Infantry unit commanders who have never
commanded an Infantry unit during their entire commissioned service.
Many have never served with the Infantry until selected for overseas
shipment. In combat areas this creates a training hardship at the
expense of enlisted personnel. (RESTRICTED)

SOURCE: Command Report - 11th Inf Regt
DATE: September 1951 Source No 287

AGGRESSIVE PATROLLING FROM DEFENSIVE POSITIONS

Information of the enemy, his strength and dispositions, has
not been gained by reconnaissance patrols using stealth and observa-
tion as commonly contemplated by accepted doctrine. Rather, it has
been obtained by boldly attacking him in daylight to force him to
reveal his positions.

Aggressive patrolling in a defensive position has paid high
dividends. It retards the enemy's ability and willingness to probe
our positions, keeps him continually alerted, weakens and destroys
his positions, lowers his morale and costs him heavily in personnel.
An increased burden is placed on his logistical problems, already
taxed by harassment from artillery and air. Furthermore, it main-
tains a spirit of aggressiveness in a unit occupying a defensive
position for an extended period of time. (RESTRICTED)
LOCATING ENEMY MORTARS

During the month of September 1951, the Division Artillery received two (2) countermortar radar sets with trained personnel. During the latter part of September, these sets began to produce excellent results. Enemy mortar locations were obtained using every available means. The following is a breakdown of confirmed enemy mortar locations and the sources or combination of sources employed.

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>TOTAL</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Countermortar Radar</td>
<td>111</td>
<td>73.60%</td>
</tr>
<tr>
<td>Air OP (In Aircraft)</td>
<td>14</td>
<td>9.28%</td>
</tr>
<tr>
<td>Ground OP &amp; FxS</td>
<td>6</td>
<td>3.91%</td>
</tr>
<tr>
<td>Photo Interpretation</td>
<td>1</td>
<td>2.65%</td>
</tr>
<tr>
<td>Inf Countermortar Platoon</td>
<td>3</td>
<td>1.98%</td>
</tr>
<tr>
<td>Photo Interpretation and FxS</td>
<td>2</td>
<td>1.32%</td>
</tr>
<tr>
<td>Air OP &amp; Ground OP</td>
<td>2</td>
<td>1.32%</td>
</tr>
<tr>
<td>Ground OP</td>
<td>1</td>
<td>0.66%</td>
</tr>
<tr>
<td>TLO Agent (line crossor)</td>
<td>1</td>
<td>0.66%</td>
</tr>
<tr>
<td>Inf Patrol &amp; Radar</td>
<td>1</td>
<td>0.66%</td>
</tr>
<tr>
<td>Photo Interpretation &amp; Radar</td>
<td>1</td>
<td>0.66%</td>
</tr>
<tr>
<td>Ground OP &amp; Photo Interpretation</td>
<td>1</td>
<td>0.66%</td>
</tr>
</tbody>
</table>

As a result of the intense countermortar program, the enemy was unable to use his mortars to any great extent against friendly attacking elements. Infantry unit commanders reported that they considered the program of great value and assistance to their units. Friendly casualties from mortar fire which up until this time had been high in comparison with casualties from other causes, now were comparatively low.

The only difficulty encountered was a shortage of spare parts for the countermortar radar sets. (SECRET)
training problems are presented as the consequence of personnel conditions as outlined below for period 1 September – 31 December 1951:

a. 127 enlisted men rotated.

b. 172 enlisted men received as replacements.

c. 118 replacements received have had no stateside training in MOS's related to Automatic Weapons.

d. All of the 172 replacements received were in aptitude area groups IV and V. This represents approximately 87%. Under normal training conditions it is considered possible to absorb personnel in those groups up to about 30%. A total of 608 men out of approximately 760 men in this Battalion are in these lower groups. Following is a recapitulation covering distribution by area aptitude groups:

<table>
<thead>
<tr>
<th>76th En</th>
<th>Normal</th>
<th>76th En</th>
</tr>
</thead>
<tbody>
<tr>
<td>I - 0</td>
<td>526</td>
<td>151</td>
</tr>
<tr>
<td>II - 22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III - 125</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV - 507</td>
<td>236</td>
<td>603</td>
</tr>
<tr>
<td>V - 101</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

EI without Aptitude Area I Score = 12

e. 80% rotation of experienced NCO's.

f. Only 16 NCO's have been received as replacements.

g. Commitments of Battalion have not been reduced to allow for training in spite of influx of untrained AA personnel; AA Defense of three Air Bases at widely separated points in Korea has been the continued responsibility of this Battalion.

h. Two Battalion 83's (Majors) were transferred to other units. A third officer (Major) was assigned and immediately sent to school inasmuch as he had had no recent AF experience.

i. Of 12 officers received as replacements none of them have recent AF experience. (CONFIDENTIAL)
QUALITY OF REPLACEMENTS

The caliber of replacements received by this organization continues to decline. The last group of replacements consisted of twenty-six (26) enlisted men. This group included ten (10) men with area I scores beneath seventy (70), five of whom had scores beneath sixty (60). I believe that this is much greater than the Army-wide percentage of the mentally slow. Four (4) of this group had not completed grade school and seven (7) more of them did not go to school beyond the eighth grade. The educational attainment of 12% of this group stopped at or before the 8th grade.

In spite of the short average length of service of this group, two of these enlisted men had records of previous court-martial convictions. One E9 was a two time offender. One other E9 was a confirmed dope addict and has since been hospitalized and transferred from this organization. Three more are suspected as users of drugs, and at a shake-down inspection still another man was found to have in his possession hypodermic needles and syringes. Four others have been subjects of official correspondence since their arrival at this organization. Three of the communications concerned absence without leave ranging from a few hours up to 5 days, and one concerned the alleged paternity of an illegitimate child.

An organization cannot continue to receive replacements comprised of more than the Army average of mentally and morally sub-standard personnel without having its efficiency seriously impaired. This group of men gives the appearance of having been carefully culled. (CONFIDENTIAL)

EXCESSIVE VIBRATION ON 1-16 SIGHTS

The new ring sight installed on the Multiple Gun Motor Carriage, 1-16, is unsatisfactory due to excessive vibration during firing. This makes it extremely difficult for the gunner to keep the target in the
selected speed ring throughout the course. Recommend that the pressed steel ring and rear peep sight elements be reinforced to eliminate this excessive vibration. (CONFIDENTIAL)

SOURCE: Command Report - 153rd FA Bn
DATE: December 1951

HIGH ANGLE FIRE

It is felt that more emphasis should be placed on high-angle shooting and meteorological fire direction procedures during training. We have discovered this type of fire to be as necessary in Korea as it was in the mountains of Italy in the adequate support of the front lines. It is reliable and safe; our observers, now as they are to this terrain and type of fire, have no difficulty in adjusting high-angle fire. (RESTRICTED)

SOURCE: Command Report - 39th Tank Bn
DATE: December 1951

BATTLEFIELD RECOVERY OF TANKS

During the recovery of one of the tanks a member of the recovery crew stepped on an antipersonnel mine that apparently was set to detonate an antitank mine. The resultant explosion caused two deaths and completely demolished a tow bar. The recovery tank, an M4A3 on which a towing pintle has been installed, sustained only minor damage and subsequently towed the damaged tank to safety. It is believed a standard VFR would have been severely damaged in the same circumstances with resultant confusion and loss of time in the recovery operation. This incident is only one in a long series proving the value of the above vehicle for battlefield recovery. It will not only withstand more physical punishment but will also outpull the M-32 in any type of terrain or weather. (RESTRICTED)
| SOURCE: | Command Report - 3d AAA AN Br (SF) |
| DATE: | December 1951 |

**COMUNICATIONS - DIVISION ARTILLERY**

Units of Division Artillery, exclusive of this organization, utilize the 600 series radio for F. communication. The present authorization for a divisional AAA Battalion is a 500 series radio. In that only a 1:1 overlap frequency exists between these radios, radio communication between the AA and Div Arty is seriously restricted. Thus none of the overlap frequencies are available, the possibility of radio communication is completely eliminated.

To alleviate this situation and insure constant radio communication, it is recommended that two (2) SCR 628 radios be issued to the AAA AN Br. One of the radios would be operated by the Battalion NCO and the other used by the CO.

Acquisition of these radios would not require any additional personnel. (RESTRICTED)

| SOURCE: | Command Report - 64th Tank Br (Medium) |
| DATE: | December 1951 |

**SCHOOLED TANK AND TURRET MECHANICS**

Recommend that continued emphasis be placed on obtaining enlisted tank mechanics and turret mechanics who are graduates of the Armored School Enlisted NTOtor and Track Course. (RESTRICTED)

| SOURCE: | Command Report - 3d Inf Div Arty |
| DATE: | December 1951 |

**ARTILLERY AMMUNITION**

An inadequate supply of ammunition of one lot number still exists. If this supply problem were solved, the amount of range dispersion in firing on critical targets would be greatly reduced. (RESTRICTED)
### AIRCRAFT ASSIGNED TO REGIMENTS

It is recommended that each Infantry Regiment be assigned and have placed under its own control at least one liaison type aircraft and two (2) pilots. Even though the Division is assigned several of these aircraft which are available for use by the Regiments, often it is impossible to obtain an aircraft for much needed reconnaissance because of previous commitment of these aircraft to other units. This Regiment has found liaison type aircraft to be invaluable in the control of tactical operations and in making on-the-spot reconnaissance and it is felt that an organically assigned aircraft would obviate the possibility of one being unavailable to the Regiment when it is critically needed. (RESTRICTED)

### LINE CLEARING

Excellent results were obtained by the 2d Engineer Combat Battalion in the use of sympathetic detonation to clear mined roads and trails by exploding several parallel rows of chain demolition blocks. Although the expenditure of explosives was high it was fully justified by the excellent results. It is recommended that prior planning for an operation include this additional explosive requirement. (RESTRICTED)

### COUNTERART OPERATIONS

An urgent need exists to provide the artillery with more adequate means to locate enemy mortars. Time and again mortar shellings occur in sufficient number of rounds and within a short period of time, with
no plots obtained due to poor radar equipment. A set with "tracking" characteristics as well as one which eliminates all clutter, detecting only objects in motion, is required. (RESTRICTED)

<table>
<thead>
<tr>
<th>SOURCE:</th>
<th>Command Report - 7th Infantry Div</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE:</td>
<td>November 1951</td>
</tr>
<tr>
<td></td>
<td>Source No 300</td>
</tr>
</tbody>
</table>

**PSYCHOLOGICAL WARFARE**

During the period 99 prisoners of war were taken, 71 of whom stated that they were influenced to surrender by Division Psychological Warfare activities. (RESTRICTED)

<table>
<thead>
<tr>
<th>SOURCE:</th>
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**MINE DETECTION AND REMOVAL**

It is recommended that development of an adequate, mine detecting and removal device be expedited. Detection must rely on some principle other than the presence of metal in the mine. The density of the earth in the vicinity of mines may be a possible approach, since holes must be dug to replace the mines and the fill is usually more loosely packed than the natural ground. (RESTRICTED)

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**SNIPERS**

Recommend that a stronger emphasis be placed on the importance of rifle marksmanship. The value of qualified snipers cannot be over emphasized, and the inability of the average soldier to engage enemy troops effectively at combat ranges is a serious handicap to successful operations. (RESTRICTED)
**TACTICAL NOTE**

The enemy hates our barbed wire. We are using anywhere from four to twelve hands of it in front of our positions, with the hands placed ten to twenty yards apart. A machine gun on defense is not complete without tactical wire. The two make a near perfect weapon. This slows up mass attacks so that artillery can really do some execution. (RESTRICTED)

* * * * * * *

**NIGHT OPERATIONS**

Night operations should be stressed more than ever. The enemy at the present time has no wire or AP mines. Night moves against him should be used more. Frankly, our men don't like to move at night, but must be urged to do so. We should exploit the enemy's lack of barbed wire. (RESTRICTED)

* * * * * * *

**ATTACK THROUGH ENEMY BARRIERS**

The enemy, in defending, still occupies hill tops. When our attackers get within twenty or thirty yards of the top, the enemy habitually begins throwing hand grenades as fast as he can throw them. The inexperienced attacker will stop or turn back. I inquired of an experienced Platoon leader the other day how he got to the top when he led his Platoon against Hill 307 last fall. He said that they had tried two days to take the hill, and each time were turned back by hand grenades. Finally, he took the hill by running or moving faster when they got within enemy grenade range. He stated by doing this many of the grenades rolled past them and exploded to the rear. (RESTRICTED)

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**UNCLASSIFIED**

OCAFF Form No. 33
(Revised 15 Oct 51)
RIFLE GRENADES

In attacking steep hills it is necessary to lift our artillery fire when the men are a considerable distance from the top. It is then that the enemy has a chance to man his open fox holes on the top and get ready with his grenades. We have not used our rifle grenades enough against hill tops. When the artillery lifts, rifle grenades with air bursts should take over. (RESTRICTED)

SOURCE: Command Report - 58th M. Bn, 3d Inf Div
DATE: October 1951

COARSE POWDER BAG

In using dual grain powder, the firing batteries found that the coarse material of the powder bag was leaving residue in the powder chamber. This residue caused rounds to jam and the breach mechanism to function improperly. The gun sections improvised swabs for the powder chamber and learned to clean residue from the breach mechanism. This resulted in a decrease in the rate of fire.

It is recommended that a less coarse powder be used, with dual grain powder, for efficient burning. (CONFIDENTIAL)

SOURCE: Command Report - 15th M. Bn
DATE: December 1951

STANDARD FIRE DIRECTION CENTER

There is a need for a standard arrangement for the physical composition of an artillery battalion fire direction center. Every unit in Korea has its own ideal solution of the problem. If the Artillery School could work out, and demonstrate, a model FDC, it would result in an economy of equipment both signal and engineer, as well as a saving of personnel. It would then, of course, be necessary to change the T/O&E based upon the final solution as developed by Fort Sill. (RESTRICTED)

* * * * * * *

UNCLASSIFIED - 15

OCAFF Form No 73
(Revised 15 Oct 51)
FORWARD OBSERVERS

Tactical conditions in Korea have frequently made it necessary for artillery forward observers to adjust the fire of light and heavy mortars as well as tanks. Although there are no radical problems in adjusting any of these weapons, it would be advisable to include a brief period of instruction at the Artillery School on the characteristics of each. The increased knowledge gained would strengthen the infantry-artillery relationship. (RESTRICTED)

* * * * * * *

CONVERSION FORMULA FOR HE AND WP SHELLS

The speed and accuracy of artillery adjustment would be improved if a satisfactory conversion formula could be devised to compensate for the different ballistic qualities of shell high explosive and shell white phosphorous. (RESTRICTED)

* * * * * * *

FIRING TABLE FOR DUAL GRAIN PIGMENT

With the increasing availability of dual grain powders there is a corresponding need for a graphical firing table version of PT 105-M-1. (RESTRICTED)

SOURCE: Command Report - 25th Inf Div
DATE: December 1951

Source No. 305

COURT LESSON IN DEFENSE

This successful defense of an outpost against a numerically superior attacking force during the hours of darkness gave additional proof of the soundness of this Division's policy to hold ground at all costs, especially at night, and to withdraw only during daylight hours. The Commanding General has published and repeatedly emphasized to his subordinate commanders that night withdrawals result only in confusion and heavy casualties.
The determination of the Turkish platoon leader to defend the outpost saved his men from the casualties they would have sustained trying to break through the enemy cordon in the dark. The planned fires of his riflemen and automatic weapons, supported by artillery and mortars from the MLR, inflicted extremely heavy casualties on the enemy.

The action further proved: (1) the importance of well planned mortar and artillery concentrations; and (2) the necessity for riflemen to hold their fire until the enemy is close to their positions. A search of the area surrounding the outpost on the day following the attack revealed that most of the enemy dead were killed as they attempted to move through areas covered by close-in protective fires. The others were killed by small arms and automatic weapons as they approached the protective wire. (RESTRICTED)

* * * * * * *

PATROLS BETWEEN OUTPOST AND MLR

Another salient lesson in this action is the necessity for unity of command in attempting to clear enemy from the area between the outpost and the MLR. If the enemy is known to have infiltrated between the two (2) positions, one patrol under one commander, moving only from one direction, should be sent out. If more than one patrol goes out on a combat mission or to set up an ambush under separate commanders, confusion and disaster can be expected. Movement of the patrol must be coordinated with all units on the OPLR and the MLR. (RESTRICTED)

* * * * * * *

VISITING PATROLS

Visiting patrols, normal in the organization of any outpost line of resistance, are indispensable against the Chinese in Korea. These patrols should operate between outpost positions and between outposts and the MLR. By moving through the low land between positions organized on key terrain, they provide early warning of enemy attempts at infiltration. Also, in case one position is hit by the enemy, one of these patrols can be used to reestablish contact or to go to the rescue of the position under attack. (RESTRICTED)
RIOT GUN

The riot type shot gun, used during the latter days of the month, appears to have a definite place in defensive fire plans. Particular attention must be given to the cleaning of the weapon, and it must be handled with care as it does not possess the sturdy construction of combat arms. Ammunition resupply presented no problem as the volume expanded was comparatively small. It was noted that the brass cartridge shells, currently being issued for the weapon, are superior to paper cartridges in that they are not susceptible to moisture and do not require special handling to prevent roughage. As a defensive weapon the shot gun has the following qualifications:

1. Offers close-in protection for crew served weapons.

2. Proves effective in covering areas of approach which offer considerable concealment.

3. The mobility of the weapon makes it desirable as an ambush weapon especially during the periods of restricted visibility.

4. There are no indications that the shot gun will draw enemy fire to any greater extent than any other weapon, even though it has been used extensively at night when muzzle flash is easily discernible.

5. The shot gun has a definite advantage over the rifle and carbine at close range only. Shot dispersion gives good coverage over wide areas. Groups of two (2) to four (4) enemy have been killed or wounded by one shot at ranges of 50 to 60 feet.

It is believed that the riot gun has a definite place in the defensive fire plan, and can be utilized with success during all phases of close combat and in attacks during periods of restricted visibility. As the riot gun has not been used in an attack to date, a practical evaluation cannot be given. Moreover due to the limited range of the weapon and the time required to reload it is believed that men equipped with shot guns would be at a distinct disadvantage. (CONFIDENTIAL)
ARMORED CARROUGE FOR QUAT. .50 CAL. WEAPONS

The antiaircraft halftrack, M-16, used almost exclusively as a ground support weapon in Korea, has emphasized the need for a vehicle that will furnish greater protection for the crew from mortar and artillery fire. In order to accomplish its mission the M-16 must take up an exposed firing position and the enemy immediately reacts with all available fire to eliminate this weapon. The M-16 is not particularly vulnerable to ground attack, due to its high rate of fire, but it is easily neutralized or destroyed by mortar and artillery fire. It is recommended that an all-armed vehicle, similar to the light tank, be developed as the carriage for the quadruple machine guns, .50 cal, for use in close support and that this weapon be made organic to the infantry regiment. (CONFIDENTIAL)

* * * * * *

ARMORED CAB FOR BULL-DOZERS

It is recommended that some type of armored cab be constructed for bull-dozers. At present, "dozer" operators working in close support of front line elements have virtually no protection from enemy small arms and automatic weapons fire. (RESTRICTED)

SOURCE: Command Report - 25th Inf Div
DATE: October 1951 Source No 307

CONNECTING TRENCHES

The digging of connecting trenches between positions on the MLR and from OP's, OP's, or other emplacements immediately in rear of front lines should be made standard practice. Without these trenches, friendly forces caught in intense artillery fires are unable to move without suffering heavy casualties. (RESTRICTED)

* * * * * *

HEAVY ARTILLERY VS ENEMY BUNKERS

It is recommended that a heavy artillery battery, preferably 8-inch howitzers, be made available to Division Artillery during operations in which the enemy habitually emplaces his artillery in heavy bunkers.

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OCAFF Form No 73 (Revised 15 Oct 51)
that can be destroyed only by precision adjustment with heavy artillery. Such a battery, attached to this Division for a limited period during October, was extremely effective in bunker destruction. (RESTRICTED)

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COUNTERMORTAR

A great need is felt for some device to locate mortar positions more accurately under conditions of terrain and weather encountered in Korea. Countermortar radar detachments are handicapped by obsolete and ineffective equipment and by excessive ground "clutter", caused by mountainous terrain. Countermortar platoons of the infantry regiments are likewise handicapped by the mountainous terrain. The enemy takes advantage of periods of poor visibility to fire artillery. At these times the only source of countermortar information are countermortar platoons and radar.

In this connection, it is believed that more personnel should receive training in crater analysis. Crater analysis during October frequently furnished valuable information concerning caliber and azimuth of hostile guns. (RESTRICTED)

************

ARTILLERY PROPELLANT CHARGES

The propelling charges used in 105-mm and 155-mm pieces produce an excessive amount of ash and smoke. The smoke discloses gun positions. It is believed that this is caused either by the dual grain powder or bags that soon to be treated with some sticky substance. Recommend that continued experiments be conducted to improve artillery propellants. (CONFIDENTIAL)

************

BATTLE TRAINING

The Commanding General continued to stress the dangers of defense-mindedness and the necessity of aggressively seeking battle experience for all units through patrol and small task force activities. At a meeting with the Regimental commanders and tank battalion commanders on 21 October he urged them, through training and planned battle experience, to develop well balanced fighting teams. (RESTRICTED)

************
TACTICAL PRINCIPLES

During the tactical briefings held in the War Tent each night during the month, the Commanding General also emphasized these tactical principles:

1. Combat patrols should not consider that they have been in contact with the enemy until they hit resistance which is too strong for them. The mere observation of enemy personnel or emplacements does not constitute "contact." Only by aggressive action can the patrol hurt the enemy and gather information.

2. Patrol plans should be examined to make sure the patrol will serve some realistic purpose and not represent just another diagram on the map. The act of moving from friendly lines to a point within the enemy positions and back again has no particular value unless it has been decided ahead of time exactly for what purpose the patrol is going there.

3. Artillery and air preparation can serve the infantry better if it is extended over a period of days according to a sound plan. This increases the chances to get more hits and do more damage. Last minute fires, intense though they may be, never clear the way for the Doughboy, and he has to spend a large part of his time on the day of the attack waiting for his supporting arms to knock out unsuspected targets.

4. Air strikes and bombing runs should be requested in abundance. Because of the sharp ridges and deep valleys in Korea, it is almost impossible for one air strike or one bombing run to hit the target. However, out of several attempts, one is bound to do great damage.

5. In the attack, it is imperative to get behind the enemy and trap him. This saves fighting him twice. If he is allowed to get away to prepared positions farther north, two battles instead of one will have to be fought. (RESTRICTED)
TANK LIMITATIONS

The combat and training requirements to which the 72-76 tanks of
this Battalion were subjected during December resulted in placing
over half of our tanks on the deadline because of mechanical abuse
inherent in meeting the tactical demands for use in rugged terrain.
On divided slopes, tracks are thrown; on continuous climbing of
steep grades, outposts, shafts and final drives give out.

To alleviate this to some extent, the tank commander should be
given as much latitude as possible in the selection of approaches and
in determining grades which are too steep for the mechanical ability of
the tank. Before ordering his tanks to perform a task which is mechani-
cally ruinous, the task force commander or commander to whom tanks
are assigned should carefully consider the risk involved in losing
the tanks through mechanical failure—a loss which is as serious to
the current mission as the loss of tanks from enemy fire. (CONFIDENTIAL)

NOTE: The above is a precis made from the original command report.
OFFICE, CHIEF OF ARMY FIELD FORCES
Fort Monroe, Virginia

21 April 1952

SUBJECT: Dissemination of Combat Information

TO: See distribution

1. In accordance with SR 525-85-5, Processing of Combat Information, the inclosed EXTRACTS are forwarded to Department of the Army, Army Field Forces and the Service Schools for evaluation and necessary action. It may be appropriate, in certain cases, for these agencies to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and often, the extracted item serves to reaffirm our doctrines and techniques.

2. Copies of Dissemination of Combat Information are forwarded, with Department of the Army approval, to information addressees for use at the headquarters of the installation or activity concerned to keep them informed concerning theatre problems from front line through the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office downgrades each extracted item to the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.

4. Generally, the EXTRACTS which pertain to training appear under the classification of RESTRICTED. For combat information of training value at the Company-Battery level, addressees are referred to Army Field Forces TRAINING BULLETINS, which are also published under the classification of RESTRICTED.

FOR THE CHIEF OF ARMY FIELD FORCES:

P. C. CASPERSON
Major, AGC
Asst Adjutant General

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OFFICE, CHIEF OF ARMY FIELD FORCES
Fort Monroe, Virginia

EXTRACTS OF COMBAT INFORMATION

SOURCE: Command Report - 176th Armored Field Artillery Bn
DATE: December 1951

FIRE DIRECTION CENTER

This Battalion's T/O&E 6-166H provides two (2) personnel carriers for housing Battalion FDC. Personnel carriers by nature of their size are inconvenient and preclude a complete installation in one vehicle. This handicap efficient operation of FDC by either over-crowding or requiring a split between two (2) or three (3) vehicles, especially in cold weather.

An alternate provision of present T/O&E is the use of a CP tent. This is satisfactory only in a stable or semi-permanent situation. Where sudden or rapid changes of position are required, the movement is "bottlenecked" by the unwieldy installation of wires, radios, tables, and tentage required by a normal Battalion FDC. (RESTRICTED)

SOURCE: Command Report - 937th FA Bn
DATE: October 1951

VT FUZE FOR 155MM GUNS

Fuze VT for this weapon is not available and this unit had learned from past experiences the need for more ammunition of this type. (CONFIDENTIAL)

SOURCE: Command Report - IX Corps
DATE: November 1951

AIRCRAFT TOW-BAR

It is recommended that an aircraft tow-bar, similar to one currently used as a field expedient by units in Korea, be manufactured and made an item of T/O&E for all aviation sections.
Towing of aircraft by vehicles has been found to offer a number of advantages over taxing or ground handling by manpower alone, particularly under adverse weather conditions. Towing reduces to a minimum the danger of nosing up while moving the aircraft on muddy, sandy, or rocky parking areas. It has reduced the damage to propellers and windshields caused by flying mud, sand, and gravel. The rigid tow-bar has made the problem of towing aircraft into revetments a comparatively simple one. On an extremely muddy field, two men, one driving the towing vehicle and one directing the driver, can ground handle an aircraft that would otherwise require five or more men.

The tow-bar now in use is made of two pieces of angle iron each nine feet long, joined at one end to form a "WV". The apex is fastened with bolts and sufficient washers to make possible any alteration necessary in the size "WV". A ring is fastened to the apex for attachment to the pintle of the towing vehicle, and a pin is driven downward through the end of each arm to be dropped through the towing rings of the aircraft landing gear. This tow-bar has proven itself completely practical in the field. (RESTRICTED)

SOURCE: Command Report - 21st Inf Div Arty
DATE: October 1951 Source No. 312

USE OF WHITE PHOSPHOROUS SMOKE TO MARK TARGETS

White phosphorous smoke to mark targets for air strikes has several undesirable features. The enemy, understanding the meaning, will often fire white phosphorous on our positions in an effort to confuse the pilots and cause an airstrike on friendly forces. The wide use of white phosphorous shells by infantry mortars and tank units makes it difficult to discriminate between the marking rounds and other fires in the target area. (RESTRICTED)

SOURCE: Command Report - 1st FA Obsr Bn
DATE: November 1951 Source No. 313

COUNTERPATTERN INTELLIGENCE

All OP's were instructed to send in all items of intelligence they might obtain (sound reports, etc) regardless of whether or not they

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had made a location. This proved to be very successful in that it
aided the CRI section at Corps Artillery to obtain a "fix" (when
coupled with data from their other intelligence agencies.) (RESTRICTED)

*** * * * * ***

SILENCE PERIODS FOR FRIENDLY ARTILLERY

Inadvertently, during one day in the period, the artillery of
the Corps was unusually quiet whereas the enemy was active in his
usual manner. Because the sound tapes were only recording incoming
artillery the percentage of locations made to all enemy activity was
extremely high. The use of "Silence Periods" for friendly artillery
in order that Sound Ranging might be fully utilized has not been
readily accepted by firing units during this war. This particular
event, however, tends again to bring out its value. (CONFIDENTIAL)

*** * * * * ***

SURVEY ACCURACY

One important deficiency noted in survey of Artillery batteries
is lack of emphasis on accuracy. Although control is available in
the area, unit survey officers have used their aiming circle compass
needle for direction rather than carry it in from true control.
Battery centers are sometimes observed to be "paced in" or inspected
on the map 1/50,000. Some units have used inspected locations and
aiming circle azimuth for direction as a general practice even though
true control exists. One unit was going to turn in an aiming circle
because it did not have a declination constant recorded on it. All
of these problems can be solved by assigning officers to the job who
have had survey training. Artillery Battalion Survey officers should
inquire at Division Artillery or adjacent units about location of
the SIG or what control is available in their areas. More emphasis
should be placed on survey of deliberate occupation of position.
The T/0/E transit issued to each unit should be utilized in this
case. (RESTRICTED)

*** * * * * ***

VALUE OF OBSERVATION BATTALION

It is recommended that more emphasis be given in schools and
higher staff courses on the tactical use and value of the Observation
Battalion. Actual results of World War II and Korean campaigns can
be published as proof of its value. Credit also should be given to
the five (5) non-target getting missions of the Observation Battalion
such as Survey, Meteorology, Intelligence, Calibration of Friendly
Artillery, and Registration and Adjustment of Friendly Artillery.
(RESTRICTED)
USE OF TANK FIRE IN ASSAULT

Throughout the past operations the tank unit commanders complained that the infantry units would not permit the tanks to fire as close to the attacking infantry as the tank commander would have liked. In many cases the infantry tended to consider the tank fire as if it were artillery with a large dispersion instead of a direct fire, high velocity weapon with pinpoint accuracy. In many instances the infantry commander would place a large artillery, tank and mortar barrage on an objective and then lift the fire prior to the advance of the infantry instead of allowing the tanks to continue to fire just ahead of the advancing infantry. In most instances the tanks were in a position to the flank of a ridge, down or up which friendly infantry was trying to advance and when the tanks were forced to lift their fires it was necessary for the tanks to sit and watch friendly infantry receive machine gun and grenade casualties from enemy positions which could have been taken under tank fire at no danger to friendly infantry (RESTRICTED)

SOURCE: Command Report - 64th Heavy Tank Bn
DATE: October 1951 Source No. 314

T16 ARMOR SHIELD

At present, only fifty of our seventy-six (76) T16's are equipped with the T16 Armor Shield. This shield has proven to be invaluable and has resulted in the saving of many lives. It is recommended that until such time as a full tracked, well armored vehicle is developed, T16 shields be provided for all T16 half track vehicles. (CONFIDENTIAL)

SOURCE: Command Report - 21st A.A.A. AT Bn
DATE: October 1951 Source No. 315

COLORED SMOKE SHELLS

Numerous occasions have arisen where the present colored smoke shells using T-67 fuses have proven inaccurate and ineffective for

OCAFF Form No 73
(Revised 15 Oct 51)
marking targets for air strikes. This has been largely due to the 1267 fuze being erratic. It is recommended that a colored smoke shell which will burst similar to the white phosphorus shell be developed. White phosphorus has proven unsatisfactory in marking targets because the enemy has similar ammunition which can be fired on our positions to cause confusion when a target is being marked for an air strike. (CONFIDENTIAL)

SOURCE: Command Report - I US Corps
DATE: October 1951

ATTACK AGAINST FORTIFIED POSITIONS

1. General

The highlight of operations during the month was Operation "COMRAIDEN". The enemy had had ample time to fortify his positions and had taken full advantages of the opportunity. The defense works were not similar to a conventional "fortified position" such as might be encountered in Europe with concrete blockhouses, dragon's teeth, tank ditches, and barbed wire. The defense system resembled more nearly the Japanese "cave-type" defense of World War II which employed heavily protected earth and log bunkers, deep dugouts, tunnels, and a network of connecting trenches. Tactics of defense were to hold the bulk of the defenders of a strong point in the dugouts and bunkers during our artillery preparations; then, upon the lifting of the artillery, come out and run the fire trenches to meet the assault. This method was very successful because all positions were on the crests of very high and steep hills which operated to reduce the speed and momentum of the assault, and limited the ability of the assault troops to maintain assault fire while climbing the steep slopes. Early in the operation, it became apparent that ultimate success would require the utmost in aggressiveness and proper use of the supporting arms.

2. Planning

It was learned that the planning for an operation against this type of defense had to be much more thorough than during previous operations in the Korean campaign. For example:

   a. A thorough reconnaissance of the objective must be made by the unit which will conduct the attack. Sufficient time must be allowed for the attacking unit to determine in detail the exact location of the enemy strong point, its fields of fire, and adjacent points which must be neutralized by friendly fire.
b. Complete and detailed fire plans must be prepared, utilizing supporting weapons in the most effective manner. If heavy artillery is to be used in direct support, the heavy artillery unit must be given adequate time for selection and preparation of positions. Air support, if used, must be arranged for in sufficient time to ensure proper preparation by the pilots and air controllers. If air support is essential to the success of the plan, then the plan must be sufficiently flexible to allow for delays due to weather conditions.

c. A reserve force should be held out whenever possible, to be committed at a critical time or when there is an opportunity for a successful exploitation.

3. Artillery Support

Operation "COWAIKO" provided ample opportunity for artillery units to apply the technique of assault fire and direct laying. Due to the nature of the enemy's defensive works, this type of artillery support was found to be vitally necessary, in addition to normal high angle concentrations and harassing and interdicting fires. In accomplishing this type of close support, some difficulty was encountered by Corps Artillery units, particularly with respect to the movement into position, and the coordination with supported infantry units. The following are some specific comments and recommendations made by the participating artillery battalion commanders:

a. Reconnaissance. Prior to the selection of firing positions, a reconnaissance should be made with a representative of the supported unit, to permit detailed designation of preliminary targets.

b. Selection of positions. The type of terrain encountered by this operation prevented the use of assault fire from defilade positions in most instances. Therefore, in order to provide the type of fire requested, the artillery pieces had to be placed in positions on or near the tops of hills, with resultant exposure to counter-battery fire. Positions were selected to permit gun-target ranges of 1,000 to 2,500 yards. At these ranges, precision adjustment on the enemy bunkers was very satisfactory.

c. Occupation of positions. Engineers should be made available to construct trails to positions and to level the tops of hills. This is necessary to prevent clogging of the piece.

d. Liaison. Some delay was encountered in establishing effective liaison between the heavy artillery units and the supported infantry units. The most desirable situation was to have a representative from the infantry unit stationed at the artillery observation post; the fire of the heavy artillery being controlled by the observer of the light artillery battalion which normally supported the infantry unit. Controlled in this manner, the maximum support was obtained from the heavy artillery in the assault fire role.
1. Air Support

As the operation progressed, certain inadequacies in the utilization of air support became apparent. They were:

a. In some instances, air strikes were requested on specific targets, with specific types of ordnance, on only a few hours’ notice. In those cases the air force found it difficult, if not impossible, to provide the type of support desired.

b. Instances were noted wherein air strikes were cancelled after the aircraft had reached the target area because artillery fire was being placed on the target. Precise control over both the aircraft and the artillery must be maintained by the ground commander in order that coordination can be properly effected between the two.

c. Some US units failed to utilize the available aircraft to the maximum advantage in close support of the ground attack. For example, at the time the ground attack was being pressed against enemy positions on one hill, without air support, the air support would be placed on enemy positions on another hill several thousand yards away which was not under ground attack. While considerable damage can be inflicted on the enemy in this manner, the shock and demoralization effect of the air strike is wasted unless the air strike can be followed up by a ground advance. As the operation progressed, however, all US units became more and more aware of the necessity for utilization of air strikes in close support of the infantry advance.

5. Conclusion

The principle lesson learned was that proper close coordination between all arms involved in the attack is a must. This requires meticulous planning, in advance and tight control during execution. This is not a new lesson, but serves to illustrate the soundness of established doctrine and the importance of emphasizing it in training at all levels of command. (RESTRICTED)

**********

ENEMY ANTITANK MINES

The antitank mine was the most potent antitank weapon employed by the enemy. Of the forty-two tank casualties sustained by the Corps during the month of October, thirty-nine were caused by mines. Two friendly tanks caught fire and burned as a result of mine explosions.

The enemy attempted to destroy rather than merely damage friendly tanks. An M6 tank of the 61st Heavy Tank Battalion struck a mine, which exploded under the rear of the right track. The M6 tank was
flipped over, the gun tube and turret were blown off, and the tank landed upside down off the side of the road. (CONFIDENTIAL)

SOURCE: Command Report - I US Corps Arty

DATE: October 1951

UNCLASSIFIED

EMPLOYMENT OF CORPS ARTILLERY

1. Operation "COMMANDO" mounted during the first half of October was the first offensive action of I US Corps as a whole against resistance of a well prepared and determined enemy since the middle of June. This action pointed up sharply the danger inherent in violating well established doctrines. In so far as they affected the employment of Corps Artillery these lessons are as follows:

   a. PLANNING: Insufficient planning of artillery ammunition resupply at levels higher than Corps Artillery resulted in the development of a critical situation on the third or fourth day of the offensive. While none of the Ammunition Supply Points were completely exhausted of any one type of artillery ammunition, the critical situation caused the attention of the Corps Commander to be distracted from other matters to the problem of artillery ammunition resupply.

Artillery firing, like any other operation, should be carefully planned to yield the maximum results and yet, several times during the operation requests for additional artillery support in a preparation for an attack came to division or corps artillery fire direction centers too late and in insufficient detail for proper planning.

   b. CENTRALIZATION OF ARTILLERY CONTROL: It is well established artillery doctrine that in order to make maximum use of the ability of artillery to mass its fires throughout the battle zone, the control of artillery fires should be highly centralized as long as communications permit. This centralized control is especially essential during an attack on a prepared position.

During this operation, one division completely decentralized control of its organic artillery and the control of all Corps artillery battalions having a general support-reinforcing role. At one time the S3 of one direct support battalion was trying, from his battalion FDC, to control the fires of two light and two medium battalions. This overloading of direct support FDC's probably caused such misuse of artillery as: the firing of battery of 155-mm howitzers on a mortar position at a rate of one (1) gun two (2) rounds per minute until 1,100 rounds had been fired over a period of approximately nine (9) hours;

OCAFF Form No (Revised 15 Oct 5.)
or the firing of one battery one round every ninety seconds for over three hours. In several instances softening up fires were continued until the forward slopes of the objectives were pounded into a featureless mass. Volleys after volleys of artillery fire was observed on slopes that the enemy obviously had vacated. Apparently there was little or no surveillance of these fires. Ammunition was wasted and the capability of the artillery to hit remunerative targets was reduced by the number of weapons tied up on these unremunerative targets. Apparently it was a case of turning on the hose and letting it run until the gardener could get back to it.

Another result of the decentralization of control was the insistence by supported units, to the direct support artillery, on certain fires even to specifying unit to fire, method of fire and ammunition to be used, rather than describing the target and requesting fire from a higher headquarters that might be able to better analyze the mission and if desirable bring considerable additional artillery to bear.

c. INTELLIGENCE: Counterbattery fires were very effective during this period but one of the best tools of the counterbattery Intelligence Officer, the shelling report, was dulled through neglect. Shelling reports received were scant in number and many of those received lacked essential details. This caused the loss of time and overloading of communications in order to try to fill in some of the essentials. Better training among the infantry and the field artillery forward observer teams is needed to point up the value to the infantry of proper prompt shelling reports.

d. MASSING OF FIRES: At the beginning of Operation "CALANDO" the artillery with the corps had been so disposed as to offer the opportunity to mass artillery fires on a scale hitherto unknown in Korea. Yet due to the decentralization of control instituted by one division much of this capability was wasted.

e. ASSAULT FIRES: Because of the strength of the field fortifications it was found that indirect fire by normal methods was ineffective against the bunkers, emplacements, and covered trenches with which many of the objectives were honey-combed.

During Operation "CALANDO" the 204th FA Bn employed its 155-mm guns on Motor Carriage 1140 in direct fire and assault fire against enemy fortifications with good results.

The 17th FA Bn received one self-propelled 8-inch howitzer on 14 October and between the 15th and 10th employed this weapon in both direct and assault fire against bunkers, trenches and emplacements. One novel employment of this weapon was to cut a trench through the top of a ridge thus exposing a communications trench on the reverse slope which was then interdicted by a machine gun and a recoilless rifle.
The success of the assault fire can be measured by the statement of the Commanding General, 3d Infantry Division Artillery, "I attribute the success of this attack solely to the effective assault fire by the 20th FA Bn."

During much of the direct and assault firing one liaison aircraft was detailed to the solo mission of providing cover for the weapon by taking under immediate fire any enemy weapon trying to fire counterbattery. The 17th FA Bn reports that, on at least one occasion, this air cover paid off by prompt smothering of the enemy's fire.

Careful planning, detailed reconnaissance and the provision of complete communications paid off many times in the resulting speed and efficiency of operation while the heavy artillery was in an exposed position. The communications net should be so planned as to make maximum use of the artillery forward observers with the rifle companies. For complete coordination a liaison officer from each assaulting battalion of infantry should be stationed at the OP controlling the fire.

2. RECOMMENDATION: That there be no change made in field artillery doctrines as taught at the Artillery School but that means be found to bring to the attention of supported unit commanders the capabilities and limitations of artillery fires, to eliminate requests for impossible or wasteful fires. (CONFIDENTIAL)

SOURCE: Command Report - IX Corps Arty
DATE: December 1951

COMMUNICATION BETWEEN AIR FORCE AND ARMY PLANES

Many targets have been lost during the past year because of the inability of the army aircraft to talk to the Mosquito or fighter planes in their zones. On the few occasions when it was possible to talk to the Air ForceMosquito, excellent results were obtained. With the Army planes now equipped with MIF radio, this communication would be possible by the designation of a common channel for all planes operating within a corps sector. (RESTRICTED)
**ENEMY TACTICS**

The enemy allowed our patrol to advance with little or no resistance and permitted a portion of the objective to be taken with only moderate resistance, however, once the patrol was on the objective in an exposed position, he pinned the patrol down with an accurate crossfire of automatic weapons and then placed mortar on the patrol. As a result he inflicted heavy casualties on the attacking element. The accuracy with which his mortar fire fell on all avenues of withdrawal from the objective indicated pre-registered mortar fires. (RESTRICTED)

**SOURCE:** Command Report - 19th Infantry Regiment  
**DATE:** November 1951  
**Source No.:** 320

**POLICY FOR REPORTING TRUCK TONNAGE**

The truck capacities set forth in par 22h of P-101-10 are in accordance with the experience of this battalion as reported to higher headquarters. However, allowance must be made here for the "padding" demanded by some higher headquarters. For instance, one headquarters to which this battalion was attached insisted that any cargo which filled the cargo capacity of a 2½ ton truck be reported as five (5) tons regardless of its actual weight. Thus a segment of floral wreaths which filled a truck but weighed no more than 250 pounds was reported as five (5) tons. It is suggested that an Army-wide policy be established to report truck tonnage in somewhat the same manner, as ship tonnage is computed; weight tons or measurement tons, whichever is greater. (RESTRICTED)

***

**GASOLINE TANK, TRUCK**

This headquarters wishes to recommend the addition of one gasoline tanker per light truck company. The present 750-gallon tanker would be a great help but a tanker redesigned to carry about 1200 gallons, still utilizing the basic design of the 2½ ton 6 x 6 chassis, would be far more practical. (RESTRICTED)

***
CONVOY FORMATION

Higher authority consistently specifies that trucks will be
formed into convoys in multiples of five. Repeated efforts have been
made to form them in multiples of four thus retaining the integrity
of the squad formation of a truck company. To date all such efforts
have been futile. Higher headquarters still demand convoys in multi-
ples of five, usually ten trucks. (RESTRICTED)

SOURCE: Command Report - 7th Cav Regt
DATE: November 1951

TACTICAL USE

The following prearranged tactical device proved very effective
during one engagement. A rifle company demonstrated during daylight
hours on a patrol base. All but one rifle platoon withdrew at dark-
ness. Prearranged artillery and mortars COF's were plotted on top of
the key ground of the patrol base. When enemy units made contact the
rifle platoon withdrew secretly at top speed and in 12 minutes from
time of first contact, called in friendly COF's. Patrol investigation
in the morning disclosed 135 enemy dead. The friendly patrol suffered
no casualties. (CONFIDENTIAL)

*** * * * * *

COMBAT OUTPOSTS OR PATROL BASES

The potentialities of a patrol base should be carefully studied
and a firm doctrine established, leaving little doubt in the commander's
mind as to whether his advance units are combat outposts or patrol
bases. (RESTRICTED)

SOURCE: Command Report - 21st Inf Div
DATE: November 1951

ATTACK BY FIRE

On 18 November, Operations Instructions were issued from Head-
quarters 21st Infantry Division, ordering "Attacks by Fire" to be placed
on enemy positions to maintain maximum pressure on the enemy and inflict

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OCAFF Form No. (Revised 15 Oct 5,)
SECURITY INFORMATION
damage to his personnel. An "Attack by Fire" consists of a heavy volume of supporting fires, artillery, mortar, tank, and air, as well as long-range infantry direct fire weapons on a small target area for a brief period of time. The success of these attacks depends largely on the sudden and violent initial strike of all weapons, which naturally require close timing and coordination. The targets must be carefully chosen in advance and have to be worthy of the great volume of fire that is expended during each brief operation. In order to achieve effective surprise, all supporting fires should be registered hours before the time of the actual strike. As the "attack" commences, all available weapons must be brought to bear simultaneously on the target area. Mortars and high-angle artillery work the topographical crest and reverse slopes; 57-mm, 75-mm recoilless rifles, machine guns, quad .50 half-tracks and tank fires, including the 90-mm gun, lay direct fire against forward slope targets. The period of intense fire lasts approximately fifteen (15) minutes. The area covered should not be so broad as to make it difficult to achieve a high degree of saturation. (REstricted)

*********

THE .50 CAL MACHINE GUN

The .50 cal machine gun was put to a new use by elements of the 24th Division during the month. A .50 cal machine gun, mounted with a telescopic sight was used as a sniping weapon. The weapon was found highly effective at ranges of up to two thousand (2000) yards. In one instance three (3) Chinese were killed and three (3) wounded at a range of sixteen hundred (1600) yards. (RESTRICTED)

SOURCE: Command Report - 15th FA Bn
DATE: October 1951

EMPLOYMENT OF ARTILLERY OBSERVERS

In spite of all the manuals, training directives and instruction that exist on the subject of effective employment of artillery observers, there is still a tendency among young and inexperienced infantry commanders to get their observers so far forward that they become pinned down and ineffective at the first reception of enemy small arms fire. The basic principle that an effective artillery observer must be in a position to see and operate his communication equipment needs more stress in the training, not only of infantry commanders, but of artillery observers as well. (RESTRICTED)
UNCLASSIFIED

SOURCE: Command Report - 21st Inf Rgt
DATE: November 1951

ILLUMINATING AMMUNITION

The CCF tendency to fight at night requires that some means be made available to aid in combating enemy night probing attacks. One way to accomplish this is to maintain ample stocks of illuminating ammunition in mortar positions for on-call illuminating fires.

It has so far been impossible to maintain adequate stocks of illuminating ammunition due to critical shortages which exist in all types. (CONFIDENTIAL)

SOURCE: Command Report - 21st Inf Div Arty
DATE: November 1951

METEOROLOGICAL DATA

Due to the weather in this Theater, fog and ground haze in the mornings, and low cloud ceiling throughout many days, the visual means for securing meteorological data with which the headquarters battery of the division artillery is equipped, are not satisfactory. To secure consistently usable, and very necessary, accurate, meteorological data it is suggested that each division artillery headquarters be equipped with radio-sonde equipment and personnel for collection of this data. Should this not be feasible, each corps artillery headquarters should have radio-sonde equipment to furnish data to divisions for checking purposes during good weather, and for essential data during poor weather. (RESTRICTED)

SOURCE: Command Report - I US Corps
DATE: December 1951

MAINTENANCE EXPEDIENT

Idler wheels and road wheels for the 139 Utility Vehicle were in short supply, but the 73d Tank Battalion worked out an expedient to replace unserviceable idler wheels with worn out road wheels. When most of the rubber tire on a road wheel had worn off, the wheel was
not discarded but the remainder of the rubber was removed from the metal rim. The wheel was then bolted to the idler hub and served as a substitute for an idler wheel. The holes in the road wheel are spaced the same as the holes in the idler wheel; consequently there was no problem in bolting it to the hub. The 73d Tank Battalion reported satisfactory performance of this type of wheel. It was recommended that the wheels be used in pairs on the same idler hub since road wheels were slightly smaller than idler wheels. (RESTRICTED)

SOURCE: Command Report - Survey of the 1st Dispensary Facilities in the Chuncheon Area 3d Historical Detachment

DATE: October 1951 Source No. 328

AREA MEDICAL DISPENSARIES

Department of the Army Circular Number 10 authorized the changing of certain unit dispensaries to area dispensaries to care for Army troops. The effect of this change in Korea has been to provide medical care for units which are spread out over large geographical areas. For example, the 728th Military Police Battalion has platoons in various locations between TAEBU and SEOUL. Its organic medical service, functioning as a unit dispensary, cannot give adequate medical care to all platoons. Therefore, each platoon now receives medical care from the closest area dispensary. An additional result of this change has been to prevent commanding officers of engineer, ordnance, or quartermaster units from limiting their unit medical detachments to serving their units only.

Where Army troops are stationed in large numbers, it is proposed to have an area dispensary to care for all the troops in that area.

In WONJU, a troop population center, the small unit dispensaries are now being consolidated into one area dispensary. This results in economy of personnel and more thorough medical coverage in the area. (RESTRICTED)
1. In accordance with SR 525-85-5, Processing of Combat Information, the inclosed EXTRACTS are forwarded to Department of the Army, Army Field Forces and the service schools for evaluation and necessary action. It may be appropriate, in certain cases, for these agencies to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and often, the extracted item serves to reaffirm our doctrines and techniques.

2. Copies are furnished, with DA approval, to other military agencies to keep them informed concerning theater problems from the front line thru the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office downgrades each extracted item to the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.

4. Combat information EXTRACTS herein which are applicable to training at the company-battery level also appear in Army Field Forces TRAINING BULLETINS.
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**Copies furnished:**

- 70 TAG (10 ea CINC and CG, Major Oversea Command) CG's
- 2 ea Continental Army
- 4 Army AA Command
- 2 Military District of Washington
- 2 Tactical Air Command
- 1 Chief, Mountain & Cold Weather Tng Command
- 2 Chief, Army Advisory Gp, Air Command and Staff School, Air University
- 2 Comdt of Cadets, US Military Academy Comdts
- 2 Marine Corps School
- 2 USAF Air-Ground Operations School
- 2 Counter Intelligence Corps School
- 2 The Provost Marshal General's School
- 1 Officer in Charge, Atlantic Fleet Intelligence Cen, Attn: Ground Forces Officer
OPERATION "CLAM UP."

The purpose of this operation was to decoy the enemy into thinking we had made a withdrawal. All daylight activity ceased in areas under enemy observation. Each man was made fully aware of the primary mission: to hold fire and capture the enemy. If friendly positions became threatened, fire was to be controlled so as to kill a maximum number of the enemy.

The enemy was observed building up a large striking force in front of 3d Battalion positions. Not a friendly shot was fired until the leading enemy elements had cut a path through the tactical wire less than thirty (30) yards in front of 3d Battalion positions; then, at 0312 hours, the signal was given to open fire. The enemy attack was thrown into confusion.

At 0320 hours the second wave of enemy troops assaulted. Tank, mortar, and artillery fire was used, along with small arms, to repel this assault. At 0330 the enemy began to withdraw.

Two hundred twenty-six (226) enemy casualties were inflicted without sustaining a single friendly casualty. The sound judgement of the officers and the courage and discipline of the men, which enabled them to hold their fire until the last possible minute, was responsible for the success of the action. (RESTRICTED)
in some cases to a depth of thirty (30) inches. After a snowfall, the snow gradually melts during periods of sunshine in the middle of the day, but the resulting slush and water freezes at night. The present thirteen (13) ton high-speed Tractor, M5, does not have adequate traction to negotiate on this frozen ground and ice.

Recommend that either a wider track be used on the M5 Tractor, or that some type of device be provided for use on the present tracks during periods when the ground is frozen or covered with ice. (RESTRICTED)

POWER CHARGER FOR MOUNT, MULTIPLE GUN, CAL. .50, M45D.

It is recommended that a larger type power charger be standard equipment for Mount, Multiple Gun, Caliber .50, M45D, employed by this unit. With the present power charger, it is sometimes necessary to deadline tactical weapons as a result of constant breakdowns. (RESTRICTED)

RATING OF SERGEANT FOR CHAPLAINS' ASSISTANTS.

It is recommended that Chaplains' assistants have the rating of sergeant.

With only the rating of corporal to offer, Chaplains are severely handicapped in their efforts to obtain an assistant who must not only be a man of high moral character who can assist with religious services and aid in various human relation problems, but must be a jeep driver, maintenance man and typist also. At present there are many men who are jeep drivers and nothing else who possess the rating of corporal. (RESTRICTED)
### Command Report - 9th Inf Regt

**DATE:** February 1952  
**Source No:** 333

#### Combat Test of Armored Vest.

The first real proof of the value of wearing the armored vests came on 22 February when a man from George Company was wounded while wearing one. The Regimental Surgeon, Captain Williamson, said that upon examination the wounds were light considering the source—a hand grenade. The man's outer sweater had several holes in it, but he suffered no chest wounds. The uncovered portions of the arms received the fragments. (RESTRICTED)

### Command Report - 160th FA Bn

**DATE:** February 1952  
**Source No:** 334

#### Inequity of Grade in FDC.

Present T/O provides that the chart operators be corporals (E-4) while three (3) of the computers are sergeants (E-5). A mistake by an HCO in reading a deflection or range will cause error as widespread as a computer; a mistake by an HCO in plotting will cause error in three (3) firing batteries whereas a computer's error will affect only one. When more than one mission is processed simultaneously the VCO becomes an HCO; hence should have equivalent grade.

T/O should be changed to give two (2) chart operators grade equivalent to that of the three (3) computers. (RESTRICTED)

### Command Report - 179th Inf Regt - 45th Inf Div

**DATE:** February 1952  
**Source No:** 335

#### Volunteer Raider Groups.

Because patrolling has assumed the role of a major activity in the present situation, much stress was devoted to patrols during the training period. Each battalion organized a special

OCAFF Form No 73  
(Revised 15 Oct 51)
patrol group, utilizing Ranger personnel, to develop an organization capable of operating as a unit or by squads or smaller groups to make deep patrols and take prisoners, set ambushes or make raids in operations requiring training or ability beyond that of a normal rifle squad. These volunteer Raider Groups were housed and trained separately and treated in such a manner as to develop a high esprit de corps. Detailed organization of the Raider Groups was left to the battalion commanders with groups ranging between 12 and 24 men. (RESTRICTED)

SOURCE: Report - Army Field Forces Observer Team No 6 FFCOM
DATE: February - March 1952 Source No 336

SUPPLY ECONOMY.

Cost consciousness and supply economy is being emphasized by all echelons of command from GHQ down to small front line units. Front line units are engaged in battlefield recovery of weapons and equipment. Teams were observed recovering old tactical barbed wire. Definite programs for renovation of winter clothing have been established. The re-build program of vehicles is saving millions of dollars. (RESTRICTED)

SOURCE: Command Report - 2d Inf Div
DATE: January 1952 Source No 337

DIFFICULTY IN OBTAINING ENEMY PW'S.

The reconnaissance patrols were very successful in securing information pertaining to dispositions but the prisoner capturing effort was not too successful. The enemy displayed almost no desire to surrender as evidenced by the fact that only one prisoner out of five (5) taken was a deserter and one patrol leader reported seeing two (2) enemy shoot each other in what appeared to be a mutual suicide pact in order to avoid capture.
This reluctance to surrender on the part of the enemy was suspected to be caused by closer political surveillance and increased propaganda concerning harsh treatment of PW's coupled with a practical fear of friendly artillery. There was also some indication that friendly troops were tending to open fire too early and at extreme ranges causing the enemy to become more wary. Night patrols and ambush points were hindered in their efficiency by the extreme cold. Bulky clothing makes stealth difficult and complete immobility for long periods is not possible with the present equipment. (RESTRICTED)

SOURCE: Command Report - Kokura General Depot

DATE: February 1952 Source No 338

STACKING TELEPHONE POLES.

The Signal Supply Section devised a new method of stacking telephone poles as they came off the rail cars. Complete unloading and stacking of a car can now be accomplished in twenty (20) to thirty (30) minutes as compared with one hour using the old method. Previously the stack was built one tier with the poles parallel to the car, the next tier with the poles perpendicular to the car and so on. This required the turning around of the poles in every other tier by means of a crane. In the new system skids are placed against the car, and all tiers have the poles rolled into position parallel to the car. Skids are also used to raise the poles onto each successive tier. Posts are set in the ground at the back of the stack to keep the poles from rolling off and dunnage is used to steady and support each tier, and keep the stack uniform. When the stack becomes too high for manual rolling, a crane is employed to build up the remaining tiers. When loading a car from a stack the process is used in reverse. (RESTRICTED)
CAVITIZED 105-MM HE AMMUNITION.

It is recommended that ultimately all 105-mm HE ammunition issued be of the cavitized type and issued unfuzed and that fuses of various types be drawn by battalion ammunition office's as required. Such a procedure would obviate the necessity of registering with more than one type of ammunition and also save time and an appreciable amount of ammunition. (RESTRICTED)

8" HOWITZER (SELF-PROPELLED) IN DIRECT FIRE AGAINST FORTIFICATIONS.

The 8" Howitzer (self-propelled) of the 780th Field Artillery Battalion employed during January in the sector of the 7th US Infantry Division was moved to the 1st Marine Division Sector. During February a total of 368 rounds were expended with the following results reported: 34 bunkers destroyed, 5 bunkers damaged. On 24 February 1952, the gunner was wounded by small arms fire and evacuated. A shield was constructed by Ordnance and Flak vests supplied by the 11th Marine Regiment. An average of 9.4 rounds was required for the destruction of each bunker attacked. (RESTRICTED)

TRAINING IN PRECISION MISSIONS.

The greater majority of the observed fire missions fired by this Battalion are precision fire missions against such targets as bunkers, artillery pieces, mortars, and houses. A
great number of these precision missions are fired by air observation. The nature of the terrain and the lack of man-made features such as roads, buildings, etc., increase the difficulty of accurate map reading by the air observer. A continuing program of training is necessary to develop qualified air observers within the unit.

It is recommended that all officers receive more training in the conduct of precision missions and the duties of the air observer. All officers should be allowed to conduct a precision mission as an air observer. (RESTRICTED)

COST CONSCIOUSNESS-INDOCTRINATION.

In order to assure complete and thorough indoctrination of all military and civilian members of this organization in matters pertaining to the Cost Consciousness Program and supply discipline, a five (5) hour indoctrination course has been prepared in Cost Consciousness and Supply Economy. This course is designed to point out individual responsibilities; the effect on the national economy; proper care, maintenance and security of equipment; and loss through carelessness and waste. Training aids, charts, and films have been incorporated in the course to broaden the scope of instruction and to insure a thorough indoctrination in cost consciousness and a complete understanding of supply discipline. Instruction in this course will start during the month of March and will be mandatory for all military and civilian personnel. (RESTRICTED)
SHEET METAL SALVAGE.

A program is in effect to recover the maximum quantity of sheet metal usable for manufacturing purposes from items that have been declared not economically repairable. Pneumatic chisels and power hammers are in operation in the Salvage Yard for this purpose. During the month of February, 20,000 pounds of sheet steel were shipped from salvage to the Manufacturing Division. (RESTRICTED)

USE OF HIGH-CLEAT TRACK ON M4A3E8 TANKS AS ICE AND SNOW GROUSERS.

Our experimental use of the H-Cleat Track Block was unsatisfactory. An attempt was made to compare our welded-on-cleat to this expedient. We wished to ascertain how much performance was improved over the regular track.

Use of the H-Cleat track, one to every four (4) regular track blocks, was definitely an advantage over the regular track in making for sharper turns, steeper climbs, better traction, and firmer braking. With every fifth (5th) block having protruding cleats, it allowed us to have at least five (5) H-Cleat blocks on the ground at all times.

As a testing ground we used an unused mountain road where we found a very icy section. The tank with the modified track had no difficulties. We could not get the tank with the regular track up the road at all.
The use of the H-Cleat track as a grouser causes excessive vibration. Many parts and pieces of equipment on our tanks were shaken loose due to this vibration. The excessive vibration caused the deadline of many tanks and we were forced to discontinue use of this expedient.

Our welded-on-cleat gave approximately the same results without this vibration. There must be closer supervision of 1st Echelon Maintenance when the cleats are used. Crews must tighten nuts, bolts, and screws continually during operation of the tanks. (RESTRICTED)

UNFAVORABLE CONDITIONS FOR DAYLIGHT PATROLS.

Patrolling during daylight was very costly in that the enemy was well dug in and supported by registered fires from light and heavy mortars, artillery, and self-propelled guns. He practiced rigid fire control. Daylight patrols were discontinued on 25 January. It was felt that night patrols for the purpose of gaining contact with the enemy would be equally successful and less costly. (RESTRICTED)

* * * * * * * * *

ORGANIZATION OF RAIDER PLATOON.

On 20 February a Raider Platoon was organized within the Regiment. The mission of this platoon is to carry out special patrols and assignments. The platoon draws rations and equipment from Headquarters Company and is armed with M2 carbines, .45 caliber pistols, and light machine guns. The platoon is a volunteer group, the men having been interviewed by the platoon leader and selected according to their ability. A majority of the men are former Rangers or members of Airborne units. The Raiders immediately began training -- the first phase of which was a course to improve their physical condition. Road marches, close order drills, and physical training helped make the Raiders a better organized unit. (RESTRICTED)
USE OF DOGS IN COMBAT AREA.

On 26 September the 26th Infantry Scout Dog Detachment was relieved from attachment to the 3d Division and was transferred to the 24th Inf Division. The Scout Dogs were with the Division for about a fifteen (15) week period. During that time they were given various tactical missions including daytime and nighttime scouting and patrolling, sentry duty at patrol bases, duty with ambushes; and as scouts during night approach marches. Generally in all cases the performance of duty of the dogs was unsatisfactory. Their stamina was low and they could not climb hills and keep up with troops on foot. They were nervous and disclosed their positions by barking whenever contact was imminent. It is felt that they could be better used as sentry dogs at supply installations in rear areas to prevent pilfering. (RESTRICTED)

LOCATING ARTILLERY TARGETS.

At 101800 February 1952 the 45th Division Artillery ceased all artillery fire missions for a period of approximately six (6) days which was in conjunction with a coordinated Army-wide program. The absence of artillery fire accomplished the mission of inducing the enemy to move more freely, especially during the daylight hours, thereby affording the observers an opportunity to report a more accurate picture of enemy activities. During this silent period both aerial and ground observers kept the enemy under constant surveillance and a list of targets of known enemy installations was compiled from their reports. At 160630 February 1952 the 45th Division Artillery broke the silent period by firing a ten (10) minute artillery barrage on targets selected from this list, although maximum effort was
not received since it was necessary to fire this barrage without recent registered data. It would have been better to open fire using observed fires. (CONFIDENTIAL)

SOURCE: Command Report - 2d Logistical Command
DATE: January 1952

AWARDS BY COMMANDERS OF LOGISTICAL COMMANDS.

It is recommended that AR 600-45 be amended to the end that commanders of logistical commands (C) overseas who are in the grade of major general, or brigadier generals who occupy T/O&E vacancies of major generals, be authorized to award military decorations to members of their commands. (RESTRICTED)

SOURCE: Command Report - 23d Inf Regt - 2d Inf Div
DATE: January 1952

PATROL TECHNIQUE.

The 23d Infantry adopted the practice of sending out reconnaissance patrols daily and establishing at least two (2) ambushes within the regimental sector each night. During the latter part of the month these night ambushes were continuous from darkness to dawn. Since the extremely cold weather made it impractical to leave one ambush force in position throughout the entire night, each ambush was relieved after two (2) or three (3) hours and replaced by another group.

Several raiding patrols were dispatched during the hours of darkness in January in an attempt to bring in PW's. While none accomplished its mission, the regiment learned a valuable lesson -- that night raiding patrols must be small and that stealth is of prime importance. (RESTRICTED)
3.5 ROCKET LAUNCHER ON PATROLS.

Recommend that a 3.5-inch rocket launcher be taken on raiding and daylight reconnaissance patrols. This weapon is effective for use against bunkered positions and may also be used for reconnaissance by fire. (RESTRICTED)

SOURCE: Command Report - Hq EUSAK - Sec II - Book 1
Office of the Chief of Staff

DATE: August 1951

AMBUSH FOR ENEMY SMALL UNIT PROBING ATTACKS.

The Army commander stated that repulsing squad and platoon sized enemy probing attacks was wrong; that we should welcome them and seize the opportunity to ambush these small enemy units rather than drive them off with artillery, mortar, and long range automatic weapons fire. The Army commander also directed the Army Assistant Chief of Staff, G-2, to instruct Corps G2's, and reiterated that the ability to ambush was an advantage of the defense which must be fully exploited. (CONFIDENTIAL)

SOURCE: Command Report - 21st AAA AW Bn (SP)

DATE: January 1952

UNCLASSIFIED

NGO REPLACEMENTS.

Not enough qualified NGO's are received. Therefore, squad leaders are being made not because they are qualified in leadership and technical ability, but because of necessity. (RESTRICTED)
SMALL UNIT TACTICAL TRAINING.

Experience has shown that, due to the predominantly mountainous and sharply irregular characteristics of the Korean battleground, as well as the Chinese tactical preference for hilltop defense, most engagements break up into platoon and even squad actions. Emphasis should therefore be placed upon small unit tactics and coordination of fire support at the lowest levels. (RESTRICTED)

INSTRUCTION IN PERSONNEL MANAGEMENT.

It is recommended that service personnel alerts for overseas movement to theaters where indigenous employees are used in military installations be given adequate instruction in personnel management methods prior to arrival at overseas station. It is believed that particular attention in this respect should be paid to personnel of port and depot type service units to the end that they receive a minimum of ten (10) hours of management training. (RESTRICTED)

L-19 CARBURETOR TROUBLE:

One of the most serious problems in maintenance of aircraft has been trouble with the L-19 carburetors. At one time four (4) of seven (7) L-19's assigned to Corps Headquarters were grounded because of malfunctioning carburetors.
The Ordnance Light Aviation Maintenance Companies and the 79th Ordnance Battalion are making every effort to eliminate this difficulty, but so far they have not been able to determine the exact cause. (CONFIDENTIAL)

SOURCE: Command Report - 430th Engr C Bn
DATE: October 1951

ROAD MAINTENANCE

During the month of October one (1) mile of Main Supply Route #24 was sprinkled daily with the 750 gallon water distributor. Maintenance requirements (grading, dragging, and surfacing) this test mile were decreased approximately fifty per cent (50%). Dust was greatly eliminated even under heavy traffic conditions, thus reducing the driving hazard and the excessive vehicular wear due to dust getting into moving parts. (RESTRICTED)

SOURCE: Report of Opr BLACKBIRD
DATE: October 1951

HELICOPTER TRANSPORTATION

Supplies can be built up at any suitable location at an extremely rapid rate provided casualties are not brought out. Using the cargo nets the helicopter is at the landing spot a maximum of 30 seconds which includes the approach and retirement. If casualties are to be evacuated some 3 or 4 minutes per helicopter are necessary for the landing of supplies and loading of the wounded. Extensive training and practice will eventually reduce this by 1 to 2 minutes. (CONFIDENTIAL)
TANKER'S HELMET.

The present steel helmet, with a tanker's cut-away helmet liner as head gear for tank crews, is unsatisfactory. It is a bulky, awkward affair for men who fight from the inside of a tank and who relish what extra room they can have in their fighting vehicle. The World War II "Crash Helmet," football-style, is still a great favorite with tank crews because of its design; however, it offers them little protection from shell fragments. (RESTRICTED)

TRUCK DRIVER AUGMENTATION TEAMS.

During World War II as well as in this Korean action, it has been observed that truck units are invariably called upon to operate twenty-four (24) hours a day, seven (7) days a week during the "fighting" phase regardless of whether or not the truck companies have been augmented for round the clock operations. The demands made on the drivers in the truck companies without augmentation teams have frequently been unreasonable and resulted in serious driver fatigue. On some occasions this has been the direct cause of the death of soldiers and destruction of automotive equipment. (RESTRICTED)

AA INSTRUCTOR TEAMS TO FECOM.

It is recommended that AA Instructor Teams be detailed from the Continental United States to FECOM for the purpose of bringing AA units up to date on new firing techniques and employment and operation of AA material. (RESTRICTED)
Ammunition supply: On 26 September 1951, this organization initiated the practice of recording the lot numbers of each round fired from each mortar. This policy was announced in order that, should an accident be caused by faulty ammunition, the lot number of the round would be known immediately. Another reason for this policy is that ammunition from the same manufacturer's lot has the same weight rating. In order to get the most accurate results, ammunition containing identical weight ratings (marked on each shell) should be fired on each mission. (RESTRICTED)

MISFIRES WITH 4.2" MORTAR AMMUNITION

During November this organization had an increasing number of misfires due to the breaking of cartridge containers. This fact was reported to Ordnance and an investigation was made to determine the cause. This investigation reported four (4) possible causes for the breaking. First, a structural weakness in the metal itself. This fact is borne out by the crystalization at the break. Second, excessive pressure in the holder brought about by defective propellant powder. Third, excessive pressure in the holder brought about by using full charge which might block the flash holes between the igniter and the propellant. Fourth, firing the round at long ranges at low temperatures. (RESTRICTED)
WELDED PISTOL PORTS ON M46 TANKS.

M46A1 Tanks are being received in this theater with pistol port hinges cut off and the pistol ports welded closed. This necessitates opening the leaders hatch for ventilation and to dispose of shell cases. Recommend action be taken to restore the hinges and locks on pistol ports as they can be used in combat. (RESTRICTED)

* * * * * * * * *

INSPECTION-PLATE MODIFICATION, M46 TANK.

Inspection plates on the bottom of M46 tank hulls are secured by nuts to three (3) studs welded to the hull. These studs and nuts protrude from the inspection plate and tend to break off when going through rocky creek beds due to the hull bottom scraping. Recommend this be corrected by the following:

a. Drill and tap 1/2" holes in the hull bottom.

b. Countersink the holes in the inspection plates and bevel the edges.

c. Secure the plates by three 1/2" bolts. (RESTRICTED)

* * * * * * * * *

ELEVATING SCREWS 4.2" MORTARS.

Elevating screws on 4.2" Mortars continue to break or bend, due to rocky terrain, even though the weapons are sandbagged during firing. Recommend a study be made to strengthen this elevating screw. In the interim, it is recommended that one spare be authorized each 4.2" Mortar as spare parts when issued. (CONFIDENTIAL)
PACKAGING SMALL ARMS:

Reports from Korea of performance difficulties of small arms weapons during cold weather prompted experiments in packaging by the Tokyo Ordnance Depot. The bolt from the Carbine, caliber .30 M2 was removed, lubricated with MIL-L-644, and wrapped in grease-proof paper. The bolt was then strapped to the weapon from which it had been removed in order to insure correct functioning upon reassembly. The entire weapon was then dipped in cosmoline and permitted to dry.

Tests disclosed no evidence of cosmoline having penetrated the grease-proof wrapping, and thus the difficulty of cosmoline entering the bolt and preventing proper functioning is overcome.

Although this method requires no change in present packing boxes, it requires that all boxes containing these weapons be specially marked and stored to assure that weapons processed in this manner are issued as needed. The extra handling makes this method impractical unless it is adopted Army-wide. (RESTRICTED)

DIGGING GUNS AND AMMUNITION.

The strict compliance with the unit policy of digging in ammunition, as well as guns and personnel, has paid dividends. During a recent shelling of one of the battery positions, approximately 20 rounds of 76-mm shells landed with damage to only two tents. An ammo pit suffered a direct hit but proper cover of logs and sandbags dispersed the effect so that only one fuze was damaged. (RESTRICTED)
LEADERSHIP TRAINING.

Noncommissioned Officers: Generally noncommissioned officers are well trained and qualified in their MOS, but approximately fifty per cent are not trained in leadership and their responsibilities of taking care of the men in their sections. It is very difficult and time consuming to conduct this training under combat conditions. It is recommended that more emphasis be placed on NCO Leadership Training in Continental United States. During Field Exercises and Maneuvers the practical aspects of the above training should be emphasized at all levels. (RESTRICTED)

DUG-IN TANKS.

Firing positions were dug in with the guns jutting out over the bunkers of the friendly rifle troops. The tanks were dug in four feet deep forward and a minimum of two feet deep along the sides. Defilade positions were prepared just back of the razor-line ridge, a matter of ten yards. There was hardly room to turn around; but after firing the tanks insured safety by the short distance into defilade. The area was given the added security of the antitank and mine platoon who had assisted in the preparation of the positions and remained in the area.

On the first day, the platoon demonstrated its tactical advantage by completely destroying 19 bunkers, damaging 52 others, and blowing up an ammunition dump. On the same day, the tanks accounted for an estimated 35 enemy killed and an estimated 75 wounded. (RESTRICTED)
CCF AND NK ATTACK DOCTRINE.

The Communist attack doctrine, as observed in all major enemy attacks in Korea, is inflexible. Subordinate units were not permitted to make adjustments which terrain, friendly defenses, or other factors might have indicated as being desirable. Alternate or secondary missions were not assigned to assaulting units. Enemy patrols always utilized the shortest routes of approach and return. Enemy patrol formations were standard and made no allowance for differences in terrain or friendly disposition. Preparations for an attack followed an inflexible and unvarying pattern which soon became apparent to friendly forces. And finally, enemy insistence, due to inflexibility, on mass employment tactics proved costly in the face of United Nations air and artillery fire.

The enemy lacked sufficient logistical support to sustain an extended offensive.

The enemy lacked communications facilities. This hampered control of units in the attack, and may have been the basic cause for the inflexibility of enemy tactics.

Enemy units employed little flank support or security during a tactical march. (RESTRICTED)

ELECTRIFIED BARBED WIRE FENCE:

The C.O., 65th Engr C Bn, investigated feasibility of electrifying barbed wire fences so that any unprotected contact would be lethal.
Materials used: standard barbed wire; 7.5 KW transformer; 3 KW 110 volt, single phase, gasoline driven generator; porcelain insulators, 3 inches in diameter.

Description of test set-up:

1. A four-strand cattle type fence 100 yards long was erected. Posts were lumber. Bottom strand was placed eight (8) inches from the ground. Remaining strands were approximately a foot apart. All strands were on insulators. Vertical wire strands (any medium size) were then used to electrically tie the horizontal barbed wire strands together. These vertical strands were 9 inches apart between the bottom two horizontal strands of barbed wire, and 18 inches apart between the other horizontal strands.

2. A lead was brought in to the high side of a 105/3600 volt transformer. The other lead of the transformer was well grounded to a wire buried 6 inches deep, two feet from the fence and running its length. The low side of the transformer was connected to the generator.

Results of the test:

1. The lethal effectiveness of the fence against a full-scale attack cannot be determined at this time, as the only CCF reaction so far has been to send a patrol which leaned a steel rod against it, then withdrew.

2. Dry and wet logs were thrown across the fence. Voltage readings were not appreciably changed.

3. Strands of the wire were cut. As long as one strand of wire remained intact, voltage readings remained substantially unchanged on both sides of the break.

4. Steel pickets leaned against the fence caused a drop of 10 per cent in voltage beyond the picket.

5. Voltage across the fence measured 3300 volts.

(RESTRICTED)
## 20 Power Spotting Scope for Artillery Use

The M-49, 20 power spotting scope has proved invaluable in locating new targets. Any battalion without this instrument is greatly handicapped, perhaps unknowingly. It should be authorized to each battery on the basis of two (2) each.

(RESTRICTED)

## Release of Classified Security Information to News Agencies

**Problem:** Security training has been hampered by release to various public news media of information which is still classified security information to military personnel.

**Evaluation:** This practice tends to nullify the security training given to troops. In addition, when the general public knows more about what is going to happen to the soldier than the soldier himself, it is viewed as a blow to his prestige and self-esteem with a resultant drop in morale.

**Recommendation:** It is strongly recommended that the same criteria for the classification of information be applied to the press and other news media as that which is applied to military dissemination of information, with particular effort being made to notify troops affected through military channels prior to the time that they may hear the same news through public sources. (RESTRICTED)
NARCOTICS.

A recommendation has been made by men who have become narcotic addicts, that the Department of the Army prepare an educational film on the subject of narcotics. It is believed that this recommendation is worthy of immediate consideration and implementation. (RESTRICTED)

SCOUTING AND PATROLLING.

During past experiences, it is noted that replacements received are decidedly weak in Scouting and Patrolling. It is therefore recommended that prior to departing for overseas shipment, enlisted personnel should be well indoctrinated to the value and need of this subject. (CONFIDENTIAL)

CRATER ANALYSIS.

The 15th FA Bn has experienced difficulty in obtaining, from infantry sources, information based on crater analysis. The reason for this difficulty appears to be lack of knowledge of how to make crater analysis. (CONFIDENTIAL)
| SOURCE: | Command Report - 31st FA Bn, 7th Inf Div |
| DATE: | December 1951 |
| Source No 374 |

**REDUCED STRENGTH GUN CREWS.**

Twenty-four hour operations demand that howitzer crews be divided into two groups. This means that each howitzer is operated by a 5 or 6 man crew. As a result, each cannoneer is required to perform the duties of two persons as outlined in FM 6-81, "Service of the Piece 155-mm Howitzer M1." This consolidation of duties has been worked out within the Battalion; however, it is believed that more study should be made of this problem. (RESTRICTED)

| SOURCE: | Command Report - 5th Regimental Combat Team |
| DATE: | January 1952 |
| Source No 375 |

**SNOW CAMOUFLAGE.**

The Regiment made extensive use of the white snow suit for purposes of camouflage over snow covered terrain. It is difficult to distinguish a man at even short ranges while he is wearing one of these suits. (RESTRICTED)
30 June 1952

SUBJECT: Dissemination of Combat Information

TO: See distribution

1. In accordance with SR 525-85-5, Processing of Combat Information, the inclosed EXTRACTS are forwarded to Department of the Army, Army Field Forces and the service schools for evaluation and necessary action. It may be appropriate, in certain cases, for these agencies to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and often, the extracted item serves to reaffirm our doctrines and techniques.

2. Copies are furnished to other military agencies to keep them informed concerning theater problems from the front line through the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office downgrades each extracted item to the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.

4. Combat information EXTRACTS herein which are applicable to training at-the company-battery level also appear in Army Field Forces TRAINING BULLETINS.

FOR THE CHIEF OF ARMY FIELD FORCES:

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- 2 Counter Intelligence Corps School
- 2 The Provost Marshal General's School
- 1 Officer in Charge, Atlantic Fleet Intelligence Cen, Attn: Ground Forces Officer
- 1 Chief, AFF Human Research Unit No 1
EXTRACTS OF COMBAT INFORMATION

SOURCE: Command Report - 15th Inf Regt
DATE: February 1952

INFANTRY INDOCTRINATION TO VT FUZE.

(RESTRICTED) During this period the regiment continued to conduct VT fire by Division Artillery over friendly bunkers along the MLR. This operation was instigated to create confidence in the occupants of the bunkers regarding the protection their bunkers would afford them in the event their position was overrun making it necessary to bring friendly artillery on their position.

**********

INEFFICIENT NIGHT FIRING OF SMALL ARMS.

(RESTRICTED): 1. There has been a noticeable lack of proficiency in the firing of small arms at night. From the number of rounds expended during contact with the enemy, casualties are amazingly low. This regiment has been and is continuing to conduct a study of this problem.

2. To date it has been determined that:

a. There is a tendency for the rifleman to shoot over the heads of the enemy.

b. The muzzle blast of the Rifle Cal .30 M1 destroys the firer's night vision.

c. The application of luminous paint on sights and along the barrel is of some value.

3. It is recommended that:

a. Similar studies be conducted by other units to find methods of correcting this deficiency and this information interchanged.

INCLOSURE

-CONFIDENTIAL-
b. That a flash hider be provided for the Rifle Cal .30 M1.

c. That this be made a study by the Army Field Forces Board and that a course of instruction in night firing be included in the basic training of replacements prior to their arrival in this theater.

SOURCE: Command Report - 5th Regimental Combat Team
DATE: December 1951

AZIMUTH READING DEVICE FOR SHELL REPORTING.

(RESTRICTED) Although reports of enemy artillery for this period were light, shell reports continued to be turned in with errors in azimuth readings. A special Compass Board has been forwarded to each front line unit.

The board is a piece of soft pine 12" square by 1" in depth. Four long spikes are put at each corner to stake it to the ground. A photographed disc with highglaze content is placed on the board with a directional north arrow at the side. A wooden arrow is placed in the center of the board and can be made to pivot by hand.

To operate the board, all that is necessary is to point the wooden arrow in the direction of the sound or flash, read the numbers at this point and report them to the CP.

It is recommended that at least one board be made available to each company on the front line and that no detailed or technical explanation be made on the use of the board. A man should be taught three steps in the procedure: (1) Point the arrow in direction of sound or flash, (2) Read the numbers at the point and (3) Give the information to CP personnel.

* * * * * * * * *
USE OF KOREAN LABOR.

(CONFIDENTIAL) A total of one thousand three hundred seventy-four (1374) indigenous personnel are employed in various capacities within the regiment. One thousand seventy-seven (1077) of those are members of the Korean Service Corps, the remaining two hundred ninety-seven (297) are miscellaneous personnel who are procured through the Civil Affairs Officer. These Korean personnel perform an invaluable service to the Regiment by carrying ammunition, rations and other supplies to front line positions inaccessible to vehicle transport. Their utilization in other areas as KP's, etc., has relieved United States personnel for other and more important tasks.

**********

LISTENING DEVICE.

(CONFIDENTIAL) The most outstanding development in the communication field for the month was the expanded use of listening devices by all line units. The listening device is composed of a microphone and receiving set. The microphone is placed in likely avenues of approach at a range greater than that of the Outpost Line of Resistance. Mortar concentrations are placed on the same spot and fired when sounds of approaching enemy are identified. The regiment has profited from the use of the device and plans to initiate training in its use in order to better exploit its warning capabilities.

**********

TUBE EXPLOSIONS, 4.2" MORTAR

(CONFIDENTIAL) In the past two months there have been two instances in which rounds have exploded in the 4.2 inch mortar tubes. The Heavy Mortar Company developed a system of firing the piece which afforded maximum protection for the crew in the event of an explosion. The system incorporates firing by lanyard and a revetment behind which the crew remains until the round has safely left the tube.
DIVISION AVIATION COMPANY.

(RESTRICTED) The Division Light Air Section is in reality a composite air section with mess, supply, operations and housing operating from a common airstrip. The section functions much the same as a separate company, but does not have a T/O&E authorization. Overhead personnel requirements are accomplished by airplane mechanics, vehicle drivers or by special duty personnel. In this manner a separate mess is maintained to provide for messing of aviation personnel. Recommend that a T/O&E be authorized establishing a Division Aviation Company to include all Army Aviation functions of the Division.

REPLACEMENT PROBLEMS.

(CONFIDENTIAL) The greatest problem continues to be replacements, both officer and enlisted. In the former case officers are being received whose training and experience are at a direct variance with the needs of a combat regiment. It would appear that the assumption is being made that any officer wearing "crossed rifles" is a qualified 1542. In many cases, however, these officers have had a background with no command experience but instead as personnel officers, intelligence specialists, T&E, etc.

Enlisted men are still arriving in a similar manner. Recently, for example, a man with a dry cleaning machine operator MOS and another with steam locomotive operator MOS were assigned. Many men with artillery and other branch specialties are similarly received. Every effort is being made to have these men reassigned so that the best ends of the service are being served not only in utilizing
trained manpower but by contributing to good morale by having men do the work they know.

The replacement problem is particularly pressing since Category IV commitments and the rotation program cause a high rate of attrition on key personnel.

In solving the problems, battlefield commissions are being made as often as suitable appointees are found. The 9th Infantry IRTC gives a refresher course which helps orient men who are not familiar with Inf methods.

SOURCE: Command Report - Headquarters IX Corps

DATE: January 1952

AERIAL TRAMWAYS.

(RESTRICTED) There are now in the Corps sector some 15 or 20 of these valuable time-savers designed to meet the supply and evacuation needs of infantry front-line units in mountainous terrain. The model of all later ones has been the 3d Engineer's Aerial Tramway 698. Construction on this was started as soon as the ridge of Hill 698, in the former 24th Division sector, was taken. It is a single-stage, double-track system tramway, powered by a 3/4-ton truck motor, with a wheel rim attached to the drive shaft as the driving drum for the haul cable. The straight-line distance of the tramway is approximately 1500 feet, the static load cables are 1820 feet long, the difference in elevation between the stations is 910 feet. In one period of 31 days Tramway 698 had hauled 187 tons of ammunition, rations, and other supplies to the top of the hill, and evacuated 24 casualties. During one 24-hour period it hauled 18 tons and evacuated four casualties. Through its example the erection and maintenance of aerial tramways has become a primary mission of the engineer battalions of divisions attached to the Corps.

***************
COLD WEATHER OPERATION OF M4 AND M5 TRACTORS.

(CONFIDENTIAL) It is recommended that an extended track wedge for tractors, high speed, M4 and M5, be designed and produced in order to insure traction during operation on frozen ground and ice. It is further recommended that such extended track wedges be included in "On Vehicle Material" in the quantity of 48 per vehicle.

Combat experience had indicated that M4 and M5 high-speed tractors do not have sufficient traction on frozen ground and ice to perform their mission as prime movers for towed artillery weapons. A field expedient of welding steel cleats two inches long by one inch thick to standard track wedges has given good results in the field. This expedient, however, makes large demands on both materials and time and its success depends almost entirely upon the skill of the welder. Unless the welds are perfect, the cleats break off with usage. With the welded cleats in good condition, however, it has been found that 24 cleats per track give good traction even under icy conditions. It is believed that this number would be adequate for the extended wedges recommended.

SOURCE: Command Report - 64th Tank Bn (Medium)
DATE: January 1952

TANK TRACTION ON FROZEN GROUND.

(CONFIDENTIAL) A more suitable type track should be developed for winter operations on ground frozen solidly to a depth of more than two or three inches. Experience in Korea has shown that the present track, either steel or rubber, lacks traction and climbing ability on steep grades on frozen ground, even though the tank has sufficient power to make the pull. A type of steel cleat or grouser is needed that will break the surface sufficiently to give the tank the necessary additional traction and also focus the weight of the tank on fewer points. Experiments have been conducted by this unit wherein every fourth track block is a deep two-inch chevron block followed by three normal one-inch chevron blocks (or
normal rubber blocks). Although tests have not as yet been complicated by track failure, it is foreseen that the combination tracks being tested may over a period of time lead to track failure. The combination of the one two-inch chevron block followed by the three one-inch chevron blocks showed considerably improved climbing ability; but sufficient traction was still not obtained to utilize the maximum power output of the M46 or A1 tank.

As opposed to the above combination, the interspersion of normal rubber blocks with the two-inch grouser block proved unworthy of further test. Also, it was noted that neither the solid two-inch grouser track, the solid one-inch grouser track, nor the solid rubber track were able to climb the solidly frozen slopes as well as the combination steel track. Consequently, it is recommended that detailed study and tests be conducted in the Continental United States reference development of a track that will enhance the climbing ability of the future medium tank, without causing track failures, for winter operations under terrain conditions similar to those encountered in Korea.

* * * * * * *

MAINTENANCE SHELTERS.

(RESTRICTED) Action should be taken toward procurement of heated canvas shelters for tank maintenance operations during winter operations. Shelters should be of adequate size and height to enable removal of the power pack from the tank, using the wrecker boom, and to allow room for necessary repairs. Although field expedients have been used, the resulting shelters are not movable and are to some extent a safety hazard in high winds. It is believed that maintenance standards and deadline times during intense cold can be improved by providing proper working shelter, thereby eliminating clumsiness and the all-too-frequent, but necessary, trips to outside warming fires.
FIELD PROMOTION OF WARRANT OFFICERS.

(RESTRICTED) Field promotion of warrant officers should be made as simple and effective as that for commissioning of second lieutenants.

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RANK AND JOB DISCREPANCIES.

(RESTRICTED) Though first lieutenants are filling captain vacancies in combat, promotions have not been forthcoming because of an overage of captains, Infantry, in this theater. Promotions to captain of combat company commanders is necessary to maintain proper morale and incentive for junior officers and is the proper reward for deserving commanders. Authority to promote combat company commanders to captains regardless of theater strength, branch and grade, should be forthcoming.

* * * * * * * * *

USE OF SOUND-LISTENING DEVICE.

(CONFIDENTIAL) The sound-listening device was first used by us this month. It appears profitable, easy to install and maintain. Use is recommended for outpost positions and close-in ambushes. Several times we detected enemy movement at ranges up to 200 yards. A Chinese interpreter greatly increased the value of the instrument by telling us just what was being said by the enemy detected.
DISCUSSION ON DOCTRINE AND TECHNIQUE.

(CONFIDENTIAL) It is not my purpose, within the limitations imposed by the current tactical situation and the scope of this report, to attempt a detailed discussion involving our basic doctrine and tactics. Instead I propose to make some general comments based on the experiences of this division while engaged in Operation COMMANDO during the period 3-28 October 1951. Before discussion the soundness of doctrine, it is my opinion that we should attempt to secure satisfactory results from its application. Until we do this we are hardly in a position to offer constructive criticism of any value. For this reason and others too numerous to mention, I plan to discuss only the fundamentals and stress their importance. Operations in October have, as always, revealed our weaknesses; I hope to candidly cover most of these. However, the subjects of this discussion, if complete, would be innumerable. Consequently, I have selected only the more important and broader topics for review in this report.

1. Attacks.

We work feverishly night and day for a protracted period preparing, in minute detail, plans of attack and plans for logistical support of an operation. At the conclusion of the planning phase, it is hoped that nothing has been overlooked. Considering ourselves ready on "D" Day and "H" Hour, we jump off; shortly thereafter we find our "steam" gone and still a long way from the objective. The plans are perfect, our support available, our supplies more than adequate. Wherein does the fault lie? Often, far too often, in my opinion, we fail to take advantage of our superiority of firepower, especially our organic weapons, depending instead on artillery and air to carry the load. ORGANIC WEAPONS, EVERY ONE OF THEM, MUST BE EMPLOYED TO THE MAXIMUM.

Too often we make the mistake of not using all available troops. If a company is sent out to take an objective, the entire company should be used. Every weapon should be
placed in operation at one time or another during the attack. Every trick, scheme, device of the human mind should be resorted to and incorporated into the plan. I regret that we don't always do this. A company is sent, one squad ends up taking the objective. This is wrong. DON'T SEND A BOY TO DO A MAN'S JOB! By so doing we have failed to apply the most basic of all principles: Maximum employment of the force, fire and maneuver.

Commanders quite frequently find it necessary to commit all of their unit, consequently are unable to push another group forward either through the newly won position to continue the attack or reinforce the unit on the objective. This is a common violation of basic doctrine which is necessitated by local conditions; consequently, we are often unable to maintain ready reserves in close proximity to attacking forces. Whenever possible, this practice must be avoided and a reserve unit made available.

We still fail to exploit and take advantage of weaknesses in the enemy's defenses. Plans must be flexible to the extent that we can exploit at all times and with the least possible delay whenever the situation permits.

Greater consideration must be given to the night attack. Our soldiers must be trained to conduct attacks during darkness. Officers and NCO's must learn to control units at night. This phase is probably our weakest, yet could be our strongest. Many an opportunity to exploit has been lost because of our failure to follow-up initial successes with aggressive night attacks. This we must learn thoroughly and rapidly. Regimental and battalion commanders should always be ready to exploit by night attacks, using a reserve company or by stopping one of the attacking companies early in the day if necessary, to permit reorganization and preparation.

After successfully assaulting and seizing an objective, we too often stop there and relax. WE MUST LEARN TO CONSOLIDATE IMMEDIATELY AND PREPARE TO DEFEND OR CONTINUE THE ATTACK. This is an old criticism of American troops, and despite repeated emphasis on the subject in our service schools and training, we nevertheless
fail to properly organize a position. The results are inevitable: our forces are immediately counterattacked and valuable ground is lost. In my opinion, few subjects need greater stress in our training.

If it is to be held, immediate preparation and organization of strong defensive positions is absolutely essential upon seizing an objective. Consolidation and organization of a position can never be over-emphasized and because of our failures to follow through, we are repeatedly shoved off hills by an enemy who is aware of this weakness, who prepares for this moment with rapid counterattacks. If the supporting weapons and artillery fires are properly used -- artillery concentration laid on avenues of approach and assembly areas, organic weapons used to keep the enemy at a distance -- then the assaulting units can usually hold until reinforcements arrive.

Another important item to be emphasized in training is assault fire. If a unit has as an objective a hill or piece of terrain, then the best way to take it is to get on top of it -- and fast! To this end we employ our maximum supporting fires; however, in the final assault (the last rough forty or fifty yards when we mask our supporting fire) it is the attacking unit's own assault fire which must keep the enemy down until we can close with him. Unless our TROOPS MOVE FAST, AND FIRE WHEN THEY MOVE, no objective will be taken without great cost in lives.

Our soldiers, one and all, have a tendency to stop moving when they fire a weapon. This failing must be overcome. Infantry soldiers must be taught the advantage of assaulting a position by firing while rapidly moving. Training in loading and firing, while moving, must be emphasized and practiced.


The execution of Operation COMMANDO found us faced with the problem of reducing the heaviest fortified positions yet encountered in the Korean campaign. This should have presented no great problem, but it did. We reacted as if it were a completely new and untouched-on phase of offensive warfare. By our failure to use the vast amount of experience
gained during the last war -- especially in the quite similar Pacific campaigns, and even during the over one year of this war -- we lost much valuable time and many lives.

Doctrines and suggested tactics on the ATTACK OF A FORTIFIED POSITION should no longer be treated as a specialty field. It should receive consideration in each and every offensive tactical training problem. Every answer, to even a hypothetical problem, should envision the reduction of mutually supporting bunkers. No longer should we think of certain weapons such as the flame thrower, demolitions of various types, etc, as being the exclusive property of specially trained assault squads whose only mission is to reduce one bunker which delays the advance of the regular rifle elements. It is important that each objective be considered another Siegfried Line and the basically sound doctrine applied in each case. This requires time and training and rehearsals prior to an attack but it is time that we must take. Once we have stopped the attack long enough to permit the enemy to build bunker type emplacements, such as those we have recently encountered, then the technique must be rehearsed over and over to insure success in our offense. TRAINING IN THE REDUCTION OF FORTIFIED POSITIONS SHOULD BE CONCURRENT IN ALL TACTICAL PROBLEMS.

3. Withdrawal.

It has been proved by costly experience that night withdrawals are disastrous, yet our commanders still attempt them. Certainly an intelligent commander always considers the possibility of a withdrawal by planning the routes, designating a covering force, etc. Due consideration should be given to the sometimes illusory emergency which requires such a move and, if well thought out, the position is usually not as untenable as first thought to be. By staying on position we can usually avert a catastrophe and at the same time hold hard won terrain. Naturally, this discussion is based on the premise that the force is on position with adequate strength to defend or delay until daylight.
Our troops must be instilled with the spirit, confidence, and determination to hold. If forced to withdraw, do so only on order and under maximum control in planned phases. The final decision will normally rest with the local commander and should only be made after carefully estimating the situation.

4. Artillery.

During these operations we had excellent artillery support but I must admit that our commanders do not know how to use it to obtain maximum results. In my opinion we rely on artillery to bridge the gap between small arms fire without properly using the organic infantry weapons to full advantage. This gap is too wide for such wasteful use of artillery even under ideal conditions where the infantry follows well placed accurate rolling fire. Minimum safety clearance in the Korean hills prevents close-in support that is possible on flatter or rolling terrain. Since the movement of a unit up a steep slope is slow, continuous fire must be laid on the objective after the artillery has moved from the forward to the reverse slope or higher up the slope. Once our infantry is within assaulting range, artillery should then be shifted to avenues of approach and reverse slopes to prevent enemy reinforcements and counterattack. Instead, our men will order the fire lifted, then start the assault up a long steep slope. When we do this, the enemy has sufficient time to recover and emerge from the well prepared positions on reverse slopes, ready to engage our troops. Thus unfortunately we are caught at the worst moment when we are tired from the long climb and assault and we have lost the shock effect of artillery.

Our people must be forcibly shown the value of well employed artillery fire. I feel that this can best be accomplished by training infantry behind rolling fire at the minimum safety clearance with infantry weapons firing at the objective simultaneously. In our practice problems there is always a lifting of fire before the infantry starts either moving or firing. This gives an erroneous impression which unfortunately is carried over into combat.

At times the artillery forward observer is in no position to adjust fire, yet artillery is needed. What can be done
in such a case? For one solution, the battalion liaison officer from an OP should be able to assist. Any number of methods can be worked out to keep continuous fire on an objective.

Artillery should seldom be fired by map coordinate unless no other means exist. This is an unsatisfactory method and is not accurate; it cannot be adjusted to give effective close support to the infantry in this type terrain.

The success of Operation COMMANDO was greatly affected by use of direct fire 155-mm, 8-inch guns and tank weapons. We should never hesitate to move these weapons up into the hills within range for DIRECT FIRE against bunkers.

All high velocity direct fire weapons are effective provided they can be positioned. Future operations against defensive positions should include, from the very start, these weapons which should move as close to the infantry as is practicable.

Massing of artillery fires is sometimes overlooked. It may be the best plan to concentrate 2/3 or 3/4 of all available artillery support on a battalion objective until it is secure. We can do this, without materially affecting the support of other infantry units that are reorganizing and making preparations for the continuation of the attack.

The important point which I wish to emphasize here is: TEACH THE INFANTRY THE IMPORTANCE OF PROPERLY USED ARTILLERY FIRE. It is never to be substituted for more accurate mortar fire nor can it ever be used in place of organic infantry weapons. It is the combination of all these weapons, organic and supporting, which makes for a successful operation.

5. Training.

The subject of training being so closely related to the deficiencies herein before discussed and since most of our ills can be cured by realistic training in the fundamentals, I would like to mention some phases of individual training.
that are apparently not receiving sufficient emphasis in our replacement training centers.

Our men must have more UNIT TRAINING before reaching a combat division. It is apparent that even though they have been members of squads in training centers, they have not -- or possibly only once or twice -- engaged in a tactical problem under the leadership of an NCO who leads and directs them under simulated battlefield conditions where they actually apply the principles of fire and movement as a fighting team.

This much-neglected phase of basic training is left as the responsibility of a division engaged in combat while other less important subjects are covered over and over in training centers. No subject can possibly be as important to the combat soldier.

Troops need this constant training in basic tactics under the actual leadership of an officer or NCO who engages in the problem as their leader and not merely as a supervisor who critiques the action of a squad led by an acting squad leader.

In this division problems of platoon and company size are run with live ammunition at every available opportunity, but we never have the time required to turn out confident, well-trained soldiers.

Another, and perhaps more critical problem is the urgent need to afford our officers, of all grades, more time and practice in the actual command of troops. It is too often the case, when evaluating the background of the line officer replacement, to find that he has had little or no command duty for many years. If fortunate, he has had some recent branch service school training but in my view too much emphasis is currently placed on this type of preparation for command. Schools are excellent aids but NO SUBSTITUTE for actual duty with troops. When lives are involved the leader must KNOW from actual practical field experience -- book knowledge too often isn't remembered until too late!


To properly consider doctrines of defense in view of experience and conditions which have and do influence our
actions in Korea I feel, before going into a generalized description, we should cover these problems not for the purpose of excusing our actions and justifying our adoption of unorthodox methods, but so that the reader will be cognizant of them.

Bear in mind that normal organization of a division sector is extremely difficult in our present tactical situation. Some of the factors leading to this are:

a. The width of this division sector at present is over 26,000 yards; at times a company front has exceeded 2,000 yards.

b. No regimental tank companies are now nor have been assigned to this division.

c. Depth to the defensive position, because of wide frontages and limited troop strength, is obtained by supplementary blocking positions.

In the final analysis there simply have not been enough troops available to cover the ground. If you consider these factors, you possibly will understand why our commanders adopted what they thought were justified improvisations to meet the requirements, realizing that our doctrines are flexible and that the principles still apply under conditions here in Korea.

I think it best to briefly review the evolution of the defense since the start of the Korean war, as it principally concerns the company -- the inference being that if all companies properly organize so the division defense is correct.

Early in the war, with our troops in small numbers, the establishment of coordinated, mutually supporting positions was impossible. It was impossible simply because the troops were not available to cover all of the terrain. Small unit fronts and sectors of responsibility prevented either a tie-in physically or by fire. Units were then forced to adopt the perimeter system as the only means of defending the key terrain features in their assigned sectors. This system worked; the accomplishments are clear in the record.
Yet we developed nothing new and, even then, never were all important features in any given sector occupied.

As the number of our units increased and conditions generally improved in our favor we still, to an extent, continued to prepare our defensive positions as the troops on the Naktong did. True, the sector decreased and if we had continued to defend key terrain features as they of the "Perimeter" did, no reason for complaint would be available. But instead of occupying all of the key features in a sector, our unit commanders started to also decrease the area of occupation by forming close knit company perimeters on possibly one or two features. Even when defending on line, instead of sending platoons out or smaller units -- as they did previously -- to occupy and organize a piece of ground, the tendency by the company commander was to pull the elements of the company closer together until all surrounded him on the periphery of a circular position. Close-by features worthy of defending were ignored, great gaps -- impossible to cover by fire -- continued to exist between companies, permitting the enemy to move at will around our positions and attack from any point.

Since the bad practices have become engrained and so long accepted as theory of defense, we must go back to the fundamentals of our basically sound defensive doctrines. The defense of key terrain in any unit sector must be stressed whether it is a squad, platoon, company or larger unit. No longer can the close companionship of troops -- the desire to stay close together in a tight perimeter -- influence our organization of sectors of responsibility. We must impress upon them that it is not necessary to organize a company with a physical tie-in between platoons or even squads, in some cases; that gaps will exist to permit us to prepare artillery and mortar concentrations, to cover the area by AW fire from more than one position, which eliminates the need for occupation and creates impact areas close-in. Our officers must be taught that no army can physically cover every inch of ground in its area of responsibility.

We must impress terrain analysis, even before laying out a hasty defensive position. A commander must walk the terrain. Planning a company defense position from a map is easy and saves physical energy, but is impracticable.

Over

17
Our officers must study the terrain while walking over it, with the capabilities of their unit in mind, before making a decision. By knowing the strength of his unit, the weapons in possession of his men, the condition of his troops -- physical, mental, state of training -- the commander is able to plan his defense as he walks. You can't position automatic weapons from a map; you can't locate the dead space in front of positions. The selection of alternate and primary positions for automatic weapons must be made on the ground and the type of emplacement and its exact location can only be determined by looking carefully at the terrain.

Preparation of connecting trenches, at least between primary and alternate AW positions, must become routine even in hasty defenses. If time permits more elaborate positions must be prepared with communications trenches and overhead cover.

Upon occupying the position, the company and platoon supply routes must be selected; a recon made, if necessary, to determine the feasibility of using a certain route. Not always will the route over which the unit moved in the attack be the best for moving supplies -- a shorter route may exist, one over less arduous climbing terrain, a more accessible route to the position.

Avenues of enemy approach must be studied; our defenses planned to conform with the terrain and the demands of good tactical principles. These avenues can sometimes be interdicted by supporting fires and sealed as an entrance to our position.

Communication in every form must be planned: flares, wire, radio, runner, whistles. Prearranged signals should be SOP in every company and taught to replacements the minute they join a company. Signals between companies and battalion headquarters must be planned. We must never be without it.

Routes of withdrawal convenient for all elements to a company assembly area and from this point to the new position are a part of every defensive plan.
Fire plans must be prepared as soon after occupation as possible, and during daylight. Every man in the company should know the prepared concentrations and be able to call for them.

Little need be said about the perimeter type of defensive position. Generally our troops have been successful in setting up this defense and have been able to withstand heavy enemy assaults. The same principles in planning and preparing a line defense are usually applicable -- key terrain must be occupied. Sometimes it is best to close tight and occupy only the dominating terrain features. This, of course, depends on the size of the unit. But, usually in the case of a company, the defense should be close and tight as terrain never allows us the freedom of organization that we like. Our plans must conform with the terrain.

7. Logistics.

When attacking, a unit faces many numerous and difficult supply problems, but all have been studied and in most cases a remedy developed. Still we are unable to keep the supplies moving by the conveyor belt system to the forward units until trafficable roads can be built. At present during the attack, supply is usually accomplished by hand carrying parties made up of indigenous labor who carry from a rear supply base. This is not completely satisfactory, however. Even though at times we are able to truck supplies to the base of a position, hand carrying is still the only means of getting it to the top. By the use of M39's, if available for this purpose, many supply problems could very likely be lessened by decreasing the hand carrying distance. In many instances M39's can traverse steep slopes and even though not able to reach the top of a hill, can reach a position close to the unit. Often times tanks too are able to reach the tops of some hills to support the infantry. This being possible, supplies for the infantry should be loaded on for the ascent.

Much can be done to improve our present flame thrower if its use is to be practicable in mountain fighting. Resupply is such a problem that it can never be used as the efficient weapon that it is and to meet our needs. The development of a simpler
refueling system whereby fuel tanks can be refilled close to using units' positions should receive top priority. A lighter weight, longer burning period and greater range flame thrower is needed for mountain operations.

The positioning of tanks on hill tops with the infantry increases our logistic problems but it is an overwhelming argument in favor of using M39 personnel carriers for re-supply. Once a tank is positioned on a hill, suitably dug in and with adequate targets, it should be left there as constant movement for resupply unnecessarily increases maintenance problems.

The possibility of using mules should not be overlooked; in fact a study and experiment may prove its possibility especially for the heavier defensive materials, such as: wire (concertina), pickets, mines, pioneer tools, etc. These are the items that are needed almost as desperately as ammunition by an assaulting unit preparing for a counter-attack. They will usually be available if the logistic plans are so laid as to include the movement of a supply train a short distance behind the attacking echelon.

8. Communications.

Operation COMMANDO once again brought to light many glaring deficiencies in our employment of signal communication. The tendency on the part of unit commanders and subordinate leaders to rely almost completely on radio and VHF as media of communications, resulted in over-burdening these channels of communication. Also, when these electrical devices, through mechanical failure became inoperable, communication with and control of units was lost. In addition, many targets of opportunity, particularly those observed just after assault elements have taken their objective, were not immediately taken under artillery and mortar fire, thus allowing the enemy to assemble forces rapidly and counterattack.

It is imperative that the commander utilize every means of communication at his disposal. Land lines must be laid as rapidly as possible to forward positions, and wire must closely follow the assault echelon. Adequate usage was not made of pyrotechnics. This is an excellent means of communication that can be employed very effectively at night.
In regard to security, it must never be forgotten that the enemy possesses many of our type radios and has at time jammed our channels. It is also entirely possible that some of our moves were blunted because the enemy possessed prior knowledge of the particular move. To take full advantage of our excellent signal equipment, thorough training of operators, expert maintenance, and uninterrupted resupply of batteries and spare parts, are essential throughout all echelons right to the smallest units.


Air strikes should seldom be used against an objective when forward observer adjusted artillery and mortar fire is being placed and the infantry is positioned ready to move under cover of this fire. By placing an air strike on such a position, much time is lost in lifting artillery and again getting fire on the objective after the strike. At the same time the momentum of the attack is lost and the accurate pinpoint 4.2, 81-mm fire is sacrificed for the less accurate area coverage. In addition adjacent units, attacking, lose their supporting fire while aircraft is in the area.

This same aircraft can be used much more effectively by striking just beyond the objective, without lifting the supporting fire, to interdict assembly and build-up areas to prevent enemy reinforcement. 100- to 250-pound bombs equipped with VT fuzes should be used.

Prior preparation of defensive positions should include a softening up by air power using 500- and 1000-pound bombs. However, against heavily fortified positions and bunkers, this should be done before the attacking troops start the attack. For as previously stated, artillery fire should seldom be lifted once the infantry has started moving. To soften up the more heavily defended hills with larger personnel bunkers and weapons the heavy (1000-pound) bombs must be used.

Of course, napalm and rockets are to an extent effective but their effectiveness is greater against troops in open trenches. Area napalm bombing is difficult and costly in aircraft against the Korean hill positions. It is probable that the same number of aircraft could be more effectively employed against other targets in support of the ground operation.
Conclusion.

An attempt in the foregoing has been made to cover the problems encountered and some of the methods we have learned from experience here. There are, however, innumerable important subjects, as mentioned in the introduction, a discussion of which should be included but have not been for reasons of time and space.

There are many things that we can do to improve the efficiency of our operations. For certain, we can improve the leadership qualities of our company grade officers and I know of no better way than by proper training. Our communication system needs constant improvement; also I can't over-emphasize the importance of accurate, timely casualty reporting and the passing on of information to the next higher headquarters.

Most of the problems encountered are old ones; everyone is aware of the simpler, supposedly common errors that soldiers and officers have always made. We must emphasize the fundamentals in a program which is filled with small unit tactics. Other less important subjects can be covered concurrently. Our soldiers must be made to realize that the mistakes made by failing to apply fundamental doctrines cost us lives and loss of valuable time. I am convinced that our doctrines are sound and battle proven -- it is in our application of these doctrines or rather in our failure to apply them to the situation that we have failed.
OFFICE, CHIEF OF ARMY FIELD FORCES  
Fort Monroe, Virginia

ATTNG-64 350.05/51(DOC1)(C)(4Jul 52)  
14 July 1952

SUBJECT: Dissemination of Combat Information

TO: See distribution

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2. Copies are furnished to other military agencies to keep them informed concerning theater problems from the front line through the logistical command.

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4. Combat information EXTRACTS herein which are applicable to training at the company-battery level also appear in Army Field Forces TRAINING BULLETINS.

FOR THE CHIEF OF ARMY FIELD FORCES:

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T. J. SMITH

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<td>The Provost Marshal General's School</td>
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<td>Officer in Charge, Atlantic Fleet Intelligence Cen, Attn: Ground Forces Officer</td>
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<td>1</td>
<td>Chief, AFF Human Research Unit No 1</td>
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EXTRACTS OF COMBAT INFORMATION

SOURCE: Command Report - 279th Infantry
DATE: January 1952

**ARMOR AND MAINTENANCE FOR QUADRUPLE .50 CAL MG.**

(CONFIDENTIAL) The quadruple .50 cal machine gun was effective in keeping enemy positions buttoned up; however, its vulnerability to mortar and artillery fire precludes its widespread use. The four such units under control of this Regiment are presently stationed at Service Company where the Regimental Motor Section can provide the extensive maintenance required. It is felt that if the weapon could be provided with more armor protection, and supported by trained maintenance personnel who could operate in battalion motor pools, it would be a valuable addition to the supporting arms available to infantry elements.

* * * * * * * *

**SPECIAL TEAMS FOR ATTACKS ON BUNKERS.**

(RESTRICTED) An attacking force can move to a position within twenty yards of a bunker without much difficulty, but from that point an attack is usually stopped by hand grenades. To remedy this the use of covering fire and flame throwers should be emphasized. Special teams should be formed to destroy bunkers.

SOURCE: Command Report - 89th Medium Tank Bn
DATE: January 1952

**TANK TRAINING.**

(RESTRICTED) Tank units that have been committed for long periods, fundamentally as supporting elements or in static
defensive positions, tend to lose the aggressive offensive spirit so necessary in a tank unit. Immediately upon return to a reserve position all training should be pointed toward the attack with full use of the basic concept of Fire and Maneuver.

SOURCE: Command Report - 3d AAA AW Bn (SP)
DATE: January 1952 Source No 387

NEED FOR FIRE CONTROL ELECTRICIAN AT BATTERY LEVEL.

(RESTRICTED) Recommend that the lettered batteries' T/O&E be changed to include one Fire Control Electrician per battery. All electrical repairs of a minor nature must now be made by Battalion personnel. At times, elements of this organization are as far distant as 20 miles from the Battalion area. If each lettered battery were authorized a Fire Control Electrician, minor repairs could be made in a short time and the weapon put back in action.

SOURCE: Command Report - 15th AAA AW Bn (SP) - 7th Inf Div
DATE: January 1952 Source No 388

IMPROVISED 90-MM GUN BATTERY.

(RESTRICTED) Construction of bunker type shelter for guns and personnel was completed and Battery Y (90-mm gun) commenced its mission of direct fire on enemy bunkers and targets of opportunity. Fire direction was carried out from the field artillery forward observer bunker. On the first day of firing, 78 rds of 90-mm ammunition were expended, destroying twelve enemy communication trenches and bunkers. Approximately sixty rds of incoming artillery and mortar fire were received on the gun positions. No casualties or damage was reported. After five days of firing, Battery Y had expended a total of 366 rds of 90-mm ammunition (303 rds of HE, 52 rds of APC, and 11 rds of WP). Approximately forty-five enemy communication trenches and bunkers were destroyed. The 90-mm gun positions received a total of 207 rds of incoming enemy artillery and mortar fire with no reported damage to positions. At the close of this period, Battery Y continued in its direct fire mission.
TRACK-THROWING ON M46 TANKS.

(RESTRICTED) Operations in Korea with M46 tanks have been hampered by frequency of track-throwing, occasioned primarily by the necessity for climbing side-hills and extremely steep grades, as well as for crossing the all present 2'-3'-4' rice paddy dykes or terraces. When the tank turns or slides on such hills or mounds, too frequently a track is thrown. Driver training helps considerably in preventing thrown tracks, but is not the final solution. Experienced drivers encountered thrown tracks. This battalion is attempting field expedient solutions as follows: (1) addition of a support roller slightly forward of the final drive sprocket; (2) removal of one track block in tracks of one platoon, thereby operating with an 85 block system; and (3) improvisation of an idling sprocket in lieu of the adjusting idler. It is hoped that the above field expedients may lead to a solution to the track-throwing problem.

RADIO EQUIPMENT - M46 TANKS.

(RESTRICTED) Recommend that research and development agencies in the Continental US conduct tests with a view to obtaining the following radio equipment improvements: (1) a microphone with one button for talking and second button for radio transmission (as opposed to inter-com use when second button not depressed); and (2) a transmitter control box, to be mounted directly under tank commander's cupola and to left of turret traverse grip, bearing a toggle switch which when flipped would change the radio transmitter from one pre-set channel to a second pre-set channel. This battalion has improvised one such microphone, using a toggle switch in lieu of non-available second button. The microphone has proven completely successful and frees the commander's second hand from groping unnecessarily to the inter-com box. The advantage of the transmitter control box would be to greatly assist the tank platoon leader, company commander, and others who must operate in two radio nets. The expense seems completely justified by the resulting increase in the efficiency of operations.
RECOMMENDED CHANGES IN T/O&E 55-18.

(RESTRICTED) 1. Reduce the number of semitrailers from 96 to 72. It is believed that a ratio of 1-1/2 semitrailers per tractor is adequate for operation in this theater; further, the turn in of trailers in excess of 75 per unit would result in a saving to the government.

2. Increase the number of portable typewriters from one to three. Sections requiring the use of a typewriter are usually so widely separated, and the required reports so numerous that joint use of typewriters is impracticable.

3. Authorize watches, wrist, 14 per company. Basis: 1 per platoon sergeant (3); 1 per cargo NCO (3); 1 per section sergeant (6); 1 per dispatcher (2). This would assure punctual meeting of commitments and also provide accurate time data for operational records.

LIGHTING REQUIREMENT FOR NIGHT MAINTENANCE.

(RESTRICTED) The difficulty being encountered during round the clock operations is the lack of proper maintenance for vehicles. Proper lighting facilities for night maintenance are not available. This results in a greater number of vehicles being deadlined in organization shops during the daylight hours which could have received proper maintenance and mechanical corrections during the night tour of duty. It is recommended that one 5 KW Generator be made a part of the authorized T/O&E for all Transportation Truck Companies.
LACK OF UNIFORMITY IN COMMUNICATIONS TRAINING.

(CONFIDENTIAL) Radio operator replacements, both voice and CW, are not uniformly trained upon arrival. The greatest divergence is in radio procedure. It has been found that the most economical method of training replacement radio operators is to start at the beginning of radio procedure and retrain. It has been found that there are sharp differences in the training of radio operators, especially in procedure, and that uniformity of procedure, JANAP's notwithstanding, is the exception rather than the rule. The wiremen received need more training in the construction of short pole line systems.

* * * * * * * * *

TELEPHONE COMMUNICATIONS.

(RESTRICTED) Telephone communication in Korea is the most reliable and extensive means available. However, distances are great and coordination between units necessitates that calls be placed through several switchboards. Conversations thus often become unintelligible and result in misunderstandings.

It is strongly recommended that the amplifier telephone (TP-9) be issued to the Regimental Communication Platoon. A total of three telephones TP-9, is considered adequate.

MOBILE FIRE DIRECTION CENTER.

(RESTRICTED) Recommend that a mobile fire direction center be developed and made a part of the T/O&E's of all field artillery battalions.
Because of inadequate and unsuitable T/O&E provisions for fire direction installations, this Battalion has acquired an abandoned four-wheel radar type trailer for use as a Battalion FDC. This trailer has been permanently wired for all necessary telephone communications and the three required radios have been permanently mounted. The trailer houses both Battalion FDC and the S2 Section with adequate and comfortable working space for all. The time required for moving into position and setting up Battalion FDC is less than five minutes. The time for tearing down and moving out of position is likewise less than five minutes.

**********

EFFECT OF MODIFICATIONS TO PERMIT HIGH ANGLE FIRE.

(CONFIDENTIAL) During January this Battalion received five 105-mm howitzers on Motor Carriage, Hi-Angle, M7-J1, all as replacements for howitzers declared unfit for firing or becoming disabled. Although the new carriages were modified for high angle fire, only forty mils traverse is possible on each side of the drive shaft in the high angle firing position. Thus, with such small latitude of traverse, all high angle missions must be accomplished by motor shifts for each deflection change during adjustment. When the mission is completed, a motor shift must be made to center of traverse for center of sector, and consequently voids the adjusted high angle data for subsequent use for fire-for-effect fire on the high angle target. Thus, the use of the M7-J1 for high angle fire is good for emergency targets only, and adjustment is time consuming due to many motor shifts required.

SOURCE: Command Report - 7th Infantry
DATE: February 1952

Source No 394

OBSERVER INCREASE, HEAVY MORTAR CO.

(RESTRICTED) Experience gained in 15 months of actual combat with the 4.2 mortar indicates a need of two forward observers for each mortar platoon. Experience has proved that a system which will permit the company commander to request.
and control the fires of supporting weapons directly through a FO who has direct communication with the FDC, is the best assurance the rifle company has of the close and continuous support of these weapons. For such a system to work, a minimum of two FO parties per battalion is required. This will make one FO available for each of the two forward rifle companies of the battalion. This company is now employing such a system, but it necessitates improvising three additional FO parties.

RECOMMENDATION: Increase the T/O&E of the Heavy Mortar Company of the Infantry Regiment to include six FO's instead of the present three.

********************************

COMMUNICATION WITH TANKS.

(RESTRICTED) Static defensive positions have created problems in communication between tank crews, infantry, and artillery. This was demonstrated many times when an observer would have a target of opportunity ideal for the tanks but not have communication to relay it. By using borrowed EE-8 telephones and lines were established to provide communication to the nearest battalion switchboard and make any tank section or platoon available to local observers and personnel in any of the OP's. The radio is still the only communication between tanks and creates further problems during periods of radio silence.

RECOMMENDATION: Increase T/O&E 17-37N to authorize an additional 30 sound power telephones and 5 EE-8 telephones to tank companies of infantry regiments.

SOURCE: Command Report - I US Corps Arty

DATE: January 1952

SUITABILITY OF RADAR SET SCR-784.

(CONFIDENTIAL) DISCUSSION: The 1st Observation Battalion has experienced continual poor results from the Radar Set SCR-784. The efforts expended in moving, installing and operating this set in the rough terrain of Korea have been so meagerly rewarded with satisfactory results that a review of the suitability of this set is advised.

Over
RECOMMENDATION: That a thorough reappraisal of the suitability of this equipment be undertaken and that the advisability of factory experts field testing this equipment in the Korean field be given strong consideration.

"METAL FATIGUE" IN 155-MM HOWITZERS.

(CONFIDENTIAL) DISCUSSION: In January, two 155-mm howitzers malfunctioned during fire missions. The tubes separated from the breech resulting in injury to cannoneers and a loss of confidence by gun crews in the weapon. Since the Korean action commenced, there have been at least twenty (20) such malfunctionings with the 155-mm howitzer in the 8th Army.

Excessive rates of fire, faulty ammunition, general metal fatigue from constant firing of maximum charge may be the main causes. However, in most cases, the weapons that did blow up had been given periodic checks by Ordnance and declared serviceable.

RECOMMENDATION: That a study be undertaken to determine the possibility of detecting "metal fatigue" in weapons, so that symptoms of a general weakening of the materiel may be determined before a "blow-up" renders the symptoms an actuality.

BULLDOZER AND DUMP TRUCK FOR EACH ARTILLERY BATTALION.

(RESTRICTED) DISCUSSION: The Korean war has been characterized by extremely poor roads, or the absolute absence of same. The limited availability of suitable battery positions has constantly necessitated the pioneering of roads into areas, and the levelling off or excavation of gun pits, switchboard, FDC and other installations. The wide fronts, necessitating scattering of batteries to give sector coverage, and the extreme frozen condition of the terrain render RSOP's and displacements and shifting of center lines extremely difficult. The demands on Engineer units are so great in performing their normal missions, that assistance to artillery units is rarely available.
RECOMMENDATION: In view of these conditions, it is recommended that each artillery battalion be authorized as part of its T/O&E a bulldozer and dump truck in order to perform the engineering jobs that are constantly arising.

SOURCE: Command Report - X Corps Artillery

DATE: March 1952

Source No 396

PROVISIONAL ARTILLERY GROUP HEADQUARTERS,

(RESTRICTED) The X Corps sector is extremely rugged and the compartmented nature of the terrain requires that the artillery be positioned in distinctly separate areas of operation and control. Further, neither the 7th nor 8th ROK Divisions has Division Artillery Headquarters to coordinate the fires of artillery units supporting each of the two divisions. For these reasons Headquarters X Corps Artillery was subdivided to provide for two provisional artillery group headquarters in addition to Headquarters X Corps Artillery which incorporates the X Corps Fire Support Coordination Center.

SOURCE: Command Report - 179th Infantry

DATE: January 1952

Source No 397

ATTACK ON FORTIFIED POSITIONS:

(RESTRICTED) Once our attack becomes apparent to the enemy, it must be pushed to completion rapidly and fortified areas entered as soon as possible. It is safer to fight the enemy in his trenches and bunkers than outside in enemy mortar fire, which they will bring down on their own positions.

SOURCE: Command Report - 70th Tank Bn

DATE: January 1952

Source No 398

T/O&E CHANGE: TANK BATTALION

(RESTRICTED) The current T/O&E does not provide sufficient clerk typists for the headquarters; specifically the
Adjutant and S1 Section. It is recommended that the T/O&E be changed to provide four additional clerk typists and four additional typewriters for the headquarters.

SOURCE: Command Report - 52 FA Bn
DATE: December 1951 Source No 399

CHANGE IN ARTILLERY BATTALION GENERATOR.

(RESTRICTED) The authorized allowance of two each electric lighting equipment set #3, 3 KVA, is not adequate for a field artillery battalion. The tactical functioning of a field artillery battalion requires twenty-four-hour operation in the headquarters installations, and the small generator unit is not mechanically sufficient to meet this continued operation requirement. This unit possesses two 5 KVA units as substitute items for the 3 KVA sets. Experience indicates that even the 5 KVA units are not adequate for the lighting required. Also, the present allowance of lanterns, gasoline, leaded fuel, is not sufficient to provide the necessary auxiliary lighting for installations throughout the battalion.

Recommend that a 10 KVA lighting unit be provided each field artillery battalion for lighting headquarters installations or that a portable generator unit with fluorescent lighting equipment be provided for use in the fire direction center. As an auxiliary means of lighting, it is recommended that the allowance of lanterns, gasoline, leaded fuel, be increased to thirty-five per battalion.

DATE: January 1952 Source No 400

KOREA REPLACEMENT SYSTEM.

(RESTRICTED) It is recommended that all replacements for Korea be shipped direct from the Continental US to a
Korean port. This would save man-hours by eliminating the replacement center procedure through Japan.

* * * * * * * * *

MINE CLEARING.

(RESTRICTED) Mine clearing being performed on Line has once again proved that more emphasis must be placed on mine field training. Only qualified engineer troops should lay mine fields. Such a procedure would eliminate the many instances found during the clearing of Line of indiscriminate laying of mines and hand grenade booby traps. Further, there is a failure to report mine fields laid and inaccurate reports made when mines are laid by untrained personnel. The inherent danger of any mine field, friendly or enemy, is obvious. Reports on mine fields must be made meticulously by the originators and then carefully received by each higher headquarters. Only engineer personnel have the requisite background for this important function.

SOURCE: Command Report - 45th Infantry Division

DATE: January 1952

DIRECT 8" FIRE ON BUNKERS.

(CONFIDENTIAL) In many observed fires a direct hit by the 155 howitzer on a bunker appeared to do little or no damage whereas a direct hit by the 8 inch piece was very effective.

* * * * * * * * *

QUALITY OF REPLACEMENTS.

(CONFIDENTIAL) The quality of replacements is considerably lower than that previously experienced by the division. The breakdown on AGC scores shows:

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<th>Score Range</th>
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<tr>
<td>Total</td>
<td>64</td>
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UNCLASSIFIED
In one firing battery in the division the average AGC score dropped from 104 to 77. The performance of this battery will be considerably lower due to the quality of replacements it received.

**SOURCE:** Command Report - 10 Engineer Combat Bn

**DATE:** February 1952

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**LACK OF SUPERVISORY EXPERIENCE.**

(CONFIDENTIAL) Many of the replacement officers, although possessing a better educational background, are as lacking in supervisory experience as the enlisted replacements.

It is recommended that approximately 25% of the enlisted replacements coming through the pipe line be given additional training in Japan prior to being shipped to Korea. These trainees should be those with engineer basic in the Continental US and should be given about a 6-week "Engineer Leaders Course" at the Eta Jima Specialist School. These men, although still in rank of Private or Private First Class, would be potential squad and platoon leaders upon joining an organization in Korea.

*****

**ENGINEER MISSION FOR KOREAN SERVICE CORPS.**

(RESTRICTED) To increase the productivity of road effort, Battalion Opn Order 23 assigned a specific road responsibility to the KSC Co attached to A Co 10th Engrs. Korean officers were briefed on the road job and the KSC Co Commander was charged with the responsibility for the sector assigned. Pride in work accomplishment soon became evident among the Korean troops and an appreciable contribution to the Battalion effort was noted.
INADEQUATE SUPPLY OF WHITE PHOSPHORUS SHELLS.

(CONFIDENTIAL) The supply of white phosphorus shells for 105-mm howitzers is considered inadequate. The present allocation of this shell is 0.5 rounds per 105-mm howitzer per day. Aerial observers find it difficult to pick up the burst of HE shells when beginning an adjustment on a target. This is particularly true during early and late daylight hours when the steep, high hills cast shadows over most of the valleys and on days when visibility is poor. Since it has not been possible to fire many WP shells for the start of an adjustment, many HE shells are reported as lost by the Air OP's. The time required to adjust fire on targets is increased in many cases as well as the waste of HE shells which are sensed as LOST by aerial observers. It is recommended that the allocation of WP shells be increased as soon as possible.

CLEARING MINE FIELDS.

(CONFIDENTIAL) Some research should be undertaken to determine the most effective method of clearing mine fields laid in snow, and clearing mine fields covered by deep snow and/or frozen earth.

EMPHASIS ON SMALL UNITS.

(RESTRICTED) Small unit training should be emphasized. Terrain in Korea is such that the success or failure of a squad or a platoon may be the success or failure of a regiment.
Emphasis must be placed on the command responsibility and prestige of squad leaders. The squad leader must be both physically and professionally capable.

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FOUGASSES ON MLR.

(RESTRICTED) Fougasse charges consisting of propelling charge of C2, Napalm and a WP grenade, all placed in 155-mm shell case were found to be an excellent means of halting attacks which approached tactical wire on the MLR. The charges were set off by means of an electric detonator and the effect consists of a sheet of flame being thrown some fifty feet forward. One disadvantage was discovered: the charge deteriorated in about three weeks.

SOURCE: Command Report - 73d Tk Bn
DATE: January 1952

TANK MECHANICAL FAILURES.

(CONFIDENTIAL) We then began to consider separately the items which gave the most difficulty, namely, the exhaust manifold clamp which simply won't hold up. Second, the auxiliary electrical system, especially the generator engine which was flying apart. Exhaustive study indicated that the engine would operate under normal conditions of 15 minutes operation per hour for six or eight hours operation, but we were not operating under normal conditions and at times the engines ran 15 minutes per hour for 30 to 40 continuous hours. That is pushing them a little and naturally they began to fail. These engines would not have failed had their RPM been decreased and the generator geared to a higher ratio. As it is now, the generator, when dropped to a RPM to save the engine, will not put out enough current to operate the relays in the junction boxes. This lead to the burning out of certain relays in the master junction box, further leading to failure of the tanks to run as a draining of the batteries occurs. Finally, we come to the big bugaboo of the thrown tracks. Let us consider the particular tanks in operation and M46's in general. The tanks with which this battalion is equipped are all converted M26 tanks. Consider that the M26 was designed for about 40 tanks with an engine of 500 horsepower
and a shaft output of about 350 horsepower; you then add 8 tons, a longer and heavier track and an 810 horsepower engine with a shaft output of 500 horsepower. Also to be considered is a suspension system designed to take the shock of 40 tons at a certain horsepower. Subject that to a shock of 48 tons as well as about a 150 horsepower increase to the track and suspension and consider what is sure to happen to your torsion bars. These torsion bars naturally begin to lose their resiliency and ability to recover from continued road shock. Your tracks develop a tendency to whip and with torsion bars and road wheels slow to recover this whip you very soon find a decided tendency of the road wheels to override your track guides. Consequently, even on fairly normal ground you will find your tanks driving right out of their tracks.

These items naturally do not apply to all tanks of the M46 type but only to the tanks with which we are equipped and most familiar, the converted M26. We do not deny that a certain amount of these failures are due to driver failure for in very limited instances such is the case. In these cases we have taken immediate steps such as removing the worst drivers, and given special retraining to the balance. These efforts show decided improvement in tank operation but have not prevented the failures of the critical items mentioned.

We conclude, therefore, that tanks can be operated in this terrain, that they will fight in practically any type terrain, but the commander who commits them must be aware of, and prepared to take, a high mechanical loss. With a few relatively minor changes in parts design all this difficulty can be avoided.

** TANK PISTOL PORTS. **

(CONFIDENTIAL) What is the reason for welding shut the pistol port on the last few tanks we received? Our tank crews are very much upset in this regard as they resent having to open their turret hatches under artillery and mortar fire in order to dispose of their 90-mm brass. In the last battle we received six direct hits on turrets and an open hatch in such instances can be disastrous. I can say from present experience and without equivocation that the present Chinese artillery and mortars are exceedingly accurate.

Over
COMMENTS ON 20-TON BUCKEYE CRANE.

(CONFIDENTIAL) Difficulty was experienced in keeping lights on the two cranes due to two things: 1. The light plant on the M20A Buckeye Crane is not rugged enough for continuous operation. 2. The cranes did not come equipped with floodlights and substitutes have been improvised. We have been forced to change several things on the 20-ton Buckeye Crane, Model M20A, in order to keep them operating, namely, (1) Change the ignition systems from aircraft type to automotive type systems. The aircraft type shielding develops short circuits very quickly and the replacement of these parts is almost impossible. Aircraft type spark plugs can only be obtained through the Air Corps so the use of regular automotive type ignition systems is the only solution devised to date. (2) The crane engineer generator is not large enough to run lights even of the automotive type with the large amount of wiring necessary to put a light on the boom. This has been overcome by devising a new bracket to mount over the engine head and mounting a 2-1/2-ton GMC, 40 amp generator there, replacing the fan belt with an automotive type fan belt. Have been unable to find the proper fan belt as to belt width since the belt in use rides the bottom of the fan pulley groove and the same is true of the water pump pulley, but this type installation is in use on two cranes which are in operation and has worked successfully for approximately two weeks. It is also necessary to replace the original voltage regulator with one from a 2-1/2-ton GMC truck. One-quarter-ton jeep headlights were substituted on this hook-up for the regular 110-volt floodlights supposed to be on the crane. (3) The operating lever linkage on this model crane is not strong enough to withstand the pull exerted through the operating levers. This is especially true when crowd clutch bands become worn or the seals in the swing clutch assembly leak and allow grease to get on the bands. It has been impossible to get parts to replace the bands or seals and became necessary to replace the ball and socket joints in the operating lever linkage with clevises and pins to withstand the additional pressure.
It is believed that this is a change that should be incorporated in new models. (4) Many of the crane chassis parts are interchangeable with Ordnance vehicle parts and this source has been used for replacement parts. Since engineer supply channels do not seem to be able to support the equipment issued in the field, it is advisable that engineer equipment have chassis of such design that ordnance spare parts can be used. Special reference is to lighting and ignition systems, transmission, transfer cases, drive shafts, axles, wheel bearings, seals and differentials. This procedure would obviate the difficulty in obtaining many parts, the bulk of which results in deadlined equipment.

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OPERATION TANK-DOZER IN MINED AREA.

(RESTRICTED) In spite of the precautions taken before using the tank-dozer on the road, the tank-dozer was lost to an enemy mine. It is evidently the policy of the CCF to bury their nuisance mines to such a depth that mine detectors cannot locate them. Then as the ground surface freezes to a depth of ten to fourteen inches, a tank will not explode them. These mines then cannot be detected by probing, with mine detectors, nor explored by demolitions on the ground surface. Only after the tank-dozer had removed about twelve inches of the frozen top-soil and passed over the mine seven times did the weight of the vehicle explode the mine.

SOURCE: Command Report - 57th FA Bn 7th Inf Div
DATE: January 1952

LIGHTING PROBLEMS, FA BN.

(RESTRICTED) It is strongly recommended that 5 KW generator be provided for each Field Artillery Battalion Headquarters Battery. This would enable the headquarters to have a reliable power plant with enough capacity to furnish adequate lighting. It is further recommended each firing battery be issued a 3 KVA generator, as there are now no provisions made to provide even a minimum of light, other than candles, which are fire hazards.
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OFFICE, CHIEF OF ARMY FIELD FORCES
Fort Monroe, Virginia

ATTNG-26 350.05/50(DOCI)(C)(29 Jul 52) 29 July 1952

SUBJECT: Dissemination of Combat Information

TO: See distribution

1. The extract "Discussion on Doctrine and Technique," Source No 383, inclosure to letter, ATTNG-64 350.05/50(DOCI)(C)(30 Jun 52), OCAFF, 30 June 1952, subject as above, published under the classification of CONFIDENTIAL is regraded RESTRICTED.

2. In accordance with SR 525-8505, Processing of Combat Information, the inclosed EXTRACTS are forwarded to Department of the Army, Army Field Forces, and the service schools for evaluation and necessary action. It may be appropriate, in certain cases, for these agencies to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and often, the extracted item serves to reaffirm our doctrines and techniques.

3. Copies are furnished to other military agencies to keep them informed concerning theater problems from the front line through the logistical command.

4. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office downgrades each extracted item to the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.
5. Combat information EXTRACTS herein which are applicable to training at the company-battery level also appear in Army Field Forces TRAINING BULLETINS.

FOR THE CHIEF OF ARMY FIELD FORCES:

T. J. Smith

1 Incl
Extracts from sources
409 thru 439

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1. Officer in Charge, Atlantic Fleet Intelligence Cen,
   Attn: Ground Forces Officer

UNCLASSIFIED
OFFICE, CHIEF OF ARMY FIELD FORCES
Fort Monroe, Virginia

EXTRACTS OF COMBAT INFORMATION

SOURCE: Command Report - 25th Inf Div
DATE: March 1952 Source No 409

COUNTERMORTAR RADAR.

(CONFIDENTIAL) Two battalions of division artillery had countermortar radar sets AN/TPQ 3 in position during the month. Although these sets scanned shelling in the sectors every day, the 8th Field Artillery Battalion set produced plots on only 18 days, and the set in the 64th Field Artillery Battalion produced plots on only three days. Of 93 plots, only 22 corresponded to reported shellings. The sets were nonoperational during half the period because of maintenance difficulties. Indications are that the AN/TPQ 3, designed for antiaircraft warning sets in WW II, is not rugged or dependable enough for service in Korea.

It is recommended that the AN/TPQ 10 radar set be issued as soon as possible to artillery radar sections in Korea, and that every effort be made to develop a radar set that will meet requirements of countermortar and counterbattery artillery operation.

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BUNKER DESTRUCTION.

(RESTRICTED) Tanks of the 89th Tank Battalion, and AAA 90-mm guns mounted on 155-mm carriages, were emplaced along the division front to assist in destruction of enemy bunkers. The destruction of some 580 bunkers was a potent argument for continued employment of such direct fire weapons. Although the tanks drew fire, the enemy AT weapons were not heavy enough to halt the tanks' firing. The 90-mm guns fired from well contructed fortifications and crews suffered no casualties during the period.

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INCLOSURE
ENEMY TACTICS.

(RESTRICTED) Each company across the division front stationed a night listening post in front of its position.

On the night of 1-2 March, in the west sector, the enemy placed a heavy barrage on positions several hundred yards west of a listening post manned by Company "I," 14th Infantry Regiment. While attention was diverted to the area of the shelling, an enemy force captured the three men on the listening post. All units were immediately alerted to this enemy tactic.

SOURCE: X US Corps Periodic Intelligence Report No 585
DATE: March 1952

REPORT ON THE ABOVE INCIDENT.

(RESTRICTED) Battalion received orders from regiment to plan a raid against a UN outpost on the night of 1 March to capture prisoners and equipment. Each member of the thirty-two man raiding party was armed with a SMG and two hand grenades; engineer personnel carried wire cutters. The patrol was divided into four teams of eight men each. Two of the teams were to furnish covering fire; and the other two teams were designated as assault groups. Approximately 800 rounds of mortar and artillery ammunition were allocated for the operation. Prior reconnaissance had been made of the objective. Control was to be exercised by flare signals from the regimental OP.

The patrol departed at 2100 hours, and arrived in front of the objective an hour later. At 2220 hours, following two white flare signals from the regimental OP, the supporting fire commenced. At 2225, the supporting fire was shifted to the south and continued until 2255, which was longer than originally scheduled. The supporting fire was finally lifted
after receiving a flare signal from the regimental OP, and the thirty-two men split into the previously designated groups. One assault team advanced on the west flank, the other on the east. The covering teams supported the attacks. PW was in charge of the west flank attackers when word was passed that three UN soldiers, pinned down and cut off by the artillery and mortar fire supporting the raid, had been discovered hiding in a foxhole and captured. Since the mission had been accomplished, the platoon leader ordered the withdrawal of all teams. PW stated that only light resistance was encountered during the raid.

SOURCE: Command Report - 45th Inf Div Arty
DATE: March 1952 Source No 411

ILLUMINATING SHELLS IN EXCESS OF BASIC LOAD.

(RESTRICTED) Since the enemy primarily patrols at night, and our night patrolling is taking on greater significance, there is a decided need for additional artillery illuminating ammunition. The basic load of 155-mm illuminating shell is 27 rounds. Two basic loads (54 rounds) are authorized to be on hand. As many as 30 rounds have been fired in a single night operations, and it is believed that the authorized on-hand level is too low. It is recommended that the allocation of illuminating shell be increased 50% and the on-hand allowance be increased to 150 rounds (approximately six basic loads).

SOURCE: Command Report - 82d AAA AW Bn (SP)
DATE: March 1952 Source No 412

AAA AW WEAPONS ON MLR.

(RESTRICTED) The policy of placing firing vehicles on the MLR under close enemy observation for long periods of time is a needless hazard to the vehicle and its crew. It is recommended that these vehicles be placed in defiladed positions.
and firing positions be prepared for them. These firing positions would then be occupied when needed on order of the infantry commander. During the period, enemy infiltrators threw two hand grenades, inflicted two KIA in B Battery on a moonless night.

SOURCE: Command Report - 40th Inf Div
DATE: April 1952

TANK COMMUNICATION EXPEDIENT.

(RESTRICTED) A unique field expedient being utilized by tank crewmen is considered worthy of mention. A crew has rigged driver and bow gunner microphone switch buttons on the wobble stick steering mechanism of the M-46 tank in order to permit the driver or bow gunner to use the radio when driving buttoned up without removing his hand from the wobble stick while the other hand is being utilized to adjust his periscope.

SOURCE: Command Report - 2d Inf Div
DATE: February 1952

IMPROVISED CAL .50 SNIPER RIFLE.

(RESTRICTED) The weapon consists of a caliber .50 machine gun barrel, a Russian antitank rifle breech, a telescopic sight and a biped rest.

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DIVISION QM FILLING STATION.

(RESTRICTED) The Division Quartermaster opened a filling station type gasoline dispensing point, conveniently located on the MSR. Drivers can now be assured of a full tank before proceeding. This will reduce the amount of gasoline carried on hand in unit dumps, eliminate unnecessary
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forward displacement, eliminate a portion of the rehandling of bulk gasoline in units and provide a convenient check point for Ordnance and other operation inspections.


M-19 TRACK AND TURRET MAINTENANCE.

(RESTRICTED) The need for technically trained personnel for M-19 track and turret maintenance still remains critical. It is recommended that Antiaircraft Instructor Teams be detailed to cover existing maintenance limitations as well as to instruct in new techniques of antiaircraft gunnery in the ground and antiaircraft role.

SOURCE: Command Report - 37th FA Bn
DATE: February 1952 Source No 415

ENEMY TACTICS.

(RESTRICTED) Radio activity on the part of the enemy was directed at us in an attempt to trick us into answering with friendly call signs. Radio silence was maintained by friendly forces and no answers were made. One instance occurred where the Chinese used our call sign on our Battalion "K" channel and the battalion relay station. These broadcasts usually requested communications checks. The voices spoke good English, but as one monitor put it, "they weren't speaking American since they were too polite."

SOURCE: Command Report - 2d Div Arty
DATE: March 1952 Source No 416

COUNTERMORTAR ACTIVITIES.

(RESTRICTED) During the period 1 through 31 March the enemy used his mortars to harass front line positions and

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friendly patrols. Enemy mortar locations were found from sources as follows: Radar 29, Counterfire 37, Air OP 34, and Ground OP 29. Information of these locations was disseminated to units by means of hostile mortar lists published periodically by this section. Shelling and mortar reports were used throughout the period. Several classes in crater analysis and shell reporting were conducted for units of the division artillery and for infantry and tank units. Information gained from shelling reports was given to Air OP's as quickly as possible to aid in search for enemy artillery or mortar positions. Direction from sound or groove azimuths and the suspect locations were furnished for each search mission given to air observers.

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SCARCITY OF JUNIOR ARTILLERY OFFICERS.

(RESTRICTED) Due to a scarcity of junior artillery officers, nine armor officers were assigned to this headquarters. These officers were given one week's training as forward observers and sent to the battalions where they are performing very satisfactorily.

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DESTRUCTION OF BUNKERS.

(CONFIDENTIAL) The "Bunker Busting Program" inaugurated in February was continued with excellent results. It was noticed that in many instances, a bunker which had been destroyed during the day would be rebuilt the following night. As a result of this information, a careful check would be kept on the location of these targets and sometime during the night a TOT fire would be placed on a bunker which had been destroyed previously. It is felt that these fires caused many casualties among enemy personnel engaged in rebuilding destroyed bunkers under the cover of darkness. An 8" howitzer and a 155-mm gun (SP) were used, in the direct fire phase of this program. The period ended with 210 bunkers destroyed, 52 damaged and an unestimated number of enemy personnel killed or wounded as a result of "Bunker Busting" activities.
INCREASED PENETRATION OF 4.2 MORTAR SHELL.

(CONFIDENTIAL) Since the end of the fall offensive of IX Corps it has become more and more apparent to this Battalion that our present shell, fused for super-quick only, cannot inflict any noticeable damage against the enemy's system of fortifications. The answer seemed to be in adapting an artillery fuse to our present HE shell which could be set for time or delay. After experimentation the following results were noted:

1. The artillery fuse PS M51 A4 will arm when adapted to the 4.2" mortar shell.

2. The penetration of the shell with the fuse set for 15 seconds delay was 24 inches. The penetration was made in frozen, rocky soil.

3. During this experiment it was impossible to get the booster in the fuse to detonate the booster in the shell. Work is continuing on this project.

It is felt by this Battalion that the penetration of this shell is sufficient to warrant further consideration of this experiment by the Ordnance Corps.

REPLACEMENT SYSTEM.

(RESTRICTED) In the case of noncommissioned officers, replacements received have been young soldiers recently out of basic training who do not have the experience and skills to replace rotated noncoms. While the virtues of promoting
within the unit and on-the-job training are well known, these methods do not solve the problem in the case of mass replacement of experienced NCO's with inexperienced and relatively green soldiers.

TRAINING OF REPLACEMENTS.

(RESTRICTED) The percentage of noncommissioned officers among the new replacements is very low. Due to this low percentage, the number of NCO's in the battalion has steadily declined. An intensive on-the-job and after-hours training program has been instituted. It takes from two to three months to train a good Corporal, an additional three months to qualify him for Sergeant and then another three months for Sergeant First Class. By this time, he is ready for rotation, and the cycle is repeated. I believe manpower could be saved if potential NCO's received NCO training prior to their arrival in Korea.

FAILURE OF M-4 TRACTOR.

(RESTRICTED) Operation RING NECK occurred during the period which resulted in extremely heavy traffic on most of our roads. The only difficulty that occurred arose from the inability of the M-4 tractor, prime-mover for medium artillery, to negotiate steep grades where the road surface was slightly slippery. This difficulty was overcome by using 4-ton and large trucks, with chains, to help pull the tractors up steep grades. The utter helplessness of the M-4 tractor, contrasted to trucks with chains, should be noted.
ENGINEER MAINTENANCE SUPPORT.

(RESTRICTED) One maintenance platoon of an engineer field maintenance company was moved forward to the vicinity of group headquarters during the month, and placed in direct support of the group. This proved to be a sound plan and an improvement in the engineer equipment maintenance system is beginning to show. Small teams from this platoon, with shop trucks, supported engineer combat battalions on projects having a concentration of equipment. Major repair jobs were accomplished on the site. The result was the elimination of time lost in evacuation to rear shops and in reducing the load on unit mechanics and facilities.

* * * * * * * * *

ENGINEER TRAINING.

(RESTRICTED) It is most urgently recommended that engineer, especially equipment operations, specialist training be more complete. It is not sufficient to teach mechanical operation. Technique of using dozers, graders, and shovels must be taught. Basic principles of roadbuilding such as grading, ditching, and shaping should be included in the operators course so that he will at least be familiar with the capabilities of his equipment and have a working knowledge of how to use it intelligently. Training school courses that are limited in their scope and fail to teach when and how to use equipment, leaving that up to on-the-job training in a using unit which is fully committed, are an impractical solution.

USE OF TANKS ON THE MLR.

(RESTRICTED) In its sector, the 14th Infantry was faced by a very active enemy. Groups of enemy personnel
could be observed at any time of day, apparently having no fear of being fired upon. The enemy also manned a great many small emplacements near our position, from which they employed constant sniping and harassing fire with small arms. By employing direct 76-mm tank fire from positions on hills over 600 and 850 meters high, the enemy was soon forced to abandon many of his smaller emplacements for larger, more secure, shelters. In addition, tank firing on enemy personnel greatly hampered his movement during daylight hours. Although a great deal of enemy artillery and mortar fire is directed against these tanks, and the supply problem is a difficult one, it is felt that these weapons are an invaluable aid in our sector in their present role in static positions along the MLR.

SOURCE: Command Report - 15th FA Bn

DATE: February 1952

ARTILLERY PROBLEMS.

(RESTRICTED) On the basis of recent combat experiences in Korea, it is recommended:

1. That additional observation instruments, especially BC scopes, be made available to field artillery units. In a static situation it becomes necessary to maintain numerous OP's. At the present time, the 15th FA Bn is manning ten OP's, and observation could be greatly improved by furnishing enough optical instruments for all the OP's.

2. That twenty power telescopes be restored to the field artillery battalion T/O&E in sufficient quantities to equip at least four OP's. These telescopes would be invaluable in helping observers pick up enemy activity and installations.

3. That sufficient quantities of aerial photos be issued to light field artillery battalions to enable the battalion S2's to distribute them to forward observers. These photos, used in conjunction with maps and ground observation, would be excellent aids to forward observers in understanding the nature of the terrain in their zones of observation.
4. That, in view of the present situation in Korea where the nature of the terrain frequently requires the employment of high angle fire, more positive information concerning the technique of high angle fires and the massing of such fires be assembled and disseminated by The Artillery School at Fort Sill, Oklahoma. In this connection, it is recommended that additional instruction on high angle fire be given at The Artillery School.

SOURCE: Command Report - 65th Engr Combat En
DATE: February 1952 Source No 424

USE OF CAMOUFLAGE OVER A ROAD.

(RESTRICTED) The 77th Engineer Combat Company assumed the responsibility of repair and installation of camouflage nets in the 14th Regiment area and the Turkish Brigade area. These camouflage nets are over the road in a front line sector, and constant shelling of this area required continual repair of the nets. Most important conclusion on month's operations: The nets placed over the road obscured it from enemy observation, and casualties resulting from mortar and artillery fire directed at this formerly exposed stretch of road were greatly reduced.

SOURCE: Command Report - 22d Signal Group
DATE: February 1952 Source No 425

NEED FOR LIGHT AIRCRAFT.

(RESTRICTED) During this report period the commanding officer and inspection teams logged approximately 2000 miles and consumed 680 man-hours making command inspections of widely dispersed subordinate units. Of the 680 man-hours expended upon these inspections, approximately 250 hours were spent in traveling between units. By supplementing T/O&E 11-22 to include light aircraft, a saving of one-third in man-hours expended can be made. This will
permit more efficient operations and also fall in line with the presently stressed manpower conservation program. In addition, the inclusion of light aircraft in the T/O&E would permit rapid supply of critical spare parts in case of emergency.

SOURCE: Command Report - 25th Inf Div, C/S, Bk 1
DATE: January 1952 Source No 426

INTEGRITY OF DIVISIONS.

(RESTRICTED) While recognizing the immediate necessity for dismembering the division while in reserve to meet miscellaneous corps and Army requirements, viz, augmentation of a front line division, providing security for civilian mining operations, and guarding PW camps, it must nevertheless be noted that as a policy such dispersion cannot be recommended.

Divisions are rotated from line duty so as to afford an opportunity for rehabilitation or replacement of worn equipment, integration, and training replacements, both officers and men, and for accomplishment of the mass of administrative work which cannot easily be taken care of when in contact with the enemy.

However, if upon relief from line duty, the division's major units are hurried to distant parts of the theater on routine, but exacting missions, the normal renovating and unifying process is so inhibited that combat efficiency may actually suffer rather than improve.

In combat or out, a prime factor in restoring the aggressive and cohesive spirit of a battle weary unit is the presence of the commander. His personal leadership and supervision are indispensable. Deny him the opportunity for continuous personal contact with subordinate leaders and the men themselves, and an essential unifying force is dangerously weakened.
It is recommended that the integrity of divisions be preserved when in reserve and that all temptation to "make use of available combat troops" be resisted to the utmost.

SOURCE: Command Report - 2d Div Arty
DATE: February 1952

REDUCTION OF ENEMY BUNKERS.

(RESTRICTED) During the period 18 to 25 February 1952 a concentrated program of "Bunker Busting" was executed with one 8" howitzer, one 155-mm gun (SP), and three 90-mm guns (towed) with crews, attached from IX Corps Artillery. Targets were located by survey, and taken under fire, with 136 bunkers being destroyed, using direct and indirect methods at the ranges from 1400 to 5000 yards.

SOURCE: Command Report - 7th Inf Div Arty
DATE: February 1952

ENEMY TACTICS.

(RESTRICTED) During the attack on friendly elements, the enemy employed a field piece, estimated to be 76-mm, that had been brought up to within fifty yards of the outpost being attacked. This was the initial report of such tactics in this sector.

SOURCE: Command Report - Tokyo Ordnance Depot, 8160th AU
DATE: January 1952

CONVERSION OF JAPANESE HEAVY MACHINE GUN (TYPE 92).

(RESTRICTED) The Small Arms Branch, Maintenance Division, completed conversion of this weapon and conducted test firing. The conversion can be completed in approximately three hours without requiring replacement parts, and utilizes
the standard Japanese clip. Target patterns at 50 yards were well within the 3-1/2" diameter for both continuous fire and shot groupings of five each, indicating a very high degree of stability. Report of conversion, together with drawings and technical description, were referred to the Engineering and Inspection Division for further study, evaluation and submission of report.

SOURCE: Command Report - 10th AAA Group
DATE: March 1952 Source No 430

ENEMY USES LIGHT AIRCRAFT IN NUISANCE RAIDS.

(CONFIDENTIAL) The enemy has conducted several nuisance raids on our forward airfields using liaison type aircraft. The aircraft cannot be tracked by radar when operating at low altitudes and, therefore, cannot be fired on accurately during periods of darkness or poor visibility. The 68th AAA Gun Battalion is conducting test with 60" searchlight in an effort to overcome this limitation. The lights will be supplied with present position data by radar, which will allow immediate illumination of the target. Just prior to loss of the target in clutter on radar scope, lights will be placed in action. Firing on target and positioning of lights from this point on will be accomplished by visual means. Test conducted on 4 March resulted in successful illumination of target after radar had become ineffective.

SOURCE: Command Report - 48th FA Bn
DATE: March 1952 Source No 431

LANGUAGE BARRIER IN ARTILLERY SUPPORT OF ROK UNITS.

(RESTRICTED) Due to this battalion's experience in working with ROK units, we have trained seven ROK enlisted personnel in fire direction and observer procedure and use ROK
enlisted personnel in our battalion fire center to take fire missions directly from ROK observers. This speeds up the time necessary to fire a ROK observed mission by cutting out the middleman interpreter. Experience of this battalion indicates a saving of fifty percent in time with generally more satisfying results for all concerned.

SOURCE: Command Report - 31st FA Bn
DATE: March 1952

ARTILLERY REQUIREMENT FOR ENGINEER EQUIPMENT.

(RESTRICTED) The nature of the existing road net as well as the general topography of the terrain makes it necessary for a field artillery unit to perform a great amount of pioneer work. The T/O&E of a field artillery medium battalion does not provide adequate equipment for such work. Recommend that one of the 2-1/2-ton trucks in each battery be equipped with a dump body and the battalion be authorized one D-8 type bulldozer.

SOURCE: Command Report - 300th Armored FA Bn
DATE: January 1952

USE OF WOODEN BOXES FOR SHIPPING AMMUNITION.

(RESTRICTED) It is strongly recommended that the practice of shipping 105-mm rounds in wooden boxes be continued. The wood salvaged from these boxes has been used in innumerable ways. Lumber from any other source is practically nonexistent. This battalion cannot begin to supply the demand of other units for these ammunition boxes.
PREPARATION OF ARTILLERY POSITIONS.

(RESTRICTED) The continued demand on artillery units to occupy areas which are unsuitable to artillery because of poor flotation, steep slopes, and rocky or frozen subsoil has pointed up a twofold problem. First, the artillery battalion needs and should be issued, earth moving equipment larger than dozer D-4. Several of the ammunition trucks in service battery should be dump trucks, so that road-building and pioneer work in artillery positions can be expedited. Service battery should have a demolitions kit and trained demolitions personnel in T/O&E. Secondly, an additional issue of construction tools such as large saws, extra hammers, levels, and heavy carpentry tools are needed, inasmuch as all artillery positions are improved continually and the construction of housekeeping facilities and improvements to gun pits is a major consideration on moving into a new area.

MAINTENANCE PROBLEMS - L-17 AIRCRAFT.

(RESTRICTED) It has become increasingly difficult to maintain L-17 aircraft in flying condition. All of the L-17's now in Korea are 1947 or 1948 models with an average of about 1500 flying hours. These older aircraft require considerable maintenance and replacement and repair parts which are extremely difficult to obtain. Many are not available in this theater and must be requisitioned from the ZL. As a result, an L-17 is often grounded for a period of two weeks or longer for lack of a repair part. Less than 50% utilization of the three L-17's assigned to the corps is being achieved.
ROTATION BY UNIT.

(RESTRICTED) The combat efficiency of artillery units has been lowered seriously by rotation and the current policy of rotation by individual. Replacements, for the most part, have been only partially trained, and in some instances have received no training at all for the MOS they carry. In addition, difficulty has been experienced in getting replacements in critical MOS's. Very few school-trained specialists have been received. Many difficulties would be eliminated if replacements were effected by unit instead of by individual.

RECOMMEND: That replacements by unit instead of by individual be established in order to maintain integrity and effectiveness.

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COUNTERBATTERY FIRE.

(RESTRICTED) The 8" howitzer has proved to be much more effective in counterbattery fire than has the 155-mm gun, both because of the added weight of the projectile and because of the greater accuracy of the 8" howitzer. Replacement of 155-mm gun tubes by 8" howitzer tubes could be effected without an increase in manpower and would materially increase the effectiveness of corps artillery counterbattery fire.

RECOMMEND: That eight 155-mm gun tubes of the 937th FA Bn be replaced by 8" howitzer tubes.

ASSAULT FIRE.

(RESTRICTED) 1. Assault fire with 155-mm gun (SP. - From the limited experience obtained from firing the 155-mm
gun (SP) in assault positions, it can be concluded that assault fire is very effective if the following principles are followed:

   a. A definite target area be set up not more than one or two thousand yards in area.

   b. That the infantry and organic forward observer designate the targets in advance with a priority given to them.

   c. The gun position be located so that the ranges are not more than two to three thousand yards. That the position be in as much defilade as possible; and if possible, escape route be provided for the gun.

   d. A systematic method of taking targets under fire be established so that small shifts are made. This increases speed and accuracy of the fire. It is important to guard against the temptation of firing on distant targets of say, 5000 yards in range, as the vertical probable error at that range will prove it is not economically feasible for this type of adjustment.

   e. Provision should be made to have counterbattery observers and countermortar observers available with prepared concentrations on suspected enemy positions in the area. These should be ready for immediate employment if the 155-mm gun is brought under enemy fire. It is well to shoot other artillery into the general area at the same time as the assault fire is being conducted to direct the attention of the enemy away from the assault gun.

2. Assault fire with 8" howitzer (towed) on enemy bunkers. In this mode of firing the position area selected was 6000 to 7000 yards from the target area and in defilade. The minimum elevation to the mask was such that Charge VII was fired into the target areas as it has the least range and deflection dispersion.

   An observation post was selected with an axial type firing problem existing. In this manner the assault type fire control was employed.
The results from the assault method of firing the 8" howitzer were gratifying and it is felt that there is a definite saving in ammunition if the operation is properly conducted. The principles and doctrines that were developed from our experience in this type of firing are:

a. Target selection, identification, size of the target area, and attack of targets remain the same as set out above in the 155-mm gun assault fire techniques.

b. The 8" howitzer (towed) positions must be in defilade because the howitzer cannot be moved rapidly if taken under fire by the enemy. In Korea, the terrain is such that defiladed positions have narrow sectors of fire which increase the importance of small definite target areas.

c. Ranges of assault method of fire should not be used above 6500 yards for Charge VII. If ranges are longer, standard conduct of fire should be used to prevent "circular adjustment." Firing tables prove that assault fire may be used with Charge VII and possibly with Charge VI on ranges shorter than 5000 yards.

d. If assault fire techniques are used, the observer must fire "axial missions." If he has an angle "T" of greater than 200 mils, experience has proven that he must revert to standard methods of conduct of fire. This is another reason why the target area taken under fire be small to prevent the angle "T" from being too large at various points in the target area.

SOURCE: Command Report - 49th FA Bn
DATE: March 1952

ARTILLERY LOCAL SECURITY PLAN.

(RESTRICTED) An infantry type company was organized from personnel of the 49th Field Artillery Battalion to implement the local security plan. Major Washburn, battalion executive, was appointed company commander. Infantry
training was given to the men selected for assignment in the company. These men will continue their regular battery assignments, but will be ready in an emergency to fall out with the security company. Thus, the overall security plan for the battalion was strengthened by having a well organized force that could go into action on short notice.

**SOURCE:** Command Report - 7th Inf Div

**DATE:** February 1952

**NEED FOR WARRANT OFFICERS FOR COMPANY ADMINISTRATION.**

(RESTRICTED) The need for warrant officers at company level for administrative duties is extremely pressing now that the infantry companies are made up largely of inexperienced replacements. The Company First Sergeant is usually the most experienced soldier in each company, and he should not be burdened with administrative tasks when his leadership is so valuable in combat operations and in training.

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**STANDARDIZATION OF MOTOR GENERATOR SETS.**

(RESTRICTED) It is recommended that plans for the standardization of motor generator sets be vigorously followed up and executed. An average of 25% of all generators within the division were inoperative throughout February due to a shortage of parts.

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**NEED FOR LARGER AIR COMPRESSORS.**

(RESTRICTED) It is recommended that 210CFM air compressors be authorized engineer combat battalions for operation in Korea in lieu of the presently authorized 105CFM compressor. The 105CFM compressor does not supply enough power for a sufficient number of pneumatic tools to be operated.
in the same general area. In the narrow mountain passes in Korea it is often necessary to park the truck carrying the air compressor in such a position as to block the road entirely while the pneumatic drills are employed to drill dynamite holes in the steep mountainside. This often delays essential military traffic.

If a 210CFM compressor were authorized for the above situation, which is normal for Korea, twice the number of drills could be employed at the same time, making it possible to complete the drilling in half the time now needed, thus speeding up the flow of traffic on important MSR's.

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BUNKER DESTRUCTION.

(RESTRICTED) By request, the 7th Infantry Division submitted on 3 February, to X Corps, the following recommendations concerning hostile bunker destruction:

1. That more self-propelled 155-mm guns or 8" howitzers be made available for direct or assault fire.

2. That a shaped-charge projectile be developed for present standard weapons.

3. That the time lapse of the delay fuse for the 105-mm howitzer and the 4.2" mortar rounds be increased to enable increased penetration.
In accordance with SR 525-85-5, Processing of Combat Information, the inclosed EXTRACTS are forwarded to Department of the Army, Army Field Forces and the service schools for evaluation and necessary action. It may be appropriate, in certain cases, for these agencies to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and often, the extracted item serves to reaffirm our doctrines and techniques.

2. Copies are furnished to other military agencies to keep them informed concerning theater problems from the frontline through the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office downgrades each extended item to the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.

4. Combat information EXTRACTS herein which are applicable to training at the company-battery level also appear in Army Field Forces TRAINING BULLETINS.

FOR THE CHIEF OF ARMY FIELD FORCES:

A. B. CHATHAM
Lt Col, AGC
Asst Adjutant General

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440 thru 455

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FINDING WIRE LINE BREAKS. - The oscillator, built by the Radio Section, has proven extremely helpful in finding a line break with minimum difficulty and time. When wire is out, the switchboard operator plugs the oscillator into that particular jack. A lineman in checking the line will hear the oscillator tone. When he no longer hears the tone, he has the break bracketed.

PREPARATION FOR ATOMIC ATTACK. - This Headquarters was one of those selected to participate in "Exercise MUSHROOM," a program designed to determine the capability of a unit engaged in operations against an enemy to prepare installations adequate for passive defense against atomic bombing; to familiarize personnel with the effects of atomic weapons and the means of defense against them; and to dispel the fear of atomic attack by education.

Construction of shelters to include adequate overhead cover for all vital installations, roof high walls and revetments for nonvital installations, and suitable shelters providing all-round and overhead protection for all personnel was undertaken, and the entire project completed on 30 April. Although the exercise was successfully completed within the time prescribed and current tactical and administrative functions were conducted without impairment, it is obvious that an installation as elaborate as this would not be possible in a fast moving situation nor under conditions less static than the present.

A solution, when threatened by atomic attack, would be to assign high priority to construction of, first, the minimum vital installations and, secondly, the necessary personnel shelters and to continue less vital construction as time and the tactical situation permit.
A portion of the final statistics on the exercise follows:

- Man-hours required: 13,797
- Sandbags used: 56,384
- Logs used: 3,278 (average 6" x 16' )
- Steel pickets used: 574
- Bulldozer operator: 111 hours

It is apparent that construction of a complete defensive installation affords excellent training opportunities, and in many cases has permitted the demonstration of noteworthy examples of ingenuity.

In keeping with the design of the installation to permit operations during or immediately following an atomic attack, it was necessary to install all wire circuits underground. Ditches were dug to cover all local wire lines as well as incoming and outgoing lines: the switchboard was placed in a bunker and all wire heads placed underground. The radio stations were placed underground with only the antenna exposed, and a remote relay station established one and one half miles from the FSCC.

Maintenance of wire circuits required 891 man-hours during the period exclusive of the special requirements of Exercise MUSHROOM.

SOURCE: Command Report - I US Corps
DATE: January 1952 Source No 442

(BATTLEFIELD ILLUMINATION. - 5-gallon flare. This expedient consists of a 5-gallon lubricating oil can filled with 6% napalm; and M15 incendiary grenade, WP; prima cord; and two electric blasting caps, No 8. Put the 5-gallon oil can (filled with 4-1/2 gal napalm) in a hole which permits the can to protrude approximately 2 inches above the ground level. Wind single strand of prima cord inside the lip of the 5-gallon oil can with one end free; attach to this loose end a No 8 electric blasting cap. Remove the fuze from the M15 Incendiary grenade, WP and insert a No 8 electric blasting cap into the fuze well in the grenade. Secure the blasting cap to the grenade by making a half-hitch around the grenade with the wire attached to the blasting cap. Secure the grenade and blasting cap to the 5-gallon oil can carrying handle with wire. Join one end of the
wire from the blasting cap in the grenade to one end of the wire of the blasting cap that is attached to the prima cord. Attach the remaining two wires to the double strand detonating wire. When connected with W130 detonating wire and battery BA70 or 10-cap blasting machine as an electrical source, the munition is ready for detonation. This expedient will burn approximately 30 minutes and will illuminate an area 50 yards in diameter.

Other suitable containers utilizing the procedure outlined above include: Signal Corps, Spiral Wire, No 4 Can; Chemical Corps, Chloride of Lime Can; 60-mm mortar shell cans.

These flares should be emplaced a minimum of 100 yards forward of the MLR so as to silhouette enemy troops and not blind friendly groups.

(RESTRICTED)

DEMONSTRATION OF VT OVER BUNKERS AND TANKS. - A firing demonstration was presented by the 3d Infantry Division to show the negative effect of VT fuze against personnel in tanks and bunkers. Purpose was to emphasize that our own fires can be brought down on our own troops when the enemy storms our positions. This permits us to remain in our positions. It is felt that a similar exercise should be added to the battle indoctrination on courses used in training in the United States.

(CONFIDENTIAL)

TANK FINAL DRIVE OUTPUT SHAFTS. - Two experimental type final drive output shafts are to be field tested in the near future by the 64th Tank Battalion. Four M46 tanks having the new type output shafts were issued to the 3d Division 30 January for field testing by this tank battalion.

Two tanks have output shafts which have been "shot peened." This process compresses the molecular structure of the shaft which should make it more resistant to fatigue cracks which usually radiate inward from the outside splined surfaces.

The remaining two tanks have hollow output shafts. A hole one-inch in diameter has been drilled in the center of the shaft to a depth of 18 inches. This shaft is being tested on the theory that hollow shafts will have more torque which should reduce the failures of this unit.

The 64th Tank Battalion is to give the tanks normal Korean usage and perform routine preventive maintenance of them. Records on length of time operated and distance travelled are to be kept by the battalion. Monthly inspections are to
Output shaft failures have been one of the major troubles experienced with M46 tanks operating in the Korean theater.

1. Final drive gear teeth shear or break.

2. Final drive output shafts develop radial cracks and shear. Replacement output shafts are received without the output shaft spacers. These spacers are a press fit and it is virtually impossible for using units to remove the spacers from broken output shafts without damaging the spacers. Replacement output shafts complete with spacers should arrive at the units.

3. Master junction boxes fail to operate because of sticking reverse current relays, sticking circuit breakers, and burning out of ballast bulbs.

4. Muffler exhaust pipe clamps break because of the intense heat to which they are subjected. When clamps break, flames escape from muffler pipes and increases danger of engine fires.

5. Gas tanks develop cracks along one or more of their too numerous seams.

6. Track center guides are too narrow, too pointed, and too short to prevent thrown tracks on rough or hilly terrain.

7. Auxiliary generators develop rod and piston failures particularly during cold weather. In static situations the auxiliary generator is run a great deal to keep the battery charged. Since the speed of the auxiliary
generator is governor controlled, it speeds up to the governor RPM upon starting and takes over the load of the main generator. This high initial RPM is hard on a cold engine. It is recommended that a hand throttle be installed on the auxiliary generator to keep down the RPM during the warm up period.

(CONFIDENTIAL)

COMPARISON OF CENTURIAN III AND M46.

POWER

CENTURIAN III. - Engines are considered good but not powerful enough for the weight of the tank; however, it has been noted that this tank does have a good cruising speed on hard surface roads and has been able to climb steep hills.

M46. - The power of the engine is adequate to propel the tank at relatively high speeds on flat or gently rolling terrain. When climbing steep hills or when towing another M46 tank the power of the engine is not fully utilized because of the gear ratio in the final drive and slippage in the transmission.

MOBILITY

CENTURIAN III.

1. The tank has adequate speed on flat or gently rolling terrain.

2. The hill climbing ability of the tank is excellent.

3. The tank has forded water approximately 4 feet deep. Rice paddies with mud 10 inches deep were easily traversed. Four tanks were seen to maneuver over an earth dyke with a vertical face 4 feet high. The top of the dyke was 7 feet wide with a gully 2 feet deep running through the middle. The far side of the dyke was approximately 12 feet high with a $65^\circ$ slope leading into a soft rice paddy 10 inches deep. The four tanks in trace negotiated this obstacle with no difficulty.

4. The tank makes gradual turns as compared with the sharp abrupt turns of which the M46 tank is capable.

5. The Centurian III Tank has safely traversed the US M2 Treadway Bridge; however, because of the weight of the tank, the safety factor for the bridge has been materially reduced. When a Centurian III crosses a pontoon bridge, the bridge almost submerges.
1. The tank has considerable speed on flat or gently rolling terrain.

2. The tank has climbed hills approximately 30°; however, when negotiating turns on steep slopes all the power is diverted to one track which then spins in place. It is then necessary to back the tank in a direction tangent to the turn and then start uphill in the direction of the turn.

3. When climbing long steep hills the transmission tends to overheat. The transmission is cooled by braking the tank and running the engine for a few minutes.

4. Neutral steer for pivoting the tank in place is seldom used because it places a severe strain on final drives and output shafts and tends to cause thrown tracks.

5. Traction is fair on muddy hills, in rice paddies or in heavy muddy ground. Traction would be improved if the per-square-inch ground pressure were decreased and if the track blocks had deeper chevrons.

6. Tracks are thrown easily when traversing lateral slopes. The center guides of the track are considered to be too narrow and too pointed for securing the tracks.

ARMOR PROTECTION

CENTURIAN III. - Unknown but believed to be good.

M46. - See page 13, TM 9-718, April 1951.

FUEL ECONOMY

CENTURIAN III.

1. Unknown but reportedly by a British Officer to compare favorably with the M46 tank.

M46.

1. Approximately 3 gallons per mile under average conditions.

2. Because of cold weather warm up periods and maneuvering over hilly and difficult terrain average gasoline consumption is approximately 4 gallons per mile.
3. Because of relatively high rate of fuel consumption, the range of tank operation is limited for extensive operations. Refueling requirements for tank units are high and must be carefully planned and anticipated.

EASE OF MAINTENANCE

CENTURIAN III.

1. To replace a bogie wheel, the bogie wheel rocker arm is raised by a hydraulic jack applied from underneath the tank. This method is slower than the standard US method of removing bogie wheels.

2. The tracks are hard to break due to the difficulty in removing the track pin. To expedite maintenance on the track it has been broken by cutting it with an acetylene torch or breaking it by using small demolition charges.

M46.

1. In general, testing the main engine or replacing certain accessories to the main engine are best accomplished by removing the engine from its compartment and making the necessary repairs while the engine is on the ground. It takes an average crew about 3/4 of an hour to remove the engine and about one hour to replace the engine. Removal and replacement of the engine requires a wrecker truck.

2. The main engine must be removed to replace the following accessories of the main engine: bevel gears in the oil cooler fan assembly, fan shaft of the oil cooler fan assembly, lower magneto on the lower left hand side of the engine compartment, intake manifold clamps on the side next to oil cooler radiators, oil lines leading from the bottom of the oil cooler radiators along the bottom of the engine to the oil filter, and the transmission.

3. The following maintenance can be accomplished quicker by removing the engine: changing the main engine generator, 100 hour checks, and changing or adjustment of carburetors.

4. Spark plugs can be best changed by removing the heavy steel grill work from the back deck of the tank.

5. After engines are removed they are tested by "ground hopping." If the engine is defective and requires repair by Ordnance, the engine must be reinstalled, the tank delivered to Ordnance, and then Ordnance must repeat the process of removing the engine before effecting repairs.
MECHANICAL RELIABILITY

CENTURIAN III. - Based on the tank deadline rates, the Centurian III Tank appears to be as mechanically reliable as the M46 tank.

M46.

1. In general, the tank is not mechanically reliable; however, the mechanical unreliability can be pinpointed to the following features: final drives, output shafts, oil cooler fan assemblies, and master junction boxes.

2. Final drive gear teeth shear or break.

3. Output shafts develop radial cracks and eventually shear. It is believed that this shaft is under designed in strength.

4. Oil cooler fan assemblies are the most unreliable assembly of the tank. The parts of the oil cooler fan assembly which frequently fail are the shafts, magnetic clutches, and beveled gears. Oil cooler fan assembly failures if not promptly detected cause overheating and damage to the main engine and transmission.

5. Master junction boxes fail frequently. It is believed that the junction box is too complicated and controls too many of the electrical features of the tank. The chief failures in the junction box are sticking reverse current relays, sticking circuit breakers and burning out of ballast bulbs.

ENGINE

CENTURIAN III. - Unknown

M46. - The engine is the most reliable major assembly of the tank.

TRANSMISSION

CENTURIAN III. - Unknown.

M46.

1. The transmission by itself is generally reliable; however, it tends to overheat when climbing steep hills or when towing other M46 tanks. The transmission quickly overheats when an oil cooler fan assembly becomes inoperative. This overheating burns out a babbit bearing in the transmission.
2. When the shift linkage is out of adjustment slippage and wear of transmission bands occur because the transmission is trying to drive in more than one gear at a time.

3. Leaking oil seals are a moderately recurring defect in the transmission.

**EASE OF HANDLING**

**CENTURIAN III.** - The tank is reported to handle very well. Turns are relatively long and gradual.

**M46.**

1. The manual control driving lever makes driving of the tank easy and simple. New drivers learn to drive the tank in a relatively short time.

2. The dual driving controls in the assistant drivers compartment are not necessary. Because of the simplified driving control the driver is not subject to extreme driver fatigue and, therefore, assistant driver controls are not needed.

**FIRE POWER**

**CENTURIAN III.**

1. The tank cannon is considered an excellent antitank weapon. It is very effective as an artillery weapon against personnel and bunkers.

2. Lack of a bow machine gun reduces the effectiveness of the tank for close in fighting. This defect can be partially overcome by mounting .30 Cal machine guns on the tank commanders cupola.

3. The life of the tube is reported to be approximately 100 rounds.

**M46.**

1. The 90-mm cannon is considered an excellent weapon against all types of targets.

2. The coaxial machine gun, antiaircraft machine gun, and bow machine gun furnish excellent small arms fire support for close in and distant firing.
1. A conference was held in Tokyo on 31 January to decide the mechanical details to be incorporated in flail tanks to be constructed by the Engineers Rebuild Depot of JLC.

2. The following mechanical modifications will be tried and incorporated in the flail tank:

   a. An auxiliary engine with a fluid transmission. It is expected that the fluid transmission will be effective in absorbing and countering any reverse rotation which might occur when the flail drum is caused to rotate in reverse direction upon detonation of a mine.

   b. Reverse type worm gears will be used to transfer power from drive shaft to flail drums. This type gear can absorb some reverse motion if blast causes flail drum to rotate in reverse.

   c. Disc-type clutches will be used on ends of flail drum. The discs will slip if drum rotates in reverse thus helping absorb the reverse drum motion along with the reverse type worm gears and fluid transmission of auxiliary motor

   d. A prestone high pressure cooling system will be used in auxiliary motors to handle expected high operating temperatures.

   e. Auxiliary motor will use two air cleaners because of excessive dust caused by the flail.

   f. The flail drum will rotate forward so that flail chains detonate mines in front of the flails. Opposite rotation of drum would have caused mine detonation between the flail and the tank which was considered unsatisfactory.

   g. The flail is to be designed to carry 5-pound pear shaped weights at end of flail chains.

   h. Round tubing will be used if available to mount the flail drum on tank hull. The tubing will be mounted on the tank hull rather than on the tank suspension. This will allow repairs to the tank suspension system without interference from the flail attachments. It was also believed that circular tubing would be less susceptible than box-type beams to damage from mine blasts.
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i. Recoil springs of 155 guns will be used to absorb shock when flail system is blown upward by mine blast.

J. Fuel for the auxiliary motor will be piped from main fuel tanks of vehicle.

k. Disc-type wire cutters will be placed on both ends of flail drum to cut barbed wire and telephone wire which may wind up on the drum.

l. The flail drum will be built one foot wider on each end than the width of the M4A3E8 tank.

m. The M4A3E8 tank instead of the M-46 will be used to mount the flail.

n. The representatives of JLC estimated that the first flail tank would be completed in one month after necessary material was assembled. Subsequent flail tanks would follow at the rate of one a week.

(RESTRICTED)

FIELD EXPEDIENT BRIDGE LAYING TANK. - At the request of I Corps G3 steps were taken to develop a bridge laying tank. Such a tank would be used during an advance to cross blown bridges, or AT ditches. During WW II a bridge laying tank had been developed from the old M31 recovery tank. Present plans were to adopt the M32 recovery tank to lay standard engineer M2 steel treadway and it was decided to build a steel adapter for the M32 recovery tank. This adapter would be designed to fit and be secured by steel pins to the two front lifting hooks and the two front towing shackles of the tank. With this pin arrangement the adapter could be easily removed when the tank was not needed for laying a bridge. The purpose of the adapter was to serve as the rear support for the forked ends of the steel treadway when the bridge was in the carrying position.

To provide stability to the bridging when being carried by the tank an 8" I beam was bolted across the treadways approximately seven (7) feet from the forward end of the treadways. On the center of this I beam was welded a lifting hook to which was attached the winch cable of the tank for lifting the bridge. For use of the bridge carrying tank during a tactical operation it was agreed that the winch cable would have to be attached to the lifting hook by means of a quick release clevice or pin. The clevice or pin would be released by pulling on a string or wire from inside the tank. Thus it would be unnecessary for any crew member to dismount to release the winch cable while the bridge was being laid in position. The treadway spacer bars were modified
so that they could be pinned securely at each end to the steel treadway; however, it was agreed that this modification was not necessary.

The plans called for the M32 recovery tank to lift and carry twenty-four feet of double track M2 steel treadway. Because of the weight of the bridging (about 5 tons) and the leverage exerted on the boom the front bogie steel volute springs compressed considerably and the back end of the tank raised slightly and the rear end of the tracks lost firm contact with the ground. To prevent damage to the volute springs, standard plates were bolted to volute spring housing to prevent complete compression and failure of the volute springs. The tendency of the rear end of the tracks to raise off the ground was more pronounced when the tank was going down hill or into depressions. This tendency places the entire weight on the front part of the track and increases the per-square-inch ground pressure of that part of the track in contact with the ground; therefore, it is believed that the tank carrying the bridging would bog down in soft ground. However, the tank could carry the bridging on fairly level and firm roads.

To make the tank more maneuverable, experiments were conducted with the tank carrying twenty-four feet of single track steel treadway. The twenty-four feet of single track treadway was mounted with the rear forked ends in the center of the steel adapter. The front end of the treadway was lifted by attaching the winch cable to a chain fastened to the treadway at a point about seven feet from the front end of the treadway. With the load to be carried thus cut in half, the tank became more stable and maneuverable and the entire tank track remained in firmer contact with the ground. With training and experience a crew should be able to carry and place separately, across a ditch or blown bridge, the two separate twenty-four foot sections of the steel treadway. Training will enable the tank crew to space the two treadways so that an M4A3E8 or M46 tank can fit on and cross the bridge.

Although no work was done on carrying or placing the center planking for the treadway it was agreed and deemed advisable to have engineer troops prepared and ready to install center planking on the bridge so that all types of vehicles could cross the bridge.

CONCLUSIONS

1. An M32 recovery tank equipped with an adapter can carry and lay across a gap twenty-four feet of double track M2 steel treadway. The ground must be fairly firm due to high ground pressure on the forward end of the tank tracks.
2. An M32 recovery tank can carry and lay separately, two single track sections of M2 steel treadway each section being twenty-four feet long.

3. A recovery tank of the weight and size of an M46 tank could carry, with more facility than an M32 recovery tank, twenty-four feet of double track M2 steel treadway.

(RESTRICTED)

INFANTRY-TANK COMMUNICATION. - Undue reliance must not be placed on the SCR 300 radio for Infantry-Tank Communication. Alternate means of communication must be provided. A 510 radio accompanying the infantry could provide direct and alternate means of communication with the tanks.

(RESTRICTED)

RADIO T/O&E CHANGE, MP COMPANY.

1. Radio equipment currently authorized by T/O&E 19-37, for the most part, (SCR 610 and SCR 619) is inadequate because:

   a. Limited range in miles. The road net now patrolled extends well over one hundred and fifty miles.

   b. All roads in the area are extremely rough, making it impossible to keep the SCR 610 and SCR 619 in alignment. It is normal to have a radio fail after less than an hour on the road, although several hours may have been spent getting the radio into operation.

   c. The excessive amount of maintenance required in keeping the SCR 610 and SCR 619 in alignment and adjustment limits their availability for use and ties up unit and higher echelon repair facilities.

2. In view of the above, it is requested that the eleven SCR-610 and the six SCR-619 currently on hand in this organization be replaced by Radio Set AN/GRC-9 and the 622d Military Police Company be authorized to draw an additional six AN/GRC-9's for installation in those patrol vehicles not now authorized any communications equipment.

3. Approval of the request contained in paragraph 3 above would authorize the 622d MP Company to have a total of twenty-eight AN/GRC-9's. Since the company already has authorization for five AN/GRC-9's all twenty-eight patrol vehicles would be similarly equipped with a radio which has already proven its dependability in this organization.
FAILURE OF OIL COOLER FAN ASSEMBLY ON M46 TANK.

1. The principal cause for deadlined M46 tanks in units of this headquarters is failure of parts of the oil cooler fan assembly.

2. Contrary to the report to GHQ Ordnance Officer by Mr. F. Blair, Technical Representative of Allison Division GMC, and Mr. L. Cass, Technical Representative of Continental Motors Corp, failures are also occurring in the oil cooler fan assembly of the M46A1 tank.

3. As an example of the large number of failures of the oil cooler fan assembly, the following figures are quoted:

<table>
<thead>
<tr>
<th>UNIT</th>
<th>Number of Failures</th>
<th>NOV</th>
<th>DEC</th>
<th>JAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>64th Tank Battalion</td>
<td>23</td>
<td>22</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>73d Tank Battalion</td>
<td>16</td>
<td>27</td>
<td>35</td>
<td></td>
</tr>
</tbody>
</table>

4. The parts of the oil cooler fan assembly which fail most frequently are the magnetic clutches, fan shafts, and beveled gears.

5. It is the considered opinion of staff officers and the using units of this headquarters that the present performance and design of the oil cooler fan assembly for the M46 and M46A1 tanks are unsatisfactory.

6. It is recommended that:

   a. Urgent steps be taken to redesign the present oil cooler fan assembly and that redesigned assemblies be shipped promptly to Korea.

   b. That steps be taken to insure an adequate supply for Korea of the principal parts of the oil cooler fan assembly now in use.

(RESTRICTED)

2-INCH CHEVRON BLOCKS AS TRACK GROUSERS. - It was finally decided that spacing 2-inch steel chevron blocks every fourth block into a regular steel track offered the best solution to the problem of more traction. The battalion was issued two complete sets of T-80E4 steel tracks with 2-inch chevrons. The tracks were taken apart and the track blocks were spaced into the regular steel tracks. The battalion reports that the 2-inch chevrons serve as track grousers and the traction has been materially increased. It was pointed out, however, that the 2-inch chevron blocks do cause a vibration in the suspension system if the tank is driven on a hard surface road.
IMPROVING HILL-CLIMBING ABILITY OF M46 TANK. - The following notes, for improvement of the hill climbing ability of the M46 tank, are recommended:

1. Final Drive.

   a. The final drive gears should be geared lower to give greater driving power but at slower speeds. The present final drive gear ratio gives the tank speed on flat or gently rolling terrain but does not give ideal or maximum power for climbing hills.

   b. Final drive gears have sheared or stripped while climbing hills or making turns in rough terrain. A lower final drive gear ratio as mentioned in paragraph a above and stronger final drive gears are recommended.

   c. The output shafts of the final drive develop radial cracks and shear. The output shaft has been known to shear when the tank is climbing a hill or rolling along a level road. It is virtually impossible to drive the tank if one of the output shafts breaks. The exact cause for failure of the output shaft is not known. A stronger output shaft is recommended.

2. Tracks.

   a. The track blocks should have chevrons 2" deep. A 2-inch chevron will dig or scoop deeper into the ground and give better traction. About five sets of 2-inch chevron tracks have been received to date. Units are disassembling these tracks and spacing individual blocks in their old 1-inch chevron tracks. A larger supply of tracks with 2-inch chevrons is recommended.

   b. The M46 tank has a tendency to throw tracks when making turns on hills or when traversing the lateral slopes of hills. The track center guides are too narrow, too pointed, and too short to prevent the toad wheels from riding over them when the tracks dig in or slip on lateral slopes.

3. Transmission. - The transmission oil tends to overheat when climbing long steep hills. The oil can be cooled by stopping the tank and running engine in neutral for 2-5 minutes. Crews in combat cannot afford to stop and wait that long. A more efficient oil cooling system than the present troublesome oil cooler fan assembly is recommended.
4. Oil Cooler Fan Assembly. - The shaft, beveled gears, and magnetic clutch of the oil cooler fan assembly frequently fail especially when the engine is "revved up" to negotiate obstacles or hills. When these parts fail on an M46A1 tank, the tank can not be driven under its own power and must be towed; when these parts fail on an M46 tank, the tank can be driven for short distances and at slow speeds only if extreme caution is exercised. A redesign of the oil cooler fan assembly to correct the weakness in the shaft, beveled gears, and magnetic clutch is recommended.

5. Driving. - When making turns on steep hills much of the power is transmitted to one track which either spins in place or digs into the ground. It is then necessary for the driver to back the tank in a direction tangent to the turn and then start climbing straight into the turn with both tracks pulling. A modified transmission to keep power in both tracks when making turns on steep hills is recommended.

SOURCE: Command Report - I US Corps
DATE: March 1952
Source No 444

(RESTRICTED)
SKID FOR TANK RECOVERY. - To facilitate tank recovery, the 245th Tank Battalion built a metal skid to replace a tank track which had been broken by an enemy mine. Initial experiments in towing a disabled tank on the skid have proved successful. This method of recovering tanks with one track broken is apparently faster than attempting to repair the tank on the battlefield. The use of a skid also prevents additional damage to the suspension system.

SOURCE: Command Report - I US Corps, Artillery
DATE: March 1952
Source No 445

(RESTRICTED)
ARTILLERY-AIR FIRE COORDINATION. - The concept of a Fire Support Coordination Center has been put into practice within the divisions and corps in Korea; however, the idea is relatively new and many problems are yet to be solved. Infantry and artillery fire coordination has had a long background.

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of successful operating experience. This is not the case, however, with artillery and air coordination. The problems of planning airstrikes, determining a flak suppression program, safe flying areas for aircraft operating in conjunction with artillery concentrations, and areas being shelled with VT fuzed projectiles, the timing and duration of silencing artillery fire to permit air strikes, all these and others are problems which have presented difficulties and which have limited the degree of effective coordination from being as efficient as desired between artillery and the Air Force.

RECOMMENDATION. - That a program of practical research and instruction be undertaken by the Army Field Forces together with the Air Force to produce practical teaching doctrine in air and artillery coordination in conjunction with the activities of Fire Support Coordination's Centers. Further that the instruction in Fire Support be included in the curriculum of The Artillery School. The idea of Fire Support is presented to students in conferences at The Artillery School, but it is felt that more emphasis on the practical application of a functioning Fire Support Coordination Center should be included in the School's curriculum. It is further recommended that Air Force-Artillery teams be trained to serve as instructors in this subject both at Service Schools and at division training in the field.

* * *

(RESTRICTED)

DEBRIEFING OF ARTILLERY AIR OBSERVERS. - The Corps Artillery Air Section maintains continuous daylight surveillance of the corps front. Adjusting artillery is its primary mission; however, it is also an excellent intelligence gathering source. Corps G2 personnel also fly regularly, though not continuous, reconnaissance missions over portions of the front.

RECOMMENDATION. - It is recommended that Corps G2 coordinate with the Corps Artillery Air Officer on establishing a routine debriefing program for artillery air observers. Having trained debriefing personnel at the Corps Artillery Air Strip would make available a wealth of additional information assisting materially in forming the intelligence picture. It is further recommended that more emphasis be placed on training within the Zone of the Interior in intelligence collection and coordination between artillery air sections and division and corps intelligence sections on the extraction of such information from air observers.

(RESTRICTED)

SUPPLY AND EQUIPMENT REQUIREMENTS ON A STABILIZED FRONT. It is recommended that allowances of Quartermaster cleaning and preserving materials be greatly increased to more nearly approach garrison standards.
Because all organizations are more stabilized and are closer to garrison living than is normal in combat, the allowances of Quartermaster cleaning and preserving expendable supplies for combat conditions have proved to be greatly inadequate. In most cases, unit messes now occupy prefabricated buildings, many with concrete floors. The issue of soaps, brushes, steel wool, trisodium phosphate and other cleaning materials cannot meet the requirements.

Also, because of the stabilized situation, all organizations are using equipment not authorized by pertinent tables of organization and equipment, such as squad tents, electric generators, etc. This equipment is authorized on an individual case basis.

It is also recommended that tables of allowances be established by higher headquarters, to standardize such issues and prescribe the allowances.

SOURCE: Command Report - 14th Infantry Regiment
DATE: March 1952

(CONFIDENTIAL)

PSYCHOLOGICAL WARFARE. - Psychological Warfare, in our present situation, is worthwhile. It is difficult to determine if the propaganda leaflet is the main reason for the number of North Korean prisoners taken for the period; however, interrogation of PW's revealed that leaflets are being read and have produced the desired results. PW's have informed us that it is very risky to be caught with our propaganda leaflet; therefore, any leaflets resembling "Script," would be more effective. Suggest something that looks on one side like the money used to pay North Korean or Chinese troops. Continued use of this type of warfare is definitely desired by the regiment.

Apparently the enemy feels that the use of propaganda leaflets has merit, for during the period the 14th Infantry received approximately 410 enemy propaganda shells. Some enemy leaflets were well written and some were very poorly written. The only effect these leaflets had on our troops was to keep them amused, and possibly to make them a little more cautious of the enemy's cunning.
(RESTRICTED)

WIRE COMMUNICATION. - In the present static situation to insure positive communication, telephone lines are laid to all gun positions. In addition, lines are laid from individual tracks to supported infantry-artillery units. The T/O&E authorization is eighteen per line battery which is entirely inadequate under present conditions. A minimum of eight more telephones per line battery are needed.

(RESTRICTED)

COST CONSCIOUSNESS, AAA. - Supply economy measures continued to be stressed in this command.

Organizations are conducting campaigns to salvage and effect turn-in of ferrous, as well as nonferrous, strategic materials to appropriate disposal officers. Continued emphasis and constant surveillance is being maintained to assure prompt return of scrap brass and serviceable ammunition packing containers. Operations are continually analyzed with a view to reducing cost of operations, and returning to appropriate supply channels those items which are not required for performance of the present mission.

*     *     *

(RESTRICTED)

All motor pools in this command are consolidated to effect maximum utilization of motor vehicles. This program continues to result in more economical operation and increases the effectiveness of organizational maintenance. During the past month a total decrease of 32,211 miles was effected in this command as compared to the average month prior to consolidation. This was accomplished without decreasing effectiveness of organizations in their assigned mission, and amounted to a monetary savings of $685.30 in POL supplies alone.

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Over

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In furtherance of the supply economy program, the above mentioned course includes a four-hour period devoted exclusively to supply economy, its objective being to teach methods of conservation and economy.

RECOMMENDATIONS OF AAA BRIGADE. - That responsibility for training AAA specialists be placed on either the theater commander or the Zone of the Interior and that the means, materiel, personnel and accommodations essential for the purposes intended, be furnished to the authority designated.

Additional spaces and personnel be authorized to provide a centralized AAA school for the training of AAA specialists, not now available through pipeline sources.

Consideration be given to a review of T/O&E of AAA units to insure capability of 24-hour operations.

That cellular type units, similar to currently authorized Signal Maintenance Radar Units, be provided each AAA battalion by Engineer and Ordnance.

Field maintenance capabilities for Engineer gasoline generators (M5, M7, M15, and M18) be improved immediately to prevent further reduction in operational effectiveness.

That a diesel-type mobile generator be furnished each AAA unit to replace current gasoline-type mobile generators, and that insofar as practicable one type replace the several types now issued.

SUPPORT DIFFICULTIES, AAA ON AIR FORCE BASES. - AAA units stationed on or deployed in defense of Air Force bases have experienced considerable difficulty in operations due to lack of adequate logistical support. Support responsibilities of both Army and Air Force toward tenant Army units have not been clearly defined. Directives should be amplified to clearly establish AF responsibility towards tenant Army units. Local AIO's should be furnished funds to support AAA units at the required levels.
COST CONSCIOUSNESS. - In our economy program, savings of over $10,000 has been effected by use of salvage dunnage. The pooling of sedans has likewise conserved gas, oil, and wear and tear. In one month we were able to save 300 gallons of gas alone. Our management program has been making continual surveys, and results in reduced manpower has been effected.

PATROLS. - Forty-eight security patrols were conducted during the 8-14 January. Six light engagements were fought by the security patrols with enemy squad to platoon size units. The most significant action occurred on 13 January. A Colombian Battalion patrol in position forward of Hill observed an enemy patrol approaching at 2115 hours. The Colombian patrol leader ordered his men to hold their fire until the enemy was within twenty yards of their position. When the enemy closed the distance, the patrol delivered simultaneous concentrated fires which resulted in an estimated 5 KIA and 10 WIA.

ADMINISTRATIVE BURDEN. - Recommend that the tremendous pressure of reports and paper work be held to a minimum. All reports requirements should be carefully considered periodically to ascertain if the results of the report justify the requirement.
CONDITION OF EQUIPMENT. - When the 40th Division relieved the 24th Division in place, it exchanged most of the weapons and equipment in place. This had the disadvantage that equipment which was battle worn and in a very poor state of repair was turned over to this Division. It was found necessary to devote major attention to repairing and replacing numerous items of equipment which were found to be entirely unserviceable. By the end of February much progress had been made as a result of concentrated efforts but even then a tremendous job still remained to be done to approach a satisfactory overall condition. Fortunately the stable defensive tactical situation allowed time for rehabilitation program. Had an enemy offensive been launched in January or February 1952 much equipment would have been inoperative and might have been lost to the enemy.

SCOUT DOGS. - On the first of March, the 26th US Infantry Scout Dog Platoon (-) was attached to the Division for operations and support. Division then attached squads of this unit to the 223d and 224th Infantry Regiments. Dogs worked effectively with patrols of these units and it is felt that the use of dogs on patrols offers increased security without hampering activity. Best results are obtained when dogs work with members of patrol at lease two days prior to actual patrol. Some ambush patrols experienced difficulty due to nervousness when the enforced inactivity necessarily exceeded 3 hours.

GENERATOR FOR AVIATION SECTION. - The T/O&E makes no provision for generators for the aviation section, but it does authorize power tools. Generators are also necessary to provide lighting facilities for the section. The aviation sections work does not end with sunset. Planning must be done for the next days operation; photo studies must be made; administration and reports must be kept up to date. The T/O&E needs to be revised to take cognizance of this.

QUARTERMASTER COMPANY ORGANIZATION. - Approximately three months observation indicates that the scope of operations of a Quartermaster
company in a theater of this nature requires additional operating and administrative personnel. Following are three examples:

a. In view of the high morale factor resulting from the issue of ice cream, it is probably safe to assume this product will continue to be issued and distributed by Quartermaster companies at division level. The T/O&E (10-17N) does not provide personnel for this operation, it had been necessary to draw personnel from other sections, who can ill afford such loss, in order to provide sufficient amounts of ice cream to supply division troops.

b. The communication section of the Quartermaster company lacks sufficient personnel to properly operate the normal Quartermaster establishment in this theater, which in turn requires the drawing of personnel from other sections.

c. In order to adequately perform its own security mission additional filler personnel should be added to the existing T/O&E. With operations on a twenty-four hours basis, guard duty cannot be properly carried on and efficient operation maintained at the same time.

d. It is recommended that study be given to present T/O&E (10-17) relative to the foregoing examples.

SOURCE: Command Report - 89th Tank Battalion (Med)

DATE: March 1952

(UNCLASSIFIED)

USE OF TANKS ON MLR. - Of particular interest is the location of tanks in the present division sector. Out of thirty-four firing positions on the MLR, nineteen are located on the tops of ridges, in saddles between mountain peaks, and on ground generally considered inaccessible to tanks. Fourteen tanks are positioned on the ridges forming the west, north, and east edges of the Punch-bowl and three tanks are in position on the northern extremities of Hearthbreak Ridge.

In the present tactical situation the tanks are being used almost exclusively as armor protected, direct fire weapons to reinforce other firepower on the MLR. The mobility of the tank has been utilized only to the extent of placing the tank in a firing position in some very difficult terrain. Although little if any maneuver
is involved, the tank-infantry team still exists with the tanker's position beside the doughboy on the MLR. The tanks' fire support can thus be placed in a minimum amount of time and with much greater accuracy than artillery.

The tanks have become priority targets for enemy counterbattery fire, and friendly infantry in vicinity of the tanks must be well dug in and be particularly careful about exposing themselves when the tanks are actually firing. To date, the best solution has been for the tanks to have two positions; a position which is out of sight of the enemy and a firing position. The firing position should be well sand-bagged on the front and sides if it is at all possible. This will materially reduce the amount of damage to the suspension system by enemy fire. The tank should have no OVM or other equipment on the outside of the hull while actually firing since it is invariably destroyed by shell fragments. It is also desirable to sand-bag the rear deck, the turret and the forward portion of the tank. In spite of these precautions damage will be sustained by direct hits. Recently a 120-mm mortar shell penetrated into the engine compartment of a tank which had two layers of sandbags on the back deck. In several positions the tank must remain constantly in firing position and in these cases it has been found advisable to construct a trench under the tank in order that it may be entered by the escape hatch. In these positions maintenance is accomplished during the hours of darkness.

During the month all tanks on the MLR have established a night firing schedule. Range cards are prepared during the day and firing is conducted with or without use of flares at various periods during the night. This program was begun in an effort to harass enemy working parties since the vast majority of their construction work takes place during the hours of darkness. Judging from PW reports and the unusually heavy volume of return fire the program is proving very effective.

The terrain and weather has created unusual difficulties in logistics. Transporting the necessary amounts of ammunition, fuel, food, and water to the summit of a mountain some twelve hundred meters high has presented a formidable problem at times. This has been particularly true during the past few weeks of the spring thaw. During much of this period the vast majority of the tanks in position had to be supplied either by hand carry or in a few instances by use of the M39 as a cargo carrier. In these cases the M39 hauled supplies for adjacent infantry units as well as for the tanks. At one time an entire infantry battalion plus the attached tanks were supplied for a period of five days by two M39's. With the aid of the engineers and by use of tank dozers the various tank positions were kept operable during the period.
(RESTRICTED)

HOWITZER TUBES AND HC AMMUNITION. - In view of relative large number howitzer tubes changes necessitated by volume of fire being delivered under combat conditions, it is strongly recommended that Ordnance Technical Services determine a relative calibration of tubes furnished as replacements in order that organization may maintain an equitable distribution of howitzers having similar characteristics.

It is also recommended that consideration be given to production of projectiles utilized for delivering HC smoke, manufactured with a fuze recess which will accommodate present type fuzes to include the variable time M96 fuze. At present, projectiles commonly known as "smoke shell," will accommodate only fuzes not having boosters or supplemental bursting charges.

(RESTRICTED)

VAN FOR SIGNAL REPAIR. - For purposes of providing an adequate place for proper repair and adjustment of delicate signal communication equipment, and for providing adequate storage facilities for such equipment when not in use and for necessary spare parts and spare batteries for signal equipment, it is strongly recommended that present T/O&E's for all types of Field Artillery Battalions be modified to provide for one van, Ordnance repair type, to be available to the Headquarters and Headquarters Batteries of all Field Artillery Battalions.

SOURCE: Command Report - 981st Field Artillery Battalion

DATE: March 1952

(RESTRICTED)

REPLACEMENTS. - A problem exists due to the loss and anticipated loss during the next two months of approximately 80% of the present strength. Personnel received to date are not trained or of the caliber to train rapidly to fill key positions such as clerks, personnel specialists, fire direction, survey, mess steward, supply, motor mechanics, and other technical qualifications.
The policy of not assigning personnel until the physical loss of personnel seriously handicaps the training of the new man. An untrained specialist should have at least one month training on the job prior to his relieving the assigned man. Also semiqualified personnel should have at least 2 weeks on the job training. Replacements have been received for critical MOS positions, with an ETS date less than 30 days after the ETS of the man presently holding the position. This does not allow the organization to consider such replacement as a fully qualified or a suitable replacement because he will not be able to serve sufficient time in this theater. This situation means that another replacement must be requisitioned for the MOS immediately. The policy of sending such personnel overseas in March 1952 with an ETS date in September 1952 is extremely wasteful, and gives a false impression of replacements being received.
OFFICE, CHIEF OF ARMY FIELD FORCES
Fort Monroe, Virginia

ATTNG-26 350.05/58(DOCI)(C)(16 Sep 52) 16 September 1952

SUBJECT: Dissemination of Combat Information

TO: See distribution

1. In accordance with SR 525-85-5, Processing of Combat Information, the inclosed EXTRACTS are forwarded to Department of the Army, Army Field Forces, and the service schools for evaluation and necessary action. It may be appropriate, in certain cases, for these agencies to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and often, the extracted item serves to reaffirm our doctrines and techniques.

2. Copies are furnished to other military agencies to keep them informed concerning theater problems from the front line through the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office downgrades each extracted item to the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.

4. Combat information EXTRACTS herein which are applicable to training at the company-battery level also appear in Army Field Forces TRAINING BULLETINS.

FOR THE CHIEF OF ARMY FIELD FORCES:

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(RESTRICTED)

ENEMY TACTICS. - A group of five to eight enemy efficiently executed a well coordinated raid on the outpost platoon of Company M, 223d Infantry Regiment, at 0330 hours on 13 April. The enemy group stealthily approached the friendly positions from the rear. Well-timed, point-blank burp gun fire killed the sentries simultaneously at their separated posts on either end of the platoon position; the enemy then moved quickly to individual personnel bunkers, simultaneously attacking six by hurling a grenade inside and immediately following the grenade explosion with bursts of burp gun fire. The enemy withdrew rapidly along the route used to approach the position. The enemy force was harassed during the withdrawal by belated machine gun and small-arms fire from the surprised friendly force. The efficiency with which this attack was executed shows careful reconnaissance and thorough orientation of each member of the enemy force. The stealth, craft, and patience exhibited by the group in its silent approach to the friendly positions, the coordination and the timing of the attack, and the smooth, orderly withdrawal attest to the high combat efficiency of this unit.

* * *

(RESTRICTED)

ENEMY AUTOMATIC WEAPONS. - Enemy patrols encountered continued to employ the high percentage of automatic weapons which characterized the armament of enemy units engaged previously.

(RESTRICTED)

ENEMY DEFENSE AGAINST TANKS. - 40th Division armor periodically assaulted enemy installations on raiding forays into enemy lines. Enemy reaction to these tank forays was immediate and intense; heavy concentrations of enemy mortar and artillery fire were received by the friendly armor and the enemy employed 57-mm recoilless rifle and the 3.5 rocket launcher for the first time against 40th Division tanks.

UNCLASSIFIED
DESIGNATION OF DIV TANK BN COMMANDER AS SPECIAL STAFF OFFICER. - It is recommended that current T/O&E and pertinent passages of FM 101-5 be amended to designate the commander of the organic tank battalion of the infantry division a special staff officer to advise the division commander and his staff on the employment of armor.

The addition of regimental tank companies and a tank battalion to the infantry division has suggested the need of such a special staff officer. The tank battalion commander would be an officer professionally qualified to act as a staff adviser in the same manner as the division quartermaster, engineer, and ordnance officers. At the present time in several infantry divisions it has become the practice to use the division tank battalion commander in this capacity. Amendment of the T/O&E to designate him as division armor officer, a member of the division special staff, would give official sanction to a practice already in existence.

SIGNAL LAMPS AS ALTERNATE COMMUNICATION. - Prior experience has indicated a need for an alternate emergency signalling method between outposts and the MLR. Preparatory fires usually destroy ground wire and the enemy has been known to locate and cut the wire prior to attacking an outpost. He has also been successful in jamming conventional radio circuits which prevents the outpost from calling for defensive fires. As an alternate method of communication, the Signal Lamp SE-ll was issued to all outposts. A simple code was devised for all prearranged fires and all outposts were required to use this method to actually call for fires at least once every three days. This developed proficiency and confidence among the men manning the outposts. It is an excellent emergency procedure.
105-MM RECOILLESS RIFLE. - A series of combat tests were conducted on the possible use, capabilities, and limitations of the 105-mm recoilless rifle. Two of the weapons were used, one being trailer mounted and the other on a 1/4-ton vehicle. Initially the weapons were used on bunker destruction missions at various ranges. Since all the targets were in enemy territory it was not feasible to examine the bunkers; however, from visual observation it appeared they had been destroyed. The size and maneuverability of the weapon limited the selection of firing positions. Due to the back blast, alternate firing positions are a must when the weapon is used in direct fire missions. The lethal effects are comparable to the 105-mm howitzer. The weapon can deliver a large volume of fire for front line troops, and appears to be an excellent weapon for neutralization and destruction of enemy bunkers, especially when a delay-type fuse is used.

SOURCE: Command Report - X Corps Artillery
DATE: April 1952

CASUALTY RATE FROM ARTILLERY. - Studies to determine the effect of friendly artillery fire on the enemy continued. The rate of 20 casualties per 1000 rounds was again determined and is considered to be a reasonable rate.

SOURCE: Command Report - 89th Tank Battalion (Med)
DATE: April 1952

TANKS ON THE MLR. - The tank-infantry team remains in existence with the tanks in the role of an armor-protected, direct-fire weapon, holding its position on the MLR with the infantrymen.

Several of the tanks in precarious positions on hillsides and on the tops of mountains are required to remain permanently in firing positions which are in sight of the enemy. To minimize damage to the tanks and to reduce the possibility of injury to crew members, considerable use of sandbags has been made to transform the tanks into virtual fortresses with trenches.
for entrances through the escape hatch. In spite of these precautions the armor plate has been bulged or partially ruptured on a few tanks which have received numerous direct hits by 120-mm mortar shells.

(RESTRICTED)

EFFECTIVENESS OF TANK FIRE ON ENEMY BUNKERS. - The enemy's construction procedures for bunkers and emplacements vary considerably and, consequently, it is difficult to establish a definite system for destruction. The purpose desired is to penetrate the outer wall which may be accomplished by using HE delay, APC, or HE w/concrete-piercing fuse; further destruction is accomplished by using HE fuse delay, HE fuse quick, and WP. For the initial penetration HVAP has been found to be the most effective; however, its use has been restricted to high priority targets which have proven to be a definite danger to friendly forces. The use of APC and HE w/concrete-piercing fuse has given excellent results and, with skillful gunnery, every emplacement can be engaged successfully. It is apparent that the ammunition available to the tanker is inadequate for the mission at hand and by using proper methods lucrative targets can be engaged and reduced.

(RESTRICTED)

TRAINING OF TANK CREW REPLACEMENTS. - A constant problem in tank units is the loss of trained personnel by rotation and the receipt of untrained replacements. To alleviate hardship on units and to eliminate the jeopardy of inefficiency in combat it is necessary to maintain a constant and vigorous training program. Fortunately, the present static situation facilitates the rotation of crew members from one position to another. It is also necessary to develop instructor type personnel who can train replacements quickly and thoroughly. In training programs it should be noted that frequently there is a tendency to teach men only enough to get by on the job. Whenever possible, detailed and complete instruction must be given to insure that prospective gunners are familiar with more details of gunnery than aligning the sights and pushing the firing button; that the replacement driver realizes that his duties do not consist of merely shifting and steering nor do they end with the stopping of the engine. The prospective tank commander must be made to realize that in addition to his responsibility for the mechanical functioning of his tank, he is also a commander of a tactical armored unit and must, as such, be responsible for its employment in the tank-infantry team.
AMMUNITION RESUPPLY FOR TANKS ON POSITION. - In muddy or mountainous terrain, wheeled vehicles are not always able to resupply ammunition to tanks on position and often times it is impracticable to resupply at a point which can be reached by wheeled vehicles. The personnel carrier, M-39, is not sufficiently maneuverable for this purpose.

The "Weasel" is highly maneuverable, has sufficient traction for steep inclines, and sufficient flotation to prevent excessive damage to roads and at the same time is capable of transporting necessary payloads without undue danger of becoming mired.

3/4-TON TRUCK FOR AAA AW BN (SP). - It is recommended that one 3/4-ton truck 4x4 weapons carrier be substituted for one 1/4-ton truck C&R in each battery throughout the battalion. This vehicle is required as an intermediate cargo and personnel vehicle. There are many instances where the 2-1/2-ton truck is uneconomically large for cargo and personnel requirements and the 1/4-ton truck is too small. It is believed that the 3/4-ton truck would eliminate intermediate load problems and permit the batteries to fully utilize their 2-1/2-ton trucks for efficient loads.

PERSONNEL FOR RATION BREAK-DOWN AAA AW BN (SP). - Recommend that T/O&E 44-76W be revised to include a ration breakdown enlisted man. In a self-propelled unit of this type with the batteries tactically employed over a wide area, it is a full time job to receive and deliver rations to all positions.

POWER CHARGER FOR MOUNT, MULTIPLE GUN, CALIBER .50. - It is recommended that a larger type power charger be standard equipment for Mount, Multiple Gun, Caliber .50, M45D, employed by this unit.
With the present power charger, it is sometimes necessary to deadline tactical weapons as a result of constant breakdowns.

(RESTRICTED)

SCR 399 RADIO FOR AAA AW BATTALION AIR WARNING SERVICE. - It is recommended that in addition to authorized T/O&E, one SCR 399 radio be issued for the purpose of implementing the battalion air warning service. The radio now being used for this purpose is the SCR 193 transmitter and the BC 652-A receiver. However, this radio is inadequate in both distance and frequency to reach our units in tactical locations and terrain frequently encountered in carrying out our mission, or to receive air alert warning direct from JOC. To overcome these obstacles of distance and terrain, a more powerful radio with greater frequency range is required. The SCR 399, which meets the requirements of range and frequency, is considered essential to properly implement our air warning service.

SOURCE: Command Report - 8th Field Artillery Battalion

DATE: April 1952

(COMPETEERED)

CLASSES IN SHELL REPORTING AND CRATER ANALYSIS. - The S2 Section conducted classes in Shell Reporting and Crater Analysis for the officers and noncommissioned officers of the battalion. All forward observers and liaison officers on the line were visited and special emphasis placed on accurate Shell Reports and Crater Analysis.

* * *

(CONFIDENTIAL)

USE OF BATTERY ONE ROUND FOR COUNTERFIRE. - A new procedure was set up in that all counterfire plots of the infantry counterfire team were fired on with a battery one round, provided that the plot did not come within 500 yards of the front lines, otherwise infantry mortars were requested to fire on it. All 2-pip radar plots were fired on by the artillery. The counterfire plots and both 1-pip and 2-pip radar plots were forwarded to division artillery headquarters for evaluation and checking on their countermortar chart. The majority of radar plots received were from the left and center section of the regimental sector as the right section has a great deal of clutter when the radar is swung on that area. Many of the counterfire plots
are fairly close, ranging only two or three thousand yards from the front lines, while the radar plots ranged from 1,000 to 8,000 yards in front of the MLR.

* * *

(RESTRICTED)

AMMUNITION ALLOTMENT. - During period daily allotment of ammunition was changed from 540 rounds to 360 rounds per 24 hour period.

RECAPITULATION

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POWER UNIT FAILURES IN RADAR SET, AN-TPQ/3. - On 22 February 1952 the radar section moved into its present location. During the following four days fourteen mortar locations were plotted. On 27 February the power unit P11/21/II, supplying the radar set AN-TPQ/3, failed. It was not until 8 March that the radar was back in operation. Very few difficulties were encountered again until 16 March, when the power unit failed once more resulting in a three-day nonoperational period. During 17-18 April the radar was nonoperative due to control unit failure.

Since 23 February the procedure followed was the same as that stated in January's command report, namely: operation only upon call. Unfortunately, as stated in the previous report, when operating upon call many rounds are fired before the radar is put into operation.

Since occupying the present position 156 mortar locations have been plotted. The locations are further broken down as follows:

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Of the 67 days in the radar's present location the radar set has been operative 50 days, excluding minor repairs resulting in two 5-hour delays.

It is recommended that every effort be made to make available to the light field artillery battalions, the newest radar sets which are far more accurate, more reliable and capable of 24-hour operation. The radar set which is authorized under present T/O&E is the AN-TPQ/10. The set which is presently being used in lieu of the AN-TPQ/10 is the AN-TPQ/3.

SOURCE: Command Report - 45th Division Artillery
DATE: April 1952

(CONFIDENTIAL)
RADAR. - Radar fixes during the period were handicapped by the fact that the division artillery has only two radar sets, both the outmoded, substandard, substitute item AN-TPQ/3, and continuous operation of these sets is rendered difficult because of continuing mechanical failures.

SOURCE: Command Report - 17th Infantry Regiment
DATE: April 1952

(RESTRICTED)
PRIME MOVER FOR 4.2-INCH MORTAR. - Past experience has proven the 3/4-ton, 4x4, truck with 1-ton trailer inadequate as a prime mover for the 4.2-inch mortar. Cross country mobility is extremely limited, and in mud or snow the vehicle is virtually helpless. This vehicle is difficult to maneuver on narrow roads and defiles. The trailer makes it impossible to effect a turn around in close or cramped areas unless the trailer is unhitched.

It is felt that a 2-1/2-ton, 6x6, would be much better suited as a prime mover for the 4.2-inch mortar for the reasons indicated:

a. Greater cross country mobility.

b. Greater maneuverability due to lack of need for trailer.
c. Increased weight capacity affording more comfortable accommodations for gun crew and increased number of rounds of ammunition on the vehicle.

d. More rugged construction would withstand stress and strain of operations over difficult terrain and necessitate fewer replacements.

RECOMMENDATION: It is recommended that T/O&E 7-14N (26 Mar 48), as amended, be changed to authorize issue of truck, 2-1/2-ton, 6x6, in lieu of the currently authorized truck, 3/4-ton, 4x4, with 1-ton trailer.

SOURCE: Command Report - 981st Field Artillery Battalion

DATE: April 1952

(RESTRICTED)

ARTILLERY RECOMMENDATION.

a. That any unit faced with the prospect of the loss of key personnel due to ETS or termination of National Guard status be authorized an over-strength at least forty-five days prior to date of departure; this period to be used to train the personnel and to orient them by on-the-job training in order that there will be no loss of combat efficiency.

b. That the T/O&E be changed to authorize clerk typist for the S2 and S3 section to facilitate submission of reports and schedules, and to accomplish necessary administrative details.

c. It is recommended that a strict property accounting be required of all combat units and that the barter system be eliminated from supply channels.

d. On all 155-mm howitzers M1A1 and M1A2, equipped with recoil mechanism M6A1 and M6A2 it is suggested that the counterrecoil regulator valve in the counterrecoil and recuperator cylinder headbox be modified to include an adjusting mechanism, located above and outside of the counterrecoil regulator valve. This adjusting mechanism should be constructed so as to permit changes in the orifices of the counterrecoil regulator valve. It is believed that this will help eliminate the necessity for changing recoil oils periodically throughout the year due to climatic changes in the weather. It is further suggested that this adjusting mechanism which could regulate the orifices include an index setting for various temperatures,
thus giving greater protection during the periods of the year when temperature changes from day to night are great. This further regulation of the counterrecoil regulator valve would give a smoother return to battery of the recoil mechanism M6 at all temperatures.

SOURCE: Command Report - 31st Field Artillery Battalion
DATE: April 1952 Source No 467

(REstricted)
RELIEF IN COMBAT. - Recommend that the tactical training at service schools emphasize the planning and coordination necessary for the successful relief in combat by artillery units.

SOURCE: Command Report - 7th Infantry Division
DATE: March 1952 Source No 468

(REstricted)
ANGLE BLADES FOR DOZERS. - It is recommended that dozers be equipped with angle blades for operation in Korea. Most of the dozer work is that of road building. Since approximately 75 per cent of all roads built are side hill cut, the angle is a decided advantage over the bull blade. A dozer fitted with an angle blade can easily do work normally done with a bull blade. A bull blade is considered inefficient and too slow in accomplishing work normally done by an angle blade.

(REstricted)
UTILITY PERSONNEL FOR ENGINEER COMBAT BATTALION. - It is recommended that a utility section or utility repair team be added to headquarters and service company of the engineer combat battalion. The engineer battalion is constantly being called on and expected to paint signs, repair generators, refrigerators, and other items of issue. No qualified personnel are provided to do this work and with the coming of warm weather, repair of refrigerators will greatly increase. The carpenter shop and paint shop of the battalion S3 section cannot cope with these specialized repair jobs.
REQUEST FOR ADDITIONAL PERSONNEL IN AIR SECTIONS. - It is recommended that in order to obtain constant surveillance of a division sector, additional aircraft, pilots, observers, and maintenance personnel be authorized in the T/O&E of divisional units. It has been our experience in Korea that such surveillance is not only desirable but necessary to insure that large groups of enemy, supplies, and equipment are not moved forward in preparation for an attack. This is not unique in Korea, but reflects the trend towards use of air observation to an extent far beyond that originally envisaged. From the status of an auxiliary means of observation when conceived in the early 1940's, air observation has become one of our prime intelligence agencies. Its full utilization cannot be realized under current authorizations.

STATUS OF REPLACEMENT TRAINING. - Numerous enlisted replacements received are not considered to have been trained satisfactorily as combat soldiers. Also, because of indiscriminate and unwise changes in MOS, enlisted personnel occupying key operational jobs have often been unsatisfactory. Replacements also show that they have not received sufficient practical field training and small unit training. They are unfamiliar with, and not inured to, the rigors of combat conditions. This lack is especially noticeable in the ability of the individual to take care of himself in every day life in the field.

Recommend that the following subjects be stressed in training centers to correct above deficiencies: sanitation, wet weather training, care of the feet, physical conditioning, and care and maintenance of weapons and equipment in the field. Small unit training - squad and platoon problems and patrolling - should also be emphasized. An individual finishing basic training should be able to live in the open under all conditions of weather and climate.
for a long period of time. He should have the tactical "know how" and stamina to be able to take care of himself under those conditions and still carry the fight to the enemy. In short, it is recommended that a more careful screening and assignment of personnel assigned to infantry units be accomplished.

SOURCE: Command Report - 7th Infantry Regiment

DATE: April 1952

(RESTRICTED)

ANGLE DOZER FOR INFANTRY REGIMENT. - There is an urgent need for an organic D-7 angle dozer in the infantry regiment. D/S Engineer dozers are not always available for doing work of high priority.

SOURCE: Command Report - 25th Infantry Division

DATE: April 1952

(RESTRICTED)

OBSOLETE EQUIPMENT. - Throughout the war in Korea, all organizations have been required to utilize vehicles and equipment handed down from World War II. Although this may have been planned originally in the best interests of national economy, it should be pointed out that long continued use of rebuilt vehicles and obsolescent equipment is not as economical as it may appear. The mountainous terrain of Korea, unimproved roads, and extremities of climate exact a heavy toll of even the most durable machinery. Old and rebuilt vehicles and equipment require excessive maintenance, imposing an almost insurmountable handicap on unit motor pools and technical services, which have had to operate with few trained mechanics. Handicaps of this nature seriously impair the operational efficiency of all units.

It is recommended that consideration be given to re-equipping units in combat with new and modern vehicles and equipment. This consideration will be doubly important if the war in Korea should enter a more active phase.

(RESTRICTED)

SNIPERSCOPE USE. - In view of a proposal to eliminate sniperscopes from the T/O&E, units of the division were requested to submit comments.
UNCLASSIFIED

Unit replies did not favor removal of the sniperscope from the T/O&E, stating that the sniperscopes were being used to great advantage in detecting enemy attempts to breach minefields, cut wire, and ambush listening posts. The sniperscopes were also helpful to night ambush patrols. Faults of the night-viewing instrument cited were difficulties of maintaining its delicate parts, short range of its beam, weight and cumbersome nature of power pack, and problem of keeping batteries charged. This headquarters recommended that the sniperscope be retained in the T/O&E.

SOURCE: Command Report - 40th Infantry Division Artillery

DATE: April 1952

(COUNTERBATTERY SYSTEM. - The sound base section of Battery C, 1st Field Observation Bn, has experienced difficulty in evaluating explosions due to the mountainous nature of the terrain and the echoes therefrom. This distortion and the resulting inaccuracies of location have been partially overcome by the "sound-on-sound" method of adjustment which introduces the same distortion into the burst location that exists in the location of the hostile weapon. We have been able to expedite procedures in this connection by laying direct lines between the 155-mm battalions and the sound base. Friendly wire-salvaging operations have frequently interrupted the use of the sound base, but all wire crews operating in the sector are being furnished with line-route maps of the sound-base wire system to prevent this.

DIVISION ARTILLERY T/O&E CHANGES. - While not provided with sufficient personnel by the T/O&E and apparently not intended to operate as an administrative headquarters, a divisional artillery headquarters should be implemented with additional administrative personnel upon entry into combat. The administrative load of this headquarters was sharply increased upon entry into combat. The physical separation of the personnel sections of the division artillery organizations and units, the administration connected with the processing of decorations and awards, battlefield appointments and battlefield promotions of officers, the handling and accounting for post exchange supplies, and the varied and voluminous reports peculiar only to a combat situation are but a few of the contributory causes. A recommended implementation for division artillery headquarters would be one warrant officer MOS 2200 and four clerk typists MOS 4405. This suggested implementation would allow two extra clerks for the operations section (S2 and S3), one additional
for the forward administrative echelon, and one additional for the administrative rear. The warrant officer would be utilized to supervise and coordinate the efforts of the personnel sections.

(RESTRICTED)

OFFICER REPLACEMENTS. - Officer replacements have for the first time started to arrive in quantity. The great majority of these have been well qualified and have had recent service school training. Worthy of note, however, is that a few officer replacements have been received who have only three or four months maximum Korean service potential, due to an early expiration of category. Specifically these have been ORC category IV-17 or IV-24 officers. It is considered to be a waste of manpower to ship such officers to the combat zone.

(RESTRICTED)

COUNTERMORTAR RADAR. - Two additional countermortar radar sets are needed very badly in the 40th Division Artillery. The MLR, where a large percentage of enemy mortar rounds are received, is heavily mined, which prevents adequate crater analysis. Additional countermortar radar sets would make possible the location of enemy mortars which now go undetected because of the impossibility of obtaining crater analyses in mined areas. A continuous effort must be maintained with pressure on all concerned in order to get complete information on shell reports. The azimuth from which the shell is suspected of coming, the most important single piece of information, is all too often lacking. All troops, especially infantry, should be taught the importance of this information, and how to obtain it during basic training.

(RESTRICTED)

ARMY AIRCRAFT - MOSQUITO COMMUNICATION. - A system of communication between Army aviators and mosquito pilots through the medium of a common "Joint Scene of Action Channel" has been worked out and communications checks have verified the ability of present equipment to establish contact. Control of the common channel remains with the FSCC, and the communication net will be opened under the following conditions: When more fighters arrive than the mosquito can handle and it is advisable to direct part of them to another target using army aviator control; when army aircraft can assist in rescue operations; when army aviators can prevent strikes on or near friendly troops; and when the mosquito is forced to abort a mission and an army aviator can take over direction of the fighters.
Since alignment of radios in the army aircraft on the "Joint Scene of Action Channel," no occasion has arisen for its use; but if properly controlled, the ability to establish direct communications between army and mosquito aircraft will no doubt assist the FSCC in maintaining more complete control of strikes.

SOURCE: Command Report - 40th Infantry Division, Artillery

DATE: March 1952 Source No 474

(BRESTRICTED)

BATTLEFIELD COMMISSIONS. - A partial solution to the replacement of junior officers will be found in the battlefield appointment of some outstanding noncommissioned officers as second lieutenants. Many outstanding enlisted men turn down this opportunity, however, due to the long service commitment which they must make at the time of acceptance.

(BRESTRICTED)

WIRE LAYING BY ARMY AIRCRAFT. - Early in March the 981st Field Artillery Battalion in the course of establishing a target area survey base was faced with the problem of intercommunication between the ends of this base, each located on precipitous peaks separated by almost inaccessible terrain. To solve this problem it was decided to attempt to lay wire by army aircraft. The initial attempt carried out on 3 March using improvised equipment failed, but was followed by a successful effort on 6 March utilizing the wire laying kit described in Training Circular 25 (1951).

SOURCE: Command Report - 980th Field Artillery Battalion

DATE: April 1952 Source No 475

(BRESTRICTED)

COUNTERFIRE TEAMS. - One item of interest and a matter of serious concern was exposed during a period in which enemy hostile artillery batteries were extremely active. Enemy batteries were located well to their rear and in positions which were previously unreported. Counterfire teams with regiment and countermortar-radar teams with corps were operating, but fires obtained on enemy weapons were not being reported in time for effective counterbattery fires to be placed. Accordingly, enemy batteries
had sufficient time to shell friendly positions for a period and then displace to other prepared positions.

This situation was countered by establishing closer liaison with regimental counterfire teams, thus providing for immediate reporting of all fires obtained by them. However, it is felt that the provisions for obtaining information of hostile batteries and mortars located by radar and sound bases are inadequate insofar as speed of reporting is concerned.

SOURCE: Command Report - 625th Field Artillery Battalion
DATE: April 1952

(RESTRICTED)
SHELL FRAGMENT ANALYSIS. - A "Fragment Board" has been started showing types of shrapnel and their identification. The board is used for speedy identification of fragments, their description either being phoned in or brought in by observers. This collection is rapidly growing through the efforts of many of the front line units of the division which have sent in fragments after their identification has been made. Classes have been held by the S2 in crater and fragment analysis for the liaison sections and forward observer parties.

(RESTRICTED)
ARTILLERY LIAISON. - Periodic visits to all OP's were made by both the S2 and intelligence sergeant for on-the-spot target information and critiques. It has been found that these on-the-spot talks with the FO's are extremely valuable. Small items of seemingly unessential information gathered from the FO's who would otherwise never have mentioned them, when collected and evaluated, have netted many returns in verification of enemy weapons and installations.

SOURCE: Command Report - 91st Military Police Battalion
DATE: April 1952

(RESTRICTED)
MP TACTICS. - The battalion also assumed the extra detail of the Dog Victor Team. This team is composed of one officer and twelve enlisted
men, operating an armored 2-1/2-ton truck, and a half-track with a M16 gun mount. The truck is armed with five machine guns. Purpose of the truck is to patrol on the MSR, north of Pusan, during the hours of darkness, followed by the half-track, at about a half mile interval. If the truck is attacked by guerillas, the personnel on the truck are to engage the guerillas in a fire fight until the half-track is able to move in and neutralize the attack.

SOURCE: Command Report - 578th Engineers Combat Battalion

DATE: April 1952

(RESTRICTED)

PROTECTION FROM ATOMIC ATTACK. - Field Fortifications.
Approximately 25 per cent of the battalion effort was expended on "Operation Mushroom," the preparation of certain divisional units for passive protection against an atomic attack. The operation required the combined effort of Company C, and considerable staff planning for the entire period. The scope of the operation can better be visualized when the estimated cost is considered, based on labor and materials expended. The following approximate figures indicate to some extent the scope of Operation MUSHROOM.

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>U. S. Man Hours</td>
<td>1,548</td>
</tr>
<tr>
<td>K. S. C. Man Hours</td>
<td>2,169</td>
</tr>
<tr>
<td>Equipment Hours</td>
<td>819</td>
</tr>
<tr>
<td>Earth Excavation</td>
<td>35,000 cu yds</td>
</tr>
<tr>
<td>Sand Bags</td>
<td>93,000</td>
</tr>
<tr>
<td>Lumber</td>
<td>52,023 bd ft</td>
</tr>
</tbody>
</table>

Upon completion of the project, the division will have twenty-four structures offering varying degrees of protection against atomic attack. Total estimated cost for protection offered is $183,000.00.
ROAD RECONNAISSANCE. - A road classification system proposed by The Engineer School was utilized by three reconnaissance teams on the same route in order to determine if it resulted in greater uniformity in reporting than the existing system. Four factors were considered in the proposed classification system: alignment, drainage, foundation, and surface, and each was rated as good or poor. This classification of a road is expressed as a fraction with good items in the numerator and poor items in the denominator. Example, $\frac{SF \ W20 \ F}{AD \ R \ 0 \ mi}$. This describes a concrete road 20 feet wide, eight miles long, with a good surface and foundation and poor alignment and drainage. The reconnaissance results indicate that this system is superior to our present road classification system in that it is easier to remember and results in more uniformity of reporting by various units.

SELF PROPELLED 8" HOWITZER. - The 8 inch howitzer has proven itself to be one of the most versatile and popular artillery weapons in Korea. Its accuracy plus its heavy punch has made this piece the main threat to Chinese bunkers and dug-in artillery emplacements. Because the one 8 inch howitzer battalion in I US Corps, Artillery, is in such demand, the firing batteries, or individual pieces, displace often and move to forward areas for direct fire on bunkers, or to gain additional range in order to attack hostile batteries. The 17th FA Bn has had two additional 8 inch howitzers, both being self propelled. The organic weapons of the battalion are towed.

Recommendation. - It is recommended that consideration be given to replacing the 8 inch towed weapons with the 8 inch self-propelled type. The rapidity of displacement, the ease of shifting to new azimuths and the overall gain in mobility are of such advantage that the slight decrease in traversing and elevation characteristics of the SP are of little consequence.
(RESTRICTED)
D-8 BULLDOZER FOR HEAVY ARTILLERY BATTALIONS. - It is recommended that a D-8 bulldozer with a 23-ton lowboy and tractor for transporting of this D-8 be authorized as a T/O&E item in heavy artillery battalions. The versatility of the bulldozer and its need and constant use here in Korea for road pioneering and the digging of gun emplacements and fortifications has made it a virtual necessity.

(RESTRICTED)
TI&E PERSONNEL. - The importance of the Army Education Program and TI&E work is well known. In Korea, however, the stabilized war and the absence of normal civilian distractions, has caused the TI&E program to take on a role of much more potential importance than is commonly appreciated. The battalion TI&E officer normally has primary duties which demand most of his time. Of necessity most of the actual work falls to the battalion TI&E NCO.

Recommendation. - In order to help the enlisted TI&E assistant in the performance of his job and to furnish added incentive, and thus more efficiency, it is recommended that current T/O&E's be changed by authorizing the grade of Sergeant (E-5) instead of Corporal (E-4) for the position of battalion TI&E NCO. It is further recommended that personnel be screened and where interest and talent are shown along TI&E lines, that such personnel be sent to an Army TI&E school. Further, it is recommended that one such school trained individual be assigned to each battalion as full time TI&E NCO.

* * *

(RESTRICTED)
REQUIREMENT FOR ILLUMINATING AMMUNITION. - It is recommended that the percentage of basic load prescribed for 155-mm illuminating ammunition be increased no less than 50 per cent to at least 1.5 per cent of basic load. This is due entirely to the type of combat presently being waged in this theater.

SOURCE: Command Report - 224th Infantry Regiment

DATE: April 1952

(RESTRICTED)
COUNTERFIRE PLATOON CHANGE. - Under present T/O&E, the counterfire platoon is a part of headquarters and headquarters company.
It is recommended that the counterfire platoon be attached to the heavy mortar company for the following reasons:

(1) The heavy mortar company is the regimental organic weapon that could most efficiently utilize counterfire information. Best possible coordination could be obtained with counterfire squads if they were under direct control of heavy mortar company.

(2) Heavy mortar company has fire directional control personnel who could more accurately plot counterfire information because of more accurate instruments, and eliminate the need for plotters in the counterfire platoon.

(3) A BD-71 presently being used by counterfire could be eliminated and wire from counterfire squads to heavy mortar fire direction control could be eliminated thereby saving time consumed in laying and maintaining this wire.

(4) A sufficient saving in personnel would be effected to enable all counterfire equipment to be utilized to the fullest extent and also allow for rotation of counterfire personnel on line.

SOURCE: Command Report - 72d Tank Battalion
DATE: April 1952

(RESTRICTED)

TRAINING OF TANKERS. - Recommend that tankers of battalion size units be instructed in bunker construction. Recommend further that tankers be trained in observation of enemy terrain and be trained more thoroughly in true reports of enemy strength and capabilities. The tanker when in the line with infantry has a tendency to exaggerate and make claims which are not probable. Recommend that infantry-tank companies be allowed to operate in housekeeping and maintenance periods as set forth in armor techniques and not as outlined by the infantry commander. The performance of vehicles in the infantry companies compared to ours left much to be desired.
INFANTRY-ARTILLERY TEAMWORK. - It is recommended that infantry personnel receive more intensive indoctrination in the information requirements necessary for field artillery operations. Such a program would result in even more effective fires on targets which are obtained by intelligence data alone.

M16 BREAKDOWNS. - Many M16 track axles, rear-ends, and differentials are breaking down. We have tried to analyze the cause and believe it is due to overloading. This overloading can be attributed to 10,000 rounds of ammunition, armor vests and shields, combined with rugged, arduous grades negotiated under rough and muddy conditions. Recommend that Ordnance make a study of the drive train to consider the possibility of having the manufacturer strengthen the parts involved.

SCR 528 RADIO. - The SCR 528 radio, FM and normally a line of site set, has proven very satisfactory in varying terrain. Under present weather conditions, when operating in boxed-in canyons or through precipitous hill mass areas, the transmission reception has been excellent.

EFFECTIVENESS OF COUNTERFIRE Platoons. - The counterfire platoon remained active in locating, plotting and reporting enemy mortar and artillery pieces during the early part of the period. Its efforts contributed to the silencing of the enemy mortar and artillery pieces during the period.
BUNKER CONSTRUCTION BY ASSEMBLY LINE. - While working on line it was found that assembly line methods of bunker construction were best suited to the situation. With this in mind, detailed plans of bunkers were drawn and a bill of materials prepared for a typical bunker. The men were assigned within each company, into crews, which included log cutting and sizing crews, excavating crews, bag-filling crews, and construction crews. This plan greatly decreased the amount of time required to construct the fighting positions.

SOURCE: Command Report - 279th Infantry
DATE: March 1952

PATROLLING. - While the Raider Platoon is considered valuable for special missions, it is now felt that normal infantry platoons with proper help from the battalion and regimental staff can be equally effective.

It is imperative that patrolling be active and aggressive so that "no man's land" can be dominated.

Errors made are: allowing patrols to withdraw as soon as small arms contact is made; plans not well enough thought out nor understood by the participating troops; leadership not aggressive enough; too much reliance being put on the supporting arms during darkness.

SOURCE: Command Report - 25th Division Artillery
DATE: April 1952

PROPAGANDA SHELLS. - At the present time, psychological warfare is generally planned and directed by a higher headquarters than division. Division artillery is frequently called upon to implement such propaganda programs through the firing of propaganda artillery shells into enemy positions. Division artillery is directed by division G3 to have the direct support battalions draw propaganda shells by code number, which contain leaflets.
with a specific theme. We are given the time and targets for the rounds to be fired. There are many occasions when propaganda shells could be very effective on targets destroyed by artillery fire or air strikes. Enemy in vicinity of these areas would have a first-hand knowledge of UN firepower. Propaganda shells with the theme of UN firepower, safe conduct, or treatment of wounded, if fired in the vicinity of such areas at a propitious time should be most effective.

It is recommended that a supply of propaganda shells (with appropriate themes) be available in each direct support battalion, for use at the discretion of Division Fire Support Coordination Center and to be fired at targets of opportunity.

(CONFIDENTIAL)
DESTRUCTION OF ENEMY ARTILLERY AND MORTAR POSITIONS. For the past seven months, North Korean and Chinese Communist Forces have continuously improved and perfected their fortified positions along the present line of contact. The enemy has not organized a main line of resistance similar to our defense line. Instead, the enemy is generally emplaced in fortified positions on advantageous, critical terrain features in considerable depth.

Installations, including artillery and mortar positions, personnel shelters, supply dumps, and command posts are well dug into the sides of hills, bunkers, tunnels, and caves; fortified with layers of heavy logs, dirt and rocks; and camouflaged with natural materials. Aerial observation and photo interpretation reveal thousands of such positions in the 25th Division Sector. Because of the great numbers of such positions, and because of the use of dummy and alternate positions by artillery and mortars, it is virtually impossible to locate active enemy weapons unless the flash or smoke from firing is seen by an observer.

When an active position is located, massed fires of light battalions generally prove effective in temporarily silencing enemy fire. Destruction of these positions, however, is not possible with light artillery. Medium or heavy artillery fires must be called in for destruction. Even with heavy artillery, only direct target hits are effective, and PW reports indicate that only our 8-inch howitzer projectiles are really feared by the enemy. The counterfire mission is rendered even more difficult by the enemy tactic (as reported by PW's) of storing artillery and mortar pieces deep in caves, tunnels, and bunkers, bringing them out only when actually firing, and returning them to safe storage at the first sign of UN aircraft or artillery fire.
Artillery countermortar radar plots, infantry counterfire plots, and crater analysis azimuths prove helpful in determining active enemy mortar and artillery areas. Because of the large number of possible positions in any given area, however, it is usually difficult to find the weapons themselves. It is thus necessary to hit a number of positions in order to silence an active weapon.

For these two reasons, i.e., difficulty of location and difficulty of destruction, current allocations of medium and heavy artillery ammunition have proved inadequate. Moreover, the bulk of enemy artillery is deployed beyond the range of UN light artillery and can only be hit by medium or heavy artillery, either for neutralization or destruction. Numerous active positions have been discovered beyond the range of medium artillery, and even beyond the range of the 8-inch howitzers. With limited medium and heavy ammunition allocated, it has become impossible for the artillery to permanently silence enemy artillery or mortars so as to reduce the volume of enemy fire falling in the division sector, particularly that which falls on the MLR.

Every effort has been made to conserve heavy and medium ammunition. It is SOP that heavy (155-mm gun and 8-inch howitzer) ammunition will not be expended on personnel targets of less than 100. Medium artillery is not expended on personnel targets of less than 25. Neither medium nor heavy artillery is used on personnel targets within range of the light artillery. For enemy artillery and mortar positions within range of the light battalions, adjustment is begun with the 105-mm howitzer, switching to medium or heavy artillery only after adjusted coordinates have been obtained. To increase the range of the mediums and conserve heavy ammunition, one battery of medium artillery is displaced forward during daylight hours.

Division artillery is presently authorized to expend 144 rounds of medium artillery per day with an organic battalion, and a like amount with a corps G/S medium battalion. Other corps supporting units are authorized to expend on observed missions in our sector, 56 rounds of 8-inch howitzer and 56 rounds of 155-mm gun ammunition from their daily allocation. Tactical air has been used almost exclusively on artillery and mortar targets, averaging one or two air strikes daily when weather is operational. Nevertheless, this effort has failed to adequately suppress enemy fire. Only a greatly increased expenditure of medium and heavy ammunition and more efficient means of locating enemy artillery and mortars will be effective.
UNCLASSIFIED

SOURCE: Command Report - 64th Tank Battalion (Med)

DATE: March 1952

CONFIDENTIAL

SHORTAGE OF SPARE PARTS FOR M46 AND M46A1 TANKS. - Recommend that action be continued and emphasized reference procurement of the following critically short parts for M46 and M46A1 tanks: oil cooler fan assemblies; shock absorbers; final drive units; and proper spark plugs for the A1 tank. It is believed that the using unit should be provided these parts without the long delay that has been encountered. These parts are known to be essential and some are known to incorporate recurring failures, but are still not made available to this unit in necessary quantities. Experience has established the fact that this unit reasonably should have a stock-on-hand of three left and three right oil cooler fan assemblies, thereby precluding the unnecessary deadlining of tanks for simple, recurring oil cooler failures pending delayed receipt of parts or rebuilding by cannibalizing within the battalion. Likewise, shock absorbers and spark plugs should be made available based on experience gained in Korean operations. The maintenance record of this unit has proved that the M46 tank can be worked hard daily and kept operational if the proper replacements parts are provided.

SOURCE: Command Report - 1st Cavalry Division

DATE: November 1951

RESTRICTED

DISCUSSION AND RECOMMENDATIONS. - For purposes which I deem fundamentally important - when considering the operations of a combat division, and because to do the contrary would amount to a piece-meal approach to any subject - I have decided to devote the entire discussion for this monthly command report to signal operations in this division. By so doing, I may be able to bring to light certain problems encountered here, our solutions, certain techniques that we have developed, and lastly, recommendations which, though basically stemming from operations here, would in most instances, if adopted, improve over-all divisional signal operations.

For purposes of simplicity this discussion is divided into two principal parts: first, Communications at Divisional Level; secondly, Tactical Communication.
1. Communications at division level.

a. Doctrine. - Our operations here in Korea have proved the soundness of signal communication doctrine. However, if approached as a hard and fast rule, the violation of which results in catastrophe, then doctrine is misinterpreted and will be criticized as being unsound. We were well aware of this possibility and, having to base our plans and actions on the exacting demands of unfamiliar terrain and conditions, we nevertheless sought to conduct our signal operation as based on doctrine from the very beginning. Our approach to every situation was based on practical application of the doctrine, considering always its broadly intended scope, envisioning at the same time the gradual developing of this doctrine by the experience of men and units.

b. Organization and equipment. - Improvement and expansion of facilities must always be sought regardless of the limitations imposed by our sometimes restrictive T/O&E. Pursuing this thought, this division installed a corps-type switchboard (TC-2) in an especially constructed van. Conditions of our operations necessitated this move. The board not only improved the quality of the telephone service but increased the efficiency to a point where some 26,000 calls are handled weekly. Similar increases in the size of the artillery and infantry switchboards were also made prior to this installation. When considering that our demands did not increase measurably with the new installations, it was hard to believe that previous operations had been conducted with the T/O&E specifications. The demand was ever present, our equipment unsuited to meet the demand. The result: increased efficiency.

At the same time we have found that many items of additional equipment have been authorized without a corresponding increase in repair and maintenance and always without an increase in T/O&E personnel - our scarcest item. Along this vein, it would be of great value to have cellular type radio and wire repair teams complete with equipment for attachment to division signal companies as required. It has also been noticed at division artillery and regimental headquarters that the need for a standard repair truck is pressing. A signal corps type repair van as organic TE equipment would solve this problem.

While on the subject of equipment, it might be well to mention the VHF equipment now authorized and used between division and division artillery command posts. This VHF system not only backs up our wire systems but affords an alternate and complementary system should the infantry system be damaged or destroyed.
VHF radio and teletype equipment has more than earned its cost during this campaign. Through a process of minaturization of equipment, it should be possible to eventually furnish VHF service between infantry regimental and battalion command posts, and between division artillery and its battalions.

To make the best possible use of such a complementary communications network a continuous program of education for commanders at all levels is required. Further, it seems that this educational process could well be inaugurated at our various service schools so that a second nature to utilize alternate ways of communication is developed.

I may mention here one suggested change to the T/E for the division reconnaissance company. During recent operations it has been necessary to employ the division reconnaissance company either as a separate task force or as a rifle company in support of an infantry battalion. In either case it has been necessary to send liaison radios to the units it supported. Later a SCR-500/608 combination radio truck was procured for their use. It seems that their organic T/E should include infantry-type radios (AN/GRC 9 and SCR 608) enabling them to work into appropriate nets where and when required and thence to supported infantry battalions.

c. Utilization of Signal Corps officers in combat units. - We have successfully used Signal Corps officers with our division artillery, infantry regiments, tank battalion, and engineer battalion. Without exception my subordinate commanders applaud this use. There should be more effort to have the communications officers' slots in the combat arms filled by qualified Signal Corps officers. It has been noted that many artillery and infantry communications officers stay in the communications field for many years at a time, thereby lessening their value as platoon, company and battery commanders. Since such is the case, it would seem highly plausible to assign technically trained Signal Corps officers to their slots, thus greatly reducing the requirements for such officers from the basic combat arms, i.e., infantry, artillery, and armor.

The above does not encompass discontinuing the communication training of combat arms officers. In fact, the extension of this phase of training must be sought after. In substituting infantry, armor, and artillery by Signal Corps officers as communication officers, we permit these officers to perform their primary duties. Since they are the ones who use the equipment, whose mission is dependent on the communication system, and who quite frequently must plan the system based on the advice of technically
trained communications officers, it is fundamentally important and profoundly necessary that our combat arms officers extend their technical knowledge of signal equipment and its use and gain technical proficiency by every means available: unit classes, field training, and service schools. To carry this further, all officers and EM, members of combat units, must become communication minded. A mere working knowledge of field phones and radios is not enough. Quite frequently, using an infantry rifle company as an illustration, the communication section has basically trained EM communication personnel; at the same time, the company officers are not trained. The results: poor communication even under the best of circumstances; usually no communications when needed most.

By using Signal Corps officers as battalion and regimental communication officers, we will, I think, give stability to these sections. It is now difficult to do this where combat arms officers are used. Why? Because, as a result of casualties and shortage of replacement officers, it is frequently necessary to use these officers in their primary duties. This results in constant change and the tendency is for all commanders, when the need exists for replacements which are not immediately forthcoming, to use those available serving in other jobs but on the scene as combat replacements. Constant confusion results. We can never expect the Signal Corps to furnish our communication officers below battalion level and actually below this echelon they are not needed when the company and battery officers are properly trained.

d. Use of Army aircraft by Signal photo section. - The frequent use of the division army aircraft (L-19) for photo missions has all but reserved one specially equipped L-19 for use by the division photo section of the signal company. This would indicate that possibly two Army aircraft should be organic to the signal company - for photo missions and for rapid messenger courier service. The efficient use of aircraft (L-19, L-17, and helicopters) was strikingly borne out during a period of high flood waters experienced by this division.

e. Signal operations instructions. - It has been noted that a majority of the SOI items are standard throughout the Department of the Army (panels, codes, authentication tables, etc). It involves a matter of reproduction of these items at each subordinate level down to regiment. I have wondered whether it would not be feasible to have sufficient copies printed at army level and distributed to all using subordinate units. This could be done at an army printing plant; would insure standard form and distribution and save the subordinate units time, effort, and materials. This system is presently being used very successfully in the AFSAL and OPCODES and could readily be enlarged to encompass other commonly used items.
2. Division tactical communication:

a. Use and installation of alternate wire lines. - Little need be said about the futility of control if wire lines are destroyed. So frequently, once wire lines are destroyed, control ceases and distance combined with adverse terrain prevents rapid restoration of lines and communication by other means. Our operations have impressed on us the necessity of alternate wire lines. Note that the work "line" is pluralized. I mention this lest the reader think that only a primary and one alternate in every situation is proposed. Nothing could be, of course, further from my proposition. Depending on the situation, time available, equipment, and eventual urgency of communications - always projecting ourselves for extreme eventualities - these things should determine the number of lines that we lay. For example: a small unit (platoon or company) is constituted as a patrol base, which is so common in Korea, and operating well forward of the MLR, or units on an OPLR, or even units on the MLR where wide gaps exist between units. Certainly in these instances any number of lines are necessary and should be so laid with the above enumerated conditions acting as our only deterrents.

These alternate wire lines should be laid over different routes, overhead whenever possible, and laid to avoid well travelled areas. This last recommendation, though difficult, has been accomplished in Korea and should always be followed when laying wire to a patrol base or OPLR. At the same time, lay the wire as nearly perpendicular to the front as possible.

In the hilly Korean terrain where the enemy's observation often prevents any secrets in our rear areas, daylight wire laying should not be attempted unless, for a good reason, it is impractical to lay at night. Even when necessary the crews must take every advantage of defilade. Wire to a patrol base or OPLR should be laid during darkness; otherwise, as shown by experience, communication is usually lost from the very beginning of an attack. This may be due to detection of wire by long range observation or by lucky artillery bursts. But, regardless of the reasons why, if a number of alternate lines are laid, under cover of darkness, overhead, and over an area other than the MSR, then we have eliminated most of the conditions which tend to encourage early destruction of wire communication. At times we have tried burying wire lines, but even this has been unsuccessful. It was found that the heavy shelling around a perimeter during the early stages of an attack uncovered and destroyed lines. Overhead wire is less subject to sabotage and to damage by our own vehicles, especially tracked vehicles.
b. Communication with adjacent, supported and supporting units. - All units down to the platoon should have lateral wire circuits to adjacent units. In addition, all personnel should be acquainted with supporting units' wire networks as they can be used to route traffic in case one's own unit's wire network is destroyed. The artillery maintains as intricate wire network to its liaison officers and forward observers. In most cases this system nearly duplicates the infantry system. Every advantage of this additional communication system should be taken by the infantry unit commander.

c. Assignment of radio channels. - Alternate radio channels should be assigned and definite and positive plans made for transferring to these channels in case of jamming or interference. Radios of all types should be netted so as to have not more than 5 or 6 sets in any one particular net. The commander invariably loses control when a large number of radios are all on the same channel or frequency. Some commanders labor under the false impression that when all of their radios are netted on one channel, they have control and at the same time monitor all commands given. The contrary has proved to be the case. Instead of control, we have a reverse effect. This system hampers operations because only one radio can operate at any one time.
SUBJECT: Dissemination of Combat Information

TO: See distribution

1. In accordance with SR 525-35-5. Processing of Combat Information, the inclosed EXTRACTS are forwarded to Department of the Army, Army Field Forces, and the service schools for evaluation and necessary action. It may be appropriate, in certain cases, for those agencies to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and often, the extracted item serves to reaffirm our doctrines and techniques.

2. Copies are furnished to other military agencies to keep them informed concerning theater problems from the front line through the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office downgrades each extracted item to the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.

4. Combat information EXTRACTS herein which are applicable to training at the company-battery level also appear in Army Field Forces TRAINING BULLETINS.
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SUBJECT: Dissemination of Combat Information

6 October 1952

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284 Officer in Charge, Atlantic Fleet Intelligence Cen,

Attn: Ground Forces Officer

285 Gen Omar Bradley, Chairman, Joint Chiefs of Staff, DA,

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OCAFF

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(SECRET)

MECHANIZED AND EMLACED FLAME THROWERS. - An armored 1/4-ton truck was built and demonstrated, carrying the sponson and transmission units from the mechanized flame thrower, M3-4-3, to which was connected 100 feet of 3/4-inch engineer air hose coupled to a portable flame thrower gun. This vehicle will be further modified before its use.

Requirements for emplaced flame throwers were received during the period. The necessary hose, weighing over 8000 pounds, to provide a 100-foot extension for each emplaced flame thrower, arrived by air on 14 January 1952. Action was taken to secure extra flame guns and air compressors. Issue of this item is expected to begin early in February.

(RESTRICTED)

COMMUNICATION ON M-16 HALF TRACK. - Past experience has proven the need for a reliable method of voice communication from the squad leader to the gunner in the M45 turret. During operations the noise of the power charger combined with the sound of the four .50 caliber machine guns firing makes word-of-mouth communication next to impossible.

Recommendation: That all M-16's be equipped with a built-in communication system between the gunner and the squad leader.

(OCAFF Comment: All M16's are being modified to include the built-in communication system as recommended.)
COUNTERMORTAR RADAR. - It is recommended that a new radar set be developed to meet the following specific requirements:

a. Sturdy and simple in construction to ease the maintenance problem.

b. Portable for ease in transportation, emplacement and displacement.

c. Tracking type, capable of picking up moving objects only so as to eliminate the limitations of terrain and clutter.

d. Range up to 20,000 yards to facilitate counterbattery as well as countermortar work.

e. Easily concealed to permit front line operation.

f. Accuracy up to one-half of one percent of the range.

(OCAFF Comment: It is believed the new AN/MPO-10 will fulfill requirements outlined.)

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ARTILLERY USE OF INFANTRY COUNTERFIRE PLATOON. - Counterfire platoons are organizational to infantry regiments, but the results of their activities are primarily used by the artillery. The counterfire plots and azimuths derived from sound recordings of active enemy artillery and mortars are of considerable value to the direct support artillery battalion and to the Division Fire Support Coordination Center. The search for, and immediate neutralization and destruction of active artillery and mortar positions is assisted by these counterfire locations.

It is standard operating procedure for our artillery to fire on all counterfire plots within capabilities with at least a battery volley of light artillery.
Counterfire plots that "tie in" with known enemy positions frequently are fired upon by a battalion volley, or more. Counterfire plots that are in very close to the front lines are given to the infantry mortars to fire; however, this is the case only infrequently. The majority of counterfire plots are the result of enemy artillery fire rather than active mortar positions, whereas the artillery's countermortar radar picks up only active mortars.

It is not recommended that the T/O&E be changed to incorporate the counterfire platoon as a part of the artillery organization. Rather, it is recommended that the relationship and degree of cooperation between the artillery and the counterfire platoon be fostered to the highest degree for maximum efficiency and effectiveness. It is believed that this coordination can be implemented by having the counterfire plotting central located at the direct support artillery battalion fire direction center whenever and wherever feasible.

(RESTRICTED)

ARTILLERY PROTECTION FOR AIRCRAFT. - High performance aircraft operating in close support of infantry are subjected to heavy ground fire from the enemy. The necessity for low level reconnaissance flights and fighter strikes has resulted in frequent losses of friendly aircraft to ever increasing enemy small arms and antiaircraft fire. The artillery has attempted to minimize these losses by firing flak suppression in the area where fighters will strike. Flak suppression programs are standard operating procedure in the 25th Division Artillery, and though the results of these suppressive fires are not clearly ascertained, they no doubt reduce the amount of enemy antiaircraft fire, at least temporarily.

It is presently necessary to give artillery clearance for areas where low level flights will be made, either for reconnaissance or for a strike. These prohibitions on artillery firing are restrictive and frequent, and though maximum coordination is effected between the S3 and G3 Air on restricting areas for aircraft clearance, nevertheless the continuity of artillery missions is continually interrupted with resultant loss of effect, and both air and ground suffer from it.

It is believed that both ground and air would benefit by allowing artillery to continue firing in and around areas where high performance aircraft will operate. The chance of airplanes being hit by artillery fire would be infinitesimal, particularly with the restriction which would be placed on high angle and the firing of variable time fuze d shell. The few losses of aircraft to friendly artillery would be negligible compared to the losses from heavy
enemy ground fire now incurred. Continuation of artillery fires in areas where aircraft would operate should be of considerable value in curtailing the enemy's ability to fire small arms and antiaircraft weapons from positions in the open.

It is recommended that a revision be made in the standing operating procedures requiring artillery to cease firing in areas where aircraft will operate at low levels. Allowing artillery to continue firing in areas where aircraft fly at low levels will benefit all concerned and deny the enemy their present freedom to inflict heavy losses to our aircraft.

(OCAFF Comments: It is believed the CVT fuze now under development will increase the safety of aircraft operating in vicinity of areas under artillery fire.)

SOURCE: Command Report - 55th QM Base Depot

DATE: February 1952

PACKAGING OF SUPPLIES. It has been conclusively proven here that commercial-type packing cannot withstand the multiple-handling involved over the distances the items travel. Crates containing cabbage, lemons, and oranges are examples of inferior quality of packaging due to the use of commercial-type packing. The broken and crushed crates, resulting from rough handling and the use of roller conveyors, have created a tremendous repack problem in this operation of the depot. Wet weather, in particular, weakens any commercial-type carton. It is strongly recommended that no items be shipped in commercial packages.

SOURCE: Command Report - 59th Ordnance Group

DATE: May 1952

DEFECTS IN L-20 AIRCRAFT. The following unsatisfactory conditions have been discovered on the L-20 aircraft since their arrival in Korea:
a. Aircraft have had brake trouble; i.e., losing of brake clips.

b. Tail wheel shimmy.

c. Engines starter clutch slipping, and in some instances clutch grabbing, caused by installation of worn units.

d. Rudder stops on aft end of fuselage bending badly.

e. Rudder locks will not stay in position in gusty winds.

f. Excessive side play in the attachment fitting, top tail wheel oleo strut to the fuselage.

g. Door locks are a source of trouble as they are manufactured of too light material.

h. Door latches are not substantial enough to withstand hard and extensive usage.

i. Valve clearance too large on the engine.

j. Red datum line used for measuring extension of tail oleo strut peels off.

k. Caps for bomb shackle cannon plugs mounted in the wings are mission.

l. Static ground wires break off.

m. Each inspection panel on the wing is secured by mounting screws of different size and length. This condition necessitates carrying too much stock.

n. Front inner cylinder baffles are mounted too tight and too high up the cylinder fins. Mounting brackets crack and rub on the cylinder. Baffle mounting brackets should be mounted at least three fins down from the barrel head.

o. Carburetor heat scoop mounted between the top cylinders breaks loose from mounting brackets. Bracket material is not heavy enough to withstand engine vibrations.
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SOURCE: Command Report - 72d Tank Battalion

DATE: May 1952 Source No 495

RESTRICTED

GUNNERY TRAINING. - Our training program fitted in nicely with the combat mission on the line. The lessons learned while in contact with the enemy were restudied by the companies, faults were corrected, and training was instituted to take care of any weaknesses noticed while on line. We found that gunnery is of paramount importance and so it was stressed above all.

The use of the 1000-inch range is recommended highly. The men not only enjoy this type firing, but receive much valuable training in all phases of gunnery. Training on a moving target range is also recommended. Much success has been attained by our units in tracking beer cans floating down a stream. Competition is fostered in this type training and the benefits are immense.

SOURCE: Command Report - 7th Infantry Division

DATE: April 1952 Source No 496

RESTRICTED

FINANCE RECOMMENDATIONS. - Recommend that a more detailed orientation on the matters of personal finance be given at the POE's to all personnel, officer and enlisted, who are on orders for Korea. This orientation should stress:

a. The complete lack of need for money in Korea except for a few dollars a month for PX supplies;

b. The whole scope of allotments, with emphasis placed on increasing both the amount and the number of allotments;

c. The fact that accrued pay may be allowed to remain on the military pay record and may be drawn partially or in full at any time.
It is recommended that action be taken to change the curricula of personnel schools to include more thorough indoctrination of persons being schooled in personnel matters in the finance allotment system.

All finance personnel assigned to a foreign theater should be either graduates of the Army Finance School or individuals who have a minimum of two years experience in army finance work.

More machinery in the nature of adding machines, typewriters, money listers, etc, should be initially assigned to each infantry division finance office in the field. The minimum requirements for a division finance office in the field should be as follows:

- Adding machines: 20
- Typewriters: 16
- Computers & money listers: 4
- Addressograph machines: 4
- Graphotype machine: 1

A study should be made for the purpose of setting up a more accurate locator service. Many documents are forwarded to this station as long as six months subsequent to the evacuation of personnel for medical reasons or through normal rotation channels to the CONUS.

It is recommended that, instead of the system now in use under paragraph 175, SR 35-2000-1, Notice of Exception be forwarded directly to the subject serviceman's station rather than the present system of relying on the forwarding of DD Form 118. This would cut down on paper work and additional correspondence. The time element involved between receiving a charge or a credit and the recording of such on the military pay record would be substantially reduced.

Service schools for officers should stress more realistically the responsibilities and duties of class A agents under AR 35-320 and paragraph 163, SR 35-2000-1.

Action should be taken to insure that all ports of embarkation carefully service all military pay records prior to the serviceman's departure from the CONUS.
The military pay record should be surveyed with the aim of having it operate on a yearly basis rather than a twice-yearly basis.

**SOURCE:** Command Report - 7th Infantry Division Artillery

**DATE:** April 1952

**CONFIDENTIAL**

**DEFENSE AGAINST ENEMY MORTARS.** - Enemy mortars continue to inflict a large percentage of the friendly casualties sustained. This weapon is still one of the most difficult targets to locate and destroy or even neutralize. Present methods of detection are unsatisfactory. Recommend that every effort be made to expedite the development of improved radar sets to be used for this purpose.

*(OCAFF Comment: It is believed the new AN/MPO-10 will fulfill the requirements outlined.)*

**SOURCE:** Command Report - 21st AAA AW Battalion (SP)

**DATE:** April 1952

**RESTRICTED**

**AIDS TO INDIRECT FIRING FOR QUAD 50's.** - This battalion has experimented successfully with a number of aids to indirect firing for Quad 50's. These include the adoption of azimuth and elevation scales for laying the guns, the checking of the correctness of azimuth and elevation by the use of the aiming circle and gunners quadrant, and the improvisation of a panoramic sight for the same purpose. We also found that speed and accuracy in adjusting fire can be obtained easier when platoon commanders have acted as forward observers. The question of the effect of indirect fire of Quad 50's remains a speculative one. Since H&I fire is accomplished at nighttime, results cannot be observed. We must continue to depend on PW interrogation for our only measure of effectiveness. This information is generally nonexistent, and, even if available, is not always reliable.
It is recommended that:

a. The AA&GM Branch of The Artillery School conduct experiments with Quad 50 indirect firing to determine its effectiveness on area targets at ranges between 5000 yards and 6500 yards, using API or incendiary ammunition.

b. All platoon leaders have some forward observers experience in adjusting artillery fire.

c. That any future AA materiel always be constructed with methods of setting and reading azimuths and elevations.

(OCAFF Comment: All Quad 50, M16's, are being modified to provide azimuth and elevation scale for ground firing.)

SOURCE: Command Report - 90th Field Artillery Battalion
DATE: April 1952 Source No 499

(Restricted)
ZEROING INDIVIDUAL WEAPONS. - Due to the difficulty of marking and scoring the improvised targets on the two-hundred-yard carbine range, the zeroing of individual weapons was a time-consuming procedure. This problem has been solved by having each man fire five rounds at a range of twelve and one-half yards on a one-inch bull’s-eye. The setting thus obtained is very nearly correct for two hundred yards. This method is resulting in large savings in time and ammunition.

(OCAFF Comment: See Department of the Army Training Circular 19, 1952.)

SOURCE: Command Report - 724th Trans Railway Operations Battalion
DATE: March 1952 Source No 500

(Restricted)
STANDARDIZATION OF STATION RECORDS. - Standard operating procedures for maintaining records at stations and the handling of train

Over
consists have been set up in order to have a uniform method at each station. This will permit the efficient replacement or rotation of personnel between stations and eliminate delays in delivery of shipments and possibility of pilferage.

Recommendations. - Recommend that the Transportation School study the problem and publish a manual prescribing a uniform system for record-keeping by stations to include courses for MOS 3069 and MOS 3047 at the Transportation School.

SOURCE: Command Report - Tokyo Engineer Works Ordnance Shops, 8231 AU
DATE: April 1952

(RESTRICTED)

SHORTAGE OF SPARE PARTS. - Many parts have been in short supply, due to inability to procure either from the CONUS or from local sources. Cylinder sleeves have been critically short, so that a backlog of over 1000 engine blocks to be sleeved has been generated.

Steps are being taken to meet this problem chiefly by the development of indigenous sources of supply, and new and improved reclamation procedures.

The receipt of substandard parts from the CONUS is causing considerable concern to this installation. Although the proportion of unsatisfactory parts is low compared to the total number of parts used, it is great enough to cause serious problems in the supply of component parts to the assembly lines. On a number of occasions a presumed "normal" supply of parts in the warehouse has turned into a serious shortage when uncrated and found to be defective. This situation has implications beyond causing production difficulties. These are the use of government funds to procure unsatisfactory parts, the cost of shipment from the CONUS and the use of valuable cargo space to transport them to the Far East.

Difficulty is experienced as a result of receiving boxes of material which are incorrectly marked as to nomenclature or quantity. Incorrect markings have resulted in production difficulties by causing parts shortages, and at the same time have created a problem in maintaining correct stock-card balances.
RECOVERY OF DAMAGED ARMORED VEHICLES. - One noteworthy method of towing arrangement for recovering a vehicle has been tested by one armored unit and has decreased the time of preparation for evacuation to 30 seconds and requires the employment of only one man. The special equipment required for this arrangement consists of approximately fifteen feet of chain, of one inch stock, links of which are large enough to go over the towing shackles, and a towing shackle welded to the center of the front armor plate, approximately at the same elevation as the top of the track. The heavy chain is generally carried by attaching the two ends to the standard towing shackles on the front of the tank and looping the center of the chain over the tank as described above. This arrangement may be used to hook onto the front or rear of a damaged tank, depending on the requirements of the situation.

GASOLINE DRUMS - CLEANING COSTS. - A novel method of lessening drum cleaning costs was instituted with a saving of approximately 35¢ per drum filled without cleaning. Previously, returned empty drums were sent to the contractor for cleaning and reconditioning. Many of these drums, already clean inside, could have been immediately reused without cleaning except for the uncertainty regarding liquid-tight integrity of each drum. In order to avoid the necessity of spending money on drum cleaning when it was not absolutely necessary, a method of testing clean drums for leaks was developed. A set of immersion tanks was designed and constructed at a cost of approximately $250.00. In the bath several drums at one time can be immersed and tested. Bubbles appear if there are any leaks. Clean drums processed this way and found to be sound are earmarked for reuse without further processing. Approximately 700 drums can be processed in one 8-hour shift. It is anticipated that half will be found suitable for refilling without cleaning, effecting a saving of $125.00 per 8-hour shift worked.
(RESTRICTED)

REPLACEMENT TRAINING DEFICIENCY. - Replacements were found to be deficient in the operation of the 50 Cal. MG and the MIC Sniper Rifle.

(RESTRICTED)

IMPROPERLY TRAINED REPLACEMENTS. - Very little orientation has been necessary for the EM replacements being assigned to ambulance and clearing companies. However, considerable difficulty has been encountered in Headquarters Company where many men have been given supply MOS's for which they are untrained and unqualified, and consequently have been malassigned. The motor section has had difficulty in obtaining school-trained mechanics, parts men, and vehicle drivers.

(RESTRICTED)

REPLACEMENTS. - Replacements received have not been of a high enough caliber to assume duties without considerable training and indoctrination. In order to give this training and indoctrination it has become necessary to augment existing T/O&E. Adequate officer replacements have been received. Warrant officers are still in great demand and are apparently unavailable. A major problem is reclassification of replacements who do not have a profile that meets the basic requirements of SR 615-25-15. Reclassification and reprofiling boards have been set up and will be functioning to try to eliminate malassignments.
A major problem arose in officer assignments. As phase out and rotation relieved captains and majors, junior officers must be assigned their jobs. Replacements coming in with required rank must be placed in the position commensurate to their rank, displacing the junior officer. This constant shuffling requires an enormous amount of paperwork and sometimes leads to temporary confusion in assignments and records. It became necessary to set up an assignment processing form and an SOP to cope with the problem.

(RESTRICTED)

HEAVY MORTAR COMPANY. - Two recommendations for a change in the T/O&E were considered of primary importance. First, a revision to designate three forward observer teams with each platoon so that a team could be assigned to each line company; Korean terrain affords only limited observation. Second, increase the number of SCR 610 radios so that each forward observer, each platoon, fire direction center and the company commander would have one available; SCR 300 radios have been found inadequate in the present situation.

* * *

(RESTRICTED)

RAID ON ENEMY BUNKERS AND FORTIFICATIONS. - On 7 May the I&R platoon conducted a night raid on enemy bunkers and fortifications in front of the right battalion. Three six-man squads were utilized in the encounter with two being used to isolate the position and prevent the enemy from interfering with the mission while the third was successfully completing the destruction of five bunkers on the reverse slope of the hill.

SOURCE: Command Report - IX Corps, Book I

DATE: April 1952

(Restricted)

ARMY AIRCRAFT - OPERATIONAL AVERAGE. - The operational level of L-19's and L-17's remained close to March figures in a cross-section check of records, with averages of 81% and 60% respectively. Heli-copters dropped sharply, however, from an operational level of 75% to one of 60%, a decrease rendered less significant by consideration of the small number of such aircraft involved in the calculations. The operational average of the three types combined was 76%. During a large number of the days in

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which aircraft were out of commission they were awaiting parts, particularly in the case of the L-17's and helicopters. Hydraulic systems gave most trouble in the L-17's, and engine mounts and brake assemblies in the L-19's, shortage of these latter parts keeping two of the planes grounded for more than three weeks.

(RESTRICTED)

ENEMY ARTILLERY. - Constant improvement in hostile artillery technique was indicated by the increased effectiveness of fire and tendency to mass fires of as many as 12 pieces quickly when renumerative targets were offered. Missions were principally against friendly OP's, patrols or other targets where observation was possible, and often originated from enemy self-propelled gun units observed in action. However, during the middle of the month hostile artillery fired a number of counterbattery missions and indicated the capability of delivering fire up to 10,000 meters behind friendly lines.

SOURCE: Command Report - 64th Tank Battalion (Medium)

DATE: March 1952 Source No 508

(RESTRICTED)

SOLDIERS' DEPOSIT. - Although Soldiers' Deposit is intended as a readily available and easy means of saving and is operated solely for the soldier, recommend reconsideration of greater latitude so that the soldier may use Soldiers' Deposit and know that he may withdraw his money upon presentation of legitimate reasons for so doing, rather than be compelled to await discharge or an emergency.

SOURCE: Command Report - I US Corps, Cml & Ln

DATE: March 1952 Source No 509

(CONFIDENTIAL)

X-200 NAPALM LAND MINE. - The X-200 napalm land mine is made from salvaged 5-gallon oil cans. A burster well is provided to protect the burster. The burster is obtained from the AN( )47 bomb filled with black powder and two strands of primacord. The burster and wells are manufactured by the 92d and 95th Chemical Service Companies in Korea. A standard
engineer pull or trip type firing device with a No 8 detonator is required for firing, although the mine can be electrically detonated. This mine is used in draws, ravines, or critical approaches into friendly lines. Its detonation causes casualties and produces back lighting effects. Approximately 800 were issued within the corps during the month and over 11,000 have been drawn by units within the corps since the item became available. The 1st ROK Division gave credit to this mine as assisting in stopping an attack of battalion size in their area. Three dead, badly burned enemy bodies were found in the barbed wire after the action.

(CONFIDENTIAL)

FLAME THROWER. - A lightweight, 2-gallon, portable flame thrower was developed under the supervision of the I Corps Chemical Officer by the 92d Chemical Service Company. This item consists essentially of a standard tank from the M2A1 or M2A2 portable flame thrower, a standard pressure regulator, a standard flame gun assembly from the M2A1 flame thrower, the standard frame, and an air bottle obtained from the Air Force 3-man life raft. Average range obtained with this flame thrower is about 30 yards but ranges up to 40 yards have been achieved. Total weight filled is 40 lbs. This item was examined and tested by the 3d and 45th Infantry Divisions and found favor with them. There is sufficient fuel for one good burst of flame and it is anticipated that the shortage of fuel from the standard flame thrower will be made up by carrying several more of the lightweight flame throwers in each unit.

SOURCE: Command Report - I US Corps, Armor

DATE: March 1952 Source No 510

(RESTRICTED)

MECHANICS FOR M46 TANKS. - For the last two or three months, units equipped with M46 tanks were not receiving mechanics who were trained to repair these tanks. This necessitated mechanic training programs, primarily on-the-job training, in the units.

EUSA K Army officer arranged for army ordnance to conduct an M46 tank mechanic school in Seoul which will consist of a two-weeks course. Each tank battalion will receive a quota of two mechanics per course and each tank company will receive a quota of one mechanic per course.
UNCLASSIFIED
(RESTRICTED)

RECOVERY PERSONNEL AND EQUIPMENT. - It is recommended that all corps units, when planning armored operations, include in their plans sufficient recovery personnel and equipment to recover disabled vehicles immediately after they have become immobilized. This will expedite battlefield recovery and should cut down on the number of vehicles abandoned in front of our battle positions. Vehicles that are not recovered immediately after they have become immobilized have been zeroed in by enemy artillery which consequently makes the recovery task more difficult and dangerous.

SOURCE: Command Report - 224th Infantry Regiment
DATE: May 1952

(RESTRICTED)

CONTAINERS FOR .30 CALIBER MG AMMUNITION. - During the month the regiment has been drawing .30 caliber machine-gun ammunition packed 1500 rounds to the container. This pack is unsatisfactory for this terrain as it cannot be carried into positions without being broken down into smaller containers. Ammunition should be kept in the original container until the time of expenditure.

* * *

(RESTRICTED)

PERCENTAGE OF WP FOR 4.2" MORTAR. - During the month of May the percentage of white phosphorus for 4.2" mortar in the ammunition supply rate went from 40 per cent to 70 per cent white phosphorus. This percentage is out of proportion to the actual needs of the regiment based on past consumption. Twenty per cent white phosphorus is recommended.

SOURCE: Command Report - 56th Amphibious Tank & Tractor Battalion
DATE: March 1952

(RESTRICTED)

AMPHIBIOUS RECONNAISSANCE TEAMS. - The first 30-day training period at Okinawa revealed the need for an experienced and trained amphibious reconnaissance team from this battalion. A small team of several enlisted
men and two officers was quickly organized for reef reconnaissance, lifesaving work and salvage work. In addition, another team was established to survey possible landing beaches. Both teams were highly successful despite the lack of necessary equipment. As a result three officers and twenty-five enlisted men with swimming experience underwent an intensive reconditioning period and training program. Further training of the teams is being carried on and will continue through the summer months to determine their value for possible incorporation in an amphibious T/O&E.

SOURCE: Command Report - 1st Field Observation Battalion

DATE: May 1952

(RESTRICTED)

RECOMMENDATIONS. - Recommend that in the training of flash and sound personnel more attention be paid to their use as intelligence sources with particular attention being paid to firing observed (target grid type) missions, sending in completed intelligence reports, and forwarding shell-reps and crater analysis reports.

Recommend that strong consideration be given to the requirements of an observation battalion for light type aircraft in particular for helicopters for survey work.

There is an urgent need for at least two additional observation batteries to be assigned to this theater to assist in giving more coverage to offset the increased build-up of enemy artillery.

* *

(RESTRICTED)

BATTALION WIRE NET MAINTAINED. - The battalion, to fulfill its mission, has to maintain 752 miles of wire net.
COUNTERMORTAR RADAR SECTION FOR FIELD ARTILLERY BATTALION. - Shell reports received from both artillery and infantry observers are inaccurate, and quite often lack azimuth and identification of the type of round. This problem is being overcome by sending artillery and infantry personnel to a division artillery shell reporting school, and by concurrent, on-the-job training. The lack of a countermortar radar section limits our ability to locate enemy mortar positions.

It is recommended that both artillery and infantry personnel receive additional training in shell reporting and crater analysis, and that the countermortar radar section be equipped and placed in operation in the battalion.
SUBJECT: Dissemination of Combat Information

TO: See distribution

1. In accordance with SR 525-85-5, Processing of Combat Information, the inclosed EXTRACTS are forwarded to Department of the Army, Army Field Forces, and the service schools for evaluation and necessary action. It may be appropriate, in certain cases, for these agencies to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and often, the extracted item serves to reaffirm our doctrines and techniques.

2. Copies are furnished to other military agencies to keep them informed concerning theater problems from the front line through the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office downgrades each extended item to the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.

4. Combat information EXTRACTS herein which are applicable to training at the company-battery level also appear in Army Field Forces TRAINING BULLETINS.

FOR THE CHIEF OF ARMY FIELD FORCES:

A. B. CHATHAM
Lt Col, AGC
Asst Adjutant General

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(See next page)
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Subject: Dissemination of Combat Information

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DEFENSE TACTICS. - Due to the development of the recoilless rifle, both sides now have the capability of employing these weapons in direct fire roles against bunkers. It, therefore, becomes more important than ever that combat outposts be employed extensively well beyond the main line of resistance to keep the enemy at "arms-length," in order to maintain the integrity of main line of resistance bunkers.

Due to direct fire weapons and the demonstrated capability of the enemy to employ massed artillery against forward slopes, a re-evaluation needs to be made concerning defense works. Forward slopes should be used as little as possible under the above conditions and tunnels dug from rear to front with small apertures toward the enemy for observation purposes; reverse slope bunkers should be employed with cover sufficient to withstand our own VT fires; machine guns should be sited to cover rear and flank approaches; high ground and observation points should be denied the enemy by the use of VT and high explosive artillery concentrations; and tactical wire should be used to the maximum.

The above is a sound concept for defense.

(SOURCE: Command Report - 17th Infantry Regiment
DATE: May 1952
Source No 516

(RESTRICTED)

CAPABILITIES OF THE ARMORED VEST. - Prior to use of the body armor by personnel of this regiment, the men were oriented as to the capabilities of the vest. For example, the vest is excellent in stopping shell fragments, but can not be expected to stop enemy small arms fire. Also in several cases, the vest has deflected enemy 7.62-mm fire resulting in no injury to the wearer. Several of the men from the 17th Infantry wore these vests on patrols, and in one instance, a man from Company I was saved from a possible fatal injury when shell fragments struck the vest without penetrating it. On another occasion, a man from Company A was knocked down by small arms fire striking him in the stomach, but the missile did not penetrate the vest.

INCLOSURE
RECOMMENDATIONS: That all personnel exposed to enemy fire be equipped with this vest.

SOURCE: Command Report - 65th Infantry Regiment
DATE: March 1952

(CONFIDENTIAL)

AN/PRC 10 RADIO. - The advantages of this set are numerous but there are certain recommendations that this unit would advocate. The construction of the hand set is extremely weak. It seems to have been designed for right hand operation which is not the usual case. Also the circuits are so demanding on the battery that the set tends to drift off frequency as the battery is drained. This demands more than the average amount of calibration.

The gang plug to the battery has too much space between it and the lid, allowing it to work loose. It is recommended that a taller plug be used with a rubber bumper to take up the space.

The contact plug on the hand set loses contact when fully seated and regains contact when removed slightly from its base.

SOURCE: Command Report - Eighth United States Army Korea Armor
DATE: January 1952

(RESTRICTED)

MINE CLEARING WITH DEMOLITION. - Recently the 3d Engineer Combat Battalion conducted a test in the use of demolitions for mine field clearing. Six standard TMD-8 box mines were placed in a typical Korean road at depths varying from eighteen to thirty inches, covered with damp earth and left in the ground for a day to freeze.

The mined area was covered with a network of demolition blocks. After detonation it was found that all mines under the network of demolition blocks had been detonated or completely crushed and disarmed, but mines two feet outside the network of demolition blocks were not affected.
ARTILLERY RAMMER. - In recent months units have been experimenting with a new type rammer for the 155-mm howitzer projectile. These experiments were made because three deficiencies were noted with the conventional bronze star rammer; these deficiencies are:

a. The star rammer slips from the base of the projectile and catches in the breech recess.

b. In slipping it mars the recess and it has resulted in the dropping of the projectile.

c. The slipping of the star rammer results in the improper seating of the projectile.

In an endeavor to eliminate these deficiencies an experimental rammer was constructed from the rubber cushion found in the metal ammunition containers for 105-mm howitzers. It was found that this rammer eliminated all of the deficiencies noted in the bronze star rammer.

Recommend that a new type rubber rammer be developed for separate loading ammunition.

SWITCHBOARD ALLOWANCE IN FA BN. - When switchboard BD-71 or BD-72 is used as an "in lieu of" item for switchboard SB-22/PT, recommend that it be accomplished on a "drop for drop" basis, i.e., two each BD-71 or one each BD-72 for each SB-22/PT.

Recommend that an additional switchboard, BD-72, be allowed a field artillery battalion on T/O&E to handle the many direct lines feeding into fire direction center. This would eliminate the many EE-8 telephones currently fulfilling this requirement.
(RESTRICTED)

LANGUAGE BARRIER WITH ROK FO's. - Constant efforts were made to improve the coordination between the ROK infantry and forward observers and the US FA battalions. Missions from ROK FO's were handled by several different methods in order to speed up the delivery of fire. Some missions were sent directly to the battalion and regimental liaison officers, where they were processed by interpreters and called in to the FDC by telephone. Others came directly to the battalion FDC, where an interpreter was constantly on duty. This latter system proved to be the most effective. But even so the weakness of interpreters in artillery terms and phrases frequently delayed fire and on many occasions the volume of fire delivered was larger than necessary. Training of both forward observers and interpreters has gradually reduced these deficiencies.

CENTER OF RESISTANCE. - With the advent of summer growing weather, a new hazard to the security of the main line of resistance has developed in the form of heavy foliage on the steep and rugged slopes facing the enemy. The trees and underbrush restrict visibility and aid the enemy in his efforts to work in close to snipe and raid. This problem does not exist on enemy high ground, because his positions have been blasted almost bare by friendly mortar and artillery fire.

To alleviate this situation, efforts have been made in all regiments to clear fields of fire by cutting, by using flame throwers, by pouring gasoline over areas and then igniting, and by pouring gasoline over areas and leaving it to wither the vegetation.

None of these expedients proved satisfactory. Cutting parties were handicapped by the wide and dense mine fields, marked and unmarked,
across the entire Division front, and by the enemy's ability to place accurate mortar and artillery fire on targets of opportunity. All methods of using gasoline required excessive amounts of fuel and produced meager results.

SOURCE: Command Report - 40th Division Artillery
DATE: June 1952

(RESTRICTED)

FLAK SUPPRESSION. - A system for more effective flak suppression has been worked out by the FSCG, and has been tested on one occasion, but will require further testing to prove its effectiveness. After the target has been approved for an air strike, a plot of all known and suspect antiaircraft positions within a radius of four thousand meters of the target center is made by the S2 and a TOT schedule is set up firing all possible artillery pieces at all of the antiaircraft positions simultaneously. When the fighter bombers arrive in the target area, the T6 Mosquito observer, who is to direct the strike, leads them over the target and the artillery marks the target with a smoke round. When the Mosquito is satisfied that all of the fighter pilots have identified the target, he sends them away from it on a course which will clear the trajectories of the artillery pieces, and calls for the flak suppression. Knowing the time of flight of the artillery, he turns the fighters and starts them back toward the target to arrive immediately following the artillery "splash," and they go in while the hostile antiaircraft is still neutralized. All artillery is fired with VT fuze and as a precaution against late rounds arriving after the fighters start in, an "all clear" round of smoke is fired on Division Artillery order when all units have reported "rounds complete." This final smoke round is loaded and ready and should arrive at the target within seconds of the artillery concentration.

SOURCE: Command Report - 7th Division Artillery
DATE: June 1952

(CONFIDENTIAL)

COUNTERMORTAR SYSTEM. - The disposition and use of enemy mortars remained approximately the same as during the preceding month. However, due to the increased volume of fire falling on patrols, the
countermortar section adopted slightly different tactics to meet the situation. Previously only known or strongly suspected mortar locations were plotted and included in the countermortar programs. Too great reliance was placed on the radar sets and visual sightings by the ground and air observation posts for the protection of patrols advancing into enemy territory. A new system was initiated in which the enemy area surrounding each objective was divided by concentric circles, the radius of each representing the range of known enemy types of mortars. For example, the inner circle represented the maximum distance that 60-mm mortars could be placed from the objective for the weapons to be brought to bear on the area. The next circle indicated the range of 82-mm mortars and the outer circle the range of the 120-mm mortar. This overlay was then given to the photo interpretation section for intensive study. The object being that within the inner circle, areas where these small weapons could be mounted were carefully charted, the second circle located only areas of sufficient size for 82-mm mortars, and the outer circle emplacements capable of housing a 120-mm weapon. In this manner individual fire plans were set up for each patrol, and, by firing VT fuzed ammunition on the locations so charted, maximum suppression was achieved with only a slight increase in ammunition expended.

SOURCE: Command Report - 10th Field Artillery Battalion

DATE: May 1952

(RESTRICTED)

MOBILE FDC. - It is recommended that ordnance issue to each field artillery battalion a vehicle specifically designed as a mobile FDC; alternately, it is recommended that ordnance cause to be manufactured, and then issue to field artillery battalions, necessary material and instructions for modification of current T/O&E trucks such as GMC 2-1/2-ton LWB to be used as a mobile FDC. The mobile FDC should be designed to provide sufficient space for normal FDC operation with crew including the S2 section. It is to be stressed that the normal efficiency of a battalion FDC and S2 section operating in a permanent bunker-type installation must not and need not be sacrificed for mobility.

*   *   *

UNCLASSIFIED
ARTILLERY CALIBRATION. - It is recommended that sufficient ordnance calibration teams be detailed to Korea and any future combat zones, so the light artillery, as well as medium and heavy, can be periodically calibrated. The role of light artillery as direct support of infantry, with the inherent requirement of delivering close fires, makes accurate calibration essential. It is recognized that fall of shot calibration can be used and that it can itself be modified by field expedients, but it is believed that ordnance calibration would be of greater value.

SOURCE: 70th Tank Battalion, (Undated)

BATTALION TANK COMPANIES IN DIRECT SUPPORT OF INFANTRY REGIMENTS. - It is recommended that the tank companies of the battalion be placed in direct support of the regiments of the division rather than being attached to these regiments. The attachment of one unit to another automatically renders the unit to which attached responsible for the administrative and logistical support of the attached unit. In actual practice, regardless of whether or not the tank companies are attached or placed in direct support, the tank battalion must administratively andlogistically support them. Therefore, the attachment of a tank unit to an infantry regiment, even though specified in orders, can never be an actuality.

SOURCE: Command Report-I US Corps Artillery
DATE: May 1952

VEST, BODY ARMOR. - Nylon body armor vests were introduced to the air section during the month but were found to be uncomfortable when worn under a parachute. It is suggested that a chest protector be incorporated into the parachute harness of the same material; as the parachute itself would protect the back. It is also recommended that the upholstery in the L-19 aircraft be replaced with laminated nylon. This
would not materially affect the weight of the aircraft and would give greater protection to the pilot and observer both physically and psychologically.

* * *

HELICOPTERS. - The need for Army aircraft in 1st FA Obsn Bn, helicopters in particular, was never more positively shown than during this month when survey parties ran connecting schemes across mountainous terrain at the expense of days of reconnaissance and climbing mine-covered hills. A helicopter would have performed the job with a saving of hundreds of man hours and less danger to personnel. Officers and men of every battery, and battalion headquarters experienced great difficulty obtaining Army aircraft for reconnaissance, emergency administrative flights, and long distance liaison flights. In many cases trips by jeep of hundreds of miles were made for brief liaison visits or coordinated visits with other detached sections of the battalion.

It is recommended that strong consideration be given to the requirements of an observation battalion for light type aircraft; in particular, helicopters for survey work.

SOURCE: Command Report - 12th Field Artillery Battalion
DATE: June 1952

(RESTRICTED)

OFFICER TRAINING. - Inexperience and lack of training of officers was the most critical deficiency. While most officers are school trained, they need more on-the-job training before being placed in combat units. Officer schools are being conducted by battalion in survey, forward observation, and duties of the executive officer.

SOURCE: Command Report - 38th Field Artillery Battalion
DATE: May 1952

(RESTRICTED)

LANGUAGE BARRIER IN SUPPORT OF ROK UNITS. - The main difficulties, when supporting ROK units, stemmed from the language barrier. This caused delays in the exchange of information, orders, and the delivery of artillery fires.
It is recommended that cellular units of ROK interpreters, trained in artillery conduct of fire, be organized. One such unit could be attached to a direct support field artillery battalion, upon receiving the D/S mission.

A cellular unit is suggested: T/O - One officer - ten enlisted men.

Assignments:

One officer - Commander of unit
Two enlisted men - Battalion Fire Direction
Six enlisted men - Two to each Battalion Liaison section
Two enlisted men - Utility

SOURCE: Command Report - X Corps Artillery
DATE: May 1952

(CORESTRICTED)

CORPS REQUEST FOR ADDITIONAL PILOT. - An extended unseasonal period of good weather and the need for aerial surveillance from sunrise to sunset necessitated an extensive revision of the aerial surveillance schedules. This schedule was being published at the end of the period. The need for aircraft maintenance, the limitations on the number of combat hours to be flown by each pilot, and the inadequate number of planes and pilots available presented a considerable problem. The revised surveillance schedule is expected to offer a partial solution to this problem. It is recommended that additional pilots and aircraft be made available to a Corps Artillery when the assigned aircraft do not provide adequate surveillance.

It is further recommended that an additional pilot be assigned to each Corps Artillery Battalion in order to effect maximum utilization of aircraft, and yet comply with recommendations concerning the number of combat hours flown per pilot per month.
DEFICIENCIES IN FIELD KITCHEN EQUIPMENT. - An investigation of a fire that occurred in this organization disclosed the need for a detailed inspection of all fire units for Field Ranges, M1937. This inspection disclosed the following deficiencies:

a. All filler caps engage only two and one quarter or fewer of the threads, although there are in excess of six threads available in each cap. Because of the soft composition (brass) of the filler caps, the useable threads are easily stripped, thus rendering the fire unit unsafe to use.

b. In threading the filler pipes, the pipes have become tapered further decreasing the engaging thread surfaces.

c. Many filler caps have structural flaws and cracks.

d. Fire units returned to using organizations have had solder used in repairing or sealing pipe connections. The use of solder is a dangerous practice because these pipes are in close proximity to the extreme heat from the unit and could easily soften and blow under 40 to 50 pounds operating pressure.

e. CO₂ fire extinguishers smaller than five pounds are not sufficient to fight a gasoline fire in the confines of a mess tent; and further, that extinguishers of this size have the valve frozen open while operating and the CO₂ is exhausted with one application, necessitating refilling immediately. This often means doing without fire protection for a period of time because the servicing of fire extinguishers is a slow process in the field.

It is recommended that:

a. A CO₂ fire extinguisher with a trigger type discharge mechanism and a capacity of greater than five pounds be made a T/O&E item for all field kitchens.

b. An asbestos type blanket be authorized for each field kitchen to aid in putting out fires on personnel.
c. A study be made of fire units with the object of redesigning them or eliminating the fire hazard now present in the filler plugs and the pipe connections.

SOURCE: Command Report - 1343d Engineer Combat Battalion
DATE: April 1952

(RESTRICTED)

DEVELOPMENT AND MAINTENANCE OF ROADS. - The most important lesson learned was that the teachings of the Army School System are sound. The problems encountered were solved by judicious application of the principles taught.

SOURCE: Command Report - 13th Engineer Combat Battalion
DATE: April 1952

(RESTRICTED)

105 CFM AIR COMPRESSOR. - This Battalion finds that the 105 CFM air compressor is unsuitable for performing the desired mission. In this theatre, a compressor is needed with a higher capacity in order to operate more tools simultaneously. At the present time, with shaped charges and other demolitions very critical, much black powder is being used in blasting rock. This necessitates drilling, and with the 105 CFM compressor this is a very time consuming job, thus delaying completion of projects. One solution would be to double the capacity of the present air compressor to 210 CFM with provision for additional pneumatic tools.

SOURCE: Command Report - 3d Engineer (C) Battalion
DATE: May 1952

(RESTRICTED)

SHORTAGE OF SPARE PARTS FOR ENGINEER EQUIPMENT. - The lack of spare parts for nonstandard or experimental engineer equipment continues to be a major problem.
GENERATORS. - Generators continue to be a problem. If they are to be used in the field for lights and power they should be designed for long hours of continuous usage. The 1-1/2 and 3-kilowatt generators now issued are not satisfactory for this use. It is recommended that the engine used to drive the generators be of a standard military design in order to help relieve the already critical parts supply problem.

COMMUNICATIONS.

Discussion: The number of wire miles for a regimental type installation one, i.e., lines originating from regiment, is approximately 120 to 150 miles. The present basic load of wire is not sufficient to adequately handle this amount of installation.

Recommendation: That the basic load of wire be doubled at all echelons within the regiment.

Discussion: The total number of AN/PRC-10 radios within the infantry regiment is 95, of this number 6 to 15 are out of order for a 3-to-5-day period awaiting replacement of parts or components. As 95 radios is the barest minimum for effective combat efficiency, it is felt that steps should be taken to provide the regiment with sufficient equipment to provide a "float" for repair purposes.

Recommendations:

a. That the regiment be furnished at least 10 additional AN/PRC-10 radios.

b. That running spares and repair equipment be furnished for this equipment at the regimental level.
(RESTRICTED)

SKID FOR EVACUATING DISABLED TANKS. - To facilitate the recovery of tanks disabled by enemy mines, the 245th Tank Battalion built a metal skid. The purpose of the skid was to replace the one tank track which had been broken and thrown off the tank due to an enemy mine. The skid was built of 3/8" armor or boiler plate. The skid is 20" wide and 16 10/" long. A railroad rail was welded along the center of the metal skid. The rail served not only to strengthen the skid but also to serve as a center guide for the tank road wheels when the road wheels on the side of the tank with track off was pulled onto the skid. The front of the skid was bent upward like the nose of a ski. A hole was cut through the rail at a point directly under the tank drive sprocket hub. Another hole was cut through the rail directly beneath the idler wheel. Through these holes were passed chains which were then wrapped around the idler wheel and drive sprocket hub respectively. The chains served to hold the tank on the skid. To the front of the skid was fastened a large link so that a towing cable could be attached to the skid during towing operations.

Several methods of towing were tried using an M32 tank. The best method employed a tow cable connection from the skid to the M32 towing shackle on the same side as the skid; the M32 winch cable was also attached to the towing shackle on the other side of the disabled tank. With this hook-up the M32 tank had no trouble pulling an M4A3E8 tank.

This skid method of recovering tanks with one track broken by enemy mines is much faster than trying to repair the tank on the battlefield. Also, the use of the skid prevents additional damage to the suspension system on the side of the tank where the track is broken.

SOURCE: Command Report - 40th Division Artillery

DATE: May 1952

(RESTRICTED)

NEED FOR TRAINED NONCOMMISSIONED OFFICERS. - As has been previously pointed out there is an ever increasing need for trained
noncommissioned officers. This need has been partially met by moving
trained personnel within the units. These in turn will be lost within the
next two months, and while some of these losses can be replaced by
intensive training at unit level, critical specialists must come from the
pipeline if combat efficiency is to continue at a high level. A small per-
centage of the replacements received during the month were school trained
and highly capable; however, the great majority were basics with no unit
training.

SOURCE: Command Report - 213th Field Artillery Battalion

DATE: April 1952 Source No 539

(RESTRICTED)

PLASTIC GRID SHEET FOR FA. - It is recommended that the plastic
grid sheet as advocated by The Artillery School, Fort Sill, Oklahoma, be
adopted as a standard item of issue to field artillery battalions. This
plastic grid sheet has been utilized in combat in place of the paper grid
sheet and has proven to be more durable, accurate and lends itself to
easy cleaning.

* *

(RESTRICTED)

GENERATORS. - It is strongly recommended that field artillery
battalions be authorized a minimum of six generators type PE 210 rather
than only five as are now authorized by pertinent T/O&E's. Experience
has proven the PE 210 to be a critical piece of equipment, essential to
the maintenance of continued operation of radio equipment, particularly
in a static situation. It is further recommended that consideration be given
to the procurement of a generator to replace the PE 210 in that the current
models of the PE 210 have been found to be temperamental in operation,
requiring constant attention and frequent overhaul.

* *

(RESTRICTED)

ENGINEER SUPPORT. - It is recommended that separate field
artillery battalions and corps artillery units be provided with engineer
support comparable to that rendered divisional artillery units by organic
divisional engineers.
ENGINEER EXPENDABLE SUPPLIES. - It is strongly recommended that engineer expendable supplies include plotting needles in conformity to specifications prescribed by The Artillery School. Issue cycle of these items should be at least each 30 days.

*  

*  

BATTERIES. - It is recommended that field artillery battalions be authorized a minimum of four additional 6-volt storage (wet cell) batteries in addition to the number currently authorized by pertinent T/O&E's.

SOURCE: Command Report - 955th Field Artillery Battalion

DATE: April 1952

SPECIAL ALLOWANCE OF ONE D7 BULLDOZER PER FIRING BATTERY. - The present Special Allowance of one D4 bulldozer per battalion is inadequate in this type of terrain and this type of employment of field artillery battalion (155-mm how).

Twenty-five days of continuous use of a D4 bulldozer are required in the rough moving of dirt necessary to properly prepare position of the headquarters battery and three firing batteries of a 155-mm howitzer battalion. This does not include time for leveling of position area, construction of roads, or improvement of drainage which is very necessary in preparation of howitzer positions of any permanency.

Rocky soil, frozen ground, and hilly terrain encountered in this theater precludes the use of a D4 bulldozer without frequent mechanical difficulties.

Therefore, it is recommended that a D7 bulldozer with a lowboy for transport be placed on special allowance per firing battery, or that a high-speed bulldozer of approximately the same capacity as the D7 be placed on special allowance per firing battery, when a field artillery battalion (155-mm how) is engaged in a defensive operation.
PERSONNEL RECOMMENDATIONS FOR POSTAL UNIT (TYPE F).

a. The distance involved in serving troops through the Army Postal Unit as well as the number of troops served, influences the number of persons needed to effectively receive and dispatch mail.

b. In a nonstable situation where troops are constantly being shifted, the length of time required for approval of another type postal unit makes it advisable to resolve the problem by other means.

c. It is suggested that a plan be implemented to provide a flexible scale for the T/O&E within the specified type of postal unit to permit the increase or decrease of personnel without undue delay in order to maintain expedient and efficient postal service.

d. This problem is illustrated by the operation of the 11th APU (Type F).

(1) Authorized strength .......... 1 officer - 14 enlisted men

(2) Present strength ............ 1 officer - 21 enlisted men

(3) The 7 EM overstrength is required by establishing a forward echelon 32 miles from the main branch to serve 25 units. The maintenance of this subunit saves these troops 64 miles travel, enables quicker mail service, and saves time, manhours, and equipment of the units being served.

(4) Recommend that a flexible T/O&E be published, based on distance of units served from APU plus the number of troops served. This type of T/O&E would be more practical in a combat situation and provide for better utilization of personnel.
(RESTRICTED)

ENEMY MINE TACTICS. - One new method of booby-trapping the Russian wooden box mine, TMD-B, was discovered and successfully neutralized. In one instance, the TMD-B mines were laid two deep with the upper mine level with the surface of the ground. Under the lower box mine a shu-mine, PMD-7, was placed in an inverted position. A wire was connected from the safety pin of the MUV fuse of the shu-mine to a nail in the upper box mine. The booby trap was set so that a direct pull in removing the upper box mine would pull the safety pin from the shu-mine fuse and cause the strike to be released and the entire group of mines to be detonated. It is considered significant that only one such booby trapped set of mines was located in this field. This project was successfully completed without casualties.

SOURCE: Command Report - 1st Cavalry Division

DATE: May 1951

(RESTRICTED)

INDIVIDUAL WEAPONS. - Soldiers are far from satisfied that we have the best individual arm. The carbine lacks range and power (hitting power), and the M1 is heavy and sensitive to weather and dirt. Infantrymen are divided over the merits of the semiautomatic weapon versus the single-loader. Obviously we have a problem that is tied up not only with the weapons, but in the psychology of our training. There is considerable feeling that all training needs more stress on accuracy in firing, use of the battlesight at variable ranges, and small unit musketry. Experience has also shown that the bayonet is far from obsolete. It is not so much the ability to use it skillfully, but the determination to close with it. No one has much stomach for a bayonet attack, including the fanatically indoctrinated enemy in Korea.
WAC REPLACEMENTS. - Replacements from the continental United States have included former members of this command who were rotated for discharge. At the time some of the enlisted women departed for the continental United States, low character and efficiency ratings were included in their 201 files with recommendations that they not be re-enlisted in the service for certain cogent reasons.

Conclusions are that upon return to the continental United States for discharge, a few undesirable women expressed their desires to remain in the service and were re-enlisted. They then volunteered for second tours in the Far East Command.

Recommend that prior to shipment of any enlisted woman formerly assigned to the Far East Command who has completed less than one year's subsequent service in the continental United States, the application be forwarded to this command for comment, recommendations, or concurrence.

AERIAL PHOTOGRAPHS TO IDENTIFY TARGETS. - It is apparent that the biggest problem encountered in the conduct of air strikes is in the actual direction of the fighters on the target. It has been found that the use of aerial photographs in "mosquito" conducted strikes provides an excellent means of identification of the desired target to the mosquito aircraft since both the Forward Air Controller and mosquito pilot are in effect looking at the same ground.
USE OF SCOUT DOGS WITH PATROLS. - The use of dogs on patrols offers increased security without hampering activity. Best results are obtained when dogs work with members of patrol at least two days prior to actual patrol. Some ambush patrols experienced difficulty due to nervousness when the enforced inactivity necessarily exceeded 3 hours.
OFFICE, CHIEF OF ARMY FIELD FORCES
Fort Monroe, Virginia

ATTNG-26 350.05/62(DOCI)(C)(29 Nov 52) 29 November 1952

SUBJECT: Dissemination of Combat Information

TO: See distribution

1. In accordance with SR 525-85-5, Processing of Combat Information, the inclosed EXTRACTS are forwarded for evaluation and necessary action. It may be appropriate, in certain cases, to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and often, the extracted item serves to reaffirm our doctrines and techniques.

2. Copies are furnished to other military agencies to keep them informed concerning theater problems from the front line through the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office assigns each extracted item the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.

4. Combat information EXTRACTS herein which are applicable to training at the company-battery level also appear in Army Field Forces TRAINING BULLETINS.

FOR THE CHIEF OF ARMY FIELD FORCES:

Extracts from sources 546 thru 575

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SIGNATURE: J. SMITH
Colonel, AGC
Asst Adjutant General

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(See next page)
Subject: Dissemination of Combat Information

29 November 1952

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2 CG's
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1 ea Pres, AFF Boards
1 CO, Arctic Test Branch
1 ea Chiefs, AFF Human Research Units No 1 and 2
(CONFIDENTIAL)

4.5-INCH ROCKET LAUNCHERS. - On 7 May, a platoon of 4.5-inch rocket launchers, model T66E3, was emplaced within the division sector for the first time and fired on selected targets. This firing was part of a coordinated corps-wide program directed by the Commanding General, IX Corps. At 071600, May, four launchers firing from separate positions fired on selected targets. At 2100 the same date, a platoon consisting of six launchers occupied a single position and massed on an enemy strong point in front of the 32d Infantry. The firing was marked by several malfunctions of materiel and only in a few instances did the rocket launchers fire the number of rounds scheduled. Due to the limited range of this weapon its use in the present division sector, with relatively open terrain to the immediate front, will be extremely restricted as few remunerative targets can be reached.

*(RESTRICTED)*

AIR STRIKE DIRECTED BY ARMY AIRCRAFT. - On 17 May, during an air strike on three confirmed artillery pieces the tactical air coordinator (Mosquito) was forced to leave the area before the completion of the strike. On orders from the fire support coordination center the artillery aerial observer in the sector contacted the flight leader on the Air Force "white" channel and proceeded to do an excellent job of directing the strike which resulted in two positions being destroyed. Since the installation of the Air Force channel in the division artillery Army aircraft, this marked the initial instance in which an artillery aerial observer was actually required to direct a flight onto a target in this division sector. This incident has proved that Army aircraft can successfully direct Air Force fighter-bomber aircraft during a strike.

One of the few outstanding missions of the month occurred at *** when the 57th Field Artillery Battalion began receiving counterbattery fire. Darkness was rapidly approaching and the artillery air observers had begun to
return to base. The aircraft were alerted to return to the target area and one of the observers located the enemy battery firing. In order to neutralize the enemy artillery in the short time remaining before total darkness, the observer adjusted a corps artillery 8-inch howitzer battery and a corps artillery medium battalion using area fire in effect. The enemy battery was effectively silenced and the pilot, aided by make-shift lighting at the air strip, landed the aircraft after darkness without incident.

SOURCE: Command Report - 245th Tank Battalion

DATE: June 1952

(TOP SECRET)

TANK RECOVERY. - Our tankers have great confidence in the protection offered by their tanks. Our tanks have been hit repeatedly by a great variety of weapons but no crew members in the tanks have been harmed. Two improvements to recovery vehicles will eliminate presently required exposure of recovery vehicle crews during battlefield recovery. First, the large well on the tank recovery vehicle should be covered by an armored hatch. Second, an automatic coupling device should be installed on retrievers to enable them to couple with a disabled tank without dismounting personnel.

* * *

SEARCHLIGHT TANKS. - The searchlight tanks have not been used to their full capabilities as yet. They have aided in the outposting of ***. When they were placed in position, the enemy's preparatory artillery and mortar concentrations damaged the lights and the tanks. The one light that was undamaged was restricted in range due to the tremendous amount of dust raised by enemy and friendly fires. It is felt that it did aid the infantry somewhat and aided the supporting units on the MLR by defining the final protective line. Tanks have lately been placed at the base of hills in positions where they can move to the flanks. It is felt that these tactics will place the beams under the dust, thus giving them more range. If a counterattack were needed, the tanks could move to their up-hill firing positions rapidly.

* * *
TANK DOZERS. - Tank dozers have been of great aid in several of our operations. A mechanical weakness in the tank dozer is in the sprockets. Sprocket bolts are sheared by excessive strain. Welding the sprocket does not seem to be the answer since the final drive is overstrained.

FLAIL TANK. - On 17 June, battalion flail tank, with crew from Company B, was sent to 120th Engineer Battalion upon request to clear a path through a friendly AP mine field on road. The flail tank became mired in a rice paddy and could not continue its mission. Mud splattered from flails blinded vision slits and periscopes making control difficult. Crew operating flail tank recommended using a control tank nearby, which could radio instructions to crew. Due to the soft ground, the effectiveness of clearing the mined area could not be determined. The flail tank was recovered the following day by a battalion recovery crew.

TANK AMMUNITION RESUPPLY. - Tank elements used a shuttle system of resupply during operations and as one tank would expend its load of ammunition another one was dispatched from a concealed resupply area to take its place so continuous fire could be brought on enemy targets at all times during the operation.

SOURCE: Command Report - 999th Armd FA Bn
DATE: June 1952

CHANGE IN T/O&E. - This unit is authorized one electric and three gas welding sets and yet the T/O&E authorizes only two welders. Two of the welding sets are in use at all times with the third and fourth being used during periods of movement and operations by training mechanics to serve as welders.

Recommendation: That an armored medium or heavy artillery battalion be authorized four welders on the T/O&E.
(RESTRICTED)

DEFECTS IN M41 ARMORED VEHICLES. - The pulley on the left rear of the carriage of the M41 which carries the cable to elevate and lower the firing platform and spade is secured to the carriage with a U bolt that is not sufficiently strong. We are experimenting with modifications to overcome this defect.

The M41 powered with the two Cadillac 110 HP engines is underpowered. Ordnance has installed two Cadillac 150 HP engines in five of our M41's and they are a considerable improvement.

SOURCE: Command Report - 5th Infantry Regiment
DATE: June 1952 Source No 549

(RESTRICTED)

CONSTRUCTION TRAINING NEED. - It was found that replacements reporting from the zone of interior were lacking in knowledge of construction of bunkers and digging gun positions. It is recommended that training include practical work, so that troops know how to dig positions and construct bunkers of sufficient strength and thickness to withstand heavy mortar and artillery fire.

* * *

(RESTRICTED)

AMMUNITION CLERK FOR TANK COMPANY. - Because of the many types of ammunition and the problems that arise when tanks are extended, it is recommended that the T/O&E of the medium tank company be changed to include one ammunition clerk with the primary duty of supervising ammunition supply, storage, and accounting.

SOURCE: Command Report - 73d Tank Bn(M)
DATE: May 1952 Source No 550

(RESTRICTED)

MAINTENANCE PROBLEMS - M46 TANK. - Maintenance problems on the M46 remained the same with final drives and oil cooler fan drives
and clutches continuing to fail. We have received the new type clutch in limited quantities and have had several failures. The part which fails in the new clutch is the round insulator. It cracks and results in the clutch shorting out.

SOURCE: Command Report - 279th Inf Regt
DATE: May 1952 Source No 551

(RESTRICTED)

FLEXIBILITY IN EMPLOYMENT OF TANKS. - It was learned from this operation that the units constituting the blocking force had to be strong and highly mobile. Consequently, it was discovered that the decision was sound to attach tanks to these units initially and as they came through the MLR on Lines *** and *** to pass these tanks to operational control of the two battalions on line. As the battalions on line withdrew through the units occupying positions on the OPLR, these tanks once again reverted to the units constituting the blocking positions. By utilizing this method, the "shell" group was able to maintain a high state of maneuverability but also possessed an abundant source of firepower.

SOURCE: Command Report - 8th Army (EUSAK)
DATE: January 1952 Source No 552

(CONFIDENTIAL)

DISPOSITION OF DISABLED TANKS. - Recent experience and Combat Loss Reports indicate the CCF do not attempt to recover our immobilized tanks. Our tanks have been destroyed in the past by using units to prevent them from falling into enemy hands.

Tanks that become so immobilized as to preclude immediate recovery and return to friendly lines should not be destroyed. If the situation prevents outposting of the tank pending recovery or repair operations, and necessitates temporary return of the area to enemy control, the crew should render the tank and its armament inoperable through the removal of parts.
Dependent upon the situation and the time available, as many of the following should be accomplished prior to the abandonment of the tank.

a. Complete removal of all secondary armament.
b. Removal of tank gun firing mechanism from breach block.
c. Removal of radio crystals, headsets and microphones.
d. Rendering the tank inoperable by:
   (1) Removing battery cables from battery.
   (2) Turning off fuel valve and removing fuel valve handles.
e. Closing and locking all hatches.
f. Booby-trapping tank.
g. Emplacing AP mines in immediate vicinity.

SOURCE: Command Report - 936th FA Bn
DATE: June 1952

(RESTRICTED)

NCO REPLACEMENTS. - The lack of enlisted qualified replacements by MOS and grade during the past six months has become a matter of great concern. It is realized that the greater portion of noncommissioned officers of the lower grades are normally made within the unit but it must also be recognized that the time factor in this theater does not lend itself to training an individual and developing both his technical and leadership abilities to fill key positions in the upper grades.

Under present conditions it is necessary to fill T/O vacancies with the best available personnel without regard to over-all qualifications; as a result, 32% of the NCO's of the top three grades have been promoted three times since arriving in Korea. As of 30 June this battalion had a total assigned of 100 NCO's of the top three grades, of this number 52 had less than two years of service.
A system requiring such fast advancement eventually results in lowering the standards desired for competent noncommissioned officers and, within a short period of time, fills a unit with NCO's of lower caliber who are expected to train a replacement. Thus the standards of proficiency and leadership are progressively lowered.

At the present time the majority of key positions that call for grade E-7 are filled by competent NCO's, but if it becomes necessary to replace these few with men who have little or no experience, the situation may become critical and even dangerous.

The experience of the past six months has shown that the percentage of replacements received by MOS and grade, against that which was requested, is very low. In the next three months this unit will lose 47% of the first three grades NCO's. It is recommended that greater effort be made to fill personnel requisitions by grade and MOS and to place the experienced personnel in the combat units in order to achieve the efficiency necessary to accomplish their mission in combat.

SOURCE: Command Report - IX Corps, Bk II, Part 3

DATE: March 1952

(RESTRICTED)

EFFICIENCY OF UNITS. - Rotation of personnel within the divisions is reducing the efficiency of many units. Key personnel are generally the ones who have been in the unit the longer period of time and therefore are the ones that are being rotated. It would increase the efficiency of units if provisions were made to allow over strength in units until such time that replacements were trained to carry out their duties efficiently.

Recommend that key personnel replacements arrive in time to be trained on-the-job, prior to departure of veterans of Korea.
FIRING TABLE FINISH. - It is recommended that a more durable finish or facing be used on the new Dual Granulation Graphic firing tables (M39 A1) and the Graphic Site Tables (M53 A1). The present type facing is less permanent than the type used in the old Single Granulation Tables, and after approximately three weeks of continuous use, the facing becomes dirty and the marking becomes difficult to read. Erasure or washing deletes the markings and lines.

T/O&E CHANGE, AAA BN. - Recommend that a generator, 5 KW be authorized in lieu of the generator, 3 KW presently authorized, inasmuch as 3 KW does not produce an adequate supply of power for the needs of this organization.

ROK TACTICS. - At 0200, 6 May, friendly troops withdrew from outpost Kelly without actual contact, sucking in an enemy squad to the outpost. The 58th Field Artillery Battalion placed artillery fire on the unsuspecting enemy and when the ROK's returned to Kelly, they counted 9 enemy casualties. This type of tactics was often used by ROK infantry during May.
MOBILE FDC. - The 999th Armored Field Artillery Battalion has devised a mobile Fire Direction Center constructed in a four wheel, van-type trailer (inside dimensions 7'5" x 17'6" x 6'2""). This mobile FDC has been a great help toward speed in displacements and also for the health and comfort of the FDC personnel during cold and wet weather. The prime mover for this van is the S-2 half-track. A gasoline stove from an arctic tent was used in the van during the winter and in addition to providing heat, hot coffee was also available for the night shift. Computers chairs, and desks, HCO, VCO, and S-3 desks, radios and telephones are secured in the trailer so as to remain in place during moves. Upon arriving in a new position, the connection of telephone lines is the only thing necessary to place this unit into operation.

It is recommended that a van trailer of a type similar to this be authorized for armored artillery units engaged in cold or wet weather operation.
In the current situation, only a few interpreters are available and this fact prevents the full coordination desired. The limited T/O&E of corps battalions is stretched to the breaking point in both personnel and equipment by the policy of having a forward observer with each company in the line.

Recommend that American light field artillery battalions in direct support of ROK units, on application, be given a number of interpreters sufficient to allow the fire direction center and each forward observer and liaison officer to have a qualified interpreter.

American light battalions assigned to direct support roles in ROK units should be given a personnel and equipment augmentation to enable them to follow American artillery system of having a forward observer with each company and a liaison officer with each battalion and with regiment.

SOURCE: Command Report - 3d Logistical Command (B)

DATE: June 1952

SOURCE: Command Report - 145th AAA Bn

DATE: March 1952

(Restricted)

Train Ambush. - Bandit activity was highlighted during the period by an ambush on Korean National Railroad Train No 111, eight miles South of Saga-ri, which resulted in two US personnel killed and one wounded, twenty-one ROKA killed, seven National Policemen killed, and seventeen Korean civilians killed. Eight railway coaches were burned and the train engine derailed and damaged.

Source No 561

(Restricted)

Inclusion of Winterization Kit in T/O&E for AA Battalion for M3A1 Personnel Carrier. - The winterization kit for the M3A1 personnel carrier, though not authorized by T/O&E or SNL, was acquired through special requisition and has proved invaluable in utilizing the M3's.
It is felt that their value is not limited to cold weather. Good use can be made of them through the dusty and rainy seasons to provide more headspace, light and protection from the elements.

It is recommended that the winterization kits for the M3A1 personnel carriers be made an item of T/O&E.

* * *

(RESTRICTED)

FULL TRACK VEHICLE FOR M45 TURRET. - It is recommended that the M45 turret be kept for divisional antiaircraft artillery automatic weapons battalions but they be mounted on a full track vehicle.

SOURCE: Command Report - 424th FA Bn

DATE: March 1952

Source No 562

(CONFIDENTIAL)

"FLARE BACK" AND FLASH DEFIJADE. - There has been an unexplainable phenomena occurring at times on firing the 8-inch howitzer. It has been named "Flare Back" by the battalion gun crews and occurs in the form of increased blast, increased noise, and increased flash when firing the howitzer. The blast is so great that it has knocked cannoneers down in rear of the pieces. The noise produced is very sharp compared to normal howitzer firing, and is very painful to the ears and in some cases ear drums have been pierced. Whenever the "Flare Back" occurs dust evolves from the surrounding ground and parapets in great clouds, much heavier than normal.

There seems to be no apparent reason for these "Flare Backs!" Originally, it was felt that it was due to swabbing with too much water. To eliminate this, cannoneers have wiped the powder chamber dry after swabbing; however, it did not seem to eliminate the "Flare Back." Uniform hard ramming was emphasized but it caused no noticeable change. The following items were checked and were the same when "Flare Back" occurred and when they did not occur:

(1) Swabbing uniform and not wet.

(2) Powder lots identical and stored dry.
(3) Ramming was hard at all times.

(4) Powder was not left in tube to heat.

(5) Powder was not left open to absorb moisture.

All batteries experience the "Flare Back" and it occurs on all guns with no definite frequency but averages, approximately, once out of eight rounds fired. The battalion has experienced this through about 40,000 rounds of ammunition with all lots of powders, lots of projectiles and lots of primers. It has also been experienced through various types of power packing and ammunition storage by different ammunition dumps and personnel.

The "Flare Back" has generally been considered only uncomfortable and irritating; however, from night observations it has been discovered that the "Flare Back" has a tremendous effect on the amount of flash defilade required for the howitzer. Normally, five yards of defilade at 800 yards distance will hide any flash that occurs when the howitzer is fired. However, when the "Flare Back" occurs, it is estimated that it would take 30 yards of defilade at about 5,000 yards to hide the flash.

If the reason for "Flare Back" could be determined and eliminated, it would certainly eliminate, for all practical purposes, the problem of flash defilade for the 8-inch howitzer.

SOURCE: Command Report - IX Corps

DATE: May 1952

(RESTRICTED)

CCF COUNTER-INTELLIGENCE TECHNIQUES. - Reports from EUSAFO, X Corps and results of certain IX Corps interrogations indicate that increased emphasis is being placed on the indoctrination and training of guerrilla-type espionage and sabotage personnel, as well as enemy agents. Through instruction given at political schools and liaison offices, certain agents are being indoctrinated in Communist methods and espionage techniques and infiltrated into UN occupied territory. Particular attention is being given the well-known Communist device of "boring from within." Two line-crossers who surrendered to elements of the 40th Infantry stated
that following a ten-day briefing they were assigned the mission of crossing the UN lines in the 6th ROK Division sector and joining a ROK intelligence unit. If successful they were to obtain certain information, then volunteer for a North Korean mission to facilitate their return to the Communist zone, and continue their espionage activities while en route. An alternate mission was assigned if the primary mission could not be accomplished and details of the alternate mission were to be divulged only in case of capture.

Another variation of this type mission was disclosed in the interrogation of a CCF PW who had surrendered to elements of the 7th Infantry Division. This prisoner had been given the mission of obtaining information on strength, location and equipment of UN forces and installations; after obtaining this data he was to surrender to UN forces and, upon being imprisoned either at Seoul or Pusan relay his information through a known agent in the enclosure by identifying himself to the agent through the use of a certain code. To deceive the apprehending UN interrogators the agent was well briefed on anti-communist doctrine and supplied with letters and leaflets to substantiate his pretended anti-red stand.

The foregoing techniques indicate the ingenuity of hostile counterintelligence techniques as well as the use of varied devices to pass intelligence agents through UN lines into rear areas. Directing such operations are several departments operating under the North Korean Peoples Army GHQ with responsibilities for tactical information, strength and equipment, detailed information on shipping, airfields, and roads. In addition to the training and dispatching duties an elaborate system of liaison stations in both friendly and hostile territory is maintained along the routes of agent travel.

* * *

(RESTRICTED)

PREVENTIVE MAINTENANCE DEVICES FOR M46 TANK. - As a result of an Ordnance technical report by a civilian technical representative in connection with M46 tank, the following recommendation is made:

A chamois funnel about 12'' x 12'' be provided each tank to reduce the dirt in fuel.

* * *

(RESTRICTED)

SHELL REPORTING. - Recommend that shell reporting and crater analysis be made an integral part of the basic training of all combat arms.
to insure that personnel will be properly trained when they arrive in combat areas.

SOURCE: Command Report - 57th FA Bn
DATE: May 1952

(RESTRICTED)

IMPLEMENTATION OF S-2 SECTION. - At the present time the S-2 section consists of the S-2 and one Master Sergeant. The driver for the S-2 is furnished by the survey section. It is recommended that one Corporal be authorized as an assistant to the Intelligence Sergeant, and one private first class as a full-time driver for the S-2. During combat operations, it is often necessary for the section to function long hours. Furthermore, with only one noncommissioned officer in the section, it would suffer greatly in the event of the loss of the Intelligence Sergeant without an adequately trained assistant to assume his duties. The need for a full time driver is justified due to the extensive travel necessary to be performed by the S-2 in the proper performance of his duties. The present practice of using a driver from the survey section is detrimental to the efficiency of that section.

SOURCE: Command Report - 49th FA Bn
DATE: May 1952

(RESTRICTED)

USE OF GRAPHIC INTERSECTION IN LOCATION OF TARGETS. - The forward observers of the 49th Field Artillery Battalion made considerable use of graphic intersection. All observation posts were surveyed and a reference point located for orienting BC scopes. The primary object was the location of a number of prominent terrain features for use in preparing fire plans. Application proved that this method of locating targets could be invaluable in calling for surprise fires on such targets as enemy troops in the open. Through continued use of the system both FDC and the forward observers developed a proficiency for quickly obtaining an accurate plot.
All field artillery battalions in the division made tests in which they massed fires on targets located by graphic survey. It was found that battalions, using corrected data, could all be expected to hit within 100 yards of the target. Any adjusting rounds fired at troops in the open give enough warning for most of them to get under cover before fire for effect is started. With this method an entire division artillery TOT was possible with a high degree of accuracy within the capabilities of the weapons and within observation of the OP's. Due to the static condition of the front, there were no opportunities to fire on large groups of men; but tests proved that such a mission could be fired with speed and accuracy.

The Artillery School at Fort Sill gives instruction in observing Center of Impact and High Burst Registration. However, it is suggested that computing initial data by graphic intersection be given greater emphasis.

* * *

(RESTRICTED)

PERSONNEL AND EQUIPMENT. - Recommend:

a. That a 20-drop switchboard be authorized for Battalion FDC.

b. That each field artillery battery be equipped with 2 dump trucks with additional capabilities of performing normal 2-1/2-ton duties.

c. That battalion S-2 section be authorized 1 additional enlisted man to fulfill duties of clerk-driver.

d. That augmentation table to include 9 enlisted men be used to bolster battalion FDC in a combat theater.

e. That 2 TP 9's be authorized for each field artillery battalion.

f. In a combat theater AA officers assigned to field artillery units should be no higher in grade than 1st Lieutenant unless they have had Fort Sill training.

g. That division artillery be equipped to provide both visual and electronic metro messages.

h. That consideration be given to the possibility of returning to pre-World War II enlisted ratings.

i. That field artillery battalions be authorized a battalion mail clerk.
j. That field artillery battalions be authorized a special services NCO.

k. That battalion personnel section be stationed with units service battery.

l. That battalion be authorized six TS-10's.

m. That headquarters battery be authorized four SCR 536 for use with survey and wire section.

n. That assault fire methods be emphasized in training.

o. That corps artillery be provided with additional SP weapons to perform assault fire.

SOURCE: Command Report - Northwest AAA Sector
DATE: June 1952 Source No 566

(RESTRICTED)

RADIO SUBSTITUTION, AAA UNITS. - Recommend that consideration be given to the substitution of the AN/GRC-5 radio set and/or the AN/PRC-9 radio set, with the PP-545/U power units, for 10 AN/GRC-9 radio sets and 10 PE-162 power units in all T/O&E's for HAA and MAA gun battalions (T/O&E 44-15, 44-16, 44-17, 44-115, 44-116 and 44-117).

SOURCE: Command Report - 1st FA Observation Bn
DATE: June 1952 Source No 567

(RESTRICTED)

COUNTERBATTERY FIRE. - A study of the locations made by this unit during the past nine months shows a large number of positions which have been intermittently occupied by enemy artillery weapons; and an increasing number of positions which have been reported in action in the same location during the past three months. It is obvious that in many cases counterbattery fire has been ineffective, due either to lack of heavy artillery (for example 240-mm howitzer units to destroy artillery bunkers), dispersion
of available 8-inch howitzer and 155-mm gun battalions, or lack of sufficient ammunition to adequately destroy enemy positions and materiel. It is believed that in the present situation, with enemy artillery increasing in numbers, caliber, and well dug-in in positions, it is necessary to increase both the caliber of friendly artillery and the ammunition available for counter-battery fire, to accomplish the mission of destruction, and not mere neutralization, of enemy artillery.

* * *

(RESTRICTED)

SOUND AND FLASH RANGING EQUIPMENT. - The critical shortage in PE 210's has made GR8 operation a day-by-day crisis. There is also a shortage of irregular base fans. A defect in the sound ranging paper (PH 438) made by Western Union Telegraph Company has been noted. The paper is too thick, has rough texture and causes the styli to jump.

It is recommended that some thought be given to the development of a flash ranging instrument that incorporates the periscopic effect of the BC Scope and the accuracy of the M-1 azimuth instrument. The British M-2, where the observer is forced to look down on the instrument, makes him particularly vulnerable and is most unpopular among the flash observers.

SOURCE: Command Report - 424th FA Bn
DATE: April 1952  
Source No 568

(RESTRICTED)

D-6 BULLDOZERS FOR 8-INCH HOWITZER BATTALION. - Preparation of gun emplacements in the normal battery area and in forward positions has brought to light the serious lack of heavy earth-moving equipment in the T/O&E of an 8-inch howitzer artillery battalion. As the preparation of forward positions on many occasions must be accomplished in a limited period of time, it is necessary to have the equipment with which to accomplish the mission available and ready to use. We have in certain positions used a D-4 dozer in attempting to construct the type of emplacement necessary. This was found to be too light to move the tremendous volume of earth and rock found in this terrain and consequently, mechanical failures and numerous breakdowns resulted.
In other positions arrangements were made with various Engineer battalions or companies to use one of their D-7 dozers in this type construction. This large machine must be moved by a special tractor-trailer rig and is actually larger than an artillery battalion can economically handle.

However, a D-6 dozer approaches more closely the desired machine for this type work. This normally would be used for the howitzer positions, ammunition and powder pits and all other dug-in installations necessary for a howitzer battalion in combat. Preparation of adequate positions for protection of personnel and equipment is essential due to the close proximity of the MLR and the enemy's expanding practice of attempted counterbattery. Therefore it is recommended that a D-6 dozer be included in the T/O&E of each 8-inch howitzer battery for purposes outlined above.

SOURCE: Command Report - 92d Armd FA Bn
DATE: March 1952 Source No 569

(RESTRICTED)

(RESTRICTED)

ARTILLERY FUSE MODIFICATION. - It was determined that the fuse M67, mechanical time fuse, with time cut four seconds, is best suited for the base ejection smoke shells fired in marking missions, all of which involved a time of flight greater than 25 seconds. Since the battalion always fires fuse VT when the mission calls for air bursts, the only other use for fuse M67 is in illuminating shells. For use on both illuminating shells and smoke shells, the booster on the M67 must be removed by drilling out the screw holding it to the fuse proper. This is a time consuming job. It is suggested that a modification of the fuse be considered which would allow the fuse to be detached easily as in the fuse M54 and M55 combination.

SOURCE: Command Report - 25th Div Arty
DATE: June 1952 Source No 570

(RESTRICTED)

ARTILLERY FUSES. - There is a great need for a better time fuse than the one presently available. The 105-mm battalions are frequently
called upon to fire base ejection type shell, smoke and propaganda, both requiring a time fuse. Due to high angle fire and long ranges, and the resulting long times of flight, the M55 combination time and super quick fuse is unsatisfactory due to its time of burning limitations.

It is recommended that the M500 series fuses be made available for use in this theater, particularly a time fuse such as the combination 75-second mechanical time and super quick.

It is also recommended that the 75-second mechanical time fuse, M67, for use with 155-mm ammunition, be replaced with a mechanical time fuse having a super quick element.

* * *

(RESTRICTED)

HIGH ANGLE FIRE INSTRUCTION. - The procedures and techniques of high angle fire have long been "brushed over lightly" in the instruction given to officers at The Artillery School. As a result, most of the officers arriving in this theater for assignment to artillery units know very little, if anything, about the adjustment, fire direction procedure or ramifications of high angle fire. It is, therefore, necessary to devote considerable time and effort in the orientation and instruction of all newly assigned artillery officers.

SOURCE: Command Report - 75th Field Artillery Battalion

DATE: May 1952

(RESTRICTED)

FIELD UNIT TRAINING FOR SCHOOL TROOPS. - This unit experienced considerable difficulties in its initial period in the combat zone due to the inability of personnel to become acclimated to living in the field. This was a direct result of lack of unit training and training under field conditions. The unit was stationed at The Artillery Center as school troops and although its training in gunnery and service of the piece was superior because of the work it was required to perform for The Artillery School, it was never able to train as a battalion and had little opportunity to live in the field for any extended period. The battalion was, in effect, a collection of gun sections which happened to be quartered in the same general area. Fortunately, the entry into combat was made during a relatively quiet period of operations and up to this time movement has not been necessary. The battalion has in
fact completed its training on the job and has now acquired a high state of morale and esprit de corps.

In view of the experiences of this battalion it is recommended that units of school troops destined for overseas assignment be removed from the control of the school a reasonable length of time prior to their involvement in preparation for overseas movement and placed under the control of a tactical headquarters with a view to undergoing intensive unit training in the field.

SOURCE: Command Report - 424th FA Bn
DATE: May 1952

(RESTRICTED)

DEFICIENCIES IN QUADRANT MOUNT OF 8-INCH HOWITZER. - At 2000 hours 26 May 1952, Batteries B and C, 424th Field Artillery Battalion, participated in a corps artillery Time on Target mission on a reported active artillery piece located inside the no-fire line in front of the 31st Infantry. During this mission, several rounds were reported falling short, landing on a listening post position Company L, 31st Infantry, was preparing to occupy for the night. Since the position was not occupied at the time, no casualties were caused. Examination of craters and fragments the day following showed that the short rounds were fired by one of the 8-inch howitzer batteries.

A thorough investigation into the cause of these short rounds revealed that they were fired by Battery B and that the quadrant mount on the carriage of number three piece in Battery B was out of adjustment. When a certain elevation was set on this piece, using the quadrant mount, measurement of the quadrant elevation using the seats on the breech ring proved that the axis of the bore was at an angle of elevation 11.4 mils greater. Since this particular piece was used as the base piece in registration prior to firing the entire battery, it resulted in number 3 being "on target" during the transfer and the other three pieces firing between two and three hundred yards short.

On the day this maladjustment was discovered, an instrument team from our supporting Ordnance company checked and adjusted all sighting and laying equipment on the four howitzers of Battery B. This had also been done.
approximately two weeks prior to this incident. Commanding officers of the three firing batteries were directed to check the accuracy of the quadrant mounts at least twice daily. When it was discovered that, on the day following this adjustment of Battery B's quadrant mounts, these mounts were already again out of adjustment, from .5 to 1 mil, all firing batteries were instructed to discontinue use of the quadrant mount and use the quadrant seats on the breech ring exclusively.

While it is true that use of the breech ring seats will introduce a range error if cant is present, this error is small enough that it may be disregarded provided the cant does not exceed 100 mils. Test firing with a piece canted at an angle of 65 mils revealed the range error at midrange for charges 6 and 7 to be approximately 25 yards, while the depth covered effectively by impact burst of the 8-inch howitzer projectile is 20 yards.

Since it has not yet been determined what corrective measures are needed to prevent the shock of firing loosening the quadrant mount, it is felt that greater accuracy and safety will be obtained by using the breech ring quadrant seats only.

**SOURCE:** Command Report - 58th FA Bn

**DATE:** June 1952

**Source No 573**

(RESTRICTED)

**ARTILLERY T/O&E CHANGES AND AMMUNITION ISSUE.** - Recommendation:

a. That T/O&E 6-125, 15 May 1952, be amended to add one tractor w/dozer blade.

b. That some type control be set up by all ASP's to control the issue of ammunition by lot number.

c. That T/O&E 6-125, 15 May 1952, be amended to add one truck 2-1/2-ton, 6x6, cargo, w/winch for use as a mobile fire direction center.
FIELD ARTILLERY BATTALION T/O&E. - As a result of the experience that this organization has gained during the period February through June 1952, the following changes in organization and equipment are believed justified:

Present T/O&E's do not anticipate the loss of personnel due to rotation, illness, R&R, ETS, and many other factors. As a result there are extended periods during which units must maintain twenty-four hour operations with as little as eighty per cent of their authorized strength resulting in a loss of efficiency and a shortage of trained personnel. The policy of not assigning personnel until the physical loss of personnel seriously handicaps the training of new personnel is materially affecting operational efficiency. Experience has shown that it takes at least one month of on-the-job training to enable an individual to relieve a trained specialist and he is still far from being a trained specialist himself, further a trained specialist should have at least ten days of on-the-job training before taking over in a combat zone.

Present organization of headquarters and headquarters battery under the T/O&E 6-336N w/C 1 and 2 is not adequate to accomplish efficient administration in battalion headquarters, in the operation and fire direction section, and the personnel section when the battalion is organized for combat and is required to establish a battalion rear and forward. The present organization has the Sergeant Major and headquarters clerk (4405) assigned to the operations and fire direction section and a second headquarters clerk (4405) as well as a clerk typist (4105) assigned to the personnel section. Under the present organization the headquarters clerk (4405) assigned to the operation and fire direction section must do all of the administrative work for the S-1, S-2 and S-3 which is too much of a work load for one clerk. The clerk typist assigned to the personnel section would be of far greater value if he were a personnel administrative clerk (4816) and the headquarters clerk (4405) who is also assigned to the personnel section, were a finance clerk (4624) capable of preparing military pay orders, vouchers, allotment records and other related duties. It is believed that the re-establishing of the battalion headquarters section, consisting of the Sergeant
Major (1502), headquarters clerk (4405), agent (5704) and light truck driver (5704); the conversion of the headquarters clerk (4405) of operations and fire direction section to a clerk typist (4405); converting the clerk typist (4405) of the personnel section to a personnel administrative clerk (4816) and replacing the headquarters clerk of this section with a finance clerk (4624) would materially improve the administration and records of the entire battalion. This would eliminate the need for carrying personnel in one MOS and having them perform other duties.

T/O&E 6-339N w/C 1 and 2, for service battery, field artillery battalion, 155-mm howitzer tractor-drawn, authorizes one Ordnance parts specialist (3815), in the grade of Corporal (E-4). The shortage of Ordnance parts and the small quantity of spare parts authorized for the units necessitate that the Ordnance parts specialist spend a great portion of his time in liaison with Ordnance depots and supply companies, this sometimes causes delays in issue of parts and also effects the accounting system for Ordnance parts with a resulting decline in supply economy. It is believed that a more efficient parts operation could be obtained by authorizing two Ordnance parts specialist (3815) in grades of Sergeant (E-5) and Corporal (E-4) so that one Ordnance Parts specialist is available for the issue and maintenance of spare parts records at all times. T/O&E 6-339N also authorizes a motor maintenance Sergeant (1660), Sergeant First Class (E-6) for the battalion motor maintenance section, this individual exercises direct supervision over eleven individuals and indirect supervision over nineteen other vehicle maintenance personnel, three of whom are of equal rank, it is felt that more efficient vehicle maintenance could be obtained if the battalion motor maintenance Sergeant were authorized in the grade of Master Sergeant (E-7).

Recommend that:

a. Present T/O&E's or policies be changed to permit the assigning of personnel to units in excess of T/O&E authorization prior to the physical loss of personnel to insure adequate training and continued high efficiency.

b. The following changes be made to T/O&E 6-336N:

(1) Establish a battalion headquarters section with the following personnel:

Sergeant Major (MOS 1502)
Hq Clerk (MOS 4405)
Agent (MOS 5704)
Lt Trk Driver (MOS 5704)
(2) Delete the following personnel from the operations and fire direction section:

- Sergeant Major (MOS 1502)
- Agent (MOS 5704)
- Lt Trk Driver (MOS 5704)

(3) Redesignate the following personnel in the personnel section:

<table>
<thead>
<tr>
<th>Present Designation</th>
<th>New Designation</th>
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<tr>
<td>Clerk Typist</td>
<td>Personnel Admin Clk</td>
</tr>
<tr>
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<td>(MOS 4816)</td>
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<tr>
<td>Hq Clerk</td>
<td>Finance Clerk</td>
</tr>
<tr>
<td>(MOS 4405)</td>
<td>(MOS 4624)</td>
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(Total 4)

These changes would make an increase of one individual in the T/O&E, a headquarters clerk (MOS 4405), but would result in a much higher administrative efficiency.

c. The following change be made to T/O&E 6-339N:

(1) Two Ordnance parts specialist (MOS 3815) be authorized in the battalion maintenance section; one grade E-4 and one grade E-5.

(2) The battalion motor maintenance Sergeant be advanced from grade E-6 to grade E-7.

SOURCE: Command Report - 955th FA Bn

DATE: February 1952

Source No 575

(RESTRICTED)

SIGNAL EQUIPMENT FOR FA BN. - The following considerations relative to separate field artillery battalion signal equipment are believed worthy of study:

The long lines necessary for administration, and in some cases tactical, wire communications necessitate the addition of a telephone set TP-9 per headquarters and per service battery.
It is believed that a more economical and equally efficient system for supply of Quartz crystals for radios can be devised. It is recommended that radios be issued with only one crystal per usable channel, that crystals be stocked at corps level and issued for frequency changes on an exchange basis. A similar procedure is undoubtedly applicable to division artillery battalions. In this battalion this procedure would make 208 crystals necessary as compared to the 3840 crystals issued. The over-all number of crystals necessary could undoubtedly be reduced to one half or less the number presently required.

In defensive operations, such as this battalion is presently supporting, an augmentation of wire and switchboards is desirable. Currently the battalion has 120 miles of wire on the ground; the authorization is for 70 miles. Approximately double the authorized quantity of wire is necessary.

The number of lateral lines which can be put out in static situation are limited by the number of switchboard drops available. The change in the T/E from 2 twelve-drop boards plus 2 six-drop boards to 3 twelve-drop boards reduces wire switching flexibility. For defensive operations 3 twelve-drop boards plus 2 six-drop boards are required. This battalion has improved tactical switching flexibility by utilization of 1 twelve-drop board in the FDC. The bulk of the FDC communication is handled through this board.
ATTNG-26 350.05/63(DOCI)(C)(4 Dec 52) 4 December 1952

SUBJECT: Dissemination of Combat Information

TO: See distribution DEC 15 1952

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FOR THE CHIEF OF ARMY FIELD FORCES:

T. J. Smith

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<td>100-101 Executive for Reserve and ROTC Affairs</td>
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<td>4-6 ACOFS, G-2, DA</td>
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USE OF TANK SEARCHLIGHT. - Additional use of searchlight tanks indicates that when they are used in the defense of fixed outpost positions, they are generally destroyed by preparatory fires of the enemy and are ineffective when they are needed. It is believed that they would be best used in counterattacks, blocking positions and ambushes.

I concur in the recommendation that the use of searchlight equipped tanks be limited to counterattacks, blocking positions and ambushes. When used in fixed outpost positions, experience has shown that searchlight equipped tanks are frequently destroyed or disabled by preparatory enemy fire rendering them ineffective for use when needed." (1st Ind, Hq 45th Inf Div, 22 Aug 52 - Maj Gen David L. Ruffner)

ARMOR EXPERIENCE NECESSARY FOR COMBAT. - Officer replacements have been uniformly lacking in practical tank experience. No tank-experienced officers have been received in this battalion during the period undersigned has commanded it. A very reasonable criteria for tank experience in platoon leaders is at least six months training as a tank platoon leader in a tank company. For company commander a reasonable criteria is at least one year's experience in a tank company including at least six months as a tank company commander. This practical experience is lacking, and is particularly noticeable during marches, maintenance periods and evacuation situations.

TANK RETRIEVER MODIFICATIONS. - Our operations during the past month have again strongly emphasized the necessity for an armored hatch over the tank retriever ring mount and the desirability of a quick coupling device.
(RESTRICTED)

EFFECT OF RAIN ON POSITIONS. - On the 26th of July 1952, the rain began and from that date until the end of the month a total of 11.83 inches fell in the regimental area. The rain was almost constant for a five day period. The efforts of the regiment were directed toward controlling what would have developed into a disaster in both damage and casualties. Nevertheless, the damage to positions was great. One hundred and two bunkers caved in, seventy-six bunkers were condemned, one thousand five hundred and forty-five yards of communication trenches caved in and four hundred and fifty-five yards of trails were washed out.

(RESTRICTED)

PRISONER CAPTURE METHODS. - Raids to capture prisoners by a platoon or company size unit against an enemy position which consists of a well developed network of trenches and bunkers on ridge tops manned by an alert enemy have proven costly. The friendly losses are out of proportion to the results attained. Raids of this type using preplanned artillery preparations and a coordinated infantry-artillery assault have been executed, as have raids using stealth to get close to the enemy prior to the final assault. Neither plan has proven entirely satisfactory.

A more satisfactory system is to use numerous small ambushes emphasizing stealth in contrast to force. Although, under this method, several days may be required to effect a capture, prisoners or bodies are gotten with sufficient frequency to maintain contact and identification.

* * *

(RESTRICTED)

HIGH-ANGLE FIRE. - The nature of terrain and restrictive areas for firing batteries frequently necessitates the emplacement of artillery
in positions with high minimum elevations. A large percentage of enemy positions are on reverse slopes of precipitous hills or in deep valleys. These factors require the use of high-angle fire for both observed and unobserved missions. At present, two of the division artillery 105-mm battalions are using high-angle fire almost exclusively; and the other battalions, fire high-angle fire over 50% of the time.

Most officers arriving in Korea for assignment to artillery units have inadequate training in the adjustment, fire direction procedure, capabilities, or usefulness of high-angle fire. It is therefore necessary to devote considerable time and effort in the orientation and instruction of all newly assigned officers in the procedure, techniques and use of high-angle fire.

It is recommended that The Artillery School place even greater emphasis and devote more time to the instruction of artillery officers in the use and conduct of high-angle fire.

SOURCE: Command Report - 40th Infantry Division Artillery

DATE: July 1952 Source No 579

(UNCLASSIFIED)

FLAK SUPPRESSION BY ARTILLERY. - The flak suppression plan, outlined in the 40th Division Artillery Command Report for the month of June, was used in conjunction with all air strikes during the period and was successful in reducing the time between the time of impact of the flak suppression rounds and the first run of the attacking aircraft from 6 or 7 minutes to a maximum of slightly more than two minutes. The plan was adopted as standing operating procedure, and published in written form on 18 July with one recision. The original plan directed that the mosquito send the fighter bombers away from the target on a pre-determined course during the fixing of the flak-suppression. It was decided that the timing necessary in turning them back to the target was too complicated, consequently the revised plan directs that the fighter bombers orbit at 8000 feet on the side of the target away from the friendly artillery.

Over

3
SOURCE: Command Report IX Corps, Bk I

DATE: June 1952

(RESTRICTED)

FRIENDLY EQUIPMENT IN HANDS OF ENEMY. - In the I Corps sector a group of 12 enemy were observed wearing the recently tested armored vests, and it was presumed that, having captured some of the experimental vests, hostile forces were themselves testing the armor.

* * *

(RESTRICTED)

PORTABLE SHOWER UNIT FOR COMPANY SIZE UNITS. - Shower units presently issued are large, costly, and usually located in rear area where there are large troop concentrations. These facilities are normally not readily available to company size units, and men either bathe in streams or construct make-shift showers.

A portable shower unit of four-head size packaged in a kit not larger than a foot-locker with a heating element optional, depending on the theater of operations, will satisfy the bathing needs of a company size unit.

It is recommended that such a shower unit be included in all company T/O&E, to be controlled by regiment for flexibility of use and to relieve the subordinate unit of administrative requirements.

* * *

(RESTRICTED)

INSULATING TAPE FOR WIRE SPLICES. - Insulating tape for wire splices is issued in quantities based on the amount of wire drawn. In a static situation such a basis for issue is not practical, for wire lines remain in place and tape is used for repair of broken lines rather than for the installation of new wire.

It is recommended that a new basis for issue of insulating tape be made, based on the above experience.

* * *

UNCLASSIFIED

SECRET

SECURITY INFORMATION
(CONFIDENTIAL)

SYSTEM FOR LOCATING HOSTILE BATTERIES. - During the month of May the 2d Division Artillery refined and further developed the use of all agencies for locating hostile batteries. It is recommended that the details of such a system be incorporated in the courses of instruction at The Artillery School and in appropriate manuals.

When the first hostile round falls, the air OP's are notified by the most expeditious means available (usually a battalion FDC radio) giving the grid square of impact. The air OP immediately checks areas known to have housed enemy pieces in the past. If he sees a piece, he immediately undertakes a fire mission.

In the meantime, all ground OP's are alerted to report sound azimuths and look for signs of smoke or dust from muzzle blast. The counter-mortar radar is also alerted.

Although the AN/TPQ-3 radar used in Korea cannot locate artillery pieces, it is capable of getting a "fix" on an artillery projectile in flight. By polar plotting this fix and the point of impact a ray of satisfactory accuracy can be drawn on the hostile battery chart. Occasionally two "fixes" will be obtained on the same projectile. This gives a good ray on the chart.

Infantry counterfire platoons are very helpful in locating hostile batteries, as well as mortars. In the same way, sound bases of the field artillery observation battalion were quite helpful. Frequently, before they had accurately located a hostile piece they had obtained an accurate azimuth but only an approximate range. This azimuth was used on the hostile battery chart.

Narrowly defined suspected areas, taken from the hostile battery chart, which should be a map scale 1:25,000, were given to the air OP's for surveillance. Another method for using the air OP's was to have them fly on an azimuth reported by a ground OP. This particular method in one instance resulted in locating an entire battalion of enemy artillery.

The success of the program depends to a larger measure on the aggressiveness of battalion S-2's in seeking accurate and prompt information from all observers. He must make every effort to coordinate with units to the flank of the division in order to extend the length of the base available for using the intersection method for locating enemy pieces.
A device used successfully as an extra compass consisted of a board on which was drawn a circle graduated in mils with a mark every one hundred mils. An easily identified terrain feature was also marked on the circle. A wooden arrow pivoted on a nail was used as an indicator. The board could quickly be oriented and the operator only had to point the arrow in the direction of the sound of a hostile gun to obtain a usable sound azimuth. This device was used at battery outposts, which were too numerous to be equipped with normal issue instruments.

SOURCE: Command Report - 45th Infantry Division

DATE: April 1952

(RESTRICTED)

RELIEVING UNIT FILES. - An SOP was established during the period whereby each infantry regiment, separate battalion, separate company, and technical service will maintain "Relieving Unit Files." These files are to contain all the information which might be required by a relieving unit in effecting an orderly, expeditious, efficient, and secure relief.

OCAFF Comment: In a stabilized situation where reliefs are routine this is an excellent practice and of real assistance to the relieving unit. It can be practiced with benefit in the smallest-sized unit.

SOURCE: Command Report - 8th Army EUSAK

DATE: April 1952

(RESTRICTED)

DISCRETIONARY ISSUE OF TELEPHONE TP-9 TO AAA AW (SP) BATTALIONS. - a. Discussion: The subordinate units of an AAA AW (SP) battalion in direct support of a division are frequently spread over a wide area. The wire provided for divisional units is the standard field wire, W-110, capable of transmitting from eleven to seventeen miles. The EE-8 telephone now authorized is not adequate to carry conversations to all the batteries. At times, radio is the only means of communication to the subordinate units. In this connection, administrative matters often tend to interfere with tactical messages. The telephone TP-9 would facilitate wire communications, as wire messages between the battalion headquarters and subordinate units are often routed through the division artillery headquarters.
b. Recommendation: That two telephones, TP-9 be included in the T/O&E of a direct support AAA AW (SP) battalion (44-75N), and the T/O&E of the headquarters battery of such unit (44-76N).

That one telephone be used in the S-2 and S-3 sections; the other to be used in the S-1 and S-4 sections.

That this equipment be issued as discretionary items limited to OCUS WAB TOC, in view of the fact that the present need for TP-9 telephones is not a continuing one.

ISSUE OF TENTAGE TO ARMY AVIATION SECTIONS FOR AIRCRAFT MAINTENANCE. - a. Discussion: It is required that aircraft maintenance inspections (pre-flight, post-flight, intermediate, major, and special) be performed by units in the field. The maintenance involved is very difficult in extremely cold and wet weather. The present necessity of performing maintenance during the hours of daylight reduces aircraft operating time during the short winter days. A tent, fire-resistant, maintenance, would permit maintenance work on aircraft during the hours of darkness and would provide a dry, protected space for the storage of tools and equipment.

b. Recommendation: That a tent, fire-resistant, maintenance, be made an item of issue to each division, division artillery, or other aviation section authorized a base tool set.

OCAFF Comment: Military characteristics for a two-man aircraft maintenance shelter have been developed. No existing tent or shelter is suitable. A shelter which meets the MC's is being developed, and when found suitable, will be recommended for standardization and issue.

REPLACEMENT OF BULL BLADES BY ANGLE BLADES ON DOZERS. - a. Discussion: From the experience gained by Engineer combat battalions in operations, it is felt that all dozers should be equipped with angle blades. There are very few jobs for which the bull blade is superior to the angle blade. On the other hand, there are many jobs for which the angle blade is far superior to the bull blade. The side hill cut is probably the most common of these typical angle blade jobs. In this theater, over 50 per cent of the length of all roads built has been side hill cut.

b. Recommendation: That all dozers of Engineer combat battalions be equipped with angle blades in place of bull blades now standard equipment.

Over
ADDITIONAL TYPEWRITER FOR FIELD ARTILLERY SERVICE BATTERIES. - a. Discussion: The addition to the T/O&E of field artillery service batteries of one typewriter, portable with carrying case, for use by the motor maintenance parts clerk would considerably facilitate the operation of the battalion motor maintenance section. The expeditious preparation of the information for requisitions, turn-in slips, and work orders to the battalion supply section requires the use of a typewriter by the motor maintenance parts clerk. Immediate and easy access by the parts clerk to typewriters of the battalion supply section is frequently not the case in normal operations.

b. Recommendation: That one typewriter, portable with carrying case, be added to the T/O&E of the service battery of all field artillery battalions.

CHANGES TO AR 260-10 AND SR 600-60-1. - a. Discussion: It is essential, both from the consideration of the recorded history of a unit and from the esprit de corps of its personnel, that the provisions of par 12, AR 260-10 pertaining to organizational colors and par 17, SR 600-60-1 pertaining to distinctive unit insignia be modified so as to place Engineer groups on the same basis as Engineer regiments.

It is true that the group type of unit was the outgrowth of the rage for flexibility in World War II. The bulk of the Engineer groups, however, actually performed as regiments with very limited change of units. At present, practically every large Engineer unit is organized as a group, but operates as a regiment, with continuity of subordinate units and integration of administration and operations. The group is generally as large, or larger, than a regiment; consequently, there are more personnel whose sense of "belonging to a unit" should be strengthened.

The time for recognizing this situation is long overdue. Engineer regiments appear to be units of the past, at least on paper. Their traditions, colors, and heritage, in many instances, have descended upon mere battalions; others have disappeared into archives. Where these regiments continue as numbered groups, nothing perpetuates them except a three by four diagonal white and red woolen bunting with inscribed Arabic numerals. (See par 12, AR 206-10.)

An Engineer group in Korea at present is an excellent example. This unit (previously designated as a regiment) was inactive from after World War I to 1940 at which time it was reactivated. In the midst of the active
Italian campaign in 1945, it was redesignated as an Engineer combat group. The group continued its active status ever since, and was stationed at a post in the zone of the interior from the end of World War II until its coming to Korea in 1950.

There seems no logical reason why this unit, and others with similar histories, should not retain all of the traditions, honors, records, and colors of the regiments as once designated. The only bar to such continuity lies in a short paragraph in AR 260-10. A minor deletion would result in applicable units gaining an unlimited measure of pride and spirit.

b. Recommendation: That the provisions of par 12, AR 260-10 pertaining to organizational colors and par 17, SR 600-60-1 pertaining to distinctive insignia be modified so as to place Engineer groups on the same basis as Engineer regiments.

INCREASE OF CAPACITY OF AIR COMPRESSORS. - a. Discussion: The present capacity of air compressors is insufficient.

b. Recommendation: That the capacity of air compressors be increased to 210 CFM.

ADDITIONAL INSTRUCTION ON GENERAL PURPOSE VEHICLE OPERATION AND DRIVER MAINTENANCE. - a. Discussion: Experience has shown that personnel do not possess sufficient general knowledge of the operation and driver maintenance of general purpose vehicles.

b. Recommendation: That basic training of all recruits include additional instruction on general purpose vehicle operation and driver maintenance.

SOURCE: Command Report - 17th FA Bn

DATE: July 1952

Source No 583

(RESTRICTED)

CONSTRUCTION OF BUNKERS. - The battalion's intensive ditching and drainage program, begun in June, proved eminently successful, enabling the unit to withstand the severe rains late in July with no flooding of
positions or damage to equipment. In spite of heavy construction, how-
ever a number of bunkers were weakened by the rain and had to be aban-
doned. This was primarily due to use of sandbags to support the weight
of the bunker roof. Bunkers are being rebuilt wherever necessary by
using heavy posts as supporting members. It was learned that without
exception no structural member in a construction should rest on a sand
bag - vertical posts must be used.

* * *

(RESTRICTED)
CLEANING BRUSH FOR 8-IN HOW. - The standard 8-inch howitzer
bore cleaning brush is not large enough to clean the powder chamber of
the howitzer satisfactorily. It is recommended that a cleaning brush
eight and one-half inches in diameter be developed for this purpose.

SOURCE: Command Report - 82d Armored Field Artillery
DATE: July 1952 Source No 584

(RESTRICTED)
BOMBING OF ENEMY OP BY L-19. - On 13 July 1952, one of the
92d L-19's equipped with two bomb racks with two 100 lb bombs, bombed
an enemy OP with considerable damage.

OCAFF Comment: Bomb racks are standard equipment for L-19
aircraft and are intended primarily for resupply, wire laying, flare
dropping, and similar missions. Bombing is possible, but involves a
calculated risk, usually not justifiable for the unarmed and unarmored
Army aircraft.

SOURCE: Command Report - 5th Inf Regt
DATE: July 1952 Source No 585

(RESTRICTED)
ENEMY TACTICS. - In the defensive employment of his mortars,
the enemy twice demonstrated a distinctive pattern. Two night raids con-
ducted against his positions by elements of the 2d Battalion resulted in
almost identical reactions. The enemy withheld his small arms fire until our forces were on the verge of over-running his positions. He then placed an intense concentration of 82-mm mortar fire on his own trenches and bunkers. His infantry firing from the protection of the heavily covered bunkers, was not particularly endangered.

SOURCE: Command Report - 40th Inf Div, ACOFS, G-1

DATE: March 1952

(RESTRICTED)

RETURNEE TREATMENT. - Attempts are being made at the present time to dispel the attitude currently held apparently in all replacement elements with which this division has had contact i.e., an attitude that individuals being processed for outshipment deserve nothing and hence are to be herded as groups of cattle. It is believed that these people who have made many sacrifices and served under fire and in many cases carry the scars of battle should be treated with honor and decency and be provided with those comforts that are available. It is inconceivable that personnel should be given less.

SOURCE: Command Report - 45th Inf Div, ACOFS, G-2

DATE: April 1952

(RESTRICTED)

SECURITY PROCEDURES IN COMBAT. - Throughout the division, as well as in the section, the handling and preparation of classified material for transmission continued to be a problem. Lack of envelopes made it impossible to comply with the provision of AR 380-5 to the effect that material classified higher than RESTRICTED must be double-enveloped for transmission. There is a tremendous amount of classified material in circulation all the time in a combat situation. For this reason and in the interests of supply economy, a radical modification of AR 380-5 to meet the realities of operations in the field is deemed to be in order.

A lot of time had to be devoted to processing requests from officer replacements for clearance for access to classified material. A great amount of material and information handled in the field is classified SECRET. It is recommended that a NAC should be run on every officer
in the army and SECRET clearances granted. This would save a lot of effort in the field. Further, no one who is a security risk should be an officer in the army.

SOURCE: Command Report - Eighth United States Army Korea

DATE: March 1952 Source No 588

(RESTRICTED)

NAPALM ROCKET HEADS. - During March EUSAK Chemical personnel experimented with several types of napalm rocket heads. A 2.25-inch aerial rocket, fired from an inverted monorail, was used as the propellant force for the napalm heads. Varying results were obtained, with the latest tested 3.5-gallon head giving the most consistent results. The fuse and firing chain has been consistently good throughout. The consensus of observers is that with precise construction a balanced napalm rocket head of this size with a 300-1000 yard range could be attained which would give consistent and accurate results. Such a rocket, light enough in weight to be fired from forward positions in rugged terrain is very much desired in this theater.

SOURCE: Command Report - 38th FA Bn

DATE: July 1952 Source No 589

(RESTRICTED)

GRID TARGETS. - The present target grid being used by this battalion is considered to be larger than necessary for the great majority of missions fired. The disadvantage of the larger size is that missions being fired by two different observers in the same target area are difficult to handle on one firing chart. The overlapping target grids cause difficulty in plotting shifts. It is only in extremely rare cases that the observer shifts more than 750 to 1000 yards from initial data. It is recommended that a target grid of diameter of 2000 yards be used or that the present target grid be made of transparent material.
INDIRECT FIRE WITH M16. - a. Two platoons of the battalion were employed in close support of the infantry regiments. Each platoon has tracks both in direct and indirect-fire positions. The infantry has requested the majority of fire missions to be fired from the indirect-fire positions. Indirect-fire missions have been executed at varying ranges up to 7,200 yards which is rated as the maximum horizontal range of the caliber .50 machine gun. On one occasion at this range some 8,000 to 10,000 rounds were fired on an enemy held ridge, and the infantry reported that the fire covered the desired area and was effective. There is no standard or approved method for delivering indirect fire from the M16 mount. No means is provided to lay the piece either in azimuth or in elevation. The battalion commander, and staff have designed a system of indirect fire and improvised the necessary range deflection fans and other equipment for a platoon Fire Direction Center. An improvised azimuth scale has been painted on the base of the M45 turret so that deflections can be set. Only five gunners quadrants are issued to a self-propelled battalion and for effective indirect fire each fire unit must have quadrant to set elevation. Machine-gun clinometers, which are in reality small gunner's quadrants, were borrowed from the supported infantry regiments so that each fire unit had the means to set elevation accurately. The system as designed by the battalion commander has proven to be entirely satisfactory. There are, however, a few small details to be ironed out. As a result of experience during this report period it has been determined that effective fire can be delivered from the M16 using indirect-fire methods.

b. During the present operation one platoon has been placed in direct support of each of the front line infantry regiments. The battery commanders and the platoon leaders have established a close liaison with supported infantry units to insure that proper supporting fires are provided. However, it is believed that it would be more satisfactory to have fire units with the infantry in an attached status. There would be closer coordination and better teamwork. Many of the problems of supply, mess and ammunition would be more satisfactorily solved. In the close support role since the fires are for the infantry and are a part of the infantry fire plan, it is believed that the infantry should have control. This attached status is mutually beneficial to the infantry and the antiaircraft automatic weapons.
c. Recommendations:

(1) It is recommended that a standard, uniform method of indirect fire be established for the M16's. The mounts should have an azimuth scale for deflection settings, and the necessary quadrants should be issued for setting elevation.

(2) It is further recommended that fire units whose mission it is to support infantry elements be attached and not placed in direct support.

OCAFF Comment: Reference recommendation contained in par 1, see comment under Source No 602.

*(RESTRICTED)*

M39'S FOR EVACUATION. - M39's, armored utility vehicle, have been used extensively in battlefield evacuation of the wounded. These vehicles were requested for operation in the sector of the 23d Infantry Regiment. Three to four M39's, with crews, have operated on a daily 24-hour schedule. Although their primary mission has been battlefield evacuation, they have been used to carry necessary items of equipment and personnel to places which are otherwise inaccessible or difficult to reach.

SOURCE: Command Report - 7th Div Arty

DATE: May 1952 Source No 591

(CONFIDENTIAL)

INTELLIGENCE PERSONNEL. - At the present time the artillery battalion S-2 section consists of the S-2 and one Master Sergeant. The driver for the S-3 is furnished by the survey section. It is recommended that one Corporal be authorized as an assistant to the intelligence Sergeant, and one Private First Class as a full-time driver for the S-2. During combat operations, it is often necessary for the section to function long hours. Furthermore, with one noncommissioned officer in the section, it would suffer greatly in the event of the loss of the intelligence Sergeant without an adequately trained assistant to assume his duties. The need for a full-time driver is justified due to the extensive travel necessary to be performed by the S-2 in the proper performance of his duties. The present practice of using a driver from the survey section is detrimental to the efficiency of that section.
(RESTRICTED)

RECOMMENDATIONS.

a. That artillery always precede infantry into position during relief regardless of any sacrifice of security.

b. That an extreme effort be made not to change radio frequencies during a relief unless it is absolutely necessary.

c. That consideration be given to the training of additional field artillery communications officers.

d. That a study be made of the device called "Jeep-a-Trench", used in civilian life to place water pipes below frost-line. This device operates on power take-off of 1/4-ton vehicle. This would greatly aid in digging trench to lay underground telephone cables.

(RESTRICTED)

BULLDOZER FOR ORDNANCE. - Movement into the new area pointed up a definite need for bulldozers of the D-4 or D-6 size for preparation of the storage and shop areas required for efficient operation. It is strongly recommended that a D-4 or D-6 bulldozer be added to the T/O&E equipment of the division Ordnance maintenance company.

* * *

METHODS OF TAKING PRISONERS. - In order to maintain the flow of information, as required by IX Corps TWX, 10 June 1952, planning was instituted at all levels for company raiding operations with the primary objective of seizing Prisoners of War, each regiment undertaking the execution of one such raid every third night. Raids were planned in detail by regimental S-2 and S-3 sections and coordinated by G3 to include
diversionary activity to be conducted by adjacent regiments and artillery. In all cases the operations were conducted without prior artillery preparation, to take advantage of the element of surprise insofar as possible.

An analysis of the operations conducted indicated that the results obtained were not in keeping with the hazards involved. In order to ensure the contact necessary, raiding parties were forced to probe more deeply into enemy territory than was feasible with this size force and sustained casualties incongruous with the resulting information. In an attempt to lessen the number of casualties and still obtain the desired results, two solutions were presented: (1) the mounting of limited objective attacks in sufficient force to enable the attacking force to hold the positions gained for twenty-four hours or more, eliminating the necessity for hasty withdrawal and the resulting casualties; or (2) the accomplishment of the mission by small, carefully selected and trained groups employing stealth. Both schemes were studied and plans were produced for battalion sized, limited objective attacks and for the formation and training of volunteer raiding forces. The division was alerted for relief by the 2d ROK Division before these plans were implemented.

SOURCE: Command Report - 14th Infantry Regiment
DATE: July 1952

(RESTRICTED)

PLASTIC MESS TRAYS. - Reports on plastic mess trays indicate they are desirable but will have a high replacement factor as compared to meat cans.

SOURCE: Command Report - 27th Infantry Regiment
DATE: July 1952

(RESTRICTED)

PLASTIC MESS TRAY. - The entire regiment continued the experimental use of the new plastic mess trays with the majority of reports indicating preference over the meat can.
REQUEST FOR LARGER DOZER THAN D-4 BULLDOZER. - Operations in the past few months and particularly during the rainy season have re-emphasized the need of a larger type bulldozer in the corps artillery battalions. The D-4 bulldozer, which would ordinarily be satisfactory under normal conditions, does not have the power to perform work that is required in the difficult terrain encountered here in Korea. Due to the heavier work required and the continuous use of the D-4 bulldozer by the units, the maintenance problem has increased tremendously. Breakdowns have caused delay in work and a decrease in the efficiency of the units. It is strongly recommended that each medium and heavy artillery battalion be authorized a larger bulldozer in place of the D-4 bulldozers that are presently issued.

BULK AUTHORIZATION UNITS FOR LOGISTICAL COMMANDS. - It has been found that every logistical command, regardless of theater, has experienced and will continue to experience peculiar operating conditions. It is practically impossible for planners of troops bases to foresee with any degree of accuracy the multiplicity of responsibilities continually being placed on logistical commands. The commander of a logistical command should be given an organization of sufficient flexibility to allow the exercise of control commensurate with responsibilities. A bulk authorization, in addition to T/O&E and T/D units, would be highly desirable and should provide the required flexibility. For proper supervision, control of bulk authorization spaces should be retained by the army commander, and be utilized for the logistical support in consonance with the over-all Army mission.

Recommendation: That, in addition to T/O&E and T/D units, the composition of each technical service attached to a logistical command include a bulk authorization unit amounting in strength to 10 per cent of the total personnel required to perform the mission of that service.
That such 10 per cent bulk authorization consist of both officer and enlisted personnel possessing grades and ratings in proportions representative of the general experience of the technical service concerned.

That the bulk personnel be assigned for administration to a single general service unit of the technical service concerned.

That the Army commander should retain control of bulk authorization spaces (in order to augment existing units or to form provisional units) and utilize them for logistical command support consistent with the over-all Army mission.

SOURCE: Command Report - 3d Div Arty

DATE: June 1952

(RESTRICTED)

ARMY AIRCRAFT - AIR FORCE COMMUNICATION. - It is recommended that a VHF channel be assigned to the division artillery aircraft to enable the Army aircraft to contact the Air Force Mosquito plane or any fighter aircraft in the air in the absence of a Mosquito plane. Often Army aircraft must be used to point out targets or pass on intelligence to an Air Force plane in the air. The relaying of information through fire support control center has led to loss of valuable time and to possible confusion in passing information through another agency. If this VHF frequency were assigned to the Army aircraft, it would be beneficial to the Air Force as well as the Army by a saving of aircraft fuel, reducing the time of exposure to enemy flak, and making air strikes more immediate.

OCAFF Comment: Army aircraft assigned tactical units in overseas theaters are equipped with crystals to operate on the established combat scene of action frequency (SR 105-150-10)(2 Feb 51). Utilization of this frequency permits direct communication between Army aircraft and Air Force Mosquito and fighter aircraft.

SOURCE: Command Report - 180th Infantry Regiment

DATE: June 1952

(RESTRICTED)

SQUAD TRAINING. - It is apparent that rifle squads need more training in order to more highly perfect them as fighting units. It is felt
too large a percentage of time is spent on platoon and company training at the expense of the training of smaller units. After a squad is well-trained it takes very little time to weld the platoon into a fighting unit. If the squad is brought to a high degree of efficiency before platoon training is begun, the platoon training will be more effective and will be accomplished in a much shorter time.

**OCAFF Comment:** Leaders must be impressed with their responsibility for constant supervision of actions of their unit in all training exercises. The fact that a platoon or company exercise is being conducted does not change the requirement or lessen the responsibility of the squad leader for the proper employment of his unit or for the proper actions of individual soldiers in the unit. Where a training deficiency is found to exist the leader is afforded an excellent opportunity to correct errors in any unit training exercise. The training program must be appropriately balanced to attain the objective of a trained fighting team.

**SOURCE:** Command Report - 3d AAA AW Bn(SP)

**DATE:** May 1952

**RECOMMENDATION:**

40-MM, HE, MARK II AMMUNITION FOR AAA BATTALION. - Recommend that units of this type be issued 40-mm, HE Mark II ammo with 6,000 yard tracer burn-out element, the issue to comprise 43 per cent of total basic load with the balance made up of the standard type (3,800 yard burn-out) presently issued. This stock would amount to 160 rounds per M19 to be used for infantry support and assault fire missions, one of the principal methods of employment of antiaircraft artillery organic to the infantry division. This recommendation is based upon the following reasons:

a. Increased depth of coverage. Ground targets up to 6,000 yards could be engaged effectively.

b. Avoid harassment of front line troops. At present, targets of opportunity are engaged from firing positions on the MLR to get the maximum benefit of the 3,800 yard limitation. The presence of these weapons in their midst has proved harassing to front line troops because of the threat of being caught in return fire. The use of longer range ammo would permit emplacement of weapons to the rear of front line elements without sacrificing the ability to engage targets of opportunity on the enemy MLR.
c. Permit the development of indirect-fire techniques. By utilization of the increased range, gun sites with a "piece mask" defilade may be selected from which weapons may be fired indirectly using an OP for control. The maximum ordinate of the trajectory increases sizeably between 3,800 and 6,000 yards range, thereby reducing the problem of flattened trajectory in developing these techniques.

OCAFF Comment: Though a 6000 yard tracer may be desirable, it is not essential. The DA is now taking action to reduce the types of ammunition being produced and under development. A 6000 yard tracer requires a new round of ammunition, which cannot be justified in light of DA action towards reduction. Furthermore, replacement of the 3800 yard tracer with the recommended tracer is not acceptable from the AA viewpoint because of the range limitation for AA engagements.

SOURCE: Command Report - IX Corps

DATE: May 1952

(RESTRICTED)

PROBLEM OF CHEVRONS CREATED BY CLOTHING EXCHANGE.
The practice of clothing exchange in forward combat areas has become common and is the accepted solution to the problem of providing clean clothing to the troops. One shortcoming of the clothing exchange system is the necessity for the removing and sewing on of enlisted men's chevrons of rank. There is a noticeable lack of initiative on the part of combat soldiers to keep on hand the requisite needles, thread, and replacement chevrons to accomplish the sewing of their chevrons after each clothing exchange. The few soldiers that attempt the job often obtain results that are not conducive to high military standards of appearance.

Some soldiers have solved this difficulty by painting the chevrons on their caps. This is contrary to good military practice as the markings are not uniform, obviously makeshift, and unbecoming in appearance. Hand-made metal devices are being fashioned and worn by the troops; miniature metal insignia are being manufactured by indigenous personnel for local sale.

It is believed that a realistic attitude should be taken toward this problem and immediate action be initiated to provide metal or plastic cap
chevron devices. Cost consciousness dictates the move from the standpoint of the savings that can be effected by using a metal or plastic cap piece in lieu of the numerous cloth chevrons needed for replacement necessitated by "clothing exchange."

It is estimated that the cost of the cap insignia made from metal or plastic with clutch fasteners would be less than the cost of two sets of cloth chevrons.

Recommend that enlisted men be furnished metal or plastic cap insignia designating rank, to be worn while on duty in combat areas.

OCAFF Comment: OCAFF has recommended to The Quartermaster General the adoption of a cap insignia of rank.

SOURCE: Command Report - 145th AAA AW Bn(SP)

DATE: June 1952

(REstricted)

LIGHT AA RECOMMENDATION.

a. That the AA&GM Branch, The Artillery School evolve and teach a standard method of indirect fire for the M16.

b. That each firing battery be issued a barrel gauge for their own machine-gun barrels. This would permit determination on the spot whether or not barrels are safe for overhead fire. It would eliminate much handling of barrels. The threads on the barrel are subject to damage in handling.

c. That a mitten be issued that is capable of withstanding greater temperature than the present asbestos mitten now issued for the purpose of changing hot barrels.

OCAFF Comment: Reference par 1, change 1 to FM 44-2, now being processed for publication, includes the indirect fire procedure for AAA AW weapons.
(SECRET)

DEFENSE AGAINST MASS ATTACK

GENERAL

This paper is a listing and brief explanation of the lessons learned in Korea regarding defenses against the Soviet type mass attack as executed by the Chinese Communist Forces and the North Korean Army. These lessons are believed to be timely and important to all levels of command in the Army because the Korean experience is the first in which American forces have ever dealt with such attacks, and, what is more important, in any future combat with communist forces anywhere similar actions undoubtedly will be encountered over and over. The narrative record of the "Communist Fifth Phase Offensive, April 1951," assembled and published by I US Corps, contains the facts from which most of these lessons are drawn. It will be noted that nothing new or radical is suggested here as a solution to the problem, but rather, that once the characteristics of the mass attacks are understood and well known defensive tactics are applied, common sense and a cool head are all that is needed to defeat such attacks.

CHARACTERISTICS OF THE MASS ATTACK

It is obvious that the communist high command clearly recognizes the validity of the ancient military principle of mass, and that in Korea it has been executed in terms of men rather than firepower only because manpower has been abundant while firepower has been relatively weak. In Korea, the communists have learned through bitter experience that not only are human mass attacks unlikely to succeed against a modern army, but also that even they cannot afford the tremendous expenditure of manpower that such attacks require. They are working desperately to modernize their armies, both Soviet and Chinese, in order to avoid reliance mainly upon numbers of men, and we may be assured that when they do succeed they will still understand the use of mass as a principle and will translate it into firepower and armored shock forces. This study deals only with the "human sea" use of mass.
The mass attack is executed on a large scale. The attack against the I US Corps in April 1951 was executed by a total of eight CCF Armies and one North Korean Corps - 26 enemy divisions - on a 65 mile front. At the point of the main effort, there were two army groups in column.

The troops are assembled in rear of the line of contact, but within less than 24 hours marching distance. The concentration is effected at the latest possible time in order to increase the chances of gaining surprise. The units then march rapidly into contact in close formations using every possible route. On 22d of April 1951, air observers on the corps front reported enemy columns coming down "every road, path, and ridge line, two, three, and four abreast, as far as the eye can see."

Once movement is begun, the attack is pressed forward with complete disregard for losses. The idea is to pour humanity against our defenses faster than it is possible to destroy it. Although the carnage in such an attack is appalling, the method is effective if the attacker is willing to pay the price. One Soviet general, when asked after World War II, the secret of his offensive success, is reported to have said, in substance, "I simply expend one or more second or third class armies against the point where the breakthrough is desired until it is overrun. Then I send in a first class army to exploit the break and win the battle."

PLAN OF DEFENSE

In order to defeat a mass attack, the plan for the defense must be directed toward two major accomplishments: Destruction of the mass and delivery of a counterblow. There are three main phases of the battle. First consists of efforts by all intelligence agencies to locate the mass and the initial destructive measures taken against it before ground contact is made; second is the destruction of the mass at the line of contact, repeated if necessary on successive lines of contact; third is the launching of the counteroffensive in order to exploit the situation to the maximum.

PHASE I - LOCATION AND INITIAL DESTRUCTION

The assembly of a truly great mass of troops is virtually impossible to achieve undetected. The inherent unwieldiness of a large concentration prevents rapid assembly, and its size makes it impossible to hide. All means of intelligence therefore, have a large and easily located target to find and ample time to report it. Usually in Korea, initial intelligence indications of a major enemy offensive begin to appear as much as two to three weeks before the attack begins.
three weeks in advance. Actual sightings of the assembling troop column are made from 48 to 72 hours in advance. With our recent rapid development of mass destruction weapons, it becomes more important than ever for theater and Army intelligence to be on the alert for troop build-ups in rear areas. Early location of such targets may allow us to emasculate the power of the amassed strength before it can move to contact. For detailed information as to what is required to accomplish this, and what might have been done from a practical viewpoint, based on actual situations in Korea up to January 1951, see ORO-R-2(FEC) "Tactical Employment of Atomic Weapons," 1 March 1951.

Application of firepower should begin immediately upon observation of these targets. It is at this point that tactical atomic bombs and all means of tactical air attack should be used to the maximum. Atomic artillery can be used profitably on distant massed targets, with conventional artillery taking up the task as the human sea moves in.

In Korea, the technique of using radar controlled bombing against these masses has proven to be highly successful. The B-29 carrying forty 500 pound bombs with VT fuse has been used repeatedly with outstanding success. This method of attack against a massed enemy can be employed from the distant location of the original sightings up to within 1000 yards of our own troops. Such bomb drops have been made at night as close as 600 yards of our own positions. Pressure on the enemy mass should be maintained day and night with every weapon available in an attempt to destroy it before it reaches the main line of resistance. This will always be difficult to achieve, however, because the enemy will take every possible advantage of terrain, weather, and darkness to move in undetected.

PHASE II - CLOSE COMBAT

As the assault of the mass begins, the weight of defensive firepower must reach its maximum. Here the defensive efficiency of the main line of resistance receives its acid test. At points along the line where artillery and mortar defensive fires are properly located and adjusted, where the tactical wire is laid in many bands and along the final protective lines of the automatic weapons, where anti-personnel land mines (to include napalm fougasse mines) are sown thickly, where all types of weapons are positioned to be brought to bear (tanks, recoilless weapons, rocket launchers), where hand grenades are plentiful and handy in the fighting holes, where battlefield illumination is well planned and
carefully executed, where communications are correctly laid to keep functioning in combat, where commanders are in their observation posts and can see and control the fires, and where the soldiers are well trained, know their business, and are a determined, well-led lot, the human sea may be stopped. Time-on-target concentrations with VT fuse may be brought down on our own position areas when the enemy begins to break through our tactical wire. Friendly troops in fortifications which have proper overhead cover have been found to be quite safe from such fire, while this same fire is extremely effective on the enemy. Our own infantry weapons continue to fire from covered positions while the VT fuse artillery is falling. This technique has broken some very determined local attacks, but has not been used against the large mass to date due to the enemy's reluctance to launch such attacks in recent months.

No defensive line however, was ever perfect or invulnerable at all points. The human sea may be stopped at the strongest points along the line, but the weaker places will inevitably be overrun and the human sea will begin to flow through the cracks in the wall. It is at this stage of the game that the commander has an extremely difficult decision to make. He must keep his units defending on line as long as possible, until the maximum price has been paid by the enemy for possession of the ground, but at the same time, if he keeps them there too long, they will be engulfed - overrun or surrounded by the human sea. In order to make this decision, he must have communications that function under all conditions.

There is a certain school of thought on the subject of defense whose "doctrine" is "defend at all costs at all times." Blind adherence to this idea in the face of a mass attack would be disastrous. The overrunning of our combat units is the whole object of the mass attack. The commander who stubbornly "defends the Alamo" on position is playing into the enemy's hands and will be isolated and defeated piecemeal. Retreating in panic is, of course, even worse. To win the battle, two things must be done. The highest possible cost in losses must be levied from the enemy before the position is abandoned. Then, and then only, contact must be broken, a rapid preplanned and orderly withdrawal must be executed, and a previously prepared defense position to the rear occupied. The defense of the infantry divisions must be flexible in order to retain the integrity of the forces in the face of this juggernaut of humanity. Blocking positions must be planned to limit initial local penetrations, local sharp counterattacks to be launched at critical times by tank-infantry teams must be planned and executed.

The advantage gained by constructing fortified positions to the rear is obvious since there will not be time to do so in the heat of battle. The
distance from one position to the next is governed mainly by the terrain. Each position must be on the most natural line of defense. However, there is a limit to how far back that position can be located profitably. It should be far enough back to force the enemy to move his supporting artillery, but not so far that our own artillery cannot keep the enemy under continuous fire during the withdrawal. In other words, contact is broken by the infantry with its organic weapons from one defensive position to the next, but is never broken as far as the artillery and close air support fire is concerned. Whether or not attrition on the mass will be sufficient to permit launching of the counteroffensive on the first position, the second position or the fifth or sixth, is dependent upon the equation of many variables, i.e., the efficiency of intelligence in detecting and reporting the mass, the efficiency of communications, the efficiency of our long range killing weapons in reducing it before contact and the efficiency of our infantry defensive positions are balanced against the density and size of the mass, its speed of movement and the strength of its supporting weapons.

If the "fight and roll" defense is well executed, it then becomes inevitable that the surge of the mass will be broken sooner or later. Units will be decimated, command and control channels lost and equipment gone. The mass becomes a straggling, chaotic mixture of the remnants of many broken units. When the Communist Fifth Phase Offensive was broken on Line GOLDEN just north of SEOUL, on the 3d and 4th of May 1951, prisoners from five different CCF Armies were captured in a two kilometer square area.

PHASE III - THE COUNTEROFFENSIVE

If the battle is to be decisive, when the enemy mass has disintegrated, the situation must be exploited fully. The commander who has been able to hold out a mobile striking force strong in armor during the destruction of the mass finds himself in an excellent position for he can deal a telling blow at his enemy's lowest ebb. For that reason it is of vital importance that the higher commander not commit his reserve unless he is forced to do so in order to save the integrity of his army. The more maneuver room he has, the more likely it will be that he can successfully husband his reserve by trading more space for enemy casualties and by being more deliberate in his reduction of the mass. If he does not have room to maneuver, he may well be overrun in any case.

Unfortunately there was no fresh reserve available in the Eighth Army to exploit the situation in May 1951. Every unit had been strained to the
utmost before the tide was stemmed. Both infantrymen and artillerymen were exhausted from eight straight days of fighting and marching around the clock. A counteroffensive was mounted eventually but the communists were able to break contact before it began. Several days elapsed before contact was re-established many miles to the north. Had two fresh infantry divisions with their normal complement of tanks been available to spearhead the counteroffensive immediately by cutting deeply into the disorganized and retreating communists, the CCF forces in Korea might well have been destroyed.

SUMMARY

A Soviet type mass attack can be defeated by the organization of a flexible defense on successive lines so located that although infantry units break contact in going from one line to the next, artillery and air pressure is continuous. The defender must have mobility and efficient command control of his forces. He must have maneuvering space in which to conduct his "fight and roll" battle. If it is humanly possible to do so, a fresh mobile reserve of the maximum possible strength should be kept intact and not committed until the momentum of the surging mass is broken.

(SECRET)

Following is letter from Commandant, Army War College, and addendum prepared by Army War College on foregoing study.

ARMY WAR COLLEGE
Carlisle Barracks, Pennsylvania

AIDW-C 352.01 28 October 1952

SUBJECT: Defense Against Mass Attack

TO: Chief of Army Field Forces Fort Monroe, Virginia ATTN: ACofS, G3

1. By letter dated 19 June 1952, the Commanding General, I Corps, forwarded to your headquarters a study entitled "Defense Against Mass Attack." Information copies were sent several service schools, including the Army War College.

Over
2. The I Corps study was read with interest and studied by the faculty of the Army War College, and an addendum to the study was prepared here, copies of which were forwarded to your office. An additional copy is inclosed.

3. The I Corps study provided an analytical evaluation of Soviet type mass attack techniques based upon the experiences of I Corps. However, in the interest of indoctrinating US Army forces in the best methods of overcoming such techniques on the part of Communist forces, it is believed that consideration should be given to the dissemination of the experiences of other Army units in combating such enemy techniques in Korea. The Army War College addendum to the I Corps study is but one of the accounts of other experiences by US forces in this field which should prove valuable in improving our own tactics and techniques.

Incl
Study, "Defense Against Mass Attack"

/s/ Edward M. Almond
/t/ EDWARD M. ALMOND
Lieutenant General, United States Army
Commandant

DEFENSE AGAINST MASS ATTACK

ADDENDUM

1. Possible misconceptions in the preceding text are clarified as follows:

   a. The frequently used words "mass" and "human sea" strongly imply that the CCF attackers are an uncontrolled herd moving forward without direction or guidance. Such is not the case. Actually, each Communist company or battalion has a definite objective and reserves are quickly diverted to take advantage of any local success or breakthrough. What does appear also to be the case, is that the large masses are rigid as to the general direction of effort and the system of supply implies great rigidity of movement.
b. Logistics considerations play a critical part in the communist ability to continue the momentum of a general attack. Hence, supporting air effort must concentrate on troop concentrations in the battle area, and additionally on forward supply dumps and supply vehicles.

2. The second paragraph, Phase III - The Counteroffensive, states that "A counteroffensive was mounted eventually but the communists were able to break contact before it began." I Corps has been under attack for eight days, from 22 April to 30 April 1951. The above quote refers to the period between 30 April, when the communists broke off their attack against I Corps, and 2 May when I Corps advanced regimental sized patrol bases forward of the main defensive position to regain contact.

Counteraction against the second phase of the CCF spring offensive, launched against the X Corps on 16 May 1951, was significantly different. In the succeeding seven days, the communists employed five CCF armies and two NKPA corps in a supreme effort to destroy the 2d US Infantry Division and the six ROK divisions holding the line from the division right flank eastward to the Sea of Japan. By the second day, the CCF attack attained a major penetration through ROK units, caused the complete collapse of III ROK Corps as an effective fighting force, and necessitated that X Corps take over an additional area of responsibility on the right (east) flank. Notwithstanding this serious setback, X Corps employed the "fight and roll" type of defense while rebuilding a refused right flank with available forces. By the fourth day, this type defense was combined with a program of limited counterattacks as feasible and as reserves became available, based on the concept that the key road center of Honchon must be held as a mounting area for the subsequent counterattack. See Map 1 (page 31) for the defensive phase of the action.

Although the Chinese continued to gain ground in the eastern portion of the enlarged X Corps sector as late as 23 May, the first 3d Inf Div RCT made available to X Corps from Eighth Army reserve was committed east of the 2d Div Flank on 19 May in a local counterattack that attained its objective. On 20 May, two regiments of the 2d Inf Div initiated local counterattacks to the northeast that gained about 4,000 yards despite strong enemy opposition and the fact that these units had been continuously engaged in bearing the brunt of the previous four days' attack. Additionally, on 20 May the second 3d Inf Div RCT to arrive from Army reserve was committed to a local counterattack that gained 3,000 yards.
By 21 May, the entire 3d Div had arrived in the X Corps zone and was in action, attacking to the north and northeast into the flank of the deep penetration on the eastern portion of the X Corps sector. In the western section, heavy but local attacks by fresh communist troops were stopped and beaten back with heavy enemy casualties. By evening of the 22d of May there was strong evidence that the momentum of the enemy attack had been effectively stopped and that the time to exploit the situation had arrived. Consequently, on 23 May the entire resources of the X Corps, three US Divisions, one airborne RCT (187th) and assorted remnants of ROK regiments, were thrown into a coordinated counter-attack to the north and northeast of Honchon despite the reported exhaustion and disorganization of some units. By dark on the 23d, it was evident that the course of the battle had taken a decisive turn and that the communists were in full flight. See Map 2 (page 32) for the counter-attack phase of the action. The subsequent defeat of the CCF forces was so decisive that no large scale offensive has since been attempted by the communists.
SUBJECT: Dissemination of Combat Information

1. In accordance with SR 525-85-5, Processing of Combat Information, the inclosed EXTRACTS are forwarded for evaluation and necessary action. It may be appropriate, in certain cases, to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and often, the extracted item serves to reaffirm our doctrines and techniques.

2. Copies are furnished to other military agencies to keep them informed concerning theater problems from the front line through the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office assigns each extracted item the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.

4. Combat information EXTRACTS herein which are applicable to training at the company-battery level also appear in Army Field Forces TRAINING BULLETINS.
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328 Chairman, Joint Chiefs of Staff

329-330 Chief of Naval Operations, Dept of the Navy

331 CO, Mountain & Cold Weather Tng Command

332-333 Chief, Army Advisory Gp, Air Command and Staff School, Air University

(See next page)
Subject: Dissemination of Combat Information

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OCAFF
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TACTICAL NIGHT FLYING. - 1. A tactical weakness of Army aviation has always been the cessation of activities after sundown. One of the operational activities of this section has been the monitoring and encouraging of experimental tactical night flights. To date, these flights have been carried on chiefly by I Corps Artillery and the 7th Infantry Division.

2. Flights are conducted either on bright moonlight nights, or with artificial aids such as searchlight illumination or radar fixes. Searchlights seem to be effective only as navigational or reference aids. Radar promises the best and simplest method on dark nights. The facilities of Detachment No 2, 608th AC&W Squadron, USAF, are used because Army sets lack sufficient flexibility to scan the entire sky both horizontally and vertically. Army aircraft fly over an enemy gun or vehicle while under radar control and the pilot asks for a fix. The observer reports the nature of the target and the radar team immediately telephones the coordinates and target to the fire direction center. The results of the fire are then observed, but adjustment of the fire is difficult; only surveillance has been accomplished to date by this method. Only under full moon conditions has artillery been adjusted successfully on single targets other than those large enough to require area fire.

3. No final conclusions have been reached as to the feasibility of night tactical flying. Experimental flights will be continued to afford material for more complete evaluation of night flying operations.
again started hunting in elevation. At that time the elevation anti-hunt tube was inserted and normal operation once again was achieved. The radar repairmen together with the assistance of the 16th SRMU cannot find an explanation for this trouble, which to date has occurred in two SCR-784's employed in this theater.

SOURCE: Command Report - 13th Engr Combat Bn
DATE: July 1952 Source No 606

(CONFIDENTIAL)
IMMEDIATE OVERHEAD COVER FOR INFANTRY. - During this period, Company A made several experiments in providing immediate overhead cover for infantry to permit the reorganization for counterattack. The cover was designed to withstand VT artillery fire on the position. The effort was made along the lines of a sapling mat which could be either braced and carried flat or rolled as a carpet and placed immediately over a foxhole to support up to five layers of sandbags. The experiments involved the use of suspended M3 mines over dummy positions and results indicated no break in the mats and a maximum penetrating effect of two layers of sandbags.

SOURCE: Command Report - 7th Infantry Division
DATE: June 1952 Source No 607

(RESTRICTED)
AIR SUPPORT. - A regiment of the 9th ROK Division, supported by the 73d Tank Battalion(-) received continuous air cover and close air support during their attack in the *** Valley on 22 June.

During this exceptional operation the air support was directed by the tank battalion commander by the use of VHF radios and Tactical Air Control Parties.

Two VHF radios were installed in the battalion, one of which was with the battalion headquarters tank of the assaulting company. One TACP was with each radio. One flight of continuous air cover was on call for ground strikes when needed and the battalion commander was authorized to call in available air support from other areas. To facilitate control, air strikes called for by either the tank or infantry elements were channeled through the battalion commander and the TACP's.
Covering flights were relieved each hour. Flights not receiving requests for strikes during their hour of cover were instructed to attack critical air targets in the area after they were relieved. Thus no combat loaded planes returned to base without performing a mission. It was determined that frequently more damage was done during these critical target strikes than during close support missions.

Recommend that similar air cover and close support be employed more frequently, especially in conjunction with tank attacks so far forward of the MLR that artillery support is not available.

(RESTRICTED)

TRAINING OF SCOUT DOGS. - The 26th Infantry Scout Dog Platoon has been hampered somewhat by insufficient training of the dogs in the ZI for the tactical situations encountered in this theater.

The dogs have been trained primarily for reconnaissance type patrols, where the dogs are continually moving. Ambush patrols in which the dogs are participating require the animals to remain in one place and often in one position for as long as eight hours.

Many dogs have been lost to the platoon because they were not accustomed to perform under heavy artillery and mortar fire. Flash, sound and concussion of exploding shells causes the dogs to become tense and excited.

The majority of the patrols in which the dogs are used are night patrols. On these missions the animals are able to overcome the barrier of darkness by means of their keen sense of smell and thus aid immeasurably the members of the patrol.

Recommend that additional intensive training be given at the War Dog School, Camp Carson, Colorado emphasizing the three conditions mentioned above. If this were accomplished, it would assist trainers and handlers in the combat zone in that the dogs would be trained from the beginning under these conditions and would be less difficult to condition and handle in a combat zone.

The 26th Infantry Scout Dog Platoon is the only unit of its type in the Eighth Army area. Thus, personnel and dogs from this unit are assigned numerous patrol missions with other divisions of the Army. This situation
couples the hardship of long trips to and from these missions to that of the patrol actions themselves.

Therefore, recommend that one Infantry Scout Dog Platoon be assigned to each Infantry Division in Korea.

(RESTRICTED)

M29 PERSONNEL CARRIERS FOR REGIMENTAL TANK CO. - A minimum of two personnel carriers, M29, or similar vehicles should be available for the use of the regimental tank company. In muddy weather and mountainous terrain, wheeled vehicles are not always able to resupply ammunition to tanks on position and often times it is impractical to resupply a point which can be reached by wheeled vehicles. The Personnel Carrier, M39, is not sufficiently maneuverable for this purpose.

The "Weasel" is highly maneuverable, has sufficient traction for steep inclines, and sufficient flotation to prevent excessive damage to roads. At the same time it is capable of transporting necessary payloads without undue danger of becoming bogged down.

SOURCE: Command Report - 1st Field Artillery Observation Battalion

DATE: July 1952

(RESTRICTED)

USE OF HELICOPTERS IN ARTILLERY SURVEY. - A test of the practicability of helicopters in artillery survey was completed early in July. The five day test initiated late in June proved the effectiveness of the helicopter. Especial effectiveness is shown in the operations of reconnaissance, recovering of survey stations, policing of survey stations, flagging of survey control points, and occupation of survey points by instrument parties. Immediate results of helicopter transportation are to leap-frog areas where use of paths is denied by marked and unmarked mine fields; by-passing of slopes difficult or impractical to climb; transportation of equipment difficult to pack up steep slopes; and almost total elimination of travel time which at present consumes 60% to 80% of expended man hours. This means of transportation also reduces the effective field party to a helicopter, one pilot, and one survey specialist. The present strength of an instrument field party is four to six men and at least one vehicle. In one instance nine survey points in a distant area were recovered and flagged in three hours including travel time. All materials and equipment were carried in the aircraft or lashed to the under carriage. A normal party would have consisted of four men transported
in a 1/4-ton vehicle and consumed three hours to reach this area. The personnel would be quartered with another unit and take approximately one week to find routes of approach and search for markers in an area of rice paddies and tidal mud flats. Another one-half day would be consumed in returning. Thus, approximately 250-man hours and extremely hard wear on the vehicle would be required normally as against 6-man hours and 3 hours of normal use on the helicopter. Considering the hazards of mine fields, climbing of formidable hills (some reaching heights of 3000 - 4000 feet), losses and wear on equipment, fatigue on personnel, and reduction of personnel needed in the field, it has been recommended that two helicopters, pilots and necessary maintenance equipment and personnel be added to the T/O&E of this observation battalion. Numerous other missions within the battalion sphere of operations can be effectively assigned to these aircraft.

(CONFIDENTIAL)

COMBAT TESTING OF NEW SOUND RANGING SET. - It is understood that a new version of a sound ranging set is undergoing tests by AFF Board No 1. A great opportunity for supplementing these tests by combat tests in Korea exists and the new set should be airlifted to Korea without delay in order that such combat tests can be undertaken. It is proposed that a team of technicians accompany the set to Korea and that the combat test be conducted in a manner similar to that anticipated for the AN/MPQ-10 radar set.

(CONFIDENTIAL)

NEED FOR HEAVIER CALIBER ARTILLERY (240-MM OR LARGER). The need for heavier caliber weapons is becoming more apparent as the summer wears on. The passage of time appears merely to allow the enemy to dig himself deeper into the hills. In view of these circumstances, recommend that heavy caliber weapons (of the 240-mm variety or larger) be sent to the Korean theater. Certainly, it is difficult to visualize a more ideal situation for the employment of heavy weapons than exists at the present time in Korea. In this connection, it is proposed that, if the present manpower ceiling prevents the assignment of 240-mm batteries or battalions, the weapons be issued to selected field artillery battalions in addition to their present weapons on the basis of one or two per battalion. Recipient battalions could easily train their gun crews in the use of such weapons, and could fire the weapons as likely targets presented themselves. Believe that field artillery battalions in Korea would welcome the opportunity of augmenting their fires.
SOURCE: Command Report - 19th Engr Combat Group

DATE: March 1952  

(Restricted)

SPECIAL IMPROVISATIONS. - Twelve very practical expedient mechanical sand spreaders built from salvage 1/4-ton vehicle rear ends were developed by this group and proved most valuable in sanding icy roads during the past winter. Essentially, the spreader, which was pulled behind a sand truck, consisted of a 1/4-ton vehicle rear end towed so that the differential housing faced upward. On the housing at the point where the drive shaft is normally connected, a sand spreading blade was attached. A smaller hopper concentrated the sand for most efficient spreading action.

As the truck towed the spreader, the sand spreading blade rotated in a horizontal plane, spinning sand centrifugally from the blade tips over the road. The hopper was hand-loaded by personnel riding in the sand truck.

(Restricted)

EXCAVATION PROBLEMS IN FROZEN GROUND. - During the coldest part of the winter of 1952, units were required to conduct excavations in ground that was frozen to a depth of between two feet in compact clay and six feet in loose gravel. Experimentation with physical eruption equipment such as shovels, graders, dozers, and even rooters produced unsatisfactory results. As the frost became deeper none of these pieces of equipment could operate. Various methods such as burning gasoline and diesel fuel were tried while attempting to eliminate the frost but these were not successful. Demolition was finally found to be the answer. Holes were blasted through the frost using shaped charges. These holes were then charged with leftover propelling charge increments obtained from nearby artillery units. Since these excess increments are normally burned, their use in this manner was considered an economical utilization of supplies and materials. The holes were charged with twenty to twenty-five pounds of black powder and primed with a quarter of a pound of C-3. The resultant pushing effect of the black powder caused excellent fracture and allowed earth moving equipment to operate in zero temperatures.
DOUBLE-DRUM TYPE WINCH FOR TANK RECOVERY VEHICLES. - Recommend that the future tank recovery vehicle include a double-drum type winch of the capacity and length of the present M26 transporter winch. As a temporary expedient, it would be exceedingly helpful to have a winch of this type mounted on present M32 tank recovery vehicles whose present winch lacks both length and capacity of the M26.

TANK DOZERS. - Recommend that serious consideration be given to decreasing the number of dozer blades authorized a tank battalion. One tank dozer per company is believed more than adequate. The use for this M3 dozer is not only limited, but the problem of where to mount two of them on tanks in the company is a matter of local determination and concern. The company commander does not want his tank's mobility diminished; neither does he want his FO tank nor a platoon leader's tank occupied with dozer blade and accompanying missions. Consequently, two platoon tanks become special purpose or dozer tanks, although there is no real necessity for such tank dozers per company. Two per battalion would be adequate to meet and accomplish proper tank dozer missions.

OVM EQUIPMENT. - Recommend that tank-mounted radio sets lose their identity as T/O&E Signal property and be included in OVM. Under the present system property records require additional posting and readjustment - as well as slight confusion - when tanks are evacuated or are replaced with radios already mounted in the replacement tanks.
O&E CHANGE RECOMMENDATIONS, LIGHT AA. - Recommend: 1. That one caliber .30 machine gun be mounted on M16 to cover the area directly in front of track. 2. That each battery be provided with one generator, E-3, 3.0 KW. This generator is required for showing of training films, film strips and for general lighting purposes.

RECRUITING POLICIES. - During the past two years a great deal of emphasis has been placed on the Army re-enlistment program, without appreciable results.

If a larger re-enlistment bonus could be paid; it would have a greater appeal because of the monetary gain. At present there is a $300 mustering-out bonus given to discharged veterans. In comparison, the re-enlistment bonus is much less attractive, ranging from a minimum of $40 for a two year re-enlistment to a maximum of $360 for a six year enlistment.

AWARDS. - Present emphasis on increasing the number of awards has tended to reduce the value of the awards.

Basing awards upon a given percentage of rotation personnel gives awards to many people for just doing their normal everyday work. Such was not the original intent of these awards.

All awards should be more closely scrutinized and quality of achievement should come before quantity of awards.
(RESTRICTED)

STANDARDIZATION OF ENGINEER HEAVY EQUIPMENT. - Recommend that engineer heavy equipment be standardized as far as possible to permit interchange of attachments and spare parts, i.e., crane or shovel booms to fit power plants of any manufacturer (within each capacity range), engine beds to fit any motor of required horsepower, etc.

SOURCE: Command Report - 552d Engr Base Depot
DATE: May 1952
Source No 614

(RESTRICTED)

SPARE PART SUPPORT FOR NEW MODELS OF ENGINEER EQUIPMENT. - Considerable difficulty in spare parts support for new items of engineer equipment shipped to Korea is being experienced. It developed that spare parts support for some equipment cannot be anticipated by less than six months. Suggest that shipping of new models of equipment, not heretofore used in Korea, be discontinued unless spare parts support can be furnished immediately after receipt of such items.

SOURCE: Command Report - 226th Ordnance Base Depot
DATE: July 1952
Source No 615

(RESTRICTED)

TRAINING OF ORDNANCE REPLACEMENTS. - Replacement personnel sent to this command have not been trained in the ammunition field and this factor is having a serious effect upon the proper operation of the depot. Action should be taken to qualify both officers and enlisted men in this field of Ordnance prior to shipment overseas. Recommend that a personnel survey be conducted and report of findings sent to proper authority in an effort to correct this condition.
SOURCE: Command Report - Eighth Army, Aviation Section
DATE: March 1952

(RESTRICTED)
FIRE FIGHTING EQUIPMENT FOR UNITS HAVING ARMY AVIATION.
Applicable T/O&E's or TA's of all units having aviation should be amended to
allow additional fire fighting equipment for fighting aircraft fires. For units
having ten or more aircraft, a crash fire fighting truck of Air Forces O-11
should be authorized. Additional fire extinguishers of CO₂ 15 lb capacity and
carbon tetrachloride of 2-gallon capacity should be added to authorizations for
all units having one or more aircraft.

SOURCE: Command Report - 409th Engr Brigade
DATE: July 1952

(RESTRICTED)
POL STORAGE TANKS. - Recommend that POL storage tanks be
equipped with both pressure and vacuum valves. Without valves the vapor
loss caused by higher temperature can be large during warm weather. Re-
lief valves are built to open with excessive pressure caused by the increased
temperature in a closed tank. The pressure valve holds the vapor loss to a
minimum while still maintaining a safe pressure in the tank. The vacuum
valve is a safety device insuring that the closed tank does not collapse while
being drained. There is a possibility of inexperienced personnel forgetting
to open the relief hatch while draining a tank, causing the outside atmos-
pheric pressure to collapse the tank.

SOURCE: Command Report - 10th Field Artillery Bn
DATE: June 1952

(RESTRICTED)
SEQUENCE OF FIRE COMMANDS BY FO. - Recommend that when
coordinates are used by an FO to establish location of a target, the sequence
of commands be modified so that identification of the observer is immediately
followed by "coordinates" instead of "azimuth." "Azimuth" should be the next element after "coordinates." Further, recommend that location be given by first indicating the grid square and then giving the complete coordinates thus: "FO 36, Fire Mission, coordinates 18-24 square, 186-245; Az 5000 etc." The grid square must be located before the target grid can be fixed in place. Commands in the sequence recommended can be repeated by the S-2 and plotted by the HCO without the delay occasioned by the conventional sequence.

SOURCE: Command Report - 116th Engr Combat Battalion
DATE: July 1952

(RESTRICTED)
RECONNAISSANCE OFFICER, ENGINEER COMBAT BATTALION. Recommend that the T/O&E position of reconnaissance officer be upgraded to Captain. The importance of this position requires the assignment of one of our very best engineer officers.

SOURCE: Command Report - 49th Field Artillery Bn
DATE: June 1952

(RESTRICTED)
CONFIRMATION OF DOCTRINE. - The experience of this battalion in the past eight months has indicated that any battalion is better off to adhere strictly to doctrine and procedures outlined in Army manuals. Different procedures, particularly in gunnery, had been used prior to that time. In each incident where procedures were changed, the results were not satisfactory. The battalion is attempting to follow manual procedures to the letter. This effort has reflected a big improvement in the speed and accuracy of fires.

SOURCE: Command Report - 17th Inf Regt
DATE: June 1952

(RESTRICTED)
M39 PERSONNEL CARRIER FOR EVACUATION. - Recommend: That the M39 be modified to provide capacity for six litters inside the vehicle or
the development of a light, fast, armored, tracked vehicle to permit rear
door loading of litter patients; that each regiment be equipped with four such
vehicles, thus allowing one for each battalion and one at regimental collect-
ing stations. These vehicles would be assigned to regimental tank company
for maintenance.

SOURCE: Command Report - 31st Inf Regt
DATE: April 1952

(INFANTRY SERVICE COMPANY WRECKER. - It is recommended that
the 2-1/2-ton truck presently used in service company as a wrecker, be re-
placed by a 4-ton wrecker or similar vehicle. The present 2-1/2-ton wrecker
is too light to perform the duties required in the field. It will not efficiently
pull another 2-1/2-ton truck which is loaded, nor will it lift a 2-1/2-ton truck.
The overload which results from using a light weight wrecker in the field is
uneconomical. Since 1 January the 2-1/2-ton truck used as a wrecker in the
organization has required the replacement of the intermediate axle and assem-
bly, the transmission, the clutch, and the engine: in addition; the clutch and
brakes require much more adjustment than the average 2-1/2-ton truck. The
present light wrecker is not equipped with swinging booms and the present
winch is too light. These deficiencies prevent use of the wrecker to maximum
advantage.

The current 4-ton wrecker would be sufficient to perform the jobs
required by the regiment. This truck was designed primarily as a wrecker
and has none of the shortcomings of the modified 2-1/2-ton wrecker.

SOURCE: Command Report - 64th Tank Battalion (Medium)
DATE: July 1952

(TANK FIRE TO PROTECT BRIDGES. - On 27 July a total of 96 rounds
of 90-mm HE ammunition was fired in an attempt to break up floating rafts
which might damage the vital White Front and Babicz bridges which span the
Imjin and Han-tan Rivers. Although the rafts were difficult to break, they
were weakened by the tank fire to the extent that they disintegrated when they
struck the fenders protecting the bents. Engineers charged with preservation
of the bridges gave much credit to the effectiveness of the 90-mm firing.
STANDARDIZATION OF ENGINEER EQUIPMENT. - Recommend that thought be given on the highest level to the possibility of procuring only one type of any given piece of engineer equipment. For example, instead of having many different kinds of three-fourth yard shovels, issue only one kind. This could be carried out in all other kinds of equipment including graders, tractors, air compressors and rock crushers.

LOSS OF LEAVE CREDITS. - Many personnel are losing leave credits through no fault of their own. Recommend that an adjustment be made so that leave time can accrue over sixty days or else monetary compensation be made in lieu thereof.

MAIL SERVICE. - 1. The air mail service during July was exceptionally poor since mail was not received by this headquarters for five or six-day periods.

2. Boat mail does not seem to receive any special handling. Four and five weeks is the normal time for delivery in Korea from the time that it is delivered to the carrier in the United States. It is recommended that this service be speeded up.
a. Average life of US Army standard sandbag is entirely dependent upon condition and use.

b. Discussion of types of sandbags:

(1) The gunny type sandbag, non-treated, 500 per bale, has shown poor holding qualities. Effects of weather are such as to render this type of sandbag unsuitable for issue in this theater. The bags rot very quickly. They are not easily checked due to the large number per bale, and the bindings have a tendency to split. This makes combat loading and hauling very difficult. The sandbags have no protection from the weather while in bales. Consequently the bales contain from 75 to 98 per cent unserviceable bags due to rot. The gunny sandbag is easy to fill and stack. Many of this type sandbag lack strings.

(2) The Hessian type sandbag, treated, 200 per bale, appears to be the best available in this theater. This sandbag will not deteriorate in outdoor storage, and the bindings are such as to insure that the bags will reach destination properly packed. Furthermore, the data concerning the dates of manufacture and shipment is a great help to supply agencies in issuing the oldest bag first. This assures users a serviceable item when received. The 10" x 28" bag is easy to fill and shows no rot effects during the period of use. This bag is easily overfilled, causing poor stacking qualities.

(3) Sandbags should definitely be treated with a fungicide to resist rot. The ideal measurements are 13" x 26". A bag of such construction would facilitate stacking and storage. Sandbags should be protected from the effects of weather while in the bale. Nylon fiber as a replacement for jute would also produce a superior bag.

SOURCE: Command Report - IX Corps
DATE: April 1952

(RESTRICTED)

MINE PLOW. - Considerable time and effort has been devoted to developing an efficient mine detector or locator. Detection by means of water and air have been tried, but due to supply or compressor failures, have been rejected as not practical. Mechanical means such as rollers or thrashing chains have been experimented with for years, but have generally
run into a heavy mine that damages the detonating mechanism or detonates an igniter connected to a mine which explodes under the tank itself. The 38th Infantry Regimental Tank Company has developed an idea on a mine plow which seems to overcome the above difficulties.

This mine plow operated similar to that used for plowing up a field for planting. It turns the earth up in front of each track to a depth depending on the length of teeth, and guides the dirt or objects in the dirt to the outside of each track so that there is no direct contact between the mine and tank. A booby trapped mine would be rendered less effective as the mine would be moved away from the track prior to the operation of the igniter and less damage would be done to the tank due to distance of the mine away from the track. The mines rolled to the side of the track can be disarmed, or marked and detonated later.

The mine plow consists of two teeth mounted on a dozer blade in such a manner as to be easily detached or swung back over the blade when not required.

(Restricted)

**CAL .50 CO-AXIAL MG FOR TANK.** - A modified cal .50 co-axial MG is needed for tanks in use in Korea for the following reasons:

1. **Present static situation requires more accurate firepower at ranges of 1,000 to 2,500 yards.**

2. **Present cal .30 co-axial MG mounted in the medium tank, M4A3E8, lacks the necessary accuracy and power at the greater ranges.**

3. **Research has proven that a cal .50 co-axial MG should be mounted in tanks, as in late models of all types of tanks.**

(Restricted)

**ARMORED REGIMENT.** - Observation in Korea leads to the recommendation that an "Armored Regiment" be formed. This regiment would be commanded by a full colonel who would have equal representation on the staff level with infantry commanders and who would obtain fuller support for armor.
SWITCHBOARD BD-91-D FOR ARTILLERY BATTALION FSCC. - The battalion commanders of field artillery battalions in direct support of infantry regiments are responsible for the co-ordination of the artillery fires for the regimental commander.

The Fire Support Co-ordination Center, located at the artillery battalion command post, is the agency by which these artillery fires are co-ordinated. Therefore, normal wire communications and alternate lines should be maintained between the FSCC and liaison parties with the infantry battalions, the regimental command post, the countermortar radar section, the battalion observation post, and the firing batteries.

In addition, wire communication must link the FSCC with the regimental mortar company, tactical air control party, AAA units supporting the regiments and with adjacent and supporting artillery battalions.

Presently, there are no switchboards authorized in the T/O&E for the artillery battalion FSCC.

To insure that vital wire communications are properly maintained between the FSCC and the aforementioned elements, recommend that two switchboards, BD-91-D, be added to the T/O&E of the FSCC of the field artillery battalion. The BD-91-D is a 24-drop, magneto-type board.

In a normal tactical situation it would be advantageous to employ two boards of this size when a battalion displaces. In such displacement a forward FSCC is usually organized to provide for the needs of units already displaced. When the operation is complete the forward and rear FSCC's merge, forming one co-ordination center. In this situation one switchboard could be kept at each FSCC and combined when the FSCC's finally merge.

SCOUT DOG PLATOON - RECOMMENDATIONS FOR CHANGES IN T/O&E. - The personnel and equipment allotted by T/O&E to the 26th Infantry Scout Dog Platoon does not permit the platoon to adequately perform its tactical mission. The T/O provides for a platoon leader, platoon sergeant, one veterinarian technician, eighteen handlers, and twenty-seven dogs. To
enhance the efficiency of the platoon and to increase its ability to meet the needs of the infantry units in a division, there should be an increase in the number of dogs and handlers in the unit.

Recommended that the T/O for the scout dog platoon be changed to include: a platoon leader, platoon sergeant, twenty-seven handlers one of whom would be the veterinarian technician, twenty-seven working dogs, and six replacement dogs. The additional dogs and handlers would permit full coverage of the infantry units in a division. If six replacements were added to the T/O, the platoon would have dogs on hand to take the place of any working dogs that suddenly become unfit for duty. This organic replacement system would almost completely abolish the tremendous cost of transporting a few dogs at a time to the unit.

Together with these changes in organization the following changes in equipment are recommended:

1. Instead of the 18 wrist compasses allotted, the number of lensatic compasses be increased from two to twenty-one per platoon.

2. A carpenter kit should be added for repair of dog kennels. No tools are available in the platoon for this purpose.

3. The mission in which the platoon is normally employed does not require extensive use of binoculars M13A1, therefore the eight binoculars now authorized should be reduced to three.

4. The trailer, 1-ton, 2-wheel, cargo now authorized is not necessary for the successful movement of the platoon and should be removed from the T/E.

5. Experience has indicated that the three 2-1/2-ton trucks, 6x6, cargo meet the needs involved in movement of the platoon's organic personnel and equipment.

6. The patrol missions undertaken by the unit require handlers and dogs to travel to far flung locations in the division and often corps sectors. Since the platoon has no vehicles except the three 2-1/2-ton trucks, four 1/4-ton trucks, 4x4, should be authorized each platoon to provide one per squad and one for platoon headquarters.

7. The allotment of tenso kennel chains, choke chain collars, and leather harnesses (medium) should be increased from 36 to 54 per platoon. These items are in constant use, frequently need repair and at times are found to be beyond repair.
COUNTERFIRE PLATOONS. - From past experience with the counterfire platoon, the following recommendations are offered for consideration:

1. Personnel and equipment are not adequate to accomplish the platoon's assigned mission. Recommend that an addition of eleven men be authorized; this will give the platoon one additional counterfire squad of six men; four assigned drivers and one assistant platoon sergeant. Recommend authorization of three 3/4-ton trucks w/trailers and one 1/4-ton truck in lieu of present three 1/4-ton trucks w/trailers.

2. With the additional counterfire squad, recommend that one complete set of GR6A sound locating equipment be authorized.

3. Recommend that a manual or text book be written on the tactics and techniques of the counterfire platoon. More detail information is needed if personnel are to accomplish the mission of the counterfire platoon.

SOURCE: Eighth Army Artillery Information Bulletin #15

DATE: September 1952

ROK ARTILLERY EXPANSION PROGRAM. - The ROK artillery expansion program has reached the point where ROK field artillery groups, formed and trained at The Korean Artillery Training Center, are given 60-90 days battle indoctrination and advanced training in the 5th US Field Artillery Group before attachment to a ROK division. The final stage in this process was initiated on 30 June when the 1st ROK Field Artillery Group, consisting of a headquarters and headquarters battery and two 105-mm howitzer battalions, joined the 9th ROK Division. With the already assigned organic light battalion, a ROK direct support battalion was thereby provided for each ROK regiment for the first time. The group headquarters became the division artillery headquarters. Additional groups, similarly constituted, will now become available at the rate of one every four weeks until each ROK division has one.

Upon completion of training, the medium battalions being formed by US divisions will become the general support battalions of the ROK divisions, along with the 4 ROK medium battalions already in action. The new medium battalions have received half of their heavy equipment and most of their personnel, and are making rapid progress in training. Most of them fired combat missions within five weeks of being formed.
DEFENSE AGAINST COUNTERATTACK. - In recent operations, where friendly forces have taken and occupied positions formerly held by the enemy, the enemy's reaction has been strong and violent. During these operations the enemy has proven his ability to effectively mass his artillery and mortar fires and to commit limited objective attacks or counterattacks up to regimental strength with little or no warning.

Because of the enemy's reactions and capabilities, it is necessary in the planning of operations, where we expect to take and hold ground, to ensure that friendly forces have the capability of immediately organizing and fortifying the position once it is secured. To do this it is necessary to plan for adequate fortification materials, tools, and equipment to be carried with the assault force or to follow the force immediately on position. The soldier must be prepared to "dig in" once he is on the objective in order to protect himself from enemy artillery and mortar fires and to prepare fighting holes from which to defend newly won positions. Such items as tactical wire, sand bags, timbers, and demolitions should follow closely behind the assault force and move onto position at the first opportunity. With this equipment hasty fortifications can be prepared to meet the onslaught of the enemy counterattacks.

Experience has shown that without the equipment and tools with which to establish adequate defense measures, it is difficult and costly in casualties to withstand the pressure of the enemy's counterattacks. Where adequate measures have been taken, and fortifications have been constructed, the friendly forces have been able to hold their newly won positions with a minimum number of casualties.
(quadruple .50 caliber machine guns, electrically operated on a half-track vehicle). These weapons have been used continually since that time and have proven invaluable.

The M16's have been employed very effectively in support of attacks, since they can maneuver rapidly, bring fire on enemy positions from the flank or rear, while personnel receive some protection from the armor of the vehicle. This weapon is highly accurate and may be used in very close support of the attacking troops.

On the defense the M16's have been used in support patrols and to add depth to defensive positions. In addition, these weapons can deliver accurate, long range fire on friendly tanks in order to prevent the enemy tank-killer teams from approaching the tanks.

The uses mentioned above are in addition to the M16's primary role of defense against low-flying aircraft.

Recommend that four M16's with necessary operational and maintenance personnel be included in the T/O&E of the infantry regiment.

SOURCE: Command Report - Eighth Army, Section I
DATE: May 1952 Source No 632

(RESTRICTED)

DEVELOPMENT OF PIER CELLS TO FACILITATE PORT OPERATIONS. The port of PUSAN contains an LST beach, and four numbered piers and a large quay with 23 deep water berths, for an average of five working berths for each pier. Each pier is a separate installation; each pier has a pier superintendent, pier and stevedore officers with enlisted staff working around the clock. The T/O&E of a major port authorized one pier superintendent, two pier officers, two stevedore officers, and one cargo security officer. The basis for this T/O&E is that these officers are supervisory only; port companies will provide the operating personnel. Each type "A" port company is authorized five officers: a company commander (Captain), an operations officer (Lieutenant), and three platoon officers (Lieutenants). There are four port companies assigned to 7th Major Port; however, two are operating at the outports. The six port officers plus the three platoon officers from each of the two port companies, or a total of twelve, cannot operate all piers around the clock. At present there are 23 officers working on the piers; this requires that the difference off 11 officers be obtained from other branches and sections of the port, thus reducing the efficiency of those branches and sections.
Recommendation: That study be initiated for the Chief of Transportation on the development of nominal pier cells, with possible augmentation, for the operation of one pier at an overseas port. By use of cells, a unit ordered into a port such as PUSAN could ascertain in advance from intelligence the number of piers to be worked, and would then request the desired number of cells be added to its organization. As additional piers or outports are developed, additional cells could be made available without interference with the organization or operation of the main port. Each cell would be a self-contained unit: a pier superintendent for over-all direction of activities; pier officers for supervision of labor, warehousing, port clearance, traffic control, and internal organization (including security); and stevedore officers in charge of ship discharge and loading, checking, preparation of rough stow plans, ordering of ship and dock gangs, assembling of gear necessary to work slips, loading to transportation units, rail cars, barges, etc. The enlisted personnel would be divided into office and pier assignments, typing, filing, and manifest clerks, movement control clerks on truck, rail car and/or barge utilization and dispatch, berth foremen, operations gear locker gangs, supervision of ship and berth gangs, and the numerous assignments incident to pier operations.

Equipment could be provided as organic to the cell or drawn from port companies. Mess and supply personnel would not be required since cell members could mess with the major headquarters to which attached.

(RESTRICTED)

IMPROVEMENT OF OPERATIONS OF VHF BATTALIONS. - In the operation of a VHF battalion, the carrier terminal and radio relay stations must be synchronized in all respects. This could be accomplished most efficiently by personnel working under the operational control of a single unit.

Recommend that in future planning for operational functions of VHF battalions, consideration be given to the entire circuit system including radio relay and carrier terminals. This recommendation is being implemented in EUSAK except where the VHF carrier equipment is only a small portion of the total carrier equipment at a given installation.

(RESTRICTED)

PROVISION FOR QUALIFIED INTERPRETERS. - In operations where US units have been required to provide close support for units whose personnel do not speak English, the lack of qualified interpreters has been the biggest obstacle to training progress and operational efficiency.
Recommend that in future operations where US units are required to provide close support for units whose personnel do not speak English, prior planning provide for the supplying by the supported unit of qualified interpreters at each echelon where they will be needed.

(RESTRICTED)

DELEGATION OF AUTHORITY TO GRANT SECRET CLEARANCE. - Officer replacements have generally not been previously cleared for access to classified information prior to arrival in Korea.

Recommend that the commanding general of an Army in the field be delegated the authority to grant clearances for access to classified material and information up to and including SECRET to all officer personnel without reference to National Agency check as currently prescribed and that such clearance be withdrawn upon transfer of the officer from Korea.

SOURCE: Command Report - 73d Tank Battalion (M)

DATE: July 1952 Source No 633

(RESTRICTED)

NEED FOR A TRACKED VEHICLE FOR EVACUATION OF WOUNDED. - Due to the type of terrain over which units of the United States Army have been operating in this theatre, there is a need for a tracked vehicle which can be used in the evacuation of wounded from the front lines under shell fire. By the use of such a vehicle wounded could be evacuated to the nearest medical aid station or to the nearest road not under enemy artillery fire, where the wounded could be transferred to conventional type ambulances. Lack of a suitable vehicle has necessitated the adoption of a field expedient. In this battalion the M39 personnel carrier has been utilized with great success. When the battalion has not been committed it has loaned its M39's to the infantry regiments for their use in medical evacuation.

Some of the advantages of using a tracked vehicle for evacuation of wounded are as follows:

1. The ability to traverse terrain ordinarily only accessible to litter bearers.

2. Conservation of manpower because of vehicles ability to transport more than one casualty at a time.
3. Comparative smoothness of ride over rough terrain.

4. Speed of travel, cross country, which reduces the period of time the wounded are without medical attention.

5. Light armor for protection against small arms fire.

6. Light weight of vehicle makes it possible to operate over the present road net with a minimum of damage to the roads.

A vehicle should be designed which would be equally successful in the dual role of personnel carrier and evacuation vehicle. In the design of such a vehicle the capabilities of the M39 should be considered as well as these additional points.

1. Increase the size of the vehicle to allow for the equipment which must be carried and yet leave room in the passenger compartment for litters. This could be accomplished by lengthening the vehicle and providing strap holders on which litters could be strung to provide for a double bunk effect.

2. The addition of a top and the providing of a rear entrance. This would give the additional protection needed against artillery and mortar fire and make for greater ease in loading and unloading the vehicle, both for wounded and other personnel.

3. Raising the height of the vehicle. While this makes a higher silhouette and consequently a better target to enemy fire, the additional height is necessary for its dual mission. Personnel normally carried in the vehicle would be cramped for headroom. While raising the height would give the necessary room for the upper row of litters when the vehicle is used for medical evacuation.

If such a vehicle is constructed, recommend that the T/O&E for the medical detachment of the tank battalion be amended to authorize two such vehicles and the T/O&E of the medical company of each infantry regiment be amended to authorize four such vehicles.

SOURCE: Command Report - 40th Infantry Division

DATE: July 1952

Source No 634

(RESTRICTED)

SECURITY CLEARANCE. - This section has been confronted with a problem relative to security clearances. Final results on requests for

UNCLASSIFIED
National Agency Checks and Background Investigations on National Guard personnel which are now being received were initiated approximately one year ago. These National Guard personnel have been returned to the zone of interior for discharge. Many US personnel similarly awaiting clearance for several months have also returned to the ZI.

Recommend that requests for investigation be conducted on officers, warrant officers, and Regular Army enlisted personnel only. A further recommendation is that US enlisted personnel occupying a position of trust be granted an interim clearance to SECRET based on a files check, and that DD Form 398 (in duplicate) be filed with the interim clearance certificate in the individual's 201 file. In the case of National Guard units presently in an inactive status, personnel should be cleared prior to the activation of that unit.

With an approximate 70% turn-over of personnel in this division, it is necessary to clear a great number of replacements who have been placed in sensitive positions. With the large volume of clearances to be initiated and processed, the work load is such that there is a definite lack of administrative personnel to process clearances.

Recommend that personnel be screened for possible utilization in a sensitive position and that requests for clearance be initiated prior to the individual's departure for an overseas station.

SOURCE: Command Report - IX Corps, G3 Section
DATE: July 1952

(RESTRICTED)

REPLACEMENTS. - During the past few months, in numerous instances, replacements furnished units assigned and attached to this corps have lacked training in the military occupational specialties they were assigned to fill. Often replacements were not trained even in allied fields. Apparently, the numbers of trained military specialists being produced in our schools and training systems are insufficient to replace losses, or unanticipated demands are being met by diversions. When excessive losses are experienced in units, it is appreciated that diversions and deviations from the most desirable assignments may be necessary to maintain combat units at effective strength. There have been, however, no unexpected heavy losses in combat in the past few months; in the main units have been subjected only to those losses incident to normal service such as expiration of term of
service or completion of tour of foreign duty. Our personnel system has been established to provide qualified replacements for anticipated losses, but these results are not being attained in this corps.

Recommend that the personnel replacement system be surveyed to insure that it provides qualified replacements needed.

(RESTRICTED)

ENEMY PRISONER CAPTURE ATTEMPTS. - There were several reports of hostile use of concussion grenades or remote-controlled mine fields, apparently as a device to stun or temporarily shock friendly soldiers to facilitate their capture.

SOURCE: Command Report - 980th Field Artillery Bn

DATE: August 1952

(RESTRICTED)

REASONS GIVEN BY NONCOMS FOR FAILURE TO REENLIST. - Eighty-nine first three grade noncommissioned officers are due for rotation to the zone of interior within the next forty-five days; seventy-one do not plan to reenlist. The principal reasons stated by these men for not reenlisting (among those who would ordinarily be expected to reenlist) are:

1. The insecurity of grade and MOS including the possibility of being forced to qualify for an unfamiliar MOS or face reduction in grade.

2. The feeling that the Army broke faith with them in the extension of their enlistments.

3. The prospects of spending the future as a replacement in a pipeline with no hopes of unit or even branch of service stability.

4. The present promotion policy.

SOURCE: Command Report - 19th Engineer Combat Gp

DATE: July 1952

(RESTRICTED)

TECHNICAL RATINGS OF NCO'S. - The discontinuance of technical ratings for enlisted men who do specialized jobs in the Army has had a
degrading effect upon the standards and military requirements of line NCO's. Men who are crane and shovel operators, heavy equipment mechanics, carpenters, or drivers, receive NCO ratings of corporal and sergeant because of their ability to perform a special type of job. These men are good in their particular work and deserve the extra pay given by the ratings, however, most of these technicians lack military background and leadership abilities which line NCO's must possess.

Many instances are found where NCO's who are technicians are placed in charge of groups, because of their rank, to perform certain military duties; however due to their lack of leadership qualities they poorly discharge their missions and thereby create a lack of confidence in those serving under them.

In the stampede to give equal rank for equal pay, which eliminated technicians and specialist ratings, the Army has crippled its NCO backbone. Recommend that the specialist rating be re-established.

SOURCE: Command Report - 57th Field Artillery Bn

DATE: July 1952

(RESTRICTED)

HOIST AND TOWING EQUIPMENT FOR FIELD ARTILLERY BATTERIES. - Experience has indicated that some type of hoist mounted on a vehicle would save considerable time, and speed up operations in moving and emplacing guns, and in handling vehicles that are incapacitated and/or overturned. The one authorized wrecker is not always readily available to each battery to meet its immediate need speedily. Recommend that appropriate T/O&E's be amended to authorize the following equipment for each battery: Second echelon tool set No. 7, hoist and towing stock No: 41T3545-16.

(RESTRICTED)

SWITCHBOARD BD-96 FOR FSCC. - The direct support artillery battalion commander is the co-ordinator of all fires for the regimental commander. Thus his FSCC located at the artillery battalion command post must be in communication with all units concerned. These units include in addition to the units normally having communications, the regimental heavy mortar company, TAC party, AAA AW platoon, searchlights, and adjacent and supporting artillery units. The normal communications needed are with the
organic liaison parties with the infantry battalions, the supported unit, division artillery, countermortar radar section, battalion observation post, and alternate lines to these installations. To provide the facilities recommend that a 30-drop switchboard would provide more lines of communication which are essential in a regimental FSCC for a high degree of efficiency.

SOURCE: Command Report - IX Corps

DATE: April 1952

(RESTRIC TED)

TANK TRACK HOLDING DEVICE. - The first step of track throwing is the "blowout" or increase of slack of the track between the last road wheel and the sprocket, which takes place on the inner track during a turn. This more readily permits foreign matter to be carried up between the track and hub, thus forcing the track away from the sprocket teeth. Then, lateral movement of the track, due to the turn, quite often causes the track to be thrown.

Three track holding devices (10-in wide, 11-in long, and 1-in thick) were installed on the outside sprocket of an M46 tank and operated 520 miles without failure. Special tests were conducted in a sand bin and in mud, with the tracks excessively loose and the auxiliary tension wheel raised clear of the track. Maneuvering, under these conditions, caused the tracks to be forced clear of the sprocket teeth and laterally against the holding devices.

On the basis of these tests, recommend that the track holding device be considered satisfactory as a field fix when the vehicle must operate with loose tracks, and terrain conditions are such that track throwing can easily take place.
SUBJECT: Dissemination of Combat Information

TO: See distribution

1. In accordance with SR 525-85-5, Processing of Combat Information, the inclosed EXTRACTS are forwarded for evaluation and necessary action. It may be appropriate, in certain cases, to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and often, the extracted item serves to reaffirm our doctrines and techniques.

2. Copies are furnished to other military agencies to keep them informed concerning theater problems from the front line through the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office assigns each extracted item the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.

4. Combat information EXTRACTS herein which are applicable to training at the company-battery level also appear in Army Field Forces TRAINING BULLETINS.
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DEVELOPMENT OF DEVICE FOR RELEASING HAND GRENADES FROM TANKS DURING CLOSE COMBAT. - All but one of the tankers who were wounded or killed sustained their injuries when they were outside their tanks. It should be emphasized again that if tankers stay in their tanks and fight, they have an excellent chance of coming out without casualties. The value of tanks as a nucleus about which infantry can form in a desperate situation was again demonstrated.

Recommend the development of a device for releasing hand grenades from tanks for use in close-in fighting. Possibly a swing door arrangement on the turret would provide constant protection to the crew.

TANKS ON MLR. - The battalion has had the opportunity during the month of September, to test the effectiveness of tank fire from positions on the MLR.

Tanks did not fire from MLR positions during August. As a consequence, it was noted that the enemy had moved many of his installations to forward slopes and his working and carrying parties could be observed from each tank position. The fire of our tanks apparently came as a surprise, and many profitable targets were engaged and destroyed.

Aggressive tank firing from positions on the MLR is effective in punishing the enemy and forcing him behind hills.

Tanks should be placed on MLR positions in pairs to provide mutual support in the event of close-in fighting.

ENEMY TACTICS. - The North Korean attacks appeared to follow a pattern. During the day before the attack there were heavy H&I fires and registrations. Early in the evening, probes of platoon strength were made and infiltrations by groups as large as companies were made with the apparent purpose of isolating the main objectives. These infiltrating
groups were equipped with AT mines which were placed on the road leading to a hill. Shortly before the main assault, propaganda broadcasts were made, possibly to provide noise camouflage and to give a false sense of security. They were followed by extremely heavy concentrations of artillery and mortars which were, in turn, followed very closely by assaulting infantry.

SOURCE: Command Report - 2d Inf Div

DATE: September 1952

(CONFIDENTIAL)

"ABE LINCOLN" BUNKERS. - GENERAL: The "Abe Lincoln" prefabricated bunker program was initiated by the 2d Engineer Combat Battalion on 21 July 1952. The purpose of this program was to provide a stout bunker that could be (1) mass produced for quantity production, (2) transported easily to front line unloading points, (3) handled easily by carrying parties to the construction site, and (4) erected speedily by untrained personnel. The notched log design adopted provides a high degree of structural strength. Eight-inch logs are used for the sides and roof; smaller logs are used for the bursting plate. Each side log is notched on both ends. Firing apertures are constructed according to infantry requirements. At present the apertures are approximately 14" x 36". The inside of the bunkers measure 10' in width and 8' in depth.

DISTRIBUTION: The logging site for the division is located 20 miles from the construction site. Approximately 17 trucks are provided daily by the Division Quartermaster to transport the logs from the logging site. Each log is marked to indicate its position in the bunker. Each bunker is loaded on a quartermaster truck which delivers it to a front line battalion. Delivery is co-ordinated with regimental supply officers.

PRODUCTION: Four hundred ninety-eight bunkers have been prefabricated and delivered between 21 July and 1 October 1952.

DIFFICULTIES ENCOUNTERED: The greatest difficulty encountered in the bunker production was the availability of logs. Existing stands of suitable trees were small and widespread. A secondary obstacle was that other engineer projects restricted the number of personnel available to operate the program. At first the effectiveness of the program was
considerably lessened by misuse of the bunkers. Many of the logs were used for construction in battalion and regimental CP areas. Units on outposts were not inclined to carry the heavier logs up the hills but would take only the lighter logs designed for the top burster plate. Only by the concentrated efforts of pioneer and ammunition platoons, antitank and mine platoons and the engineers did the operation become effective.

ADVANTAGES: The prefabricated bunkers have proved to be superior to those of other construction. Use of these bunkers automatically eliminates poor and often dangerous construction practices. Once the logs are in the platoon area and the holes are dug, a rifle platoon can complete three (to include proper overhead cover) in one night. Of the 250 "Abe Lincoln" bunkers on position during the rainy season, none collapsed; whereas, approximately 375 of other design did collapse.

SOURCE: Command Report - 40th Div Arty

DATE: August 1952

(RESTRICTED)

DIVISION AVIATION. - Normally in Korea, the air sections of the division will operate from a base which is some distance from other division elements. The present T/O&E does not authorize personnel for housekeeping duties, mess, local security or communications. These personnel must be drawn from other units and combining the sections into a single administrative unit will assist in the conservation of manpower.

It was decided that the division air officer should be responsible for over-all supervision of both air sections, and that the division staff should control the administrative and rear-area operation of the aircraft. The division artillery air officer should be the co-ordinator of tactical flights, and frequently can combine infantry and tank reconnaissance missions with regular, scheduled artillery surveillance missions.

The observers and pilots from infantry and tank units should be trained in the adjustment of artillery fire. By incorporating the infantry and tank liaison aircraft in the routine surveillance schedule, the infantry and tank observers should improve from more frequent experience; the combat missions would be more equitably distributed among the pilots; and aircraft would always be available for special combat missions for both infantry and armor.
(RESTRICTED)

EFFECTIVE COUNTERMEASURE TO ENEMY TACTICS. - On 8, 9, and 10 August, all of the known and suspected hostile mortar positions facing the 2d ROK Division sector were attacked with artillery fire. There were a total of 170 of these positions, and the decrease in the number of incoming mortar rounds following these over-all attacks-by-fire indicates that this may be an effective countermeasure to the hit-and-run mortar tactics employed by the enemy.

SOURCE: Command Report - 23d Inf Regt
DATE: September 1952

(RESTRICTED)

FIELD EXPEDIENT - EVACUATION OF THE WOUNDED. - The 23d Medical Company came up with a practical solution for the evacuation of the wounded over the muddy roads of Korea. With a set of adapters received from Hot Rod Magazine they could change an ordinary jeep into an eight-wheeler in twenty minutes. The jeep has since been tested under almost every condition and proved to be effective. It was found to be almost impossible to bog down and it will go many places that a weasel can not.

SOURCE: Command Report - Eighth Army
DATE: June 1952

(RESTRICTED)

USE OF L-19 IN MEDICAL EVACUATIONS. - A field expedient was developed by substitution of an L-19 for helicopters in medical evacuations. Because of distance involved in air evacuation by helicopter of hemorrhagic fever patients, an L-19 was transferred to the 8193d Helicopter Detachment. The L-19 was modified to accommodate an improvised litter which was built of one-inch plywood, and padded to provide comfort for the patient. Most of the patients being evacuated are not in advanced stages of the fever and can be transported as ambulatory patients.
Use of the L-19 by this unit has proved successful since it has reduced appreciably the travel time from pick-up to delivery at the hemorrhagic fever MASH. Use of the L-19 has also resulted in reduced flying hours by the helicopters of the detachment. Thus, the availability of rotary-wing aircraft has increased proportionately for the evacuation of combat casualties from front-line units.

In view of the frequency of hemorrhagic fever cases a requirement exists for the issue of an additional L-19 to the 8193d Helicopter Detachment. Arrangements have been made with corps headquarters aviation officers throughout Korea to provide aerial support to the helicopter detachments in times of emergency, especially for the evacuation of hemorrhagic fever patients.

SOURCE: Command Report - 45th Inf Div
DATE: August 1952

KATUSA PERSONNEL. - There are 1930 KATUSA (Korean Augmentation to United States Army) personnel assigned to the division. All are enlisted men of two categories of training; 16 weeks basic training and a limited number of leaders with additional advanced training. KATUSA personnel are apportioned to artillery and infantry units to be assigned duties comparable to US troops.

SNIPER TRAINING. Intensified training was directed and implemented concurrently with regimental unit training programs in all phases of sniper operations. The mountainous terrain of eastern Korea is particularly adapted to the tactical use of snipers. At least one expert rifleman from each rifle squad was given detailed sniper training including the following subjects: telescopic sight nomenclature, weapon zeroing, hold-off technique, range estimation, selection of positions, and field firing exercises. Regimental committees were formed to conduct sniper training.
T/O&E CHANGES FOR INFANTRY DIVISION TO PROVIDE CHEMICAL UNIT. - The shortage of chemical personnel and equipment continues to be a serious handicap. In order for the Chemical Corps to properly perform its mission under the existing conditions in Korea, it is necessary that there be established a dependable and practical service unit under the control of the division chemical officer. Bearing in mind the conditions as they exist in Korea, and as they probably will exist elsewhere in the future, viz, that each US division has one or more UN combat units attached, and in addition is flanked by other UN divisions which are satellites of the US divisions for chemical service and maintenance support, a change in the organization and assignment of chemical troops and equipment is the only permanent solution.

Recommend that T/O&E for the infantry division be modified to provide for a division chemical unit comparable to those which presently exist for other branches of the service. Such a unit should include a maintenance team, depot team, decontamination team, and a small laboratory team, plus the necessary headquarters and administrative personnel in order to be self-sufficient.

VALUE OF SCOUT DOGS. - Scout dogs from the 26th Scout Dog Platoon were assigned the 5th US Infantry for use on patrols. The dogs had been trained to give either an aerial alert or a sound alert to their handlers when sensing enemy in the area, and dogs and handlers were trained together and used together on patrols.
Dogs were employed well forward in patrols. At times, when the wind was favorable or when the terrain was steep, the position of a dog was shifted to the rear of the patrol. In preparing ambushes, a dog was located to the front of the ambush site. Usually, after about three hours on the site, a dog either grew restless or dozed off and had to be moved to the rear of the patrol.

Scout dogs proved valuable when patrols were moving from and returning to the MLR. This permitted the patrol to advance more rapidly with less hazard of being ambushed. Members of patrols employing dogs were favorably impressed and always expressed a desire to use them again. Patrol leaders pointed out that the use of dogs could warn them of impending ambushes on patrol routes.

In view of the static situation facing front-line units and the numerous patrols which are required of these units, recommend that more scout dogs be made available.

SOURCE: Command Report - 25th Inf Div
DATE: June 1952

(RESTRICTED)
CLEARING VEGETATION IN FRONT OF MLR. - Increased emphasis is being placed upon the importance of clearing vegetation and brush growing in front of the MLR in order to provide a clear field of fire and to prevent the enemy from approaching unobserved within grenade-throwing distance of the trenches or emplacements. On 23 and 24 June, this division conducted a brush-burning operation forward of the MLR in the 5th US Regimental sector. A flamethrower service team was set up just behind the MLR where both the PFT's and MFT's were filled and pressurized. The PFT's worked to the left flank and the MFT's, mounted in jeep trailers, worked to the right flank where the MSR was within a few feet of the MLR. This operation was considered very successful and is being continued by the infantry. An estimated two-platoon front is being covered per day of operation. In addition to accomplishing an important job of clearing vegetation, this operation has provided units in the line with practical instruction and experience in the use of flamethrowers and the E32 compressor.

Over
The most practical and expeditious way to remove this vegetative cover is by the use of a defoliating solution such as 2-4-D or 2-4-5-T delivered as an airplane spray.

SOURCE: Command Report - 45th Inf Div
DATE: June 1952

(CONFIDENTIAL)
BOUNCING NAPALM MINE.

Materials required:

- One pull-type fuse with nonelectric detonator
- One 10-foot length of trip wire or communication wire
- One stake to anchor trip wire
- One length of wire to attach pull fuse to can
- Two 8-to 10-foot lengths of primacord
- One electric detonator
- One BA 70 battery or blasting machine
- One length of communication wire to reach from electric detonator lead to position of battery
- One 5-gallon can filled with napalm
Method of installation:

A hole is dug of sufficient depth to allow a cushion of 4 to 6 inches of dirt to be placed between a coil of primacord in the bottom of the hole and the 5-gallon can. One 8-to 10-foot length of primacord is coiled in the bottom of the hole with electric detonator attached and 4 to 6 inches of dirt placed on top of it. The mine is placed on top of this cushion after fastening a pull-type fuse to the outside of the can with pull ring down. A stake is driven alongside the can and a wire is fastened between the stake and the pull ring of the pull-type fuse. Another length of primacord is attached to the non-electric detonator and coiled into the napalm. Care must be exercised to insure that no sharp bends are made in the primacord. The mine is placed in the hole, covered with an inch of dirt and the pull-type fuse activated. The lead wire of the electric detonator is connected to a sufficient length of wire to reach a nearby bunker, at least 40 yards from the installation.

Method of operation:

When the mine is to be fired the electric circuit is completed causing the electric detonator to explode and set off the coil of primacord under the can, projecting it 15 to 30 feet in the air. When the can reaches the height of the trip wire, the pull-type fuse is activated causing the length of primacord inside the can to explode and spread burning napalm over an area of approximately 30 yards in diameter.

Observations:

This method of installation will reduce the number of mines rendered inoperative by enemy artillery, small arms fire and sabotage.

SOURCE: Command Report - 21st AAA Bn

DATE: August 1952 Source No 650

(RESTRICTED)

REPORT ON POWER UNIT, PE-210. - The PE-210 is unsatisfactory compared to other power units. In order to prevent carbonation, the method employed in lubrication necessitates more frequent maintenance and adjustment than the conventional-type motor. The proper fuel
mixture must be used to prevent over heating. To maintain such an
exact mixture, careful adjustment must be made on the carburetor every
time the motor is started. The construction of the unit is not adequate
for combat conditions. Vibration causes loosening of poorly reinforced
parts, such as the fly wheel housing. The Power Unit, PE M45-D, has
been used with much better results than the PE-210.

Recommend that the Power Unit, PE-210, be replaced by a more
substantial type unit.

SOURCE: Command Report - 25th Div Arty
DATE: September 1952

(RESTRICTED)
METHODS OF COMPUTING FIRING DATA FOR HIGH-ANGLE FIRE.
- In mountainous terrain a large percentage of close artillery support
must be fired using high-angle techniques. This, coupled with a shortage
of all calibers of ammunition, makes the problem of delivering continuous,
accurate artillery fire a very serious one.

A test has been conducted in the 25th Division Artillery to determine
how to get the best results with high-angle fire. The following conditions
prevailed:

a. An accurate map was used by the battalion fire direction
center and by the observer.

b. Accurate survey was available.

c. Meteorological data from a visual station and a radiosonde
station were available.

During August and September 1952, a registration with high-angle
fire by each battery in the battalion, each on a different check point in the
battalion zone of fire, was made, visibility permitting, each morning and
evening. Whenever possible, a metro message was obtained within a plus
or minus two hours of these registrations. One purpose of this was to
compare the computed metro and VE data for the check point with the data
obtained by the registration. A total of 99 comparisons were obtained.
The results showed that of the initial firing data given by the computed metro plus VE data, 70% were within 75 yards, or 3 probable errors of that data actually obtained by registration, while 37% were within 25 yards.

These results were obtained when range changes of as much as 400 yards were computed from successive metro messages. Any battalion using registration corrections only must register every time the weather changes, and will require an excessive amount of ammunition for registration. The average ammunition expenditure using this method has been found to be 8 plus rounds per battery per registration. Based on the two months' observation, one registration per day in each sector with a concurrent metro message will provide accurate results.

When the observer gives accurate coordinates to designate a target, little if any adjustment is required to place effective fire on the target any place within transfer limits of the registration point.

The foregoing methods have been studied throughout the battalions of the 25th Division Artillery and the following conclusions have been drawn:

a. Using the methods of computing firing data described above, time and ammunition can be conserved.

b. With firing data computed in this manner, accurate surprise fire can be delivered, observed missions can be adjusted in a minimum of time and satisfactory unobserved transfers can be made all with high-angle fire.

SOURCE: Command Report - 140th AAA AW Bn (SP)
DATE: September 1952

(RESTRICTED)
ENEMY TACTICS AND WEAPONS - Heavy friendly artillery and tank fire has forced the enemy to adopt new concepts in organizing his defense of a hill. The enemy maintains observation posts along the trenches that encircle the hill, and the bulk of his troops remain in tunnels on the reverse slopes, prepared to move to any critical point as
needed. He has crossed friendly barbed wire by having personnel lie on the wire while others stepped over them. Remnants of bloody clothing substantiated this. Another procedure of the enemy is to mark paths through friendly mine fields. Some of the methods used are: finding a path through the mine field and then marking it with 5-foot high branches; marking the edges of friendly mine fields with green tape one and one-half inches wide; attaching pieces of paper to the trip wires of mines and flares to mark the way for enemy patrols.

Several recent reports indicate that units in the CCF are equipped with a 107-mm mortar (M-1938, Mountain type, Soviet) and mortar fragments found along the MLR indicate the employment of this weapon in an active artillery support role. The 107-mm mortar is believed to be a part of an enemy artillery battalion's T/C&E equipment and is used as a replacement for the 105- or 75-mm howitzers where use of the latter weapons is unsuitable due to their limited mobility. Because of its relatively long range, 6900 yards, the 107-mm mortar may be encountered along the front wherever a requirement for such a mobile, long-range infantry support weapon exists.

SOURCE: Command Report - 1st FA Obsn Bn
DATE: September 1952 Source No 653

(UNCERTIFIED)

ENEMY WEAPONS. - During the past four months, one hundred five recoilless rifle locations were made. Several of these locations consisted of clusters of two or three rifles. From these figures, the following conclusions may be drawn:

1. The recoilless rifle is becoming one of the principal weapons employed by the CCF against our forward positions.

2. The enemy tactics for employment of these weapons are similar to our own. He uses the recoilless rifle mostly for direct fire upon targets on our own OPLR and MLR. Because they are direct-fire weapons and due to their ease of detection from their backblast, the location of these weapons by flash observation posts presents no difficulty.
3. The artillery observation flash base, with its series of centrally controlled, surveyed OP's located on commanding terrain, is one of the most effective means of coping with these weapons.

(EQUIPMENT PROBLEMS) - Considerable difficulty has been experienced recently with the observing instruments in use on the flash OP's. This unit has had several of its T/O&E instruments damaged and destroyed by hostile fire. As a result of these losses and to equip additional OP's, several battery commanders' telescopes have been installed on OP's throughout the battalion. These instruments have certain advantages as well as disadvantages when compared with the M-2 flash spotting scope. The periscope-type telescope has, on several occasions, saved the life of the operator when the instrument has been destroyed by shell fragments without injuring the operator. This is a definite advantage over the M-2 flash spotting scope which requires the operator's head to be above the line of sight. Neither of the above telescopes has the required magnification for accurate, long range flash ranging. The major disadvantage of the BC telescope is the lack of rigidity of the tripod. This necessitates frequent orientation, a difficult process at night on an exposed OP. A definite need exists for a sturdy ground-mount-type base for use with observing instruments on front-line observation posts.

Considerable difficulty has been experienced due to erratic operation of the automatic plotter, RC-308, used in conjunction with the radar set, SCR-784. A more stable automatic plotter, the RD-54, can be used with the SCR-784 with the proper modifications. A modification work order has been authorized for adapting the SCR-784 to operate with the RD-54 plotter. This will greatly enhance the value of the radar set, SCR-784, as a target locating agency.

Difficulty has been experienced by failure of the generator, M-7, used with the radar set, SCR-784. The SCR-784 is capable of operating continuously for long periods of time. The M-7 generator, however, is incapable of such continuous operation. When this generator is subjected to prolonged operation, it invariably results in malfunctions. The generator, M-15, is capable of operating over much longer periods without serious malfunction.

Recommend that:

1. Representatives from Army Field Forces Board make an on-the-spot study of new types of equipment needed for sound, flash and radar ranging.
2. The automatic plotter, RD-54, be issued to this type battalion to replace automatic plotters, RC-308.

3. A minimum of three each generators, M-15, w/trailer (one per battery) be issued to this type battalion for use as spares.

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**SOURCE:** Command Report - 159th FA Bn

**DATE:** September 1952

**SHORTAGE OF PLOTTING NEEDLES.** - The shortage of plotting needles poses a problem in the fire direction center for which Army supply channels offer no solution. Vital accuracy is lost when improvised pins and needles must be used. It is necessary to order this essential equipment from The Book Store, Fort Sill, Oklahoma, and to use personal funds for such purchases. Plotting needles should be procured by the appropriate military supply source and furnished to field artillery units.

Recommend that plotting pins and needles be made available through Army supply channels in sufficient quantities to meet essential needs, thus eliminating improper expenditure of personal funds for such items.

**SOURCE:** Command Report - 158th FA Bn

**DATE:** September 1952

**COMPLETE FIRE MISSION CONDUCTED BY RADIO.** - This battalion has conducted complete fire missions by radio, daily as a training device designed to improve operator discipline and to check equipment serviceability. Training in this phase of communications paid excellent dividends during recent attacks on two hills. All wire lines to liaison boards and firing batteries went out during the preparation fires. For a period of approximately 30 minutes, a single SCR-608 radio handled both incoming fire requests and outgoing fire commands. The smooth rapid operation of this net resulted in the timely delivery of fires at all critical points.
Recommend that radio training be continuously emphasized as a daily practice within artillery battalions.

SOURCE: Command Report - 57th FA Bn
DATE: August 1952

(RESTRICTED)
T/O&E CHANGE, FIELD ARTILLERY BATTALION. - At present one watch, stop, type B, class 18, stock number F001-0028211, is authorized by T/O&E 6-26N, as amended, for the regimental FSCC operated in this battalion. Recommend that two such watches be authorized. Many times more than one TOT is being plotted, and one watch is insufficient. Also at times when the watch is being repaired, the FSCC is entirely without a watch. Further recommend that each firing battery's FDC be authorized one of the above described watches as none is authorized by T/O&E 6-27N, as amended. This watch is essential for the purpose of properly conducting fire when the battery is operating independently and separately from the battalion and when the FSCC is inoperative or is out of communication with the batteries.

SOURCE: Command Report - 1 US Corps Arty
DATE: August 1952

(SECRET)
NIGHT ARTILLERY ADJUSTMENT. - Beginning in June and continuing through August, Corps Artillery has been experimenting with night adjustment of artillery by use of organic light aviation and MSQ-1 radar from Detachment Number 1, 608th AC&W Squadron (Air Force). At this stage in the problem, one concrete fact is known. Artillery fire can be successfully adjusted at night from the air.

(RESTRICTED)
INDICATION OF NEW TYPE ENEMY ARTILLERY SHELL. - PW reports indicate that there is a new type of artillery shell being used by the enemy. Available information pictures the shell as being somewhat...
smaller than the 76.2-mm and indicates that the shell was fired from a howitzer-type weapon. The projectile was composed of a perforated shell around a solid core and there was no indication that the shell had a rotating band. Reports stated that seven of these shells were carried by each man and that the projectile could penetrate the best of bunkers.

(RESTRICTED)

COMBAT PAY. - The recently established criteria of awarding combat pay has caused a morale problem among the enlisted men of the Corps Artillery battalions. The wide publicity given to this pay by state-side radios and newspapers seems to indicate that all personnel in a combat arm, committed to action in Korea, are entitled to this pay. The mere fact that personnel are told that they are in a combat role in a theater of operations and committed to action and then deprived of combat pay is not easy to explain. Under the present plan, personnel must be under hostile fire for at least six days during a month to be eligible for combat pay. A battery could receive a hundred rounds of counter-battery fire in two hours, have 10 killed, 40 wounded, and lose considerable materiel, yet not be eligible for combat pay because they were not shelled on at least six days during the month. The present criteria, as far as artillery is concerned, is not adequate.

Recommend: That regulations be changed to include all combat units when committed to action against the enemy. The paper work, bookkeeping, and time lost administering the present regulations are enormous.

That a clear interpretation, with descriptive examples of this pay bill be given the public.

SOURCE: Command Report - IX Corps Arty

DATE: August 1952 Source No 658

(RESTRICTED)

TRAINING IN ARTILLERY INTELLIGENCE. - Target-getting assumes equal importance with the ability to shoot in a combat situation. The tools for locating hostile mortars and batteries are woefully short in this theater. For a Division Artillery or Corps Artillery to accomplish
its primary mission, better "balance" should be obtained between target-getting facilities and the number of tubes to deliver fire power to the target that has been located. There has been an acute lack of aggressive target-seeking on the part of battalion SZ's. While most personnel assigned to intelligence work appear to be professionally competent, they seem to flounder in confusion in their primary duty of finding targets for the artillery. For a battalion S2 to be effective, he must be aggressive from the first day of his assignment, and he must have a basic knowledge of intelligence principles. Training in locating targets (artillery intelligence) should be as thorough as that of field artillery gunnery. The artillery officer should come to combat equipped with these tools:

1. Ability to locate a target.

2. Ability to place the fire power of the artillery on the target.

Recommend: That special attention be placed on artillery intelligence in officer training courses so that officers charged with intelligence matters will be able to accomplish their missions effectively and quickly.

That better balance be obtained between gun tubes and target-getting facilities such as countermortar radar, sound, flash, etc.

SOURCE: Command Report - 2d Div Arty

DATE: August 1952

Source No 659

(RESTRICTED)

ARTILLERY OFFICER REPLACEMENTS. - It is highly desirable that officers in the grades of captain and higher have some training in field artillery tactics and techniques. Reference is made here particularly to artillery officers whose sole background has been in antiaircraft gun units. In many cases officers are being received in the grade of captain without field artillery background, and who received terminal leave promotions upon separation from the service after WW II. Most of these officers have not attended the one-month refresher course at Fort Sill.
Strongly recommend that all artillery officers attend this course before departing for Korea and that all officers without field artillery background be required to attend the three-month associate course applicable to their grade.

SOURCE: Command Report - 999th Armd FA Bn
DATE: August 1952 Source No 660

(RESTRICTED)
ADDITIONAL GRAPHIC SITE TABLES FOR ARMORED FA BN. - Recommend that the T/O&E of this type organization be changed to include two graphical site tables (GST) per battalion fire direction center and one GST for each of the three firing batteries' FDC's.

The mission of an armored field artillery battalion is to deliver rapid and accurate fire. This mission is seriously impaired by the lack of the above items.

SOURCE: Command Report - 158th FA Bn
DATE: August 1952 Source No 661

(CONFIDENTIAL)
INFLUENCE OF PSYCHOLOGICAL WARFARE. - Enemy morale does not seem as high as in previous periods. He will not man his pieces under counterbattery fire, and will cease his own counterbattery fires as soon as it becomes evident that our fires are seeking him out. The number of deserters surrendering to friendly forces has increased during the period. Interrogation reveals that psychological warfare leaflets and broadcasts have influenced their action.
ROAD CONSTRUCTION IN MOUNTAINOUS TERRAIN. - We are road bound and unable to build roads in mountainous terrain rapidly which is essential to exploit our firepower and mobility. Such mountainous terrain features are located at many strategic points throughout the world. Engineers should exert every effort to increase their capabilities of road construction in mountainous terrain.

Recommend:

1. Standardization of engineer equipment to permit maximum flexibility and interchangeability of parts, thereby resulting in a greatly reduced deadline.

2. Development of a gasoline driven rock drill with a rotating drill steel that can be carried by one or two men and operated by one man. This equipment will permit advance demolition crews to drill and blast rock faces effectively where at the present time mud capping and snake holing is necessary. This is inefficient and very costly in demolitions. Such practices were never intended for road construction on the scale employed in Korea.

3. Development of a helicopter capable of picking up a D-8 dozer and carrying it to a landing point 5,000 feet above sea level. The roads presently under construction could have been built in 1/3 to 1/2 the required time had it been possible to get dozers to high ground otherwise inaccessible until the road was built. Air speed and range of operation are secondary to ability to lift such a heavy load to inaccessible spots. Such a helicopter should be available at corps level.
UNCLASSIFIED

SOURCE: Command Report - Yokohama Engr Depot

DATE: August 1952

(RESTRICTED)

INADEQUATE PACKING. - A shipment of rock salt for Korea was rejected for loading by the 2d Major Port. The salt had absorbed considerable moisture and the paper sacks in which the salt was packaged had become unserviceable. As a result, Storage Division repacked the salt in sandbags and packed the sandbags in boxes. Prior to the port rejection, this problem had been recognized and a letter forwarded through channels in an effort to have rock salt and similar items more suitably packed for overseas shipment in the Zone of Interior. This request was rejected. Due to high humidity in the Far East and the fact that complete repacking has to be accomplished by Storage Division, more consideration should be given to the packing of supplies for shipment to the Far East Command.


DATE: August 1952

(RESTRICTED)

REGIMENTAL ORGANIZATION, IN LIEU OF GROUP ORGANIZATION, FOR COMBAT ENGINEERS. - Based on observations of combat group operations in Korea for the past thirteen months, the group organization has little to offer over the engineer regiment. The "flexibility" aspects of the group have been of limited importance, and the same results obtained by using a regimental organization. Groups in Korea have operated both administratively and technically, and the administrative personnel have been added to those required for the separate battalions. A regiment would not eliminate the battalion headquarters company, but could materially reduce the administrative personnel therein. In addition, a regimental organization would insure a continuity of unit history, morale, and esprit de corps which would more than compensate for the loss of flexibility. Additional separate battalions could be assigned, or attached to the regiments as operation needs might require. Recommend that regimental organizations be restored.
(RESTRICTED)

T/O&E CHANGE, COMBAT ENGINEER GROUP HEADQUARTERS.
- Recommend the combat engineer group headquarters T/O&E be changed to include a group dentist. Headquarters and other separate companies have total dental requirements equivalent to those of a combat battalion, and an additional dentist is needed to cover these cases.

SOURCE: Command Report - UNC POW Camp No 2 Pusan (Hosp)
Hq 93d MP Bn
DATE: August 1952

(RESTRICTED)

TRAINING IN OPERATION AND ADMINISTRATION OF PW CAMPS.
- Recommend that school training of officers stress such subjects as basic operations and administration of prisoner of war camps, handling of oriental prisoners including customs, food and housing. One of the basic problems underlying the treatment of oriental war prisoners may be attributed to the tendency of United Nations personnel handling them on the western principles of humanity which is often construed by prisoners as weakness. Fair but firm treatment in dealing with prisoners of war is constantly emphasized in training United States troops. Experience acquired by officers in the field should be beneficial to school instruction upon their return to the United States.
ATTNG-26 350.05/3(DOCI)(C)(20 Mar 53) 20 March 1953

SUBJECT: Dissemination of Combat Information

TO: See distribution

1. In accordance with SR 525-85-5, Processing of Combat Information, the inclosed EXTRACTS are forwarded for evaluation and necessary action. It may be appropriate, in certain cases, to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and, often, the extracted item serves to reaffirm our doctrines and techniques.

2. Copies are furnished to other military agencies to keep them informed concerning theater problems from the front line through the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office assigns each extracted item the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.

4. Combat information EXTRACTS which are applicable to training at the company-battery level appear in Army Field Forces TRAINING BULLETINS.

FOR THE CHIEF OF ARMY FIELD FORCES:

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(RESTRICTED)

RADIO AND OBSERVATION INSTRUMENT REQUIREMENT FOR UNITS OCCUPYING THE DEFENSE LINE. - In the present static defensive situation of this division it has been necessary to supply forward observers with two radios and to increase the number of available observers, for the following reasons:

a. Most enemy attacks are accompanied by violent mortar and artillery fire resulting in immediate loss of wire communication.

b. This fire normally makes rapid replacement of communication equipment impossible.

c. Although a single company usually occupies a single hill mass, the configuration of the ground is frequently such as to require more than one forward observer in order to insure adequate coverage.

As a result of the above, this organization has found it necessary to issue instructions to the effect that each forward observer will have two radios and that liaison officers have extra spares, and further finds itself manning 29 OP's, all with two radio sets.

The additional ground observation posts necessitated by peculiarities of the terrain results in a requirement for additional observation instruments. Present authorization for such instruments is insufficient to provide an instrument for each observation post, four of which are not equipped with battery commander's telescopes.

In order to provide the necessary radios it has been necessary to pool all radios under division artillery control. However, even this method has resulted in a dangerous weakening of the radio communication capability of the general support battalions.
(RESTRICTED)

FLASH REDUCER FOR 155-MM GUN. - Recent difficulties experienced by this battalion with flash reducers when firing charge super in the 155-mm gun has resulted in suspension of the use of flash reducers with charge super.

The flash of the charge super is of such magnitude that it can readily be located by the most primitive flash locator methods. In view of the improved enemy counterbattery capabilities, it is necessary that all practicable means of concealment be utilized. Therefore, it is imperative that some type of flash reducer be utilized during night firing.

It is recommended that necessary action be taken at the earliest practicable date to provide a usable flash reducer for the 155-mm gun.

(RESTRICTED)

SHORTAGES OF FA NCO'S AND OFFICERS. - Critical shortages still exist in some categories of personnel. Those vitally affecting combat efficiency are lack of trained noncommissioned officers, communication officers and survey officers. Recent officer graduates of field artillery courses are fully trained in survey procedures.

(CONFIDENTIAL)

HEAVY MORTAR COMPANY IN DEFENSE. - During the present static situation in Korea, the basic principles of employment of the heavy mortar company in defense have held true, although modifications of these principles have been made to utilize more effectively the firepower available.
In a normal defense situation, the mortars are placed well to the rear of the MLR so that fires may be placed not only in defense of the MLR but, without displacement, on the MLR and to its rear in order to limit any possible enemy penetration. In the present situation, it has been found that the mortars are best employed directly behind the MLR. This enables the mortars to engage more targets along the enemy OPLR and MLR. With the mortars employed in this manner, it is also possible to mass the fires of the entire company in defense of any portion of the OPLR. Other positions have been selected and prepared 1000 to 1500 yards behind the MLR so that, in the event of a withdrawal of the OPLR, the mortar platoons may be quickly displaced for defensive fires forward of the MLR.

In some instances the mortar platoons have been employed directly behind the outposts in order to fire close supporting fires in conjunction with the artillery for a far ranging patrol or raiding party; this has proven particularly successful.

Detailed prior planning and co-ordination must be made between the patrol leaders of friendly patrols and the heavy mortar forward observer. Details which should be considered are patrol routes, suspected enemy positions which may fire on the patrol, prearranged concentrations to be fired on call and well established methods of communication. All patrol leaders should be well versed in the adjustment of mortar fire in the event these supporting fires need to be brought in close to the patrol or adjusted on targets of opportunity spotted by the patrol.

The fire of the gun platoons is controlled from a central fire direction center where the target grid method of fire control is employed. Working in conjunction with the FDC is the operations section of the regimental counterfire platoon. Having the operations section of the counterfire platoon present in the FDC eliminates the time lag in transmission of fixes on enemy mortar locations, and gives the mortar company a greater opportunity to engage enemy mortars while they are still firing.

A sound platoon of the observation battalion is located in this sector, and has direct communication with the FDC. The value of close cooperation with this unit lies in fire adjustment. The sound location microphones of this unit are surveyed in and, therefore, their locations are fixed accurately. The FDC calls the sound operator and informs him where and when the unit intends to fire at a target, giving the grid
co-ordinates so that the impact can be recorded on the sound tape. By sound intersection precise adjustment can be rapidly made. This procedure has been found to be accurate for fixing exact ranges to unobserved points within the sector.

Although the regiment is in a static situation, a system has been set up in the company to allow the platoons to practice displacement. A platoon is ordered to move to an alternate position on short notice. Once the platoon is in position, harassing and interdiction fires are placed on enemy positions during the night and the unit moves back to the primary position the following morning; this also serves to conceal the platoon's primary position and lessens hostile countermortar fire.

Recommendations:

1. Employ the mortars directly behind the MLR to enable fire to be placed on the enemy OPLR and MLR positions and at the same time to mass fires of the entire company in defense of any position of the OPLR.

2. Select other positions 1000-1500 yards to the rear of the MLR so that in the event of a withdrawal of the OPLR, the mortar platoons may be displaced for defensive fires forward of the MLR.

3. Initiate detailed prior planning and co-ordination between patrol leaders and forward observers to include briefings on suspected enemy positions which may fire on the patrol, prearranged concentrations to be fired on call and established methods of communication.

4. Insure that patrol leaders are versed in the adjustment of mortar fire in the event support fires must be brought in close to the patrol.

5. Insure that operations section of the counterfire platoon works physically with the FDC in order to eliminate the time lag in the transmission of fixes on enemy positions.
(RESTRICTED)

COMMUNICATIONS. - This subject is mentioned merely to re-emphasize the known principle that several means of communication must be provided. In each of three engagements wire communications within companies and from companies to battalion were disrupted or destroyed in the early phases by enemy artillery and mortar fires. Greater reliance must be placed on radio and visual means of communication.

(SOURCE: Command Report - 279th Inf Regt)

DATE: August 1952

(RESTRICTED)

INTEGRATION OF KATUSA PERSONNEL. - On 23 August four hundred ninety-four Korean Augmentation Troops, United States Army, (KATUSA) were assigned to the organization. In accordance with current directives, KATUSA personnel were reassigned to organic units and integrated on the basis of two men per squad in the combat units. These new men presented a soldierly appearance, demonstrated a knowledge of the M1 rifle, keen interest in military subjects and a willingness to learn. The difference in language constituted a barrier; however, training progressed steadily.

(SOURCE: Command Report - 5th Regt Combat Team)

DATE: September 1952

(RESTRICTED)

USE OF NAPALM MINES FOR ILLUMINATION. - In the latter part of the period, the regiment received quantities of napalm land mines to be used to provide instantaneous illumination when needed forward of the MLR, as well as for their antipersonnel effect.

Electrically detonated, these mines were employed in clusters of three forward of combat posts and controlled by the occupants of those posts.

Over
Napalm mines were successfully used to reveal enemy patrols near friendly positions. One such incident occurred on the night of 23 September when members of a friendly combat post heard noises that indicated the possibility of approaching enemy. One of the men immediately detonated one of the mines forward of the combat post. The mine functioned perfectly and illuminated the area disclosing the position of ten enemy.

SOURCE: Command Report - I Corps
DATE: August 1952

(RESTRICTED)

PANEL VIOLATIONS. - Fifty-three panel violations were reported by mosquito aircraft and fighter-bomber pilots across the Eighth Army front during the period 1 July through 6 August. Several incidents revealed that improper displays and lack of panels had contributed to mis-strikes on friendly positions. Eighth Army ordered all commanders to insure that units habitually display air-ground recognition panels.

SOURCE: Command Report - 49th FA Bn
DATE: August 1952

(CONFIDENTIAL)

PROBLEMS OF ARTILLERY SUPPORT IN LAST 100 YARDS OF THE ASSAULT. - Attacks which have been supported by this battalion have all encountered difficulty in the last 100 yards of the assault. In one raid, a thorough preparation was fired which forced the enemy to remain under cover while the assaulting force moved into position. When support fires were lifted for the last few yards of the attack, an almost solid wall of Chinese stood up in their communication trenches and began firing. Friendly casualties were highest during this period.

It is recommended that investigation be made into the plausibility of developing a projectile using a concussion effect without fragmentation. The Chinese have been using concussion grenades which have bounced off UN personnel causing only a stunning effect. A base ejection projectile with concussion canisters could be fired directly over an attacking force with a minimum of casualties, but might still have the effect of keeping the enemy under cover long enough for the infantry to close.
(CONFIDENTIAL)

FUSES FOR SMOKE SHELLS. - Recently there have been more and more smoke mission requests by the infantry. The two fuses available in Korea for smoke are the M54 and M67. The M54 is an accurate fuse but is very limited because of the short burning time. The M67 fuse, when used with base ejection projectiles, must be used without the booster. There has been no problem obtaining M67 fuses with boosters, but deboosterized fuses have been difficult to obtain. The high dispersion obtained with this fuse has sometimes reduced the effectiveness of smoke projectiles fired.

It is recommended that time fuses for smoke shells be given further study.

SOURCE: Command Report - 40th Div, Arty

DATE: September 1952

(UNCLASSIFIED)

SYSTEM FOR CONDUCT OF AIR OBSERVED MISSIONS. - The initial rounds in adjustment will be called "ranging rounds" and will be fired by the center two pieces of the adjusting battery. Shell HE will be used and the pieces will be fired at an interval of 10 seconds with a 400-yard range spread. The short round will be fired first, and adjustment will be continued from the round falling nearest to the target. Reasons for adoption of the "ranging round" system are:

a. The shortage of white phosphorous precludes the possibility of firing the initial round with smoke and necessitates the firing of more than one round of HE on the initial volley to assist the observer in locating his first round.

b. The 400-yard range spread gives the observer an immediate gun-target line and a yardstick at the beginning of his mission. By always firing in the same sequence, the observer knows whether he is observing the short or the long round in the event one is "lost." In many instances, the ranging rounds will establish a range bracket and fire for effect may be started on the second volley.

The decision as to whether the short or long round should be fired at the observer's co-ordinates will be made by the battalion S3 and will depend on the results of the first mission fired during any metromessage period.
REMOTE CONTROL RADIO EQUIPMENT. - It was impossible to maintain wire communication with the three observation posts due to the extremely heavy shelling. Radio communication was used throughout the operation and proved to be satisfactory. For maximum results, it was necessary to locate the radios outside and at the rear entrance to the bunkers so the antenna would be in a position to operate at maximum efficiency. In placing the radio in this exposed position, the operating personnel were, of necessity, vulnerable to enemy artillery fire.

This unit lost three radios due to enemy shell fire on Hill Two of the operating personnel received minor wounds.

Operating under current T/O&E, this unit is not authorized remote control equipment RC-261, but is authorized two RC-298's which were not suitable as they require an operator at the radio set.

Recommend that this type battalion be authorized 5 each RC-261 remote control equipment in order to remote and operate the receiver-type 600 series radios from a sheltered position.

M16 MODIFICATIONS. - Since the middle of July, the 2d Division has employed one platoon of M16 fire units in direct support of each regiment. These units were integrated into the regimental protective and supporting fire plans. In addition, each unit fired nightly harassing and interdicting fires. There have been three noticeable results: (1) the solenoid cable could not withstand the shock and vibration produced by prolonged, intermittent firing - many broke and pulled loose at the point where the cable enters the bell housing; (2) a highly satisfactory field modification was developed by members of the 2d Division Ordnance Company - cables were reinforced with speedometer cable sheath and replaced in the unit; and (3) reclaimed tubes with a steel liner (stellite)
caused malfunctions. This was true even when burst were limited to twenty-five to forty rounds and the barrel removed after two to three hundred rounds. The liner separated from the tube and caused incorrect headspace - the resulting malfunction ruined the .50 caliber machine gun.

It is recommended that:

a. A solenoid cable be developed which will have the approximate strength of the modified cable discussed above.

b. Reclaimed tubes be provided with a more permanent liner.

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**SOURCE:** Command Report - 780th FA Bn

**DATE:** October 1952

**Source No 678**

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**NEED FOR HEAVIER TRACTOR, FA BATTALION.** - It is recommended that a heavier cargo tractor be issued in lieu of the M4 tractor as the latter is too light to negotiate the mountain roads while towing an 8-inch howitzer. On numerous occasions while maneuvering the howitzers into firing position the pintle plate on the M4 has been completely snapped off.

**SOURCE:** Command Report - 623d FA Bn

**DATE:** October 1952

**Source No 679**

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**LESSONS LEARNED FROM ENEMY SHELLING.** - In one day in October, a battery of this battalion received counterbattery fire, totaling 480 rounds of mixed 122-mm and 76-mm calibers. In this shelling one officer was killed and four enlisted men were wounded. Considerable damage to materiel and equipment was also experienced.

After questioning the officers and men, and examining the effect of the shelling, the following conclusions were reached:

a. Few direct hits were suffered, in spite of the large number of rounds landing in the area.
b. Sturdy bunkers offer good protection against even direct hits with the common calibers and fuses presently being used by the enemy.

c. Howitzer pits of current design are effective in reducing damage to a minimum. Likewise, revetments are desirable for tractors and trucks.

d. The morale and efficiency of battery personnel are less likely to slump during a shelling if the men have confidence in their bunkers. The casualties suffered were all caused by a direct hit on a two-layer sandbag bunker, one of the less substantial ones in the area at the time.

SOURCE: Command Report - 64th Tank Bn (M)

DATE: September 1952 Source No 680

(RESTRICTED)

EVACUATING DISABLED TANKS UNDER FIRE. - A method of evacuating disabled tanks under fire was evolved which holds exposure of the recovery crew to a minimum. Prior to entering the exposed area the crew must be thoroughly briefed on the action to follow. A cable is laid over the deck of the tank so that one end of the cable hangs down within reach of a man under the tank; the tank is moved either forward or backward, up against the disabled tank. At this time the bow gunner drops his escape hatch, dismounts through it and crawls under the tank. The bow gunner pulls the cable down off the deck and connects the two tanks. He then re-enters his tank through the escape hatch, and the disabled tank is ready for evacuation. This method will work only with another tank, as it is necessary to move from under the tank when coupling to an M32.

SOURCE: Command Report - Eighth Army

DATE: July 1952 Source No 681

(RESTRICTED)

PIPELINE MAINTENANCE. - Since the POL pipeline became operational, there has been an excessive number of breaks in the line
resulting in the loss of petroleum products and interruption in rail service. The following factors are considered primarily responsible for the breaks:

a. Tampering and associated pilferage because of insufficient security along the line.

b. Inadequate maintenance resulting from using the engineer pipeline company as security forces.

c. Breaks caused by excessive expansion of the pipelines in hot weather.

In view of the serious situation that could result from frequent and prolonged interruption of rail service and/or pipeline delivery, it is essential that all pipeline personnel available in the vicinity be used only on construction or maintenance of POL facilities.

The following steps have been taken regarding pipeline breaks along the railroad:

a. All crossings on railroad bridges are being made of welded pipe.

b. All pipes crossing railroad bridges or supported by them are constructed so that pipe is six feet from the bridge.

c. All pumpings are made during daylight which aids in controlling steel pipe expansion and pressure from product. When the line is not pumping, valves are left open to tanks to allow product pressure relief.

d. Agreement was unanimous that pipe sleeves at bridges create more hazard than they prevent because the sag allows a volume of POL to collect which in time spills at the ends. Maintenance is prevented or delayed by sleeves. It was also noted that if the pipe is placed 30 feet from the tracks, it will be in rice paddies, which is unsafe.
ENEMY TACTICS. - During the month, the enemy employed a very simple idea in an attempt to confuse or delay our counterbattery intelligence section. On the night of 17 September, numerous flashes were seen in enemy territory; however, the normal "Bang" was not forthcoming. In the heat of battle this ruse could conceivably impair the effectiveness of our counterbattery effort by causing us to fire on one or two individuals who are sitting back in a bunker setting off these flashes. In the past several months, there have been indications that the enemy has fired time fire; however, there was no positive proof of this. In the latter part of September air bursts were actually observed by forward observers during one period of enemy firing.

USE OF FLASH REDUCER WITH SUPER CHARGE. - In the past month the 204th FA Bn (155-mm gun) reported a number of instances of firing locks being blown from the guns when the super charge was fired with flash reducer. An ordnance team was called in and the following data were obtained:

a. Maximum allowable working pressure in chamber is: 40,000 PSI.

b. Using Flash Reducer Lot #RAD 152 with super charge, chamber pressure was: 40,680 PSI.

c. Using Flash Reducer Lot #RAD 176 with super charge, chamber pressure was: 42,865 PSI.

In view of the above data, the battalion was ordered to stop using the flash reducer with the super charge. This action will eliminate the possibility of a gun blowing up and inflicting severe casualties on the gun crew.

TRAINING REQUIREMENTS - MORE EMPHASIS ON SHELL REPORTING. - Shell reporting is a necessary and important duty of each
individual in a combat unit. The importance of this job cannot be over-emphasized in the training of both officers and enlisted men alike. Instructor personnel in the continental United States are not impressing this subject too well on their students. The time for shell reporting is immediately after a round lands, not an hour or a day later. If the front-line soldier will send in a shell report immediately after the incoming round, corps artillery can effectively deliver counterbattery fire on the weapon firing. Corps artillery has the capability of neutralizing any weapon which can fire on our front-line troops. However, we can not accurately fire without shell reports from the troops themselves.

It is recommended that service schools, replacement training centers and training divisions place more emphasis on the subject of shell reports.

SOURCE: Eighth Army Armor Bulletin No 1

DATE: November 1952

(SECRET)

USE OF TANK MOUNTED FIGHTING LIGHTS AND AUTOMATIC COUPLING AND TOWING DEVICE IN A COMBAT OPERATION

1. INTRODUCTION. - The seizure of Hill BH involved the employment of experimental items of tank equipment, and the use of tanks in offensive night action.

2. TANKS IN THE NIGHT ATTACK. - On the night of 11-12 August elements of the 1st Marine Regiment, supported by Company C (Reinf), 1st Tank Battalion, attacked Hill BH in the 1st Regiment sector. The objective of this attack was the seizure and occupation of Hill BH in order to place fires on the reverse slope of Hill R and thereby make it untenable. Three previous infantry assaults on Hill R had failed to permanently dislodge the enemy from that area. (See sketch, page 20.)

   a. The general plan of attack provided for:

      (1) A diversionary effort by flame tanks and gun tanks mounting fighting-lights toward Hill R, followed by an infantry platoon sweep to clear this hill.
(2) An attack by an infantry company to seize Hill BH following the diversionary attack. Stealth was to be employed in this action insofar as possible.

b. The diversionary attack plan was as follows:

(1) At 2030, two M46 medium tanks, each equipped with a tank mounted fighting-light, were to proceed from an attack position at M along the road to position X; two additional M46 medium tanks mounting tank fighting-lights were to proceed by the same route to position Y following the first two tanks at an interval of about 100 yards.

(a) The mission of this tank platoon was to place heavy fire on areas to the front and flanks in order to create the impression of a main effort in that area; to cover and support the flame tanks and infantry in their assault on Hill R; and to draw enemy artillery and mortar fire away from the main effort on Hill BH.

(b) Since this route had not been completely swept of AT mines, the lead tank would be equipped with special towing hooks by which the second tank in column, equipped with an automatic coupling towing device, could retrieve the lead tank without exposure of personnel.

(c) The tank platoon leader and an artillery forward observer were located in the second tank.

(d) As soon as the last of the four M4 medium tanks cleared the junction at Z, two flame tanks were to proceed from the attack position to Hill R, by the route indicated on the sketch, place flame on the top and reverse slope of the objective, and cover the objective and surrounding areas with machine gun fire. Upon expenditure of their basic load of napalm, these two tanks would return to their assembly area to rearm and to stand by for subsequent missions. When these two tanks cleared the junction Z, two additional flame tanks would proceed to Hill R, repeat the mission assigned the first flame section and then return to their assembly area to rearm and to stand by for subsequent missions.

(e) An infantry platoon would be in position to sweep Hill R upon completion of the flame tank mission on that objective.

c. At the period of maximum effectiveness of this diversionary attack, and on order of the Commanding Officer, 2d Battalion, 1st Marines, the infantry assault would be launched on Hill BH from the MLR.
d. Eight M46 medium tanks and one armored communications and control vehicle (Porcupine) were positioned in hull defilade positions on the MLR to furnish direct fire support to the assault units. The Porcupine vehicle was located on the MLR to provide protected observation and communications facilities for observers.

e. Six armored personnel carriers were to stand by for casualty evacuation and ammunition replenishment.

3. CONDUCT OF ASSAULT. a. Leading tank elements cleared their attack position at 2030 and crossed the MLR at 2045. The night was clear and dark. Moonrise was at 2230. A light wind was blowing from east to west. Upon reaching the junction at Z, it was found that a road bypass to be used was so overgrown with grass that it could not be seen in the darkness. The lead tank located the bypass by flicking its fighting-light on and off.

(1) Progress was slow due to limited visibility, but all gun tanks were in position by 2110 without mishap.

(2) Tanks commenced using their lights on the prescribed target areas, flickering intermittently at five-second intervals. In this manner targets could be continuously illuminated with minimum danger from enemy fire.

(3) These tanks had expended almost all their ammunition by 0300 and were ordered to withdraw to their assembly area. The second tank in column developed mechanical difficulties and was unable to return under its own power. Using the quick coupling device in reverse, the lead tank backed its special coupling hook into the automatic coupling device mounted on the front of the disabled tank and towed the disabled tank to its assembly area without exposure of its crew to enemy fire.

(4) Moderate to heavy enemy artillery and mortar fire was received during the time these tanks were in position.

b. At approximately 2110, when the four M46 medium tanks were in position, two flame tanks moved from the attack position to their objective on Hill R. The darkness forced tank commanders to observe from open hatches and to light their way to the objective with occasional short bursts of flame. Upon reaching their objective about 2200, the flame tanks burned over the topographical crest and reverse slope in a series of short bursts, at the same time sweeping the area.
in a crisscross fashion with their bow machine guns to discourage the enemy flushed from their positions by the flame.

(1) Enough flame fuel was conserved to light the way down from the crest of Hill R. When they reached the junction at Z, two other flame tanks standing by at that point were dispatched to the objective to continue the attack. Conduct of this attack was identical to that of the first section. All flame tanks had returned to their assembly area by 2330.

(2) Enemy reaction to the flame attack on Hill R was more intense than that experienced by the M46 medium tanks on the road, and consisted of moderate to heavy concentrations of mixed mortar and artillery fire and small arms fire.

c. The infantry assault on Hill BH commenced at 2305 when the diversionary action was most intense.

(1) Tanks of the 2d and 3d Platoons of Company C and the Tank Platoon, AT Company, 1st Marines, under operational control of Company C, 1st Tank Battalion, furnished direct fire support from positions on the MLR as indicated on the sketch (pg 20). The 3d platoon placed tank fires on enemy firing points on T, V, W and XX; the objective itself was masked by the MLR.

(2) The 2d Platoon fired on targets to their direct front and in support of the assault on Hill BH. The tank platoon, AT Company, furnished deep direct fire support on enemy positions to the north.

(3) Tanks of the 2d and 3d Platoons, Company C, and the tank platoon, AT Company, used HE- and WP-type ammunition exclusively in firing on enemy personnel and positions.

(4) During the night's action, tanks destroyed four bunkers, killed ten enemy, wounded five enemy and destroyed one AT gun.

(5) By approximately 0400, 12 August, all platoons had been withdrawn to their respective assembly areas to rearm and refuel in preparation for further action.

4. DECEPTION ACHIEVED BY DIVERSIONARY ACTIONS.
a. Enemy reactions and the small number of friendly casualties incurred indicate that the enemy was completely deceived by the tank diversion.
b. Although no infantry accompanied the tanks as they moved out on the road, intelligence indicates that the enemy thought this force to include a company of infantry. Movement of tanks between periods of fighting-light illumination created the impression that more tanks were present than were actually committed. Considerable artillery and mortar fire was directed against the tanks. The combined effectiveness of the flame tanks and the gun tanks with fighting-lights in neutralizing enemy opposition permitted the infantry platoon to move over Hill S, and onto Hill R with a minimum of casualties. Two of the casualties of this platoon resulted from enemy fire on the MLR. The only other casualty was suffered as the platoon withdrew from its objective.

c. Although the enemy reacted strongly to the tank diversion, he failed to react to the main effort until the objective was almost completely occupied. His reaction was weak and ineffective. Intelligence indicates that the enemy thought this force to be of platoon strength, rather than of company size as it actually was.

5. CONCLUSIONS.

a. Flame tanks. - The psychological and casualty effect of the flame tank seemed a tremendous factor in the success of the operation. It destroyed or drove the enemy from Hill R.

b. Armored communication and control vehicle. - Through the use of this vehicle as a radio relay station, the tank company commander was able to control all his units effectively and, at the same time, maintain close liaison with the infantry units.

c. Searchlights.

(1) The effectiveness of the searchlight for the tank on which it is mounted is very limited. The two principal reasons are: (1) visibility is reduced when looking down the beam; and (2) the muzzle blast and smoke from the 90-mm gun obscured the target entirely.

(2) The light is very effective when two tanks are used together, one spotting targets and adjusting fire with the light and the other firing on the targets illuminated. If both tanks have lights the roles may be shifted periodically. Used in this manner they are very effective and give excellent observation to the firing tank. It was noted that the periphery of the beam of light on a target gives better observation of movement than the center of the beam. The reason for this phenomenon is not understood. Most of the fire of the tank has to be adjusted by the tank commander as the gunner's sights react to the light
the same as on a foggy or rainy day. If there is a great deal of artillery fire on the lighted target, smoke cuts the observation by about 75 percent; therefore, it is best to observe the objective with the lights before any supporting fires commence. This enables the tank commander to become familiar with the terrain, and to pick out bunkers, avenue of approach and other suitable targets.

(3) Once the light lens is broken, the muzzle blast from the main armament will shatter the bulb and will also blow dust and small rock and sand particles to the rear thus chipping the reflector. The enemy did not place fire close enough to the tanks to damage their lights.

(4) Maximum effectiveness of the machine guns when used in conjunction with the lights was achieved by a coordinated sweeping method. Parallel and crisscross sweeping methods were used, the parallel method being used when the adjacent tank wished to sweep the target area together and the crisscross method being used when the tanks wished to cross their fire throughout the target area.

d. Automatic coupling device. - This device worked extremely well, and is a definite improvement over the manual hookup with cables. However, the spring arrangement causes the bar to bounce up and down and at times to dig into the ground. Also, it decreases the tanks maneuverability in close places.

e. Although a night operation in poor tank terrain is extremely hazardous, this operation was successful because:

(1) The flame platoon leader had operated in the area before and was familiar with the ground.

(2) Tank mounted fighting-lights and flame guns were used as aids to tank movement.

6. AFTER ACTION RECOMMENDATIONS.

a. Flame tanks.

(1) That a small control panel be installed with switches to control the flame gun. The control panel should be in an easily accessible location to relieve the cramped and crowded turret conditions. These controls should be placed near the tank commander's hatch (Cupola).
(2) That the flame gun range be increased.

b. Tank mounted fighting-lights. That range of the light be increased from 1200 to 2000 yards to match the first round accuracy of the 90-mm gun.

c. Automatic coupling device. - That a skid of some type be affixed to the towing bar so that the bar will not dig in when it touches the ground.
ATTNG-26 350.05/4(DOCI)(C)(7 Apr 53) 7 April 1953

SUBJECT: Dissemination of Combat Information

TO: See Distribution

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2. Copies are furnished to other military agencies to keep them informed concerning theater problems from the front line through the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office assigns each extracted item the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.

4. Combat information EXTRACTS which are applicable to training at the company-battery level appear in Army Field Forces TRAINING BULLETINS.

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UNCLASSIFIED
COLD WEATHER EXPEDIENTS. - This division has been conducting experiments using different field expedients to further protect the soldier during the winter months and thereby increase his combat efficiency.

The problem of heating bunkers on the MLR and OPLR has been solved by the use of the following equipment:

1. Yukon stoves.
2. Improvised stoves manufactured by the division Ordnance.
3. Charcoal burners for standing guards; also used with half track vehicles.

Personnel on patrols have presented the biggest problem. Admittedly the clothing and boots give very good protection; however, continued exposure to the elements reduce the man's efficiency no matter how well he is dressed.

Several experiments have been conducted using pads, heat, chemical, stock number 864-635, issued by the Medical Corps. These experiments have been highly successful and troop reaction has been of acclaim. The type of experiments included: ambush patrols, combat patrols, tank crews and standing guards.

Under most conditions four pads were required per man; two for the body trunk and two for the thigh.

This division has a requirement for 50,000 pads, heat, chemical.

RUBBER INSULATED COLD WEATHER BOOT. - During the reporting period the Medical officer observed numerous minor foot ailments during the first week of constant daily use of the rubber insulated cold weather boot.

INCLOSURE
Recommend that in subsequent winter seasons men be instructed to wear these boots for a period of only one or two hours daily for the first week of use. This practice would accustom the feet to the boot and would diminish the number of cases of scalding, arch relaxation, and minor cold injury which results from a sudden transition to an unfamiliar type of footgear.

SOURCE: Command Report - 765th Trans Railway Shop Bn
DATE: November 1952 Source No 685

(RESTRICTED)

PATROLLING SCOUT CAR ON RAILS. - As guerrilla activity has increased and caused a hazard to rail operations in Korea, plans were drawn for an armored rail vehicle which would act as a patrolling scout car. This armored vehicle will travel the supply lines of Korea as an independent train to insure the safety of supply and hospital trains.

Carrier, general, armored half-track, M1A3, was the vehicle chosen to be converted for rail operation. The first process was the removal of the tread after which a set of trailing trucks was placed under the bed of the half-track. The front wheels were fabricated by applying box car tires to the original half-track wheel drums. The tires were offset at the proper track width and welded to the drums.

During inclement weather, starting and stopping of rail vehicles is hindered through loss of traction due to wet tracks. To provide the necessary traction in adverse weather conditions, sanders were applied to the front of the vehicle.

The vehicle will be armed and will be operated by a crew of MP's of the 722d Military Police Battalion.

SOURCE: Command Report - 40th Inf Div
DATE: August 1952 Source No 686

(RESTRICTED)

WARRANT OFFICER AS ASSISTANT G2. - Based on the tremendous administrative work load placed on the G2 Section in the type of combat
experienced in Korea, recommend that authorization for a Warrant Officer administrator be given due consideration. The present T/O should be changed as follows:

The present authorized assistant G2 be incorporated into a position of assistant G2 operations with the rank of Major, an additional 1st Lieutenant be authorized as assistant operations officer, and the Warrant Officer administrator be considered the section chief for all administrative duties. This would relieve the G2 and assistant G2 of constantly dealing with outright administrative problems, and allow them to concentrate their time and effort on the intelligence functions of the division.

SOURCE: Command Report - 17th Inf Regt
DATE: November 1952 Source No 687

(CONFIDENTIAL)

POW CAMP PROBLEMS. - PW's operate clandestine military-political organizations to teach communist propaganda, encourage noncommunist PW's to join organizations sponsoring communism, harass the detaining power, and cause incidents which could be embarrassing to the United Nations. In addition the PW organizations attempt to identify units and personnel, by name, who are guarding the compounds.

The PW groups are ingenious in methods used to accomplish their mission. Stamps have been confiscated which are made from the rubber cut from the soles of shoes; these stamps are used along with some type of crude mimeograph device to print leaflets and messages. The theme of the leaflets, which are addressed to UN troops, is disaffection and dissension.

Constant effort is maintained by PW organizations to encourage all prisoners to remain faithful to North Korea and to resist voluntary repatriation. Toward this end, the military-political organizations work ceaselessly. Communication is a big factor in their purpose and the PW's use many methods to communicate between compounds. Rocks with notes attached are thrown into adjacent compounds; PW's working at supply points send messages to various compounds; tobacco is removed from cigarettes, notes slipped inside, and the cigarettes passed to PW's from different inclosures or compounds. One of the best methods prisoners have of disseminating information is through the hospital. Before a PW goes to the hospital he is briefed, information is exchanged between patients in the hospital, and is thus disseminated to other compounds.
TRAINING OF ENGINEERS IN ROCK AND EARTH REMOVAL. - The majority of engineer troops in this command received demolition training in the CONUS with almost 100 per cent emphasis on combat demolitions, destruction of bridges and roads, removal of obstacles by demolition, and similar engineer tasks, with little or no emphasis on excavation of earth and on use of demolitions in quarrying and similar rock removal operations. On the other hand, approximately 90 per cent of demolition work of engineer units in Korea has been rock and earth removal, which requires a combination of knowledge of earth characteristics, drilling, and drill equipment, and the use of proper explosives in such operations. Engineer replacements received are also deficient in knowledge of bore holes and the value of dynamite as an excavation explosive.

Recommend that engineer training in the CONUS contain additional instruction on rock and earth removal, use of bore holes, and the value of dynamite as an excavation explosive.

COUNTERFIRE EXPEDITING. - A total of fifty counterfire fixes were made. During the period the infantry counterfire plotter was located in the direct support artillery battalion FDC. A direct wire was laid from the plotter's position to each of the counterfire teams. When a fix was made the report came directly to the plotter, thereby enabling the direct support artillery battalion to bring immediate fire on the fix. While fire is being brought on the target the routine reporting of the counterfire information is made to the infantry regimental command post and to division artillery FDC. An alternate means of communication is provided for the counterfire teams in that, when their own direct line fails, they can use the artillery observer's line. Since the time element is of paramount importance in delivering effective countermortar fire, this system is superior to the usual method.
LIFE OF BATTERIES BA39 AND BA40. - Batteries BA39 and BA40 received during the past month have been very poor. The operational life of these batteries was short and lacked the performance expected of new BA39 and BA40 batteries. The life of these batteries was so varied, that an average operational period could not be obtained.

SOURCE: Command Report - Eighth Army
DATE: July 1952 

ARTILLERY ATTACK OF STORM-WEAKENED BUNKERS. - Normally, infantry-occupied bunkers do not represent profitable artillery targets since their destruction requires the expenditure of an excessive amount of ammunition, and the enemy quickly rebuilds his fortifications. However, after heavy rainstorms, bunkers are weakened to an extent that they can be collapsed by the blast effect of a shell bursting nearby. With relatively light expenditure of ammunition, serious damage can be done to enemy positions under such conditions. Excellent results were obtained by artillery fires on enemy bunkers following the severe storms of the rainy season this year.

NAPALM HANDLING. - Modified caps for the 5-gallon napalm drums used as thickened fuel transport containers, provide valuable additional flexibility in transferring thickened fuel from centrally located mixing stations to flame throwers in the field. The valve for pressurizing the can is connected to a source of compressed air, the filled transfer can is inverted over the flame thrower to be filled, compressed air is admitted and forces the fuel from the transfer can to the flame thrower. The Compressor, Air, Lightweight, E3R2 (or M3), can fuel and pressurize simultaneously two portable flame throwers every ten minutes using this cap. This is accomplished by the simple addition of a pressure-reducing valve and a double yoke of outlet hose to the third outlet of the compressor. An ordinary tire pump can also be used effectively, but is slower.

A technique has been devised to reduce the flow of the M3 mixing unit from 25gpm to 7gpm. This reduced flow increases the handling efficiency of thickened fuel mixed with the M3 unit where fuel storage is accomplished in 5-gallon gasoline cans. The present local method of using the M3 unit to handle napalm is to fill a 55-gallon drum with partially thickened fuel.
force (under 30-40 pounds pressure) the almost thickened fuel into 5-gallon cans for storage and handling. A shortcoming of this method is the increased sensitivity to hopper-operator error which produces variations in gel consistency due to the reduced flow of gasoline with unchanged sensitivity of thickener flow regulation. In addition, operating pressures were not sufficiently high to cause the relief valve to function as a regulator valve. No additional surging or spraying resulted from the incorporation in the unit of the reduced flow device.

(RESTRICTED)

M4 DUST RESPIRATOR EFFECTIVENESS. - The consensus of using personnel is that the M4 respirator is superior to the M1 and is satisfactory in normal weather conditions and if worn for short periods of time. It is considered unsatisfactory in extreme heat and high humidity because of the heat generated in the mask and the resultant moisture condensation forming on the glasses impairing the driver's vision. After prolonged use the respirators become less effective due to the accumulation of dust in the filters. Such a condition causes labor breathing, thereby increasing driver fatigue. Prolonged wear also may cause a skin rash to develop due to the constant rubbing of the mask against the face.

Indications are that the M4 dust respirator should not be considered as an ultimate end item, but as an interim item satisfactory for short periods of wear. Recommend a dust respirator be developed which is lighter, less resistant to breathing and so designed as to minimize or obviate chaffing of the skin.

SOURCE: Command Report - I Corps Arty
DATE: October 1952

(RESTRICTED)

NEED FOR ADDITIONAL HEAVY ARTILLERY. - In this corps only one weapon is capable of destroying the enemy artillery. The 8-inch howitzer has proven time and again that it can destroy anything within its range with a minimum number of rounds. The 155-mm gun with its long range is excellent for harassing and interdiction fire; however, it is not very effective in destroying enemy artillery due to dispersion and weight of projectile. The same is true for the 155-mm howitzer which does not have the punch necessary to neutralize or destroy enemy artillery. In the present
situation the enemy has his artillery in bunkers and caves, which can be destroyed only by heavy artillery or by a direct hit with medium artillery. The 8-inch howitzer with its extreme accuracy and the 240-mm howitzer with its comparable accuracy are considered ideal for this job. The minimum requirement is one additional 8-inch howitzer battalion and one 240-mm howitzer battalion attached to each corps in the Army.

(RESTRICTED)

AWARDS AND DECORATIONS. - Awards and decorations to deserving personnel are foremost in the mind of every commander in this theater. It is the commander's responsibility to show his and the Army's appreciation for a job well done. However, there is one medal that commanders in this theater rarely award. This is the Good Conduct Medal. Army Regulation 600-65, 12 December 1951, with change 1, January 1952, states that an enlisted man must have exhibited "exemplary behavior, efficiency, and fidelity in an enlisted status for a period of three continuous years" to be eligible for this medal. Under this regulation, not one of the present group of draftees serving in Korea is eligible for this award. Many deserving enlisted men from this theater return to the United States without being rewarded for their excellent service while in Korea. For service which does not meet the criteria established for the Bronze Star or the Commendation Ribbon with Metal Pendant, the Good Conduct Medal would be a deserving award.

Recommend that regulations be changed to allow the Good Conduct Medal to be awarded after one year of continuous service, if the enlisted man has served in the Korean Combat Theater for a period of six months or more. In World War II the criteria was one year of continuous service regardless of where the enlisted man served.

(CONFIDENTIAL)

ENEMY ARTILLERY. - In the Commonwealth Division sector, the identification of an armor-piercing 122-mm projectile was made. This is the first known instance of this type shell being used on the I Corps front. This projectile weighs fifty-five pounds and is solid, apart from a small charge of four and eight-tenths pounds of TNT in the base. It is normally fired from a corps gun, SP gun, or a tank, all of which have muzzle velocities of approximately two thousand six hundred feet per second.
(RESTRICTED)

TANK ESCAPE HATCHES. - Prior to the issue of escape hatches which had been modified with a reinforced lip, personnel of this battalion were injured when their tanks struck mines, as a result of the escape hatch being forced upward by the explosion into the driver's or assistant driver's compartment. Since the modified escape hatches were issued to this organization in April several tanks have struck mines, but on no occasion has an escape hatch been forced upward into the tank.

(RESTRICTED)

SELF-PROTECTION FOR TANKERS. - Men must be trained to stay inside the tank unless their presence is required outside. The crewmen have a tendency to stand on the rear deck, or on the ground when the tank is stopped for any length of time, and when artillery or mortar fire is not falling. Naturally, this invites enemy fire and increases the danger of personnel casualties from mines.

(CONFIDENTIAL)

DISTANCE FROM TANK UNIT TO SUPPORTING ORD. - The mechanical unreliability of the M46 tank demands that the field maintenance (supporting ordnance) unit be located within five miles of the field trains of the tank unit.

(RESTRICTED)

SEARCHLIGHT DEMONSTRATION IN 73D TANK BATTALION. - The demonstration consisted of a live fire problem by the tank 90-mm gun at a target illuminated by tank-mounted searchlights. Worthy of note was the extreme accuracy of tank fires at night when such searchlights are employed.
(RESTRICTED)

CONTAINERS FOR TRANSPORTING ICE CREAM. - A number of fabric, insulated, containers which were originally designed to prevent water in 5-gallon cans from freezing were issued to division and corps units for the purpose of transporting ice cream from source to user. These containers proved to be highly satisfactory for the purpose, as they were able to hold ice cream in an edible condition from three to seven hours depending upon the condition of the ice cream when placed in the container, temperature, and care exercised in handling. The containers will hold two 2-1/2-gallon cans of ice cream. They are rugged and durable but unless extreme care is exercised in cleaning, they will become unsanitary in a short period of time.

SOURCE: Command Report - 73d Tank Bn
DATE: August 1952

(RESTRICTED)

FIELD EXPEDIENT FOR SALVAGING EMPTY SHELL CASES. - The large number of valuable spent 90-mm shell cases being left at forward firing positions established a requirement for providing each tank with some means of bringing its spent brass back for salvage. A basket to be attached to the left of the turret on the M46 tank was designed to catch spent 90-mm brass as it is tossed from the fighting compartment of the tank either through the pistol port or loader's hatch.

A test was conducted on an M46 tank with basket attached to determine if there was any drag on the movement of the turret. The basket was filled with seventy empty shell cases during this test with the following results:

1. The tank was placed on level ground and the turret traversed manually and with power. There was little to no effect on the movement of the turret in either case. There was no effect on the gunner's ability to lay on a target.

2. The tank was placed on a 45 degree slope and there was a slight drag on the turret while the basket was moving in an uphill direction. Also the turret's movement was speeded up when the basket moved in a downhill direction. The above result applies whether in power or manual traverse; however, it was more apparent when in manual traverse. The drag in the
turret was not considered great enough to affect the gunner's ability to lay the gun. In an over-all analysis, the basket would have little if any effect on the firing of the 90-mm gun.

The basket was used in a combat operation by Company B, 73d Tank Battalion, forward of the MLR. The particular tank to which the basket was attached, moved approximately 3000 yards forward of the MLR and fired 48 rounds against enemy targets. All spent 90-mm cases were tossed into the basket from the fighting compartment. The use of this basket in no way affected the gunner's ability to accurately lay on targets. The tank received two direct hits, plus other near misses, by artillery and mortar rounds with no damage resulting to the basket. In this action the basket proved its value in another manner. The brass it carried was used under the tracks of another tank which was stuck in a mud hole. This made possible the retrieving of the stuck tank.

The basket weighs slightly over 100 pounds and costs approximately $55.00 for labor and material. It can be placed on or removed from the turret of the tank by two crewmen in ten minutes. This allows the basket to be used when required and left behind when not required with a minimum amount of effort on the part of the crew. It does, however, increase the width of the turret silhouette, front and rear view, by 21 inches. It does not increase the length of the turret silhouette, side view, or height of turret silhouette.

The basket could also be used as a rack for crew baggage and equipment during an administrative march or tactical march when contact with the enemy is not imminent. This would keep the crew compartment and the outside of the turret clear at all times.

(RESTRICTED)

ARMORED VESTS FOR TANK BNS. - Recommend the following personnel of the tank battalion be equipped with the armored vest:

- Battalion medical detachment personnel
- Battalion maintenance personnel
- Company maintenance personnel
- Reconnaissance platoon personnel
- Two per tank crew
"BUNKER BUSTING" TACTICS. During this month, 90 per cent of the battalion missions were of the "bunker busting" nature.

To conserve ammunition and insure maximum effect on targets, the battalion utilized the precision method of adjustment.

In this system, the gunner fires on the target, using his direct fire sights until he is within a few yards of the target. At this point, the gunner sets his azimuth indicator and gunner's aid at zero and levels the bubble in the M1 quadrant. On all subsequent commands, the gunner utilizes his azimuth indicator for deflection changes and converts range changes to mils and applies the mil change to his M1 quadrant. By this method, the gunner is able to adjust his fire so as to move the area of impact right or left, up or down, figured in feet rather than yards. This is often necessary in order to place the shell into the apertures of the bunkers.

M46 OIL COOLERS. Oil coolers on the M46 tanks still give trouble for which no solution has been found. Tanks are continually being received with the carburetor containing a gummy substance, necessitating the removal and cleaning of each unit before it can operate properly.

TEST EQUIPMENT FOR SIGNAL BATTALION (VHF). A close study of our operations over the past six months has disclosed the fact that constant use of fixed equipment has resulted in deterioration that cannot be discovered by using test equipment presently authorized the battalion. This applies particularly to coaxial cable, antenna masthead connections and measuring meters found in T-14's, R-19's and all carrier bays. Our operations have been, in some instances, seriously hampered because we were
forced to assume that coaxial cable and antenna masthead connections were in good order, when in truth, a complete test made with borrowed test equipment disclosed faults that were not discovered when the equipment was checked using test equipment authorized by our T/A. In the case of measuring meters, whole VHF systems were operating below optimum because of incorrect meter indications which could not be discovered using available equipment.

Recommend that the following equipment be included in the T/A of every VHF battalion to insure the optimum performance of vital equipment through proper use of this test equipment:

Test Set I-48B
Test Set I-49
Bird Corporation Model 67 RF Wattmeter
Output meter TS-585/U
RF Wattmeter ME-11-U
Signal Generator TS-497-A/URR
Signal Generator AN/URM/27
Substitute Tube Tester TV-2 or TV-3 for Tube Tester I-177.

SOURCE: Command Report - X Corps
DATE: July 1952

(RESTRICTED)
BARREL COATING ON M30 4.2-INCH MORTAR. - The 2d Chemical Mortar Battalion using the new 4.2-inch mortar M30 with the M2 and M3 shell had three malfunctions, one in each company, and all within two successive days. Investigation disclosed that the malfunction occurred on the first round fired from the new barrel. The round would slide sluggishly down the barrel, a dull explosion would occur, and the round would travel slowly out of the barrel trailing dense smoke clouds and unburned propelling increments. Subsequent firing from the same mortar using the same lot of ammunition functioned normally.
It was found that a transparent hardened preservative which coated the interior of the barrel was responsible for the sluggish drop of the projectile. The initial explosion of the propellant would burn out this substance, clear the barrel, and permit subsequent normal firing.

SOURCE: Command Report - 378 Engr Combat Bn
DATE: October 1952
Source No 698

(REstricted)

COMMENTS ON AUSTIN-WESTERN GRADER, MODEL 99H. - RECOMMEND: That the Austin-Western Grader, Model 99H, be made available to units working on road maintenance and road construction through mountainous terrain. Roads built through mountainous terrain naturally have many sharp turns and switchbacks. The Austin-Western Grader with its 4-wheel hydraulic steering system easily negotiates these turns. This grader has all the qualities of other standard military graders, plus maneuverability.

That the anchor lug on the circle and draw bar of an Austin-Western Grader, Model 99H, be redesigned since this lug shears off after a short period of operation. It is necessary to weld this lug in place as a field expedient; however, this is only a temporary measure, and this complete fitting should be redesigned giving it more strength to cope with the stress and strain placed upon the grader.

That the piston rod which is part of the "Scarifier Ram" on an Austin-Western Grader, Model 99H, be redesigned since experience indicates unusual failure of the rod at the point where the rod tapers into the collar. As a field expedient, a weld is built around the rod and collar joint; however, this is only of temporary value and requires repeated welding.

(REstricted)

ENGINEER RECONNAISSANCE TRAINING. - The training of reconnaissance personnel should be extended to include surveying and locating roads through mountainous terrain to include practical problems. A well-trained experienced reconnaissance party will take advantage of all favorable soil, ground and terrain features and save many days of construction effort.
(RESTRICTED)

DEBRIS BOOMS TO PROTECT BRIDGES. - All debris booms constructed of cable up to 1-1/2 inches in diameter snapped under the load imposed by the force of current and the impact of debris. Their use proved a complete failure.

SOURCE: Command Report - 13th Engr Combat Bn
DATE: October 1952
Source No 700

(RESTRICTED)

WATER POINT OPERATION AND DEFICIENT WATER TANKS. - Operation of water points is hampered by lack of serviceable tanks. The rubber tank has proven very unsatisfactory in the 7th Infantry Division. The stress around the drain plug is too great and the tank tends to split-out where the opening occurs. Sufficient reinforcing as found in the canvas tank will alleviate this deficiency. During the past four months, sixteen rubber tanks were placed in service and fifteen rubber tanks were salvaged. During this same period seven canvas tanks were placed in service and none were salvaged. Under current operating conditions rubber tanks will remain serviceable approximately six months under combat conditions. Recommend that proper supply agencies be informed of the above and an attempt made to ship canvas tanks in lieu of rubber tanks until the above defect is corrected.

For winterization of water points a field expedient was considered whereby tents for storage tanks were equipped with fuel-burning tent stoves. Objection to this method is that the defect in rubber tanks mentioned above will result in flooded tents and further damage to equipment by freeze caused by the loss of heat during the flooded condition within the tent.
ARTILLERY SUPPLY SHORTAGES. - Officers and men are spending their own money on target grids, fans, plotting needles, rubber cement and scotch tape. Recommend that regular supply channels provide these items in sufficient quantity.

ARMORED VESTS. - Front line units continued to utilize armored vests which increased in number to 1,591. In many instances, vests deflected hand grenade and shell fragments and, on occasion, stopped enemy submachine gun bullets when fired from long ranges.

ADVANCE OF INFANTRY WHEN ASSAULT FIRES ARE LIFTED. Preparations must be so planned that attacking troops are in position to make the final assault when fires are lifted. In the morning, prior to an attack, medium batteries and corps 8-inch howitzers were adjusted so as to cover the objective area. When a preparation was fired during the afternoon, it was continued until the infantry approached the area where it was endangered by our own fire. The heavy artillery was lifted and the medium concentrations were then moved forward by one or two hundred yard bounds as the infantry advanced. The operation was so successful that the objective was taken at a cost of only six wounded.
ENEMY ANTITANK DEFENSE TACTICS. - On 10 July, Company D, 1st Tank Battalion, 1st Marine Division (Reinf), made a tank raid on enemy installations in the vicinity of **. During this raid heavy enemy AT fire was received. The following types of weapons were used by the enemy against the tanks: rifle grenades, bazookas, 87-mm spin stabilized rockets, 75-mm recoilless rifles, 76-mm field guns, mortars and heavy artillery.

The enemy employed his AT defense in depth and in most instances deployed AT weapons in pairs. The enemy placed his bazookas and 87-mm rocket launchers to cover armored avenues of approach by flanking shots at short ranges, and his recoilless rifles and 76-mm AT guns to cover the long axis of corridors leading into his positions. In this manner, the enemy made excellent use of the effective ranges of his weapons. Bazookas opened fire only when tanks were within four hundred yards, whereas the 87-mm rocket was used at ranges up to seven hundred yards. The 76-mm recoilless rifle was used at twelve hundred yards range and the 76-mm AT guns opened fire at two thousand yards range. The enemy used his AT weapons against the tanks only when they were stopped and then the lighter weapons were moved rapidly from one position to another.

The enemy's AT fire was heavy, but only two direct hits were inflicted. One tank was hit on the muffler by a rifle grenade and only minor damage was sustained. There was very little shrapnel and operation of the tank was in no way hindered by the explosion. Another tank received a direct hit on the turret by an enemy 87-mm spin stabilized rocket. The trajectory of the rocket seemed a bit wobbly as revealed by the smoke trail that followed. The rocket was fired at a range of approximately four hundred yards and penetrated only about two inches. The diameter of the hole was about one inch. Again, the force of the explosion in no way hindered the operation of the tank.

IX Corps G2 Comment:

Enemy antitank defenses across the IX Corps sector have in the past appeared to be less well coordinated and effective than the ones described above. Only on one occasion during recent months was the enemy successful.
in inflicting major damage and successfully defending against a UN tank foray. Increasing evidence of improving enemy antitank defenses are, however, being received constantly. Antitank ditches and traps are being expanded, obstacles in connection with the latter continue to be erected and antitank guns are reported sighted along most favorable routes of armored approach. Aerial sightings, PW and agent reports confirm the above and indicate presence of mine fields in these same areas. The enemy appears to be making increasing use of existing defensive terrain for his anti-mechanized defenses, and his selection of main armored routes of advance appears to coincide with current UN terrain studies of the area in the IX Corps sector.

SOURCE: Command Report - I Corps
DATE: August 1952
Source No 705

(RESTRICTED)
MODIFICATION OF M46 TANK OIL COOLER ASSEMBLY. - Ordnance has built a redesigned oil cooler assembly as a possible improvement and replacement for the present oil cooler assembly. The main modification is the substitution of the mechanical clutch from the engine fan tower for the magnetic clutch in the oil cooler assembly. In the past the magnetic clutch failed frequently. Four of the mechanical clutches have been mounted in oil cooler assemblies. Two were mounted in assemblies as received from the ZI and two were mounted in rebuilt assemblies.

(RESTRICTED)
ASPHYXICATION OF TANK CREWMEN. - While firing the main armament when buttoned up in the M46 tank on different occasions, men of the turret crew have passed out. The ventilating blower mounted between the driver and assistant driver was on at all times. This only kept the air between the driver and assistant driver clear. A check was made of 3d Division regimental tank companies and the 64th Tank Battalion. It was found on two occasions while firing when buttoned up in the tank with ventilating blower, on, that men of the 65th Infantry Tank Company were asphyxiated. The 7th Infantry Tank Company fired 100 rounds of 90-mm in support of a patrol. Although hatches were open, it was necessary to change the turret crew as the fumes made them sick. The 15th Infantry Tank Company on one occasion while firing the main armament when buttoned up, found it necessary to open
the hatches after 10 rounds had been fired as the crew became sick from the fumes. During this firing the ventilating blower was on but again only the air between the driver and assistant driver was clear.

Recommend:

1. Relocating the present ventilating blower, mounted between the driver and assistant driver, to the top of the turret compartment of the M46 tank, or

2. Mounting a ventilating blower in the turret of the M46 tank in addition to the present ventilating blower mounted between the driver and the assistant driver.
ATTNG-26 350.05/5(DOCI)(C)(27 Apr 53) 27 April 1953

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TO: See distribution

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FOR THE CHIEF OF ARMY FIELD FORCES:

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OVERHEAD COVER FOR FIELD ARTILLERY. - Operations in Korea have clearly demonstrated that the enemy has the capability of effectively massing fires on our artillery positions. In order to continue effective counterbattery fire, both materiel and personnel must be afforded some degree of protection. Two types of overhead cover for the 155-mm howitzer, which provide this protection, have been constructed.

The first type utilized primarily sawed timbers, augmented to a lesser amount with logs. This construction required a complete renovation of the existing howitzer emplacement but did combine into one integral structure, protection for personnel, ammunition, and howitzer.

The second type utilized logs throughout with the exception of long spans. The existing parapet walls of the howitzer pit and ammunition bunkers were used as they presently existed. The overhead cover was tied into the parapet with a minimum of change. This construction utilizes the existing howitzer position and native materials to the maximum, decreases construction time, and affords the same amount of protection. Personnel bunkers for the crew may be located adjacent to the howitzer position, thereby consolidating the entire installation.

Recommend that overhead cover for various types of artillery weapons be adopted as standard field fortification.

ENEMY DEFENSIVE MEASURES. - The enemy continues to defend in depth the commanding ground to our front. He has embarked on a program of continued improvement of present defenses and the building of new and more elaborate tunnels, caves, and other fortifications. The enemy has designed bunkers and caves which will house an entire
company with room for storage of food and ammunition. Mortars and artillery are well dug-in and camouflaged. The enemy often keeps his mortars in caves except when firing. He will set up the mortar, fire a few rounds, and then return the mortar to its cave, leaving the base plate in position if necessary.

Enemy light artillery pieces are often placed in bunkers which open out on the forward slope of hill masses and ridge lines. The artillery piece is moved to a position where it can fire out of the bunker. After firing, the piece is moved to the back of the bunker or cave for protection from our counterbattery fire. Friendly direct fire weapons have been used to good advantage to destroy such positions.

**SOURCE:** Command Report - 1st FA Obsn Bn

**DATE:** November 1952

**SOURCE:** Command Report - 73d Tank Bn (M)

**DATE:** October 1952

**EFFECTIVENESS OF TANK-MOUNTED 18" SEARCHLIGHTS.** - Only three of six searchlights present actually worked when it was necessary to use them. Three of the lights had the filaments in the bulbs damaged by the concussion of heavy artillery shelling. Also, two other lights failed shortly after being turned on and the third was turned off because the smoke and dust caused by intense enemy artillery fire and the firing of 90-mm tank guns made it impossible for the tank crew to distinguish objects when the light was in operation.
FIRE SUPPORT COORDINATION. - The direct support battalion must have its command post governed by one factor control of the firing batteries. Fire support coordination at regimental level proved to be most effective during heavy action when the direct support battalion commander personally acted as coordinator in direct contact with the regimental commander. At infantry battalion level, the artillery liaison officer acting as a staff officer of the infantry battalion commander worked most effectively as fire support coordinator. Where an infantry officer acted as fire support coordinator the weight of heavy weapon support devolved too often on the artillery, many times on targets more suited to attack by infantry mortars and recoilless rifles. Heavier emphasis on role of the artilleryman as fire support coordinator is desirable at service schools and a much more comprehensive course in capabilities and limitations of all weapons would be desirable at The Artillery School.

FDC OPERATIONS. - It is highly desirable that the S3, and possibly his assistants in the direct support battalion, reconnoiter terrain in his sector. He should use his knowledge in assigning missions to most effectively attack targets indicated by the forward observer.

With all the artillery available, it was still necessary to have batteries firing on more than one mission at a time to try to halt the tide of enemy attacks. It was mandatory that each battery have data prepared for all prearranged fires so that S3's could merely designate the battery, or platoon within the battery, to shoot.

Artillery fires could be shifted most rapidly by use of the "hot loop" between division artillery and all artillery units having capabilities in the zone of action. Even in the case of battalions reinforcing the direct support battalion it was found to be much faster, when the required fires exceeded fire power available to the direct support battalion, to put all battalion fire direction centers on a single circuit. An incidental advantage accrued from a rapid relay of information to all interested agencies.
Battalion S3's must be extremely cautious in calling for close-in fires in hilly terrain. Elevations to clear friendly crests with VT and quick fuze must be computed. In the attack minimum elevations must be computed ahead of time for hills to be occupied. Dead space charts must be constructed both of the zone of action and in contingent zones.

(OBSTRICTED)

OBSERVED FIRE PROCEDURES. - Observed fire procedures were not followed in many cases during heavy actions. To expedite delivery of fire and gain maximum effect from ammunition expended, it is necessary for the observers to give the complete fire mission as outlined in Department of the Army publications. Furthermore, piecemeal messages calling for fire denies the information that should be passed through intelligence channels.

Forward observers must act as advisors to their supported commanders. All too often the forward observer merely repeated the sentiments of the infantry commander when a few sound words from an artillery viewpoint might have suggested a much better tactical decision.

One of the important functions of a forward observer or liaison officer is to keep information moving back to his own battalion and higher friendly elements. Frequently this was done. The excuse of security restrictions is not valid. Operation codes were available.

Requests for countermortar and counterbattery fires must be accompanied by as much shell reporting information as possible. A request citing only a cardinal direction of the compass results in useless expenditure of ammunition and poor results. Shell reports should be obtained, including shell fragments.

(RESTRICTED)

IMPROPER USE OF BARRAGES AND DEFENSIVE FIRES. - Barrages and defensive fires were not in all cases used properly.

a. Barrages should be called down only when attack is imminent and lifted as soon as the danger is past. Too often barrages are left on for hours at a time as a morale factor rather than a casualty producing agent.

b. Barrages should not be used as H and I fires. In some instances defensive barrages were fired with the rate reduced to one round every 60 to 120 seconds. This served no useful purpose, and tied up a fire unit that could have been used elsewhere.
c. Barrages must be shot in as soon as the objective is taken. Forward observers and company commanders must confer on location of defensive fires.

d. Infantry leaders must know locations of critical fires and how to call for them.

e. The artillery S3 should expedite the adjustment of barrages and defensive fires as soon as the action appears to be localized.

SOURCE: Command Report - I Corps

DATE: October 1952 Source No 711

(RESTRICTED)

TANK CHEVRON TRACK BLOCKS. - The 1st Marine Tank Battalion experimented with two-inch chevron track blocks in an attempt to increase the traction in the one-inch chevron tank track. The two-inch chevron blocks were spaced every fifth block on the one-inch chevron track. The resulting vibration set up in the tank, when moving along a road, was so severe that brackets and other small welded objects in the tank broke loose from their mountings. Continued vibration would have had a weakening effect on oil and gas lines. Because of this the two-inch chevron track block was considered an unsatisfactory method of increasing the track traction.

(RESTRICTED)

155-MM GUN MALFUNCTIONING. - Investigations were made to determine the cause of the malfunction of the 155-mm gun firing mechanism. Excessive chamber pressure was found to be the cause of the malfunction. Normal chamber pressure for the 155-mm gun is from 38,000 to 40,000 pounds per square inch. The investigations recorded chamber pressures up to 42,865 pounds per square inch which is 2,865 pounds per square inch in excess of the breech ring and tube design. To correct this malfunction, a deeper hole was drilled in the firing lock housing which prevented the transmission of shock waves to the firing mechanism safety latch pin.
SOURCE: Command Report - 937th FA Bn

DATE: November 1952

(RESTRICTED)

REQUIREMENT FOR RECTIFIER RA83A IN FA BN. - A rectifier is essential to convert power from issued generators 3KW for dismounted radios. Radios issued field artillery units are dependent upon the operation of a vehicle and the subsequent source of power from the vehicle battery. Power Equipment PE210 is issued only to headquarters battery, while the battalion is required to operate four fire direction centers. Not only is this equipment inadequate in quantities issued, but is inferior in the necessary qualities of durability and ruggedness. By using the rectifier with issued generators, it is possible, with the use of banks of wet cell batteries, to maintain a charge adequate for the continued operation of dismounted radios.

SOURCE: Command Report - 2d Inf Div

DATE: November 1952

(RESTRICTED)

M4 TANK. - For this type warfare in rugged terrain, the M4A3E8 tank is an excellent weapon. The fire control and optical equipment in this tank are excellent, but since all the firing is at pin point targets and at long range, a better sight is needed. An excellent substitute is the 20-power scope used for observation and to assist in adjusting fire.

With the tanks of the tank battalion operating in direct support of infantry units and firing from prepared emplacements along the MLR, and because much of the tank firing is done at night using the range card, it is necessary and proper that the tanks be a part of the infantry battalion FSCC.
"HIGH HERMAN" MINE EXPLODER. - I Corps has conducted a number of tests and demonstrations with the T-1E6 Mine Exploder, which has acquired the name "High Herman." Primary objectives were to train the tank crews in operation of the vehicle and determine its utility against Soviet TMD-B AT box mines on typical Korean roads.

Two roads were selected for the test, one with a thick rock base and the other dirt. Both were compacted by heavy tank traffic. The vehicle's roller detonated the mines laid to depths of 6 inches in the rock-base road, but failed to detonate mines at a depth of 4 inches in the dirt road. It was concluded that the "High Herman" will detonate about 75 per cent of mines laid 2 to 6 inches deep on compacted dirt or rock roads and will withstand the explosion of a single or two stacked Soviet mines of the type tested. The vehicle can negotiate most roads but bogs down easily in mud and requires a large open space or road junction in order to make a 180 degree turn.

ARTILLERY INTELLIGENCE TRAINING. - Target-getting assumes equal importance with the ability to shoot in a combat situation. There has been an acute lack of aggressive target-seeking on the part of the battalion S2's. While most personnel assigned to intelligence work appear to be professionally competent, they seem to flounder in confusion in their primary duty of finding targets for the artillery. For a battalion S2 to be effective, he must be aggressive from the first day of his assignment, and he must have a basic knowledge of intelligence principles. Training in locating targets (artillery intelligence) should be as thorough as that of field artillery gunnery. The artillery officer should come to combat equipped with these tools:
1. Ability to locate a target.

2. Ability to place the firepower of the artillery on the target.

Recommend that greater stress be placed on artillery intelligence in officer training courses so that officers charged with intelligence matters will be able to accomplish their missions effectively and quickly.

SOURCE: Command Report - 10th AAA Group
DATE: October 1952
Source No 716

(UNCLASSIFIED)

NONDIVISIONAL AAA ORGANIZATION IN KOREA. - The efficiency of administrative and tactical supervision of the nine AAA battalions attached to this headquarters continues to be impaired by lack of an adequate command structure for nondivisional AAA in Korea. The expected arrival of one additional AAA battalion further emphasizes the need for activation of an AAA brigade headquarters and headquarters battery.

SOURCE: Command Report - IX Corps
DATE: October 1952
Source No 717

(SUPPLY DIFFICULTY & COMMUNICATIONS. - While there were few instances of short supply, the supply platoon was hard pressed to meet the expanded gasoline and ammunition demands now required with the substitution of the heavier M46 tank for the M4A3E8 in the regimental tank company, and the extended employment of armor. The radio continued to be the communications mainstay, as wire frequently was broken by hostile artillery. Radio nets required numerous relay stations, however, and message traffic was slow.

(ENEMY CONSTRUCTION. - Evidence of extended engineer activity was noted as descriptions of the hostile shelters and gun positions were received from prisoners and from friendly troops who assaulted these positions. Enemy positions were tunneled extensively; one type of shelter
was designed for squad-size groups while another type accommodated platoon-size units. Hand tools, supplemented by small amounts of explosives, were used in the construction of these troop shelters which were connected by an elaborate communications trench system. While not designed as fighting bunkers, the floors and entrances were constructed so as to make it difficult to attack troops in the shelters with grenades; niches were cut into the walls to provide protection against small arms fire.

CCF artillery positions received the same attention in their construction; some gun pits were roofed with logs and said to be sufficiently strong to withstand at least one direct hit by an 8-inch shell; other positions consisted of caves with the entrances built up, allowing only room for elevating and traversing the gun tube. Still another position, requiring a great deal of effort but practically impregnable when completed, consisted of a tunnel through a spur or small hill with the gun at the entrance of the tunnel, an aperture of minimum size.

Road construction, according to a prisoner, was restricted to areas in rear of regimental headquarters and all supply forward of this area was by hand carry. However, communication trenches connected forward areas with company and sometimes to battalion; the trenches were said to be deep enough to afford concealment and cover.

SOURCE: Command Report - 2d Div Arty
DATE: November 1952 Source No 718

(RESTRICTED)

TRAINING FA BATTERY OFFICERS. - Two division artillery schools were initiated during the period, one for executive officers and another for battery commanders. Phase I of the first school, consisting of fifteen hours of instruction, was designed to refresh the executive officers on the fundamental techniques of firing battery work, e.g., measuring and reporting minimum elevation, laying and referring and accuracy measures. Phase II, also of fifteen hours duration, consisted of instruction in fire direction procedure. The courses of instruction proved of such benefit that four additional cycles were initiated. By the end of the month all firing battery commanders, executives, assistant executives and two chiefs of firing battery from each artillery firing battery in division artillery had attended.
The fifteen hour course of instruction for all battery commanders in division artillery was underway before the end of the period. This course included instruction in mess management, supply procedures, preventive motor maintenance and cold weather training.

ADDI NG DEPTH TO DEFENSE. - Successive defensive strong points must be organized to reinforce the MLR even though troops may not be available for continuous occupancy. There is always some depth in any defensive position, because of the manner in which infantry weapons are employed. However, the units that are not employed on the MLR, such as mortar platoons, kitchen and supply installations, aid stations and unit headquarters must be organized into a tactical unit, be properly equipped with close combat weapons and ammunition, and have a strongly fortified strong point in the immediate vicinity of the installation that can and will be automatically manned to assist in blocking any penetration of the MLR.

COUNTERFIRE PLATOON OPERATION. - Instead of channeling all operations through the S2 and S3 sections, the counterfire platoon worked directly with the direct support artillery. This method of operation has worked successfully and provided the platoon with a much closer liaison with the group which does most of the firing on plots picked up by the platoon. On the MLR, five outposts are used instead of four or six, with sound-powered lines between teams, and the fifth OP is an independent team that can work with any of the other four.

The success of this method of operation for the current tactical situation is borne out by the figures compiled during this month. The
platoon has picked up the plots of 167 enemy weapons that have fired on troops and installations on the MLR. Of these 167 plots, approximately 40% have been fired upon by the artillery.

**SOURCE:** Command Report - 27th Inf Regt

**DATE:** November 1952

**UNIT ROTATION.** - A large loss of key personnel through rotation during this period out of the line has left the regiment with a substantial training problem on its hands before it can again reach the effectiveness it had obtained throughout the latter period of its service on line. The constant state of flux that an organization finds itself in because of individual rotation precludes its ever reaching a high state of effectiveness under present conditions. In a period of limited mobilization, unit rotation as opposed to individual rotation appears to have many desirable aspects.

Recommend that study and experimentation be initiated to determine the desirability of unit rotation in Korea.

**SOURCE:** Command Report - 187th Abn RCT

**DATE:** August 1952

**SECURITY DURING RELIEF.** - The relief of units in line warrants considerable attention to insure that even the units in the adjacent sectors are not aware of the relief until notified through proper channels. Members of the unit being relieved were themselves unaware of the relief until preparations for on-the-spot relief were made. The success of the operation was primarily due to the application and maintenance of proper security measures. Prior to the closing of the RCT in the marshalling area, the reconnaissance company of the division to be relieved screened the area, and all intelligence agencies were alerted to detect any breach of security and to apprehend all unauthorized personnel on or near the area. No one except specially designated individuals were permitted to leave or enter the area.
COUNTERFIRE TECHNIQUES. - As a logical extension of the FSCC system, the regimental counterfire officer and counterfire plotting center were incorporated in the regimental FSCC. The battalion counterfire noncommissioned officers were similarly placed in the battalion FSCC's. The six counterfire OP's were co-located with six of the direct support artillery forward observer OP's to provide additional supervision for the counterfire squads on position, mutually strengthen communications, facilitate exchange of information, and minimize administrative support. A net was established connecting each pair of counterfire OP's to the regimental FSCC switchboard and lateral lines to each OP in addition to the normal wire lines between the regimental and battalion FSCC. Counterfire azimuths were received, evaluated, and plotted in the regimental FSCC. The usable data was then phoned by direct line to battalion FSCC's capable of taking action and simultaneously to the direct support artillery FDC. In addition to their primary duties the six counterfire forward observer OP's were instructed to act as regimental OP's and utilize the counterfire communication system to render reports.

TANK-INFANTRY EMPLOYMENT. - As soon as the artillery preparations lifted the tanks opened fire from overwatching positions. Each assault platoon had one man with a large panel on his back. The tanks kept their fire just ahead of the infantry as they made their assault. At times tank fire was placed as close as 25 yards in front of lead elements. Having trained with tanks, the infantry was materially assisted in re-taking the outpost.

Recommend that all infantry rifle units be taught to move under tank fire. Tanks providing "overwatching fire" is the least desirable method of tank-infantry employment; however, it is believed to be of sufficient importance to warrant additional training.
(RESTRICTED)

MODIFICATION OF M46 TANK OIL COOLER ASSEMBLY. - Ordnance has built a redesigned oil cooler assembly as a possible improvement and replacement for the present oil cooler assembly. The main modification is the substitution of the mechanical clutch from the engine fan tower for the magnetic clutch in the oil cooler assembly. In the past the magnetic clutch failed frequently. Four of the mechanical clutches have been mounted in oil cooler assemblies. Two were mounted in assemblies as received from the ZI and two were mounted in rebuilt assemblies.

BUNKER CONSTRUCTION. - Bunker construction deficiencies noted were primarily due to lack of:

a. Continuity of effort, and

b. A sound construction program.

Recommend that:

a. A standard type prefabricated living and fighting bunker be developed to meet the existing requirements.

b. Supporting units prefabricate these bunkers and deliver them as package units to infantry units on line. The saving in time resulting from cutting and fitting stock with power machinery in rear areas would be a tremendous saving in critical manpower and also very economical in eliminating the transportation of scrap which results from cutting and fitting on location.
COMBAT READINESS TRAINING. - The effect on the combat readiness of a unit committed to one specific task, such as a road project of magnitude for a long period of time is a cause for concern. The individual soldier and the unit tend to lose sight of the original mission a combat engineer battalion is organized to accomplish. Only by conducting a training program concurrently with assigned mission on such subjects as tactical bridging, mine warfare, rigging and small unit tactics will a combat battalion maintain combat readiness. The rotation of men further adds to the problem of maintaining such proficiency.

WIRE STAPLES. - In order to protect front-line tactical field wire from artillery and mortar fire, wire staples were fabricated from No 9 mechanical wire (stock number 1A609.6). The staple is approximately twenty-four inches in over-all length, and has an open loop at one end into which cabled WD-1/TT may be inserted. The staples are driven into the walls of communications trenches on the MLR and wire is thereby protected from almost everything but a direct artillery or mortar hit. Wire consumption by the front-line units will be greatly reduced because of the additional protection afforded the wire. The wire staples can be produced at the rate of 1,000 per day using four laborers. The staples are placed at six to eight foot intervals in the communications trenches approximately eighteen inches above the trench floor. Where this size staple is insufficient for heavier cable, ammunition box rods will furnish better support. Since this type rod is not easily bent into a loop, the cable is simply laid on and tied to the rod.
PHOSPHORESCENCE ON CLOTHING OF MEMBERS OF PATROLS. -
Men on patrols operating forward of our MLR became conspicuous at
night apparently as a result of their clothing becoming phosphorescent
or luminous when passing through areas which had been shelled with
white phosphorus.

This phosphorescence is normal, particularly in damp weather or
when moisture is present in the air.

When the white phosphorus shell is exploded in the presence of
moisture, the area upon which the resulting vapors are condensed may
often be luminescent even though the phosphorus has apparently com-
pletely burned. Some of this material may easily adhere to the clothing
of personnel moving through such an area.

In addition, white phosphorus is preserved under water, i.e., it
does not burn when it is covered by water. Hence, troops should avoid
occupying wet areas or depressions which have been recently shelled
with WP.
ATTNG-26 350.05/6(DOCI)(C)(18 May 53) 18 May 1953

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FOR THE CHIEF OF ARMY FIELD FORCES:

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VT FUZE USED WITH 155-MM AMMUNITION (DEEP CAVITY SHELL). - The 204th FA Bn (155-mm gun SP) test fired the variable time fuze during the month. Subsequent to the test, this fuze has been used on appropriate personnel targets with premature bursts averaging from zero to thirty per cent of the total rounds fired. This percentage of premature bursts is approximately the same as the percentage for the 155-mm howitzer. Results of the test, and the subsequent firing indicate that the VT fuze can be employed effectively with the 155-mm gun.

PERFORMANCE OF 155-MM DEEP CAVITY SHELL WITH FUZE M96 (T76E9). - The 145th FA Bn completed a combat test of deep cavity shell for 155-mm gun with fuze M96 (T76E9); the purpose of the test was to determine the performance data on the projectile using both normal and super charge.

One hundred sixty-eight rounds were fired using super charge with the following results:

- 26 rds graze
- 99 rds air
- 39 rds dud
- 4 rds premature

Three of the premature rounds occurred nine seconds after firing; one occurred five seconds before the expected time of detonation.
One hundred twenty-one rounds were fired using normal charge with the following results:

- 5 rds graze
- 77 rds air
- 37 rds dud
- 2 rds premature

Both premature bursts occurred nine seconds after firing.

The average height of burst of normal air bursts was 30 yards. Many rounds sensed as duds may have been lost because of the rugged terrain. The number of duds increased sharply when left in warm tubes for any appreciable length of time prior to firing.

SOURCE: Command Report - Eighth Army

DATE: November 1952

(RESTRICTED)

INTERIM-TYPE VEHICLES. - During a six-month test period, 2-1/2-ton trucks were driven a total of 1,084,000 miles with the M34 averaging 4.37 miles per gallon of gasoline with an average load of six tons while the M135 was recorded at 3.7 miles per gallon with an average load of four tons. Testing units were universally favorable in their comments upon performance of the M37 3/4-ton truck, and were similarly critical in their reports on the M38 1/4-ton. Primary deficiency in the latter vehicle appeared to be inadequate power. This shortcoming apparently has been overcome in the M38A1.

(RESTRICTED)

USE OF ONE-TON TRAILERS IN KOREA. - The use of one-ton trailers by one of Eighth Army's transportation truck companies points out the following:

a. The average driver is inexperienced in manipulating a truck-trailer combination.

b. Approximately 25 per cent more tonnage can be transported by using the trailers.
c. The one-ton trailer must be more rigidly constructed for continuous use on rough roads.

d. Trucks used to pull trailers require more maintenance, particularly on clutches and engines.

e. Because of the additional time required to load and unload trailers, the line haul must be 30 or more miles in distance.

f. Use of trailers increases gasoline consumption approximately 30 per cent.

(CONFIDENTIAL)

FLAK SUPPRESSION. - The thirty-day program of flak suppression authorized all friendly artillery, except VT fused, to fire while close support strikes by fighter-bomber aircraft were in progress. In addition, friendly artillery fired flak suppression missions on all known enemy antiaircraft gun positions in the target area using VT fused artillery, just prior to the fighter-bomber strikes, and continued the flak suppression with all types of artillery, except VT fused, while the fighter-bombers were attacking the target. The results of this experiment were highly successful and have been jointly approved by FAFIK and EUSAK for implementation across the entire front. Henceforth, artillery will maintain fire, including high angle fire, on targets being attacked from the air. The only exception is that the use of VT fused projectiles will be suspended within a radius of 3000 yards of the target during an air strike.

(RESTRICTED)

ACCIDENTS IN USE OF PORTABLE FLAME THROWER. - A number of accidents occurred in connection with operation of the portable flame thrower. These accidents were caused either by using the wrong kind of gas in pressurizing the flame throwers, or by allowing water to freeze in the pressure regulator. If oxygen rather than carbon dioxide or air is used, explosions will occur often. When water freezes in the pressure regulator, pressure within the fuel tanks may exceed the safety limit and cause rupture of the tanks.
TOGAFF EVALUATION: This is an example of improper use of artillery and unnecessary expenditure of ammunition.

"STANDING GUARD" WITH ARTILLERY. - Considerable quantities of ammunition were expended by this battalion and the organic division artillery battalions during the early stages of the operations because of the requirement to keep a continuous curtain of defensive fires in front of friendly infantry during the hours of darkness whether the enemy was attacking or not. Fires were placed on avenues of approach and batteries fired "continuous fire, battery right at 20-second interval," without varying the range or deflection settings. On one occasion, a battery of this battalion "stood guard with 155's" firing one such barrage from about 2200 to 2400 hours. A battery of the 31st Field Artillery Battalion (155-mm howitzer) picked up the same barrage, fired at the proper interval after the last round of this battalion was on the way, and continued the barrage until 0400 hours when one of the light battalions took up the firing. While the results of such use of artillery cannot be evaluated with the facts available, it appears that, aside from the large expenditures of ammunition and the resultant wear and tear on materiel, it is tactically unsound as it sets a pattern of time and place of firing which an alert enemy can quickly determine and avoid.

USE OF MODIFIED 105-MM HOWITZER. - Approximately 75% of the fires of the battalion were high-angle fire. No difficulties were experienced using the modified 105-mm howitzer, self-propelled, M7 (with well). Frequent shifting of the carriage is necessary because of the limited traverse at high angles.
(RESTRICTED)

ORGANIZATION OF FSCC IN INFANTRY BATTALION. - In each of the infantry battalion command posts, there is located a fire support coordination center, which consists of the artillery liaison officer, the infantry battalion assistant S3, representatives from the regimental tank company, quad 50's, 81-mm and 4.2-inch mortars. Here are located direct lines to the artillery and other infantry supporting weapons.

The FSCC at the infantry battalion level has proven highly successful. It provides the coordination that is needed between the infantry and its supporting weapons. In addition, it provides the artillery S2 with more information-collecting agencies than he would ordinarily have at his disposal. In order to properly process shell reports, sound azimuths and other target-getting reports received from infantry battalion and regimental OP's, this battalion's survey section has undertaken the task of surveying those OP's so that they may be accurately located on the S2 countermortar chart.

(RESTRICTED)

COUNTERFIRE ORGANIZATION. - The supported regiment's counterfire platoon has located its command post in the artillery battalion fire direction center, so that the azimuths that they obtain may be plotted on the S2 countermortar chart as quickly as possible. Many times, hostile mortar and artillery have been located by the intersection of azimuths obtained from several sources.

Countermortar radar maintains direct wire and radio communications with this battalion. At the first report of hostile mortar activity, radar is notified to go on the air in the desired grid squares, thus providing many targets which would otherwise go unlocated.

During the past month, I Corps directed that each company of each infantry regiment, and each battery of each artillery battalion establish shell-reporting teams consisting of one officer and three enlisted men. The mission of a shell-reporting team is to make crater analysis of all incoming rounds so that complete and accurate shell reports may be
obtained. The S2 Section of this battalion undertook the task of training teams for both the supported regiment and this battalion. Each team was required to attend a two-hour class that incorporated practical work in crater analysis and shell reporting. Since that time, the number of shell reports received from the infantry has increased.

(RESTRICTED)

ARTILLERY FIRE CONTROL. - Tests conducted by this unit have revealed the following:

a. Range deflection fans are warped and replacement items are not available. Sudden changes in weather cause contraction and expansion of range deflection fans, introducing error into the data sent to the howitzers.

b. Grid sheets issued for surveyed firing charts are of a poor quality, and errors of four hundred meters in ten thousand meters often exist.

c. These grid sheets shrink and stretch, depending on the weather, humidity, and amount of use.

In order to compensate for this error and improve firing, the following changes were introduced:

a. New firing charts were prepared as prescribed in FM 6-40, Chapter 12, and each deflection index was labeled with the appropriate deflection.

b. Range deflection fan - all numbering and lettering with grease pencil was omitted.

c. Deflection fan was always placed on the right side of the plotted target when reading deflections. Deflections were read from the left side of the fan only.

As a result of these simple changes, the accuracy of the fires of this unit improved considerably, and a large per cent of the errors due to nonstandard equipment have been either eliminated and/or standardized and compensated for by registration. Following are advantages resulting from these changes:
a. Five hundred millimeter error by the horizontal control operator was completely eliminated.

b. Error introduced by shrinkage or stretching of charts and contraction or expansion of range deflection fans was compensated for by reading all deflections from one side of the range deflection fan and registration. This would not be true if deflections were read from both sides of the fan, as the correction would have to be applied in the opposite direction, depending upon which side of the fan deflection was read.

c. The width of the plotting pin is also compensated for in the same manner as b above.

The only disadvantage resulting from these changes is that a good horizontal control operator is slowed down by always having to place the fan on the right of the plotted target and reading deflections without numbers on the fan. The increased accuracy more than compensates for this slow-down in obtaining chart data.

SOURCE: Command Report - 73d Tank Bn

DATE: October 1952

(TRESTRICTED)

TANK BN TRANSPORTATION REQUIREMENTS. - It was definitely proven that the tank battalion, infantry division, equipped with the M46 tank, needs more trucks in its supply platoon. The consumption of gasoline by the M46 tank and the mass and weight of ammunition required by this tank is far more than that of a battalion equipped with the M4E8 tank. During this period, the tanks of this unit were employed on an extremely wide front, all at the same time. This is not an unusual situation as the tank battalion, infantry division, can be expected to be so employed. As a result this places an added burden on the supply platoon. In a moving situation the supply system of the battalion would have broken down for the want of transportation.
SIGNAL SHOP TRUCK FOR TANK BATTALION. - The tank battalion, infantry division, has a definite need for some type of vehicle for maintenance of communications equipment. The battalion has a total of 191 radios, all of which require second echelon repair and maintenance. Due to the lack of qualified personnel with knowledge of tank radios in the infantry division signal company, it is often necessary to perform third echelon maintenance. In addition, the tank interphone system presents problems that require maintenance at the tank which can not be done at the battalion communications maintenance installation.

The variety of radio equipment in the unit requires the use of many types of test equipment. Much of this equipment is very delicate and the present authorized transportation does not allow this equipment to be centralized or carried properly for utilization under field conditions. Also there is a need for a place to set up test mounts for the SCR 506 and the SCR 508.

The tank battalion, infantry division, in many cases finds itself committed over a wide front which places a burden on the line companies to bring equipment needing repair to the battalion headquarters area. If the battalion communications section had a shop truck that could move from company to company and repair radios and intercommunications systems, the maintenance could be performed quickly and efficiently. Communication is essential in fighting with combined arms teams, and anything that will improve the maintenance of communications will also improve the over-all capabilities of these teams.

Recommend that one shop truck, 2-1/2-ton, 6x6, General Repair Signal Corps M30 or M31, be included in T/O&E for headquarters and service company, tank battalion, infantry division.

SOURCE: Command Report - 17th FA Bn
DATE: November 1952

8-INCH HOWITZER GFT MODIFICATION. - The Artillery School produced and issued a GFT (Extension FT8-J-2 Special, 1 Oct 52) for
8-inch howitzers in order to cover the areas in the higher reaches of the ranges not normally covered on the standard GFT. This GFT functions adequately during the summer months. The window is too small for use during the winter months because of the large range K. Recommend that all GFT's be made with the window large enough to be able to place the adjusted elevation gage line on it. Range K of 2000 to 2500 yards can be anticipated.

(RESTRICTED)

BATTERY CHARGING EQUIPMENT. - Several instances of radio communication failure have occurred within the past month due to insufficient battery charging equipment. The T/O&E power unit PE 210 does not have sufficient capacity to charge the batteries necessary to operate T/O&E radios without continuous operation. Continuous operation results in short life of the equipment, necessitating evacuation from the theater for repairs and a delay of from two to three months for a replacement issue. The tank heater generator, Model HRU 28, has an output one and two-thirds times as great as the PE 210 and can be repaired by Ordnance third and fourth echelon installations within the theater. Recommend that the PE 210 be replaced by the tank heater generator, Model HRU 28, an Ordnance item.

SOURCE: Command Report - 17th FA Bn

DATE: December 1952

DIFFICULTIES WITH M4 TRACTOR. - The M4 tractor, having insufficient traction has great difficulty maneuvering howitzers over normally simple terrain when the ground is frozen. Tracks slip and slide on frozen slopes even in the absence of snow and ice. Due to these difficulties, recommend that rubber treads be issued during the winter months for the M4 tractor, or that the M4 be replaced by a better tractor.
TANK GROUSERS. - The installation of a wedge-shaped grouser to the head of the center guide bolt at the rate of nine grousers per track proved to be a valuable aid in traversing ice coated roads and mountains. However, the grouser does cause excessive wear to shock absorbers and makes it difficult to turn at slow speeds; also, some can be expected to break off when on rocky or frozen ground.

AVOIDING FIRE BROUGHT ON BY RADIO FIXES. - It was reported by the FO's who were in the assault that, whenever they began transmitting on their radios, they would shortly thereafter receive concentrated enemy mortar fire on their positions. To counteract the enemy's ability to fix the positions of friendly radios, two subterfuges were employed. One was to remote all radios, placing the radios on reverse slopes revetted as much as practicable; and the other was to set up salvaged radio antennas in nonoccupied areas to draw fire away from occupied areas. These two subterfuges resulted in immediate lessening of fire on the FO's and their parties in their observation sites. Most of the FO parties were exposed and in the open due to the necessity for observing and the difficulty of digging in.
(RESTRICTED)

LOGS USED IN TANK FIRING. - A log cutting program has been instituted to provide each tank position with sufficient logs to corduroy the tank firing and back-up positions. This was done to cut down to an absolute minimum the possibility of having the tank tracks freeze to the ground during quick freezes.

SOURCE: Command Report - 1st FA Obsn Bn
DATE: November 1952

(RESTRICTED)

RADIOSONDE AN/AMT-2A. - Operational difficulties were encountered during the month with balloons and radiosondes AN/AMT-2A. The Metro Section had three balloon breaks. These balloons were conditioned before inflation. Cost of the balloons and expended charges was $113.76. Eight radiosondes AN/AMT-2A failed during flight. All of the radiosondes released were prepared and checked before release as set out in TM 20-240. The cost of eight radiosonde flights, less batteries, is $520.16. The following chart indicates the type of trouble encountered with the AN/AMT-2A:

<table>
<thead>
<tr>
<th>Trouble</th>
<th>Probable Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Transmitted only temperature after 30th contact.</td>
<td>Leaky anaroid capsule.</td>
</tr>
<tr>
<td>2. No signal after release.</td>
<td>Large frequency shift at release. Release was smooth and normal.</td>
</tr>
<tr>
<td>3. Temperature and humidity signal received simultaneously after 30 contacts.</td>
<td>Acted as though both temperature and humidity elements were in grid circuit of blocking oscillator at same time. A layer of heavy moisture</td>
</tr>
</tbody>
</table>
Trouble | Probable Cause
--- | ---
was present at that altitude. Could possibly have shorted across the relay.  
4. Same as No 3.  
This flight, launched immediately after No 3, developed the same trouble. Acted identically to No 3 and at the same altitude.  
5. No temperature signal.  
The circuit in which the temperature element lives, obviously became open. The most likely place is at the element. Could have been jarred open at release, but release was normal.  
6. Entire signal stopped at 15 contacts.  
Bad battery.  
7. Entire signal stopped at 25 contacts.  
Bad battery.  
8. No temperature after 35 contacts.  
As in No 5, the circuit opened. Most likely place is at the element. No explanation for it to open at that altitude.  

All other signals were perfect.

SOURCE: Command Report - 378th Engr Combat Bn  
DATE: November 1952  
Source No 743

(RESTRICTED)  
REPLACEMENT OF MISSING TEETH. - We are continually confronted with the problem of arranging for the replacement of missing teeth with prosthetic appliances for many individuals who present such cases. Since such treatment is beyond the scope of this clinic, we must depend on the cooperation of other units capable of rendering such
service. Such units are more than willing to cooperate, but due to the frequent movement of the units, many cases cannot be carried to satisfactory completion. More effort should be made to render dental service within the Zone of Interior, where facilities are more readily available, before individuals are transferred to the Combat Zone. Examination of every replacement reporting into the battalion reveals that a considerable percentage of these men have had very little, if any, previous dental treatment.

(RESTRICTED)

DEFICIENCY OF AUSTIN-WESTERN GRADER. - There have been numerous deficiencies noted in the Austin-Western grader during this period. The most troublesome was the problem of evacuation over mountainous roads when it was deadlined with engine trouble. All steering, brakes, and lifting mechanisms work off a hydraulic system; thus when the engine ceases to operate it becomes practically impossible to move it, especially when the roads are of such a nature that a lowboy cannot be brought to the area. Recommend that the deficiency in the Austin-Western grader be corrected by the development of a tow bar or an alternate steering and brake system to be used only in emergencies.

(RESTRICTED)

TRUCK-MOUNTED 210 CFM AIR COMPRESSOR. - Breakage of inner cooler pipes on truck-mounted 210 cfm air compressors has caused a considerable loss of operation hours. This breakage is due to vibration. Recommend that a brace or alternate inner cooler pipe be installed at the factory.

(RESTRICTED)

MAINTENANCE OF EQUIPMENT IN COLD WEATHER. - Freezing temperatures have emphasized the importance of complete servicing and first echelon maintenance of engineer equipment. Mud and dirt freezes to idler wheels, tracks and other moving parts, thereby placing excess strain and stress on assemblies when used with this frozen crust on the assemblies. It must all be removed at regular intervals during the working day.

Emphasis must be placed on first and second echelon maintenance on Ordnance vehicles since equipment used on this project is subject to
the most severe conditions -- 20 degrees below zero weather, steep grades, and poor road surface conditions. Because of the cold, operators will become lax when the need for maintenance is greatest, thus requiring closer supervision.

SOURCE: Command Report - 2d Inf Div
DATE: December 1952

SALVAGE. - Twenty-five thousand 105-mm brass cartridge cases and fifty tons of .50 caliber brass were salvaged. Under a new Army directive which demands the stringent accounting of all expended ammunition components, additional administrative difficulties were encountered in drawing replenishment stocks of ammunition for the division. Although all salvageable components must be returned through supply channels for reuse, a one for one trade of expended for new is impracticable unless transportation and other factors beyond division control are taken into consideration. The availability of transportation and the exact timing of return rail shipments of salvage sometimes makes the physical exchange of round for round impossible although new ammunition is badly needed. Certificates that salvage has been rail loaded and shipped must be accepted by ASP's in such instances. Failure of the supporting ammunition group to accept this fact caused a dangerous reduction in division stocks during December.

WARRANT OFFICER, UNIT ADMINISTRATOR. - Personnel eligible for appointment as warrant officer, unit administrator, are only those who are obtained from certain combat military occupational specialty sources. Enlisted personnel who are specialists in one of the fields of unit administrator duties are barred from appointment solely on the basis that they do not occupy a source position.

As the Adjutant General is the monitoring agency for unit administrator warrant officers, and the duties of the warrant officers lie primarily in the administrative and technical fields of company level units, some of the most logical sources for unit administrators are not being used.
The additional source positions concerned which appear in the T/O&E of an infantry division are listed below:

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<th>ENL SSN</th>
<th>MOS</th>
<th>Grade E-7 &amp; E-6</th>
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<tr>
<td>1290</td>
<td>Personnel Management Supervisor</td>
<td>19</td>
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<tr>
<td>1502</td>
<td>Administrative Specialist</td>
<td>28</td>
</tr>
<tr>
<td>1585</td>
<td>First Sergeant, Administrative</td>
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</tr>
<tr>
<td>1816</td>
<td>Personnel Administrative Supervisor</td>
<td>3</td>
</tr>
<tr>
<td>1821</td>
<td>Unit Supply Specialist</td>
<td>132</td>
</tr>
<tr>
<td>1824</td>
<td>Mess Steward</td>
<td>106</td>
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</tbody>
</table>

TOTAL 298

In view of the critical shortage of unit administrators and the lack of eligible personnel who desire warrant officer appointments, recommend that a study be initiated to investigate the feasibility and possibility of securing authority to draw on the sources listed above for appointment of additional warrant officers, unit administrators.


DATE: November 1952

(RESTRICTED)

ARTILLERY PROPELLANT. - In recent months large quantities of engineer explosives have been consumed in operations, particularly in rock blasting for new roads. The occasional short supply of these explosives, as well as considerations of economy, has suggested the use of surplus artillery propellants. Consequently, a series of controlled tests were made to determine the most satisfactory techniques for using this propellant as an engineer explosive. Tests were specifically designed to learn the following: Optimum method of priming and boosting propellant powder; optimum placement of such primer in the powder charge; feasibility of springing rock holes; and effort-yield relationships for varying charges. Limited data already available indicates the desirability of priming with an electric cap, boosted with composition C3, and placed near the top of a bore hole.
(RESTRICTED)
MODIFICATION OF 4.2-INCH MORTAR, M30. - Eighth Army has experienced difficulty in the bridge breaking on the Mount M24 used with the 4.2-inch Mortar, M30, and has requested twenty-four bridges be modified by strapping reinforcement of the bridge. This modification will be made on all mortars of this type which are on hand.

SOURCE: Command Report - 2d Cm1 Mortar Bn
DATE: September 1952

(RESTRICTED)
MECHANICAL DIFFICULTY WITH 4.2-INCH MORTARS, M30. - Four 4.2-inch mortars, M30, were out of action due to cracked bridges. One by one, the Allen screws worked themselves loose even after being counter punched by Ordnance personnel. The battalion fired the M30 mortars until the loosening of the Allen screws, along with the cracked bridges, forced the mortars out of action. The bridges are breaking and cracking just to the rear of the bearings for the standard trunnions and in front of the swivel on the bridge.

SOURCE: Command Report - X Corps
DATE: October 1952

(RESTRICTED)
ORDER-OF-BATTLE SPECIALIST TRAINING. - Order-of-battle specialists trained at Fort Riley, Kansas, are not receiving instruction in CCF and NK order-of-battle. This results in a long period of on-the-job training at unit level. Personnel trained at Camp Palmer, Japan, receive this type of instruction.
Recommend that order-of-battle specialists assigned to combat units receive instruction in CCF and NK order-of-battle.

SOURCE: Command Report - Sig Svc Bn (VHF), 8189th AU
DATE: December 1952
Source No 749

(RESTRICTED)

EFFICIENCY IN MAINTENANCE OF SIGNAL EQUIPMENT. - Each operating transmitter and receiver is allowed to operate for not more than 72 consecutive hours, and is then replaced with spare equipment which has previously been thoroughly checked, cleaned and properly aligned on an operating frequency. The equipment taken out of service is then given complete first echelon maintenance, realigned on the proper frequency and placed in spare status, ready for immediate use when an emergency arises or when the operating equipment has been in continuous service for 72 hours. A very close study has been maintained by the battalion maintenance section to determine the effects of this program. This section reports that, over a period of 60 days, the number of repairs made on receivers and transmitters in the battalion maintenance shop has decreased by 60%, and that this decrease is the direct result of changing the equipment at least once every 72 hours.

Recommend that this practice or one of similar nature be placed in effect wherever this type of equipment is being used for continuous operations.

SOURCE: Command Report - Eighth Army
DATE: July 1952
Source No 750

(RESTRICTED)
MATERIALS-HANDLING EQUIPMENT AND ACCESSORIES DEFICIENCIES. - Some difficulty is being experienced in operating Ross fork lift equipment in Korea because of basic construction. The Ross is built high and narrow with a central steering wheel which, in effect, makes it a tricycle with the two wide wheels forward. This tends to make the vehicle unstable on rough terrain. Particularly is this true of the
15,000 pound and 18,000 pound end items. An added disadvantage exists
in the very low gear ratio on the steering wheel. While this makes for
ease in turning, it requires the operator to turn the steering wheel
approximately five complete turns to turn the vehicle 90°.

The steering shaft, constructed of tubular metal, on the Clark
Yardlift, Model 150, should be strengthened. It has been necessary to
use threaded steel bars to replace tubular steel construction in an effort
to reduce deadlines.

The clutch discs on the Clark Yardlift, Model 60, are wearing out
too rapidly. The tensile strength of the springs is not distributed evenly,
or possibly the thickness of the clutch disc can be at fault. In addition,
its maneuverability on rough terrain is unsatisfactory due to the small
steering wheel.

In order to improve the efficiency of the Clark Planerader, 3,500
pounds, Model 51, the hose should be coupled to the hydraulic lift cylinder
in such a manner as to eliminate all possibility of contact between the
hose and the drive shaft.

On all lift cylinders, excessive replacement of packing is being
encountered. Research should be conducted to provide a packing which
will withstand the abrasive action of dust and mud which grinds into the
packing.

A constant problem exists wherein rocks become embedded between
the dual rubber tires on this equipment and cause excessive wear and
tear. This problem also exists on Ordnance vehicles; thus far, no satis-
factory solution has been found. The use of a detachable rubber strip of
guard which could be mounted between the dual tires by attachment to the
inner rims of the dual wheels has been advanced as a possible solution.
OFFICE, CHIEF OF ARMY FIELD FORCES
Fort Monroe, Virginia

ATTNG-26 350.05/7(DOCI)(C)(3 Jun 53) 3 June 1953

SUBJECT: Dissemination of Combat Information

TO: See distribution

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2. Copies are furnished to other military agencies to keep them informed concerning theater problems from the front line through the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office assigns each extracted item the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.

4. Combat information EXTRACTS which are applicable to training at the company-battery level appear in Army Field Forces TRAINING BULLETINS.

FOR THE CHIEF OF ARMY FIELD FORCES:

Declassified by Authority of
TACO 760269
ON
1976
By Eater

Extracts from sources
751 thru 776

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<tr>
<td>2</td>
<td>Executive for Reserve and ROTC Affairs</td>
</tr>
<tr>
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134 TAG (40 CG, US Army Forces, Far East (Main); 44 CINC, US Army, Europe; 10 ea CG's, other major oversea commands)

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2  Second Army
2  Third Army
10 Fourth Army
2  Fifth Army
2  Sixth Army
4  Army AA Command
2  Military District of Washington
2  Tactical Air Command
2  The Armored Center
2  The Artillery Center
2  The Infantry Center
1  Mountain & Cold Weather Tng Command
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1  Chief of Staff, Dept of the Army
2  Chief of Naval Operations, Dept of the Navy

(See next page)
Subject: Dissemination of Combat Information

3 June 1953

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1 Officer in Charge, Atlantic Fleet Intelligence Cen, Attn: Ground Forces Officer
1 Director, Weapons Systems Evaluation Group, Secy of Defcnse, Attn: Col Train

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EQUIPMENT DEFICIENCIES. - It is necessary to replace a rather high number of 105-mm recoil mechanisms because of emulsification. Although cold weather is undoubtedly a contributory factor, the mechanism is designed to operate at much lower temperature than is experienced in Korea and no satisfactory explanation can be advanced as to the reason for the high number of failures because disassembly and examination of the recoil mechanisms cannot be performed in the field.

There have been numerous cases of the connector rods on 4.2-inch mortar standards breaking when the mortar is fired. Many of these failures could be avoided if the using units properly sandbagged base plates and standards before firing high angle, high zone fire. However, the tactical situation may not always permit this and, in any case, the connector rods should be strong enough to hold under high angle, high zone fire without sandbags.

There have been a large number of replacement dampers (the fan drive pulley on the end of the crankshaft) required for carriages, multiple gun motor, M16. The Woodruff key chips the sides of the slot on the internal diameter of the damper. No satisfactory explanation has been advanced as the reason for the frequent reoccurrence of the malfunction.

INEFFECTIVE PANEL DISPLAYS. - Recommend that additional research and development be brought to bear on the problem of panel displays on the main line of resistance.

During the past two months the effectiveness of panels and displays authorized and the troubles associated with their use have been closely checked. On a day of average visibility, single red panels are barely visible at altitudes of eight thousand to ten thousand feet and at these heights yellow panels are not visible at all. Further, panels are subject to fading which causes additional reduction in their visibility. These conditions are based on observation from comparatively slow organic
division aircraft. Observation from high performance jet aircraft would probably present an even worse picture.

In view of the altitude at which jet aircraft start their bombing or strafing runs on close support missions in this type terrain, the problem of adequate marking of friendly vehicles and friendly MLR positions becomes one of major importance. A fluid situation would further accentuate the problem. An interim solution adopted entails the use of four panels combined to do the work for each one panel previously used. While offering some improvement for a static situation, this is neither a practical nor a satisfactory solution for fluid situations.

(UNCLASSIFIED)

PERIOD OF EFFECTIVENESS OF THE X-200 LAND MINE. - One of the major problems in the employment of X-200 land mines (napalm filled) is the determination of the period of effectiveness of these mines after their emplacement. Napalm or thickened gasoline tends to break down and reassume the characteristics of liquid gasoline after a period of time. An X-200 land mine in which the napalm has broken down will be much less effective than one in which the napalm remains thick. Also the burster employed in this mine tends to absorb moisture from the air and ground unless well protected. A burster which has become dampened or water soaked may fail to function completely or may decrease in bursting effect. Thus, it is essential that information be obtained to determine the period of effectiveness of these mines under field conditions in all types of weather.

As a solution to this problem the 40th Infantry Division conducted surveillance tests on this type of land mine. Several samples of napalm mixed in October and November 1952 were placed in X-200 land mine cans; bursters were inserted and adhesive tape placed over the hole in the burster well caps. The mines were then stored in the open exposed to the elements under conditions simulating those on the MLR. Test mines were then detonated at 30-day, 60-day, and 75-day periods after preparation of the mines. Test results showed that the napalm fillings did not break down during the 75-day period, that the bursters retained their waterproofing characteristics over the 75-day period, and that the mines did retain full effectiveness during the test period. It is safe to assume that mines emplaced along the MLR, exposed to similar weather conditions, would also be fully effective over a minimum 75-day period. Additional mines are still available and will be tested after further exposure. Should future tests show breakdown of the napalm filling or dampening of the burster filling, recommend that
aid mines be left in place and that additional new mines be emplaced near them. If the napalm has broken down in the old mines, the thin fuel remaining will have some effectiveness as a casualty agent and as an illuminant and the new mine will provide additional protection for friendly personnel and installations. Also recommend that, in the preparation of these mines for emplacements, using units should use adhesive tape, tar, or pitch to seal off the burster well after the burster and electric blasting cap or nonelectric firing device have been inserted. This insures effective waterproofing of the burster components.

SOURCE: Command Report - 7th Inf Div
DATE: December 1952 Source No 752

(RESTRICTED)

ENGINEER FIELD MAINTENANCE TEAMS. - Engineer field maintenance teams are not carrying out their mission efficiently. The platoon strength teams, in support of each division for the expeditious handling and maintenance of Engineer mechanical equipment, are hindered mainly by the lack of a published SOP and the distance between forward and rear elements of the maintenance units.

Methods of evacuation and repair are not the same in all teams, often differing between teams within the same company. This condition results in a duplication of paper work necessary for evacuation of equipment from the Engineer battalion to the maintenance units. The great distance between the forward and rear units causes unnecessary delay in the evacuation and return of equipment.

Emergency repair of two filter units (filter unit, diatomite, 50 gpm) was required. These units were sent to the forward field maintenance team, repaired by the team and returned. The filter units were still unserviceable as proper water pressure tests were not conducted by the teams. Incidents such as this have occurred on repeated occasions in the operation of field maintenance teams. The teams suffer from a lack of personnel or equipment and parts to repair water point equipment.

The difficulties and unnecessary delay caused by the administrative variations and the geographical separation of the field maintenance teams forces more of a maintenance load on the already overburdened maintenance section of the Engineer battalion.
Recommend that Engineer field maintenance teams be consolidated into units of company size located centrally across the front and as close to the front as practicable.

SOURCE: Command Report - Eighth Army
DATE: October 1952

(RECLASSIFIED)

EMPLACED FLAME THROWER UNITS. - The emplaced flame thrower is an improvised weapon utilizing either the transmission or sponson group of a M343 mechanized flame thrower. The fuel and pressure tanks of the emplaced flame thrower are installed below ground level on the reverse slope of hills or in defiladed positions. The unit has 100 feet of hose attached which permits the operator freedom of movement in projecting the 25-gallon charge of flaming napalm for distances up to 70 yards. The emplaced flame throwers are to be issued at the rate of 10 per division on the Eighth Army front. A small number also will be available in reserve.

SOURCE: Command Report - Eighth Army
DATE: November 1952

(RECLASSIFIED)

AIRCRAFT ISSUED WITHOUT SPARE-PARTS BACKUP. - There have been three instances of aircraft types H-13D, H-13E, and L-20 arriving in this theater without an adequate backup of spare parts. As a result of this deficiency, there has been an excessive time loss on these aircraft. Substitution of parts had to be made from one L-20 to keep all other aircraft of that type flying; thus, this aircraft was out of commission because of lack of parts for a period of five months.

It is not unusual for H-13's to be out of commission for periods of one to two months because of the inadequate parts procurement program. Over a period of months, an adequate supply of spare parts is as essential to aircraft operation as a sufficient supply of fuel.

Recommend that new types of aircraft not be issued to combat theaters without an adequate backup of spare parts.
TRACKED, LIGHTLY ARMORED, MEDICAL EVACUATION VEHICLE. - With the onset of the relatively heavy fighting, it became apparent that litter teams, provided by the T/O&E litter platoon, could not cope with the situation because of the heavy action and topography of the area. Men were fighting over an extended front, the outlying areas were far from the forward collecting points, and the mountainous terrain took its toll of exhausted litter bearers. Extensive use was made of the M39 Personnel Carrier to augment the litter platoon. This vehicle can accommodate six patients, provides protection from small arms fire and shell fragments, and is fast and highly maneuverable. The wounded were brought off the hills by litter bearers, placed on M39's, and evacuated to forward collecting points. From the forward collecting points, evacuation was continued by conventional medical transportation. The M39's proved to be an excellent augmentation, but there were not enough of them available, and maintenance problems peculiar to tracked vehicles were encountered.

Use of the M39 Armored Personnel Carrier for the evacuation of casualties has not been unusual in the Korean conflict. Without modification the M39 does not accommodate litter patients within the armored hull as patients must ride racked across the top of the vehicle.

A requirement exists for the development of a tracked, lightly armored ambulance for use at infantry battalion and regimental level. A half-track armored ambulance was utilized by armored units in World War II. That vehicle embodied the fundamental requirements proposed here but was poorly accepted by using medical units, possibly on the unproven conception that the vehicle would draw fire and on the basis of the unfavorable comparison between its armor and the armor of the tanks supported. The half-track ambulance has been deleted from T/O&E's of US units but is being used successfully by British infantry battalions. Only armor required is that necessary to stop low velocity fragments. Although distinctly unfavorable in comparison with tank armor, the comparison with the protection afforded by the steel helmet and the armored vest should make the vehicle acceptable to infantry units.
CHINESE ATTACK TACTICS. - The following account is illustrative of three common CCF tactical principles - isolation of the objective, the envelopment, and surprise.

Very obvious attempts were made to isolate the outpost under assault. Initially it was through the medium of a ring of artillery and mortar fire on possible reinforcement positions. As the attack progressed, some of the avenues of approach for reinforcement were physically occupied by the enemy blocking forces. Wire communication to the nearest friendly positions were severed either purposely or accidently. Regardless of the intention, it contributed to the isolation of the objective. A polydirectional attack is a favorite of the Chinese. The CCF will attempt to convert virtually every action into an envelopment. This assault from at least three directions was no exception. A certain amount of surprise accompanies any envelopment operation. The fact that the enemy held off his artillery until a few minutes before the attack jumped off is indicative of his interest in maintaining the element of surprise.

PERFORMANCE OF AN/MPQ-10 RADAR. - Battery C's AN/MPQ-10 radar continued its record of exceptional performance when in position and operating. The 500-hour overhaul on this radar necessitated its removal from position to the Signal depot for thirteen days. Forty-seven locations made by this set during December may be attributed to a combination of superior design and an excellent site near a critical area.
GENERATOR FOR INFANTRY BATTALION. - The battalion command post is today a complicated mechanism. Perhaps its most significant element is the FSCC, which under the current situation coordinates the fires of direct and general support artillery, battalion and regimental mortars, tanks, quad 50's and dual 40's in direct and indirect fire roles. Normally its peak activities occur during hours of darkness.

The flickering, uneven light of Coleman lanterns and candles is not conducive to speedy and accurate plotting. Recommend that each battalion be provided with a generator and auxiliary supplies and equipment sufficient to maintain continuous and effective illumination in operational bunkers.

STANDARDIZATION OF DOZER BLADE END-BITS. - The battalion operates D-7 Caterpillars which require four different types of cutting edges and end-bits. The different type blades used are Caterpillar Bull, Caterpillar Angle, LeTourneau Tilt, and LeTourneau Bull. Nonstandardization of D-7 blades makes it necessary to stock four different types of cutting edges and end-bits. End-bits have been critically short in the past. While it may be impossible to make a standard D-7 blade and cutting edge for all types of D-7 machines, it would be possible to standardize end-bits for all D-7's. Cutting edges for the same type machine, such as an angle-dozer, should be interchangeable regardless of whether the blade was manufactured by Caterpillar or LeTourneau. Supply problems could be greatly reduced if Army specifications eliminated the differences in similar pieces of equipment produced by different manufacturers.
(RESTRICTED)

EFFECTIVENESS OF AN/PRC-10. - Initial tests of the new AN/PRC-10 radios indicate they have a much greater range, are more durable, and give better reception in Korean terrain than the old SCR-300.

SOURCE: Command Report - 27th Inf Regt
DATE: December 1952 Source No 759

(RESTRICTED)

METEOROLOGICAL CORRECTIONS FOR 81-MM MORTAR FIRING. - Range tables are not available that will permit the application of meteorological effects to the 81-mm mortar firing data. As a result frequent registrations are required in order to compute adjusted data. This additional firing results in an expenditure of ammunition that is in critical supply. Further, with the wide temperature variations between day and night, the daylight registrations are of doubtful value for firing close-in defensive fires at night.

Recommend that tests be conducted to determine the effectiveness of the 81-mm mortar as a close-support weapon under conditions of extreme cold and that, if necessary, range tables be drawn up that will permit the application of meteorological corrections to firing data.

SOURCE: Command Report - 378th Engr Combat Bn
DATE: December 1952 Source No 760

(RESTRICTED)

HEATING OF HARDENING CONCRETE. - Company C was assigned the task of constructing a timber trestle bridge. A large amount of rock had to be removed from the stream bed to provide a solid base for the four concrete footings to be poured. The mixing and the pouring of the concrete was done by KSC personnel by hand. Because of the extremely cold weather it was necessary to heat aggregate, concrete forms, and the area where the concrete was being poured. After the concrete was poured, it was also necessary to keep it heated for a 72-hour period to insure proper setting up. CaCl2 was used in the amount of 3/4 to 1 pound per gallon of water as an added safety factor to prevent freezing.
Shelters constructed from scrap lumber were set up around the footings and used oil cans were made into smudge pots by using diesel as fuel which produced adequate heat to prevent the concrete from freezing. A 24-hour detail was organized from KSC personnel to insure constant heat.

SOURCE: Command Report - 623d FA Bn
DATE: December 1952

(DENTAL SURVEY. – During October and November 1952 this battalion received 177 replacements. The dental status of these replacements, upon arrival, was as follows:

16% Class I - Individuals needing no dental work.

34% Class II - Individuals needing preventive or corrective treatment.

43% Class III - Individuals requiring immediate treatment of advanced dental conditions.

1% Class IV - Individuals needing essential prosthetic appliances.

6% Class V - Individuals needing emergency treatment.

The figures above indicate that 50% of the replacements are in need of immediate dental treatment, or essential prosthetic appliances. This task must be performed by the battalion dentist under adverse conditions and with inadequate equipment. Assuming a general shortage of dentists throughout the services, this would appear an inefficient use of a critical skill. Although the latest T/O&E for this type unit has eliminated the battalion dentist, a critical need for dental service remains.

Dental clinics should be placed well forward and easily accessible to advance units so that losses in transportation and man-days will be reduced to a minimum. Additional effort should be made to improve the dental status of replacements prior to arrival in forward areas.
PULL-OVER GAGE READINGS. - During the month of November there were eleven 155-mm howitzer tube and breech assemblies replaced. These tube and breech assemblies were replaced in accordance with Eighth Army instructions which state that 155-mm howitzer tubes will be replaced at pull-over gage readings of 6.160. In the interest of supply economy this replacement point should be increased to a gage reading of 6.180. This can be accomplished without decreasing the safety factors.

UNUSUAL EMPLOYMENT OF SMOKE GENERATORS. - Salvaged oil cans used for making napalm land mines require a steady flow of steam to clean the cans as oil and dirt adulterate the napalm used in the mines. Smoke generators can furnish such steam. Salvaged cans cost less than ten cents per can to clean, thus providing a saving of $1.15 per can. To date this has been accomplished on 20,000 cans with a total saving in excess of $22,000 by the use of smoke generators used to produce steam.

DISCUSSION OF GRAPHIC FIRING TABLES. - Twelve Graphic Firing Tables, extension FT 8-J-2, Special, were received and distributed to the firing batteries and battalion FDC.

In analysis by the FDC personnel, it was noted that the enlargement of the scale definitely permits more accurate graphic interpolation for...
ranges near maximum ranges for zones 4, 5, 6, and 7. This accuracy of the interpolation is increased by approximately one or two mils.

Where ninety per cent of the missions are of the air-observed, precision destruction type, the GFT is used only in the computation of initial data. The remainder of the adjustment and refinement of data is computed mathematically by use of 100/R, "C," and the fork.

In the few ground-observed missions fired by this battalion, which do require more use of the GFT, this extension has been used satisfactorily. However, as the weather became colder, the range correction increased to the degree that it could not be graphically portrayed on the extension window in the form of a GFT setting. For example, with Charge 7, near maximum range, the maximum correction that can be gained in the form of a GFT setting is 1500 yards, whereas corrections of over 1700 yards, have often been encountered near maximum range.

A modification of the GFT, FT 8-J-2, Special, would be to lengthen the plastic window to permit application of large range corrections, in order to obtain maximum effectiveness in extremely cold weather.

**SOURCE:** Command Report - 65th Engr Combat Bn

**DATE:** December 1952

**POOR MINE LAYING PROCEDURES.** - Plotting and location of friendly mine fields in the sector has been seriously hampered by inaccurate and inadequate original mine field reports, poor selection of topographic markers by the laying unit, and failure of laying unit to reference segments of mine fields, where necessary, to terrain features, roads, ruins, and other easily recognizable points on the ground. Ground reconnaissance has established that over thirty-five per cent of original mine field reports of this sector are inadequate to permit quick, accurate location of mine fields. Mine field doctrine if followed to the letter by experienced personnel is adequate under almost any situation to provide satisfactory mine field records, but it is not foolproof in the hands of the average Engineer company officer or noncommissioned officer who is exposed to its practical application in combat for the first time.
The most prevalent errors in recording can be traced to the following factors:

a. Many mine fields are referenced to topographic markers which do not appear on topographic maps. It is not uncommon to find a "tree with drift pin at base," "cluster of three trees," "large rock by stream" used as a landmark. The only satisfactory topographic marker is a terrain feature or other landmark which appears on existing maps and is permanent in the sense that it will not be completely obliterated by artillery fire, Engineer construction or other factors. It must be easily recognizable on the ground and be free of confusion with other nearby landmarks.

b. Coordinates stated should be eight digit coordinates. Every mine field report should contain the description of the map to which it is referenced, to include map series number. Mine fields should not be referenced to maps of smaller scale than 1:25,000. Many mine fields have been hard to locate because small scale (1:50,000) maps were used, six place coordinates were given, and map information was not stated in the report.

c. Frequently azimuths have been recorded inaccurately on mine field reports. The solution to this appears to be indoctrination in the use of the compass. It would be advantageous to have compass readings taken by at least two persons, where possible, with a compass known to be accurate.

d. Recorded distances on mine field reports are often no more than estimates. The record should state whether recorded distances are determined by chaining or pacing.

e. Contour overlays of the map to which the mine field is referenced showing the exact location of the mine field, auxiliary marker, and topographic marker should accompany each mine field report. Map sheet number and series should appear on the overlay.

More stress should be placed on land mine warfare in the training of the Engineer officer and noncommissioned officer. Recording and deactivation techniques should be stressed.

OCAFF COMMENT: Revised land mine warfare program as enunciated by DA TC No 74, 1952, plans increased emphasis on mine warfare for all arms and services.
OVERSEAS DEPLOYMENT PROCEDURES. - In view of the high percentage of non-POR qualified personnel in General Reserve units, recommend that:

1. Such units be alerted for overseas combat at least six months prior to deployment date in order to organize newly assigned personnel into efficient operating sections and platoons.

2. Units being deployed for overseas combat be supplied with all authorized T/O&E items at the home station or receive the equipment at the port of embarkation for consolidated shipment overseas.

3. The advance party, sent by a unit to be deployed overseas, be authorized direct communication through the overseas headquarters with the parent unit in order to coordinate supply matters.

SOUND RANGING PLOTTING BOARD M1A1. - Most of the sound bases installed by the battalion are irregular rather than straight. The members of the sound platoons were insufficiently trained in reading records and plotting of irregular sound base recordings. Each observation battery is operating two sound bases with the equipment and personnel intended for operation of one sound base. This leaves no spare equipment available in case of breakdowns and reduces the number of operating personnel to a bare minimum, even in a static situation. The Sound Ranging Board M1A1 is not required, even when regular sound bases are used. The board weighs approximately 1,000 pounds when packed, is large and difficult to handle, and does not speed up the plotting of targets. It cannot be used with irregular sound base installations. The grid sheet method has been used with success.

SURVEY PLANNING. - Survey planning is an important phase of survey operations. Artillery officers are insufficiently trained in planning surveys. They do not realize the importance of vertical control and survey by triangulation and intersection in mountainous terrain.
Recommend that more emphasis be placed at The Artillery School on training artillery officers in survey planning, the importance of vertical control, and survey by triangulation and intersection.

(RESTRICTED)

SOUND BASES AND FLASH OBSERVATION. - Methods and procedures taught at The Artillery School, Department of Observation, are valid and are the ones being used in this theater. Recommend that more attention be given to instruction in irregular sound bases and difficult sound record reading.

SOURCE: Command Report - 40th Inf Div

DATE: December 1952 Source No 767

(RESTRICTED)

COMMENTS ON LABORATORY DARKROOM, AN/TFQ-7. - Two outstanding features of the new laboratory darkroom, AN/TFQ-7, are the stabilization process and the ion exchange. The stabilization process uses special chemicals and waterproof print paper which requires no washing or drying. The ion exchange with its water purification cartridges makes possible the continuous use of the same water used in the developing of film. With this new equipment, it will be possible to put a one-day service into effect for all photographic requests.

(CONFIDENTIAL)

CANISTER AMMUNITION FOR 57-MM RECOILLES RIFLE. - The division was given the mission of firing, under combat conditions, canister ammunition for the 57-mm recoilless rifle. Firing was conducted by front line regiments over a three-day period. The firing indicates that the ammunition is effective at ranges up to 150 yards, and that the canister ammunition is desirable.
INCREASING PRESTIGE OF NCO. - The present enlisted grade structure of the Army requires study at Department of the Army level with a view toward reducing the number of authorized NCO spaces. Four hundred thirty-nine of the six hundred thirty-four enlisted T/O&E strength of this battalion or 69.2% are authorized to be NCO's. It is readily apparent that there are not that many individuals who possess the qualifications desirable for noncommissioned leaders. This situation detracts from the prestige and strength of the noncommissioned officer corps. A system which provides for specialist ratings for positions which require technical proficiency, such as driver, cook, mechanic, clerk, radio repairman, and authorizes noncommissioned officer rank only for positions in the chain of command would go far toward restoring the prestige and authority of the noncommissioned officer.

STRUCTURAL WEAKNESS IN TRACTOR, M5, HIGH SPEED. - A structural weakness has been noted in the suspension system of the M5 High Speed Tractor which is issued as a prime mover. A crack has developed in six tractor (30% of those issued) around a manufacturer's weld which is just forward of the idler arm pivot shaft on the suspension frame. A complete break at this point will result in loss of the tractor and resultant possible wrecking of vehicle and towed load.

Recommend Ordnance study the weakness and modify or reinforce the suspension frame at this point.
(RESTRICTED)

DEVELOPMENT OF AMMUNITION WITH WEAPON-CLEANING QUALITIES. - Failure of troops actively engaged on the front lines to keep weapons properly cleaned has resulted in damage to weapons and malfunctions which prove costly in time of battle.

The development of noncorrosive primers and anticorrosive or rust preventive additives as a part of each round could eliminate cleaning as a daily chore. It is visualized that each round could be so designed and manufactured that, when fired, a protective residue would be deposited on the bare metal surfaces of the bore and gas cylinder. This coating would provide protection against oxidation due to moisture.

With such an ammunition in use, less cleaning would be required and normal neglect would be less damaging. Fewer cleaning tools and materials would be necessary, and less critical materials, particularly stainless steel, would be used in manufacture of the weapons.

Recommend that Army Field Forces agencies consider the development, manufacture, and field testing of such ammunition for combat use.

(RESTRICTED)

155-MM HOWITZER FUNCTIONING IN COLD. - Though temperatures near or below zero were common during the month, no problems which materially hindered operation of the howitzers could be traced directly to the weather. Alcohol had to be added as an antifreeze to the swab water for the powder chamber, and trail spades were greased to prevent them from freezing fast to the ground. During heavy firing one night when the temperature registered near zero, several guns equipped with neoprene gas check pads in the breech assembly went out of action after fifty minutes of continuous fire when the pad expanded, spreading the split rings, and preventing the breech from closing. The forty
round per hour maximum rate of fire for the 155-mm howitzer was not exceeded. The breech assemblies were torn down, the check pad replaced with one of the fiber type, and the piece was returned to action. No further troubles were encountered with these pieces for the remainder of the night while using the old type gas check pad.

SOURCE: Command Report - 35th Inf Regt
DATE: January 1953

(RESTRICTED)

TEST FIRING OF HAND ROCKETS, T-73 (Illuminating). - This regiment test fired three hand-held rockets, T-73 (Illuminating), contract #D4 28-017-ORD-1432. Comments on these rockets follow:

(1) The outer can is waterproof and the key arrangement is simple and quick to use. Instructions are clear and simple to execute.

(2) At time of detonation there is a slight kick-back and the sound of a small rocket being fired. A red trail is visible from the rocket as it ascends toward the sky. Time of flight prior to illumination is five seconds. Time of illumination is forty seconds.

(3) The use of such items on patrols would eliminate the need for changing ammunition at critical times. In cold weather these changes become extremely difficult.

(4) This signal flare should be developed in all the standard colors and types.

Recommend that these hand-held rockets be made available in sufficient quantities for use in the field.

SOURCE: Command Report - 38th Inf Regt
DATE: December 1952

(RESTRICTED)

EMPLACED FLAME THROWER EMPLOYMENT. - Experience indicates that the emplaced flame thrower should not be used on outpost
positions. The susceptibility to damage by enemy fire, all-around infiltration tactics of the enemy and the danger of its use in close-in fighting appear to eliminate any tactical advantage that this weapon presents. Instead, the portable flame thrower with its compactness and maneuverability would be a definite asset to the defense of an outpost.

SOURCE: Command Report - 8169th AU, Sig Svc Bn
DATE: January 1953

(RESTRICTED)

EFFECTIVE PROTECTION FOR COAXIAL COUPLINGS - SIGNAL EQUIPMENT. - This battalion has been endeavoring to determine a more efficient means of eliminating trouble in coaxial couplings ascribed to climatic conditions. Past experience has revealed that attempts to eliminate this trouble with ordinary rubber or friction tape or combinations of rubber and friction tape are fruitless. Experiments with "Bi-Seal" rubber tape, type #2, stock number 6N-9201-14, nonadhesive, polyethylene rubber and rosin composition, 3/4 inch wide, have proven highly successful. A coax coupling, protected by this tape, has been submerged in water for a period of fourteen days, after which tests with a megger showed absolutely no defects in transmission qualities. Again submerging the protected coupling, and subjecting it alternately to freezing and thawing temperatures, further tests with a megger indicate the transmission qualities have in no way been affected by the severe changes in atmospheric conditions.

Recommend that an authorization of twenty rolls of Bi-Seal rubber tape, type #2, stock number 6N-9201-14, nonadhesive, polyethylene rubber and rosin composition, 3/4 inch wide, be included in the Table of Allowances for each Signal Radio Relay Company.

SOURCE: Command Report - 82d AAA AW Bn (SP)
DATE: January 1953

(RESTRICTED)

SOLENOID AND SOLENOID CABLE. - The plastic insulation for the top plate solenoid cable is not reinforced at the collar of the coupling, and the insulation breaks there quite soon after installation of the cable on the gun. This is especially evident in cold weather. Shorting out
occurs even though steps are taken in an attempt to prevent entry of oil and moisture. Extending the collar to provide support for the cable has increased the life of the cable, but has not proven completely satisfactory due to the brittleness of the insulation in low temperatures. An armored cable has been developed by the Ordnance maintenance company and has proven successful, although eventually the soldered connections between the flexible sheathing and the coupling were broken. A reinforced brazed connection would provide a more sturdy connection between the flexible sheathing and the coupling. The sheathing used is speedometer cable from vehicles being evacuated. The top plate solenoid frequently is out of adjustment due to vibration during sustained periods of firing.

Recommend that consideration be given to the development of a more satisfactory solenoid cable and to the installation of a locking device to prevent loss of adjustment of the solenoid due to vibration.

SOURCE: Command Report - 196th FA Bn
DATE: December 1952

(RESTRICTED)

UNsuitability of M5 Tractor. - During tactical operations involving movement it was found that the tractor (13-ton, High Speed, M5) is not suitable for the type weather and terrain encountered in this area. The M5, due to low flotation factor, slips dangerously on steep ice-covered mountain roads and trails. Mobility is lost due to the slow speed the tractor must attain to pull the long grades, reducing road speed to an average of five miles per hour. Since this tractor is designed for high speed operation the slowness of travel causes excessive overheating and clutch slippage. The loss of cargo carrying vehicles to the battalion due to use of tractors overburdens the wheeled vehicles used for logistical support.
SUBJECT: Dissemination of Combat Information

TO: See distribution

1. In accordance with SR 525-85-5, Processing of Combat Information, the inclosed EXTRACTS are forwarded for evaluation and necessary action. It may be appropriate, in certain cases, to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and often the extracted item serves to reaffirm our doctrines and techniques.

2. Copies are furnished to other military agencies to keep them informed concerning theater problems from the front line through the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office assigns each extracted item the lowest classification compatible with security.

4. Combat information EXTRACTS which are applicable to training at the company-battery level appear in Army Field Forces TRAINING BULLETINS. Portions of EXTRACT Source No 790 portraying Infantry actions will appear in greater detail in an early Bulletin.

FOR THE ACTING CHIEF OF ARMY FIELD FORCES:

A. B. CHATHAM
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SOURCE: Command Report - 73d Tank Bn (M)

DATE: March 1953 Source No 777

(RESTRICTED)

RETRIEVING TANKS. - Combat operations are habitually forward of the MLR, and generally on soft, mushy ground found in rice paddies. Rapid recovery of disabled tanks under enemy fire necessitates utilization of other operative tanks for retrieving. Normally this mission is assigned to the M32 retriever in company and battalion maintenance sections. However, the M32 with the narrow track and 500 HP engine is not capable of handling an M46 tank except on good firm ground. Our policy is to have all tanks operating forward of the MLR equipped with two tow cables. In operations larger than two platoon size, a company is required to borrow cables from another company. It is not unusual to have to use three or four tanks in tandem to drag one immobile tank back to the MLR. The prompt recovery of a single M46 tank is far more valuable in terms of both combat efficiency and supply economy than the cost of the cables. It is practicable to include an additional cable in the OVM of the M46 tanks.

Recommend that SNL G-244 be changed so as to allow two S-C-482-100 cables, towing, S, diameter 1-1/8-in, length 20 ft, for each M46 tank instead of the one presently authorized.

SOURCE: Command Report - 32d Inf Regt

DATE: January 1953 Source No 778

(CONFIDENTIAL)

MALFUNCTIONING OF CARBINES. - The carbine is unsuitable for cold weather use by night patrols in Korea because of its excessive malfunction rate. In spite of cold weather precautions, test firing, and inspections, the malfunctioning rate remained at nearly 50% on cold nights. Action was taken to obtain submachine guns for use in night patrolling, but these weapons were not available.

(CONFIDENTIAL)

PATROLS. - During the month, the regiment conducted 77 night combat patrols, 63 night reconnaissance patrols, and 33 daylight reconnaissance patrols. The primary mission of all patrols was to capture
prisoners. Each battalion was directed to make a minimum of one patrol contact each night within the enemy's positions. All efforts to take prisoners were unsuccessful and friendly patrols came off second best in more than half of the engagements. This was attributed, in part, to the superiority of the "Burp Gun" over friendly armament in close-in fighting and the enemy's quicker reactions resulting from use of simple, pre-arranged tactics.

Lessons learned: A simple system of prearranged tactics should be taught night patrols operating in Korea to give them equality in reaction time to Chinese patrols which use such tactics extensively and with considerable success against our patrols.

A simple, reliable submachine gun is required for arming night patrols in Korea to give them fire power equality in close-in fighting with Chinese patrols armed with the "Burp Gun."

SOURCE: Command Report - 26th AAA AW Bn (SP)  
DATE: January 1953  
Source No 779

(REstricted)
DEFECTS IN 1/4-TON TRUCKS, UTILITY, M38A1. - Fenders of 1/4-ton trucks, utility, M38A1, are splitting where they join the main body of the vehicle and engine hood. Of the vehicles issued new to this battalion approximately two months ago, about fifty per cent are affected in this manner. Too much stress is put on the metal where the fender joins the body at that point. The battalion maintenance section is removing fenders which show indication of cracking, and welding a reinforcing piece of 1/16-inch stock metal to the underside in the region of the cracked fender, and then replacing the fender.

SOURCE: Command Report - 56th Amphibious Tank and Tractor Bn  
DATE: February 1953  
Source No 780

(REstricted)
TRANSPORTING A 105-MM HOWITZER IN AN LVT. - An experiment was conducted, with the cooperation of the 63d Field Artillery Battalion, in loading and transporting a 105-mm howitzer in an LVT. The
insufficient width of the well deck of the LVT necessitated the removal of
the shield and substituting shorter wheel lugs before the howitzer could be
loaded. The howitzer and fifteen men aboard the LVT caused a drop in
the water line of about four inches. There was no noticeable change in
speed.

OCAFF Comment: LVT's come in various models, and measurements should be made prior to any modification of the howitzer.

SOURCE: Command Report - 64th Tank Bn (M)
DATE: January 1953

ORGANIZATION OF TANK BATTALION, INFANTRY DIVISION.

The organization of the medium tank battalion organic to the armored
division is more desirable than that of the tank battalion organic to the
infantry division, in that the former is organized with four letter tank
companies of three platoons each while the latter has three tank companies
of four platoons each. The undesirable feature of the tank battalion, in-
fantry division, is the four platoon tank company.

The four platoon tank company places an unduly large burden on the
company commander, both tactically and administratively. In a tactical
situation, the control of four platoons is a difficult job for one individual,
considering the area occupied by the unit in offense or defense, the length
of the column when on the march, plus communications difficulties normally
experienced. Administratively, the problems involved in the supervision,
feeding, vehicular maintenance, and other command responsibilities for
four platoons plus the company headquarters, are considered to be exces-
sive. The battalion commander, with his adequate staff, is better equipped
to handle four subordinate tactical units than is the company commander.

The four letter company tank battalion would be more suitable from
the point of view of the infantry division commander, in that an additional
tank company could be placed with each of the two committed regiments,
and still leave the tank battalion headquarters with two letter companies
available for use as division reserve, or to provide the nucleus of a com-
bined arms team.

Recommend that the tank battalion organic to the infantry division
be organized in the same manner as the tank battalion, armored division,
namely, with a Hq & Svc Co, Med Det, and four letter companies of three platoons each.

SOURCE: Command Report - 3d Div Arty
DATE: January 1953

(RESTRICTED)

AN/MPQ-10 RADAR FOR DIRECT SUPPORT BATTALIONS. - Superiority of the Countermortar Radar Set (AN/MPQ-10) over its presently issued counterpart has been conclusively demonstrated.

The countermortar effort begins in the direct support artillery battalion. Here are both the most rapid communications and the most efficient weapons for dealing immediately with the active mortars within range of the supported infantry. Studies show that mortars are responsible for a very large percentage of the total infantry casualties.

(RESTRICTED)

DIFFICULTIES WITH COAXIAL CABLE (CORD, CG107/U). - The following difficulties have been experienced with the Coaxial Cable Cord (Cord, CG 107/U) which is a component of the Antenna Equipment (RC 292) issued with the 500 and 600 Series FM Radios.

a. In the mountainous terrain of Korea, antennas frequently must be placed at great distances from the radio set in which case the 68-foot length of cable is inadequate.

b. Under field conditions, the fittings of the cable are subject to rather frequent breakage.

c. Repair of broken or shorted cable is a tedious and exacting job requiring a highly skilled signal repairman frequently not available to artillery battalions and sometimes even divisional signal companies.
SNIPERSCOPE, M2 and M3. - Numerous opinions have been expressed concerning the relative merits of the sniperscope as an effective aid in night combat. Although the theoretical effectiveness of the sniperscope is unquestioned, it is not used extensively on the front lines. One reason for this lack of interest is the poor results obtained from the sniperscope when operated by untrained personnel. The full capabilities of the scope cannot be realized until operators and maintenance men are properly trained in its use and maintenance. An intensive training program in the operation of the scope is needed to obtain its maximum efficiency. Sufficient numbers of men should be trained in each rifle company to insure the presence of a trained operator on each outpost and patrol forward of the main line of resistance. Regiments have found that trained operators are very enthusiastic over the employment of the scope on patrols and outposts.

There are two models of sniperscopes, the M2 and M3. The M2 is relatively ineffective under combat conditions. It has a range of only 25 yards, while the M3 has a range of 100 to 200 yards. The infantry battalion is authorized 29 M3 sniperscopes; however, few battalions have even half of the number authorized them due to a failure to replace the M2 sniperscope with the authorized M3.

The difficulty in obtaining replacement parts for the scope causes a serious maintenance problem. The BB241/U is the battery originally designed to operate the scope. It is small, has a nonspillable feature to prevent the sulphuric acid from leaking and holds a charge from 6 to 10 hours when in good operating condition. The average life of this battery is about 50 recharges. The BB241/U is unobtainable as a replacement item, and the BB54/U is often issued in lieu of the BB241/U, which is not an adequate substitute. It is too large to fit into the standard battery case of the sniperscope, the sulphuric acid leaks out when carried on the back of the sniperscope operator, its power life is only about 2 to 4 hours, and it is a two-volt battery. Three batteries must be fastened together to gain the required six volts, which results in a cumbersome and unsatisfactory battery pack.
Considerable trouble was encountered during the winter months with the freezing of the wet cell batteries. The men in this regiment have effectively overcome this obstacle by warming the batteries with PX pocket warmers and wrapping the battery case with blankets.

Although the sniperscope M3 is a highly perfected item of equipment, its effectiveness is restricted by the above-mentioned factors. To bring about an improvement in its operation, recommend the following:

a. Intensify training in the use of the sniperscope in the ZI.

\[\text{OCAFF Comment: The issue of the sniperscope to CONUS GR units as authorized in SR 310-30-55, 15 December 1952, and contemplated changes to ATP 7-300 will provide sniperscope training in units of this type during advance individual and basic unit training. In addition, CONUS arms schools and The Engineer School offer courses to officers and enlisted personnel which include mechanical training, firing and/or maintenance of sniperscopes. Sniperscope training is not covered in ATP's for replacements as it is specialized.}\]

b. Accelerate the replacement of all M2 sniperscopes with the newer M3 so that full benefit can be obtained from the primary purpose of the scope - to detect the enemy at night.

c. Make the authorized battery, BB241/U, and other replacement parts for the sniperscope more readily available to the units in Korea.

\[\text{OCAFF Comment: A disposable type, one-time use battery (copper chloride) is being developed to replace the above mentioned unsatisfactory batteries.}\]

SOURCE: Command Report - 10th Engr Combat Bn

DATE: February 1953

NAPALM ARTILLERY AND MORTAR SHELLS. - There are essentially three types of rock in this area: very hard basaltic formation, granite in various stages of decomposition, and fractured limestone and sandstone. Defensive works dug in basaltic formations require no timber support because of the hardness of the rock. However, defensive works built in decomposed granite and most sandstone and limestone formations
will require timber supports. From the air it is possible to pick out the type of formations that the defensive works are constructed in, and where the enemy has conducted logging operations. This is important, because some of the higher peaks have the softer formations on northern slopes where the enemy has extensive works and the most vulnerable point of these works is the timber as it is more combustible than the heavy dimensional timbers available to the UN forces.

Napalm has been used on defensive positions in air strikes with varying degrees of success. White phosphorus is used by artillery but it lacks the physical properties that enable it to flow into openings and spread fire since it is a solid and lacks the ability to produce the intensity of heat that napalm has.

It is important to ignite overhead timbers used by the enemy to cover the trenches leading to caves which are the vital part of the defense works. All underground living bunkers, ammunition bunkers and gun positions have natural ventilation which will spread fire quickly in the same manner fire spreads in a mine.

If artillery and mortars had napalm-filled shells that could be fired in concentrations on a defensive network, enough of the napalm would reach the vital parts to start the burning of the supporting timbers. There are few points on the defensive works facing the Division that artillery cannot reach. A steady pounding would soon burn them out of the bulk of their defense works. Air strikes are few and dependent on weather as well as availability of aircraft.

**SOURCE:** Command Report - 49th FA Bn

**DATE:** February 1953

**Source No 785**

(RESTRICTED)

**USE OF FO'S ON PATROLS.** - Since the principal activity of the infantry in the present situation is patrolling, particularly at night, emphasis must be placed on providing close artillery support by furnishing artillery FO's to accompany combat patrols. Patrol contact with the enemy is frequent and virtually every patrol (three per night in each regimental sector) requires an artillery FO. It is not feasible, however, to put a commissioned FO with each patrol, because that strips the MLR of necessary qualified observers and too frequent patrolling by one individual places an undue physical strain on him, by limiting the amount of rest he receives.
The solution is to alternate reconnaissance sergeants with commissioned FO's on patrol duty. However, the majority of reconnaissance sergeants are inexperienced men usually in the grade of PFC or corporal who must be trained on the job.

Recommend that more emphasis be placed on the training of artillery enlisted men in the adjustment of artillery fire.

OCAFF Comment: Another solution is the training and use of infantrymen to adjust and use artillery as outlined in FM 6-135, "Adjustment of Artillery Fire by the Combat Soldier."

UNIT ROTATION. - The system of individual rotation to CONUS presents a continuing training problem. Very few replacements received are trained for key MOS positions, whereas individual rotatees are in most cases in key positions, though not necessarily fully qualified. The positions must be filled by recently arrived personnel who have had only basic training and a small amount of on-the-job training. As soon as the individual has reached his own peak of efficiency, which is not necessarily the desired standard, he becomes eligible for rotation. If the Korean conflict continues indefinitely, consideration should be given to a system of unit rotation to provide practical experience for previously trained units.

Recommend that consideration be given to a unit system of rotation to replace the present system.

OCAFF Comment: The need for providing practical experience for replacements is recognized. Initially, steps are being taken to provide unit training for infantry junior officers and enlisted replacements as well as provision for shipment of small infantry packets overseas.

SOURCE: Command Report - Eighth Army
DATE: December 1952

MEDICAL SERVICE RECOMMENDATIONS. - a. That military medical technical intelligence teams be organized and assigned to field armies on the basis of one per corps and one per army.
b. That additional mobile medical units be prepared to move to and support Eighth Army on very short notice.

c. That preventive medicine companies be included in plans for medical troop lists on the basis of one per corps and one per army.

d. That a small medical research headquarters, headed by a technical research specialist, be organized and stationed in Eighth Army area. This research headquarters could act as an advisory group to the Army Surgeon, and at the same time, evaluate and coordinate the activities of the several research teams constantly in the army area.

e. That an investigation be made concerning the possibility of securing outstanding personnel to serve as chiefs of service in Army hospitals for short tours of six months to one year. These individuals should be carefully selected, marked for particular jobs, and placed on active duty at the latest possible time to fill the positions, thus reducing the time spent in a casual status.

f. That the question of utilization of electrocardiograph machines in mobile units be decided; if these machines are required, one should be developed which is sufficiently sturdy to withstand rugged mobile use.

OCAFF Comment: A requirement for an electrocardiograph machine in mobile units exists; the development of a suitable machine for field use has been in progress for some time and should be ready for procurement in the near future.

g. That air pillows be furnished to medical units since such action will cause a considerable reduction in the number of blankets now used for that purpose.

h. That packaging of intravenous solutions be improved to prevent the present 20 to 25 per cent breakage encountered.

i. That a more suitable mobile X-ray unit be developed.

(RESTRICTED)

IDENTIFICATION OF LIGHT AIRCRAFT. - The number of hostile or unidentified light aircraft reported over the MLR has recently increased; several unsubstantiated reports have claimed sightings of aircraft similar in design or with markings resembling those of UN liaison planes at approximately the same time enemy propaganda leaflets were dropped. These reports in themselves do not offer cause for alarm. However, it
is conceivable that the enemy may adjust artillery from air OP's, and such action would be of definite concern. Since many Army liaison type aircraft operate in forward areas under conditions which preclude positive identification, action to institute countermeasures against reported hostile aircraft is delayed and often ineffective, due to the extreme caution required to assure the safety of friendly aircraft.

The possibility of enemy utilization of light aircraft has brought out the weakness of the present identification system, and indicates that a study should be initiated to determine a means of devising a positive identification system.

Fifth Air Force has suggested that a system of distinctive markings such as wing or fuselage stripes, which could be changed periodically, be considered. This suggestion was not considered feasible because of the large number of man hours that would be required in painting and removing paint from over 400 aircraft with the frequency necessary to provide adequate security. This system of identification should not be considered unless there were substantiated instances of the enemy using US Army type aircraft and all other means of identification had failed.

The Air Force has used electronic IFF equipment for over nine years successfully, and it is probable that only a limited amount of additional research would be necessary to adopt this equipment for Army aircraft use.

Recommend that a study be made by Army Field Forces covering the requirement for a positive means of aircraft identification. Further recommend that a study be conducted to determine countermeasures which would be effective against usage of aircraft resembling US light planes by hostile forces.

OCAFF Comment: A study is being prepared on requirements for air traffic control of Army aircraft, which will recommend procedures for identification of Army aircraft. IFF equipment is being developed which will be suitable for use in Army aircraft. The procedures and equipment being developed should provide a positive means of Army aircraft identification.
DIVISIONAL ARMY AVIATION ORGANIZATION. - A comparison of the various Army aviation organizational structures currently established in the US Divisions in Korea follows: At present the 25th and 7th Infantry Divisions operate a division headquarters section and a division artillery section; the 3d Infantry Division has centralized control under the division artillery; the 2d and 45th Infantry Divisions have centralized control under the division headquarters; and the 40th Infantry Division is operating with a provisional aviation company. The 2d and 45th Aviation Sections are planning to reorganize in the near future as provisional aviation companies. The consensus was that a single organization with its resultant centralized control gives the maximum efficiency of operation and economy with no sacrifice to the support given to any of the subordinate units of the division.

Recommend that steps be taken at Army Field Forces level to incorporate the centralization of Army Aviation, with a sound command structure, into T/O&E's.

ÓCAFF Comment: Studies prepared on this subject in the past have not established that centralized Army aviation in the division meets the requirements in all types of operations. Recommendations of Eighth Army will be considered in a review of organization of Army aviation within divisions, corps, and armies, to be prepared by this Office during June, July, and August 1953.

ARMY AVIATION AIR DROP TEST. - Prior to completing an SOP for emergency air lift using the cargo carrying capabilities of the L-20 type aircraft, a test was conducted to obtain detailed load and time factors. The test consisted of free fall delivery, without special packaging, of essential Class I, III, IV, and V combat items. The supplies were accurately delivered at a minimum flying speed (approximately 55 knots) from altitudes of approximately 25 to 35 feet. A total of 1800 pounds of supplies were tested with 800 pounds on a hard surface area and 1000 pounds on plowed area. Results follow:

a. QM - Class I and III. Material was 100% usable. Combat rations, even though reinforced only by banding, were undamaged. Five-gallon cans though slightly bent could be opened. None were ruptured.
b. Ordnance - Class V. Material estimated 95% usable. Some small arms ammunition clips were slightly damaged. 81-mm mortar ammunition was 100% usable.

c. Medical - Class IV. The material dropped which ranged from blankets to blood was 80% usable. After the test, Medical officers stated that simple proper packing would result in 100% usability of dropped items.

d. Chemical - Class IV. Gas masks were 100% usable even though dropped on a hard surface in individual containers.

SOURCE: Command Report - Eighth Army

DATE: September 1952 Source No 788

(REstricted)

TOWING PINTLE FOR TANKS. - There have been a number of reported cases of sheered towing pintle assemblies (Part number 7070476 of group 1503) for tanks, medium, M46. This towing pintle is designed for use in towing trailers rather than other vehicles.

The problem of sheered towing pintle assemblies for M46 tanks can be avoided if, when it is necessary to use one tank to tow another, towing cables attached to towing hooks or shackles are used in lieu of a towing bar.

Three pintles, towing assembly, G150-7714878, were broken on M32 tank recovery vehicles while towing M46 tanks. On one occasion, a pintle broke while an M46 tank was being towed up a hill. The tank rolled approximately 600 yards down a 40° slope; no casualties or damage to the tank resulted. The weak point of the pintle assembly is the shaft.

SOURCE: Command Report - Eighth Army

DATE: August 1952 Source No 789

(REstricted)

NEW CHINESE FUZE FOR 120-MM MORTAR. - The old type No 10 mortar round has a right-hand thread in the fuze well. This new fuze has a left-hand thread. The fuze body is aluminum with a brass ring which
holds the striker. The fuze is point-detonating with a bore-safe arming pin. It is used in the 120-mm short-type No 10 mortar.

The components are: aluminum striker head, striker anti-creep spring, striker retaining pin, striker, safety wire, collar retaining pin, bore riding pin spring, bore riding pin, primer (US Cal .30), and detonator.

To arm the fuze the safety pin is first removed. The nose piece is unscrewed in a clockwise direction until the bore safety pin is free. The loader's hand is held over the bore riding pin until the round is dropped into the tube. When the round leaves the tube the bore riding pin flies out of the fuze due to spring action. The anticreep spring keeps the striker in place. Upon impact the striker head moves inward forcing the striker into the primer cap. The primer ignites and sets off the detonator.

(RESTRICTED)

NEW TYPE ENEMY 82-MM MORTAR ROUND. - Several of the new type 82-mm mortar rounds have been found along the front. These rounds differ from those previously found in several respects:

a. The HE filler for the round is flaked TNT instead of cast TNT.

b. The round uses the Chinese universal fuze although there are no Chinese markings on the shell. The markings on the can are the same as on the shell.

c. The method of packing the round is much improved. One complete round with the fuze and ignition cartridge assembled is vacuum packed in a metal can along with 6 increment bags and firing tables. Three cans, which are opened by a winding key, are packed three to a wooden box. The can is 13-9/16-inches long and 3-1/2-inches in diameter. It has a fiber liner on the inside and felt pads at each end. The round is painted green with yellow markings, and has a light coat of oil.

(RESTRICTED)

STAFF STATUS OF EIGHTH ARMY AVIATION SECTION. - A study has been initiated to determine whether this section should be continued as a special staff section or be established as a section under the G-3 as outlined in T/O&E 51-1A, April 1952. Arguments in favor of the aviation section being retained as a special staff section are:

a. The widespread functions of the aviation section fall within the coordinating responsibilities of all general staff sections and not one specific general staff section.
b. The aviation section can be retained as a special staff section within the same troop strength authorized an aviation section under the G-3 section (provisions T/O&E 51-1A, April 1952).

c. The aviation section can accomplish its mission more effectively and efficiently as a special staff section than as a section under G-3 since doctrine as outlined in FM 20-100 states that the aviation officer is responsible directly to the commander.

d. The continuance of a special Army aviation staff section becomes more essential to the efficient operation of Army aviation in Eighth Army as Army aviation activities continue to expand.

SOURCE: Command Report - 7th Inf Div
DATE: January 1953 Source No 790

(Restricted)

Air-ground operation. - The purpose of the operation was to improve air-ground coordination and capture prisoners. An infantry company was to execute a raid using one rifle platoon as the assault element, the other two rifle platoons to be used only if necessary. The objective was a hill of the T-Bone complex, just north of Hill 200 (see sketch).

The Air Plan was designed to soften the objective area and neutralize enemy artillery positions. Air Plan "A" called for a flight of 24 fighter-bombers on request of the Division Commander on D-Day. Plan "B" included a flight of 8 aircraft on JOC strip alert; they would come under the control of the Division Tactical Air Control Party after reporting in the target area. Four fighter-bombers on air alert to engage targets of opportunity was Plan "C." In addition, two elements of 4 aircraft each were to make smoke runs just prior to the raid.

Artillery supporting the action prepared two schedules to be fired on call of the Infantry Battalion Commander; one was to be utilized if the air support went according to plan and the other if the air strikes were unsuccessful. A total of 78 light tubes and 32 medium tubes for support and 36 mixed medium and heavy tubes of corps artillery for counterbattery were available.
Armor plans included direct and diversionary support by eight platoons of tanks. Diversionary efforts by armored elements were scheduled to begin 30 minutes prior to H-Hour for the infantry.

Nine rehearsals were held by the infantry assault element, and briefings were conducted for air and ground force personnel to round out preparations for the operation.

A ten-day artillery destruction program expending 5039 mixed rounds was fired prior to the raid. Air preparation consisted of 16 radar sorties in the immediate objective area from D-2 to D-Day and a total of 99 fighter-bomber sorties flown on D-1.

The Action:

At 0920 hours on D-Day, the first prebriefed flight of Plan "A" aircraft were placed on a target north of the objective. The strip alert flight of Plan "B" aircraft arrived on station at the requested time, 1050 hours, and hit its target -- also north of the objective. At 1250 hours, a prebriefed flight of 8 aircraft attacked the objective with 1000-pound general purpose bombs and napalm; no general purpose bombs and only one napalm bomb hit the objective. The Infantry Battalion Commander called for the first flight of Plan "C" aircraft when he realized the objective had not been hit. The request was made to the Mosquito TAC but did not reach either TAC or the G-3 Air. At that time the request could not have been filled as the flight was not due until 1330 hours. The smoke aircraft made their runs, but due to a strong wind and a slightly premature release by the second 4-plane element, the smoke covered only a small part of the western portion of the crossbar of T-Bone Hill.

Two diversionary tank efforts of one platoon each were launched with the mission of drawing fire at approximately 1230 hours, one hour before H-Hour for the infantry.

At 1330 the assault rifle platoon (2d Platoon) on M39 personnel carriers moved out. The other two rifle platoons were held ready for use if needed. Led by one platoon of tanks, the 2d Rifle Platoon crossed the line of departure as the artillery, tank and mortar preparatory fires covered the objective; artillery smoke rounds were reinforcing the aircraft-laid smoke screen.

Upon arrival at the off-carrier position, the irrigation ditch at the base of the objective, the assault force had received no artillery, mortar
or automatic weapons fire. While organizing for the assault in the irrigation ditch, two members of the force were wounded by enemy automatic weapons fire which was placed on the raiders from south of the objective. The remaining members of the platoon took up their assault formation quickly and began to advance up the barren, artillery-battered objective. Artillery, mortars, and tank fire then lifted from the objective and shifted to the north in order to neutralize enemy fire and prevent observation from this area. Tanks deployed at the base of the objective continued their fire on enemy positions on and near the objective.

Two rifle squads as skirmishers led; the remaining two squads followed in column at the flanks. One of the two latter squads had the mission of capturing prisoners and the other was the weapons squad.

Moving rapidly up the slopes, the platoon encountered only sporadic harassing automatic weapons fire from Hill 200.

On reaching a point just below the military crest of the objective, the two leading squads were suddenly met by a heavy volume of hand grenades from a trench at the top of the hill; this caused the force to seek cover just below the crest where they were defiladed from enemy automatic weapons fire from Hill 200 and from a position north of the objective.

Urged forward by the platoon leader and platoon sergeant of the 2d Platoon, one of the flamethrower teams crept forward under the hail of grenades and fired a long burst into the trench. While the flame was spraying the trench the enemy hand grenade fire ceased completely. Members of the assault element had been rehearsed to follow the flamethrower operator and storm the objective. The numerous casualties inflicted by the intense Chinese hand grenade fire blunted the attack of the friendly forces and they failed to reach the trench.

A green smoke grenade, the prearranged signal for "friendly troops at this location" was thrown at this time. The Chinese, apparently observing the green smoke, tossed a red grenade to the vicinity of the prone assault force. This colored smoke happened to be the friendly prearranged signal for "tank fire at this location." Because of panels, prominently displayed on the backs of the assaulting force, the tankers could see the friendly troops at that point and did not fire.

Two more unsuccessful assaults were made and the grenade fire fight continued. At 1430 the 1st Platoon, waiting in support, was committed with orders to pass through the 2d Platoon and seize the objective. They
crossed the irrigation ditch under enemy fire and moved to the vicinity of the 2d Platoon. The Chinese grenades coming over the crest were still the principal concern of friendly elements. The 1st Platoon leader, the platoon sergeant and the assistant platoon sergeant were wounded by grenade fragments in attempts to encourage an assault. The only flamethrower with the platoon was knocked out by enemy grenades. The 4th squad leader took command and re-formed the platoon for another attempt to move through the continuous hail of grenades; this assault was also repulsed.

Meanwhile, the 3d Platoon moved to the base of the objective to reinforce. The platoon leader preceded his platoon to reconnoiter and was wounded. The platoon sergeant took command. The 3d Platoon's assault attempt was unsuccessful because of the continuous rain of grenades from the enemy strongpoint and the harassing automatic weapons fire from both flanks. The remaining elements of all three platoons surged forward slightly in two additional attempts to storm across the objective, but these efforts were disorganized and unsuccessful.

The Company Commander reported at 1710 hours that his company was unable to take the objective; therefore the Regimental Commander gave the order to withdraw with all casualties. Preplanned supporting fires covered the withdrawal. The company closed the MLR at 1755 hours; tanks closed at 1845.

Over 80% of friendly casualties as a result of the operation were caused by grenade fragments or concussion.

7th Inf Div Comments:

Artillery -- Air

Artillery and air preparations were not effective on the objective. The enemy took cover in his well prepared trenches, caves and "cat holes," and returned to his battle positions when preparatory fires lifted. The frozen ground strengthened the enemy positions. Heavier ordnance and delay fuzes would have been effective.

Dispersion of effort and insufficient number of sorties reduced air effectiveness on the objective. Aircraft available on air alert could have struck the objective when the prebriefed flight failed.
Infantry

This action underscored the necessity of applying well known basic principles.

a. Fire and maneuver and striking the enemy from more than one direction while he is under continuous fire reduces his defensive capability.

b. Leaders must train their units so that they need not unnecessarily expose themselves. Only in exceptional cases are new leaders discovered on the battlefield in time to lead the unit to success.

c. The need for maximum use of organic supporting weapons was emphasized. Close support fire from 60-mm mortars, 57-mm recoilless rifles, 3.5-inch rocket launchers, and machine guns fills the gap from the time the artillery and tank fires lift to the time the infantry closes on the objective.

Counterbattery -- Countermortar

Comprehensive counterfire programs resulted in almost no enemy mortar or artillery fire on the infantry until friendly suppressive fires ceased.

Above all, this action demonstrates the necessity for continuous training of all arms in the planning and execution of combined and joint operations.

Critique by Participants (From Historical Manuscript, Military History Det, AFFE):

The TACP observed that the coordination between the artillery and the Air Force was excellent. WP shells used for target designation were easily seen by the fighter-bomber pilots. The artillery flak suppression fires greatly facilitated low altitude bombing.

The Tank Company Commander mentioned that in all operations incorporating armored units alternate routes should be planned, especially when passage of streams or roads is involved.

An infantryman brought out that each time a pyrotechnic grenade was activated to indicate a target to the tankers in the valley, the grenade rolled down the steep slope to below the lead element of the assault platoon.
When this happened, the tanks fired on the spot where the grenade came to rest. The platoon leader of one of the tank platoons, asserted, that at no time did his platoon ever fire on such a target if they could observe panels ahead of the smoke.

Prior to the action every tank had been assigned a specific target area with point targets within the area. Because of the large amount of smoke and dust which enveloped the area, it was virtually impossible to locate the enemy positions after the action got underway.

The Infantry Battalion Commander stated that the ineffectiveness of the supporting arms was definitely an important cause of the failure of the infantry unit. Also, the infantry bunched up as the hill came to a point. An aggressive attack on a wider front would have entertained more possibility for success. Although the company had a good reputation for combat effectiveness, the men who participated in this action were for the most part green; for some it was their first taste of battle. The men needed continuous "aggressive leadership." The success of this operation was doomed when the platoon leaders and sergeants were wounded early in the action.

An analytical study of the battle casualties revealed that the small arms and automatic weapons' fire emanating from the flanks of the objective was harassing rather than destructive fire. The number of wounds suffered from gunshots was negligible compared to those from grenade fragments. Although the small arms fire from the adjacent hills was harassing rather than destructive, it precluded the dispersion of the men on the objective and channelized the attack within the defiladed area between the two fingers.

Members of the support platoons revealed that they had but a vague idea of the route, scheme of maneuver, and mission of their unit. This situation contributed substantially to the failure of the reinforcing elements to move through the stalled platoons and take the objective.

Although the original assault platoon was thoroughly oriented and rehearsed for the operation, the reserve platoons were neither briefed nor rehearsed adequately. This is evidenced by the fact that it was necessary for the 3d Platoon Commander to reconnoiter the objective area before his platoon was committed.

Several members of the assault platoon felt that they had too many rehearsals and that an excessive number of rehearsals caused a rigidity
of action and a reduction of initiative. Their role in the operation had been so well inscribed in their minds that any deviation from the rehearsed plan did not occur or seem feasible to them.

The transferring of key men to the assault platoon from other platoons added a great deal of confusion during the attack and caused a feeling of dejection among some of the men. Members of a combat unit feel a certain comradeship among themselves. Because of this change in personnel, many of the men in the platoons were unable to recognize some of their superiors and subordinates readily.

In summary, the Regimental Commander reiterated that in the use of air power, at least 50% of the strikes should be used on the infantry objective.

\[OCAF\]F Comment: Air strikes were executed too far in advance of the infantry assault and were too dispersed to produce effective results.

Effective means of controlling air strikes and correcting errors in ordnance delivery were not provided.

Reliable communications were not available between the infantry unit and the tactical air coordinator.

Request for additional air support was not forwarded through the air-ground operations system.

Piecemeal commitment of the three platoons over the same route resulted in defeat in detail.

Means to improve training in attack technique are continually under study.

a. In February 1953, OCAF\[F distributed a guidance letter eliminating the use of hip and crouch firing with the rifle during assault firing and prescribing aimed shots from the shoulder during this vital phase of the attack.

b. OCAF\[F TM No 1, 22 January 1953 states that training with the use of supporting weapons will be stressed to the maximum.

c. DA TC No 14, 1952, "Battle Indoctrination" is being revised to better prepare the soldier for combat by stressing increased teamwork, confidence and competency in the use of weapons for close combat.
d. OCAFF TB No 2, 21 March 1953, is a guide to assist commanders in the preparation and conduct of tactical drill exercises to improve the standard of individual and unit performance in infantry squad, platoon and company tactical training.

e. It must be continually stressed in all attack exercises that the attacker follow closely behind his supporting fires and that when such fires are lifted, that he aggressively and rapidly continue his forward movement, utilizing his individual and crew-served weapons to the maximum.
1. In accordance with SR 525-85-5, Processing of Combat Information, the inclosed EXTRACTS are forwarded for evaluation and necessary action. It may be appropriate, in certain cases, to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and, often the extracted item serves to reaffirm our doctrines and techniques.

2. Copies are furnished to other military agencies to keep them informed concerning theater problems from the front line through the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office assigns each extracted item the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.

4. Combat information EXTRACTS which are applicable to training at the company/battery level appear in Army Field Forces TRAINING BULLETINS.

FOR THE ACTING CHIEF OF ARMY FIELD FORCES:

A. B. CHATHAM
Lt Col, AGC
Asst Adjutant General

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ITEM NO 1

AIR-GROUND OPERATIONS. - Fifth Air Force report on results of a 30-day test in which our fighters and artillery attacked the same target simultaneously is summarized as follows:

a. No friendly aircraft were hit by friendly artillery. A total of 679,075 rounds were fired which included 105-mm and 155-mm howitzer, 155-mm gun and 8-inch howitzer.

b. One aircraft was lost due to enemy flak out of 1816 fighter-bomber close support sorties flown. Former losses were 1 out of 380.

c. Thirteen aircraft were damaged by enemy flak of which only 2 received major damage. This damage rate was 1 out 140, as compared with 1 out of 28 formerly.

Conclusions: Air and artillery operations can be conducted concurrently with maximum effectiveness. The use of field artillery to suppress enemy antiaircraft and ground fire while friendly aircraft are making attacks reduces rather than increases the damage to friendly aircraft. (Command Report - Eighth Army - Nov 52)

ITEM NO 2

SCOUT DOGS IN KOREA. - As was the case in World War II, scout dogs have proven very popular with combat troops in Korea. These dogs have been used in more than 400 patrols with resultant casualties of four dogs killed, one handler killed, and three handlers wounded in action. Experience has shown these dogs are best suited for use with moving patrols. If kept stationary any length of time, they tend to become restless, will move about, and whine. One major problem resulted from the rotation of dog handlers. By constant association, the dog becomes attached to his handler and may refuse to work for a different one. This handicap has been overcome by requiring the new handler to work with the old one until the dog finally accepts the replacement. (Command Report - Eight Army - Dec 52)

ITEM NO 3

ARTILLERY FLYERS TEST ARMOR VEST ON LOWER BODY. - Flyer's armor vests in excess of authorized allowances were issued to

INCLOSURE

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pilot-observer teams for the protection of both the upper and lower body. This utilization required two vests per individual instead of the single vest normally issued. Adoption of the second vest was induced by increasingly heavy enemy flak activity. (Command Report - Eighth Army - Nov 52)

(RESTRICTED)

ITEM NO 4

UTILIZATION OF METEOROLOGICAL DATA. - The shortened range effect which occurs during extreme cold weather emphasized the necessity for the utilization of meteorological data in connection with unobserved 4.2-inch mortar fires. Such data had not been previously used in connection with 4.2-inch mortars. As a result, it was necessary to train fire direction center personnel in the use of meteorological data, to obtain range tables so that meteorological effects could be determined, and to obtain thermometers for the determination of powder temperatures. (Command Report - Eighth Army - Dec 52)

(RESTRICTED)

ITEM NO 5

NAPALM BOMB ATTACK AND DEFENSE. - Sand is an effective extinguisher of fires set by napalm or similar bombs. Stockpiling sand in numerous locations within a unit's position is a desirable precaution in areas where air attack is a possibility. In the incident reported, its availability and prompt use made the difference between a minor and a major loss of personnel and equipment.

If the dropping of napalm bombs is not followed by strafing passes, immediate action to combat or control the fire in accordance with an SOP is effective in reducing losses. The effectiveness of the attack would have been increased had strafing attacks followed the dropping of the napalm bomb. (Command Report - Eighth Army - Dec 52)

(RESTRICTED)

ITEM NO 6

ELECTRIC BLASTING CAPS FOR NAPALM LAND MINES. - It is the policy to emplace napalm land mines electrically to insure greater safety to friendly troops moving through the mined areas, ease of installation, increased safety while emplacing or relocating the mines and greater selectivity and control in firing.
Although the electric blasting cap is, in this case, one of the important and necessary component parts of the subassembled munition, it is not so listed or stocked for issue with the other components.

The following types of batteries are recommended for use in detonating napalm land mines.

| BA 33 | *BA 1039/U |
| BA 39 | *BA 2039/U |
| BA 40 | *BA 1040/U |
| BA 48 | *BA 2040/U |
| BA 70 | *BA 1048/U |
|       | *BA 2070/U |
|       | *BA 2048/U |
|       | *BA 279/U  |
|       | *BA 280/U  |

*Those marked with an asterisk are cold weather type and give best results when kept away from a warm place. The batteries on the above list which are not marked with an asterisk give best results when kept out of the extreme cold weather and should therefore be inside a bunker. (Command Report - 25th Inf Div - Nov 52)

(RESTRICTED) ITEM NO 7

COMMUNICATIONS LESSONS. - The use of relays, necessary in Korea, caused a drain on radio equipment and personnel to operate them. Continued use of an FM net also causes a strain on dynamotors and poses a maintenance problem. More personnel are needed to maintain and operate this equipment. One solution might be the authorization of spare dynamotors for each radio set which can be easily and readily replaced by untrained personnel. A tank battalion operating with an infantry division, operates on extended frontages and special consideration should be given to this matter. The SCR 506 should be authorized for each line company, to insure communication at the extended ranges mentioned above.

Recommend that two operators per set be authorized. This authorization would relieve the strain on the FM sets during extensive operation. The use of enemy direction finding equipment poses a problem and requires a careful selection of our radio sites, but the speed-up of message traffic due to its longer range would overshadow his ability to locate. (Command Report - IX Corps - Oct 52)
EFFICIENCY OF TANK-MOUNTED BULLDOZERS. - Comments from tank unit commanders in Korea pertaining to the efficiency of tank-mounted bulldozers in all types of terrain follow:

a. As now constructed, the tank dozer is too unwieldy, due to its length and weight.

b. The tank is marginally powered and therefore does not have the extra power required to perform as a dozer.

c. The tank dozer lacks maneuverability in tight spots and in many cases is road-bound due to poor terrain trafficability.

d. It has poor operator vision to the front and it is virtually impossible for the driver to see to either side.

e. Tank dozer will mire, due to its weight, in terrain that an engineer vehicle such as the D-7 dozer will negotiate with ease.

f. Its low blade places definite restrictions on its movement, and is a hindrance to the company when operating on Korean terrain, since the low blade precludes the crossing of terraced rice paddies, dikes, irrigation ditches and walled up defense. This restriction on the dozer's movement results in a definite loss of fire power for the tank company. It also prevents the tactical use of tanks of company headquarters section, on which the blades are usually mounted.

g. Due to its poor visibility, it is necessary to dismount a man to direct the driver during dozing operations.

h. It is impossible to back-drag with the tank dozer due to the blade arms being set too low.

i. It is impossible to angle-doze or undercut with the tank dozer.

j. Tubes and cylinders of the pressure system are exposed and too easily damaged by rocks, terrain, and enemy fire.
The tank dozer has its blade too close to the track for proper track adjustment. It is virtually impossible to adjust properly the track adjusting idler.

The maintenance of the tank dozer is excessive and requires much care. In dozing operations, in spite of extreme care being taken, there is a tendency for the transmission to burn up. The maintenance of this piece of equipment places a burden on all echelons of maintenance.

The tank dozer becomes almost helpless in muddy terrain due to its low blade and weight. It is practically impossible to pull this vehicle forward when mired down.

Dozing operations with the tank dozer has been the cause of torsion bar failure, and breaking of front shock absorbers. Track play, in addition, is responsible for the sheering of the compensating idler place where it is bolted to the hull.

Recommend that D-7 bulldozers be issued to tank battalions.
(Command Report - Eighth Army - Sep 52)

OCAFF Comment: Improved tank-mounted dozers are under development.

TRUCKS AS PRIME MOVERS FOR 155-MM HOWITZERS. - One battery of the battalion is now equipped with 4-ton trucks which has alleviated some of the troubles of movement. However, it was found that the bumperettes on the rear of the 4-ton truck increased the turning radius of the truck and howitzer. Such bumperettes have been removed or modified so that the truck can maneuver the piece through sharper turns and over more difficult terrain. The turning radius and the high silhouette of the truck impose a restriction upon the driver when maneuvering the howitzer into difficult positions. A pintle is placed on the front bumper of all 4-ton trucks used as prime movers to assist the driver in maneuvering the howitzer into position. (Command Report - 31st FA Bn - Feb 53)

CALIBRATION AND POWDER LOTS FOR HEAVY ARTILLERY. - More frequent calibration by ordnance of the 155-mm gun is needed. The
frequency of the present calibration, once every six months, cannot keep pace with the wear and changing of tubes.

An immediate solution to clearing powder lots for firing in the 155-mm gun is essential. Either sufficient numbers of lots should be tested and cleared for firing to sustain for several months, or a more efficient method of testing tubes for withstanding the pressure of unstable lots should be evolved and used. (Command Report - 145th FA Bn - Feb 53)

ITEM NO 11

USE OF SEARCHLIGHTS FOR BATTLEFIELD ILLUMINATION. - A detailed experiment was made with battlefield illumination. Coordinating observers were at the OP's, the light direction center and the lights. Among the lessons learned was the use of a varied, intermittent schedule of off and on periods, which causes the enemy harassment and surprise as well as cooling the easily-overheated carbons and generators. This has since been made standard practice with appreciable maintenance-load reduction. (Command Report - 39th FA Bn - Mar 53)

ITEM NO 12

USE OF LIGHT AIRCRAFT. - Night operations of division air sections can be greatly expanded. The proven ability of L-20 aircraft to carry 40 M-6 illumination flares (L-19 can carry 14) gives the division an improved method of providing illumination of the battlefield. This is essential to supplement searchlights and reach defiladed areas in rugged terrain. It is more effective and less expensive than the use of illuminating artillery shells. Night reconnaissance by division light aircraft is highly effective. Enemy vehicular traffic halts in the presence of our low flying reconnaissance planes. Accurate observations far exceed what would be expected due to the intimate knowledge of the sector acquired by our pilots. Evacuation by army helicopters (H-13) at night is highly effective. With two litter-bearing Division helicopters, nine seriously wounded casualties have been successfully evacuated during four nights of heavy fighting. (Command Report - 7th Inf Div - Mar 53)

/\OCAF Comment: Currently under evaluation by OCAFF are communications, electronics, and navigational aids to enable Army aircraft to operate in darkness and instrument weather conditions.\/
ITEM NO 13
LIGHT AIRCRAFT PHOTOGRAPHIC MODIFICATION. - Recommend that Army aircraft organic to the infantry division be modified and additional photographic equipment authorized in order to improve air photo reconnaissance operations.

Light aircraft are very susceptible to wind currents causing drift from the desired line of flight. This prevents the overlap of successive photos required to obtain photo intelligence. A vari-focal viewfinder is needed to enable the pilot to make constant checks and corrections of his line of flight. This item should be added to the infantry division TBA.

To be of value, the camera and viewfinder must be free to rotate on both a vertical and horizontal axis. Existing aircraft should be modified to provide a Gimbal mounting for this purpose.

The speed potential for producing intelligence in the field is also hampered by inadequate training of army aviators and signal photographers for aerial reconnaissance photography. (Command Report - 40th Inf Div - Feb 53)

OCAFF Comment: SR 95-400-5 limits aerial photography by Army aviation to that required for the purpose of locating, verifying and evaluating targets, adjusting fire, terrain study, or obtaining information on enemy forces not otherwise obtained by air reconnaissance agencies of other Services. Statements from the field, such as the above, assist this Office in studying requirements for equipment, training, and doctrine.

ITEM NO 14
QM BATH UNITS SOUGHT AS BRIDGE BUILDING EQUIPMENT. - Water heaters from QM portable bath units are required during the winter for furnishing approximately 1200 gallons of hot water per hour to be used in the manufacture of concrete. It is necessary to heat the water as well as the aggregates to a temperature of 70° Fahrenheit.

Because the capacity of one heater fulfills job requirements, one unit was issued; the second authorized unit was held in reserve for an emergency. The unit will be used in midstream of a river over which a permanent, high-level, reinforced concrete bridge is to be built.
Construction of boilers on the river bank was considered impracticable because the water would cool too rapidly to reach the mixers at a suitable temperature. (Command Report - Eighth Army - Nov 52)

ITEM NO 15

OVERHEAD COVER FOR M-39 CARRIER. - The infantry needed protection from enemy fire while proceeding to and from the objective in the M-39 carriers. Therefore overhead covers consisting of wooden beams and sandbags were constructed on the carriers. Angle iron beams, used as struts, supported crossbeams to be used for overhead cover, over the passenger wells of the vehicles. On top of the crossbeams were several layers of sandbags. (Historical Manuscript - Military History Detachment - Jan 53)

OCAFF Comment: The new armored vehicle, M-75 which will replace the M-39 carrier has overhead cover for the protection of troops.

ITEM NO 16

ARMOR EMPLOYMENT. - An important lesson learned is that tanks acting independently or in conjunction with the infantry can maneuver behind strongly held terrain features, inflict many enemy casualties, and cause much destruction to enemy positions.

The constant threat to the enemy of friendly tanks appearing or maneuvering in front of the MLR kept him off balance and guessing as to the true intent of friendly forces. The threat of aggressive tank units, both from stationary positions on the MLR and in properly coordinated and conducted tank-infantry raids, has proved the worth of tanks in Korea. The capability of organic tanks to counterattack quickly is a constant threat and deterrent to the enemy. (Command Report - 2d Inf Div - Feb 53)

ITEM NO 17

LACK OF CAPABLE COMPANY COMMANDERS. - The officer personnel situation was greatly aggravated by the loss of experienced and senior officers while the majority of replacements were second lieutenants. This results in young and relatively inexperienced officers being thrust into positions requiring extensive ability and background.
This was particularly evident during our contact with the Commonwealth Division. Their company commanders were majors with ten to twelve years of experience while many of ours were first lieutenants with less than two years of commissioned service. The replacement system could operate in a manner that would furnish experienced officers down to the working level. It is a universal military axiom that the position of a combat company commander must be filled by a mature, experienced, level-headed, forceful officer. These attributes cannot be obtained from schools or within the period of a few short months in training camps. In this war, as in those of the past, the combat company commander is the ultimate executor of the doctrines of attack and defense. There is no substitute for an experienced company commander. (Command Report - 2d Inf Div - Feb 53)

(RESTRICTED) ITEM NO 18
LEAKY RECOIL SEALS ON M-47 TANKS. - This has caused, on many occasions, the replacement of batteries. When the gun is in traveling position the recoil cylinder is directly over the batteries and recoil oil leaking on these batteries soon cause them to become unserviceable. In addition to being harmful to the batteries, it is impossible to keep the proper amount of recoil oil in the cylinders, thereby causing too frequent checks and refilling. The excessive leaking of recoil seals is caused by a manufacturer defect. (Command Report - 510th Tank Bn - CY 52)

(RESTRICTED) ITEM NO 19
MODIFIED CARRIAGE FOR 4-12 PORTABLE ROCK CRUSHER. - The 4-12 Portable Rock Crusher is normally mounted on four steel wheels. This carriage limits the distance the crusher can be moved without loading on a vehicle. The short tongue makes backing and maneuvering with anything but a crawler tractor difficult. Experiment has verified that a more suitable mount can easily be adapted by mounting the crusher on a 2-1/2-ton, pole type trailer. An additional set of wheels was added to the trailer to give more bearing area because of the additional load and to give the modified unit more over-the-road stability. No modifications to either piece of equipment are necessary to mount the crusher on the trailer. The trailer mounted crusher has the following advantages over the conventional steel wheel mounting:

a. Crusher can be transported longer distances in less time without loading.
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b. Crusher can be moved short distances much easier and maneuvered into position with any vehicle because of the long tongue on a pole type trailer.

c. The added height given the crusher, materially increased the efficiency of the operation, since the increased elevation gave more working area to use shovels and chutes in the removal of the crushed rock from the area directly beneath the crusher jaws. (Command Report - 378th Engr Cmbt Bn - Feb 53)

(RESTRICTED) ITEM NO 20

ENGINEER MAINTENANCE SUPPORT. - Engineer equipment maintenance support continues to be inadequate. At present, 25% of this battalion's engineer equipment is awaiting repair by engineer maintenance support units.

Of the thousands of electric caps used over the past 6 months, approximately 15% have failed to function. All defective caps have been the product of the DuPont Corporation.

Recommend that:

a. Higher headquarters be advised of deficiencies in engineer maintenance support.

b. A test of DuPont electric caps be undertaken to determine the validity of this unit's contention of malfunctioning and the causes therefor. (Command Report - 116th Engr Cmbt Bn - Mar 53)

(RESTRICTED) ITEM NO 21

REGIMENTAL REST AND RECUPERATION. - This unit has operated a Rest and Recuperation center which has added much to the health and well-being of the men. This center is operated well in the rear of the regimental sector and affords each man an opportunity to be off the line for one day and night per month. In addition to showering and a complete change of clothing, the individual is afforded an opportunity to use APO, PX and Red Cross facilities. Daily chapel services are held. Entertainment, such as USO shows, nightly movies and athletics are provided. The men are allowed a full night's sleep and "sit-down" dining facilities. (Command Report - 180th Inf Regt - Feb 53)
ITEM NO 22

MAINTAINING HIGH STATE OF COMBAT READINESS. - To maintain a high state of combat readiness while on the line, the alert during the hours of darkness was established at 75% with a 25% alert status from one hour after daylight until one hour before darkness. A schedule was established which has proven sound, whereby all officers and men on night alert sleep from immediately after breakfast until approximately 1130 hours. At noon, an administrative inspection is conducted by the appropriate echelon of command, to include squad leaders, to insure that all men are shaven, washed, and that sleeping bunkers have been thoroughly policed. After the noonday meal, these individuals are required to engage in some form of outdoor activity such as preparation or rehearsal for patrols, deepening trenches, improving positions, cleaning crew-served weapons, replenishing ammunition in fighting bunkers as well as cleaning individual weapons. Between 1700 hours and 1800 hours daily, a combat readiness inspection of the fighting positions is conducted by commanders. This inspection is made to insure that weapons are clean, ammunition is clean and available, grenades, pyrotechnics, range cards, final protective fire indicators and fire limit stakes are in place. (Command Report - 180th Inf Regt - Feb 53)

ITEM NO 23

DEFECTS IN M-41 TRUCK. - Serious defects were found in the steering mechanism on the 5-ton truck, M-41, built by the International Harvester Company. Of six vehicles issued, three have developed difficulties over a period of approximately five weeks. In addition, one was issued without several of the bolts required to fasten the rear springs to the rear axles. Installation of these bolts is initially a factory responsibility.

The power steering failed to function on one vehicle as it was climbing a mountain road, causing the vehicle to run off the road and over-turn. This malfunction has been attributed to the sticking of a valve in the hydraulic steering mechanism. The other two vehicles have developed leaks in the power steering mechanism including the complete rupture of one oil line fitting.

According to TM 9-837 issued with the vehicles, the tire pressure was stated as 70 pounds per square inch. A later oral notice received
from Ordnance indicated that the tires installed on the vehicles at time of issue were a low pressure type requiring only 45 pounds per square inch.

The use of this overpressure may have contributed to the failures noted above; however, three of the vehicles have not exhibited these defects to date; one vehicle developed the defect subsequent to the reduction of the tire pressure.

In addition to the difficulties enumerated above, the mounting bolts for the spare tire have sheared off on two of the vehicles. (Command Report - 204th FA Bn - Feb 53)

(RESTRICTED) ITEM NO 24

TEST OF LEDED FUEL IN FIRE UNITS. - The results of tests conducted on fire units in messes operated by Eighth Army indicated that fire units were not adversely affected by the use of leaded fuel. (Command Report - Eighth Army - Nov 52)

(RESTRICTED) ITEM NO 25

DENTAL POR WEAKNESS. - At the Replacement Company, 1413 patients, all newly arrived replacements, received dental care. Of these, 486 were in Dental Class 3, 4, or 5 and should not have left the CONUS without treatment. After patients were treated only 144 patients remained in Classes 3 and 4. The dental service is operating at only about 85% of its T/O&E strength and even at full strength would be overburdened. The solution lies in more efficient processing prior to departure from CONUS. (Command Report - 2d Inf Div - Feb 53)

OCAFF Comment: For other extracts on this subject see Source No 761, inclosure to letter, ATTN-26 350.05/7(DOCI)(C)(3 Jun 53), OCAFF, 3 June 1953; Source No 743, inclosure to letter, ATTN-26 350.05/6(DOCI)(C)(18 May 53), OCAFF, 18 May 1953, subject: "Dissemination of Combat Information;" and Item 26, this inclosure.

(RESTRICTED) ITEM NO 26

DENTAL SURVEYS. - Recent dental survey of newly incoming personnel in the division, indicate that a substantial number of these personnel have dental deficiencies in classes 3, 4, and 5 which existed prior to their leaving the continental US.
Recommend that home stations defer shipment of personnel to this theater until dental deficiencies are corrected in accordance with current Army directives. (Command Report - 120th Med Bn - May 53)

(RESTRICTED) ITEM NO 27
AW PLATOON FDC. - Platoon fire direction centers controlling indirect fire in support of infantry regiments were moved during the month into the FDC's of the direct support field artillery battalions. This arrangement indicated that:

a. Better training and more efficient operation of quad 50 computers resulted from direct supervision by trained field artillery fire direction personnel;

b. More effective employment of quad 50 indirect fires resulted from the closer liaison and coordination possible. (Command Report - 145th AAA Bn - Feb 53)

(RESTRICTED) ITEM NO 28
INFANTRY OFFICERS IN 4.2-INCH MORTAR BN. - The officers assigned to this Battalion during the past 60 days have been second lieutenants, who have had little or no training in 4.2-inch mortar operations or kindred subjects. They have only a general understanding of forward observer technique. It is extremely important that replacement officers assigned to a unit committed to combat be qualified to fight the basic weapon of the unit prior to joining said unit. Recommend that each officer assigned to a 4.2-inch mortar unit be qualified by either:

a. Practical experience in an active 4.2-inch mortar unit or:

b. Six weeks course in 4.2-inch mortar operations (Chemical Corps School or The Infantry School). (Command Report - 461st Inf Bn (Hv Mort) - Mar 53)

OCAFF Comment: Letter, ATTNG-32 352/21(Inf Sch)(14 Apr 53), OCAFF, 14 April 1953, subject: "Announcement of Infantry Heavy Mortar Officer Course," offers training for officers to qualify them as Fire Direction Officers (MOS 1188). Proper assignment of graduates of this course should rectify difficulties stated above.
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OFFICE, CHIEF OF ARMY FIELD FORCES
Fort Monroe, Virginia

ATTNG-26 350.05/11(10 Sep 53)

10 September 1953

SUBJECT: Dissemination of Combat Information

TO: See distribution

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FOR THE CHIEF OF ARMY FIELD FORCES:

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ITEM NO 29

FLAME THROWERS IN TANKS. - The only mechanized flame throwers available in Korea at present are obsolescent M3-4-3 models which were designed for mounting in the M-4 series tanks. As all tank units of this division are equipped with M-46 tanks it was not possible to utilize these flame throwers. The value of mechanized flame throwers mounted in tanks, particularly in offensive operations, was thoroughly proven in World War II and they could be employed effectively in Korea. Recommend that intensive efforts be made to develop mechanized flame throwers of large capacity suitable for mounting in the M-46 and later model tanks. (Command Report - 40th Inf Div - Mar 53)

ITEM NO 30

FAMILY OF UNITED NATIONS DECORATIONS. - A family of United Nations decorations is urgently needed. The system for and limitations in providing US decorations for personnel of UN contingents leaves much to be desired. The Division Commander cannot issue an "on the spot" award for heroism to a KATUSA soldier even though all other members of his squad or patrol are decorated and despite the fact that often he has the longest period of service of any soldier in the group. Similar restrictions prevent any prompt recognition of heroic action by personnel of foreign units. Relaxation of restrictions on the award of the Silver Star and Bronze Star Medal (Valorous) would provide an expeditious but temporary solution. United Nations decorations are the proper answer. (Command Report - 7th Inf Div - Mar 53)

ITEM NO 31

EMPLOYMENT OF DIVISION RECONNAISSANCE CO IN STABILIZED SITUATION. - The unit was divided into two elements, forward and rear. The forward CP was situated approximately 2000 yards in INCLOSURE
the rear of the MLR. In conjunction with the Division G-2, the forward element maintained 6 screening patrols daily during the hours of darkness for the purpose of safeguarding the Division MLR against possible infiltration by the enemy. Three daylight outposts were established approximately 200 yards in the rear of the MLR for the purpose of detecting possible enemy infiltration and civilian line crossing. On numerous occasions the forward element dispatched reconnaissance patrols to report on the area controlled by the 3 daylight outposts. (Command Report - 40th Recon Co - May 53)

I-OCAFF Comment: This is one of the effective methods of employing the Reconnaissance Company, Infantry Division, in a stabilized situation.

(RESTRICTED) ITEM NO 32

AMMUNITION SUPPLY DURING HEAVY FIRING WITH 155-MM HOWITZER. - During the firing in defense of outposts Vegas and Carson certain problems were encountered in the supply of ammunition for the pieces.

The new type powder cans (no type or model number available) appears to be well designed but unhandy to use. The can has a locking lip of increased diameter with recessed locking-lug wells, and a lightly-made locking handle with a brass locking screw.

When the can is opened rapidly, the cap locking mechanism often sticks and frequently bends or breaks before the three locking lugs can be disengaged from the can lip. In this situation, the lugs cannot be knocked loose rapidly because they are recessed below the surface of the lip of the can. (The older model can, with a stronger locking mechanism and protruding lugs, is easier to handle at the piece). The result was frequent delay in preparing powder charges while several powder cans were handled in succession. Because of its increased size, fewer rounds (less than basic load) can be packed into each ammunition well on the M5 tractor, for transportation with the piece.

Some powder is being received with a primer packed in the can. Where firing is conducted at rapid rates such as in close defense, this packing is unsuitable.
Tests show that it takes from 45 to 60 seconds to extract the primer from its protective packing. If the No 1 man (who inserts the primer) does this as an additional job, about 1-1/2 minutes are required to fire each round. If the No 1 man is not used, an additional man is required on each crew solely to prepare primers. The net result of this type of packing is either to require additional manpower or to reduce the piece firepower from 50% to 67% at the time it is most needed. (The use of battery personnel for this job is not desirable, since nonfiring personnel are already employed on other phases of ammunition supply.)

Malfunctions of "canned" primers can be almost eliminated if they are kept dry and covered at all times when not in use. (Command Report - 90th FA Bn - May 53)

DEFICIENCIES IN BLOOD RECIPIENT SET (STANDARD ITEM 3-103-615). - The type of disposable, blood-recipient set now in use (Stock Number 3-103-615) is subject to the following objections:

a. Supplemental injections cannot be made through the plastic tubing without producing a leak.

b. Due to the conformity of the needle and of the adaptor, apposition between needle and adaptor is often poor and leakage common.

c. The inelasticity of the tubing makes it virtually impossible to obtain a reflux of blood upon starting intravenous therapy to ascertain whether or not the needle lies within the lumen of the vein.

Recommend that the blood recipient set described above be replaced by a type which will correct the objections listed. (Command Report - 25th Med Bn - May 53)

√ OCAF Comment: The deficiencies in Standard Item 3-103-615, Blood Recipient Set, Disposable, are known and experimental work is in progress to correct the deficiencies.
SURGICAL HOSPITAL EQUIPMENT AND PERSONNEL PROBLEMS. - In field use, the Heidbrink apparatus is superior to the McKesson apparatus in rate of gas flow, durability of machine, presence of pop-off valve at "Y" piece to which mask is attached and more effective mask and headstrap combination. One outstanding omission in both machines is an emergency bypass flush oxygen valve by which the rebreathing bag may be rapidly filled with oxygen.

\[ OCAFF \text{ Comment:} \text{ The two types of anesthesia apparatus meet the military characteristics for this type equipment; however the military characteristics are under study with a view to eliminating the difficulties enumerated.} \]

Present endotracheal sets are inadequate while the utilization of one type of laryngoscope and one type endotracheal catheter is better than nothing. The presence of newer, more adaptable laryngoscopes and newer types of plastic and thin wall endotracheal catheters make the equipment now on hand obsolete and has resulted in inferior anesthesia.

\[ OCAFF \text{ Comment:} \text{ New types of endotracheal sets are being studied and the decision on whether or not to utilize plastic is expected in the near future.} \]

The use of small high pressure electric autoclaves for rapid sterilization would cut to a minimum the amount of wrapped sterile instruments on hand. Also the use of a small regular electric autoclave would serve to sterilize all packs. The present method of superheated steam and drying by baking would be abolished at a saving on linens and rubber gloves. Also the safety factor in an electric autoclave would be increased.

The revision of instrument sets to include basic requirements for the surgeons would be a saving. There is an excess of unused special instruments and lack of routinely used instruments.

The addition to the T/O&E of a small overhead operating lamp for use over the operating table is recommended.
Portable light metal packing cases with collapsible legs would increase the mobility and proficiency of the unit.

OCAFF Comment: The opinion of the Medical Board which studied packing cases was that collapsible legs were too easily broken and were not practicable.

The laundry, mobile, two-trailer type, stock #66-L-155, should be used in lieu of laundry unit, portable, stock #66-L-320. This latter unit requires too much space, time, and labor to prepare for movement. (Command Report - 47th Surg Hosp - May 53)

OCAFF Comment: Laundry requirement for this type of unit is under review and the two-trailer type will be considered.

(REstricted) ITEM NO 35

REPAIR OF BOOTS, COMBAT RUBBER, INSULATED. - The method authorized by the technical manual for repair of rubber footwear has proved unsatisfactory for rubber insulated combat boots as the patches do not properly seal to the boot. To remedy this situation, experiments were conducted using hot patches. A jig press, having similar characteristics to a tire tube vulcanizing press, was manufactured. The surface around the damaged area was roughened by the use of a wire brush; one coat of rubber cement was applied to the area; the boot was placed on the jig press and a hot patch was applied to the damaged area; the press was tightened down to insure proper adhesion to the boot; the magnesium disc on the patch was ignited; and the patch remained pressed for ten minutes. This method has proved satisfactory.

Recommend that OQMG conduct a study to determine the most efficient method of repairing the rubber insulated combat boot. (Command Report - 55th QM Base Depot - May 53)

(REstricted) ITEM NO 36

FUMIGATION OF WINTER CLOTHING AND EQUIPMENT. - Quartermaster clothing and equipment being returned from Korea to Japan is required to be fumigated with methyl bromide prior to being evacuated to prevent the spread of any infectious disease, lice or insect that may
have contaminated the clothing. Portable fumigation vaults have been used to fumigate this clothing at the reclamation installation. Clothing was removed from the cars, segregated, loaded on trucks and taken to the fumigation area three miles away. There the clothing was unloaded, fumigated, reloaded on trucks and taken to the quayside where they were loaded for shipment to Japan for dry cleaning. Under a new method adopted, methyl bromide capsules are placed in the railcars while the cars are in the marshalling yard. Thus, when the cars are moved to the rail siding, the fumigation process has been completed and immediate final processing takes place.

Recommend that, in subsequent situations requiring fumigation, the clothing and equipment be fumigated while enroute to the reclamation installation by placing methyl bromide capsules in the railcars at the time of sealing the cars at the salvage collecting points. This procedure will effect economies in manpower and transportation. (Command Report - 55th QM Base Depot - May 53)

(RESTRICTED) ITEM NO 37

USE OF SENTRY DOGS. - Three war-weary scout dogs of the 26th Infantry Scout Dog Platoon were utilized for augmenting the security by use of "running leashes" attached to steel cables anchored in concrete, and located so that the dogs can patrol the entire length of the ration issue area. Prior to utilization of the dogs, intrusions were almost a nightly occurrence, despite a double-apron barbed-wire fence, trip flares and three walking sentries. Since the guard dogs were employed, only a relatively few attempts to enter the supply point have occurred (on two occasions, the attempted intrusions occurred on nights when the guard dogs could not be used because of broken cables or "running leashes"). Although satisfactory results have been obtained from the use of scout dogs, sentry-trained guard dogs would probably be more effective.

Recommend that the T/O&E for the Quartermaster Company be changed to provide a minimum of ten sentry dogs (dogs trained to accompany walking guards) to be used to guard Class I, Class III and Class II and IV supply points. No additional personnel will be required, although at least four enlisted personnel should receive special training as dog handlers and trainers. (Command Report - 3d QM Co - May 53)
OCAFF Comment: The use of sentry dogs for guarding supply installations is considered sound; however, it is not considered desirable to include dogs in the T/O&E of this type unit. When the situation is such that dogs can be used they should be obtained as Class IV items.

(RESTRICTED)
ITEM NO 38

USE OF ELECTRIC FENCES AS A SECURITY MEASURE AT SERVICE CENTERS. - Electric fences are being, or have been erected at each service center to reduce the security problem. The fences serve a twofold purpose in keeping unauthorized personnel out and eliminating exit from the service center other than through authorized passages. No accidents have occurred as a result of using this means to enhance security. The low cost and effectiveness have made electric fencing the most economical and desirable means of curtailing illegal entries and exits with their attendant pilferages. (Command Report - 501st QM Bn - May 53)

OCAFF Comment: Security of service and supply installations is a continuous problem in active theaters. Commanders of service type units must provide security from sources available to them without hampering the performance of their primary mission.

(RESTRICTED)
ITEM NO 39

DEFICIENCIES IN NEW M-SERIES 1/4-TON TRUCKS. - The new M-series 1/4-ton trucks are not sturdy enough to absorb the constant shaking they receive from the "washboard effect" on the surface of dirt roads. The cable connecting the two 12-volt batteries and the generator cable have broken while the vehicles were in operation. The bracket holding the spare tire has cracked and in many cases broken off. (Command Report - 212th MP Co - May 53)

OCAFF Comment: Information from Office, Chief of Ordnance indicates a study is being conducted to determine means of correcting the above deficiencies.

A modification work order concerning strengthening of the spare tire bracket will be published in the near future.
ITEM NO 40

DEFICIENCIES IN M-SERIES VEHICLES. - Deficiencies reported in the new M-series vehicles include failures of the spare tire mounting bracket, windshield frame, and battery cable on the 1/4-ton utility truck, M38A1, clutch failures on the 5-ton truck, M41, and numerous sheet metal failures on the 2-1/2-ton truck, M211 and 5-ton truck, M41. (Command Report - 60th Ord Gp - Apr 53)

\[ \text{OCAFF Comment: See Comment, Item No 39.7} \]

ITEM NO 41

PROBLEMS WITH TRUCK 1/4-TON, M38A1. - Inspections have indicated that a number of the M38A1 vehicles have cracked frames. Some of this may be due to the bad roads in Korea. The tire racks on the rear of the vehicles require constant repair. This problem could possibly be eliminated if bolts were issued to hold the rack in place. (Command Report - 5th Cav Regt - Apr 53)

\[ \text{OCAFF Comment: See Comment, Item No 39.7} \]

ITEM NO 42

DEFENSIVE MEASURES FOR INDIVIDUAL TANKS. - Present close-in defensive measures for individual tanks are not adequate; tank guns cannot depress enough to engage the enemy at close ranges. Firing weapons or throwing hand grenades from the turret have proven ineffective when a tank is surrounded by enemy infantry. Tanks firing at each other and the utilization of VT artillery fire may be effective in some cases, but frequently there are dead spaces which may be taken advantage of by the enemy. Isolated tanks must rely almost entirely on friendly artillery fire for close-in protection.

A requirement exists for the development of a means of close-in protection of tanks against enemy antitank personnel. The device should have the following characteristics:

\( a. \) Provide complete all-round protection of the tank for a distance of 25 yards.
b. Be designed to permit reloading from within the tank without exposing the crew, and be capable of providing protection for intermittent periods up to a total of three hours.

c. Device should be simple and easy to maintain, and installed so that it would not take up space in the tank fighting compartment. (Command Report - Eighth Army - Dec 52)

(RESTRICTED) ITEM NO 43

USE OF SMOKE POTS: A new method for the employment of the smoke pot (M4A2) was used in conjunction with a "Tank Shoot" staged in Pork Chop Valley.

A protective screen was requested in this position for the departure of the tanks as the most vulnerable part of the tanks were exposed to enemy fire.

Five minutes prior to departing, 6 smoke pots were ignited to give this coverage.

The tank crews also ignited 2 smoke pots each and let them drop alongside of tanks, thereby increasing the effectiveness of the smoke.

The operation provided sufficient coverage so the tanks could leave the area without being subjected to enemy fire. (Command Report - 71st Cmnl (SG) Co - May 53)

√ OCAFF Comment: This operation is in conformity with doctrine and illustrates the principle of using area smoke to cover assembly, organization and initial deployment of friendly troops.

For land operations the best smoke pot is the 30-pound M5 type, if available, rather than the M4 which is a floating type designed for use in water.

(RESTRICTED) ITEM NO 44

SNIPERSCOPE BATTERIES. - Sniperscopes issued have been of two types, M-2 and M-3. Three types of batteries have been issued (M-1, M-2 and M-3) for use with these scopes. The M-1 and M-2
batteries are not interchangeable with the M-3 batteries. Further, the M-2 battery recharging racks will not take the M-3 batteries. Twice in recent months, M-2 racks packed and labeled as M-3 racks have been received by airlift. Field expedient recharging of M-3 sniperscopes has been necessary. However, lacking proper adapter fittings, the methods necessary are so complex as to require a central facility, tightly controlled in order to recharge batteries without excessive losses from damage. This function has been performed with considerable success by an improvised battery recharging facility constructed and operated by maintenance section of headquarters and service company. However, much loss of the use of sniperscopes by using units resulted prior to this improvisation, and unwarranted travel and transportation of batteries are necessary in this method of alleviating this critical situation.

Recommend that one type of sniperscope be adopted and issued uniformly to all infantry divisions at the earliest practicable date, and that in future development of the sniperscope, every possible effort be made to retain interchangeability of parts with older types, particularly batteries and battery recharging facilities. (Command Report - 65th Engr Cmbt Bn - May 53)

(RESTRICTED) ITEM NO 45

USE OF 7-TON UTILITY TRAILERS AS MOBILE SPARE PARTS TRAILERS. - Difficulties have been encountered in the collection, storage and retention of serviceable 2d echelon engineer and ordnance spare parts for support of the large number of vehicles and engineer equipment items in the battalion. As a result of each move, critical spare parts were lost or damaged beyond salvage. Excessive delays resulted while parts were unloaded from any available transportation at each destination, sorted, and readied for issue. Recently, to retain essential mobility of the battalion and to provide a means of overcoming these difficulties, two 7-ton utility trailers, issued for transportation of truck-mounted crane extra attachments, were converted to large mobile spare parts trailers, one each for engineer and ordnance parts. Non-essential crane spare attachments were turned in. The resultant savings in critical spare parts plus the ability to issue parts immediately upon reaching any destination are considered extremely valuable.

Recommend that 2 truck or trailer mounted vans containing necessary bins be provided in the T/O&E of the Engineer Combat Battalion.
Divisional, for storage and transportation of engineer and ordnance spare parts. These vans should be weatherproof and capable of positive security from pilferage. (Command Report - 65th Engr Cmbt Bn - May 53)

(RESTRICTED)

ITEM NO 46

NEED FOR INTERPRETER PERSONNEL IN TYPE B UNITS. -
The language barrier seems to be the greatest problem. The unit has alleviated this problem somewhat through the integration of English classes into the daily training schedule. Further, all drill is given in English and the trainee learns about his truck, using the English nomenclature. One civilian translator and one Army interpreter are being utilized to the fullest in training and in breaking down the language barrier. To teach personnel to drive and care for a vehicle the size of a 5-ton dump truck is a slow process. Add to that the fact that none of the students ever drove any kind of vehicle before. The only solution to this problem is long and detailed practical exercise on every phase of driving from shifting gears to maintenance responsibility.

Recommend that Type B units in the future be authorized more interpreter personnel. (Command Report - 595th Engr Co (Dump Truck)(Type B) - May 53)

(RESTRICTED)

ITEM NO 47

CLEARING PATH THROUGH AP MINE FIELD. - A relatively safe expedient method of clearing a path through AP mine fields was devised. The technique consisted of fastening two long barbed wire steel pickets to the nose of a bangalore torpedo. Working from a trench, successive five foot sections of bangalore are added until 80' to 100' are extended. The function of the pickets is to explode trip mines which might otherwise cause premature detonation of the torpedo. After detonation of the bangalore torpedo, a cleared path two to four feet wide is obtained for passage of patrols. The first time the improvised nose was used in an actual operation it was successful in that it exploded a mine without detonating the bangalore torpedo. After the first operation, further tests resulted in the pickets being welded together instead of lashed, and the addition of swept back runners made from 24" bolts salvaged from ammunition boxes. The runners were welded to the front picket to prevent the gooseneck nose from turning
on its side while the bangalore was being pushed out. This method proved satisfactory and eliminated the danger inherent in hand removal. (Command Report - 65th Engr Cmbt Bn - May 53)

(RESTRICTED)

ITEM NO 48

DITCHING PROCEDURES. - Sections of road which were bounded on either or both sides of rice paddies were difficult to stabilize. This was mainly due to the continued ponding of water in the paddy and the resulting high water table. After several methods were tried, it was found that combining a dike and ditch gave excellent results. A dike of earth is built in the paddy parallel to the line of the road and a sufficient distance away from the shoulder to allow at least a 3' x 3' ditch to be dug. Spoil from the ditch is used to build up the dike. This dike contains the water in the paddy, and allows the water in the subbase to flow out and along the ditch as run-off. Some extremely soft road has been successfully drained and stabilized by this method. (Command Report - 62d Engr Const Bn - May 53)

(RESTRICTED)

ITEM NO 49

ENEMY BOOBY TRAPS. - Immediately after the recapture of outpost Pork Chop engineers engaged in the reconstruction of defensive positions discovered a booby trap in one of the communication trenches.

The demolition consisted of twelve 1# blocks of TNT. The two firing systems each consisted of a nonelectric cap, time fuze, and a friction ignitor. The time fuze has a white covering on it. The burning rate of this fuze is approximately four seconds per inch.

The charge was placed in the trench to give the appearance of an abandoned satchel charge (see sketch). The charge was partially buried as it might conceivably be by debris and earth. One firing system was lying in an obvious position across the top. The second firing system was buried, the pull ring attached with communication wire to fixed stakes such that a movement of the charge would cause the detonation sequence to be initiated. (Command Report - 13th Engr Cmbt Bn - Mar 53)
ENEMY MINE TACTICS. - In early March, tanks of the 73d Tank Battalion struck enemy mines immediately in front of the MLR while on a trail they had used numerous times before. The mine clearing operation which immediately followed resulted in the discovery of four Russian box mines (TMD-B). Three of these mines were blown in place and the fourth recovered.

The recovered mine was in good condition. The outside of the mine showed only slight signs of deterioration. The metallic fuze recovered from this mine was free of rust or other signs of prolonged exposure to the elements. The condition of the mine indicated it had not been in the ground for more than two months.

These enemy mines had been placed along a known tank trail and not across it. Variations in the route of advance through a given area are essential to a successful operation. (Command Report - 13th Engr Gmbt Bn - Mar 53)

BUNKER PROBLEMS. - The Marine bunker design proved inadequate to satisfy the variety of demands. To meet the requirements for CP, fighting, aid station and operations bunkers, a family of bunkers was developed which utilized standard parts. These provided adequate protection as well as space, and were adaptable to rapid mass production.

To further speed up construction, units were asked to standardize principally on two sizes, 11' x 18' for CP and aid station use and 8' x 8' for fighting and personnel use.

These bunkers were designed with similar posts, roof beams and footers. The simple expedient of increasing length of caps and furnishing additional posts yielded a longer bunker.

During construction, the primary problem encountered was the weight of roof beams and posts. It was difficult, and required considerable manpower to transport the prefabricated bunkers to forward
outposts. However, the protection furnished upon completion more-than offset this hardship. (Command Report - 65th Engr Cmbt Bn - May 53)

(RESTRICTED)

ITEM NO 52

WEAKNESSES IN ORGANIZATION OF THE GROUND. - Principal weaknesses are:

a. Limited strength prevents occupation of positions near the forward base of hills to obtain the best fields of fire, especially flanking and grazing fire.

b. Many bunkers for automatic weapons are not well designed; few are sited or employed to provide fire to flanks. Generally they are used only to fire to the front. Rarely are they dug down so that the normal slope of the terrain can be restored upon completion. As a result, most bunkers have a distinct profile and consequently offer choice targets for enemy destruction.

c. Trenches vary from shallow to too deep. Many have long straight sections that increase the hazards from enfilade fire in close-in fighting. Very few have overhead cover except at points where fighting or sleeping bunkers join. Many of proper depth (6' to 6-1/2') contain no firing steps. In most cases, no effort has been made to cover sandbags with natural earth to improve concealment. Few trenches exist on the reverse slopes; thus there is a lack of secondary firing positions to the flanks and rear.

d. Fighting bunkers, in addition to many structural weaknesses, are frequently located so that they give a false sense of security for close-in fighting and become death traps. This also applies to the numerous sleeping bunkers which are integrated with the fighting trenches.

e. Protective wire needs improvement. The most common weaknesses are: (1) Failure to repair existing wire, (2) Insufficient number of bands of wire, (3) Outside band within grenade range of trenches and (4) Dependence on concertina rather than single and double-apron fence.
f. Communication wire is invariably poor, due to failure to bury it in trenches and approaches. This causes general failure of wire communications during attacks and is highly wasteful.

g. The concealment effort has been inadequate, and far below that of the enemy in quality. Many installations are openly exposed to the front; others are poorly camouflaged. There has been little or no attempt to prepare dummy positions.

h. Minefields are improperly recorded. Apparently successive units have placed mines without insuring that locations were precisely plotted and made known to relieving troops. Enemy fire has further upset such locations. In consequence, mines are now considered to be more hazardous to friendly forces than to the enemy, and there is a reluctance to lay additional ones.

The essence of improving the techniques in this field revolves around the following points, with due consideration for available units, manpower and firepower:

a. Careful selection and development of positions, based on thorough study of observation, field of fire, concealment, obstacles and communications. Development of positions for actual all-around defense.

b. Broken trench traces to minimize artillery and small arms enfilading fire. Frequent covered sections of trench and shelters to permit cover from enemy mortar and artillery fire on positions. Adequate depth to trenches, installation of firing steps, and restoration of natural earth and slopes insofar as practicable.

c. Sightings of automatic weapons to the flanks for maximum effect to provide final protective fire and maximum coverage of intervening terrain.

d. Construction of properly designed bunkers to minimize any changes to contours or profile of natural terrain.

e. Separation of sleeping (living) bunkers to reduce absence of men from firing positions during periods of close combat.

f. Location of protective wire beyond grenade throwing distance and with due regard to best final protective line of automatic
weapons. Wire must consist of multiple bands of single or double-apron fence interspersed with flares and when practicable, personnel mines.

g. Carefully selected emplacements for searchlights, anti-aircraft and antitank (tank) weapons. Dummy emplacements are also desirable.

h. Well defiladed communications trenches and routes of approach.

i. Buried or sandbagged wire lines.

j. Good distribution and storage of all types of ammunition and essential supplies.

k. Reasonable sanitary arrangements.

l. Improvement of concealment, camouflage, and dispersion.

m. Further effort to record existing mine fields.

n. Continuing and systematically planned improvement of all positions.

Recommend that expanded instruction in the techniques of organization of the ground be instituted at appropriate service schools. Newly arrived officers give little evidence of being well-grounded in this subject and state that they have received minimum instruction in this subject at service schools. (Command Report - 7th Inf Div - Mar 53)

OCAFF Comment: Letter, ATTNG-24 353/151(7 Jul 53), OCAFF, 7 July 1953, subject: "Model Defensive Positions," stresses the main points enumerated above and adds the requirement that model defensive positions be built at each installation where infantry, armored, artillery, or engineer replacements are being trained, where General Reserve Divisions or RCT's are stationed, and at The Infantry, Armored, Artillery and Engineer Schools. Instruction in proper methods of construction and utilization of defensive positions will be included in appropriate service school courses.
ITEM NO 53

PLASTIC BAGS USED AS EXPEDIENT WITH AN/PRC-10 RADIOS. - During use of the AN/PRC-10 in the rice paddies and rainy weather it was found that by covering the top of the set and the handset with plastic bags, which batteries come in, it is possible to keep the water and dampness out of these items and so keep the set in operation. The handset works perfectly through the plastic bag. (Command Report - 49th FA Bn - Mar 53)

ITEM NO 54

USE OF AAA AUTOMATIC WEAPONS IN GROUND SUPPORT. - M-16's were utilized for patrol support. When employed in this role, the squad leader of the M-16 was in constant communication with a FA forward observer who, in turn, was in communication with the patrol leader. The quad 50, M-16 was then able to provide covering fire for the patrol by firing sporadic overhead bursts with fire shifting at the direction of the patrol leader. (Command Report - 3d AAA AW Bn (SP) - May 53)

ITEM NO 55

VERSATILITY OF AAA AUTOMATIC WEAPONS IN THE GROUND ROLE. - A position was required from which a .50 cal machine gun could fire on the Star Hill group at a range of approximately 6,000 yards so that the proper plunging effect could be obtained. Hill 430 satisfied the requirements since the range to the Star Hill group was 5,900 yards, and this member of the group could be seen from the position. It was then possible to deliver direct .50 cal machine gun fire which would have an angle of fall of 611.3 mils as compared with the angle of fall of 116.3 mils at a range of 2,800 yards. Another advantage of employing this type of fire is the fact that a much larger area is covered due to the dispersion of the rounds at near maximum range. At a range of 5,900 yards the 82% beaten zone of a .50 cal machine gun is 114 yards long and 15 yards wide as compared with a beaten zone of 76 yards long and 5 yards wide at a range of 2,800 yards. With this dispersion it was found that by firing all four guns of the M-16 at the top of Star it was possible to hit the trenches on both the forward and rear slopes with one burst. (Command Report - 3d AAA AW Bn (SP) - May 53)
INCLASSIFIED

OCAFF Comment: This employment of M-16's is a good example of the versatility of AAA automatic weapons in a ground support role. The high angle of fall and increased dispersion of the M-16 at near maximum range were used to advantage in attacking enemy trenches on both forward and rear ridge slopes.

(RESTRICTED) ITEM NO 56

INDIVIDUAL ROTATION IMPACT ON INFANTRY REGT. - The constant struggle to maintain the basic tactical element impairs the efficiency of the unit as a whole. Only constant retraining, repetition of effort, and correction will keep the unit's standard on an even plane. The normal problems of control, operation, terrain, and season, which ordinarily are solved by training and experience, are never completely settled. The basic team, the squad or tank crew, by the time it has been trained and has learned by experience to surmount obstacles, is broken up by individual rotation. Thus, the major unit must return to its elementary goal and reform instead of progressing forward to the next higher level of efficiency. (Command Report - 224th Inf Regt - May 53)

OCAFF Comment: The implementation of the oversea four-man team replacement system for infantry (SR 600-150-10) should reduce many of the problems created by individual rotation in infantry regiments. The infantry rifle platoon packet replacement system will be initiated on an experimental basis at Fort Jackson, SC, in the near future.

(RESTRICTED) ITEM NO 57

ACCRUED LEAVE. - Recommend that Department of the Army establish a policy in regard to loss of leave time for personnel serving in Korea and elsewhere who are not permitted to take advantage of accumulated leave. Leave accumulated under these conditions should be permitted to accrue beyond sixty days so that an individual will not be made to suffer loss of leave, or else a monetary adjustment should be made. (Command Report - 3d TMRS - Dec 52)
UNFUSED NAPALM IGNITION WITH ARTILLERY DELIVERED WP. - One planned operation was to utilize unfused napalm to saturate an enemy position and then ignite it with white phosphorus mortar and artillery fire. This, in conjunction with psychological warfare broadcasts, was to be used for the purpose of obtaining prisoners. (Command Report - 7th Div Arty - Mar 53)

SEARCHLIGHT FOR TARGET DESIGNATION FOR NIGHT CLOSE AIR SUPPORT. - An experiment was conducted by the 1st Marine Division in the use of searchlights for designation of targets for visual night close air support as follows:

Two 24-inch searchlights, from positions surveyed in to provide "on-call" light, were beamed to intersect on a target at an angle of about 1600 mils. An L-19 carried the airborne controller, an artillery FO, who rapidly adjusted the beams. The controller identified the target to a flight of two F7F aircraft flown by pilots who were experienced in night flying techniques.

The aircraft attacked from 6000 ft altitude on a glide angle of 35-40 degrees, approaching the target down one of the beams, and pulling out at about 2000 ft above the target. The beam over which the attack was made illuminated dangerous terrain beyond, and the cross-beam provided a horizon reference. It was found that reverse slopes could be attacked successfully when the forward slope was illuminated. Flak suppression was fired by artillery as for a daylight mission.

The over-all effectiveness was equal to daylight visual bombing, and target identification was more positive than current daylight methods. Some difficulties were encountered with the improvised communications which linked FSCC, controller, and searchlights. While much remains to be developed, this technique for night close air support is entirely workable and offers to extend greatly the effectiveness of air-ground operations. (Eighth Army Arty Info Bulletin No 6 - June 53)
SAFETY TESTS - PORTABLE FLAME THROWER. - A natural fear of most personnel who use the portable flame thrower in combat is that they will be seriously burned or killed if a bullet, particularly tracer, or shell fragment should penetrate the fuel tank while the flame thrower is on the person's back. To determine what would happen in the event of such a penetration a test was made of a mix of napalm thickened fuel and two cans filled with liquid gasoline. Several hundred rounds of .30 cal ball and tracer ammunition were fired at these cans from a machine gun at a range of approximately 300 yards. Penetrations of both cans with both types of ammunition were obtained. No ignition of either napalm fuel or liquid gasoline was obtained which indicates that a flame thrower operator would be safe as far as fire is concerned if the flame thrower fuel tanks were penetrated by ball or tracer ammunition or shell fragments. (Command Report - X Corps - Jan 53)

OCAFF Comment: Chemical tests show that there is no great danger to the wearer if the fuel tanks are ruptured prior to being pressurized. If a rupture occurs, the flame thrower should be discarded at once in order to prevent the wearer from becoming wet with fuel which could be ignited from tracers or other flame throwers. Rupture of the fuel tanks after being pressurized increases the hazard slightly because the fuel tends to spray and ignites more easily. Danger from flame because of rupture of the pressure bottle is highly remote. There is more danger because of rupture of the highly stressed steel.
SUBJECT: Dissemination of Combat Information

1. In accordance with SR 525-85-5, Processing of Combat Information, the inclosed EXTRACTS are forwarded for evaluation and necessary action. It may be appropriate, in certain cases, to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and, often the extracted item serves to reaffirm our doctrines and techniques.

2. Copies are furnished to other military agencies to keep them informed concerning theater problems from the front line through the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office assigns each extracted item the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.

4. Combat information EXTRACTS which are applicable to training at the company/battery level appear in Army Field Forces TRAINING BULLETINS.

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44 UNCLASSIFIED
COUNTERFIRE EXPERIMENT. - An experiment was made using the direct support artillery battalion FDC plotting center as a master counterfire plotting center. The infantry counterfire platoon plotting center remained in the regimental FSCC and forwarded its information to the direct support artillery plotting center. The artillery plotting center then combined this information with information sources such as countermortar radar, and forwarded it directly to the artillery firing batteries and to the heavy mortar FDC. The system has these advantages:

a. Avoids maintaining two co-equal plotting centers, one infantry and one artillery, and eliminates the need for time-consuming exchange of information.

b. Retains infantry control of the counterfire platoon, and insures direct access of regimental S2 to shell fire intelligence, by retaining the infantry counterfire plotting center in the infantry regimental FSCC.

c. Simplifies forwarding of counterfire information to heavy mortars. (Command Report - 32d Inf Regt - Feb 53)

OCAFF Comment: FM states that the artillery commander coordinates countermortar activities; however, he does not coordinate infantry counterfire operations against direct fire weapons. While the system used undoubtedly had value in this particular situation, the overall adoption of such a system is not deemed desirable.

EMPLOYMENT OF COUNTERFIRE PLATOON IN STATIC DEFENSE. - Experience indicated the locating of the counterfire plotting center in the regimental FSCC is sound. It improved control of counterfire operations, exploited available FSCC communications, and provided rapid reporting of shell fire directly to the regimental S2. Direct lines are required to each OP in spite of lateral communications between OP's; direct lines were laid to the remaining three counterfire OP's.

Study of the location of sound OP's during the period indicated that six sets of sound equipment allocated by T/O&E of a counterfire platoon are inadequate to efficiently cover a 10,000 yard regimental front. To avoid leaving large areas of the front uncovered, the machines were placed 1,000 or more yards apart making it impossible to operate them in pairs.
in the manner for which they are designed. To overcome this difficulty, the counterfire platoon employed nine teams, including three attached teams from the reserve regiment. Comparison of the results of February's operations (nine OP's) with January's operations (six OP's, none paired) follows:

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Trials were made with paired machines and with three machines working together. Results indicated that, in terrain favorable for this employment, the three machine employment is more efficient than the paired employment. The operator of the center machine was used as the control operator. (Command Report - 32d Inf Regt - Jan & Feb 53)

(Restricted) ITEM NO 63

PATROLLING PRINCIPLES. - The present conflict is fought almost entirely forward of the MLR by relatively small groups of men in brief but savage patrol clashes. Lessons learned follow:

Higher commanders must impress the riflemen with the vital importance and necessity of accomplishing the patrol mission by visiting patrols during rehearsals, inspections and briefings.

The patrol must be provided with every possible support and facility in its accomplishment of the mission to include:

a. Aerial reconnaissance.

b. Recent aerial photographs and special maps of routes, objectives and surrounding terrain.

c. Fire support to include illumination and close support by aircraft if desired.

d. Special equipment such as sniperscopes, flame throwers, mine detectors, shaped charges, communications devices, and items of special clothing.
c. Intelligence briefings by "experts" on weather, terrain and enemy.

It is absolutely paramount that the patrol leader and assistant be aggressive, intelligent, forceful and thoroughly briefed.

In this type of warfare where static defense lines are surrounded by minefields, patrol patterns are easily established. To avoid this, gaps in minefields must be frequently closed and others opened to prevent the enemy from locating the routes of exit and entrance into our positions.

A ground reconnaissance, from a ground OP as a minimum requirement, must be conducted by each member of the patrol.

A thorough rehearsal of the entire patrol, over similar terrain, at a corresponding time of the day is a definite requirement. Since the vast majority of patrols operate during the hours of darkness most of them should be rehearsed both during the day and at night.

Special measures must be undertaken to camouflage the radio and its operator. The Chinese attempt to neutralize this group immediately. Generally speaking, if communication is lost the patrol should not continue on its mission until communication has been re-established.

Each patrol should have as an adjunct the following elements:

a. A support group of approximately the same size as the patrol which will remain within supporting distance (50-200 yards) to assist the patrol when contact is made with the enemy. This support will be briefed and rehearsed with the patrol proper.

b. An alert force must be designated to be ready for immediate dispatch to assist a patrol if in trouble, or to sweep the area of contact for prisoners and friendly casualties. This alert force should be of considerable size and led by an officer. The leaders of these groups must be exceptionally strong. They must push their patrols through enemy diversionary groups and areas of heavy shelling to reinforce the engaged patrol.

c. Check points must be established where the patrol renders a report to the company OP. In this manner the exact whereabouts of the patrol can be determined, and if a firefight develops, even though communications may be lost, fire support can be effectively supplied, and the alert group accurately dispatched.
d. Trained personnel must be provided, including interpreters for the KATUSA, for immediate debriefings.

After an enemy contact an immediate sweep of the battlefield must be initiated. If the patrol is unable to accomplish the sweep, then the support or alert group must perform this essential task. This is one of the best ways to obtain prisoners of war and must be done to prevent friendly MIA's. Enemy dead must be searched for identification, documents, and equipment.

The use of volunteers for patrolling should not be encouraged, although they should be accepted for special tasks if truly voluntary in nature. The use of volunteer units and the continual employment of individual volunteers tends to emphasize patrolling as a specialty, rather than a primary task of every infantryman.

Each battalion and higher commander should charge his operations officer with the over-all supervision and control of the patrolling activities of his unit. Intelligence officers should be consulted frequently for details in planning for patrols, selecting objectives, and in briefing and debriefing patrols. The intelligence officers should not be charged with controlling or coordinating patrols as operations.

Outguards in critical areas must receive specialized training comparable to that of a patrol. The extensive use of barbed wire and trip flares must be emphasized to eliminate the possibility of surprise. All personnel must be impressed with the wisdom of employing rifle flares in appropriate combat situations.

Recommend that all infantry training, whether it be basic or advanced in CONUS, emphasize strongly the subject of patrolling. Particular stress should be placed on all phases of night patrolling. The aspects of aggressiveness, stealth, and teamwork must be stressed repeatedly. The confidence of the individual soldier can be enhanced if he is made to realize the tremendous support he has from the infantry, artillery, tanks and Air Force. Continuous effort must be directed to instill the will to close with the enemy and kill or capture him. Our patrols inevitably emerge victorious when aggressive, close-in contact is initiated. (Command Report - 2d Inf Div - Feb 53)

OCAFF Comment: Additional training is being prescribed in current revisions of ATP's which emphasizes patrolling and fighting at night.
INFANTRY MORTAR BATTALION EMPLOYMENT. - Whenever the tactical situation permits, this battalion operates intact and the firing companies remain under the control of battalion headquarters.

Each company operates its own FDC while the battalion headquarters acts as a coordinating agency for the companies. The battalion is normally in general support of the infantry division and under operational control of the division artillery. This method of employment and control is far superior to that of dividing the battalion into smaller units and attaching piecemeal throughout the division. Under operational control of division artillery, the fire power of the battalion is used effectively and is coordinated with that of the artillery which prevents a duplication of effort and indiscriminate waste of ammunition. The fires of the battalion can be massed and placed where the need is the greatest without the restriction of being limited to one narrow sector. Such control does not limit the fires of the mortars to a small sector but allows full utilization of all capabilities. (Command Report - 461st Inf Bn (Hv Mortar) - Mar 53.)

\[OCAFF\, Comment:\] The use of the heavy mortar battalion as a unit under operational control of division artillery permits full advantage to be gained from use of the battalion or regimental FSCC as outlined in DA TC No 9, 1953, "Coordination of Fire Support."

INFANTRY BATTALION FSCC COMMUNICATION. - The infantry battalion FSCC's had no radio communication with the infantry heavy weapons. Since the artillery liaison officer is the fire support coordinator for the infantry battalion, coordination of infantry weapons is virtually impossible if infantry wire goes out.

The FSCC at the infantry battalion level should be provided with radio communication to infantry heavy weapons, and adequate infantry personnel to assist the artillery liaison officer should also be provided. (Command Report - 49th FA Bn - Mar 53.)

\[OCAFF\, Comment:\] Though the artillery liaison officer is the fire support coordinator for the infantry battalion, the battalion is to furnish personnel and equipment to implement establishment of an FSCC. Radios for communication with infantry heavy weapons units should be provided by those units to the FSCC, together with a representative as prescribed in DA TC No 9, 1953, subject: "Coordination of Fire Support."
SNIPERSCOPES. - Most patrol leaders insist on taking a sniper-scope with each patrol. The more vulnerable outpost positions are also equipped with scopes when available. Extensive experimentation has been done with the scopes. They are now being used both for searching and signalling.

Recommend that:

a. Instruction presented in CONUS include sufficient practical work to convince each man that he can operate the equipment and to teach him the capabilities and limitations of the equipment.

OCAFF Comment: The issue of the sniperscope to CONUS GR units as authorized in SR 310-30-55, 15 December 1952, and contemplated changes to ATP 7-300 will provide sniperscope training in units of this type during advance individual and basic unit training. In addition, CONUS arms schools and The Engineer School offer courses to officers and enlisted personnel which include mechanical training, firing and/or maintenance of sniperscopes.

b. Two men be added to each infantry battalion headquarters company to maintain and instruct in the operation and maintenance of infrared equipment.

OCAFF Comment: Should a requirement for additional maintenance personnel develop, such personnel should be included in the regimental service company, not at battalion level.

c. A division maintenance section under the division Engineer be established to provide rapid repair facilities (similar to the Signal Corps repair system for signal items).

OCAFF Comment: Two mechanics are currently included in the Engineer battalion for the repair of sniperscopes.

d. A throw-away battery, with an enclosed cable, and a more durable scope be developed. A throw-away battery would eliminate much time and equipment necessary to recharge batteries. (Command Report - 31st Inf Regt - May 53.)

OCAFF Comment: A disposable type, one-time use battery (copper chloride) is being developed to replace the battery now in use.
MECHANICAL FAILURES OF M-46 TANKS. - M-46 tanks in positions on the MLR are confronted with many unusual maintenance problems. The steep mountains and poor roads also contribute to mechanical failures. Unfortunately the lack of space in tank positions prevents proper exercising of tanks. Most failures show up on road marches performed after tanks have been in position for long periods. Common mechanical failures are final drives, oil lines and oil cooler fans. Few road marches are made without one of these items causing a breakdown. The quality of replacement parts for the items listed is often unsatisfactory. It is not unusual for replacement items to break down or fail to perform soon after installation.

Recommend that oil lines, final drives and cooler fans be fabricated from stronger materials. (Command Report - 140th Tank Bn - May 53.)

GAS TANK DRAINAGE OF M-46 TANKS. - Another problem is encountered when draining gas tanks of the M-46 and 46A1. As the drain plug is unscrewed, gasoline hits the man's hand and is deflected into the tank. When the sediment bowl is removed gasoline is easily spilled on the floor of the engine compartment. Such conditions contribute to a dangerous fire hazard. However, it is necessary to drain gas tanks at frequent intervals as a great deal of condensation and dirt accumulate in the tanks and must be removed; otherwise gasoline lines become clogged and cause fuel stoppages.

Recommend that a more efficient drain be developed for gas tanks. (Command Report - 140th Tank Bn - May 53.)

ONE-WAY REVERSIBLE REMOTE CIRCUIT. - The provisions for a one-way reversible remote control circuit for the radio set AN/GRC-26A used in the FSCC Air Request Net was made by locating the radio set approximately one mile from the FSCC operations building. The system provides for remote control by means of a locally built control unit as the equipment installation, two telephone pairs extending between the installation and the operations building, and one double-throw "transmit-receive" switch at the FSCC operations building with red and green lights to indicate the switch position. One typewriter may be used for both transmitting and receiving. (Command Report - 50th Sig Bn - Mar 53.)
A signal modification work order is being processed which will equip the AN/GRC-26A with remote control facilities. In other models of the AN/GRC-26, the remote control facility is an integral part of the radio set.

ITEM NO 70

CABLE SPLICER'S TENT LC-37. - The cable splicer's tent LC-37, although designed to be used aerially, frequently is required for ground operation. When the wind is blowing, a problem exists in keeping the side walls anchored. An improvised framework has been designed to eliminate the necessity for anchoring the side walls and provide a sturdy supporting structure which can be used on aerial projects as well as for ground operations. The framework designed as an addition to the tent LC-37 is of light construction, is collapsible, and can be moved at will by merely loosening four wing nuts. (Command Report - 50th Sig Bu - Mar 53.)

ITEM NO 71

IMPROVISED CABLE LAYING TRAILER. - A cable laying trailer capable of laying as many as 12 pair of WD-1/TT wire in the form of cable was developed. The device consists of 3 axles placed across the width of a 1/4-ton trailer. On these are placed wire reels DR-4. The lines are passed through a gathering ring where they are grouped and wound spirally with one metallic pair from a dispenser MX 306 A/G mounted on the gathering frame. The trailer can install cable at a rate of 4 to 5 miles per hour and requires only 2 wiremen to operate; consequently the balance of the wire team is available for policing the cable off the ground. All materials used are available locally. (Command Report - 159th FA Bn - Mar 53.)

ITEM NO 72

LAYING WIRE USING ROCKET LAUNCHER. - Tests were conducted laying wire from dispensers by using a launcher, rocket 3.5 inch (bazooka) as described in FM 24-20. Results of these tests indicate that this method of wire laying is dependable for distances up to 300 yards for WD-1/TT in dispenser MX 306 A/G. It was also determined that 1/2 inch rope coiled to pay out freely could be thrust at least 100 yards using this method. The rope used in these tests was new and consequently stiff. Considerably more than 100 yards could be reached with a more limber rope. (Command Report - 3d Sig Co - May 53.)
ITEM NO 73

ARTILLERY COMMUNICATIONS. - Radios, AN/PRC-6 are being employed to supplement existing means of communication between the computers in battalion FSCC and the firing battery executive posts; also as lateral means of communication between OP's. In order to speed up the warning to aircraft in the impact area where VT fused rounds are to be fired, a plan has been developed that permits a single radio operator to transmit simultaneously the warning on the two division artillery fire direction channels over two separate radio sets. This cuts in half the time required to make this transmission, thus reducing the time necessary to deliver fire on a given target. The base set radio and telephone switchboard installations in battalion FSCC are in alcoves, thereby saving floorspace and effectively reducing interference between radio and switchboard operators. (Command Report - 158th FA Bn - May 53.)

ITEM NO 74

OPERATION OF RADIO SET AN/PRC-6 UNDER COMBAT CONDITIONS. - AN/PRC-6 radio set has proved to be eminently suited to the operations of an infantry battalion under a wide variety of difficult conditions. In range of transmission, frequency and in durability, it has proved superior to all available transceivers.

The flexible antenna AN/PRC-6 has proved most unsatisfactory under field conditions. The bottom section of the antenna splits even though extreme care is exercised. Heavy taping of this section prevents splitting but destroys flexibility. The push-to-talk button does not stand up under heavy use. The case is not waterproof. (Command Report - 224th Inf Regt - May 53.)

OCAFF Comment: TB Sig 213, July 1953, provides for modification of sets now in production to correct deficiencies outlined above.

Section V, TB Sig 555-5, June 1953, prescribes the expedient of taping of antenna to correct this deficiency in sets now in use.

ITEM NO 75

COMPOSITE SIGNAL PLATOON. - In order to effect a closer coordination between related communication facilities and attain a higher degree of operational efficiency, inter-transfer of the radio relay platoon and the teletypewriter section was made between R & M Company and T & T Company. The Radio Relay Platoon was combined to form a composite platoon with the Carrier Platoon, and the Teletypewriter
Section was combined to form a composite platoon with the Message Center Platoon. Normal field operations dictate just such combinations for communications efficiency and job proficiency. (Command Report - 50th Sig Bn - Mar 53.)

OCAFF Comment: Essentially the same organization is included in the latest revision to the T/O&E for the Corps Signal Battalion.

(RESTRICTED) ITEM NO 76
PACKAGE WEIGHT FOR HAND CARRY. - The package weight of all construction materials should be reduced to a maximum of 40 to 50 pounds. A specific case is that of rolls of barbed wire, which at present weigh approximately 100 pounds. Extended hand carry of weights in excess of 45 to 50 pounds is not efficiently accomplished. (Command Report - 35th Inf Regt - Mar 53.)

(RESTRICTED) ITEM NO 77
GFT FOR 105-MM HOWITZER ILLUMINATING SHELL. - Recommend that a GFT be devised for 105-mm howitzer illuminating shell. At present, due to the calculations necessary when using the tabular firing tables, fire with illuminating shell cannot be delivered as rapidly as fire with HE shell. A GFT for illuminating shell would facilitate the delivery of timely fire, which is a necessity when illuminating shell is called for on a night attack. (Command Report - 58th FA Bn - May 53.)

(RESTRICTED) ITEM NO 78
ARTILLERY DELIVERED ILLUMINATION. - Illumination has become a requirement for immediate close-in fires just as pressing as the barrage during hours of darkness. Noises at night assume major proportions which tend to magnify the size of an enemy believed to be in front of friendly positions. Without immediate illumination, heavy volumes of fire have been placed in the darkness against relatively unimportant targets. By encouraging the use of illumination to permit observation and evaluation of the target, all aspects of operations after dark are improved.

An illumination platoon is designated in each battery and receives all rounds of illuminating shell in the battery. Based on enemy activity during the day and other intelligence factors, illumination is planned for the areas of most likely enemy activity. The remaining two platoons in each battery are sufficient to develop and sustain an intense rate of fire on the normal barrage. (Command Report - 49th FA Bn - May 53.)
(RESTRICTED) ITEM NO 79

EMPLOYMENT OF SEARCHLIGHTS. - Illumination should not be constant, since a fixed beam is generally avoidable by the enemy, and the continuous diffused light on rear slopes is of considerable aid to enemy work parties and supply details.

Artillery fire frequently delivered concurrent with the shifting of illumination induces enemy association of the two and thus enhances the harassing value of the lights when used alone.

"Fire planning" for "on-call" searchlight missions proves valuable in a variety of defensive and offensive operations. One such mission is in conjunction with night reconnaissance; for example, a patrol moves to concealed positions, and then calls for illumination of the area to be observed.

The demand for coordination is again stressed, to include clearance with adjacent units as well as a careful review of subordinate patrol activity scheduled in areas to be illuminated. (Eighth Army Arty Info Bulletin No 6 - June 53.)

(CONFIDENTIAL) ITEM NO 80

USE OF SEARCHLIGHTS IN AAA ROLE. - Searchlights were used against enemy aircraft attacking the island. One enemy plane crashed into the channel just east of the island during the engagement. Enemy aircraft conducting these attacks are of the PO-2 type which approach at low altitude and slow speed to avoid detection by sound and radar. The use of searchlights against this type of attack is proving to be exceptionally effective. It allows aimed automatic weapons fire to be delivered at night. Searchlights have a deterring effect on enemy pilots and cause enemy aircraft to take evasive action immediately upon being illuminated. (Command Report - 933d AAA AW Bn. (Mbl) - May 53.)

(RESTRICTED) ITEM NO 81

DETONATING X-200 NAPALM LAND MINES. - Tests were conducted to determine the best means of detonating X-200 land mines. Electrical means of detonation had proven unreliable due to frequent cutting of electrical lead wires by enemy personnel and incoming artillery and mortar rounds. Following methods are recommended for use:
a. Electrical-firing using multiple blasting caps and lead wires.

b. Pull-type firing devices using multiple trip wires and/or lanyards.

c. Pull-release type firing devices wired to function even though trip wires may be cut by enemy personnel.

Following points are stressed:

a. When electrical means of detonation are used insure that the source of electric current is sufficiently strong to activate all electric blasting caps in the circuit.

b. Test the source of electricity frequently.

c. Connect relatively few mines in series thus reducing the electricity requirements and insuring that the entire field will not be rendered ineffective by one break in the wiring system.

d. Use multiple blasting caps, lead wires or lanyards. (Command Report - 40th Inf Div - Apr 53.)

ITEM NO 82

TEST OF X-200 NAPALM LAND MINE. - One X-200 napalm land mine prepared and left in outdoor storage since November 1952 was detonated in March 1953. This mine had been exposed to rain, snow, mud, temperature ranges from $-10^\circ$ F to $65^\circ$ F, and transported over great distances in trucks. There was no evidence of deterioration; no rusting of the metal container had occurred, no leakage was apparent, seams were intact, the carrying handle was secure, and the threaded filler cap was easily removed. The napalm filling gave no evidence of breakdown. The punch-out hole in the filling cap had been covered with adhesive tape throughout the storage period, thus assuring the exclusion of moisture from the burster and the napalm filling.

Lessons Learned: Punch-out holes on all X-200 land mines assembled and emplaced for tactical use should be sealed with tape. (Command Report - 40th Inf Div - Mar 53.)

√OCAFF Comment: See item, "Period of Effectiveness of the X-200 Land Mine" published under Source No 751, ltr ATTNG-26 350.05/7(DOCI)(C)(3 Jun 53), OCAFF, 3 June 1953, subject: "Dissemination of Combat Information."
ITEM No 83
MINIATURE FOUGASSE. - Work was completed on the "Fireball," a device essentially a miniature Fougasse. Basically it is composed of a five-gallon oil can filled with napalm, one WP grenade with the fuse removed, a 1/2-pound block of TNT, and an electric blasting cap (see sketch). Each "Fireball" will effectively cover an area up to 100 yards long by some 20 to 30 yards wide. In principle the container is crushed by the exploding TNT and hurled through the air dropping ignited napalm en route. The WP grenade, shattered by the explosion, provides the necessary ignition. Aside from the casualty producing effect, the psychological effect is tremendous. This device can be used to good advantage in strengthening defensive positions. (Command Report - 25th Inf Div - Jan 53.)

ITEM No 84
FLAK SUPPRESSION FOR ARMY AIRCRAFT. - Effective flak suppression, especially in areas where the enemy is sensitive, is rapidly becoming a must if Army aircraft are to remain directly over the target area in the performance of their mission. At present there is need for standardization of flak suppression in the major units. (Command Report - Eighth Army - Dec 52.)

ITEM No 85
NEED FOR TWO-PLACE TACTICAL ARMY AIRCRAFT. - In recent years the emphasis on fixed wing aircraft development at DA level has been placed on multiplace aircraft. Since the Army now has two suitable types of multiplace aircraft in the L-20 and the L-23, the emphasis on research and development, aside from helicopters, should be shifted to the two-place tactical aircraft.

Although the L-19 aircraft has performed well in Korea, increased enemy flak has proved its weakness in two aspects -- need for self protective armament and emergency get-away speed. The basic importance of Army aircraft still remains a tactical one -- providing observation and reconnaissance, preferably over the target area. Constant improvement in the current tactical aircraft and far-reaching research and development is desirable and must be strived for. (Command Report - Eighth Army - Dec 52.)

OCAFF Comment: Requirement for armament and speed in Army observation type aircraft is currently under study at this Office.
"FIREBALL" Tamped Earth

5 Gallon Oil Can Filled with Napalm

WP Grenade and TNT Centered on Bottom of Can. Sand Bags may be used in place of Tamped Earth on Top of Can.
ITEM NO 86

REQUIREMENT FOR 30KW DIESEL GENERATOR. - The operation of the bakery equipment for 24 hours each day puts a strain on the 25KW gasoline generators used to operate the bakery equipment.

Recommend that the 25KW gasoline generators be replaced with 30KW diesel generators. These generators could handle the load without the operational strain now incurred by the 25KW units. (Command Report - 470th QM Bakery Co - Jun 53.)

OCAFF Comment: 30KW gasoline generators are now authorized in lieu of the 25KW generators as part of the mobile bakery equipment for this type unit. Diesel generators are considered impracticable because of their weight and increased fuel supply problem.

ITEM NO 87

UTILIZATION OF 55-GALLON DRUM FOR BURNER, OIL, STOVE, TENT, M-1941. - Experience in Korea has indicated that organizations and units supplied with the Stove, tent, M-1941, equipped with the Burner, oil, stove, tent, M-1941, have been modifying the Adapter, gravity feed, 5-gallon can in order to have a larger fuel supply. This modification consists of withdrawing the breather tube from the adapter, closing the breather hole into the fuel can top, and utilizing the complete adapter assembly with a 55-gallon drum placed on a cradle. The modification provides the stove with a much greater fuel supply and eliminates the constant refilling of the 5-gallon can.

Recommend that the Office of the Quartermaster General conduct a research and development study to provide a modification for the Adapter, gravity feed, which can be utilized with a 55-gallon drum. (Command Report - 55th QM Base Depot - June 53.)

ITEM NO 88

CHANGES TO ENGINEER TOPOGRAPHIC CO (CORPS). - There is a weakness in the T/O&E of this unit (T/O&E 5-167). The authorized Fire Control Instrument Repairman (MOS 3922) is trained in maintenance of equipment pertaining to armament and ordnance items but is generally not qualified to repair survey equipment of the type used by this company. Recommend that this MOS be eliminated from the T/O&E and in its place authorize a Non-electrical Equipment Repairman (MOS 3098). The training and qualifications of this MOS fit closely the requirements for a unit...
of this type. This change along with change of Electrician (MOS 3078) for a Field Radio Mechanic (MOS 3648) would provide necessary personnel to maintain the many delicate items of equipment authorized this unit. (Command Report - 62d Engr Topographic Co - May 53.)

OCAFF Comment: Recommendation appears to have merit and consideration will be given to changing subject MOS's when table is revised.

ITEM NO 89

**ENEMY 3.5 ROCKETS.** Five enemy spin stabilized 3.5 rocket rounds were found in the Yokkok-Chon river valley approximately 500 yards from the route tanks were using to enter the valley. Following results were noted: maximum effective range 547 yards, maximum penetration 3-1/2 inches at a 90 degree angle. The rocket is point detonating. (Command Report - 73d Tank Bn (M) - Mar 53.)

ITEM NO 90

**AUTHORIZATION OF TELEPHONE EE-105 IN T/O&E 11-500.** General Maintenance teams are authorized by T/O&E 11-500 four each, telephones, EE-8 to perform maintenance on open wire systems. However, the telephone EE-8 cannot be used on open wire systems which have carrier termination without disrupting communications on all channels. All open wire systems maintained by this organization utilize carrier equipment.

Recommend that GM teams be authorized by T/O&E 11-500, telephone EE-105 which is designed for maintenance of open wire with carrier systems in lieu of the telephone EE-8. (Command Report - 59th Sig Support Co - June 53.)

ITEM NO 91

**HELICOPTER FOR SIGNAL CO (T/O&E 11-117).** Supplying and maintaining the VHF sites by air-ground liaison teams presents great travel problems in Korea. Due to their inaccessibility by road these sites may be off the air for many hours. Some sites are at the tops of mountains and even upon arriving at the base of the mountain it takes over 1-1/2 hours to reach them.

Open wire maintenance is a difficult task over Korean terrain. Most of the lines run through passes and mountains; thus, they are
impossible to reach by road. This presents great problems in locating trouble and maintaining the lines.

Recommend that a signal company of this type be authorized one helicopter. (Command Report - 57th Sig Support Co - June 53.)

OCAFF Comment: There is not sufficient justification to authorize a helicopter for the following reason: Some of the difficulties encountered in supplying and maintaining VHF sites are unique to Korea. It should be possible for the unit to obtain the use of a helicopter from one of the other Signal Units in the Army Signal Group or from Transportation Helicopter Companies.

ITEM NO 92
SIGNAL CORPS AERIAL PHOTOGRAPHERS. - Recommend steps be taken to assure Signal Corps aerial photographers prompt flight status and incentive flying pay in combat zones.

Tactical light aviation photography has been considerably impaired by existing regulations which require DA approval for Signal enlisted personnel engaging in these hazardous missions. Inasmuch as these Signal camera-men undertake the same risks as the pilots who fly them over enemy terrain, recommend they receive the same recognition for flight pay commensurate with grade. (Command Report - 3d Sig Co - May 53.)

ITEM NO 93
NEW TYPE SIGNAL LINE TRUCKS AND EARTH BORERS. - Recommend that the new type Signal line trucks and earth borers (V-17 & V-18) be equipped with dual tires to obtain greater stability. These vehicles are top heavy, especially when traveling over the rugged terrain in Korea. (Command Report - 26th Sig Const Bn - May 53.)

ITEM NO 94
PROTECTING PRISONERS. - The frigid Korean winter has had its effect in reducing the number of prisoners taken. Enemy troops are not as active during cold weather as they are in milder temperatures. Consequently, enemy movement is so restricted in front of their MLR that captures by raiding parties and ambushes are particularly difficult to accomplish. Cold weather adds to the problem even further since wounded prisoners often do not survive shock and cold until they can be evacuated through friendly lines. Rather unusual measures have been
adopted to surmount this difficulty. The ROK 6th Infantry Division has made it a practice to carry extra blankets on patrol for the express purpose of wrapping wounded prisoners. On several occasions, 7th Infantry Division patrols have carried a wounded PW between two litters in order to secure as well as protect him. The ultimate in protection of PW's seems to have been reached when a soldier of the ROK 1st Infantry Division, taking part in a raid on BIG NORI, put both his helmet and armored vest on a captured Chinese soldier to ensure his safe return to friendly positions. (Command Report - Eighth Army - Jan 53.)
ATTNG-26 350.05/21(DOCI)(16 Nov 53)  
16 November 1953

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4. Combat information EXTRACTS which are applicable to training at the company/battery level appear in Army Field Forces TRAINING BULLETINS.

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A. B. CHATHAM  
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UNCLASSIFIED
REPLACING TANKS WITH BULLDOZERS IN ORDNANCE AMMUNITION COMPANIES. - Two of the greatest problems that the units of this battalion have faced are the construction and never ending maintenance of roads and the ever present dangers from fire in both the ammunition storage as well as the bivouac areas. During dry periods forest fires have continuously threatened the storage area. Action is needed to augment the companies' equipment with suitable devices for overcoming these problems.

Organic ammunition company equipment includes two tanks, medium, with bulldozer attachment (each costing approximately 1/4 million dollars). Their use is limited and ties up two pieces of vital tactical equipment. No other first aid fire fighting equipment is authorized. Recommend that:

a. The standard D-7 type bulldozer be substituted for the tank dozer. This would provide a much more rugged piece of equipment which could be put to a never ending use in the preparation and maintenance of roads and construction of preventive fire breaks, and would cost 1/20 of the tank dozer cost.

b. Two pieces of first-aid fire fighting equipment be added. Navy devices used to fight aircraft fires, such as the "Little Squirt" (a 1200-gallon pressure type chemical foam extinguisher mounted on a 1/4-ton vehicle and costing about $5,000), would provide the maneuverability and speed so necessary in fighting ammunition fires. (Command Report - 67th Ord Bn - April 53)

OCAFF Comment: A study is being made to replace tank dozers in the ammunition companies with the armored bulldozer. Engineers are conducting tests on the armored bulldozer.
INNOVATION FOR MAINTENANCE PARTS TRAILER. - Sketch below shows a technical innovation for a maintenance parts trailer, adopted for use under Korean field conditions.

A shell, either of plywood or canvas, is constructed on a trailer, 1-ton. Shelves and cabinets for stowage of ordnance spare parts are constructed of scrap lumber. Dual wheels give necessary support and balance even in adverse terrain in order that the trailer may be taken directly to vehicles in need of repair. (Command Report - 72d Tank Bn - May 53)
ITEM NO 97

EXCESSIVE USE OF WP SMOKE GRENADES. - Excessive use of WP smoke grenades obscured the battlefield; WP was relatively ineffective in destruction of cave positions. Large concussion grenades and bunker bombs would have been more effective for securing prisoners and destroying all types of positions.

Assault elements having the mission "to capture and destroy" should be provided with large concussion grenades to stun the enemy and bunker bombs to blow up bunkers and positions. (Command Report - 15th Inf Regt - May 53)

OCAFF Comment: The fragmentation grenade is the primary, casualty producing grenade. The primary purpose of the WP grenade is to screen and to burn. The WP grenade is approximately 50% heavier than the fragmentation grenade which reduces throwing range. Substitution of the WP grenade for the fragmentation grenade is not recommended. Satchel charges can be used to stun the enemy and blow up bunkers.

ITEM NO 98

FAILURE TO INCLUDE ON-CARRIAGE AND ON-VEHICULAR EQUIPMENT. - Twelve 240-mm howitzers have been received and processed for issue. Eight pieces are awaiting the fabrication of loading trays and sight mount brackets. The failure to include On-Carriage Equipment and On-Vehicular Equipment with the major item continues to cause delays. (Command Report - 4th Ord Bn - Apr 53)

ITEM NO 99

REQUIREMENT FOR HEAVY-DUTY GASOLINE GENERATOR IN FIELD ARTILLERY BATTALION. - This battalion lacks proper facilities for charging storage batteries used to power the radio set AN/VRC 2 located in the battalion fire direction center and battery executive posts. Firing batteries have no facilities for charging these batteries other than the truck upon which the set is mounted. The battalion FDC has available five power units PE 210 to be used for this purpose and for vehicular charging. These radios have to operate for days at a time, which results in excessive vehicle engine wear and fuel consumption, and immobilizes the vehicle. The power unit PE 210, when operated over long periods of time at speeds great enough to generate 24 VDC, has a high incidence of piston rod and bearing failure.
Recommend that the headquarters battery and firing batteries be authorized a gasoline generator capable of delivering 26 - 28 VDC at 40 - 50 amperes, similar to the tank heater generator ("Little Joe"). Another method suggested is the rectifier, RA 83-A to be used with the electric lighting equipment, 3 KVA, Set No 3 issued to headquarters battery. (Command Report - 17th FA Bn - June 53)

\[OCAFF\] Comment: Upon the development of a suitable power unit, a substitution for the PE 210 will be made in T/O&E's.

(Restricted)

ITEM NO 100

NIGHT TRAINING FOR AW IN CLOSE SUPPORT. - Most training is conducted at service schools during hours of daylight. In Korea experience has shown that most close support missions are utilized at night. Recommend that both officer and enlisted personnel be trained in CONUS in the utilization of AW fire for close support during hours of darkness. (Command Report - 3d Inf Div - Apr 53)

\[OCAFF\] Comment: Appropriate night training is included under OCAFF Training Memorandum No 5, 11 March 1953.

(Restricted)

ITEM NO 101

CONTAINER FOR PRIMERS ON 155-MM HOWITZERS. - During prolonged periods of firing cannoneers are inclined to remove the belt primer M-8 which holds 20 primers and the spare firing mechanism M-1 and hang it on any convenient hook or object nearby. This often causes the primers and firing mechanism to become excessively dirty and subject to damage. To provide a more suitable storage place for primers and the two firing mechanisms issued with each 155-mm howitzer, recommend a fitted container be designed and attached to the inner side of the right trail near the trail hinge in such a manner that it could be used during firing to hold the firing mechanisms in readiness for use and the primers easily available to the cannoneers. The compartment should be designed to contain 50 primers to preclude having to store part of the contents of an opened metal container elsewhere. It should also be dust-tight for traveling in much the same manner as is the panoramic telescope case mounted on the left shield. Such a modification would eliminate the need for a primer belt, relieve the cannoneer of this dangling appurtenance in front of his person, increase the effectiveness of operation, and keep both primers and mechanisms out of the dirt and in a prescribed location. (Command Report - 31st FA Bn - June 53)
ITEM NO 102

FIELD ARTILLERY BATTERY INNOVATIONS. - The problem of each howitzer section identifying its aiming posts from all other aiming posts was simplified by the following procedure. A three-color code for the battery was established. The first and fourth sections have red and white striped aiming posts issued. The second and fifth sections have painted their posts yellow and white and the third and sixth sections use blue and white stripes.

A field expedient that has been in operation for many months is the use of one common battery for all aiming post night lights and for a diffused light over the ammunition pits. A length of issue field wire, WD-1, connecting aiming post night light devices and the ammunition pit light is connected to a battery, BA-70, with the switch for the circuit located near the gunner. (Command Report - 49th FA Bn - June 53)

ITEM NO 103

TESTING ARTILLERY 105-MM CANNISTER AMMUNITION. - The first two rounds were fired at a target 550 yards away, using the elbow telescope sight set at 600 yards. Most of the effect from these two rounds was short. The next two rounds were fired at a target 300 yards away, using the elbow telescope sight set at 300 yards, with the effect falling short. Two rounds were fired at a range of 300 yards, using a quadrant elevation of 64 mils set on the elevation drum scale. This corresponds with a range of 1200 yards in the elbow telescope sight. The effect observed from these two rounds was good.

It was found that when using the elbow telescope sight the range should be multiplied by 4 to give the correct range. For example, if the range to the target is 300 yards, the sight picture should read a range of 1200 yards in the elbow telescope sight.

It was observed that a 3/4-inch pine board and a 55-gallon oil drum were penetrated in several places at a range of 300 yards.

Gun pits presently occupied by this battalion are not conducive to the use of cannister ammunition. The height of the gun pit walls prohibits the howitzers from laying at the elevation which cannister ammunition must be fired to be effective. (Command Report - 143d FA Bn - April 53)
ITEM NO 104

ALTERNATE SIGNAL FOR VT FIRES. - Experience in Korea has demonstrated that in the event of attack by a sizeable enemy force on a friendly position, communication lines are particularly vulnerable to enemy fire and are often cut by exploding shells. When a friendly outpost position has been overrun, it is probable that radio communications will also be disrupted. On numerous occasions, a decision to fire VT fuzed artillery directly on the friendly position has been advisable. In the event all communications have been lost with the position, there must be a signal readily recognizable to all friendly elements to indicate that VT is about to be fired upon the position. The following SOP within an RCT is an example:

When friendly elements on position decide to bring their own artillery fire down, and all communications have been lost, a belt of solid tracer ammunition from a .30 caliber machine gun is fired vertically from the position. The infantry battalion commander, if he concurs, will request an answering signal from the artillery consisting of six rounds white phosphorus at 5-second intervals, time fuzed to burst 100 yards in the air immediately in front of the position to be fired on. This will be followed immediately by the HE, VT on position.

In the event that no signal is received from the position and the commander decides to fire the VT on his own initiative, the same signal from the artillery will prevail.

Experience has shown that using an M500 fuze, cutting back the time two seconds and increasing the angle of site equivalent to 100 yards will give an ideal height of burst for the white phosphorus signal. This signal is distinctive and readily distinguishable from other air bursts or pyrotechnics in the air. (Command Report - 48th FA Bn - April 53)

ITEM NO 105

TRAINING AIDS SYSTEM. - Training aids are indisputably an essential part of any good class. Field expedients are used but are limited. An Army training aids system could be established whereby units in reserve could be loaned visual training aids for a short period. This would, in effect, increase the effectiveness of each class and reduce the reliance on each instructor for superior initiative and teaching ability. (Command Report - 23d Inf Regt - May 53)
A training aids center system presently exists in FECOM consisting of eleven training aids subcenters, one of which is located in Seoul, Korea. This system is capable of providing training aids support.

ITEM NO 106

NEED FOR SYSTEM OF AIRCRAFT IDENTIFICATION. - Recommend that a more efficient system be established for the identification of aircraft flying over front line corps and division sectors. The present Air Force and antiaircraft radars deployed in rear areas do not provide adequate and rapid screening of aircraft over corps and division areas; there is no agency within a corps or division to provide this screening. This problem can best be solved by making antiaircraft artillery operations detachment available to each front line corps. This detachment should man an antiaircraft operations center which has direct communications with all Army and Air Force installations controlling aircraft flying over the corps sector. (Command Report - 3d AAA A W Bn (SP) - Apr 53)

ITEM NO 107

USE OF ELECTRICAL FENCES TO SAFEGUARD SUPPLIES. - The latest type of security fence erected was an electric fence (5-strand barbed wire) approximately six feet high. The electric fence is the innermost fence, and the two outside fences are double-apron barbed wire fences approximately five feet high.

The electric fence has a psychological effect on would-be intruders or pilferers and is considered a major factor in attaining required security. The minimum number of volts applied to the conductor (barbed wire) has been 110. (Command Report - 58th QM Salvage Company - June 53)

OCAFF Comment: For other extract on this subject see Item No 38, inclosure to letter, ATTNG-26 350. 05/11(DOCI)(C)(10 Sep 53), OCAFF, 10 September 1953, subject: "Dissemination of Combat Information."
ITEM NO 108

ORDNANCE BATTALION T/O&E CHANGE. - Vehicles authorized Company A by T/O&E 9-27, while adequate in quantity, are not believed to be of the right type. The largest vehicle authorized by T/O&E for the maintenance platoons is a 1/4-ton 4x4. These maintenance platoons change large tank assemblies in forward areas which results in a great saving of time. One 2-1/2-ton cargo truck is required to transport these assemblies. (Command Report - 707th Ord Bn - April 53)

ITEM NO 109

METHODS OF CONSTRUCTION OF WIRE LINES IN FORWARD AREAS. - The established operational policy requires all wire lines to be cabled and suspended above ground on poles or other overhead support. This requirement also applies to short intrabattery lines within a position area. In general these lines tend to follow main roads and routes of approach. Such communication lines present a neat appearance, are easy to service under quiet conditions, and are less subject to damage by weather or other natural hazards. However, this method of establishing wire lines has proven unsatisfactory every time this battalion has been subjected to enemy shelling. During the first minutes of heavy enemy artillery fire on the night of 1 - 2 June every wire line to every unit coming into the battalion switchboard and fire direction center was cut. As soon as practicable, wire lines within the battalion were rerouted and laid according to procedure established and recommended by The Artillery School. They were dug in, placed in well defiladed routes, and even protected by sand bags where other methods were not possible. After these basic procedures were accomplished the battalion was subjected to several more intense shellings and numerous harassing rounds of enemy fire. Little difficulty with wire communications within the battalion was experienced. To replace and repair overhead lines knocked out by enemy fire this battalion alone expended 120 miles of wire. The interests of economy and efficiency would be better served if communication lines in areas regularly subjected to enemy fire were laid along defiladed routes and dug in or covered in all exposed places.

Recommend that basic established procedures as to cover and defilade, be followed for all wire communication lines laid in forward areas in Korea. (Command Report - 981st FA Bn - June 53)

CGAFF Comment: Failure to provide duplicate circuits as recommended in subparagraph 82a, FM 6-101, "The Field Artillery Battalion," was a contributory cause of the loss of communication.
COMMUNICATION DIFFICULTIES IN USE OF RC 292 ANTENNA.

Improvement in radio communication was due in part to procurement of RC 292 antenna. The additional range offered by this type antenna enabled this headquarters to communicate with three elements of the command located more than 15 air-line miles away. However, experience of the headquarters indicates that issuance of high power antenna of this type should not be made indiscriminately and that the antenna should not be made a normal part of the T/O&E. Units should only be issued this type antenna when either the rugged nature of the terrain or the excessive communication distance involved makes its use mandatory.

Many units are needlessly obtaining a range of 35 miles ground communication distance and upward to 75 miles of air-ground communication by use of this antenna. The result is that their signal strength often overlaps far beyond the range necessary to operate and denies the use of that channel to all other units within range. In one instance, a unit was forced to abandon a channel because of interference from a station in another corps which was located 30 miles away. This was in spite of the fact that no element of that headquarters was located within 15 miles of the unit whose signal was being blocked.

Radio communication could also be improved if the headquarters responsible for allocation of frequencies would reserve all channels falling in the overlap band for stations having need for the overlap. The channels involved should be assigned by individual frequency only to stations having actual or potential requirements for tank-infantry, tank-artillery, or infantry-artillery communication, and only after the geographical distance between stations required to use the same frequency had been considered.

The present practice of assigning overlap frequencies in blocks to divisions and corps for reassignment has resulted in a great number of stations operating on frequencies in the overlap bands which have no tactical use for overlap frequencies. As a consequence the overlap frequency band is jammed far out of proportion to the remainder of the band and the use of these frequencies is being denied to weaker stations who cannot move to the less crowded portion of the band. (Command Report - X Corps Arty - May 53)

OCAFF Comment: Elevated antenna equipment is authorized to those units whose tactical deployment periodically may be expected to
require the additional range obtainable by this means. It is not intended that this equipment should be used at all times but only when the distances involved require it. Indiscriminate use of elevated antenna equipment will result in poorer rather than better communication as indicated. Assignment of frequencies must be planned; this is especially necessary to obtain the maximum usefulness from the limited number of overlap frequencies in the AN/GRC 3-8 series of radios.\footnote{7}

(RESTRICTED) ITEM NO 111

PRECAUTIONS ON USE OF SPIRAL FOUR CABLE. - No major changes in the standard spiral-four construction practices already in use were required for the new type spiral-four. However, a few minor precautions were necessary which were not required with the old type. They are:

a. The standard basket hitch made with WD-1/TT was found to slip on the new cable. To prevent this an extra clove hitch was made at the beginning of each basket hitch. It was found that field wire W-110B could be used applying the standard hitch without slipping. This wire was used for the line.

b. The new cable has a tendency to stretch when first installed, but after the initial stretch has occurred the cable will not contract or stretch further. The cable will normally have to be resagged after the stretching has occurred.

c. Extra precaution must be taken to prevent any vehicle from running over the cable while it is laying on the ground as it is more easily damaged from crushing than was the old type. (Command Report - 51st Sig Bn - June 53)

(RESTRICTED) ITEM NO 112

Revision of TM 11-2263, "Lead Covered Cables," and TM 11-2262, "Open Wire Pole Line Construction and Maintenance." - TM 11-2263, "Lead Covered Cables," is considered to lack sufficient details on the lashing of cable. TM 11-2262, "Open Wire Pole Construction and Maintenance," appears to be deficient in details on the operation and maintenance of vehicles used by the Signal Corps in construction activities. Attention is invited to the data on lashing of cables in Bell System Practices, Outside Plant Construction and Maintenance. Suggest that detailed information now lacking in TM 11-2262 on Signal Corps construction vehicles V-17 and V-18 be extracted from the following publications:
UNCLASSIFIED


b. TM 9-819 on 2-1/2-ton, 6x6, Cargo Truck M-44.


Recommend that:

a. TM 11-2263, "Lead Covered Cable," be revised to include more detailed information on the lashing of cable.

b. TM 11-2262, "Open Wire Pole Line Construction and Maintenance," be revised to include additional information and data on the operation and maintenance of Signal Corps construction vehicles. (Command Report - Eighth Army - Jan 53)

(RESTRICTED) ITEM NO 113

ENGINEER SUPPLY AND MAINTENANCE TROOPS CONTROL IN FIELD ARMY. - Formerly, the control of maintenance companies and engineer supply points by construction groups resulted in an unfair share of the maintenance and supply effort being utilized by the construction units. With this effort now under centralized Army control all effort is coordinated and directed to critical points on an Army-wide level by such means as lateral transfer of scarce materials, parts, and in some cases personnel and tools.

To improve spare parts supply, recommend that unit assembly replacement be put into effect for engineer field maintenance companies. This would reduce time for repair and prevent the forward maintenance companies from stocking hundreds of unnecessary line items which would hamper their storage space and mobility. (Command Report - 78th Engr Fld Maint Co - May 53)
ITEM NO 114

T/O&E FOR ENGINEER GROUP (MAINTENANCE AND SUPPLY). - Recommend that provisions for a movement controls section be considered in the preparation of future T/O&E's for an Engineer Group (Maintenance and Supply). (Command Report - 45th Engr Gp (Maint & Sup) - May 53)

ITEM NO 115

RESTUDY OF T/O&E FOR ENGINEER CONSTRUCTION BATTALION. - Recommend that the T/O&E for Engineer Construction Battalions be restudied with a view toward reducing the number of crane attachments issued. It is unnecessary to furnish each crawler or truck-mounted crane with a complete set of attachments such as shovel front, pile driver leads, back hoe, dragline, and clamshell bucket. The crane is usually beyond repair before many of the attachments are used. They fit only the particular model for which they were issued. Only sufficient attachments should be furnished to enable operators to receive specialized training in their use; additional attachments should be available in theater stocks to provide augmentation when needed. The same principle should be applied to heavy construction equipment such as pumpcrete machines, road pavers and large asphalt plants. In order to provide the necessary operating specialists for this equipment, the T/O&E of a headquarters and headquarters company of a construction group should have equipment and personnel columns added to their present T/O&E, the added columns to be utilized as various missions are assigned to the group. The equipment and personnel would be held as long as required for the accomplishment of the current mission, thereafter being returned to an Army pool. Some items to be included in this augmentation column are:

Crusher, Jaw-type GED, crawler-mounted 200-4000 ton per hour 2 ea
Mixer, asphalt, DED, trailer-mounted 110-200 ton per hour 2 ea
Distributor, asphalt, 800 gal truck-mounted 6 ea
Dryer, aggregate, dual drum, GED, 80-150 ton per hour 2 ea
Finisher, asphalt, crawler-mounted, GED, 8' - 12' 2 ea
Tank, asphalt, trailer-mounted, w/steam coils 1500 gal 2 ea
Heater, asphalt, trailer-mounted, 3 car cap 42HP 2 ea
Roller, road, GED, 3 axle, 9-14 ton 2 ea
Paver, concrete, crawler-mounted dual drum, 34 cu ft 1 ea
Conveyor, belt, GED, 24" x 57" 4 ea
Graduation control unit, aggregate, GED trailer-mounted 4' x 8' vibrating screen, 3 compartment 2 ea
Floodlight equipment set No 2 4 ea
Crane-shovel, power unit, revolving crawler-mounted
2 cu yd cap w/shovel front, hook and block, clam
shell and drag bucket

(Command Report - 24th Engr Const Gp - May 53)

(RESTRICTED) ITEM NO 116
DRESSING OF WOUNDS. - As a general practice, thick and heavy
dressings, secured with a generous amount of adhesive tape, are used
on all types of wounds. This procedure is not only wasting material,
it has also obscured the early detection of abnormality of the wound
underneath the dressing, such as wound bleeding, dehiscence, infection,
or maceration of the skin. A light, well placed dressing has proved
more practicable. (Command Report - 7th Med Bn - June 53)

(RESTRICTED) ITEM NO 117
IMPROVISING EXHAUST DUCTS IN LAUNDRY TUMBLERS. - In
the laundry section, four artillery powder containers were used to re-
place burned out exhaust ducts in the tumblers. The ends of the shell
casings were cut out and four casings were welded together making a
straight pipe. These proved more efficient than the regular exhaust
duct. They do not burn out and being straight there are no obstructions
to catch lint. (Command Report - 7th Inf Div - June 53)

OCAFF Comment: The use of shell casings to replace burned out
ducts in laundry tumblers is a workable, temporary field expedient.
Replacement parts for burned out ducts are available through supply
channels. Shell casings have salvage value.

(RESTRICTED) ITEM NO 118
MUDDY WATER PROBLEMS FOR BATH AND LAUNDRY UNITS. -
The greatest operational problem - muddy water - was again encountered
and bath units were shut down intermittently in order to prolong the life
of the equipment. Holes were dug to a depth below the stream level in
each of the sections, on a higher level of ground. These holes are near
enough to the source of water supply so that by process of filtration
muddy water seeping through the sand and rocks provides clean water
for baths. Korean soil is sandy and has a tendency to cave in. Rocks
were piled upon rocks to build a wall, but the sides still caved in.
Sheets of tin held back the sides, but sand caved in behind and got in
underneath, and the water in the holes was as muddy as the water in the
stream. Cement is difficult to obtain and might prove the only solution
to hold back the sand. (Command Report - 295th QM Bath Co - June 53)
OCAFF Comment: Muddy water is a problem for both bath and laundry units. There is no known safe short cut to filtering water for mud removal by suction straininers. A pit dug adjacent to the stream is a good field expedient. Where conditions of soil will not permit such improvisation and water is unsafe for use, regular treatment (chemical treatment, sedimentation, filtration and sterilization) may be necessary.

ITEM NO 119

IMPROVISED REFRIGERATOR TRUCK. - Seven cargo trucks, regularly engaged in hauling fresh fruits and vegetables to forward units, were converted from cargo vehicles into refrigerator trucks through the expedient use of salvage materials. Losses of perishable items due to extended periods of exposure to extreme cold weather were reduced to a minimum in the areas served by these trucks. In order to obtain the desired insulation effect, salvage canvas was stretched over extra bows, creating an air space over the body; cardboard and other cold resistant salvage materials were used on the sides; sawdust obtained from a local sawmill covered the floor and controlled heat from the truck heater was piped into the cargo compartment. Maintenance of controlled temperatures insures a considerable saving of perishable items destined for front-line consumption. (Command Report - Eighth Army - Jan 53)

OCAFF Comment: Quartermaster refrigeration vans are provided for the purpose of hauling perishables. Where the tactical situation and/or the road conditions preclude their use, consideration should be given to relocating the supply points and speeding up issue operations.

ITEM NO 120

SUPPLY ECONOMY - EGG BREAKAGE. - A record of eggs received in the regiment through the month of May shows a total breakage of 10.5%. The eggs received are purchased by grade and price per dozen, price depending upon the size of the egg and thickness of the shell. The eggs received have been very thin shelled and priced at 53 cents per dozen. The eggs are shipped in the wooden type (30 dozen) crates.

The regiment drew 28,184 dozen eggs for the month of May with a breakage of 2837.6 dozen or a loss of $1297.92 for the month.

Recommend that a thicker shelled egg be purchased. Experience shows that an egg of this type will stand transportation much better and with a smaller percentage of breakage. Recommend that a new type container be developed for transportation of eggs to oversea theaters.
The commercial cardboard containers holding one dozen eggs placed inside a wooden or strong cardboard container would reduce the loss of eggs in shipment. (Command Report - 32d Inf Regt - May 53)

(RESTRIC TED) ITEM NO 121

ARMORED VEST FOR FA GUN CREWS. - Many recent casualties sustained from enemy counterbattery fire could have been eliminated or reduced in severity had armored vests been available for issue to gun crews. During the past 60 days, counterbattery fire has increased materially, with a resultant increase in casualties.

Recommend that field artillery units be authorized sufficient number of armored vests for protection of personnel exposed to counterbattery fire. (Command Report - 5th FA Gp - May 53)

(RESTRIC TED) ITEM NO 122

REPLACEMENT FACTORS AUTHORIZED BY SB 10-496. - The frequent rotation of personnel plus an unusually high pilferage rate has led to an abnormal supply situation in Korea. Existing replacement factors, as authorized by SB 10-496, have not proved sufficient to meet supply requirements. A comparison between actual issue experience and authorized replacement factors indicates that many of the replacement factors authorized by SB 10-496 are too low to maintain necessary supply.

Recommend that the Office of The Quartermaster General conduct an analysis of replacement factors authorized by SB 10-496 to determine whether or not the existing replacement factors fit the requirements in the Korean campaign. (Command Report - 55th QM Base Depot - May 53)

(RESTRIC TED) ITEM NO 123

NAPALM MIXING EQUIPMENT. - The M4 Unit, incorporating the batch technique cannot compete in productivity with the M3 Unit; however, it produces a more uniform mix, and flame throwers and munitions may be filled directly from the Unit. It is more suitable for use by ground force personnel but lacks certain qualities which should be incorporated in all napalm mixing equipment. These are:

a. A continuous flow principle.

b. High degree of mobility.

c. Provisions for extreme cold.
The Mixing Unit, Incendiary Oil, M3 (E3R2) has a theoretical output of approximately 15 times that of the M4, but the thickened fuel produced is by no means homogeneous, a factor important to proper flame thrower operations. In addition to this drawback, the rapid rate of discharge from the M3 Unit necessitates an extra step in the operation procedure. The thickened fuel is first discharged into a 55-gallon transfer drum which is then pressurized and transferred to 5-gallon cans. The objection to this transferring is the additional chance for contamination.

Numerous experiments have been performed on the M3 Unit in order to make it more suitable for use by ground force personnel. A mixer built on the principle of the M3 Unit, with modifications to include a slower discharge rate and an automatic hopper to produce a uniform gel would be highly superior to either type mixer now in operation.

A mixer of this type which could possibly be mounted in the rear of a 1/4-ton truck with a trailer mounted compressor would satisfy completely the needs of a field mixing team. (Command Report - 21st Cml Decontamination Co - May 53)

OCAFF Comment: The Chemical Corps has a development project for improving flame fuel thickeners and equipment for mixing them. For further information on the M3 (E3R2) Mixing Unit, see Source No 690, inclosure to letter, ATTN 26 350.05/4(DOCI)(7 Apr 53), OCAFF, 7 April 1953, subject: "Dissemination of Combat Information."
ITEM NO 125

105-MM HOWITZER AMMUNITION WITH STEEL SPIRAL WRAPPED CARTRIDGE CASE. - Test firing of approximately 14,500 rounds of 105-mm howitzer ammunition with steel spiral wrapped cartridge cases was started by several US artillery battalions. Approximately one-fourth of the stock has been fired. The following information was extracted from fifteen reports of battalions firing this ammunition:

a. Every report submitted indicates that it is easier to place the projectile into the spiral wrapped case than into the conventional brass case, and easier to load the spiral wrapped case into the chamber.

b. All reports indicate that it is more difficult to extract the spiral wrapped case from the chamber after firing. Lacquer on the cases is melting and causing them to stick in the chamber, particularly when it is hot from sustained firing. Continuous fire is impaired after four or more rounds have been fired. Some cases are stuck so fast that it is necessary to ram them free.

c. Generally there were no differences noted in the amount of obturation obtained with the spiral wrapped cases as compared with the normal brass cartridge cases. One report did indicate that less obturation was obtained with the spiral wrapped case when fired from a cold chamber.

d. The spiral wrapped cartridge cases have been fired with charge 4 through charge 7.

e. One round was found to be unserviceable because the spiral case had unwrapped. (Command Report - Eighth Army - April 53)

ITEM NO 126

FIRING OF SPIRAL WRAPPED STEEL CARTRIDGE CASE FOR 105-MM HOWITZER. - Analysis of the test firing of 13,535 rounds of 105-mm howitzer shell, HE, with spiral wrapped steel cartridge case, indicates the following characteristics of the tested ammunition:

a. On sustained fire or when more than four rounds per howitzer were expended, the lacquer on the case melts and the gummy residue causes the cartridge case to jam, slowing down firing. Some cases were stuck so fast that it was necessary to ram them free.
b. There was some loss of obturation effectiveness with this type cartridge with resulting back blast.

c. Some unraveling of the spiral case occurred resulting in the blackening of the sights by escaping gasses and unburned powder particles.

d. A slight increase of range effect was noted but the accuracy of the projectile was comparable to the conventional type ammunition.

(Command Report - 45th Div Arty - May 53)

(RESTRICTED) ITEM NO 127

COLORED SMOKE SHELLS FOR 155-MM GUN. - A test was conducted in firing 155-mm howitzer colored smoke shells in a 155-mm gun, using normal charge only. Preliminary reports indicate that satisfactory results were obtained. The use of colored smoke shells in the 155-mm gun would increase the capabilities of that weapon, for which no such shells are being manufactured at present. The increased capability is desired to permit marking of targets for air strikes beyond the range of other artillery. (Eighth Army Artillery Info Bulletin No 6 - June 53)

OCAFF Comment: Colored smoke shell for the 155-mm gun is presently under development and will be available for issue to troops in approximately eight months.

(RESTRICTED) ITEM NO 128

DAMAGED ROTATING BANDS AND PROJECTILE CAVITY DEFICIENCIES. - A serious problem of damaged rotating bands is developing. At least 50% of the projectiles reaching the batteries arrive without grommets protecting the rotating bands. The importance of smooth, unblemished rotating bands on the projectiles of the 8-inch howitzer cannot be over emphasized. The ballistic error introduced by the damaged rotating bands is great. In addition to those projectiles which arrive at the batteries without grommets, numerous projectiles are received by the batteries with grommets that have undoubtedly been installed after shipment. In these cases the projectile rotating band had already been damaged and the grommet serves no other purpose than to prevent further damage. There have been occasional instances of projectiles rendered unfit to fire due to severely scored rotating bands. (Command Report - 17th FA Bn - May 53)

(RESTRICTED) ITEM NO 129

INCREASED TRAVERSE FOR 155-MM HOWITZER. - In the February 1952 issue of the Combat Forces Journal appeared an article entitled "Increased Traverse for the 155-mm Howitzer." This article
dealt with the employment of a hydraulic jack to facilitate the shifting of trails of the 155-mm howitzer (towed). This battalion has adopted the jack idea with certain minor modifications. Because the spades of the howitzer are embedded by sustained firing, it was discovered that the 8-ton jack was not sufficient to raise the piece and break the trail spades loose. A 10-ton jack is presently being used which has proved to be adequate in lifting power and ease of operation. The head of the jack used is a circular disk with four lugs. A circular metal plate, slightly smaller in diameter than the jack head, has been welded under the howitzer four inches behind the center of gravity. The circular disk of the jack engages the circular plate on the underside of the howitzer and prevents slippage of the jack while the piece is being shifted. The use of the hydraulic jack has very definitely increased the speed of shifting trails and greatly eased the job of the howitzer section. As it was stated in the Combat Forces Journal, lateral displacement of the sight has been reduced by using the hydraulic jack. (Command Report - 31st FA Bn - May 53)

(RESTRICTED) ITEM NO 130
SUPPORTS FOR TRAIL SPADE FOR HOWITZERS. - Spring thaws and rains have caused a tremendous problem of drainage and ground support for trail logs in howitzer positions. Continuous firing has driven the trail logs deep into the soft earth. This problem has been greatly relieved by the use of a corduroy system around the trail pits. This system involves logs approximately 4 inches in diameter and 4 to 5 feet in length laid perpendicular to and under the trail log which supports the trail spade. This prevents the spade from digging down into the soft earth. Heavy posts and a timber facing behind the trail logs prevent the trail spades from pushing the trail logs to the rear. (Command Report - 31st FA Bn - March 53)

(RESTRICTED) ITEM NO 131
WEEKLY BORE SCOPE OF 155-MM TUBES. - The development of progressive stress in three 155-mm tubes of a field artillery battalion necessitated the replacement of these tubes. Recommendation was made and subsequently concurred with by the Division Ordnance Officer to bore scope these tubes weekly instead of monthly. (Command Report - 45th Div Arty - June 53)

OCAF Comment: Ordnance Committee Meeting 34663, 26 March 1953, reclassifies the howitzer, 155-mm M1 to limited standard and classifies the M1A1 as standard. The M1A1 howitzer has new metal-lurgical properties designed to meet the basic functioning temperature requirements.
USE OF SEARCHLIGHTS. - A suggested use is for searching the battlefield, with observers and crews of support weapons following the beam, ready to fire immediately on any targets revealed. Since the bulk of enemy construction is done at night the presence of a searchlight beam on a position and the threat that it might be accompanied by artillery or heavy weapons fire should have a distinct harassing effect. It might also be feasible in certain situations to have the lights mounted on self-propelled armored vehicles in order to move them to positions from which they can illuminate desired areas. There are numerous other possibilities for use of this new field artillery weapon. (Command Report - 75th FA Bn - May 53)

PRECISION ARTILLERY FIRE BY SEARCHLIGHT. - The following lessons were learned:

a. It is feasible to fire precision missions on point targets during the hours of darkness using a searchlight for illumination.

b. Such missions are more effective and require less ammunition expenditure than area type counter-battery fire against active artillery when the target can be illuminated.

c. The absence of standardized commands for adjusting the searchlights caused considerable confusion and delay. The method devised was to transmit an initial compass and vertical angle to the target and give subsequent corrections of RIGHT (LEFT), UP (DOWN) so many mils. The observer commands the same number of mils that he measures at the OP, establishes a bracket and splits the bracket until the searchlight is on the target. Since some of the searchlights have azimuth scales in degrees it is necessary for the observer to convert his corrections to degrees and employ the same procedure.

d. Since the searchlights are of necessity in exposed positions and receive considerable artillery fire, wire communications are not dependable. Now that each position is equipped with an AN/PRC-9 radio, any observer can contact the light directly by radio once permission has been granted to use it. (Command Report - 75th FA Bn - May 53)
ITEM NO 134

**IMPROVEMENT OF REAR STEP ON TRUCK, V-18/MTQ**

*(SIGNAL CORPS EARTH AUGER). - Truck V-18/MTQ is provided with a step which enables the operator of the auger to mount the rear platform easily. This step is located at the extreme rear end of the vehicle and projects approximately two feet below the bed of the truck.

This truck is frequently used in rough terrain and is called upon to cross ditches and other similar obstacles. As the truck crosses these ditches the steps are caught on the ground and twisted out of shape as well as tending to tear the metal of the truck bed where the step is welded to the truck.

Motor pool mechanics removed the step from the vehicle, cut the step length to approximately 16 inches, put a half twist in the ends of the step so that it would be flat to the end of the truck bed and welded the step again on the vehicle.

No further trouble has been encountered with the steps of this vehicle as shortening the step has proved worthwhile. *(Command Report - 51st Sig Bn - June 53)*

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ITEM NO 135

**IMPROVISED SPARE TIRE RACK FOR 1/4-TON TRUCK.** - The spare tire rack has been continuously breaking, due to the weight of the tire and the rough roads of Korea.

Since the racks failed to hold the tire after rewelding several times, a tire support *(see next page)* was devised. This small device, easily attached to the bumperette, takes the place of a tire rack well, and is economical and effective. *(Command Report - 728th MP Bn - May 53)*
//OCAFF Comment: A modification work order concerning strengthening of the spare tire bracket will be published in the near future.//
SUBJECT: Dissemination of Combat Information

TO: See distribution

1. In accordance with SR 525-85-5, Processing of Combat Information, the inclosed EXTRACTS are forwarded for evaluation and necessary action. It may be appropriate, in certain cases, to take action upon a single extracted item; in others, it may be desirable to develop a cross-section of accumulated extracts on a particular subject before initiating action; and, often the extracted item serves to reaffirm our doctrines and techniques.

2. Copies are furnished to other military agencies to keep them informed concerning theater problems from the front line through the logistical command.

3. These EXTRACTS are derived from reports which are classified SECRET. For the greater convenience of the user, this Office assigns each extracted item the lowest classification compatible with security. No effort is made to paraphrase or delete any portion of the extracted remarks, so that none of the original intent is lost.

FOR THE CHIEF OF ARMY FIELD FORCES:

A. B. CHATHAM
Lt Col., AGC
Asst Adjutant General

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ATTNG-26 350.05/22(DOCI)(17 Nov 53)  
17 November 1953

Subject: Dissemination of Combat Information

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NIGHT PHOTOGRAPHY FOR TARGET LOCATION. - The employment of flash and other ground OP's in locating enemy artillery has certain inherent limitations. The two most obvious are the inability of an OP to keep its entire sector under continuous observation, and during periods of moderate or heavy enemy artillery firing to locate or engage more than a few targets.

The requirement for locating active enemy artillery goes beyond the immediate, but important, requirement for neutralization fires. Of greater importance is the need for verifying occupied locations so that they can be engaged for destruction by using observed fire techniques, as soon as visibility and other factors permit. Considering the large number of artillery positions (tunnels, bunkers, caves) which the enemy have constructed, and the relatively large number of these that are unoccupied on any given day, it is of vital importance that targets engaged be not just a position, but an occupied position. To assist in solving this problem, experiments have been made with night photography.

Essentially the technique of night photography involved a nighttime shot double exposed on a previously taken daylight exposure. This permits location of active enemy artillery positions on a photograph which gives sufficient detail to locate those positions. The observed destruction firing can then be directed on positions definitely occupied. Results so far have been encouraging. On at least one occasion a new enemy artillery position was picked up. Normally the positions picked up were already existing positions, occupancy of which was undetermined at that time.

While the technique has been employed only in fixed position warfare it would be of equal value in a war of movement. Also this technique could be employed by division artillery to aid in locating targets other than enemy artillery.

When one considers the cost of one round of delivered 8" howitzer ammunition and the number of rounds required to destroy a single enemy artillery position, the real value of any target getting technique whose end is to engage not only positions but occupied positions is evident. Recommend that the experiment be continued by the appropriate agencies in the CONUS.

INCLOSURE

UNCLASSIFIED
Detailed Procedures:

a. One or more OP's are selected from which enemy artillery activity, actual or expected, can be observed. After the azimuth to the center of the area has been determined the photographer(s) is briefed. He is told what azimuth on which to lay his camera, and during what hour or hours photograph is required.

b. The photographer arrives at the OP during daylight hours. The camera is solidly mounted on sandbags and laid on the proper azimuth, which is checked on the ground-glass focusing screen of the camera. At this point the daylight exposure(s) is made. The exposure used is 1/2 stop under normal exposure, using a regular high-speed panchromatic film such as Super XX.

c. After the daylight exposure is made the camera and film remain fixed in position. During hours of darkness the shutter is opened for about one hour, to approximately f5.6, to take advantage of night illumination. The result when the film is developed is a normal daylight shot with pinpoint flashes indicating active enemy artillery superimposed on the photo.

d. The second shot may be taken in reverse fashion, i.e., take the nighttime exposure first and the daylight shot in the morning. Additionally, on a bright moonlight or starlight night a shot may be taken during the night only. This requires from two to four hours exposure. The results are difficult to read because of shadows and lack of detail. Another possibility is to take a normal daytime shot and a series of night exposures on separate film strips. Printing these requires a series of successive superimpositions in printing which are at best difficult. The first method outlined has been found to be the most practical.

e. The film is forwarded by air to the photo lab and completely developed and printed within 40 minutes after arrival. From there the finished product is sent to the corps artillery S-2 for evaluation.

f. At this point the problem is one of matching the photo to the counterbattery map. Since the coordinates of the OP are known and the coordinates of distant points on the photo can be determined, a series of directional rays can be drawn on the photo. Generally if the photograph is a good one, inspection alone will give the location once the azimuth is known. However, two photographs from an OP base can be taken and intersecting rays plotted on the counterbattery made to give a higher degree of accuracy.
g. In most cases the ray plots through a known location confirming the fact that it is presently occupied. When a new position is picked up, it should be verified by other means as soon as possible. A little practice makes it possible to discern between outgoing enemy artillery and the larger and more irregular light spot indicating our own outgoing artillery landing. Thus far no experiments have been conducted on superimposing a grid on the photograph. It has not been found necessary for counterbattery purposes and there is considerable doubt if a horizontal (range) grid is feasible, although a vertical (angle of site) grid and directional rays can be penciled on in a short time.

h. Equipment used in this experiment was the standard PH-47 Speed Graphic with either Super XX or Superpan Press film. So far no tripod has been available for the camera. The normally issued tripods have not been found satisfactory for this work. The "combat tripod" consisting of a heavy-duty pan-tilt head, and short "machine gun" tripod legs can be solidly locked in position, and will allow the aperture and lens setting of the camera to be locked in position without disturbing the camera position. The short legs allow it to be set in the OP aperture thus minimizing danger to the photographer.

i. A simple camera could be constructed which would permit wider use of this technique without the necessity for highly trained photographers. The requirements for such a camera are:

(1) Lens; focal length 8-10", aperture f5.6 or 4.5 to f22.
(2) Shutters; time 1/25, 1/50, 1/100 sec.
(3) Focus; fixed at infinity.
(4) Body; all metal with simple wire frame view finder.
(5) Standard 4" x 5" cut film holders or film pack adapters.
(6) Ground glass focusing panel.

j. The focal length on the PH-47 camera (5") is not ideal for this work since, at the range involved, not enough detail is given. (Command Report - 101st Sig Bn - May 1953)

OCAFF Comment: The method described above is worthy of further exploitation and development. This information should be of value to combat troops in an active situation.
With reference to the recommendation for a camera with different lens characteristics than that normal to the PH-47, an accessory lens for use with this camera is the PH-277. It has a 10" focal length and an aperture of f. 1:4.85. This lens has been included in the proposed revision of the T/O&E of the Signal Battalion (Corps). 7

ITEM NO 137

TEST FIRING 155-MM VT AMMUNITION. - Test firing of 155-mm gun ammunition with VT fuze T76E9 has been conducted in Korea during the past three months. As a safety precaution, test firing was conducted from positions within five seconds' time of flight from the front lines. Thirty early bursts, varying from nine seconds after firing to five seconds before termination of trajectory, were reported among the 1,298 rounds tested with normal or super charge. Results of the tests compare favorably with those attained by using VT fuzed ammunition in weapons of other calibers. The higher muzzle velocity of the 155-mm gun had no material effect on the fuze, and use of the VT fuze greatly increased the effectiveness of the 155-mm gun. (Command Report - Eighth Army - Mar 53)

OCAFF Comment: The current production VT fuze, T227, for application with 155-mm and larger caliber weapons is designed for use with the 155-mm gun. The use of any VT fuze with 155-mm gun projectiles is predicated upon the availability of deep-cavitized shells. Although future production is expected to incorporate the deep-cavity feature, present stocks of 155-mm gun ammunition do not.

For other items on this subject, refer to Source No 730 and 731, inclosure to letter, ATTN-26 350.05/6 (DCI)(C)(18 May 53), OCAFF, 18 May 1953, subject: "Dissemination of Combat Information." 7

ITEM NO 138

GENERATOR WEAKNESS. - A major problem is 3-KVA generator manufactured by John R. Hollingsworth, Phoenixville, Pennsylvania. This particular generator, in addition to the regular fan belt, has a second rubber belt and a magneto drive belt. This magneto drive belt is of flimsy construction and has rubber teeth. Due to poor construction, the teeth wear out after a limited number of hours of operation; there are no replacement magneto drive belts available. On two separate occasions, it was necessary to write direct to the manufacturer for replacements of magneto drive belt; these belts cost $6.34 each. (Command Report - 40th Div Arty - Apr 53)
(RESTRICTED) ITEM NO 139

DIFFICULTIES WITH CAST IRON BRACES FOR RADIOS. - Difficulties have already been encountered with the cast iron brace which holds the radio to the jeep fender. Rough roads of Korea over which military police operate, make this brace impracticable. A modification in the form of a steel mounting together with salvage tires for cushions to ride between the mount and the jeep fender is being developed by this unit. (Command Report - 728th MP Bn - Jul 53)

(RESTRICTED) ITEM NO 140

ACCIDENTAL SETTING OFF NAPALM MINES. - Care is needed to prevent linemen from tapping into wires attached to napalm mines and setting them off with EE-3 telephones. (Command Report - 35th Inf Regt - May 53)

(RESTRICTED) ITEM NO 141

INADEQUACY OF M2 and M3 SMOKE GENERATORS FOR REAR AREA OPERATIONS. - Due to congestion, inadequate road nets, and poor visibility, the mobility of the smoke generator is curtailed in rear area installation missions. The comparatively short period of time the M2 or M3 smoke generator is able to produce smoke without resupply of fog oil has been found to be a disadvantage, as resupply is hampered by the same factors that curtail the mobility of the smoke generator. The volume of smoke produced by the M2 or M3 smoke generator is too small to rapidly cover the large areas usually assigned to rear area smoke operations.

Recommend that a study be initiated to investigate the requirement of a smoke generator similar to the M1 smoke generator. This smoke generator should produce a large volume of smoke in a short period of time with a fuel supply of 6 - 8 hours available at semipermanent installations, which would "Box" the vital areas. Such a smoke generator supplemented, if necessary, with mobile M2 or M3 smoke generators would provide a more rapid and denser smoke coverage than presently available with the M2 and M3 smoke generator. (Command Report - Korean Base Section - Jun 53)
ITEM NO 142

VT FUZE WITH PERCUSSION ELEMENT. - Occasionally, variable time fuzes have failed to activate and duds have resulted.

Recommend that action be taken to expedite the delivery of variable time fuzes containing a percussion element. (Command Report - 39th FA Bn - May 53)

ITEM NO 143

PRIME MOVER FOR 240-MM HOWITZER. - This unit is organized as a 240-mm howitzer battalion, towed, under T/O&E 6-515, 18 July 50, with Changes 1 and 2. This T/O&E authorizes 12 M-6 tractors as prime movers for the battalion. Four tractors are issued to each of the three firing batteries and are used as prime movers for the two howitzers and two carriages per battery. The authorization of 12 M-6 tractors does not provide one spare prime mover in the battalion. Through the experience gained on movements, it has been found that one or more of the M-6's usually breaks down. In the event this battalion had to displace as a unit within a short time it might not be possible to move all pieces to the new site.

Recommend that this battalion and other battalions organized under T/O&E 6-515 be authorized one additional M-6 tractor per firing battery. (Command Report - 159th FA Bn - Jun 53)

ITEM NO 144

DITCH DRAINAGE. - In many instances along the MSR, the depth of ditch necessary to properly drain the subgrade, results in the adjoining rice paddy water level being at a higher elevation than the ditch. During the growing season, the farmers protect and maintain their dikes but during the winter months the dikes fall into disrepair and drain the paddy into the ditches, thus saturating the road subgrade which causes a pumping action to take place under sustained heavy traffic. To prevent the saturation of the subgrade, the practice of placing an insulating layer of granular material below the subgrade has been adopted. The minimum thickness of the insulating layer has been set at four inches. To avoid frost boils and pumping action the insulating blanket is being used in cuts by excavating below grade and backfilling with the granular material. (Command Report - 24th Engr Construction Gp)
OCAFF Comment: For other extract on this subject, see Item No 48, enclosure to letter, ATTNG-26 53O.05/11 (DOCI)(C)(10 Sep 53), OCAFF, 10 September 1953, subject: "Dissemination of Combat Information."

ITEM NO 145

VOLTAGE REGULATOR FOR PORTABLE ELECTROSURGICAL UNIT. - The electrosurgical unit, portable, medical stock number 3-275-600, has been found difficult to maintain in the field. Medical maintenance personnel have suggested that this is due to the uneven power supplied by field generators. A particular condenser in the internal circuit of the unit has been found to be the weak point and is frequently burned out. A voltage regulator is needed in conjunction with the apparatus to prevent these surges in the current. Such a regulator is a signal item and not authorized at the present time.

Recommend that when an electrosurgical unit, portable, is to be used in the field, a voltage regulator be included with the item at the time of issue. (Command Report - 46th Surgical Hosp - Jun 53)

OCAFF Comment: Action to correct this deficiency has been initiated.

ITEM NO 146

MODIFICATION OF AN/MPO-10 RADAR. - Under normal operations two men are required to prepare the set for automatic tracking. One man operates the console and the other man changes a switch on the RD-54 from "Sector Scan" to "Standby." With a modification, the switch on the RD-54 can be left in the "Standby" position. The Azimuth Bug could then be placed in "Sector Scan" or "Standby" by the radar operator at the console. This modification has been employed by this battalion and has proved efficient.

Recommend that a switch for the control of "Sector Scan-Standby" be wired in parallel with the present switch located on the Azimuth Electronic Control Amplifier AM-489-TP (RD-54), and placed on the console. (Command Report - 19th FA Bn - Jun 53)
USE OF INFRARED FLASHLIGHT FILTERS. - A test was conducted to determine the effectiveness of infrared flashlight filters used in conjunction with metasopes as a means of communication and control. The following facts were found:

a. Signals can be transmitted up to 700 yards with an effective distance of 150 yards under favorable conditions.

b. The best all-around effective range lies between 75 and 100 yards.

c. Signals can be transmitted between the support group and the assault group of any patrol.

d. It is possible and very practical to arrange simple messages in advance for transmission, especially between patrols and support groups.

e. The device is suitable for use in identification of returning patrols.

f. If a patrol is engaged, signaling is not effective because of flashes of small arms fire and exploding shells.

g. Signals identifying friendly patrols could be controlled and coordinated on a regimental or divisional level, thus reducing the chance of engagement between friendly forces from flanking regiments or battalions.

h. The infrared filter and metascope can be used to good advantage between combat outposts or combat posts and the MLR. (Command Report - 35th Inf Regt - May 53)
formation of the neurosurgical detachments for assignment to the surgical hospitals these units were provisional and the T/O included four nurses for the performance of post-operative ward care. When these detachments were made permanent, only an operating room nurse and no ward nurses were authorized. It has been found that neurosurgical casualties require a specialized type of nursing. It is constantly apparent that, try as they may, personnel taking care of many various types of cases cannot maintain the necessary mental approach to the care of the unconscious patient.

Recommend that the T/O of a field neurosurgical detachment be increased by three nurses to a total of four, all to have ward nursing rather than operating room experience. (Command Report - 46th Surgical Hosp - Jun 53)

ITEM NO 149

TRAINING OF MEDICAL ENLISTED PERSONNEL. - A large percentage of enlisted personnel received directly from basic training in CONUS with MOS of 5657 and 1666, fall in mental groups IV and V. Because of the low intelligence scores, the absolute lack of previous medical or hospital experience, and lack of interest and adaptability on the part of most of these men, it is not considered desirable to use them in the care of patients. (Command Report - 48th Surgical Hosp - Jun 53)

OCAFF Comment: A surgical hospital (mobile Army) is authorized medical corpsmen (MOS 5657) but not medical aidmen (MOS 1666).

In basic medical training the highest quality trainees are sent to medical service schools for training in the advanced technician specialties, and then assigned to medical units including surgical hospitals (mobile Army) and other hospitals. The next quality trainees are awarded MOS 1666 and assigned to medical detachments and medical companies where they serve at times with minimum supervision. The remaining trainees are awarded MOS 5657 and are assigned to hospitals where appropriate supervision can be given by nurses and doctors.

ITEM NO 150

DEFICIENCIES OF COMBAT BOOTS, INSULATED. - A study was conducted to determine failure of boots, combat, insulated, utilized in the Eighth Army area during the winter 1952-53. A total of 985 pairs of boots were classified as unserviceable, out of 90,000 pairs of boots
processed by QM reclamation and maintenance center. A breakdown of the failures noted included peeling of the material used to attach the toe, lip and heel surface to the boot, hook and eyelets being pulled out or ripped through the edge of the stay; the heel pieces tearing off. Of the failures noted, a high percentage of repairs can be made at the service centers by vulcanizing with hot patches. The present specification for boots, combat, insulated, should be revised to eliminate the use of hooks and to use eyelets only. (Command Report - 443d QM Base Depot - Jun 53)

√ OCAFF Comment: The deficiencies indicated in the boot, combat rubber insulated have been corrected. Stronger material is being used to attach the soles and heels, and hooks have been eliminated in boots now being procured.7

(Restricted)

ITEM NO 151

QM MOBILE FIRE UNIT REPAIR SHOP. - The field service platoon put into operation a mobile fire unit repair shop. A rack holding six fire units, tools, and commonly used spare parts has been mounted on a 1/4-ton trailer. This shop moves to forward area kitchens where M-37 fire units may be repaired. By on-the-spot repairs or exchange of fire units at the company level, it is anticipated that a decrease of 80% in fire units overhauled will be experienced. A major overhaul costs approximately $7.19 and past records indicate that approximately 400 are overhauled for the Division each month. (Command Report - 3d QM Co - Jun 53)

√ OCAFF Comment: Mobile repair teams providing direct on-the-spot service to the user have proved valuable during World War II as well as in Korea.7

(Restricted)

ITEM NO 152

NEW SERIES RADIOS. - The new series radios continue to perform in an excellent manner. The greatest problem has been the short life of the dry cell batteries for the AN/PRC-9 series. (Command Report - 75th FA Bn - Jun 53)
SIZE OF COMBAT PATROLS. - Due to the proximity of MLR's and the consequent ability of an experienced enemy to reinforce rapidly, the custom had been established in previous sectors held by this regiment of dispatching only strong self-supporting patrols. In the present area, however, the regiment has found that the majority of enemy patrols are small in size and are encountered sufficiently far from enemy lines to preclude rapid enemy reinforcement. Our larger size patrols had thus restricted stealth and movement without any compensating advantage. In view of this, the battalions are now using smaller patrols except where the objective is close to enemy position. (Command Report - 27th Inf Regt - Jun 53)

OCAFF Comment: The size of a patrol should be determined by the mission assigned the patrol. The size of a patrol to accomplish a given mission should be established as soon as the requirement for the mission is determined.

ENGINEER EQUIPMENT CHANGES IN T/O&E 6-126. - T/O&E No 6-126, 15 May 1952, includes under engineer equipment, one command post and fire direction equipment set, No 1. Among the components found in this set are the following items:

- Eight scale coordinate, plastic, stock number 18-6764, 500-500. 1:20,000 and 1:62,500 in yards on one side. 1:25,000 and 1:50,000 in meters on one side.

These have proved unsatisfactory for the following reasons:

a. Construction of light plastic causes excessive breakage.

b. Many have been found to be inaccurate by as much as 40 meters or yards.

c. There is no further need for 1:20,000 and 1:62,500 in yards on one side. This leads to confusion for the user and maps of this scale are no longer available in such quantity as to justify continuation of this scale.

d. Insufficient quantity due to large number of personnel required to read coordinates.
Recommend that:

a. The scale, coordinate, be constructed of light metal with scales etched thereon to improve durability and accuracy.

b. The scales contain 1:25,000 and 1:50,000 in meters on both sides to eliminate confusion.

c. The number of scales, coordinate, issued be increased to include one per liaison officer and one per forward observer in field artillery battalion. (Command Report - 10th FA Bn - May 53)

(RESTRICTED)

REGIMENTAL TAC PARTY. - A regimental tactical air control party headed by a lieutenant is assigned to the regiment. The regimental TACP should:

a. Be familiar with all aspects of air-ground operations prior to being assigned as TACP's.

b. Be designated a member of the regimental commander's staff and work closely with the S-2 and S-3 in their selection of targets for ground controlled, air controlled and MPQ air strikes.

c. Be required to monitor radio transmissions of all planes operating in support of the regiment, including MPQ air strikes.

d. Effect liaison in order to obtain information concerning time and place of air support missions prior to their actual delivery. This information is desired in order to facilitate observation by ground OP's of the results of the air drops. (Command Report - 35th Inf Regt - May 53)

[OCAFF Comment: Responsibility for providing the equipment and personnel for the TACP (less the Forward Air Controller) will be transferred from the Air Force to the Army, effective 1 January 1954, in accordance with AR 95-330/AFR 55-9, 27 August 1953.]

The TACP is especially organized to direct close air support by the use of radio and visual means in the vicinity of forward ground elements (i.e. the battalion level or below). At the regimental level the
forward air controller (FAC) functions as an air liaison officer. He should be qualified to perform the duties indicated above. While it is not practical to designate him as a member of the regimental commander's staff, his status and function is similar to that of the artillery liaison officer.

(RESTRICTED) ITEM NO 156

USE OF DUMMY POSITIONS. - This regiment has employed dummies, dummy positions, and dummy tank turrets to draw fire and attention from occupied MLR and outpost positions. This was a coordinated program, each battalion developing "masquerade" areas within its sector and the regimental tank company building and placing dummy tank turrets. To further create the illusion that these false positions are occupied, fresh earth, new wire, and a few tin cans were left in the immediate area. Damp wood and green wood left smoking in or near a dummy position, or a candle left burning in a dummy position at night are some of the other methods used to give the positions the appearance of being occupied. By using recoilless rifle fire and machine gun fires displaced to these dummy positions at night, a further illusion of occupancy was created. Proof of the success of this plan was evidenced by the enemy's beginning to shell these dummy positions when they are started and his continuation of this shelling.

The use of the dummy and decoy positions should be a definite part of all defensive works. The cleverness and skill of the commander in this matter will reduce his casualties and cause the enemy to adopt plans based on false assumptions. However, the plan should be carried out by regimental or higher headquarters so that coordination and continuity of effort will be effected. (Command Report - 17th Inf Regt - May 53)

/ OCAFF Comment: The use of dummy positions should be incorporated into and governed by the plans of higher headquarters. Department of the Army Training Circular No 8, 22 May 1953, defines and outlines the scope and objectives of combat deception.

(RESTRICTED) ITEM NO 157

FIRING PLATFORM M1 FOR TOWED 8-INCH HOWITZER. - It has been necessary on many occasions, in order to silence active enemy artillery, to fire howitzers on or near the limit of traverse. This has resulted in frequent shifting of the piece with the resultant displacement
which has a serious adverse effect on the accuracy in precision destruction missions. A second result of firing near or on the limit of traverse is the dislodgement of the rear spades which necessitates the cessation of fire until the spades and "dead-men" can be re-emplaced. As a possible solution to alleviate this condition, recommend that a firing platform M1 such as designed as auxiliary equipment for the 155-mm gun on heavy field carriage M1, which is the same carriage used by the 8" howitzer, towed, be utilized to permit the rapid shifting of the howitzer. (Command Report - 424th FA Bn - Jun 53)

(RESTRICTED) ITEM NO 158

CHANGES TO T/O&E. - Recommend that:

a. An "A" frame be perfected for attachment to the front of a 3/4-ton truck for the purpose of lifting drums of POL products.

b. This type unit be authorized three 3/4-ton trucks with an "A" frame on each.

c. Authorization of 30-gallon-per-minute dispensers and 100-gallon-per-minute dispensers be deleted from T/O&E inasmuch as 50 and 225-gallon-per-minute dispensers are considered sufficient for operations and are far superior to the 30 and 100-gallon-per-minute dispensers.

d. This type unit be authorized a foam fire truck for each 5,000,000 gallons of POL stored. (Command Report - 529th QM Petroleum Supply Co - May 53)

OCAFF Comment: T/O&E 10-77, Quartermaster Petroleum Supply Company recently revised and forwarded to DA for final approval and publication includes the item kit "A" frame for 12 of its organic trucks, cargo, 2-1/2-ton, 6x6, M35, WW. These "A" frames with the contingent item sling barrel chain, 3 leg, endless 2 hooks, each leg 3/8 in x 12 ft, are for the purpose of lifting drums of petroleum products. The items, pump, gas, dispensing, 50-gallon-per-minute, and pump, dispensing, 225-gallon-per-minute, are both included in the revised T/O&E. Both of these pumps were recently standardized in T/O&E's.

The authorization of a foam fire truck in T/O&E 10-77, when the unit stores 5,000,000 gallons of petroleum is not considered justified. The normal mission of this unit is one of operating from one to six
petroleum supply points. Its secondary mission may be one of operating bulk storage facilities for a short period of time when these facilities are located in the forward areas of supply. The storage of 5,000,000 gallons of petroleum is considered beyond the scope of the unit's secondary mission and one rightfully belonging to T/O&E 10-377, Quartermaster Petroleum Depot Company.7

ITEM NO 159
QM LAUNDRY COMPANY TUMBLER AND WASHER. - The T/O&E of a quartermaster company, infantry division, authorizes two units, laundry, mobile, two-trailer type for the field service platoon.

Each of these units is composed of one washer trailer and one tumbler trailer (dryer). Experience indicates that the normal capacity of the washer trailer is twice that of the tumbler (180 lbs for the washer to 90 lbs for the tumbler in a one-hour period). To provide the additional drying facilities to balance the washing capacity, various field expedients are presently being used. However, none has yet been devised which is satisfactory or effective during rainy weather or the cold winter season. Neither are they so readily available for instant use as is the tumbler trailer. After periods of movement, and during rainy weather or the cold winter season, mobile field laundries are forced to operate at half capacity as a result of the lack of drying facilities.

Recommend that the T/O&E for division quartermaster companies and laundry companies be amended to include two tumbler trailers per washer trailer. (Command Report - 3d QM Co - Jun 53)

OCAFF Comment: Action is under way to increase the tumbler capacity of the mobile laundry to 180 pounds per hour. For other extract on this subject, see Item 160, this inclosure.7

ITEM NO 160
DRYING OF LAUNDRY. - Due to the reduced drying capabilities of the tumblers in comparison to the washers processing volume, a definite drying problem is created. At the present time wire lines are being utilized in all available areas to facilitate the drying process, this method being necessarily used only under favorable weather conditions. Nelson heaters are also being utilized to supplement the laundry tumblers in the drying process. (Command Report - 539th QM Ldry Co - May 53)
OCAFF Comment: The problem of inbalance between the washing and drying operations has been noted in many reports both combat and training.

The two-trailer mobile laundry was designed to produce balanced operation at a production rate of 120 pounds (dry) of laundry per hour. Tests at the Quartermaster Board, Fort Lee, Virginia, showed that this design was met. Two washer loads per hour equal 120 pounds per hour.

When the time of the wash formulas is reduced so that more than two loads per hour can pass through the washer more work is passed on to the extractor with a corresponding decrease in quality of laundering. This would tend to prevent thorough extracting (centrifuging). Normal extraction should have a residual moisture of approximately 38%. Both of these changes, if practiced, pass more pounds of laundry with larger moisture content to the dryer. Quartermaster observers are investigating laundry operating procedures to determine to what extent this is being practiced.

Recognition has been made of a need for larger drying capacity when the wash formulas are shortened, despite the reduction in quality of the work processed. Action has been taken to increase the tumbler capacity of 180 pounds per hour by passing more air through the tumbler, and at the same time burning more fuel. A 1,000-hour laboratory test is currently in progress to determine if the heat exchangers designed for this increased capacity will have a reasonable life expectancy.

(RESTRICTED) ITEM NO 161
PORTABLE FOX HOLE COVERS. - The 2d Rocket Field Artillery Battery has obtained four portable fox hole covers made of 1/4-inch armor plate. Twenty more of these covers are to be obtained to make a total of 24. Each of the 12 rocket sections will have two of these covers, which will give the section more adequate protection from premature rocket bursts. (Command Report - 75th FA Bn - Jun 53)

(RESTRICTED) ITEM NO 162
INSTRUCTION IN CONSTRUCTION OF DEFENSIVE POSITIONS. - It is evident that with the mass artillery and mortar technique used by the enemy, any fixed defensive position of the future must depend upon protection afforded by the heavy deeply-sunk bunkers now used. Preparation of such a position requires not only knowledge of the bunker...
construction itself but a basic understanding of how to plan the development of the position in order to utilize available manpower to the maximum. This is essentially a problem of small job planning and organization. Although this regiment has an adequate SOP on the subject, the junior officers and NCO's had difficulty at first in following it because of their inexperience in planning such projects.

Recommend that appropriate service schools include instruction in the design of heavy bunkered positions and construction planning incident thereto. (Command Report - 27th Inf Regt - Jun 53)

OCAFF Comment: Letter, ATTNG-24 353/151 (7 Jul 53), OCAFF 7 July 1953, subject: "Model Defensive Positions," is designed to implement instruction in planning construction and occupation of defensive positions. Emphasis is not placed on actual construction of these positions due to limited training time. Training in planning and defense of permanent type field fortifications is being employed as concurrent training in ATP's and is being emphasized in leaders' courses.

(RESTRICTED) ITEM NO 163

REQUIREMENT FOR LIGHT AUTOMATIC WEAPON. - Critique of the raid on "Old Charlie" revealed that movement of the assault team up the steep slopes was slowed down by the weight of BAR's and ammunition carried. Had all members of the assault team been armed with a lighter automatic weapon, such as the Carbine, or SMG, M3, they could have negotiated the steep slopes much quicker and effected more surprise. (Command Report - 15th Inf Regt - May 53)

(RESTRICTED) ITEM NO 164

REQUIREMENT FOR CANNISTER AMMUNITION FOR 90-MM TANK GUNS. - It has been observed through experience in combat that cannister ammunition for 90-mm tank guns would be very effective in defense against "human sea" tactics.

Recommend that this type ammunition be developed, expedited and delivered to the units in Korea for combat and training. (Command Report - 223rd Inf Regt - May 53)

OCAFF Comment: Cannister ammunition for the 90-mm gun is presently under development.
ITEM NO 165

TRAINING IN USE OF HAND GRENADES. - Replacement personnel coming into this regiment from the CONUS lack sufficient training in the use of the hand grenade. This observation is derived through friendly patrol activity in which our own personnel are not using hand grenades to the maximum effective degree, but instead resort to automatic weapons and small arms fire prematurely which reveals their position to the enemy.

Recommend that more training be devoted to the use of hand grenades and the actual practice of throwing live hand grenades in infantry RTC's. (Command Report - 223d Inf Regt - May 53)

OCAFF Comment: In addition to formal training in hand grenades presently included in ATP's, use of grenades is included and emphasized as concurrent training in tactical problems. Training in the use of hand grenades is not a difficult problem and is presently covered adequately. Command emphasis on use of grenades is a solution which would seem effective.

ITEM NO 166

VAN-TYPE VEHICLE FOR FDC. - The divisional light artillery battalion displaces more frequently than any other type artillery battalion in a tactical situation. On moving into a new position the battalion fire-direction center must be ready to function on very short notice. With the transportation currently authorized, it is necessary to unload the fire direction equipment from a vehicle, set up a CP tent (in inclement weather or at night) and install the equipment. This is time consuming, and even after the operation is completed, the installation is barely satisfactory as a fire direction center.

This organization has rebuilt the bed of a 2-1/2-ton 6x6 truck with folding sides and steel framework, extra large tarpaulin with skylights; installed a terminal strip, interior wiring, and switchboard stand for wire communications, and a mount for the FDC radio. There is adequate space for operation of FDC and S-2 section. This makeshift vehicle has been valuable even in the stable situation current in Korea.

Recommend that T/O&E 6-126, headquarters & headquarters battery of the divisional light artillery battalion, be amended to add a van-type vehicle, similar to a mobile ordnance shop van, to serve as a
mobile battalion fire direction center. This vehicle should be constructed specifically for that purpose. This would take the place of the 2-1/2-ton 6x6 truck assigned to the operations section, which would be deleted from the T/O&E. (Command Report - 10th FA Bn - Jun 53)

OCAFF Comment: Ordnance is currently building a 2-wheel van for test as a mobile FDC. In addition to the trailer, other van-type trucks are under consideration and will be tested against the trailer van.

For other items on this subject refer to: Source No 393, inclosure to letter, ATTN-64 350.05/51 (DOCl)(C)(14 Jul 52), OCAFF, 14 July 1952, subject: "Dissemination of Combat Information," and Source No 558, inclosure to letter, ATTN-26, 350.05/62 (DOCl)(C)(29 Nov 52), OCAFF, 29 November 1952, same subject.

(RESTRICTED) ITEM NO 167

USE OF VAN-TYPE TRAILERS FOR WORK SHOPS. - There are many van-type vehicles which are used for various types of work shops and command posts. These vans are stationary vehicles and move only when the division moves. Periods of immobility vary according to the activity of operations, but for the most part, such vehicles deteriorate from age rather than from use. A four-wheel van-type trailer would suffice for this purpose in all known instances. The prime movers of these van-type trailers could be conventional cargo vehicles which would become active resupply vehicles after moving into a position. Mobility and maneuverability would increase and the unit cost would be materially reduced.

Recommend that van-type work shops and command posts vehicles not be live vehicles but that suitable 4-wheel trailers be substituted therefor and appropriate cargo-type vehicles be placed in the T/O&E. (Command Report - 740th Ord Bn - May 53)

OCAFF Comment: There is presently under development a 1-1/2-ton trailer, the XM 154, which is primarily for office and quarters for field use. Indications are that this trailer will be tested for command posts and field shops.
ADAPTING THE K-24 AERIAL VERTICAL SHOT CAMERA TO
OBLIQUE USE. - Recommend consideration be given the advisability of
adapting the standard K-24 aerial vertical shot camera to alternate ob-
lique use. Due to the inherent advantage offered by its long focal length
lens and the frequent call for oblique studies on target of opportunity,
the K-24 model of this division's signal photo section was modified to
accommodate this requirement by addition of a simple eyepiece and
viewfinder device as shown in photographs below. These were attached
to the top of the camera body and zeroed in for free-hold sighting. Dur-
ing the short time the modified camera has been employed over the MLR,
the innovation has proved invaluable to the photo reconnaissance effort.

(Command Report - 3d Sig Co - May 53)

3d Inf Div Comments: Concur in above recommendations. The
K-24 camera, with its locally improvised viewfinder to facilitate hand
hold shots, is superior to the K-20 camera. The K-24 reproduces a
larger scale photo, making possible higher and safer flight altitudes.
It reproduces pictures in greater detail which aids in photo interpreta-
tion. Moreover, the hand held camera shots are better suited for pin-
point photography than fixed mount shots. The task of aiming the camera
rather than the plane is quickly accomplished, resulting in less target
misses, less flying time, and less expenditure of film.

IX Corps Comments: Experiments have been conducted by the
Photo Section, 101st Signal Battalion (Corps) using the K-24 camera for
oblique use. Results were superior to those obtained from vertical use.
Pictures were reproduced in greater detail and clarity, aiding in photo
interpretation. However, the modification of the K-24 camera with an
eye-level viewfinder was not employed, making sighting somewhat dif-
icult. Recommend that the K-24 camera with eye-level viewfinder as
innovated be considered.

OCAFF Comment: The weight and bulk of the K-24 and long
focal length of the lens used would make it extremely difficult, if not im-
possible, for the average photographer to hand hold and procure accept-
able pictures. The K-44 camera presently under test at Board No 1
should fulfill the Army aerial camera requirement.
ENLARGED VIEW OF EYE SLOT AND FINER FRAME ADAPTATION FOR K-24 AERIAL
CAMERA

FINDER FRAME

EYE SLOT
ATTNG-26 350.05/27(DOCl)(9 Dec 53) 9 December 1953

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FOR THE CHIEF OF ARMY FIELD FORCES:

[Signature]

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Asst Adjutant General

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ITEM NO 169

USE OF SD-35 MICROPHONE BY PATROLS. - The use of an SD-35 Microphone, in lieu of the TS-10 Sound-powered Telephone, in conjunction with the amplifying device, has greatly facilitated communications between patrols and the company command posts. It has been successfully used by having the patrol carry the microphone which was connected to an amplifier at the company CP. With the amplification capability, the patrol leader may speak to his CP or other elements in whispers with the least possible chance of being heard by the enemy. The CP simply turns up the volume when wire resistance on distant patrols would normally force the patrol leader to speak louder. The light weight and small size of the microphone is a boon to the patrol leader.

Recommend a further technical study to develop the advantages inherent in this equipment, together with the decided communications advantage for patrols. (Command Report - 180th Inf Regt - Mar 53)

ITEM NO 170

USE OF SNIPERSCOPE ON PATROLS. - For operation during periods of rainfall, the sniperscope has been fitted with a hood arrangement, expediently produced from a poncho. Although the range is decreased during conditions of fog, the limit of visibility is extended approximately twice that obtained by the human eye alone. Charging of batteries has proved no obstacle. In two instances, jeeps were used when the battalion generator was inoperative, and on other occasions, battery charging arrangements have been coordinated with adjacent units. Maintenance has been accomplished at battalion level, and this method should be continued. Spare parts kits are adequate. The weight of the weapon appears to be a relative factor. No adverse comment as to weight characteristic has been received from any patrol member.

This regiment has found from experience that sudden light from flares blows the fuse in the sniperscope. The fuse is so small and hard to reach that it is difficult to accomplish the replacement during the hours of darkness, especially in cold weather. In several instances the fuse could not be replaced and the sniperscope had to be returned to the MLR, causing the loss of this piece of equipment to the patrol.

Recommend that a modification be effected to change the fuse now used to a kick-out type fuse, or a shield or filter be installed over the
lens to block out the direct light rays and prevent the fuse from blowing.
(Command Report - 224th Inf Regt - June 53)

(RESTRICTED) ITEM NO 171

USE OF AN INFRA-RED LIGHT WITH SEARCHLIGHT LENS. - It is considered essential to attain a greater vision-range than that presently available with the sniperscope or snooperscope light source. An infra-red light, similar to that presently used on the sniperscope, should be made available for attachment to the 60" searchlight lens and especially to the 18" searchlight presently bracketed for mounting on tanks. Such a device would considerably benefit our forces since patrols could be given long-range night vision without being detected by the enemy; tanks and other weapons could fire on exposed enemy concealed by darkness.
(Command Report - 180th Inf Regt - Mar 53)

(RESTRICTED) ITEM NO 172

CLEARING THE DEMILITARIZED ZONE OF UNDERBRUSH PRIOR TO MINE SWEEPING OPERATIONS. - The mission for this unit was to eliminate underbrush so that sapping operations for uncharted mines and booby traps were simplified, thereby lessening the hazard associated with this type of work. The procedure followed was to initially spray the underbrush with a killing solution of DANC and 2,4-D weed killer, in mixture with diesel. Equipment utilized for the spraying was the apparatus, decontaminating, 400 gallon, M3A2. A 24-hour period was usually sufficient to have all areas suitably deadened for subsequent burning. Additional straight diesel was sprayed to complete this burning process. Following the action, engineer mine sweepers and sapper personnel could enter an area with less hazard involved and in many cases were capable of detecting buried mines by sight alone. Engineers supervising mine clearing operations state that by burning off areas, the time element has been reduced by 50%.
(Command Report - 21st Cml Decontamination Co - Aug 53)

(RESTRICTED) ITEM NO 173

USE OF MACHINE GUN RING MOUNTS WITH M-SERIES VEHICLES. - Currently authorized .50 caliber machine gun ring mounts will not fit M-series vehicles of 2-1/2-ton size and larger without modification to both the ring mount and vehicle cab. Ring mounts installed without modification set up stresses in vehicular structures which result in
damaged metal parts and glass breakage. Adapters for necessary modifications are available. (Command Report - Eighth Army - June 53)

ITEM NO 174

SPARE TIRE POSITION ON VEHICLE, 5-TON, M-41. - The spare tire on the 5-ton M-41 is entirely too heavy to be attached to the front end of the cargo bed. Two vehicles were found to have developed large cracks and in one case complete severance of the front end from the side panel of the cargo bed. A solution is to either completely remove the spare tire from the vehicle or lay the tire flat in the bed. (Command Report - 75th FA Bn - June 53)

ITEM NO 175

RETRAINING OF DRIVERS ON NEW M-SERIES VEHICLES. - In view of the number of vehicle accidents in units equipped with the new M-series automatic transmission type vehicle, it is apparent that an immediate requirement exists for driver retraining and orientation. Some of the physical differences between the WWII type 2-1/2-ton truck and the M-211 type now in operation are that the M-211 has a more powerful engine, an automatic transmission, improved brakes, and less driver vision to the right. In addition, it is eight inches wider and weighs approximately 1,800 pounds more than the WWII type. (Command Report - I Corps - June 53)

ITEM NO 176

IMPROVISED PROJECTILE RACKS FOR 5-TON M-41 TRUCKS. - Hauling of projectiles by medium and heavy field artillery battalions in the 5-ton M-41 trucks has been improved by use of projectile racks. To prevent shifting of load and damage to rotating bands on projectiles, and to protect the metal floor, a rack of heavy planks is built between the wheel wells.

A field artillery battalion developed a rack which carries 45 8-inch howitzer shells standing upright. The rack has proved rugged and provided effective protection to the truck body. Propellant containers are stacked in the bed of the truck, outside of the rack.

This rack is 16 inches high and extends the length of the wheel wells. The floor of the rack extends all the way to the tail gate.
rack has its own gate which lifts vertically out of the rack and which is positioned even with the rear of the wheel wells.

Materials used are as follows:

Flooring: 4 each 2" x 10" x 127" planks - 1 each 2" x 8" x 127" planks
Side rails (1 plank on each side): 2 each 3" x 16" x 120"
End walls (1 plank for each end wall): 2 each 3" x 16" x 42"
Vertical supports (2 planks at each corner): 8 each 2" x 10" x 16"
Gate guides (1 each side): 2 each 2" x 4" x 16"
Bolts: 16 each 3/8" x 6" (or 40 each 20d nails)

(Eighth Army Arty Info Bulletin No 4 - 22 Apr 53)

OCAFF Comment: This is an excellent improvisation provided vehicles are not maintained as special purpose vehicles.

(RESTRICTED)

UNLOADING MECHANISM AND HANDLING DEVICE FOR 8-INCH HOWITZER PROJECTILE. - An improvised mechanism for unloading 8-inch projectiles from the bed of trucks and a device for short-distance handling of the projectiles were constructed using miscellaneous materials readily available to any artillery unit. (See photographs.)

The unloading mechanism and handling device materially reduces damage to the rotating bands of the projectiles incurred in handling 8-inch projectiles, thus eliminating a common cause of inaccuracies of fire.

The handling device consists of a 24-inch steel bar with a hook that fits the nose plug on the projectile. This bar permits two men to lift and maneuver the 200-pound projectile instead of only one man.

Materials necessary for construction of the unloading device are three 8-foot engineer stakes, one 8-inch charge container, three feet of 3/4-inch round iron (salvage crank), and 14 feet of 3/8 or 1/2-inch rope. The unloading mechanism is constructed to allow the projectile to ride on a slide from the truck or loading platform to the ground and to stand on end when it reaches the ground. The projectile may then be tipped into a loading tray or moved with the handling device. The mechanism can also be used to load projectiles. (Command Report - 987th FA Bn - May 53)
ITEM NO 178

OPENING CAN, FUZE VT, M97. - The metal sealed can which houses the VT Fuze for 105-mm artillery rounds (Fuze M97) has a key that is inserted in a strip that must be unwound to open the can. This opening strip is located near the end of the can. During periods of sustained firing, much time is lost in preparing the VT Fuze. At the present time, pliers are used to remove the opening strip. After the end of the can is removed there is difficulty in removing the fuze.

Recommend that the opening strip for the can, Fuze VT, M97, be placed at the center of the can and that a grasping ring be placed on the end of the strip in order that a finger can be used to remove the strip. (See below.) (Command Report - 64th FA Bn - June 53)

ITEM NO 179

MATERIEL FAILURES OF 240-MM HOWITZER. - Materiel failures of the 240-mm howitzer have been far greater than those experienced with lighter caliber artillery pieces. Specifically, these failures include the following:

a. The clevises giving vertical support to the trail spades break frequently. While it is understood that the spade must be kept perpendicular to the horizontal at all times when firing, occasionally they were not exactly perpendicular. When this deficiency was corrected the clevises continued to break under the stress of firing. Recommend that clevises be constructed of steel rather than cast iron.

b. The hoses leading from the equilibrator tank to the equilibrator cylinder have a tendency to leak with wear. The flexible metal hoses seem incapable of endurance under normal field use. Possibly they could either be constructed of tougher material or replaced by a nonflexible connection. There appears no requirement for flexibility in this connection.
c. Three pieces have been replaced due to faulty recoil mechanisms. This was caused by a leak in the annealed copper gasket sealing the threaded connection of the recoil throttling cylinder with the recoil piston rod. Ordnance specialists indicated that the recoil mechanisms had not been properly exercised since they were placed in storage in 1944; this caused the copper gasket to "channel" and therefore to leak. One of the recoil systems leaked at the front face or muzzle end of the main recoil cylinder. Ordnance attributed this fault to the presence of foreign matter in the recoil cylinder which formed grooves in the piston rings preventing perfect sealing. (Command Report - 159th FA Bn - July 53)

(RESTRICTED) ITEM NO 180
SEARCHLIGHT CONTROL IN CONNECTION WITH ARTILLERY.
Experiments were conducted with searchlight control in connection with artillery. Massing, changing the direction of searchlights, and turning different searchlights on and off by reference to map coordinates, searchlight numbers and artillery concentration numbers were tried. The use of artillery concentration numbers was found most effective and confusion or conflict was eliminated with a noticeable gain in speed and accuracy. (Command Report - Eighth Army - May 53)

(RESTRICTED) ITEM NO 181
AMMUNITION HANDLERS NEEDED IN ARMORED FIELD ARTILLERY BATTALION.
Experiences gained in combat with an armored field artillery battalion have shown that for proper cataloging, sorting and inventorying ammunition expended during protracted periods of firing, the present system utilized at battery level does not lend itself to optimum utilization of personnel.

Field Manual 6-140, paragraph 54, states:

"Duties of Ammunition Sergeant: In charge of ammunition section; maintains ammunition supply as directed; keeps battery ammunition records."

Presently, batteries in the field can accomplish the recording of ammunition and expenditures thereof by obtaining personnel from other sections, thereby decreasing the operating efficiency of the section concerned. No provision has been made to appropriately reward levied
personnel commensurate with duties of battery ammunition handling, other than by depriving other personnel performing T/O&E duties of their ratings.

a. 155 Howitzer batteries are supplied with varied types of ammunition:

(1) Projectiles. - Nine types are manufactured in three weights which must be maintained separately.

(2) Fuzes. - Nine types of fuzes.

(3) Powder. - Two types of powder. Powder is classified by lot number and must be segregated. To insure accurate fire, the same lot number must be fired by all pieces.

b. As is evidenced by the variety of items listed above, maintenance and accounting of large amounts of all types of ammunition presents a problem which has been adequately solved in other field artillery batteries by providing for an ammunition section. In this battalion, each battery has detailed an ammunition sergeant from some other position.

Efficient handling of the ammunition supply of the firing battery requires unceasing effort as well as intelligence and initiative. During recent stabilized operations, much of the loading and handling of ammunition has been done by the wire and survey sections. In a moving situation, these personnel will have other primary jobs and will not be available.

Recommend the following personnel constitute an ammunition section to be added to T/O&E 6-327:

Sergeant, E-5: Ammunition Sergeant.
Corporal, E-4: Ammunition Corporal.
Six, Private First Class, E-3: Ammunition Handlers.

(Command Report - 92d Armored FA Bn - June 53)
Recommend that the T/O&E for the firing battery headquarters be increased to include one additional computer MOS 1704. (Command Report - 10th FA Bn - July 53)

(RESTRICTED) ITEM NO 183

CHANGE TO T/O&E 52-1. - Actual operations under combat conditions have indicated no real requirement for a stenographer in a Corps Chemical Section. There is a critical need for one additional Chemical Staff Specialist. This enlisted man is required for operating radiac instruments, chemical detection equipment, making technical inspections of equipment and CBR defense readiness, and assisting in the training of corps units.

Recommend that T/O&E 52-1, 26 July 1950, as revised by C-1, 30 July 1951, be amended by deleting one Sergeant, Stenographer MOS 1213 (paragraph 16, Line 04 - Change 1) and substituting therefor one Sergeant, Chemical Staff Specialist, MOS 1870. (Command Report - IX Corps - May 53)

(RESTRICTED) ITEM NO 184

PROVEN VALUE OF MAINTAINING COMMUNICATIONS DURING CRITICAL STAGES OF BATTLE. - By approximately 0500 hours, four artillery battalions had displaced from the general area occupied by Battery A of this battalion. The displacements were without order from or knowledge of higher headquarters. Battery A remained in position, continuing to fire, concurrently defending their perimeter with small arms and machine gun fire, inflicting casualties on enemy ground troops. For approximately nine hours Battery A was the most forward battery in the corps sector. Prior to and during the period, they underwent intense attack by enemy artillery, mortar, small arms, and automatic weapons fire.

When ordered to displace by higher headquarters, the battery was extricated, displaced to a new firing position with all major items of equipment, and negligible casualties compared to those suffered by other units.

The key factor which enabled this battery to stay and fight, was the maintenance of communications. Whereas in other units all communications with higher headquarters and with some subordinate units failed at the most critical stage of the battle, communications were maintained by this battalion.
No new techniques or principles have appeared, merely re-emphasis of current doctrine and teaching. (Command Report - 424th FA Bn - July 53)

**ITEM NO 185**

**RELIANCE ON RADIO COMMUNICATION DURING CRITICAL PHASES OF COMBAT.** - The experiences of this organization conclusively demonstrated the complete reliance which must be placed upon radio as a means of communication during periods of active combat. Every time this organization has been subjected to extensive artillery fire its wire lines have gone out, particularly those longer, vital lines to OP’s, adjacent units, and higher headquarters, even though alternate lines were laid and in many instances these lines were buried. Wire communication cannot be maintained during periods of enemy shelling, or when there is heavy lateral movement of friendly troops and vehicles. (Command Report - 96th FA Bn - July 53)

**BCAFF Comment:** When adequate alternate means of communication are properly maintained, there should be no period or interval of time when communication is disrupted.

**ITEM NO 186**

**PERFORMANCE OF NEW SERIES RADIO SETS.** - The 39th FA Battalion was issued the new series radio sets, which were mounted in the interim M37 1/4-ton, 24-volt vehicles and in the 3/4-ton, 24-volt vehicles. Results have been satisfactory. The new radio sets out-performed the old sets sufficiently to allow elimination of relay stations. (Command Report - Eighth Army - April 53)

**ITEM NO 187**

**RADIO SET ALIGNMENT.** - Many instances of radio sets being out of mechanical alignment have been discovered after approximately two and one-half month usage. The difficulty is caused primarily by the type of rubber shock mounting used in the vehicle installation kit. Also, the suspension of the chassis of the radio component inside the corrugated metal case such as the receiver-transmitter RT 67/GRC, seems to offer trouble in these cases. The chassis strikes against the corrugated case when the vehicle hits a large bump or hole in the road which tends to increase the probability of the set being knocked out of alignment. (Command Report - 159th FA Bn - July 53)
ITEM NO 188

RADIO COMMUNICATION FACILITIES. - It has been found that remoting radios from vehicular mounts into the battery executive post and the battalion FDC is impractical. The impracticability of this practice is due to the fact that an 8-inch howitzer battalion supporting four divisions must be able to communicate on at least eight different frequencies besides the battalion's own frequencies and the corps artillery fire direction frequencies. This large radio communication requirement necessitates five vehicles and these must be taken out of normal use to provide radio communications for fire direction in the battalion headquarters plus one vehicle in each firing battery.

An SCR 608 radio dismounted from the vehicles and operated directly from the FDC permits one operator to handle simultaneously two missions on two different channels without difficulty. This practice is impossible in theory with only one operator if the set were remoted from a vehicle. In practice it is impossible with one operator at the set and one operator at the remote position.

Recommend that the SCR 608 and the AN/VRQ 2 radio mountings be modified similar to the SCR 619 to provide both ground and vehicular installations. (Command Report - 17th FA Bn - April 53)

ITEM NO 189

WEAKNESSES OF SWITCHBOARD SB-22. - The new switchboard, SB-22 has the obvious advantage of decreased size and weight but has some deficiencies. The cords (particularly the operator's cord) are apparently too susceptible to wear. Since the operator's cord receives by far the greatest use, it was determined that by completely unrolling this cord and taping it in the fully extended position, wear was greatly reduced and the life of the board correspondingly increased. The ringer crank was also found to be sensitive and required careful handling. (Command Report - 7th Inf Regt - July 53)

ITEM NO 190

DEFICIENCIES IN SWITCHBOARD SB-22. - Initial experience with switchboards SB-22 issued has been disappointing. Two operator's packs and seven line packs were defective and inoperative when received. Other
units (two operator's packs and two line packs) became inoperative during the first three weeks of use. The principal difficulty encountered has been the shorting out of the operator's plug. As the packs went out, it became necessary to utilize telephone EE-8 as an emergency means of operating the boards. Other complaints against the switchboard are the low volume and audibility of the night alarm system and the difficulties encountered in attempting field repairs. (Command Report - 75th FA Bn - Aug 53)

(RESTRICTED) ITEM NO 191
SWITCHBOARD FOR FIRE SUPPORT COORDINATOR WITH INFANTRY BATTALION (ARTILLERY LIAISON OFFICER). - The artillery liaison officer with the infantry battalion acts as the battalion's FSC. In this role his communication set-up must be of the best. In addition to the normal wire lines between him and the artillery battalion FDC, artillery battalion switchboard, and each of his three forward observers, he must have communications with all other fire support agencies involved. These agencies normally include the infantry battalion heavy weapons company, regimental heavy mortar company, tanks in support of the battalion, AA weapons in a ground support role, and the two adjacent artillery liaison officers. It has been found by experience in this battalion that to depend upon already existing wire communications is not practical. During periods of intense combat activity, when the timeliness of fire support is paramount, existing lines are too often tied up with other operational traffic. In order to provide adequate and timely fire support, present doctrine requires each of these fire support agencies to lay a direct line to the infantry battalion FSCC. The equipment presently authorized the liaison section to handle these incoming lines is one emergency switchboard, SB-18/GT. This board contains seven crystals and must be watched at all times as it has a visual signal but no audible signal for incoming calls. This has proven entirely inadequate to handle the wire communication requirements of the artillery liaison officer with the supported infantry battalion.

Recommend that T/O&E 6-126, Headquarters and Headquarters Battery, 105-mm Howitzer Battalion, Towed, be amended to add three switchboards, SB-22/PT (12-drop board), in lieu of the three emergency switchboards, SB-18/GT, listed under the wire section. (Command Report - 10th FA Bn - July 53)
ITEM NO 192

MODIFICATION OF 7 CFM AIR COMPRESSOR, GED. - Experience in transporting the 7 CFM air compressor, GED, Ml or MlAl by truck, has indicated need for a modification which would prevent the compressor from turning over so easily. The skids (steel) on which the compressor is mounted, being very close together, tends to cause the item to be top heavy. This has been corrected here by spot welding a 1-1/2-inch steel pipe across the skids at each end of the compressor. These two pieces of pipe are four inches longer than the maximum width of the compressor and therefore extend two inches beyond each side.

Recommend the Reciprocating, GED, 7 CFM be mounted with the skids the maximum width apart, under the compressor, rather than close together under the center of the weight load. (Command Report - 92d Chemical Service Company - June 53)

ITEM NO 193

DEFICIENCIES IN TRAINING OF TECHNICAL PERSONNEL. - The basic problem confronting a commander of this type unit is the lack of technically qualified personnel. The majority of replacements have earned their MOS through schools, but very few have had any practical work or have any knowledge of type and scope of work they are expected to perform in a unit of this type. Recommend that technical training schools include more practical work periods in their training schedules. (Command Report - 2d Ord Co - June 53)

ITEM NO 194

MAINTENANCE OF H-19 CARGO-TYPE HELICOPTERS. - Hardstand - 1600' x 60' - is required for the parking of H-19 cargo-type helicopters. This hardstand should be as dustproof as possible to prevent the downblast of air from throwing dust, sand or other matter into the mechanism of the helicopter and neighboring helicopters. This is a preventive measure to insure efficient maintenance and a low percentage of grounded helicopters. Experience has shown that the maintenance of this type aircraft on bare sand or dirt has resulted in rapid replacement of very expensive and scarce items on the helicopter. Money saved by this hardstand in maintenance and replacement of expensive parts would soon pay for itself. (Command Report - Eighth Army - December 52)
Criteria for heliport construction is being established and disseminated by Technical Bulletin 5-250-1, May 1953, "Design Criteria for Army Airfields and Heliports.

ITEM NO 195
ADJUSTMENT OF AIR DROPPED FLARES. - During the course of the action a request was made by X Corps Artillery to adjust the dropping of flares from aircraft. The desired location of the flares was plotted on the battalion firing chart, azimuth and distance to the flares were given by the OP. These were converted to compass directions and distances and the corrections were relayed through X Corps Artillery FSCC to the flare plane. (Command Report - 780th FA BN - May 53)

ITEM NO 196
IMPROVEMENTS IN ARMORED VEST. - Maintenance requirements on the M-52 (Marine Type) armored vest have been extremely high due to the plates wearing through the fabric along the bottom of the vest.

Recommend that consideration be given to reinforcing the bottom edge of all vests of this type. (Command Report - 27th Inf Regt - June 53)

ITEM NO 197
NEW GFT TO REPLACE M-50. - Recommend that a study be made to determine and supply a new graphic firing table to replace the present M-50. This table is not suitable for use with the 4.2" mortar, M-30. The current T/O&E 7-14 authorizes the M-30 mortar but authorizes GFT, M-50, formerly used with the M-2 mortar. (Command Report - 27th Inf Regt - June 53)

ITEM NO 198
USE OF M3 SMOKE GENERATORS. - Another successful mission of the mechanical smoke generator in forward areas was demonstrated. Two M3 smoke generators were installed on the reverse slope behind companies E and F to deny the enemy direct observation on work parties constructing communication trenches. Prior to the initiation of this
smoke mission, the enemy had been harassing the work detail with sniper, machine gun, and mortar fire, causing several casualties and damage to materiel. The mission was maintained during daylight hours for two weeks and the construction of the communication trenches was completed without further casualties. (Command Report - 40th Inf Div - May 53)

OCAFF Comment: Use of equipment provided for deception and concealment should be carefully considered in planning for all operations. Unless such equipment is used wherever possible, our superiority in quality and types of equipment is valueless.

ITEM NO 199

USE OF FLAME THROWERS TO DISPERSE TEAR GAS. - Flame throwers are effective in dispersing tear gas which is used to quell POW disorders. (Command Report - Korean Base Section - June 53)

ITEM NO 200

USE OF CHEMICALS IN POW CONTROL. - Much experience continues to be acquired in the use of non-toxic irritants in the subduing of mass acts of defiance by POW's. A mixture of adamsite and tear gas has proved most effective and more successful than tear gas alone. Indications are that CN in itself is relatively useless in the face of determined opposition, but adamsite, while slow in physiological action, is extremely effective when the cloud is maintained with some persistency. Prisoners have withstood its effects for as long as twelve minutes but invariably are effected by violent vomiting and retching. The possibility of developing a lethal concentration with the CN-DM grenade is almost non-existent.

Sufficient experience has been gained in the use of non-toxic chemicals to recommend that consideration be given to the development of a grenade filled with an agent with characteristics similar to adamsite but capable of more rapid action to achieve the desired result. The time interval between discharge of the present agent and its effect renders it virtually useless as a means of preventing escape.

Indications are that the more times chemicals are used against the same groups, the less effective the chemicals become. Evidence already gathered tends to show that the psychological effect is less when determined,
well-organized POW groups develop anti-chemical tactics to the point where they actually issue clandestine training material on defense against chemical attack. There is also evidence that it is possible to develop a physical resistance to the effects of non-toxic irritants, as prisoners who have previously been subjected to chemical attack require increasingly heavy concentrations to achieve the desired results.

(Command Report - POW Comd, 8203d AU - June 53)

OCAFF Comment: The experience of the POW Command with the use of non-toxic chemicals is confirmed by experience within the Chemical Corps. Physical resistance to non-toxic irritants, particularly tear gas when used repeatedly on the same group of individuals, is built up rather rapidly. Resistance to the more violent non-toxic agents such as DM is not as readily obtained but probably a degree of resistance to this agent is also possible. When individuals who have obtained resistance are left unexposed for a period of time, this resistance disappears and must again be acquired. An equally important effect of continued use of non-toxic chemicals against the same group is the loss of psychological effect, and as that is lost, will to resist on the part of determined rioters increases.

(RESTRICTED) ITEM NO 201

LESSONS LEARNED IN USE OF X-200 NAPALM LAND MINE.
In surveillance tests on components of X-200 napalm land mines, one hundred mines were laid on the ground with burster-well sides in contact with the surface and left exposed to the various extremes of weather conditions experienced from January 1953 through May 1953. It was found that the hot weather in May caused considerable expansion of the napalm filling and that the majority of the mines had swollen, resulting in leakage. The swelling of the mines was a result of filling the mine too full during the cold weather months, leaving insufficient space for hot weather expansion. In several of the mines the expansion of the napalm filling resulted in soaking the X-199 bursters, rendering them ineffective. In every case there was little or no breakdown of the napalm filling. In many of the mines, leakage occurred at points dented or otherwise damaged by rough handling.

Conclusions:

a. Training on X-200 land mines should emphasize careful handling during assembly, transport and emplacement in order to avoid denting or crinkling of the metal containers.
b. When filling X-200 land mines with napalm, regardless of temperature conditions at the time of assembly, a minimum of two inches should be provided to allow for expansion of the filling with the onset of hot weather.

c. After emplacement of X-200 land mines, periodic tests should be made to determine effectiveness of the bursters and the napalm filling of selected mines. (Command Report - 40th Inf Div - May 53)

OCAFF Comment: For other items on tests of the X-200 napalm land mine, see source 751, inclosure 1 to letter, ATTN-26 350.05/7 (DOCI) (C) (3 Jun 53), OCAF, 3 June 1953, subject: "Dissemination of Combat Information," and Item No 82, inclosure 1 to letter, ATTN-26 350.05/12 (DOCI) (C) (1 Oct 53), OCAFF, 1 October 1953, subject: "Dissemination of Combat Information.

ITEM NO 202

LESSONS LEARNED BY ARTILLERY IN BATTLE OF PORK CHOP HILL. - Radios must be made to work successfully. For several hours during the action on PORK CHOP, a FA battalion was without a single communication line. During this period, the battalion fire direction center, the observation posts, and the infantry FSCC's operated successfully with division artillery and adjacent units by radio.

Infantry battalion FSCC's must remain intact throughout a relief. It is advisable to improve and duplicate the existing installation rather than to attempt to transfer responsibility during the battle.

Responsible liaison officers from every fire support agency must be available to the infantry commander. These officers must be able to communicate with and control respective fire units with the least practicable delay.

Construction of command OP's should be given high priority, for they are vital to any operation, be it of an offensive or defensive nature. Construction should be such that it precludes being shelled out of existence.

The value of direct fire tanks was proved during the evacuation phase of this operation.
Time fuze must be employed in lieu of VT during wet weather to prevent excessive premature bursts over friendly positions.

The close coordination required between the infantry-artillery team with command liaison to all means of fire support cannot be stressed too strongly.

The premature firing of "flash fires" should be avoided whenever possible. If a set pattern is established, the fires may be by-passed or avoided by the attacking enemy forces. (Command Report - 7th Div Arty - July 53)

(RESTRICTED) ITEM NO 203

THE CLOSE DEFENSE OF ARTILLERY POSITIONS. - Several times during the operation, artillery battalions were confronted with the immediate prospect of fighting in close defense of their positions. This situation was aggravated by large numbers of friendly stragglers or fugitives fleeing through or near battery positions.

Recommend that artillery units be practiced frequently in the close defense of the position to include the emplacement of machine guns, rocket launchers and tactical wire. Confidence must be developed in the ability of the artillery to defend their positions.

Plans should be developed for handling stragglers from other units. Such stragglers should not be allowed to flee through or near the battery positions. (Command Report - 5th FA Group - July 53)

(RESTRICTED) ITEM NO 204

NECESSITY FOR HAVING LONG RANGE ARTILLERY WELL FORWARD IN THE DEFENSE. - It was amply demonstrated that some long range artillery (8-inch howitzer or 155-mm gun) must be well forward in the defense. The Air OP reported numerous sightings of infantry in trucks, artillery and other important targets in localities where long range artillery was needed to attack them. (Command Report - 5th FA Group - July 53)
CORRECTING INACCURACIES IN ARTILLERY FIRES. - Experience has indicated that small inaccuracies in fires still result. They are due usually to a failure to observe procedures that are well laid down in our manuals, but in the day in and day out firing they are either slighted or overlooked completely. Some of the more obvious of these are failure to:

a. Keep aiming posts accurately aligned.

b. Set the far aiming post 100 yards from the piece and the near post at exactly one-half the distance to the far post.

c. Bore sight daily.

d. Check laying of battery twice daily.

e. Follow standard procedures to take up lost motion.

f. Make settings exact.

g. Ram hard (projectiles cannot be rammed consistently by using a stroke of medium force).

h. Replace firing charts (grid sheets) that have become inaccurate through long usage or distortion due to weather conditions.

Over an extended period, these small inaccuracies resulting from failure to strictly observe procedures will cause a greater waste of ammunition than large errors because large errors are usually detected early and corrected. (Eighth Army Artillery Info Bulletin No 2 - February 53)

DELETION OF COUNTERMORTAR RADAR SECTION FROM T/O&E 6-125. - Corps countermortar radar sets have been so located in Korea that they cover the entire Corps front. These radar sets have been located more or less permanently in the best available radar sites. Radar sets of direct support battalions are forced to occupy less desirable positions and in many cases move frequently, trying new positions and therefore obtain few mortar locations.
Recommend that the countermortar radar section be deleted from T/O&E 6-125, 15 May 1952 and countermortar radar support be furnished regiments on the line by corps radar sections working in coordination with direct support battalions. (Command Report - 37th FA Bn - Aug 53)

**ITEM NO 207**

**MAINTENANCE OF RADARS IN FIELD ARTILLERY OBSERVATION BATTALION.** - Trouble with the PU-26 generators is still common. Radar repairmen, MOS 1775, should be given additional schooling in maintenance of power units in order to be able to repair them. The Signal Corps maintenance teams should each have a generator repairman. In addition, an adequate supply of spare parts for the generators should be included in the running spare parts kit at each site. (Command Report - 235th FA Ohsan Bn - July 53)

**ITEM NO 208**

**GENERATOR DIFFICULTIES IN OPERATION OF AN/MPQ-10**

RADAR. - Because of the difficulty experienced in maintaining the PU-269/9 generator and the breakdowns in generators caused by normal long hours of operation under combat conditions, recommend that more reliable and sturdy generators be provided. (Command Report - 58th FA Bn - July 53)

**ITEM NO 209**

**PRIME MOVERS FOR AN/MPQ-10 RADARS AND GENERATORS.** - At present, there are insufficient prime movers provided to move the radar and the two generators.

Recommend that the T/O&E be increased by one vehicle to provide sufficient transportation. All vehicles in the radar section should be equipped with winches, and block-and-tackle sets and cable pulleys should be provided in order to facilitate entry into position in muddy terrain. (Command Report - 58th FA Bn - July 53)

**ITEM NO 210**

**ORDNANCE TRAINING IN INSPECTION OF SALVAGE BRASS.** - Recommend that additional emphasis be placed on proper training in the CONUS of officer personnel in inspection and shipment of salvageable
Since all shipments are inspected at the point of origin and certified by a commissioned officer as being free of explosive material, emphasis in training on 100% inspection at the using point can materially lessen contaminated shipments. (Command Report - Korean Communications Zone - June 53)

**ITEM NO 211**

**DIFFERENT METHOD OF PACKAGING CALCIUM HYPOCHLORITE.** Stacks of calcium hypochlorite on hand at using units are presenting a fire hazard. Two fires have been attributed to spontaneous combustion of calcium hypochlorite which had been exposed to moisture by the deterioration of containers. Instructions have been issued to segregate stocks of this material and store in dry, well ventilated places.

Recommend that packaging methods and materials be studied with a view to correcting deficiencies in containers at the source. (Command Report - Korean Communications Zone - May 53)

**ITEM NO 212**

**PROBLEMS IN UNLOADING BULK CARGO FROM DEEP TANKS IN LIBERTY-TYPE VESSELS.** Bulk cargo such as coal or grain which is loaded mechanically, is normally discharged by hand in Korean ports. Discharge of bulk cargo from deep tanks is a slow and expensive process. This is particularly true of deep tanks in No 4 hold of Liberty-type vessels, because of the small hatch openings, their location which precludes working them simultaneously with the rest of the hold, and their depth and maze of piping.

Recommend that research and development agencies investigate the feasibility of installing a sliding hatch opening near the bottom of the deep tanks on the after bulkhead, leading into the main portion of the hold. It would then be a simple matter, when the main portion of the hatch is nearly completed, to open the panel and let the bulk cargo flow out into the main cargo hatch where it can be worked more easily. (Command Report - 14th Trans Port Bn - April 53)