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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

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:

T. J. Smith

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1 Incl
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751 thru 776

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(See next page)

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SOURCE: Command Report - X Corps

DATE: January 1953 Source No 751

(RESTRICTED)

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 contributary 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.

(RESTRICTED)

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.

(CONFIDENTIAL)

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

old 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 Source No 753

(CONFIDENTIAL)

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 Source No 754

(RESTRICTED)

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.

(RESTRICTED)

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 accomodate 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.

SOURCE: Command Report - 99th Armored FA Bn

DATE: December 1952 Source No 755

(RESTRICTED)

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 accidentally. 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 maintaing the element of surprise.

SOURCE: Command Report - 1st FA Obsn Bn

DATE: December 1952 Source No 756

(RESTRICTED)

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.

SOURCE: Command Report - 15th Inf Regt

DATE: December 1952 Source No 757

(RESTRICTED)

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.

SOURCE: Command Report - 1343d Engr Combat Bn

DATE: December 1952 Source No 758

(RESTRICTED)

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)

METEROLOGICAL 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 meterological 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. CaIC12 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 Source No 761

(RESTRICTED)

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.

SOURCE: Command Report - 60th Ord Gp

DATE: November 1952 Source No 762

(RESTRICTED)

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.

SOURCE: Command Report - Eighth Army

DATE: July 1952 Source No 763

(RESTRICTED)

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.

SOURCE: Command Report - 424th FA Bn

DATE: December 1952 Source No 764

(RESTRICTED)

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 of ten 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 Source No 765

(RESTRICTED)

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 3-4, 1952, plans increased emphasis on mine warfare for all arms and services./

SOURCE: Command Report - 235th FA Obsn Bn

DATE: January 1953 Source No 766

(RESTRICTED)

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.

(RESTRICTED)

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.

(RESTRICTED)

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.

SOURCE: Command Report - 64th Tank Bn

DATE: December 1952 Source No 768

(RESTRICTED)

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.

SOURCE: Command Report - 96th FA Bn

DATE: December 1952 Source No 769

(RESTRICTED)

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.

SOURCE: Command Report - IX Corps

DATE: November 1952 Source No 770

(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.

SOURCE: Command Report - 189th FA Bn

DATE: January 1953 Source No 771

(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 Source No 772

(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 Source No 773

(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 Source No 774

(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, polyethyline 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, polyethyline 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 Source No 775

(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 Source No 776

(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.