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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:

A. B. CHATHAM
Lt Col, AGC
Asst Adjutant General

1 Incl
Extracts from sources
456 thru 489

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SOURCE: Command Report - 40th Infantry Division

DATE: April 1952 Source No 456

(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.

Over

SOURCE: Command Report - IX Corps

DATE: March 1952 Source No 457

(RESTRICTED)

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.

SOURCE: Command Report - 2d Infantry Division

DATE: March 1952 Source No 458

(RESTRICTED)

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-11 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.

(RESTRICTED)

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 Source No 459

(RESTRICTED)

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 Source No 460

(CONFIDENTIAL)

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 adequate 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.

SOURCE: Command Report - 31st Infantry Regiment

DATE: March 1952 Source No 461

(RESTRICTED)

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.

SOURCE: Command Report - 15th Antiaircraft Artillery AW Battalion (SP)

DATE: April 1952 Source No 462

(RESTRICTED)

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.

(RESTRICTED)

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.

(RESTRICTED)

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.

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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 Source No 463

(RESTRICTED)

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.

RECAPITUALTION

Previous Expenditures	275,843
Expenditures During Period	16,064
Total Expenditures to Date	291,907

* * *

(RESTRICTED)

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 PU/21/U, 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:

	23-29 February	March	April
2 pt plots	13	67	31
1 pt plots	1	28	15

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 Source No 464

(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 Source No 465

(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 Source No 466

(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 overstrength 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.

SOURCE: Command Report - 3d Infantry Division, Artillery

DATE: April 1952 Source No 469

(RESTRICTED)

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 auxilliary 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.

SOURCE: Command Report - 7th Infantry Regiment

DATE: March 1952 Source No 470

(RESTRICTED)

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

Over

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 Source No 471

(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 Source No 472

(RESTRICTED)

OBSOLESCENT 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.

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 Source No 473

(RESTRICTED)

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.

(RESTRICTED)

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 mosquite 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

(RESTRICTED)

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.

(RESTRICTED)

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

(RESTRICTED)

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

Over

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 Source No 476

(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 Source No 477

(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 Source No 478

(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.

U. S. Man Hours	1,548
K. S. C. Man Hours	2,169
Equipment Hours	819
Earth Excavation	35,000 cu yds
Sand Bags	93,000
Lumber	52,023 bd ft

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.

Over

SOURCE: Command Report - I US Corps

DATE: April 1952 Source No 479

(RESTRICTED)

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, $\frac{\text{SF W20 K}}{\text{AD 8.0 mi}}$. 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.

SOURCE: Command Report - I US Corps, Artillery

DATE: April 1952 Source No 480

(CONFIDENTIAL)

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 I&E program to take on a role of much more potential importance than is commonly appreciated. The battalion I&E officer normally has primary duties which demand most of his time. Of necessity most of the actual work falls to the battalion I&E NCO.

Recommendation. - In order to help the enlisted I&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 I&E NCO. It is further recommended that personnel be screened and where interest and talent are shown along I&E lines, that such personnel be sent to an Army I&E school. Further, it is recommended that one such school trained individual be assigned to each battalion as full time I&E NCO.

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REQUIREMENT FOR ILLUMINATING AMMUNITION. - It is recommended that the precentage 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 Source No 481

(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 Source No 482

(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.

SOURCE: Command Report - 143d Field Artillery Battalion

DATE: March 1952 Source No 483

(RESTRICTED)

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.

SOURCE: Command Report - 140th Antiaircraft Artillery AW Battalion (SP)

DATE: March 1952 Source No 484

(RESTRICTED)

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.

(RESTRICTED)

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.

SOURCE: Command Report - 14th Infantry Regiment

DATE: April 1952 Source No 485

(RESTRICTED)

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.

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(RESTRICTED)

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 Source No 486

(RESTRICTED)

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 Source No 487

(CONFIDENTIAL)

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.

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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.

SOURCE: Command Report - 64th Tank Battalion (Med)

DATE: March 1952 Source No 488

(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 Source No 489

(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.

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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 changed 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 dutics. 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

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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 units 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.