

KOREAN WAR PROJECT

**LESSONS OF THE KOREAN WAR
DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE
CORPS**



DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
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MEMORANDUM

From: Commandant of the Marine Corps
To: Distribution List
Subj: Lessons of the Korean War
Encl: (1) Copy "Inadequacies Noted in the System of Control of Close Air Support Aircraft"

1. The enclosure is a resume of the opinions of a forward air controller based upon actual experiences while operating with the 1st Marine Division in the Seoul-Inchon and Changjin Reservoir-Hamhung operations.

2. The enclosure is distributed solely for its value as an aid to correcting past mistakes and to assist in the formulation of new doctrines.

3. The enclosure deals individually with the following subjects:

- a. Front line panel display.
- b. Radio communications.
- c. Employment of Forward Air Controllers.
- d. Communications for observation type aircraft.
- e. Staggering of flights assigned to target areas.
- f. Training of ground personnel.
- g. Maps in common.
- h. Air resupply.

E. A. POLLOCK
By direction

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ENCLOSURE (1)

INADEQUACIES NOTED IN THE SYSTEM OF CONTROL OF
CLOSE AIR SUPPORT AIRCRAFT

a. Front line panel display. There was distinct lack of use of panels for the marking of friendly front lines and positions. As a result, air strikes were sometimes called off when the target and the friendly lines were questionable to both the pilot and the Forward Air Controller. This reduced the efficiency of the ground movement due to deprivation of air as a supporting element. During the Inchon-Seoul phase when there was close-in fighting the question would naturally arise--"Which are ours?", or, "Where are ours?" On one occasion in the absence of marking panels, the company commander was requested to have his men expose their white undershirts as a marker. The men were wearing green undershirts, hence no contrast against a dark background, and as a result no air strike.

During the CHANGJIN Reservoir phase, one company had been completely cut off and surrounded. They had no panels and could only mark their perimeter pursuant to an air drop containing varied colored parachutes.

Pilots briefed for strikes in the Wonju sector were told not to strike unless positively controlled by FAC because the enemy had many of our panels, and only by

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positive control could distinction be made between friendly and enemy use of panel display.

Discipline in retaining panels in their possession was poor on the part of the ground troops. Upon becoming tired of carrying the panels and seeing no immediate use for them, they would discard them at the first opportunity.

On the Inchon landing most of the panels were left on the ship. As a further hindrance the SOP for panel display was incorporated under the division SOI. Since the SOI is normally classified as secret, forthcoming changes were very slow in reaching lower tactical units and was impeded by the usual red tape accompanying such a document. As a result, too frequently neither the pilots nor the battalions to be supported had the current information on the codes for panel display, and laying out the panels without the advantage of code was necessary. Thus, when the enemy obtained our panels there was no distinction between the panels displayed by our own forces and by the enemy, consequently the value of panels was lost.

b. Radio Communications. There was an insufficient number of Tactical Air Direction nets made available to pilots and controllers. When all battalions and companies of the regiment were in the assault there was a requirement


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for numerous air strikes at one time. Since the controller's VHF Radio is a line-of-sight instrument he could rarely hear another controller on the air, whereas the pilot flying above the terrain features could often receive simultaneously numerous transmissions. This situation caused frequent garbled or blocked out messages. Also, mistakes as to what was desired by the controller were made as the pilot attempted to deliver the support expected of him. Occasionally a flight's ordnance would have to be "dumped" on an intermediate target because a flight leader could not get suitable communications with the FAC before his time over the target had been expended.

The TACP's use two types of radio equipment for air ground communication. The AN/VRC-1 radio jeep and the MAW. It was learned during the Labrador cold weather operation in the winter of 1949 that the MAW was a poor piece of radio equipment during cold weather operations because the wet cell batteries would "freeze up". This same equipment was used during the cold Changjin Reservoir phase in spite of recommendations made after the Labrador operation. At times air strikes would break off due to a lack of communications with the ground.

Crystals also were the source of many problems. When the Signal Operating Instructions would indicate changes

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in frequency for TAD nets, signal supply could rarely furnish the required crystals. As a result the number of TAD nets, already too few, would be reduced to the one common frequency, magnifying the problem.

The AN/VRC-1 radio jeep was used considerably during the Changjin Reservoir phase because operations were normally conducted near a path or road. Very frequently the jeep would be used on patrols. The same problems were confronted concerning frequencies for patrols. In addition, since the jeep would be moving, the generator could not be engaged to provide a power supply to the batteries running the radio transmitters. Frequently the sets would die out completely as a result of lack of a charge in the batteries.

There was rarely a technician below Division level who could service both the MAW and the AN/VRC-1. The division was often times sixty miles back and as a result no maintenance was available.

c. Employment of Forward Air Controllers. Prior to the Korean conflict this officer had opportunity to act as FAC on numerous amphibious operations, and the necessity for having an additional controller on battalion level was manifest.


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During the Inchon-Seoul phase battalions had only one FAC. Since two companies were normally employed in the assault and were frequently too distant from the battalion CP or OP for good observation of their movements, the FAC could not properly provide adequate support either when with a company or at the battalion CP. As a result the FAC was usually between the three mentioned positions, making an effort to get an air strike where it was most needed. Needless to say, this marathon system of working strikes placed quite a strain upon the members of the TACP. The FAC felt however that accomplishing a positively controlled strike (a strike whereby the FAC can see the target and the aircraft at the same time, thereby insuring accuracy, etc.) was worth the effort and strain imposed to bring control as near the company level as possible. Circumstances during this phase of the conflict amplified more fully the inadequacies of the present system.

After the operation at Wonsan another FAC was furnished to each battalion. The two Forward Air Controllers used their own discretion in the conduct of operations in the absence of any established doctrine. In most cases one would remain with the Battalion CP while the other would


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go forward with one of the assault companies. Control of aircraft was thus much better and the strikes were proportionately better because more of them could be positively controlled.

Nevertheless the system was still inadequate in that very often all three companies would be in the assault and, as one battalion commander stated most aptly, "all companies acted as battalions with a zone of action normally assigned a battalion." Consequently, companies were deprived of air strikes from time to time and, frequently, unnecessary casualties resulted.

Illustrations that serve to indicate the inadequacy of the present control system as it existed follow:

(1) During the Changjin Reservoir phase of the operation a Battalion of the 7th Marines was called upon to furnish two rifle companies to move forward from Hagaru to Yudam-ni. Dog and Easy companies proceeded forward with the rest of the Regiment leaving Fox company with the Battalion CP pending relief by a battalion of the 1st Marines. The FAC remained with the remaining elements of the Battalion at Hagaru, since it was planned that the desired air support for Dog and Easy Companies could be

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furnished by the air officer of the 1st battalion. Upon the arrival of the 7th Regiment at Yudam, the necessity for more FAC's was emphasized by the fact that all companies were in contact with the enemy. There were sufficient aircraft for the targets involved, but there was a lack of sufficient controllers. The Commanding Officer, 1st Battalion, then initiated a message to the Battalion Commander at Hagaru requesting he send his Battalion FAC's forward to provide support for Dog and Easy Companies. Immediately upon arrival at Yudam it was necessary to begin calling air strikes. Dog company had been caught between a cross fire with a great number of wounded on litters. The company commander called stating that he would not be able to get his men out without neutralizing the high ground which the enemy held. An air strike was called permitting the safe departure of friendly troops.

(2) In the meantime Fox company of the 2nd Battalion, 7th Marines had started out for Yudam approximately 15 miles from Hagaru and when at about the half-way mark were cut off and completely surrounded by the enemy. They had no FAC and, even though numerous aircraft were available, went without air support as a result. Any conjecture concerning what aircraft could have done under these circumstances can only be left to theorists. However


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in the light of what aircraft had been doing previously, it can be reasonably assumed that the company would have fared much better.

(3) During the Inchon-Seoul phase, Dog company of the 2nd Battalion, 7th Marines, had been overextended and were entering Seoul when they discovered that they were between two enemy strong points. Dog company expended its ammunition almost completely and ther was subjected to an intense cross fire. At that time the FAC was back with the remaining two companies running air strikes. The Company Commander of Dog Company then requested a resupply of ammunition by air drop. Very fortunately the transport aircrafts that were directed to the general vicinity accomplished one accurate drop out of three and provided the company with the necessary ammunition. Again, what a FAC could have done in the above instance, both with transport and fighter aircraft, can only be left to conjecture.

Finally, the writer would like to present some ideas for a more adequate system of control. First it is felt that to bring control to the company level is of vast importance and in fact, a necessity, therefore three factors must be taken into consideration. Let us consider the factors singly:


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(a) Personnel--Much thought has been given to the possibility of training FAC's who are not qualified NA's. During the Korean campaign it was often times necessary to improvise FAC's in order to spread as much control amongst separate assault elements as possible. It was learned that a well-trained experienced NCO could conduct the flight operations of aircraft with some degree of skill. Frequently, forward artillery observers called strikes effectively, and finally after proceeding forward beyond the range of naval guns, the NGF officer and the NGF spotter were used. Speaking from experience it was noted that personnel highly experienced in tactics and with an avid interest in control of aircraft could be used even though not trained as Forward Air Controllers. It is recommended, however, that such personnel be used only as a last resort. There is no denying that having a pilot on the ground increases a thousandfold the confidence in the controller on the part of the people flying the aircraft and results in the highest degree of accuracy in support. A pilot on the ground is very proud of using his element, is aggressive in applying its use and can visualize the problems of the pilots in the air. He can also give training lectures more intelligently on the capabilities and limitations of close support aircraft and


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is perhaps capable of greater imagination in applying its use to future developments. There are still many unexploited potentialities of close air support that will come to light in the future, and very probably, progress will hinge upon whether or not the controller is a pilot. It is felt that the answer to the problem would be to provide two NA's to each battalion together with two NAP's. In this manner there would always be control with each company and the Battalion.

(b) Equipment--The communications equipment in present use consists generally of an AN/VRC-1 radio jeep, an MAW (back pack transceiver) and the AN/GRC-9. The T/O consists of 10 enlisted and two officers. An AN/GRC-9 consists of four separate parts which must be assembled and disassembled for every movement of the unit to which attached. The four separate parts must be carried by four separate people, and on company level this would pose many problems. Therefore it has been recommended that each control party on the company level utilize as their equipment, one MAW, and one SCR 300, both of which can be used as back pack sets and both of which can be used while moving. This would bring the number of people necessary to carry the equipment and to operate it successfully to two enlisted and one officer. On the battalion level it would still be

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necessary to maintain one AN/GRC-9, one SCR 300, and one MAW together with the AN/VRC-1. The AN/GRC-9 would be used as before for communicating up and down the chain of command for request of aircraft to the Battalion. The SCR 300 would be used intra-battalion for request of aircraft from the company to the battalion. The battalion air officer could then request the aircraft through the normal channels.

A critique by all Division FAC's was held in January during the interim period at Masan. All of the FAC's had ample opportunity to express their various ideas of improvement and their 'gripes' on the recent experiences. All were in agreement on the point that the amount of control was inadequate. Sometimes control of aircraft from the Battalion CP was satisfactorily accomplished, considering the fact that aircraft were controlled indirectly, either by marking the target with white phosphorous, or by having the FAC relay through the company commander who could see the strike taking place. On some occasions, however, the phosphorous would hit in the wrong place, and there were instances where the aircraft had already expended their bomb loads in the wrong place before this error could be rectified due to delayed transmissions in this sort of relay system.

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In summary, empire building would be kept to a minimum because the air officer in the Battalion SAC could handle requests from the companies on the SCR 300's and upon approach of the aircraft to the target area that company could control the strike with its MAW. More efficient use of aircraft could be made in this manner because there is a better possibility of expending all ammunition when each company has a controller than when one controller attempts to control strikes for two companies. The number of personnel would necessarily be raised from ten enlisted to 12 enlisted consisting of two to each rifle company and six at the battalion. The number of FAC's would be raised from two to four, either NA or AP.

d. Communications equipment on observation type aircraft.

The OY type aircraft was used considerably by FAC's, and at times with great success. Very frequently the OY was used to hover over an advancing combat patrol observing to its flanks and forward, patrolling up and down the intended path, in an effort to keep the patrol commander advised of the current enemy situation. The value of using an OY for such work cannot be overemphasized; however, two-way communications should be established between air and ground. In some instances when OY's were patrolling


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on observation flights the observer or pilot could see the enemy dug in on the high ground in the intended path of the patrol. Without the common communication gear there would be no way for the OY occupants to warn the friendly patrol except by diving or by dropping smoke grenades, which the patrol could not always see. Since there was no established SOP for this type of work there was no set pattern or code. As a result there were needless casualties. VMO-6 has improvised somewhat by installing salvaged VHF equipment in their OY aircraft so that they could communicate with the FAC and give him information. However, only two or three of the aircraft were set up. Frequently the OY observers flying low and at low speed could observe much more closely the movements on the ground. Rarely could the OY, however, direct fighter aircraft to the target for lack of the proper VHF radio gear.

e. Staggering of flights assigned to target areas. During the withdrawal phase of the operation from Yudam-ni, there were too many aircraft arriving over the target area at one time. Often when there was a great need for a continuous flow of aircraft, four or five flights would arrive at the same time somewhat nullifying their effectiveness. The FAC would then be forced to station flights at different alti-

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tudes waiting for aircraft on target to expend ammunition. As the ground movement proceeded forward, targets on the ground would change considerably. The time lag resulting would sometimes bar the use of aircraft orbiting with only fuel for a limited time on station. Aircraft holding at altitude would then have to be assigned a "deep" target or be directed to return to base with their bomb load. Particularly during the early morning hours of the Inchon-Seoul phase there was usually a comparatively great number of aircraft. Towards noon the number of aircraft would become insufficient indicating mass flights in the early morning with not enough consideration given to the staggering of flights.

f. Training of ground personnel. Ground personnel were poorly trained in the concept of aircraft as a supporting arm. Company grade officers should more fully understand the capabilities and limitations of support type aircraft, and coordinate the movement of the troops on the ground more closely with air strikes. The element of surprise is ever available to the troop commander who knows how to utilize it. The use of dummy passes at predetermined times and working them in with live runs can always aid ground elements to achieve their mission with greater ease. The


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problems of coordinating ground movements with air strikes was usually left to the sole discretion of the Forward Air Controller. The elements for the task were usually present but the know-how of integrated support was rare. Integration of aircraft with ground troops had its shining hour during the withdrawal from Hagaru-ri because the company grade officers who were in command by that time had learned the hard way.

g. Maps in common. Maps that were used in the combat area were definitely inferior by any standards. What helped to weaken the supporting arms system even more, however, was the use of maps of different scale by units that should have had a common scale. This lack of uniformity resulted in much undue delay in correct target identification for the pilot. Not infrequently ammunition was expended on the wrong "deep" support target.

h. Air drops. Air drops were sometimes a good source of supply to the enemy and at times a hindrance to friendly troops simply because a few fundamental 'musts' were not followed. On one occasion a complete air drop was executed, after considerable delay, to an isolated company of the 2nd Battalion, 7th Marines. The company was in dire need of ammunition and rations. All they received by air was


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barbed wire and stakes. The problem here was that usually the transport aircraft were Air Force aircraft and there was no means of communication because the primary frequencies of VHF were not in common. At times aircraft would execute airdrops into enemy territory because of the lack of marking of the target area, or poor pilot training. When a friendly unit is engaging the enemy they are usually in close quarters and the pilot would have to be directly on the drop area because a miss would at times place the contents of the drop in enemy hands.

**OFFICE OF THE COMMANDANT
MARINE CORPS SCHOOLS, QUANTICO, VA.**

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