



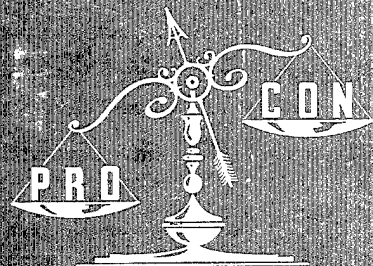
TECHNICAL MEMORANDUM

ORO-S-18 (FEC)

OBSERVATIONS ON CLOSE AIR SUPPORT IN KOREA

by

W. L. Archer



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OPERATIONS RESEARCH OFFICE  
6410 CONNECTICUT AVENUE  
CHEVY CHASE, MARYLAND

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OBSERVATIONS ON CLOSE AIR SUPPORT IN KOREA  
(15 March to 30 April, 1951)

by

W. L. Archer  
Defense Research Board, Canada

THIS IS A WORKING PAPER representing the opinion of the writer and not necessarily that of ORO, FIO nor of GRC, FIO.

General

This report covers the period 15 March to 30 April 1951 which was spent by the writer in the Ninth US Corps sector while observing the methods and uses of close air support.

One of the main objects of this field trip to Korea was to carry out, when ever possible, ground evaluations of the effectiveness of various air weapons on close support targets. It was realized that a single observer would not likely be able to cover a significant number of such air strikes. However, a general assessment of the problems involved in this task was considered important at that time.

In addition, further observations of Tactical Air Control Parties in operation and discussions of the value and use of close air support at all levels within a division were to be undertaken. These particular results could then be used to amplify, where necessary, the information previously obtained on these topics.

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### Ground Situation

During all but the latter portion of this period the UN ground forces were advancing against light, scattered resistance. This had originally been considered as an optimum condition for obtaining quick access to the area of an air strike. It was soon apparent, however, that the close support strikes being requested were too few and too scattered to afford a single observer many opportunities for ground evaluations. It was therefore decided, while this ground situation continued, to visit units of the 1st Marine, 1st Cavalry, and 24th Infantry Divisions to obtain a broad cross-section of user experience with close air support.

Enemy resistance began to increase during the middle of April as the ground forces approached the area of the enemy build-up. This brief period was the most favorable for ground evaluations. Once the general enemy offensive began on 23 April all chance of reaching close air support targets was lost. At the close of the period covered the ground forces had withdrawn to the point of generally being out of contact with the enemy, except through patrol activity.

### Scale of Air Effort

Time and opportunity did not permit the obtaining of comprehensive data on the amount of close air support being used during this period. Sufficient information was available at Ninth Corps HQ, however, to indicate its order of magnitude, which was fairly constant during the initial portion of the period.

The system in use at that time consisted of pre-planning flights as requested by division for the following day. These requests were submitted to Corps HQ for transmission to the JOC at HQ Fifth Air Force in time for the 1330 hrs daily planning conference. Additional flights were obtainable on request through the SCR399 net during the day. It was found in practice, however, that by spacing the pre-planned missions at one hour intervals the number of emergency requests were at a minimum since they required approximately an hour to arrive on target.

A typical example of the pre-planned schedules for Ninth Corps at this time is that for 20 March:

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<u>1 Mar Div</u>	<u>24 Div</u>	<u>1 Cav Div</u>
0725 hrs	0830 hrs	0715 hrs (two)
0825	0900	0745
0925	0930	0815
1025	1600	0945
1125	1700	1145
1225		1345
1325		1545
1425		1645
1525		1750
1625		

Assuming a flight of four aircraft in each case this schedule amounts to 100 sorties which was an average value for this period. Although the ground situation was very similar on all division fronts it was noted that the 1 Marine and 1 Cavalry divisions normally requested appreciably more flights than 24 or 1 ROK Divisions. In the latter division the close air support effort has normally been much less than in the US divisions due to lack of communications equipment and TACP's at regimental level.

In view of the limited enemy contact at this time the number of air support strikes per day appears to be excessive. It was in fact noted that many targets were attacked with several flights and later found to have contained only a small number of enemy. The significant reason, however, for this amount of air support was its use in a "close interdiction" role on targets well beyond the MLR. Many of the requests for air support which did originate from the ground forces came from patrols which located enemy positions several miles in front of the MLR.

As the enemy resistance began to increase in the second and third weeks of April the number of pre-planned flights did not increase materially. It was noted, however, that the location of the targets struck shifted closer to the MLR and the number of truly close air support strikes per day increased.

The enemy intention to attack on 23 April was well concealed and there was no sudden increase in air targets until the first full day of the offensive. The enemy then appeared in the open with no effort at concealment thus providing a continuous series of close interdiction and close support targets. For example, on 23 April, 24 Division received 96 sorties, not more than half of which were pre-planned. The following day the obvious interdiction targets disappeared due to enemy concealment and the

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main air effort was in support of ground units under enemy attack. Consequently the number of sorties used by the division on this day decreased to 65. From then until the enemy contact was all but lost after the ensuing withdrawal, the division air effort gradually tapered off from this figure.

#### Evaluation of Air Weapons Effectiveness

It became apparent upon arrival at Ninth Corps that the very light enemy contact seriously jeopardized the chances of carrying out ground evaluations of close air support strikes. At that particular time, contact was being maintained mainly through deep patrolling and few of the close support strikes were on positions under attack by the main ground forces.

Inquiries were therefore made as to the possibility of obtaining after-strike photographs using light aircraft and a K-20 aerial camera. Although it was conceded by various members of the Corps Staff that after-strike photographs might prove successful it was found that no priority could be given for aircraft for this purpose. The Corps light aircraft were in constant use for courier missions and it proved impossible to obtain both the cameras and aircraft at the same time. Reluctantly, therefore, this project was abandoned.

It was not until the last two weeks of April that the ground situation changed to the point where there was a reasonable chance of ground evaluations. On both regimental fronts of the 24th Division, enemy positions were then being attacked with air strikes and artillery as supporting fire. The time available however proved insufficient for any valid ground evaluation to be accomplished since the enemy offensive began less than a week later.

Some time was spent, while awaiting an opportunity to reach the area of a recent air strike, in examining typical enemy hill defensive positions. It was found that there consisted of both open weapon pits and enclosed emplacements on forward slopes just below the ridge lines. The open positions consisted of pits approximately six feet long by two feet wide by three feet deep. These are vulnerable to air burst ammunition Napalm and calibre 0.50. The enclosed positions however were efficiently camouflaged with foliage and had overhead protection from three layers of 3-4 inch logs topped with 8 inches of soil

and rock. A few emplacements were found which had been hewn from soft rock. Behind such positions, and often connected to them by shallow trenches, were shelters on the reverse slope. These positions were in all cases protected with logs and earth overhead. In some instances a protective wall of logs filled with earth and rock was used to protect the entrances to these shelters. The layout of these positions on either slope was normally in a straight line with the positions 10 to 20 feet apart. Such enclosed positions could only be penetrated with a degree of certainty by a Napalm bomb. This weapon has been known to produce casualties to enemy inside enclosed positions presumably where a direct hit was scored. It was estimated that neither rockets, calibre 0.50 nor airburst ammunitions would be effective against these enclosed positions.

A significant point which emerged from discussions on the effectiveness of air weapons was the wide experience with the psychological value of air attack in general and of the Napalm bomb in particular. It appears to have been a very common experience for the attacking infantry to find that all enemy fire ceased while friendly aircraft were overhead and that many more enemy "holed up" in their enclosed positions long after being attacked with Napalm. It was frequently found in the latter instance that enemy positions which had been Napalmed offered little or no resistance although they had suffered relatively few casualties and were still adequately armed. It remains to be decided whether, in fact, the greater value of the Napalm bomb is in casualty production or in its psychological effect. The latter value is in accord with the general experience with flame warfare in Europe.

The general opinion of infantry commanders with regard to air weapons other than Napalm was generally that the 500-lb GP bomb fused VT and the fragmentation bombs were the most efficient. For open positions Napalm followed by airburst bombs were accepted as the optimum combination. Little regard was paid for rockets, and strafing was considered of relatively minor value except as harassing fire.

From examinations of areas of air strikes it was found that there is room for considerable improvement in the accuracy with which air weapons are placed on target. This probably involves both inaccurate pinpointing of the target to the attacking flight and varying proficiency of the individual pilots in their bomb runs. In many instances it was noted that the full effects of the air strike had fallen sufficiently far from the actual enemy positions to render the effectiveness extremely doubtful. This error was found to range roughly from 100 to 300 yards. It is suggested that some improvement would probably be





achieved by greater knowledge on the part of the pilots of the disposition and nature of typical enemy position. For example, attacking along the forward and reverse slopes parallel to the ridge line would increase the number of positions covered, over that obtained by attacking them obliquely or at right angles.

Ground Control System

The present organization for close air support was discussed with various commanders and staffs. The views held were found to vary widely according to individual experiences and prejudices. There did emerge, however, a general agreement on the basic requirements. It is these requirements which are of significance since the methods of achieving them depend in large measure on the resources in manpower and aircraft available at any given time.

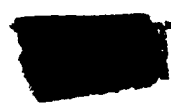
The scale of air support required by the ground forces was found to be a widely debated subject. There is ample evidence that a large measure of close air support was necessary during the early phases of this campaign because of lack of artillery. Tactical problems with ammunition, and the nature and disposition of enemy positions along the hill crests. During the period covered by this report there was evidence that recent increases in the artillery support available has reduced the requirement for air strikes. No data are available to give a quantitative value to this reduction but there was a general tendency for battalion and company commanders to rely initially on artillery fire in preparation for an attack. If this failed to assist the infantry onto the objective, an air strike was resorted to. This contrasts sharply with previous tactics which called for one or more air strikes before any attack began.

This reduction in the close-air-support requirement has been confirmed by the recent (May) decision by the JOC to discard pre-planned flights in favor of increased use of planes in a close interdiction role. Under this system close air support is on call from JOC and is provided normally by diversion of interdiction missions.

It is suggested that, once the normal amounts of artillery fire are available to the divisions without undue supply problems, the close air support requirement will reach a steady level except in the case of emergency operations. The basic requirement, as mentioned above, will then be for air strikes to neutralize and to demoralize enemy troops entrenched in defences not penetrated by artillery or mortar shell.

The control system at Ninth Corps HQ was found to be meeting the requirements adequately and efficiently. The Corps Artillery





Commander was at that time organizing a Fire Support Coordination Center in which he wished to include the G-3 Air Officer. The latter, however, considered that the coordination requirement, in view of the reduced Corps Artillery available, did not warrant his separation from the main G-3 staff. It was further considered that the remoteness of the Corps FSCC from the forward areas, where the supporting fire is used, made close coordination on a corps level of doubtful value. This question is obviously one that can be satisfactorily answered only by a trial period with the G-3 Air in the FSCC.

It was generally felt that the pre-Korean campaign concept of a Tactical Air Direction Center at Corps would be an improvement over the present system. This was based on the need for reducing the time required to obtain aircraft on an emergency basis. It is likely that a TADC would, in fact, have materially reduced this time factor but the need for this is decreasing rather than becoming more urgent. The fact remains, however, that under conditions of large scale use of close air support the allotment of aircraft in bulk numbers to corps on direct call to the TADC would likely speed up the dispatch of aircraft from the air strips.

The close-air-support organization at divisional level was found generally to be quite satisfactory. The system used in the two divisions visited differed in that the air staff with 1st Cavalry have now joined the divisional artillery to form an FSCC whereas with 24 Division they remain with G-3 at the division HQ. It was not possible to make a thorough assessment of the value of the FSCC as 1st Cavalry Division were out of action in reserve during most of the visit with that formation. In the opinion of both the air staff (G-3 Air and Air Liaison Officer) and the artillery staff, the coordination of fire support had been greatly improved by this move. In particular it solved the problem of obtaining quickly the lifting of artillery fire when close support aircraft arrived over the target area.

At 24 Division the G-3 air staff considered that they had had insufficient difficulty in coordinating air strikes and artillery fire to warrant joining the artillery FDC. During the period covered the observer did not, in fact, find any instance of undue delay in lifting artillery fire. This air staff was observed to operate with great efficiency under the difficult conditions of extreme enemy pressure during 23 April to 28 April.





Although the evidence obtained during this brief observation does not warrant definite conclusions, it is suggested that the FSCC principle is in fact sound and would eventually lead to improved control and coordination. The removal of the TACP and G-3 air from the divisional G-3 staff would to some extent impede the use of Mosquito aircraft for G-2 reconnaissance purposes. This use was practiced extensively during the confusion existing on the first few days of the enemy offensive in April. It would, however, bring together the two fundamental fire support resources within the division. This has been found to yield dividends with 1st Cavalry division in the increased mutual understanding of the problems of each agency. In the event of "set-piece" attacks on highly organized enemy defences the coordination required could only be efficiently provided by means of an FSCC.

The answer to this problem is probably to be found in the Marine Corps control system which makes the greatest use of an FSCC. Here the need has been found to be such that an FSCC is used at division HQ in addition to the FDC operated at artillery HQ. The original requirement for the FSCC here arose from the complexities and necessity of using naval gunfire as well as ground artillery and close air support. The answer therefore appears to be that the necessity for an FSCC depends upon the degree of coordination required. This will vary with the amount of air support used and the nature of the attack tactics employed. At present in Korea the requirement for an FSCC appears to be decreasing but in other theatres the situation may be quite different.

The question of the ground control organization at regimental level and below is the most controversial issue encountered. Opinions range from Marine TACP officers, who considered four FAC'S per battalion the ideal, to USAF controllers who felt the present system quite adequate. In general, however, it was conceded by most people questioned that the present army system of one TACP per regiment can suffice although it is not ideal. This system works best when the regimental TACP officer can be stationed where he can observe both forward battalion points and remain in VHF communication with the forward company and battalion commanders. This however, has rarely been possible in the hilly terrain of Korea.

The basic requirements for successful ground control have been found to be (a) that the controller have the target area under visual observation and (b) that he be in communication with the infantry commanders and the Mosquito or attacking aircraft. Due to the Korean terrain these have normally required the controller to be with the attacking battalion where he is out of contact with the other forward battalion and often the Regimental HQ. Under these conditions,



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the artillery net used by the Forward Observation Officers is often used to supplement the controller's own communication system.

It is therefore a majority opinion that a battalion TACP is necessary under the conditions of the Korean campaign. In considering the use of army personnel for this role it was concluded that there is no basic difficulty in their employment as forward air controllers. The use of the term controller is probably a misnomer since no control over the attacking aircraft is actually exercised by the ground officer. The decision as to whether to attack and how to attack remains in all cases with the flight leader. The task of the FAC is essentially to clear the targets for air attack and to identify them verbally or by smoke shell to the attacking aircraft.

The use of ground officers in a battalion TACP was conceded by present regimental TACP controllers to be entirely practical. The majority of them felt that there were only two drawbacks to such a system: The Air Force considers that all controllers should be air officers to avoid complications in cases of air strikes on friendly troops, pilots gain an appreciation of ground problems during the time spent at TACP's which is of great value when they return to flying close-air-support missions. The latter point is only applicable if the use of air officers at battalion level is considered. As the supply of combat pilots is unlikely to afford their use at battalion, the present system could remain unchanged with respect to the ground experience gained by a portion of the combat pilots.

The communications problems of regimental TACP's is being eased by recent decisions made by a joint Eighth-Army and Fifth Air Force board inquiring into the close-air-support system. The FAC will now be supplied with an MAW-8 VHF set in addition to the AN/TRC-7 set already in use. These two VHF sets, both of which are portable by man-pack, will provide a total of twelve VHF channels.

### Conclusions

In as much as the evidence obtained during this field trip is purely qualitative it is not possible to arrive at firm conclusions. The information presented in this report is, however, useful in suggestion where the emphasis should be placed in future inquiries.

Tentative conclusions may be summarized as follows:

a) The scale of air effort required by an infantry division per day should be re-examined in the light of

recent additions to the available artillery fire support.

b) Every effort should be made to determine the potential value of after-strike photography both from the point of view of tactical information and weapons assessment.

c) Ground evaluation teams are likely to require considerable periods of time under conditions of moderate enemy contact before a significant number of air-target evaluations can be accomplished. Two methods for this are possible: the use of several teams stationed permanently in suitable regimental sectors; the use of one or two teams which move from one regiment to another according to the probabilities of gaining access to target areas.

d) The defensive positions used by the enemy in Korea should be duplicated on similar ridges in rear areas for controlled tests as to area coverage of individual weapons and as to pilot accuracy.

e) The psychological value of the Napalm bomb should be considered in the examination of any evaluation results.

f) A trial should be undertaken to determine the possibility of utilizing ground-force officers as battalion forward air controllers. In the first instance, it is suggested that battalion artillery FO's be used for this purpose.