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/AK

DEPARTMENT OF NATIONAL DEFENCE

CONFIDENTIAL

HQS 7346-2 (Trg 1)

OTTAWA, Ontario,
10 Apr 45.

REF.	Action	Inf.	INITIAL	DATE
C. O.		✓	[illegible]	16 Apr 45
2 i/c				
Adj.				
C.I.	✓		[illegible]	17 Apr 45

GOC-in-C Pacific Comd,
VANCOUVER, B.C.

District Officers Commanding,
All Military Districts.

Comd,
Camp Borden,
CAMP BORDEN, Ontario.

Comd,
Petawawa Military Camp,
PETAWAWA, Ontario.

Comd,
Royal Military College,
KINGSTON, Ontario.

Cdn Ops - Mediterranean Area (Series 31)

1. I am directed to fwd herewith for your infm and retention a copy of the m/n.

2. These extracts are forwarded for gen infm only and opinions stated are not to be considered as necessarily expressions of official doctrine.

3. I am to state that no increase in circulation can be made. Should insufficient copies be allotted to allow for complete distribution as you desire, it is suggested that a copy should be circulated by you.

for R.J. Foulkes [illegible] CGS
Lieutenant-General
Chief of the General Staff

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Transit Camps.
OTC.
Corps TCs.
Basic TCs.
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CANADIAN OPERATIONS IN THE MEDITERRANEAN AREA

EXTRACTS FROM WAR DIARIES AND MEMORANDA

(SERIES 31)

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1. 1 CDN INF DIV SIGS THROUGH AND BEYOND THE GOTHIC LINE (APPENDICES TO WAR DIARY, 1 CDN INF DIV SIGS - DEC 1944).

COMMUNICATIONS DURING THE BREAK THROUGH OF THE GOTHIC LINE

1. This operation gave an opportunity to make use of lessons learned during the breaching of the HITLER LINE and the subsequent pursuit, namely, a more flexible cable system capable of:-

(a) Providing continuous communications up to a maximum of fifteen miles per day.

(b) Setting up and maintaining more elaborate alternate routes for "set piece" attacks.

2. "C" (cable) Sec was reorganized and augmented with additional personnel from DRs, Dvrs IC and Sanitary Duties to provide;

(1) A large Bldg det capable of building 2 prs of twisted D8 along the main artery.

(2) A smaller det to build laterals between main artery and Bde HQs.

(3) A Maint det centred at Div HQs.

3. "H" Sec cable det (Arty) was augmented by additional "Mike" trucks (cable) brought in from Fd Regts. The number varied between 2 and 4 depending upon requirements as it was est that a "M" truck was capable of laying and maintaining approx 6 miles of line.

4. The definite indication of and adherence to a main artery by the G.S. was necessary for the efficient operation of this plan. This was always forthcoming although the tactical situation made it necessary to make changes on several occasions. This necessitated abandonment of several miles of circuit and - more important - delay while the det moved over to the new axis and provided a fresh main artery. The most serious delay occurred immediately after the crossing of the FIUME METAURO when bridge and road crossings necessitated moving the div main artery to the extreme left flank. In this case the original route was diverted across country to the new location in the dark and through minefields. Some casualties resulted but line comns were est after a four hour delay. Similarly during and after the crossing of the FIUME MARANO the original axis swung left to bypass RICCIONE and to follow attacks on the ridges to the left of the divisional front. In this case a lateral already existed to the left Bde and the Bde attacking through it was tied into this Bde until the main artery could be built. A break in line comns was thereby avoided although it was necessary to use the left Bde as a Signal Centre for a short time.

5. Line failures were attributed approx fifty percent to shell and mortar fire and fifty percent to vehs. Breaks due to vehs were particularly prevalent on bad roads due to:-

(a) Ditched vehs,

(b) Tracked vehs turning across country,

(c) Bull-dozers repairing and improving crossings and bad spots.

6. Every effort was made to limit the time out because of breaks to 45 minutes and this was in most cases successful. It was achieved by distributing maint dets so that none had more than four miles to patrol. Thus if traffic conditions made the use of vehs impossible a lineman could walk the maximum distance of two miles and repair the break within the allowed limit. In future operations it is considered possible to further reduce this time.

7. The greatest difficulty encountered was comns over long lines. During phases of rapid movement Main Div HQ was often twelve to fifteen miles behind the leading Bde. Block timing programmes over difficult roads made the more rapid movement forward of Div HQ impossible. Consequently it was necessary to provide speech over circuits much too long for efficient operation. This was done by using home made one way amplifiers with a TALK-LISTEN switch. In addition a two way repeater was designed and built for insertion in the centre of the line but was not completed in time for this operation. No Tele F (High Power) were available in this theatre otherwise these would have helped materially.

8. Wireless comns were universally good throughout. In training prior to the operation, emphasis was placed upon proper selection and siting of aerials and rigid frequency checking. The only major failure recorded (Main Div - Rear Div RT net at night over a distance of some 25 miles) was due to the erection of the wrong type of aerial for the task involved. The wireless Security Sec maintained careful check on Div frequencys and cleared up many cases of avoidable interference. When flanking units appear on Div frequency and frequency change is difficult or impossible users are developing a technique permitting both to use the same frequency. As wireless calls are normally short the delay in waiting for another user to finish is not serious. In urgent cases the interjection of "fire orders" or "priority" was usually sufficient to obtain immediate use of the frequency.

9. The lack of cover for vehs approaching Bn etc HQs made the use of pack 22 sets necessary at Bn HQs in many cases. No difficulties were recorded other than the usual trouble in bty charging.

10. The number of priority messages filed in the Signal Office remained high being 50% of the total traffic handled. This is practically the same as for the LIRI Valley operation. However the average groups per day dropped from 8,000 in the LIRI to 5,000. A corresponding increase in the number of telephone calls was noted though. No undue demands for SDR's were noted, the maximum being 5 in 24 hrs. Appreciation of ELS Schedules by Div HQ personnel is in a large measure responsible for this.

11. Wastage in 18 and 38 Sets was high but comparable with LIRI Valley figures. The utter lack of salvage parts is beginning to create a spare parts problem.

COMMUNICATIONS DURING THE ADVANCE FROM THE FIUMICINO TO THE RONCO

1. This section began as a classical example of perfect "text book" dispositions insofar as communications were concerned. The division advanced on a narrow, one bde front squarely astride the main artery, which was a first class paved road. River crossings provided difficulties and in several instances it was necessary to throw the line across by attaching to a PIAT bomb from which the detonator had been removed. This system worked well although care was necessary in arranging the wire in spirals prior to the discharge otherwise the range was materially reduced. Distances up to 150 yds were attained.

2. The comparative rapid advances after bridgeheads were established coupled with the lack of suitable protection for Div HQ vehs in fwd areas made it necessary to provide circuits up to 18 and 20 miles long to forward bdes. These required the use of amplifiers and was the first opportunity for trying out the 2 way repeaters designed and built by the unit. Briefly they comprised a hybrid transformer made from superposing transformers with a 2 stage amplifier built of 18 set components. It was inserted in the centre of the line, the input being taken off a series connection of the transformer secondaries with the output across the line in the "bridge points" between the transformer primaries. Gains up to 2 signal strengths were obtainable.

3. Although no artificial pads were necessary with this system, as theoretically the line balanced on either side of the "bridge point", unbalance occurred due to local ends and it was found necessary for an operator to monitor the circuit and "ride" the controls when unbalance occurred.

4. The deep ditches usually filled with water provided excellent protection for the lines and provided joints were kept above water no difficulty was experienced from immersion.

5. A valuable lesson was gained during the crossing of the SAVIO. The rapid rise of the river overnight swept out all the crossings and it was impossible to restore them for some 24 hours. Fortunately a cable det had already been established on the far side and so no difficulty was experienced maintaining circuits. Delay in establishing this test point across the river would have caused serious disruption in the communications.

6. The totally flat, water logged character of the terrain provided ideal facilities for wireless communications which worked well throughout.

2. ROVER DAVID IN SHERMAN TANKS (ACCOUNT OF A DEMONSTRATION OF F.A.C.P. ESTABLISHED IN SHERMAN TANKS NEAR BELLARIA, 31 JAN 45, PREPARED BY HIST OFFR 1 CDN CORPS IN CONSULTATION WITH G II (AIR)).

1. The accompanying appxs contain the technical infm concerning this new use of "Rover David". From spectator's point of view the demonstration was successful. Two consecutive Cabranks were called down on targets in full view of the assembled offrs. The first Cabrank was directed from tks stationary and about 400 yds apart. The second from the same tks moving along the rd at a slightly smaller interval. The following account is an attempt to explain what happened in terms familiar to the Hist Offr and other soldiers less versed technically in air - ground co-operation.

2. In Appx B are shown the personnel and eqpt of the tks used by Rover David. The G2 (Rover David) rides in the control tk while the G3 (Air) or a sigs NCO rides in the sig tk. The air tentacle set is in the sig tk, the VFH set for comn with aircraft is in the control tk and both tks carry 19 sets. The B frequency on the 19 set provides intercomn between the two tks while the A frequency is tuned to the regt net of the tk fmn being supported. The general plan is that the senior operator in the sigs tk receives all incoming msgs over the tentacle passing to the control tk only such items as are necessary for the engagement of targets. This leaves Rover David in the control tk free to conc on the briefing of aircraft, which both are able to receive any infm about the situation in the immediate area through the A frequency of the 19 set.

3. In the first demonstration infm concerning available air sp came to sig tk over the 9 set and was pssed to the control tk over the B frequency of the 19 set. The request for air sp was passed over the A frequency of the 19 set to Rover David who accepted the target knowing that air sp would be available. When the Cabrank had reported in over the VHF set it was briefed in the normal fashion and the target engaged.

As the second page Appx "A" states under time 1045 the senior operator in sig tk was handling all normal traffic during the period of briefing. In reporting bombing results and accepting targets from bde level Rover's msgs would be passed on the B frequency of the 19 set to the sig tk and then by the 9 set to their destination. Warnings and msgs of the air OP were received by RT. It will be noted that Rover can communicate with bde either by 9 or 19 set. In the latter case comns are more direct (bde to Rover, Rover to aircraft) instead of the normal procedure where Rover David is in a fixed posn and the msg must be passed at least three times (bde to ASSU, ASSU to Rover, Rover to aircraft).

4. This procedure has obvious advantages in simplifying the procedure of calling for air sp and consequently decreasing the time lag involved. Its efficiency was proved by the demonstration but other procedures are being tested and some modifications may be expected before any changes in policy are made official.

SUBJECT:- Demonstration of F.A.C.P. established in Two Sherman Tanks

"G" (AIR),
Main H.Q.
Eighth Army.
TEL: Extn. 12
REF: GA/RD/6
29th January 1945

TO: ALL Concerned

1. For details of demonstration - see Appx "A"

2. For details of communications - see Appx "B"

3. Spectators will assemble at X rds M 788005 by 1000 hrs 31 JAN 45.

Tanks can be inspected and any questions asked before the demonstration commences at 1015 hrs.

Tanks will also be available for inspection at the close of the demonstration.

4. ROUTE

CESENATICO then SUN ROUTE SOUTH to rd junc M 793026 marked "CESENA TANK ROUTE" where vehicles turn RIGHT following track for 1 mile to rendezvous at X rds M 788005.

5. Cancellation of the demonstration will be notified to all concerned by 0800 hrs 31 JAN if the weather makes flying impossible.

Sgd
for Lt-Col.
G.S.

APPENDIX "A"

DEMONSTRATION OF
FORWARD AIR CONTROL POST
ESTABLISHED IN TWO SHERMAN TANKS

1. The intention is to operate a Forward Air Control Post in tanks in support of an Armoured thrust.

2. The narrative for the exercise will be as follows:-

X Armd Bde with 1 Sqn fwd will capture VARIANO R 784994 and after clearing the Northern bank of the MARECCHIA RIVER South of this village, will exploit East towards RIMINI. During this advance CABRANK will operate at half-hourly intervals in support of the ground troops.

3. The situation at 1000 hrs 31 Jan 45 shows that our leading tanks have reached the area around X rds at M 788005, where they are meeting stiff opposition with a strong anti-tank screen. After unsuccessful attempts to outflank this position Air Support is requested by the leading troop Cmds. The procedure in dealing with the request is as follows:-

TIME	FROM	TO	NET	MESSAGES AND PROCEDURE
1015	ASSU	ROVER	W/T	DUMPLING RED 6 Spits 1030 hrs) in DUMPLING BLUE 6 Spits 1100 hrs) CDME Code
1017	SIG TANK	CONT TANK	R/T	DUMPLING RED 6 Spits 1030 hrs) DUMPLING BLUE 6 Spits 1100 hrs)
1020	TP CMDR	ROVER	REGT R/T	TGT 4 A/TK GUNS AND INF DUG-IN M 789001
1022	ROVER	TP CMDR	REGT R/T	TGT accepted 1045 hrs
1022 - 1030	-	-	-	Preparing briefing in Control Tank
1030	a/c	CONT	VHF	DUMPLING RED calls ROVER, is ACK and briefed for tgt as follows:-
	CONT	a/c	VHF	"Your tgt is on ROVER griddled map GRID "A"" (briefing ceases while pilot finds his map). "Your tgt is 4 A/TK guns with inf dug in Sq H 95". (period while pilot marks his map). "The guns will be found in the centre of the square on East side of road".

	a/c	CONT	VHF	"Is that approx 200 yds South of the X rds ?"
	CONT	a/c	VHF	"That is correct - call me when you have found the position".
1037	a/c	CONT	VHF	"Have found TA and can see guns and slit trenches".
	CONT	a/c	VHF	"OK - request you bomb from W to E take the road running E-W through the X rds immediately N of tgt as your B/L".
1040	a/c	CONF	VHF	ROGER OUT
1041			VHF	Leader briefs remainder of formation.
1045				A/c attacks tgt. (LAA from tgt area prevented SFG) (During the period of briefing this cab, normal traffic is being received in the Signal tank, sifted by GSO III and any important messages passed by R/T to the Controller's tank.)
1047	X Bde	ROVER	W/T	TGT MORTARS FIRING FROM AREA 7998
1049	ROVER	X Bde	W/T	REF MORTAR TGT. REQUEST DEFINITE PINPOINT
1050	CONT	a/c	VHF	REQUESTS BOMBING RESULTS
1052	a/c	CONT	VHF	RESULTS PASSED
1053	ROVER	ASSU & All STNS	W/T	CAB 4(.) TOT 1045(.) TGT 4 A/TK GUNS AND INF DUG-in M 789001 (.) ABTA(.) L POSS D/H GUN.
1055	AOP	ROVER	R/T	3 TKS MOVING E INTO VARIANO
1056	ROVER	X Bde	R/T	AOP Reports 3 TKS MVG E INTO VARIANO
1057	X Bde	ROVER	R/T	OK. PLEASE ATTACK
1058	ROVER	X Bde	R/T	OK. NEXT CAB, WILL BOMB 1110 hrs
1059	ROVER	AOP	R/T	WILL ATTACK TKS AT 1110 hrs. PLEASE REPORT ANY CHANGES IN POSN
1100	a/c	ROVER	VHF	DUMPING BLUE ON CABRANK
1100 1110	-	-	-	The CAB if briefed while ROVER is moving fwd.

3. <u>OPERATIONS OF 1 CDN MOTOR AMBULANCE CONVOY, R.C.A.S.C. DURING OCT - NOV - DEC 1944 (APPENDIX TO WAR DIARY FOR DEC 1944).</u>

1. <u>General</u>

(a) This unit has had two platoons under operational command of A.D.M.S. of 1 Cdn Inf Div and 5 Cdn Armd Div. These two platoons were employed in the evacuation of casualties from Fd Amb to F.D.S. and C.C.S. The third platoon in the Coy employed in evacuating casualties from F.D.S. and C.C.S. to Gen Hospitals, providing ambulances for isolated R.A.P. (Med Arty Regts, Recce Regts) and evacuating attached Armd Bde (Br, Greek and New Zealand) and Special Task Forces (Cumberland and Porter Force).

(b) H.Q. of the unit has been located in Corps Area, nearby the operating C.C.S. Early October this was near CATTOLICA, ITALY. Later that month to RICCIONE and in December to CESSENATICO.

2. Transport

(a) The transport service of an M.A.C. depends greatly on the routes provided by Q (Moves) and the proximity of Corps Medical Installations to the battle front. During the October battle the "turnaround"from Fd Amb to F.D.S. was approx 12 miles and from Fd Amb to C.C.S. a 70 mile "turn around". Beyond the C.C.S. it was a 120 to 150 mile "turn-around" to the Gen Hospitals. All routes being over macadam-ized roads. The December battle was fought across country some distance from good roads and criss-crossed with streams and canals, evacuation was a problem. As the routes were over narrow country roads made hazardous by wet weather the "turnaround" was about the same distance, but the journey took approx twice as long as during the October battle. This resulted in a strain on the ambulances available in the pool which was satisfactorily overcome.

(b) There being no accidents since August, replace-ment of new vehicles has not been a problem. The only difficulty being a shortage of Motorcycles. Spare parts have always been a problem, especially radiators, springs, assem-blies, batteries and electrical equipment. Parts not available from Fd Parks on indent were acquired from other Companies. Salvage dumps and various sources not always Canadian. Tires, metal side panels and roofs of Ambulance cars were frequently shot up by enemy action. Spare tires were removed from other vehicles and the panelling and roofs temporarily repaired with tin, burlap canvas or any available material until such time as the vehicle could be VOR without affecting operations. At one time during the battle, leaking radiators (due to rough roads) were a real problem. This was quickly remedied by having a spare radiator with a maintenance crew with each platoon, and when an ambulance with a leaking radiator would report back to platoon H.Q., the crew would remove the leaking radiator, insert the spare, and the leaker would then be re-paired without keeping the vehicle off the road.

(c) It has been found that the "pool system" of cars is preferable to the "cab rank" system that was used in the desert. The latter system was set up to operate over much longer distances than those found in this theatre. The "cab rank" system is impractical, in that it disturbs the driver's rest and puts a heavy strain upon the platoon and plan and operate kitchens at each of the numerous car posts It has been further learned that the one car post used in the "pool system" should be set up at platoon H.Q., so that liaison with both platoon H.Q. and car post is effected at the same time, and there is thus no loss of time in dealing with any action necessary.

2. A. Equipment

(a) Due to the distance separating the two forward platoons from workshop, a section has been attached to one of the forward platoons for inspection, maintenance and repair duties within their scope. It has proven satisfactory, and all vehicles have been kept on the road and 406 inspections maintained to date.

(b) In such weather as has been experienced in October, Nove,ber and December, the Southwind Heater, which

is ambulance car standard equipment, has been in constant use, thus necessitating many adjustments found on this type of heater, and subsequently needing frequent workshop repairs. A hot water heater would be more satisfactory. Difficulties have arisen from the use of American made stretchers of which a considerable number have been issued to this company. This is caused by the wider legs of the American stretcher, which do not fit the stretcher slots in the ambulances. This has been rectified by the platoon maintenance crews who have used hack saws to modify the legs on all this type of stretchers, as they have been issued to the platoons from Medical Dumps. In MAC trucks 15 cwt, water is indispensable. Trailers water are useless when platoons are operating away from H.Q. as there is only one vehicle to haul the trailer and it is the cook's lorry.

3. Personnel

(a) Since carefulness, forethought and precision are prime requisites of ambulance drivers many personnel TOS this unit are found to be lacking the necessary qualifications to take over an ambulance. These personnel are given every opportunity to improve and are started out on platoon adm vehicles, 15 cwt and water trailer under supervision of platoon NCOs, where they quickly improve sufficiently to take an ambulance in their charge. Drivers and other personnel are given preliminary trade test in Wksp to enable them to fill any vacancy that from time to time may exist.

(b) In view of the nature of the work of this Company, Italian co-operators or civilians have not been employed.

(c) Since constant liaison is the key note to successful MAC operation, H.Q. Capts are stationed at the platoons, and employed in liaison duties from platoon H.Q. to Medical Units and A.Ds.M.S. to Company H.Q. Platoon officers are thus left free to keep constant check on the maintenance of MT and Administration of platoon as a whole.

4. Training

(a) All persons as are available and with some knowledge of a particular W.E. trade, are assisted in that trade by understudying qualified personnel. Already a sizeable number of drivers have qualified as Driver Mechanics and fitters. All personnel regardless of their job within the Company have been trained to drive.

(b) By training as many personnel as possible in the various W.E. trades, no vacancy is left unfilled too long due to lack of reinforcements at base. The need of all personnel as drivers was amply proven during recent operations when, due to enemy action, one platoon suffered 40% casualties in a single night, many of these key men, every man was replaced by H.Q. personnel, clerks, shoemakers, cooks, etc, to continue evacuation for several days until reinforcement units were able to bring up replacements. Evacuations were carried out over long distances and at times all cars were on the road at one time.

5. Miscellaneous

(a) A large number of injured civilians have been transported from Fd Ambs -- on more than one occasion an ambulance has been called upon to rush expectant mothers to Medical Installations -- all such services have been carried out satisfactorily. During the October operations, one ambulance was called upon to evacuate an airman, who had

bailed out over the sea and had been picked up by a Walrus Seaplane.

(b) In one instance recently a platoon was called upon to sweep an area, in which a Fd Amb was to move, for mines. This is not normally an RCASC responsibility but may be force of necessity be done by them. In emergencies some platoons have been called to pick up blood and plasma by means of loaded ambulance cars proceeding from the A.D.S. to C.C.S., discharging patients and taking on blood and plasma and rushing back to the A.D.S.

4. REPORT ON COUNTER-BATTERY BY C.B.O. 1 CDN CORPS (EXTRACTS FROM APPENDIX TO WAR DIARY, 1 C.B.O. STAFF R.C.A., NOV 1944)

INTELLIGENCE

The opinion of the CBOs of other Corps has been that little intelligence can be produced by the CBO during a moving battle and that the keeping of an activity trace was not justified. As a result, no activity trace was kept until the last two weeks of the op when the CCRA stated that he wished this done. During the period it was kept up, little information was forthcoming beyond the fact that there are certain periods during each day when the enemy guns are active.

It is considered that it is well worth continuning the activity trace and that considerable information will be forthcoming, if all intelligence sources are examined. The activity trace must be kept up to date as events happen, except during periods of intense activity, and not posted up to date once a day. It is recommended that the form used be that laid down in the book with the addition of a small number at the end of the arm to show the hour of the activity. It is felt that if no information can be obtained as to the normal time of movement of the enemy arty and the normal time that btys fire, it should be apparent fairly quickly when his arty withdraws.

The closest possible touch must be maintained with the Intelligence picture at Corps. Unless the CBO is fully informed on the corps "I" picture he will not be able to contribute very much to it.

It is felt that greater attention should be paid to the formation opposing the Corps and thus the div artys which must be against us. Where possible these artys should be defined by the CBO as they will form the natural group for a conc table. This will probably be extremely difficult on a narrow front held by several enemy fmns but should repay the effort as his comns must generally follow along the same lines as ours; also, prearranged DF or other plans will be grouped by fmns.

The sending of offrs to report on enemy habits should greatly assist the CBO's work. It is suggested that if the pattern of the usual routine of the enemy btys can be obtained we will be able to cause him far greater casualties and disturb his work more than we do at present.

EFFECTIVENESS OF CB

It is my opinion that our CB is generally effective. Given sifficient time the greater majority of the enemy guns will be located with sufficient accuracy to allow their neutralization. The number of locations out of the total will vary depending on time, ground and weather. Our recent policy of always being active makes it difficult for the CBO to ever have all btys located at the same time but this policy is certainly justified during fluid ops.

Generally our methods of dealing with these locations has proven effective as shown by ground checks but we do not know which is most effective. Some of the questions which need a answer are:-

(1) Will the enemy man his guns if one gun or a tp is harassing his position ?

(2) How long will he take to re-open fire after a conc from one regt? two regts? four regts, etc?

(3) Does he move after we fire a conc in his gun area or can we arrive at any conc which will cause him to move?

(4) Are bombers effective?

With the answers to the above questions, a more economical plan can be made to deal with the HBs. It is felt that a conc of at least 4 to 1 is required but it is not felt that concs over 20 to 1 are justified and that there must be some point at which saturation is reached and that anything beyond that point is a waste of guns. If a time factor can be arrived at as to the length of time the guns are upset for, this can be used in repeating the dose. It is hoped this information will be obtained by sending officers to observe enemy HBs and report on his reactions. It must be remembered that if any method does prove more effective than another this must not be used all the time as the best weapon we have is to mix up our various treatments and prevent him countering our methods by adjusting his routine.

COUNTER MORTAR & COUNTER BATTERY

During the last op the CBO was responsible for nebels and guns and the CMO for mortars. It was laid down that either the CBO or CMO might engage guns or mortars if within range. CMOs also put sets on as additional out-stations on the FS/SR net allowing them to pick up nebel activity. The set used in one case was the Div Air Op control set and was only available at night. Hence CMO did not get the complete picture.

The CB Staff found during the last op that enemy mortars and nebels were constantly moving and that infm could not be kept on the CB board as it became too confusing. As a result, infm on nebels was kept in history sheets only and during intense periods of activity nebels were inclined to be neglected. From this experience it appears that a separate board must be kept and that a separate offr must look after nebels during intense periods of ops. It would seem that at present the CB Staff are busier than the CMOs and that the CMOs can handle additional work.

In my opinion the decision as to where control should be must be determined by the comms available to inform the CBO or CMO that nebels are active, and the comms available to call for fire. With the present enemy policy of movement fire must be brought down while the nebels are still firing to be effective. Otherwise the fire is purely neutralization of possible nebel areas which is not accurate. At the present time the quickest infm on activity is coming from FS. Any special OPs deployed for the purpose with direct comms should be equally quick. At the present time the CBO is in comn with SR & FS and the CMO is in part time comn. Any special ops deployed into the CMO and not to the CBO. The CBO has good comns to the AGRA regts, the CMO to the div artys. During periods of intense enemy HB activity the AGRA guns are fully employed on enemy guns and very

probably the div arty would be free to deal with mortars.

In order to get maximum effect on guns, nebels and mortars, it is recommended that a clear cut division of responsibility be made and definite resources allotted to deal with each. Having decided what the division should be, comns must be arranged to suit.

There would appear to be two alternatives: centralization of all resources in the Corps under the CBO, or decentralization of all counter mortar and counter nebel in divs leaving guns to the CBO.

(a) The requirements in comns in the first case would be a direct line from the CBO to div artys in addition to the present AGRA line. The CBO would then divide the office into three parts, a CB sec, a CM sec, and an op sec. The first two would provide the picture and the op sec utilize all resources available to deal with it.

(b) The second alternative calls for the FMO having a set permanently on the SR/FS net and being allotted specific resources to deal with nebels and mortars.

It is recommended that the second be adopted although less efficient it will require one R/T set as against line being laid from div arty to CBO on each occasion and will leave control with the CRA as opposed to taking away control and at the same time having a call on the div resources.

If this is adopted it is felt that the following should be the procedure:

(1) The CBO is responsible for all guns.
(2) The CMO is responsible for all nebels and mortars.
(3) The CMO should have a set permanently on the FS/SR net and take down all infm on enemy nebels and mortars.
(4) The CBO should pass all infm obtained, except from the GR/FS net, to the CMO on mortars and nebels.
(5) The CMO should pass all infm to the CBO on enemy guns.
(6) The CBO and CMO should engage only the enemy weapons for which they are responsible.
(7) Either the CBO or CMO should have the right to call on the other for additional assistance for either bombards or programmes. The amount of the assistance would be arranged mutually, depending on the circumstances.
(8) Every effort should be made to provide for moreps to go through only one link between observer and guns, i.e. mortar OPs should be in direct comn with the CMO or ACBO and they must be in direct comn with the weapons they are firing. Speed in fire on the ground is much more important in CM work than CB work.

COUNTER BATTERY POLICY

During recept ops the policy has been active throughout. 5 Corps have recently tried out a short period of inactivity which had excellent results. From infm obtained it would seem that much more damage had been done to our own tps when we stop for a period than during attacks or advances. It is suggested that an allotment of amn during one of these periods in order to fire a complete programme when an attack is not planned would serve the double purpose of stopping

the enemy and causing uncertainty as to what our future moves will be.

During recent ops all CB programmes were H-hr programmes. One was arranged to be pre-H-hr but did not take place when the attack was cancelled. It is suggested that a different type should be used for every attack and that some programmes should be fired when no attack is contemplated. The decision as to which is to be used must be made depending on the tactical situation existing at the moment.

COUNTER BATTERY METHODS AND THINGS TO TRY OUT Svy Regt

During recent ops CO 1 Cdn Svy Regt arranged to have FS report activity between two bearings and to give an estimate of the number of rds per minute coming from the area. The CBO should divide the enemy btys into gps and give the Svy Regt a trace showing the area covered by these groups. Conc Tables should be based on the same groups. Thus the FS can report activity from a definite area with an indication of the amount of activity and the CBO can issue the necessary orders to fire the conc tables. Thus the FS will be calling for fire which amounts to be observed fire.

Arty/R

40 SAAF provided a set which allowed for ground-to-ground comns between CBO and Sqn. This proved most useful in briefing and making arrangements for sorties and should be made available in future ops.

Air OP

At the end of the last op a start had been made in providing marked air photos for Air OP pilots. Results of the morning sorties reach the CBO in sufficient time to allow for the marking of a copy of the basis cover the same day. Thus pilots can be briefed the night before and given a marked photo. One of the extra NCO clerks provided in the Svy Regt Increment will be trained in work with Air Photos and put in charge of the air photos in the CBOs office. This will mean that this can be carried out as a routine practice.

(Sgd) D.L.Gordon, Major
CBO 1 Cdn Corps

5. NOTES ON THE INTERROGATION OF ARTILLERY AND OTHER P.W. (APPENDIX TO WAR DIARY 1 C.B.O. STAFF, R.C.A. - NOV 1944).

1. Wherever possible state the map reference of the position at which the prisoner was captured. The following list of questions will serve as a guide to the interrogator:-

(a) Hostile batteries

(i) Were there any guns in the area where you were captured ?
(ii) What number of guns or batteries ?
(iii) Were they infantry, field, medium, or heavy guns ?

(b) Location of hostile batteries

(i) Can you give the location of any battery on this map ?
(ii) How long have the positions been occupied ?
(iii) Are the guns dug in ?
(iv) Do they move at night ?

(c) Policy

(i) Have the guns fire recently ?
(ii) What is the ammunition situation ?
(iii) Have you seen any dumps, either close to the guns or in rear ?
(iv) Do the guns fire by night ?
(v) Do section or single guns move away by night ?
(vi) How far from the battle position do they move ?
(vii) Do single guns fire from positions at the flank of the batteries ?
(viii) How far to the flanks are these guns usually placed ?

(d) Deception

(i) Have you seen any dummy positions ?
(ii) If so, where ?
(iii) Do any rockets or mortars fire from these dummy positions ?
(iv) Are flashes let off from these dummy positions by night when guns fire ?

(e) Effect of our own fire

(i) Have your batteries been shelled by ours ?
(ii) If so, when ?
(iii) Were guns knocked out or men killed or wounded ?
(iv) Have the casualties been replaced ?

2. Artillery Personnel

(a) Effect of our own fire

(i) What is the reaction of the men in your battery to a short intense concentration from a large number of guns when they are (a) firing DF or supporting your own attack ? (b) firing HF ?

(ii) Do these concentrations disorganize your positions and communications so that you have to stop firing ?

(iii) If so, for how long ?

(iv) If a battery is subjected to one of these concentrations does it move as soon as possible ?

(v) Which would you prefer, a short concentration from many guns or a few guns shelling you for one or two hours ?

(b) Counter Battery Work

(i) Does such work go on in your battery ?

(ii) Have you heard bearings to flash or sound of our guns mentioned ?

(iii) Have you seen your battery artillery board ?

(iv) If so, are our guns marked ?

(v) If so, can you say what layout was shown ?

(c) Detail of tasks

What DF, HF, or DF (SOS) tasks did your battery have ?

(d) State of survey and predicted fire

(i) Can your unit shoot as a regiment ?

(ii) Do you get meteorological information ?

(iii) When were your guns last calibrated ?

(e) Nature of guns

(i) What are the guns of your unit ?
(ii) Were there any others near by ?
(iii) If so, where, and what type ?
(iv) Were there any anti-tank guns ?
(v) Were there any 88-mm guns sited for anti-tank use ?

(f) Ammunition and equipment situation

(i) Where is your A.R.P. ?
(ii) How much ammunition do you normally have ?
(iii) Are there any new types ?
(iv) Have you all the necessary gun stores and instruments ?

3. Arty/R

(i) Has your battery ever been shelled when aircraft directed the fire ?
(ii) Did he use one gun or more than one gun ?
(iii) What was the effect of the shoot ?
(iv) Did you move as soon as possible after the shelling stopped ?

4. Photo Recce

(i) Are your positions usually in farm buildings ?
(ii) Are guns manhandled into position to avoid tracks ?

5. Bombing

(i) Have you seen any of your gun positions bombed?
(ii) Can you give me the location ?
(iii) What damage was done ?

6. Policy

(i) At what stage during our attacks is the general withdrawal of the artillery ordered ?
(ii) In what pattern does this withdrawal take place, i.e., field first, covered by medium and nebelwerfers, or leapfrogging of all types back to the new gun area ?
(iii) Does the time of the move vary or do you move as soon as it is dark ?

POINTS THE CBO WISHES TO KNOW

1. The best method of neutralization of enemy artillery.
2. The best method of destruction of enemy artillery.
3. Any regular habits the enemy artillery has with regard to moves.
4. Are casualties to equipment rapidly replaced ?

6. TANK FIGHTING IN THE APPENNINES (EXTRACTS FROM A REPORT OF THE OPERATIONS OF 14 CDN ARMD REGT BY HIST OFFR 5 CDN ARMD DIV DURING SEP - NOV 1944).

(1 Cdn Armd Bde took part in the operations of the Fifth Army against the Gothic Line in the Apennines. This narrative deals with the attempt to outflank the Germans at FAENZA which was finally halted by the heavy snows of winter).

Having pulled off these dominating positions, the Boche pulled back across the SIEVE into his so called Gothic Line. The Indians followed him fairly closely but we experienced the greatest difficulty in getting our tanks forward due to the precipitous country, inadequate roads and numerous demolitions. It was 11 Sep before we had sufficient tanks forward to support a major attack across the SIEVE. Numerous recces were made of the river crossings and the ground immediately beyond and a large scale attack was teed up. Ours was to be part of a still larger attack involving 13 Corps right and 2 US Corps left. So far as our sector was concerned, 21 Ind Inf Bde supported by "B" Sqn 14 CAR were to attack across the SIEVE the night 11/12 Sep. The REs promised to have a bridge in by 0600 hrs 12 Sep and our tanks were to follow 21 Bde over immediately, while the remaining two sqns were to cross later in the day. The role of our tanks was to be that of mobile arty rather than close support of the inf. This was dictated by the extremely rugged nature of the country. Recces and the study of air photographs had shown that the movement of tanks with inf would be quite impossible after the first few thousand yards advance. Our objectives for this attack were M. VERUCA, LE SCALETTE and FEMINA MORTA. Our route was to lead us through VICCHIO and VITIGLIANO.

The inf attack went in as planned at about midnight and met no opposition. The crossing was completed without difficulty and the bridge was in by morning. There now began one almighty traffic jam with everyone trying to use the single road and bridge at the same time. Literally miles of vehicles were jammed nose to tail at the crossing. Fortunately the enemy did not do any shelling. As a result of the blocked roads,"B" Sqn did not have all their tanks

across until noon and the other two were not over until evening. By 1500 hrs the forward inf had progressed about 6000 yds and were nearing their first objective. This was the first of the main Gothic Line positions. Before evening one troop of "B" Sqn were up within range and bringing fire to bear on observed enemy positions on the feature. That night our Regt, less one troop, was concentrated in the area of VECCHIO.

The following day (13 Sep) "B" Sqn moved up over the extremely difficult mountain road, took up fire positions in the area of VITIGLIANO and supported the Maharattas up onto M VERUCA. So devastating was our HE fire on the exposed mountain top that the inf were able to assault the difficult positions with very light casualties. Large numbers of German dead were found on the feature and it was believed that he had started to pull out just before the Indians stormed the position and had been caught in the fire of our 75s.

Throughout the advance so far the enemy had time and again deserted highly defensible positions. Many of these were extremely well prepared and provisioned and would have caused us endless trouble had he chosen to defend them a little more stubbornly. In some cases such positions would be found abandoned and still fully equipped. In others, he would abandon them after the briefest of resistance. Opposition stiffened, however, as we progressed into the mountains. The mountains became more and more impenetrable, the roads got worse and worse and the demolitions more frequent. As our task became more difficult, the enemy opposition became more determined. However, the repairing of demolitions and the bringing up of supplies remained a greater hindrance to our advance than did the enemy opposition.

The advance continued with our tanks supporting the inf with good effect whenever fire positions could be found. It was becoming increasingly difficult to move tanks, however, and they gradually faded out of the picture. An effort to get a troop up onto M VERUCA in a counter attack role proved unsuccessful. LE SCALETTE fell to the Maharattas on the 15th and FEMINA MORTA, our final objective in this phase of the operation fell to the 1/5 RGRs on the 18th. The occupation of this feature gave the Gurkhas command of the entire Div Sector. Also on the 18th, orders were received that our two sqns in the VICCHIO area were to be considered in reserved and that leaves should be granted to Rome. While back in the VICCHIO area some of "C" Sqns tanks carried out inf-tank training with the 1 Jaipurs. This was a new Indian battalion that had not previously had any operational experience and had much to learn about tanks.

On 25 Sep there was a general left shuffle. 1 Br Div on our left had reached MARRADI and their axis had been switched left to become PALAZZUOLO - CASTEL BOLOGNESE. The road MARRADE - FAENZA had been given to ourselves and 8 Ind Div and became known as Sword Route. By this time 19 Ind Bde on the right had reached S. BENEDETTO and sappers at once began to work on the lateral road from there to MARRADI. 17 Ind Bde now moved over to MARRADI and began to push up the new axis. Due to the extreme difficulty of moving tanks across, tank support for this brigade was temporarily supplied by 11 CAR (Ont R) who were already over on that sector working with 1 Br Div.

The 8 Ind Div intention now was to advance with one brigade moving up both sides of Sword Route and one or both of the remaining brigades conforming on the right. Our objectives were M. ROMANO, ABETA and TREDOZIO. The capture of the last two places would give us the use of the two roads to MODIGLIANA and the road from there to FAENZA.

On 2 Oct "A" Sqn moved over to MARRADI and three days later "B" Sqn also moved over and harboured at BIFORCO, just down the road. "C" Sqn at this time was still at VICCHIO. It was the intention that,

once the M. CAVALARO - M. ALTO positions had been cleared by 21 Bde, one of our sqns would swing right, along the S. ADRIANO lateral, and support the advance to MODIGLIANA. Unfortunately just at this time very heavy rains set in which effectively prevented the use of tanks. On 10 Oct 21 Ind Bde put in an attack on M. CASALINO. The attack was unsuccessful and the Indians suffered heavy cas. With the enemy still on these features, work could not be carried out on the S. ADRIANO lateral without bringing down devastating fire.

Our two sqns remained on in the MARRADI area, unable to support the inf due to the continued rain. On 17 Oct "A" Sqn managed to get two troops forward of MARRADI and supported an attack by 17 Ind Bde "astride Sword route and right towards M. CASALINO". This we did by bringing down heavy fire and silencing anemy MGs and mortars in S. MARTINO. This time the attack on M. CASALINO was successful and after a bitter fight the 3/8 Punjabs wrested the feature from the stubborn German garrison who fought until all but eight had become casualties. On the 22nd, after putting in one or two determined counter-attacks the Boche began to pull back and we were able to get moving again.

On 23 Oct "A" Sqn advanced up the axis as far as S. ADRIANO. Here they encountered numerous mines and came under shell fire. "B" Sqn followed them up and on reaching S. ADRIANO, swung right along lateral, and the next day they were in position and bringing fire to bear on M. BUDRIALTO. They supported an attack on the feature, but it was unsuccessful. The morning of 25 Oct two troops of "A" Sqn moved up to S. CASSIANO where they remained in a counter-attack role.

The div plan now was to exploit up the main axis towards FAENZA with 19 Ind Bde supported by our "A" Sqn as the main striking force. It was anticipated that the heaviest opposition would be encountered on this road. "B" Sqn were to support 17 Ind Bde up the roads from ABETA and TREDOZIO converging on MODIGLIANA. 21 Ind Bde were to carry out strong patrolling through the mountains left of the main axis without tank support. On 26 Oct "C" Sqn moved up from VICCHIO to MARRADI where they went into harbour until such time as they should be needed.

This three brigade advance continued with little excitement from an armoured point of view. There was much fog and rain, both of which seriously hampered the use of tanks. The advance up Sword Route was chiefly an inf show with "A" Sqns tanks held up, sometimes for days by demolitions. "B" Sqn on the right got rather more shooting. The night of 5/6 Nov they supported the 1/5 RGR in an attack on M. MONSIGNANA. After a bitter fight in which both sides suffered fairly heavy cas, the Gurkhas were forced to withdraw. The following night, however, on RGR patrol found the positions unoccupied and at first light on the 7th they occupied Pt 653, 1500 yds forward of their previous objective. Later that morning "B" Sqn tanks started to bring fire to bear on observed enemy positions on M POMPEGNO. The following day "B" Sqn pumped no less than 600 rounds of HE into these same positions.

On 10 Nov an organized attack was teed up on MODIGLIANA. This was to be put in by 17 Ind Bde supported in "B" Sqn. However, the following day the Lovat Scouts, working under Polcorps on the right, had cut across our bows, entered MODIGLIANA and found it clear. The attack went in anyway as there was at least one strongly held feature short of the town. At last light on the 11th the advance was halted by very heavy MG and SP fire from M.S. BARTOLO. Tank fire was brought to bear on the enemy positions and that night 1/5 RGR assaulted the feature only to be thrown off with heavy cas. Attacks were again launched on 12 and 13 Nov, but these also proved both costly and unsuccessful to the Indian inf. Our tanks kept hammering away on the enemy positions and several direct hits were observed on enemy strong points. The following day, after a bitter struggle the Gurhas succeeded

in establishing themselves on the feature and subsequently cleared it. That evening patrols entered MODIGLIANA and found the bridges blown but the town itself unoccupied. There were still a number of MG posts and snipers around the north and east sides of the town, however, and these were not cleared until 18 Nov. At this time the RGrs and two troops of "B" Sqn occupied the town. The following day "B" Sqn's remaining two troops and 1/12 FFRs moved into MODIGLIANA to take over the next stage of the advance. Enemy shelling and mortaring were fairly heavy in the area but were considerably lessened when our own counter-mortar fire came into play. On the 20th recces were carried out for tank crossings over the MARZENO River and two possible ones were found. These required some work and our two troops were not acrossed until the 21st. They quickly joined up with the FFRs and immediately took on enemy positions about 1000 yds due north of the town.

No further advance was made on the 17th Bde sector until 25 Nov when the two troops of "B" Sqn with the FFRs advanced on M. PRUNETO prior to assaulting it on the 26th. This attack went in at 0800 hrs heavily supported by tank fire. Heavy casualties were inflicted and our inf succeeded in gaining a foothold on the feature but not in clearing it. That night there was heavy rain followed by mist and the Boche took the opportunity to pull back all along the 8 Ind Div front.

Our Div front was now narrowing down considerably due to the convergence of Fifth and Eighth Armies. On 28 Nov 17 Ind Inf Bde, who were right brigade of the Fifth Army, were pulled out and our "B" Sqn pulled back into MODIGLIANA to rest. All this time "A" Sqn, who wore with 19 Bde on Sword Route had been largely inactive and on 29 Nov they pulled back and joined "C" Sqn who were now in the area of S. MARTINO. Thus the end of Nov found all three sqns temporarily out of the line.

This slow drive from the SIEVE, which had seen the break through of the much talked of Gothic Line and had carried us over the Apennines and well on the down hill run into the Lombard Plain had been chiefly an inf show. We had given them invaluable support, neutralizing the enemy fire and often enabling them to get right up on to a position and often enabling them to get right up on to a position without suffering casualties, but in no case was it possible for our tanks to manoeuvre and all our firing had to be done from static positions and normally at a fairly long range. In this type of country it had to be the inf who seized and held the ground. The magnitude of the problem of bringing up supplies in this mountainous country will be readily understood. Sword Route was the only one that would carry vehicles and it rapidly deteriorated due to heavy traffic and continued rains. The other two brigades of 8 Ind Div had to be supplied entirely by mule. There is no doubt that the supply problem on this sector has slowed down the advance at least as much as the actual physical opposition put up by the enemy.