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THE CANADIAN GUNNER

1972


UBIQUE
QUO FAS ET GLORIA DUCUNT

THE CANADIAN GUNNER

Volume 8

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MESSAGE FROM THE COLONEL COMMANDANT

Major General H. A. Sparling, CBE, DSO, CD

I am again delighted to have this annual opportunity to address a few words to all of you who serve or have served in our Royal Regiment of Canadian Artillery.

The past year has been one of relative stability in the life of the Regiment. There have, of course, been the usual changes in leadership within various Regular and Militia regiments and Batteries at all levels of command and I offer my congratulations to all officers, warrant officers and non-commissioned officers who have assumed increasing responsibilities in the conduct of their unit endeavours.

I particularly wish to say a word of appreciation on behalf of the Regiment as a whole to Colonel Dave Francis who, early last summer, vacated his duties as Director of Artillery. Colonel Francis served the Regiment in this important post with dedication and we thank him for his contribution to our well being and wish him well in his new duties.

The Regiment is fortunate that Colonel Doug Gunter has assumed the responsibilities of Director of Artillery. Like his predecessor, Colonel Gunter has served the Regiment with distinction in various positions of Gunner leadership and we are fortunate to still have the advantage of his capable direction.

As I have noted on other occasions, the Royal Regiment of Canadian Artillery has a proud record of devoted and expert service to Canada. My visits amongst you during the past year have illustrated that this type of service continues. May we all, individually and collectively, Regular and Militia, move forward through 1973 with confidence, determination, loyalty and good comradeship, in the high purpose of serving the Guns.

FOREWORD BY THE DIRECTOR OF ARTILLERY

Colonel D.H. Gunter, CD

In his foreword to the 1971 edition of *The Canadian Gunner*, Colonel D.W. Francis said good-bye to the Regiment as Director of Artillery. As his successor I would like to take the opportunity, in the foreword to this edition, to thank him, for all Gunners, for his service to the Regiment. In his three years as Director, he ably represented us during a period when such a dedication was very much needed.

I take over the appointment of Director of Artillery at an interesting time. Although we cannot see into the future, especially these days, things do seem to be brightening. The drastic artillery reductions of recent years are hopefully at an end and, as established force levels are reached, we should again be seeing a reasonable promotion flow and an influx of new soldiers into Regular units of the Regiment.

I have been concerned about an apparent tendency for units of the Regiment to grow apart not only between units in Germany and Canada but there also seems to be divisive pressures on Gunner units in the various Combat Groups within Canada. However, I was heartened at the recent Artillery Training Conference, attended by all Commanding Officers and Operations Officers, where it became clear that we are really still "on net" on key issues and that the importance of a common Artillery approach is still appreciated. We must be ever mindful of this traditional source of Gunner strength.

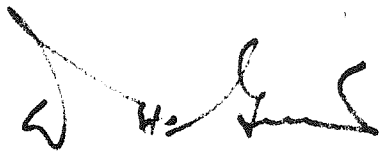
In my other appointment, as Director of Land Requirements, I have been impressed by the technical advances which are being made in gunnery. The Gun Alignment Control System, second generation field artillery computers, laser range finders, extended range projectiles, and other exciting developments will be providing a new challenge to the skills of Gunners in the near future. Indeed, even old skills, expensively gained, may be required again to meet a possible air defence role.

Although the past year has seen little change in Regular Force organizations, roles or tasking, this does not mean that units were not busy. The activities of the units tell their own story in this magazine and aptly show why "Ubique" is one of the mottos of the Regiment.

The Militia also had a very active training program. With competitions generally rescheduled for other times in the year, all members of units were able to train together during practice camp. The effectiveness and level of fire-planning increased markedly during the summer, culminating in fire-plans at the regimental level at one location. Assistance to the Militia by the Regular Force was provided in even greater measure than before, and such assistance was returned in kind by Militia personnel who participated with Regular Gunners in exercises in Canada and Germany.

The year saw the retirements of BGen. J.L. Drewry and BGen. E.M.D. Leslie. We wish them health and happy years ahead. BGen. G.R. Coffin, Chief of Staff Support Services, Air Transport Command Headquarters, is welcomed as the new Senior Regular Gunner (and, incidentally, the only serving Regular Gunner of General rank).

Finally, I would like to thank Colonel D.R. Baker, Commander CFB Shilo, and Lieutenant-Colonel W.D. Wellsman, CO 3 RCHA, for their excellent efforts in producing this year's *Canadian Gunner*. This publication continues to play an important role in maintaining Regimental spirit and unity, and acts as a valuable record of the accomplishments of the Royal Regiment of Canadian Artillery.



Colonel D.H. Gunter, CD

THE COLONEL GEOFFREY BROOKS MEMORIAL PRIZE ESSAY COMPETITION

Eligibility Regular and Militia officers of the Royal Canadian Artillery, and Officer Cadets enrolled under the Regular Officer Training Plan, the Officer Candidate Training Plan and Reserve Officers University Training Plan, who have completed their first phase of training and who have selected the Royal Canadian Artillery as their corps.

Topics

(1) *The Royal Regiment of Canadian Artillery has retained the doctrine that the eight–gun, two–troop battery is the most flexible and efficient organization for provision of close support in land force operations. However, for reasons of economy it has been necessary to reduce batteries to six guns, which in most situations can function most economic – ally and efficiently as a single fire unit. Discuss the pros and cons of the single fire unit versus the two troop system and arrive at a conclusion as to whether a change of doctrine is indicated.*

(2) *Write on any topic of general or specific military interest with an application to the Royal Regiment of Canadian Artillery.*

Rules Either of the above topics may be chosen.

Essay entries should be between 3500 and 5000 words in length. They must be type–written and submitted in quadruplicate.

The title and page of any published or unpublished work to which reference has been made, or from which extracts have been taken, must be quoted.

Authorship of entries must be strictly anonymous. Each competitor will adopt a motto or *nom de plume* which will be quoted at the top of the entry.

A sealed envelope will be enclosed with the entry. This envelope will contain the service number, rank, name and address of the competitor but will have the appropriate motto or *nom de plume* only typewritten on the outside.

Entries are to be addressed to the Editor of the Canadian Gunner, CFB Shilo, Manitoba, and marked "The Colonel Geoffrey Brooks Memorial Prize Essay Competition". They must reach the office of the Canadian Gunner by 30 September 1973.

Prizes

First	$100.00
Second	$ 50.00

Judging The Head of Corps will arrange for a committee to judge the entries. The decisions of this committee will be final.

Results will be made known in the next issue of *The Canadian Gunner*, and the winning essay will be published in that issue.

If, in the opinion of the judges, no entry is of the required standard, prizes will not be awarded.

The Editor and Staff of *The Canadian Gunner* cannot be held responsible for the loss or return of any essay submitted; nor shall they incur any liability whatsoever in connection with the receipt, dealings, judging and reports of essays.

The copyright of any essay which is published in *The Canadian Gunner* will belong to the RCA NPP.

1972 Winner

The Colonel Geoffrey Brooks Memorial Prize Essay Competition

Introducing an Air Defence Weapon System

Captain G.W.A. Trimble, I.G.
Combat Arms School

"The Colonel says that for the rest of the exercise all silver planes are friendly and all khaki–painted planes are enemy. In case of air attack, we will all yell and scream and bang on vehicles to alert everyone, but you'll probably hear the noisey thing before that. Anyway, we will be attacked from the air at least once during the exercise so get your C2s, rifles and M72s ready in case the umpires are around..."

That basically is how the air defence (AD) aspect of most major training exercises has been conducted in recent years in Canada, even though sophisticated AD weaponry and procedures have been in use by other nations for years. Presently Canada is considering the purchase of a self–defence AD weapon for low–level defence in the not too far distant future, necessitating a re–evaluation of our AD concepts, command and control procedures, and organizational approach to the subject. This paper will examine these and other aspects of air defence in the 1970s.

INTRODUCTION

Perhaps the most pertinent question we should ask ourselves at this time is, "Why do we require a specialized AD weapon?"; in other words, what justification do we have in stating a requirement for a low–level AD system? Firstly, the sheer weight of numbers of aircraft that could possibly be involved in a European–type conflict indicate a definitive threat best countered by a specific counter–threat weapon system. The following figure illustrates this need:

The Air Threat in Europe[1]

	NATO	Warsaw Pact
Light Bombers	150	310
FGA	1600	1550
Interceptors	575	3000
Recce	525	500
	2850	5360

The numbers here shown speak for themselves, especially in light of the dual–capability of interceptor aircraft in the ground support role.

Secondly, small arms can no longer be relied upon as a primary means of air defence. In most cases, small arms can be considered effective to 500 meters only, little compensation when weapons release lines are generally 1000 meters from the objective of the strike (not to mention weapons effects radii which tend to further favour the aircraft with respect to stand–off distances). Granted, small arms can still engage the vehicle (aircraft) but the weapon (hostile ordnance) is also incoming –– the pilot has been successful in his mission. In addition, one must also remember that small arms engagement will reveal weapons locations and compromise battle positions regardless of how well camouflage has been applied.[2]

This brings us to our third reason for requiring a specialized AD weapon: active defence is superior to passive defence in the air defence context.[3] Passive measures, of course, are necessary and are continually being employed by virtue of the military art, but they are not cost–effective since they do not destroy aircraft or reduce weapons effects once the ordnance has been delivered. Passive measures simply demand more of the enemy pilot. Active measures, on the other hand, are cost–effective for obvious reasons – but more than this they give great psychological advantage to the user's forces when they witness hostile aircraft being shot down, not to mention the negative effect on the morale of the enemy pilots who also see their comrade going down in flamee. Active air defence must be introduced to fill the gap that small arms does not fill in light of the air threat as it exists and will continue to exist.

Having looked at the reasons for procure–ment of a specialized AD weapon, we shall now type–classify a general weapon for dis–cussion and identify some restrictive parameters to be used throughout this paper.

ASSUMPTIONS.

The following assumptions have been made for purposes of this paper:

1. low–level shall be considered by classical definition to be less than 10,000 feet, although practically speaking we are concerned in the main with high performance aircraft flying 'nap of the earth' to avoid low/medium altitude AD system radar coverage (ie. Hawk or Thunder–bird radars) by virtue of ground clutter. These altitudes will real–istically be less than 1000 feet (very low–level);

2. organizations discussed will be based on detail as found in the Staff Officers Handbook (1971–1972 Course) CLFCSC, Kingston;

3. a European environment is used as the basis for any tactical setting, implying an existing environment and comman d structure for low, medium and high altitude AD; and

4. the weapon under consideration will be of the Blowpipe/Redeye II type having the following characteristics:

   a. be man–portable and shoulder–fired;

   b. have an IFF capability; and

   c. have a range of 3500 meters.

Now the main question can be posed, namely, "What problems will the introduction of a specialized AD weapon create, and how can they be solved?".

THE PROBLEM

Inherent in the introduction of any new equipments are minor problems, but the task of introducing an AD weapon in this case is major, not only because air defence is a virtually dead art in the CAF but because tactical and doc–trinal considerations are lacking. Notwith–standing the myriad of smaller detail that must be tended to, the crux of the matter is Control. Once the problem of how to control forward area AD weapons in the Canadian context is solved (in the general sense), answers to other seem–ingly more pressing problems will become apparent. We must therefore first decide on general guidelines for controlling our AD weapon.

DISCUSSION

Traditionally, there have been two methods of control for air defence resources: minute–to–minute control and pre–arranged control. Minute–to–minute control relies on extensive radar coverage from all available AD systems (Hawk, Thunderbird, Nike Hercules) and a good communications environment to enable a controlling agency to talk to its callsigns, keep them informed of the battle as it progresses, and assign them targets as aircraft appear and are identified. Pre–arranged control relies on SOPs or rules for engagement of aircraft, placing a high premium on the operator's prowess in aircraft recognition and ability to interpret SOPs intelligently in a split–second. (One will also encounter such terms as Discrete Control, Centralized Control, Autonomous Control, Zoned Control, Limited Control and so forth, but they are all variations on the theme of either minute–to–minute control, pre–arranged control, or a mixture of both). It is these two basic forms only with which we will concern ourselves.

Our very low altitude AD weapon under discussion will tend to react much faster when under pre–arranged control with very minimal minute–to–minute orders than under any other method of control. Let us look at the reasoning behind this rather sweeping statement:

1. the communications environment cannot be guaranteed to be sufficiently free of ECM to allow the radio transmissions necessary for minute–to–minute control; pre–arranged control, in the face of electronic blackout, depends only on the intelligent application of carefully thought–out and widely disseminated control measures in terms of blocked airspace, altitude limitations for certain types of aircraft, safe corridors, three–dimensional coordinates for entry/exit gates, and so forth;

2. because the hostile aircraft will be flying nap–of–the–earth at transonic speed, reaction time will have to be no more than 25 seconds from detection to interception, hardly sufficient time for a radio operator to afford the luxury of "I say again..."; and

3. the radar coverage of low, medium, and high altitude AD systems, a vital aspect of the early warning feature of minute–to–minute control, cannot be guaranteed free from jamming by an enemy cognisant of the Free World's AD capabilities.

But if this is insufficient to indicate the superiority of pre–arranged control over minute–to–minute control in our case, let us examine the use of the weapon on the battlefield. For example, under what circumstances could our AD gunner engage targets?

In the first case, he will always be able to engage targets that are attacking his position – his right to self–defence must never be refused. (This point becomes much clearer when one examines the three most commonly used weapon status terms: weapons free, weapons tight, and weapons hold.[4] Even if the AD weapon is under a 'weapons hold' restriction, the gunner must be allowed to protect himself from hostile aircraft and use his weapon.) Secondly, he could engage all aircraft judged to be committing a hostile act[5] within range of his weapon. Finally, he could engage hostile aircraft he identifies by recognition (visual/IFF) within the short range of his weapon – 3500 meters.

In all of the cases examined above (self–defence, hostile act, and recognition), engagement is based on knowledge and rules for engagement, and is not dependent on minute–to–minute control orders in the final analysis. Any other circumstances that might require the gunner to engage aircraft are not apparent at this time. Thus, as we can see, all engagements can take place under pre–arranged control conditions, allowing for provision of a radio for changes in these conditions, minimal minute–to–minute orders, and team control.

IMPLICATIONS

Having now decided to control our weapon system using pre–arranged control measures, what are the overall implications of such a course of action?

1. Training. Because of our decision to control our weapons by exception, we will have to exact a higher standard of training that if we had opted for minute–to–minute control because

now our weapons team must perform all AD system functions on their own – detection, recognition, acquisition in the weapon sight, and interception – in accordance with our parameters. This will require exacting proficiency in aircraft recognition and definitive SOPs at all levels, worded to clarify rather than confuse.

2. Organization at weapon level. To field the weapon we will require a 'gunner' to fire it, and a communicator to man the radio set. This would imply a '2–man team' concept, the team being mounted in a 1/4 ton vehicle, both members being cross–trained as weapon handlers, communicators, passive air observers for early warning, and drivers. The team could be augmented by an additional man during intense operations, but this is deemed to be non–essential. The weapon under discussion does not have a 'blind–fire' capability and therefore, barring extended northern operations during the summer months, the team would be able to relax during the darkness hours.

3. Airspace coordination. Because we have opted for pre–arranged control measures, the airspace coordination problem is minimized – only violators of the pre–arranged control measures need be worried about, and then only those who are operating in close proximity to the relatively short range of the weapon. However, coordination must be carried out, a function obviously done within the existing system that is presently in use – at the FSCC. But before we discuss who will do the coordination and at what level (battalion, brigade, division) we must answer three relevant questions:

   a. Where will the weapons be employed;

   b. How will the weapons be grouped for command purposes – if grouped at all; and

   c. Who will man the weapon.

EMPLOYMENT

The stated requirement is for low–level AD of the field headquarters and units, but beyond this, no mention is made concerning the size of the unit each weapon will be required to protect. Guidelines are nevertheless available, most nations allocating as a general rule one team per battery/company size sub–unit. The implications for the Canadian Mechanized Brigade Group (CMBG) are then as follows:

AD Wpn Allocation for a CMBG

HQ and Sig Sqn	2 teams
Armd Regt	4 teams
CS Regt	4 teams
Mech Bn (x3)	15 teams
	25 teams

COMMAND GROUPING

With twenty–five teams required within the brigade group, a logical grouping breakdown for command purposes would see five teams forming a section, and five sections forming an Air Defence Troop at brigade level. This would provide for a complete section to remain with each infantry battalion, while the CS Regiment and Armoured Regiment would dispatch one team from each of their sections to HQ CMBG for HQ and Signal Squadron defence. But we are now face–to–face with the one scathing question that haunts the soul: "Who will man the weapon?".

MANNING

Although air defence has traditionally been an artillery responsibility and rightly so for numerous reasons, it is felt that the weapon section as described above should be manned by unit personnel.[5] The training required for the operation of the weapon would be the same regardless of to what arm the soldier happened to swear fidelity. Training and integration within the unit would also be facilitated if the teams were organic to an in day to day contact with the sub–units they would support during operations.

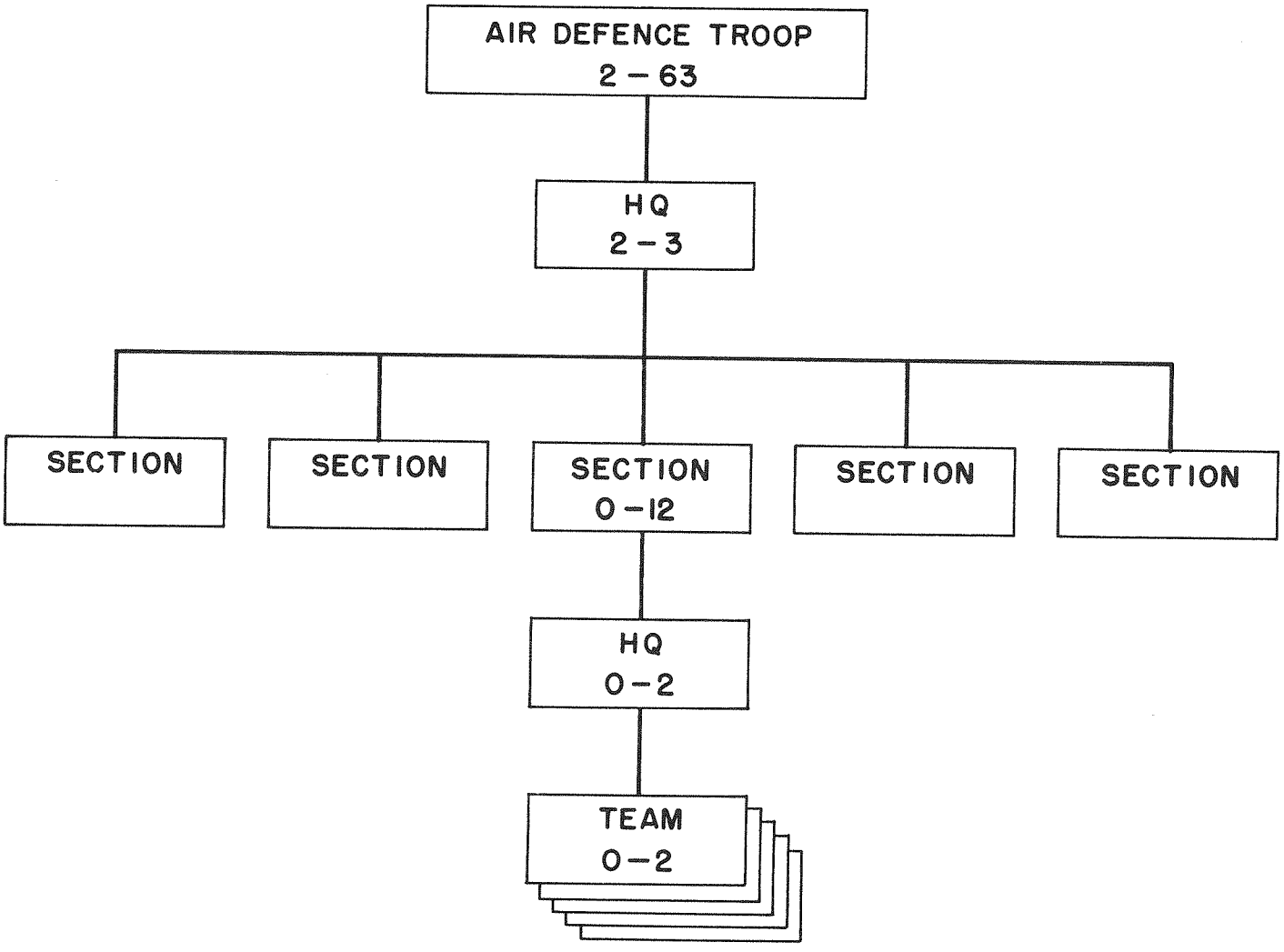
The section would naturally require a section commander, however, and it is here that an artillery senior NCO (a specialist in air defence) could be best used. The infantry AD sections would be shown on establishment as

belonging to Support Company, the armoured AD section could be established as part of (Armour) Defence Troop, and the artillery AD section would be part of Operations Troop. The sections in turn would be commanded during operations by an AD Troop Commander who would work out of Brigade Headquarters. His party would consist of only necessary personnel including himself (Captain), an assistant (Lieutenant), a MWO and two communicator/drivers, all working from two vehicles. His function would be the airspace coordination aspect of his weapon system, field supervision and control of his sections/teams as required, and the provision of advice on the employment of AD resources as required. His garrison duty would be primarily one of training his sections.

Now we see how the weapon is allocated within the CMBG, how control and coordination are exercised at the brigade FSCC, and who is responsible for these functions. The troop commander also has other control functions, however, in that he will provide early warning to his sections when possible, aid in identification, and so forth. For this purpose he must be equipped with radios sufficient to enable him to communicate to the sections/teams on the ground, and also to communicate with higher AD resources as available.

CONCLUSIONS

This paper has attempted to detail an acceptable method for introduction of a self-defence AD weapon into the Canadian Armed Forces. The organization recommended is as follows:



Of the total number of personnel required, two officers and eight other ranks would be artillery specialists in air defence. Notwithstanding manpower constraints, this organization is believed to be the minimum consistent with operational requirements. With respect to early warning devices for air defence personnel, such items as FAAR/TADDS[7] have not been discussed as the cost of such equipments would definitely be prohibitive in light of current budgetary limitations.

But above all we require a comprehensive doctrine – the written understandable word – on how to employ and deploy air defence resources. The need for specialized air defence weapons exists beyond the shadow of a doubt – and the need has been acknowledged. It is now our job as 'bird gunners', 'air defence artillerymen', 'cloud punchers' or whatever, to press for, and help in, the development of doctrine. What use is the slingshot if David does not know how to use it?

"Charlie charlie 44. Weapons free 0400 to 1200 hrs bearing 5600 mils to 0800 mils. Weapons tight rotary wing 0700 to 0715 hrs. FISHBED, FOXBAT, and HOUND are believed active..."

NOTES

1. The Military Balance 1971–72, London: IISS, September, 1971, p. 79.

2. A consideration that becomes apparent when one remembers that for effective small arms engagement of aircraft, tracer bullets must be used.

3. Active air defence being any direct defensive action taken to intercept and destroy, or reduce the effectiveness of, enemy aircraft attack. Passive air defence being defined as any defensive measure other than active taken to reduce the capability of enemy aircraft to perform their missions, ie. camouflage cover, dispersion, decoys, dummy positions, and so forth.

4. Weapons free: targets, other than those recognized or designated as friendly, may be engaged. Weapons tight: friendly aircraft are in the area and consequently targets must not be engaged unless they are positively recognized as hostile or are acting in a hostile manner as defined in the appropriate rules of engagement. Weapons hold: do not fire, and destroy all missiles presently in flight if possible.

5. Hostile act criteria are many and varied and are spelled out elsewhere in detail. Suffice it to say that the criteria include FGA, recce (all types), aircraft delivering airborne forces, and so forth – in other words, attack is not the sole criterion.

6. Although many gunners will dislike this approach, from a logical point of view the argument has hidden strength. Basically, the other alternative is to have the weapon manned by artillery personnel, a nicety from the manpower point of view but of little use in career progression until another AD weapon is obtained (Rapier, Crotale, Roland). Hence the suggestion that units provide personnel for weapon teams. However, the infantry and armour may be loathe to accept such a task since it would divert their manpower from their career progression chain and from their point of view cause capable individuals (such as the weapon demands) to 'mark time' for several years. Thus, we gunners would have little alternative other than to reverse our stand and accept the entire commitment ....

7. FAAR (Forward Area Alerting Radar) and TADDS (Target Area Data Display System) are being developed by the US Army to assist Chaparral, Vulcan and Redeye in defending the forward battle area from low-level air attack. The allocation of the TADDS (a 'box' featuring a 7x7 matrix, each square giving radar coverage of approximately 5 kilometers when data-linked to FAAR) is down to the Redeye team level, thereby providing for excellent early warning at the lowest possible level.

1 RCHA

1 RCHA Training Highlights

Having completed a century of training, 1 RCHA commenced its second hundred years in the manner to which it has become thoroughly accustomed – busy!

Again this year (although wiser and more devious)[1] the Regiment revisited all of its favorite stomping grounds to enlighten all with demonstrations of "Gunner Wizardry".

Starting off the 1972 training year was the Practice Camp in Grafenwohr during the "prime time" of 20 Jan – 3 Feb, where the Regiment concentrated on perfecting basic skills as a prelude to the Elkin's Trophy competitions to be held later in the year.

Accordingly, from 10–18 Apr, the Regiment returned to Grafenwohr to carry out the annual competition and to train as a regiment during the CO's exercise.

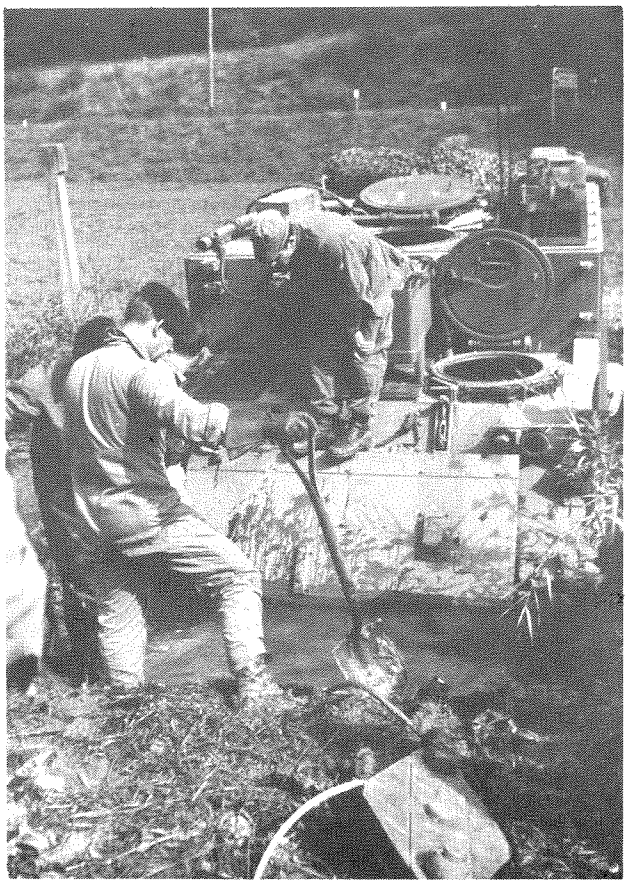
This year the direct fire competition was won by (need it be said)[1] B Battery, or to be specific, by MBdr Morris GJ and crew. It is rumoured that in future the competition will be referred to as the "B Battery Wunnit" competition having done so more times than one cares to remember. Rounding out the competitions, C Bty placed one – two in the Quick Actions to dominate that sport as well as winning the Elkin's Trophy itself.

The live–firing training unfortunately not completed until the fall exercise period, the Regiment settled into a more leisurely pace. As opposed to the Sennelager concentrations "up North", the annual small arms training was conducted on the Heuberg Ranges with the personnel being transported to and from Lahr to the ranges in buses (such is the new army).

Being fully conversant in this new concept of training–any fool can be uncomfortable, the BC's and FOO parties participated in a series of exercises with their battalions at Munsingen during the first half of May. However, much to their dismay, the job of chasing Tango and India callsigns over the ranges hasn't changed.

NOTE 1. 1 RCHA articles in The Canadian Gunner 1971 refer.

Ex Canadian Club "The Enemy"
A Member of 261 (GE) Para Bn



The Crew of U95 – Surfacing?

Not being satisfied with Mourmelon, France, or the excellent wine that graced everyone's table for months thereafter, C Bty proceeded to Valdahon, France (via Paris some say). While there, they conducted the annual Ex Flashpot – other arms Artillery observation Training 5–10 Aug. Also on hand were Militia gunners from Canada whose numbers filled out our viable establishment.

The fall exercise period of 12–28 Sep completed the Regiment's involvement in major exercises for this year. Included, were such exercises as Clean Cut I and II (Bn FTX), Ex Canadian Club (Bde FTX) and Ex Performing Seal. The latter exercise was by invitation of 10 German Arty Regiment with only the CPs of RHQ and A Bty participating. In the final stages of the exercise 1 RCHA joined with the Artillery of 1 German Corps for a fire power demonstration in Grafenwohr. As serious as Exercise Performing Seal was, comedy relief was provided by "Admiral O'Banion" commanding the unsinkable U95 (but that's another story). However, it would be well to note that after completing a successful and inexpensive "drydock refitting" of U95, Arty Tac went on to participate in Ex Largo Passage 5–10 Oct.

Indeed, the year has been a busy one as well as being a rewarding one in this the beginning of the second hundred years.

Another Exercise – Another Deployment

Nijmegen Marches 1972

On 18 Jul 72 a team from 1 RCHA led by Lt Brian Brake started out with 13,000 other marchers from 27 nations to participate in a hundred mile, four day march around the city of Nijmegen.

The team from 1 RCHA, consisting of 22 members and St. John, New Brunswick Mayor Bob Lockhart, was the largest team in the Canadian contingent from 4 CMBG.

This year's team was loaded with enthusiasm and cheerfulness. Seventeen of the team members were from the Maritimes and one could expect to hear a "Newfie yarn" at any time of the day or night.

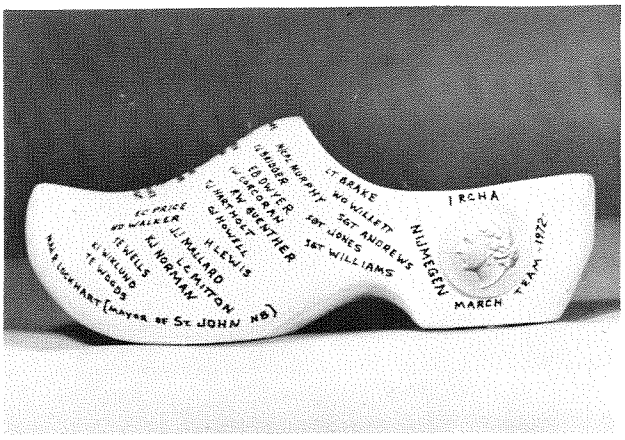
Music was provided throughout the marches by MCpl Beaver Murphy on the mouth organ and Cpl CJ Brydges on the accordion.

Sgt Andy Andrews, a fifth year veteran of the marches, returned from a course in Canada in time to join the team again this year.

On the third day of the marches the Commanding Officer LCol HJ Stein joined the team to march the 25 miles over the Seven Hills of Nijmegen. (His reward was two small blisters and nightmares to the tune of "MUSH, MUSH, PUSH, PUSH" for several weeks afterward).

On 21 Jul 72 after 100 miles and 173 blisters all 23 members including the amazing Mayor Lockhart crossed the finish line to earn their individual medals as well as a team medal. Well done Gunners.

Sgt Andy Andrews Talking to Children along the Route



Nijmegen Medal in Wooden Shoe

The 1 RCHA Team with Major Lockhart

EXERCISE TALLY HO

As the end of June comes up on the training calendar for members of 1 RCHA it means only one thing – a walk in the Black Forest. Ex Tally Ho is one of the only exercises of the year when the gunners can forget the guns.

This is the second year Ex Tally Ho has taken place although the format of the exercise has changed. The basis of the exercise – a long, physically demanding walk – is the most important part of this training. This year the exercise was based on a road rally concept with new instructions being issued as participants walked to each consecutive control point. The exercise was initially divided into eight different military tasks to be performed within a specific time limit. The exercise covered approximately fifty kilometers of remote Black Forest Hills.

The most important factor of the exercise was the terrain which had to be crossed. Those hills might not look too big when you are driving around the Black Forest in your car, but they certainly grow when you start climbing them on foot. After approximately ten hours of "mountain climbing" with the exercise teams, the Commanding Officer decided the exercise would achieve the desired results with only three of the eight tasks being completed and twenty–five kilometers of hills climbed. It was a great relief to everyone when they arrived at check point three to hear the good news, especially for those people who spent a lot of time behind a desk all year and who were at that point just about totally exhausted. As a matter of fact, everybody was just about exhausted at that point.

Now that the exercise is over and everybody is soaking their blistered feet, personnel from 1 RCHA can look forward to a years rest back with the guns before the next Tally Ho and that long walk in the Black Forest next year.

Captain Winter and Crew Planting their Demolitions

1 RCHA Puff Range

With the move of 1 RCHA from Hemer to Lahr it became necessary for the regiment to construct a new artillery puff range on which artillery fire mission and fire planning procedures could be practised. This task was given to WO Clifton JN, D Troop. The range is located in the old Langenwinkel School building and has been constructed to represent an area of real ground on the edge of the Black Forest approximately 25 kilometers from Lahr. The real area so constructed is 1500 to 3500 metres wide and 5800 metres long.

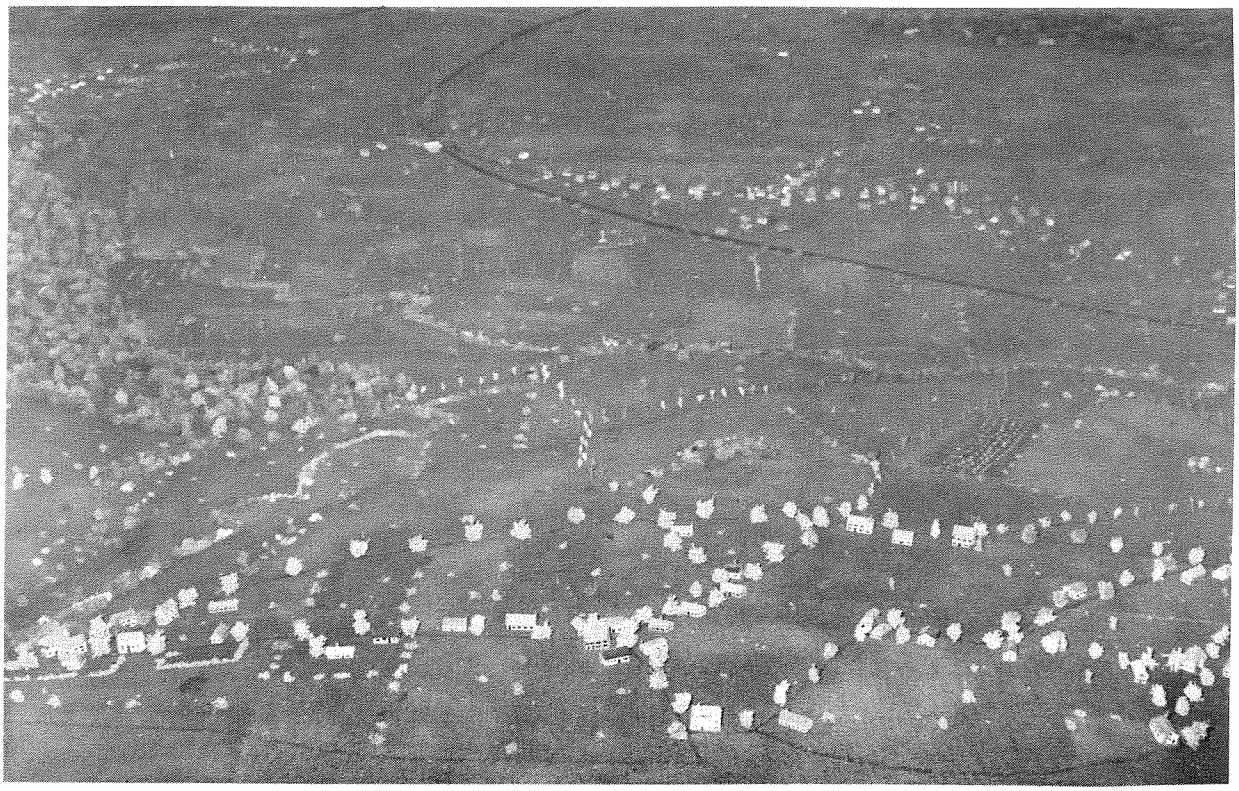
While the range has been constructed along the same lines as those in existence in Canada, there are some features of note which make it very realistic and convenient for use. The puff table proper consists of a tubular metal framework which can be raised and lowered by a system of cables and hand cranks. So, just when the observer is beginning to think that he is a pretty good shot, the table can be raised to reduce the command of the ground. This feature is also useful for ease of maintenance of the model. Additionally, variable lighting above the table makes it possible to change the light conditions on the model.

The area of the range contains a railway which is represented on the model by an operating miniature train. The scale size and speed of the train make the conduct of mobile fire missions slightly unrealistic, but it aids, nevertheless, in making the student more aware of the problems involved in such a mission.

Finally, the truly striking feature of the range is the manner in which the model itself has been constructed. A high degree of workmanship and attention to detail went into its construction. Hundreds of model buildings, each scaled in accordance to its distance from the observer, were painstakingly hand painted right down to doors and windows; trees and shrubs and military vehicles, equipment and personnel were prepared with similar care.

There is little doubt that this is one of the finest puff ranges anywhere and gunner visitors to 1 RCHA would do well to ask of their hosts, "I hear you have an excellent puff range, do you think I could take a look at it!"

A View from the OP



Dieppe

The ancient city of Dieppe, France, clustered around its small sheltered harbour, lies in a break in the limestone cliffs of Normanz at the mouth of the River Argues. In the early morning hours of 19 Aug 42, 2 Canadian Infantry Division commanded by MGen HJ Roberts landed on the beaches at and adjacent to Dieppe on a raid designed primarily as a 'for real' exercise on a divisional scale to learn how to launch an invasion of Europe. The division paid a terrible price to show how NOT to launch an invasion. Close to 5,000 Canadians took part in the raid. As examples of the casualty rate the following figures may be taken. Of 554 members of the Royal Regiment of Canada, who left England only 65 returned, of 582 men of the Royal Hamilton Light Infantry, 217 got back and of 553 Essex Scottish members, 52 returned to England.

On 19 Aug 72 – 30 years later – as a climax to what had been declared CANADA WEEK in Dieppe, several impressive and moving ceremonies took place in that French coast town of 30,000. Understandably, the citizens of Dieppe have a great love and admiration for Canadians, thus the naming of CANADA WEEK.

The Canadian Government had sent a large delegation headed by The Honourable Arthur Laing, Minister of Veterans Affairs and Mr Leo Cadieux, Canadian Ambassador to France and former Minister of National Defence. MGen RA Reid represented the Chief of Defence Staff.

A large Canadian contingent commanded by Major GR Hirter, BC A Bty and composed primarily of members of 1 RCHA provided a 50 man Guard of Honour – commanded by Capt MJ Winter; firing party, sentries, flag parties, wreath bearers and ushers.

The most important group of nearly 600 was made up of the Dieppe veterans, their families and friends. They came to honour those who died on the beaches of Dieppe, Puys (2 KM East) and Pourville (2 KM West).

The Beach Looking East from Pourville. Note the Bunker on the Cliff Top

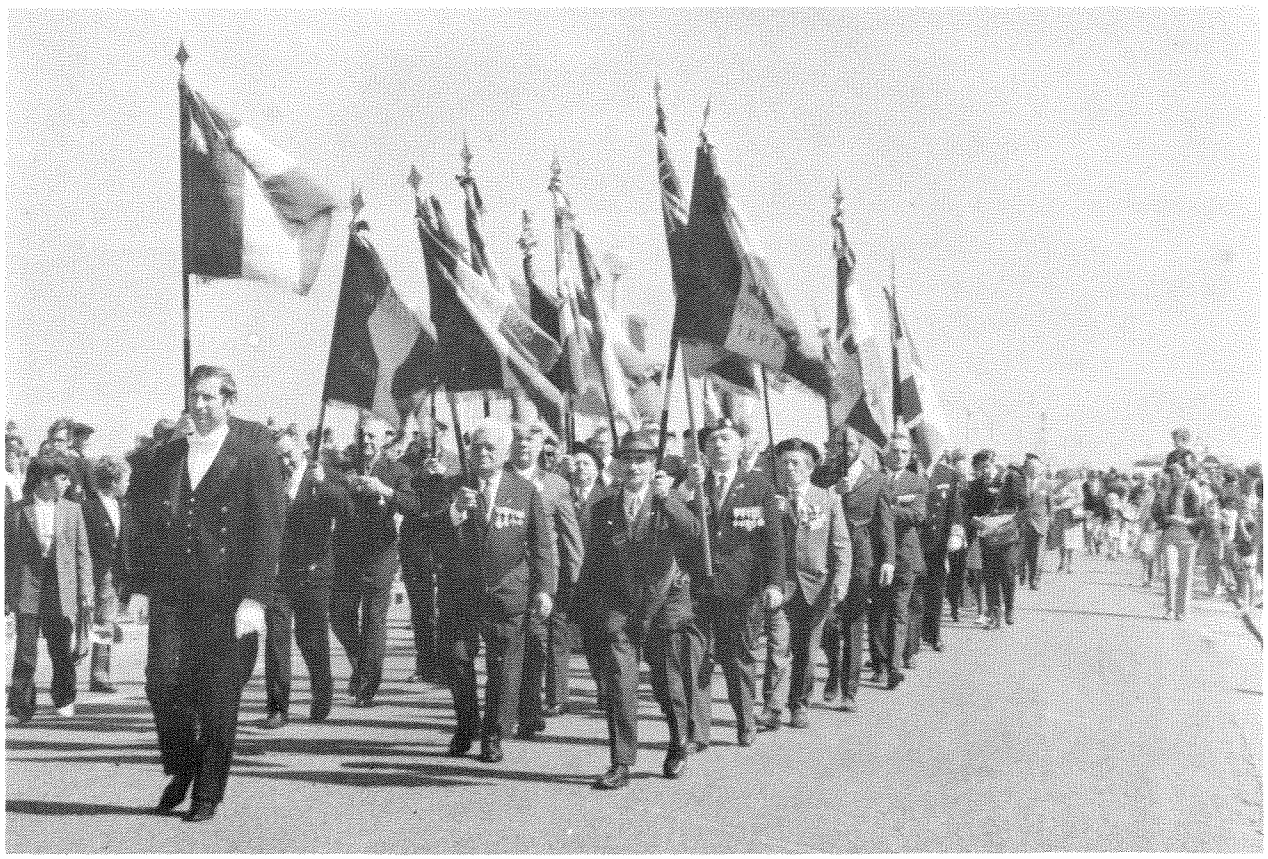
The contingent from Lahr arrived 3 days prior to the main ceremonies, after a long 13 hour bus ride. A good meal and a 'brew' do wonders to a man's spirit and it wasn't long after our arrival that the Canadian Forces "Green" Uniform was in evidence in the streets and the few night spots of the city. The Advance Party which included regimental cooks, in addition to providing a welcomed hot meal hadn't wasted any time in discovering what Dieppe was all about – a large lobster, fresh from the salty deep was seen crawling (with a little help from its owner) into a pot of boiling water. The entire contingent was quartered in a local school – minus teachers and students.

The morning of the first full day took the form of a "walk around" the area so all would become familiar with each of the locations where the many closely coordinated and timed ceremonies would take place. In the afternoon, a rehearsal was held for the Guard of Honour at Canada Square – in what else but the rain! A French Guard was also in attendance and it being the "host" nation guard was giving all the cues resulting in a somewhat unorthodox format by Canadian way of thinking.

The following day was spent by those involved at rehearsals at the Canadian War Cemetary, the monuments at Puys and Pourville and of course in the spit and polish routine which takes place prior to such an occasion.

Saturday morning, 19 Aug dawned crisp and clear. The first ceremony involving the contingent was the one at the Canadian War Cemetary. After the address by the Honourable Leo Cadieux, the Honourable Arthur Laing and Mr Andre Bord, the Act of Remembrance was read by MGen Churchill Mann, DSO and Robert Berube MM, who both took part in the raid. Then followed the Last Post and Reveille played by a lone trumpeter of the RCR Band from CFB Gagetown. After the laying of wreaths by representatives of governments and associations, came the roll call of fourteen survivors, each one selected to represent the unit with which they fought at Dieppe.

Members of the Resistance



Two concurrent activities took place at 1100 hrs; the parade and wreath laying ceremony at Canada Square during which the Guard of Honour was inspected by MGen RA Reid and the second a ceremony at the memorial on the beach where LES FUSILIERS MONT-ROYAL landed that morning 30 years before. These ceremonies were followed by the laying of wreaths at the RHLI monument which is also on the beach.

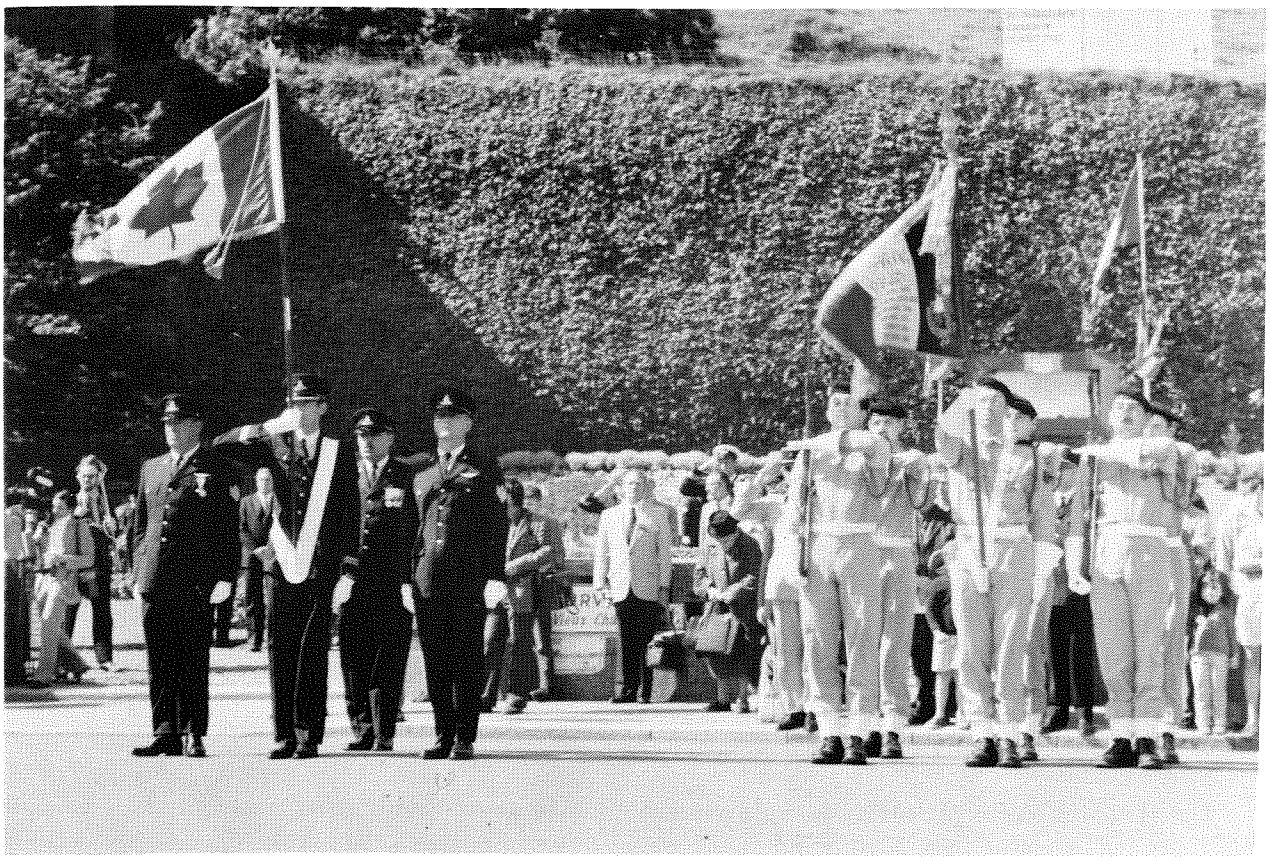
Led by the RCR, followed by the Guard of Honour, a parade of the majority of the veterans wound its way through the streets from Canada Square to L'Hotel de Ville.

In the afternoon a memorial service was held at the ROYAL REGIMENT OF CANADA Memorial in Puys. The monument looks from the cliff over a thin strip of beach where the regiment landed. One didn't have to have much imagination to understand why the losses there were so high – literally ducks in a barrel.

The formal ceremonies completed with a reception which was held at La Ronde just off Canada Square for all who had participated in the day's activities. It was an excellent opportunity for all ranks to mingle with the veterans and, for those who spoke the language, with the invited citizens of Dieppe. The evening proved to be a very interesting and enjoyable time.

A similar ceremony took place at Pourville where the SOUTH SASKATCHEWAN REGIMENT and CAMERON HIGHLANDERS OF CANADA hit the beach. This event included the unveiling by two survivors of a memorial erected by the South Saskatchewan Regiment Association.

The celebrations complete, the delegation from Lahr boarded the buses once again for the long trip back home. I am sure that as the buses climbed the hill from the beach, many members took a minute or two to reflect the past days activities and remember those who will remain in Dieppe forever.



The Canadians Paraded with the French in Canada Square

The Development of the VT Fuze

Captain R.L. O'Banion

It has been said by many that the projectile is the real weapon of the artillery. No statement is more true. However in order for the projectile to do its job, a fuze is required. The fuze is probably one of the most important parts of the complete round, for without a fuze the projectile could not function.

A fuze, by definition, is a mechanism or device which governs the explosion of a projectile. It is designed to do this job at a certain time or under a given set of conditions. Prior to and during the early stages of WWII fuzes were of two main types; impact and time. It is well realized by all, however, that WWII provided an ever increasing need for more accurate and consistant artillery fire. The radio proximity or VT fuze was one of the developments that filled this requirement.

The VT fuze, one of the most closely guarded secrets of the Second World War, was developed to defeat both the airplane and the infantry. Prior to its development both mechanical and power burning time fuzes were used by field and anti-aircraft artillery to produce airbursts. These fuzes, however, were inconsistant in their functioning and in many cases up to ten ranging or adjusting rounds were required to obtain the optimum height of burst for effective field artillery fire. Anti-aircraft fuzes were also inconsistant and produced erratic heights of burst, thereby decreasing the probability of shooting down enemy planes. Approximately 500-1000 shells equipped with time fuzes were required to bring down one airplane. The advent of the VT fuze brought the figure down to 85-100 shells.

Another drawback found with ordinary time fuzes was the problem of having to set a time on each and every fuze fired. This action was quite time consuming and did to some extent cut down the ability of a fire unit to produce a large volume of fire in a short period of time The new VT fuze also alleviated this problem.

The idea of a radio proximity fuze demanded the building of a radio transmitter and receiver small enough to be mounted along with its power supply or battery into the nose of a high explosive projectile, and strong enough to withstand the shock of being fired from a gun at extremely high rates of acceleration.

The VT fuze as it is commonly called is not a single item but is a general term applying to a large family of similarly functioning proximity devices each different from the other and each designed for a specific weapon or purpose. This article will be confined to the development of VT fuzes for field and anti-aircraft artillery projectiles.

The Germans were also well aware of the advantages of a proximity fuze and had started work on such a fuze as far back as 1930. There were a number of civilian and military groups working on several types of proximity fuse. They were not able, however, to agree on a type of proximity fuze and consequently no design was ever put into production. For this reason the Germans were well behind the Allies in a proximity fuze programme.

The idea of a proximity fuze was originally conceived by the British but most of the development and mass production was done by the US. Two approaches to this problem were considered but only the second was actually put into large scale production:

1. Pulse Fuze
2. Radio or proximity field fuze

The pulse fuze was a remote controlled fuze which was activated from the ground. When the projectile passed over the target as seen from a radar screen the fuze was activated causing detonation of the projectile. The proximity fuze, however, radiated a continuous signal which when reflected off an object detonated the projectile. The second type proved to be the most effective as it required less equipment and was controlled completely from within itself. Several types of proximity fuzes were considered:

1. Photo electric.
2. Infrared.
3. Acoustic.
4. Electrostatic. (this was the most successful German approach)
5. Radio.

The last of these is the one which was successfully developed and put into use for the Allied Forces.

There were several problems encountered in the design of a radio proximity fuze. The most significant of these problems was the designing of a miniature electron tube which could withstand the force of 20,000 times the force of gravity. An ordinary radio tube at that time would break at 10-50 g's. To overcome these problems a major redesign was required, one in which tube components were reduced to as small as possible and solder joints were very minute to reduce the weight of the accelerating components.

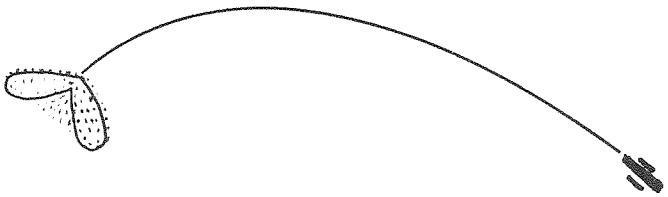
To maintain the strictest of security on the VT fuze project was of the utmost importance. It was well known that the Germans were also working to develop a proximity fuze. This meant that the fact that such a thing as a proximity fuze even existed among the Allies had to be kept secret. All the important features and components of the proximity fuze were given very general names; names which could apply to a variety of electronic devices. Then if there were security leaks the information gained would be very vague and security of the project would be maintained. Because the VT fuze was a secret weapon there was a very important restriction placed on it. It could not under any circumstances fall into enemy hands intact. Therefore, the VT fuze could not be fired into enemy territory where duds might be recovered. It was restricted to being fired on the open sea until after the Normandy invasion. As a further precaution mechanical time fuzes were fired with the proximity fuzes to prevent the enemy from noticing the improved consistency and performance.

The radio proximity fuze was first used in battle on January 5, 1943 on the American cruiser Helena in the Pacific. She shot down an attacking airplane with two salvos from two twin mount five inch guns. From then on naval anti-aircraft fire became much more effective and became well noticed when the US put proximity fuzes to work in shooting down Kamikazes in the Pacific.

VT fuzes were also used against the V1 attacks over Great Britain in the spring of 1944. Fuzes were shipped to Britain and stored there under guard until their use. The British have officially credited the VT fuze with saving London from the buzz bombs. During the last four weeks of the V1 attacks VT fuzed projectiles destroyed 24, 46, 67 and 79 per cent respectively of the V1 attackers. On one particular day of 104 V1's fired at London only four reached the target. Sixty eight were shot down by VT fuzed projectiles. Fourteen were downed by the Royal Air Force, two hit barrage balloons and sixteen suffered mechanical failure.

The introduction of VT fuzed field artillery projectiles was planned for December 25, 1944. Hitler's final Blitzkreig into the Ardennes forest on December 16, 1944 forced the initial use of this fuze earlier. VT fuzed projectiles were effective not only against troops in the open but also against those under substantial cover and against soft skinned vehicles. VT fuzes contributed decisively towards the collapse of the German Ardennes offensive and to the defence and eventual relief of Bastogne. After a VT fuze barrage, according to an artillery officer who was in the Battle of the Bulge, the forest into which the Allied troops advanced looked as though it had been topped by the sweep of a giant scythe. Tree trunks were shattered and torn; and almost every tree was severed about 40 feet from the ground. General Patton is quoted as saying "The new shell with the firing fuze is devastating. I think that when all armies get this fuze we will have to devise some new method of warfare. I am glad that we thought of it first."

The field of sensitivity of the VT fuze was designed to coincide as closely as possible with the splinter pattern of the projectile. This would give the bursting shell maximum effect.



The dotted pattern indicates the splinter pattern of a high explosive shell and the black fan shaped pattern indicates the field of sensitivity of the fuze.

Five safety precautions were built into the fuze for the protection of our own troops. These were:

1. The battery is not activated until setback breaks the ampule containing the electrolyte. Spin of the projectile is also required to distribute the electrolyte through the plates of the battery.

2. A mercury unshorter switch is held in place until a high rate of spin is obtained.

3. A mechanical spin switch short circuits the fuze unless the projectile is spinning.

4. An out of line initiator charge is contained in the fuze booster. This initiator charge is held out line by locks and cannot rotate into place until spin of the projectile takes place.

5. There is a time delay incorporated into the firing capacitor in the fuze. This prevents the shell from detonating until it is well away form our own troops.

The first four precautions prevent the fuze from activating until it is actually fired from the gun. The last precaution prevents bore or muzzle prematures which could damage equipment and kill gun crews and friendly troops. The VT fuze has become one of the safest types of fuze. Its record of bore and muzzle prematures is approximately one per million.

World War II has given scientists the opportunity to design and perfect many new and different types of weapons and equipment. It is agreed by all that the most significant of these was the atomic bomb. Although the VT fuze didn't have the same historical and strategic effect on the world it certainly did affect the outcome of World War II saving lives that otherwise might have been lost.

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2 RCHA


HONI SOIT QUI MAL Y PENSE
ER
ROYAL CANADIAN HORSE ARTILLERY
SECOND REGIMENT

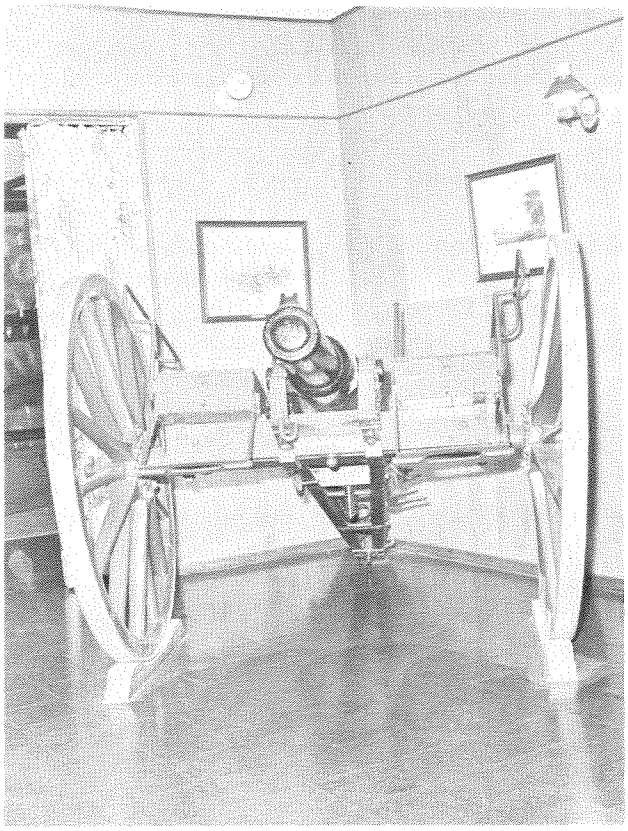
2 RCHA Officers' Mess Overlooking the Ottawa River

Main Entrance Way with "Subalterns Tree" on Left

The 2RCHA Officers' Mess

Major F.A. Davies and Major D.B. McGibbon

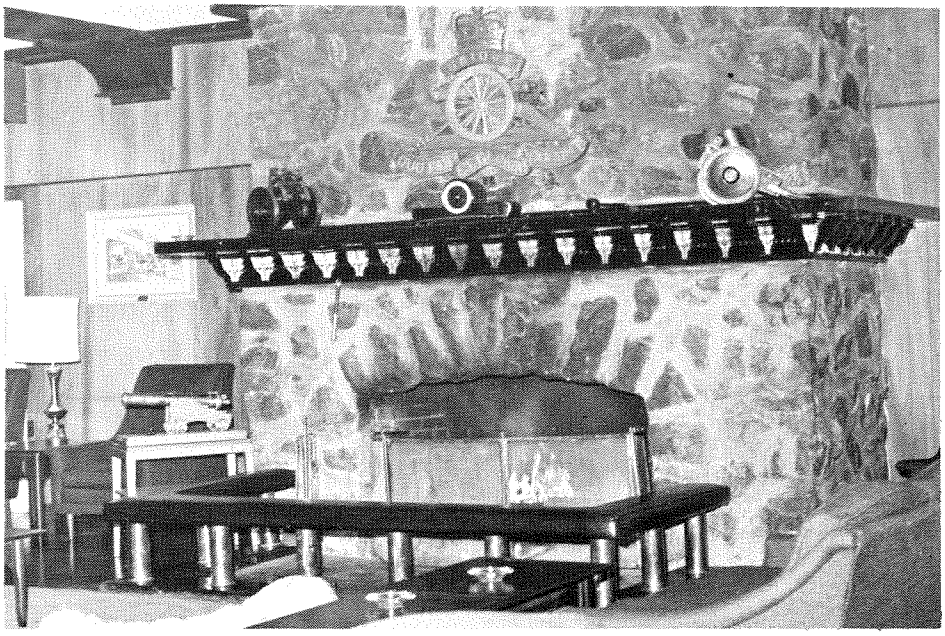
"Now in Injia's sunny clime,
Where I used to spend my time
A--servin of 'Er Majesty the Queen".



Main Entrance with 9 Pounder

During the summer months the setting of the 2 RCHA Officers' Mess overlooking the Ottawa River Valley could well fit Kipling's quotation above. Recently, while quaffing a cool ale on the mess lawn and "viewing things with alarm", we thought it would be appropriate to write a short article about the 2 RCHA Officers' Mess since it is, after all, the only Regimental mess remaining in the Royal Regiment of Canadian Artillery. The rest have been obligated to join Base messes. This is not to say that we are not under constant pressure to move in with the OC Sewage Disposal and other such notables in a shared mess of one type or another. However, we still have our mess and it appears that we will continue to do so for the foreseeable future.

The Air OP photo at top left shows the picturesque location of the Mess. The view of the Ottawa River Valley with its sandy beaches and colourful wooded islands is nothing short of tremendous. It is interesting to note, in these days when everything must be cost-effective, that the Mess was built in 1938 at a total cost of $3,500.00. A mighty good investment! The



Main Ante Room

building has been used continually for the past 34 years and by the Regiment since 1957 when 4 RCHA returned from Germany. With only the most minimal annual maintenance costs, the building can continue to serve as a mess for many years to come.

To the more than 200 officers of both 2 RCHA and 4 RCHA who have served or who now serve in Petawawa, old Building A–12 has been more than just the Mess. It has been home in every sense of the word. This is where the junior officers learned a great deal about customs of the service and the traditions of the Regiment, all of which is so difficult if not impossible to achieve without a mess of our own. The Guest Nights, Regimental Weddings and just the normal day to day routine of living in the Mess have all played an important part in shaping the lives of a good many officers. Just to be able to stand at the bar and discuss the day's shooting with ones fellow officers is not only a Gunner tradition but also a worthwhile training vehicle. Of course, on occasion a loud hailer is required since the subalterns still can be found in the so–called "Subalterns Tree".

Over the years, the Mess has undergone many improvements. Some were done on a self–help basis by the members, but in any event, practically all were paid for by the membership. At the present time, the NPP items in the Mess are largely 2 RCHA but a number of 4 RCHA items remain to mark the long association of the latter with Petawawa. Among these are the K Battery Mini–Gun, a Mark II 9 pounder, brass bar rail, and, of course, "Carmichael" the polar bear rug. If only Carmichael could speak! In addition, there are six excellent water colours by Miss Joan Wanklyn. The general decor of the ante–room and the rest of the building all lend to the comfortable, friendly atmosphere for which the Mess is so well known.

The Dining Room is certainly one of the best features of the Mess. It can comfortably seat 100 officers for a Guest Night. For many years, the Annual CFHQ Guest Night has been held in the Mess, always with resounding success. Although the 1971 dinner was held in CFB Rockcliffe, the where–with–all including key members of the staff, the chinaware and crystal was provided by the 2 RCHA Officers' Mess.

In summary, we have taken Regimental messes for granted over the years; many of us have failed to realize their real value. The intangibles to be derived from Regimental messes are immense but very difficult to sell to the management oriented, quasi–military organization in which we now find ourselves. Nevertheless, the 2 RCHA Officers' Mess continues to function and we most sincerely hope we are able to retain it. Cheers and Good Shooting!!

Let's Use Tactical Smoke

Lieutenant Colonel W.R. Dawes

When I took over command about two years ago, my predecessor gave me some useful advice: "The brigade commander is a real nut about smoke – he thinks it has an application at every level in every phase of war. Always keep a few rounds in reserve so you can put some down when he shows up on the ranges".

Sure enough, the commander asked about the use of smoke the very first time we met on the ranges and it was pretty obvious to me that he wasn't very impressed with the few cliches I managed to sputter out. This got me thinking a bit more deeply about the subject (even light colonels get PERs) and the farther I went, the more convinced I became that he was dead right–the proper use of smoke can be a battle winner, especially if guns are in short supply. The reasons are not all obvious and are only touched on in the pamphlets.

First point is that because the effects cover a much larger area than HE, you needn't be as accurate in your delivery nor do you need accurate target locations. Analyzing this a bit further, one can appreciate that the lesser requirement for accuracy means less adjustment and most importantly, quicker fire for effect. You won't get quicker fire for effect though, if you diddle about with screens i.e. linear smoke targets, but you will certainly get speed if you concentrate on putting the smoke into the upwind

edge of the enemy location, somewhere between his and your troops.

The second point hinges on economy. Statistical data indicates two field batteries firing HE are the minimum required to neutralize a company dug in. And this, of course, is assuming the MPI is smack on the target which in turn is based on the requirement to know the target centre fairly accurately and also on the assumption that the shell pattern corresponds to the enemies' deployment. These conditions are hard to obtain in action; hence the popularity and necessity of regimental and divisional concentrations during the last several wars. This amounts to a bit of overkill from the cost–benefit view point but is a very practical solution if you are being shot at. But where do we get all those guns? Only a few guns firing smoke are required to duplicate the neutralizing effect. The tactical result is that several targets can be engaged simultaneously from a regiment where only one or two were possible with HE.

Then there is the cliche "Smoke is a two–edged weapon." Probably a better cry would be "Smoke is a ubiquitous weapon in the right hands." Take a simple scenario for illustration:

> Assume a Blueland rifle platoon is hastily occupying a defensive position in a rearguard action. They are down to a strength of 15 rifles and M72s, two GPMGs, a Carl Gustav MAW, and two 106s. A redland combat team consisting of 10 APCs and five medium tanks are heading down the road straight at the Bluelanders. Each force has – you guessed it! A FOO (phew!). What is the likely outcome? Let's keep the artillery out for a moment. The two 106s won't stand a chance against the medium tanks. The odds are about 6 to 1 that the tanks will beat the 106s and MAW and even if one or two tanks are hit (which would be the best that could be expected) there are still a few left to maintain the momentum. The 10 Redland GPMGs mounted on the 10 APCs, plus the coaxial tank MGs will have no trouble neutralizing the remainder of the Blueland platoon and although the Bluelanders may get a few APCs with GPMGs or M72s at short range, the Redlanders should have no difficulty in overwhelming and despatching the valiant Bluelanders.

Now, let's give each force a field or medium battery and run the same attack again. First with HE. The defenders will be hard put to hit an attacking combat team moving tactically over good ground. Some US war gaming rules would suggest one round in one hundred would be close enough to get a kill. Certainly, the attack might be slowed down but it is highly improbable that one battery will do much more than be an irritant. On the other side, though, a Red battery accurately adjusted onto the Bluelanders will change the Redland odds from a very good to virtually a 100% chance of success. It is now extremely doubtful if the Bluelanders 106s, the MAW or GPMGs will even get a shot away. More than likely, the crews will be in the deepest holes they can find and will rise out only to find the Redland tanks and APCs right on top of them.

The use of smoke would have radically changed the battle. If the defenders had put down smoke immediately on detecting the enemy, his visual reconnaissance and, hence, his plan would have been seriously disrupted. Objectives could only be assigned by grid reference as they could not be seen. Control and coordination of the attach would be most difficult if not impossible and "navigation" would be required to FUP, Start Line and objective. Fire could not be visually adjusted and would be non–effective. If the attacker chose to make a mounted attack he is as good as dead. Infantry tank hunting teams could deploy under cover of the smoke and as the Redland tanks and APCs emerged, would be easy targets at ranges of 50 to 200 metres for the defending M72s, MAW, 106s and GPMGs. If a dismounted attack were made, the same navigation problems pertain and coordination between the dismounted infantry and the blinded tanks would be extremely difficult. The MGs and rifles of the defenders would probably be more than enough for the confused, unsupported attackers.

Perhaps the foregoing is a bit coloured to bring out the point. Yet the message is there – "Get to be a real nut about smoke – it has an application at every level in every phase of war."

I would be interested in seeing comments from readers.

The M-548 L-5 Portee Kit

Captain D.E. Peterson

In April and May of 1972, the prime movers of D Battery, 2 RCHA were equipped with the second generation of the M548 L–5 Pack Howitzer Portee Kit. This kit provides a number of innovations which make it superior to it's predecessor.

The original M548 Portee Kit was comparable in most respects to that provided for the 2½ ton truck. It was composed of ramps, guide troughs, a winch, and tie–down facilities for securing the howitzer within the vehicle. Several problem areas soon became apparent. The three guide troughs were assembled in one piece and were difficult o remove from the carrier. This was especially frustrating when repairs or cleaning were required under the floorboards. The winch was completely unsatisfactory. It was underpowered and many shear–pin and gear problems were experienced. More often than not, the winches were non–serviceable. In addition, the winch took an exceptionally long time, approximately 4½ minutes, to pull the howitzer into the carrier. A block and tackle arrangement was found to be much faster. It also required much less maintenance! The other major problem area was the complete lack of storage facilities for gun stores, personal kit, **and** ammunition.

The new Portee Kit has resolved all difficulties experienced with the original kit. The three guide troughs have been separated and are much easier to handle when removed. The centre trough was angled upward at the front of the cargo compartment, thus clearing more floor storage area and lowering the muzzle toward the tailgate, an aid to air moves.

The winch has been omitted from the "Mark II" kit, and all gun detachments now rely completely on muscle–power and the block and tackle.

Perhaps of the greatest significance are the storage facilities of the new kit. They are excellent in both design and construction thanks to close co–operation between 2 RCHA, CFHQ and Base Workshop in Petawawa. The personal

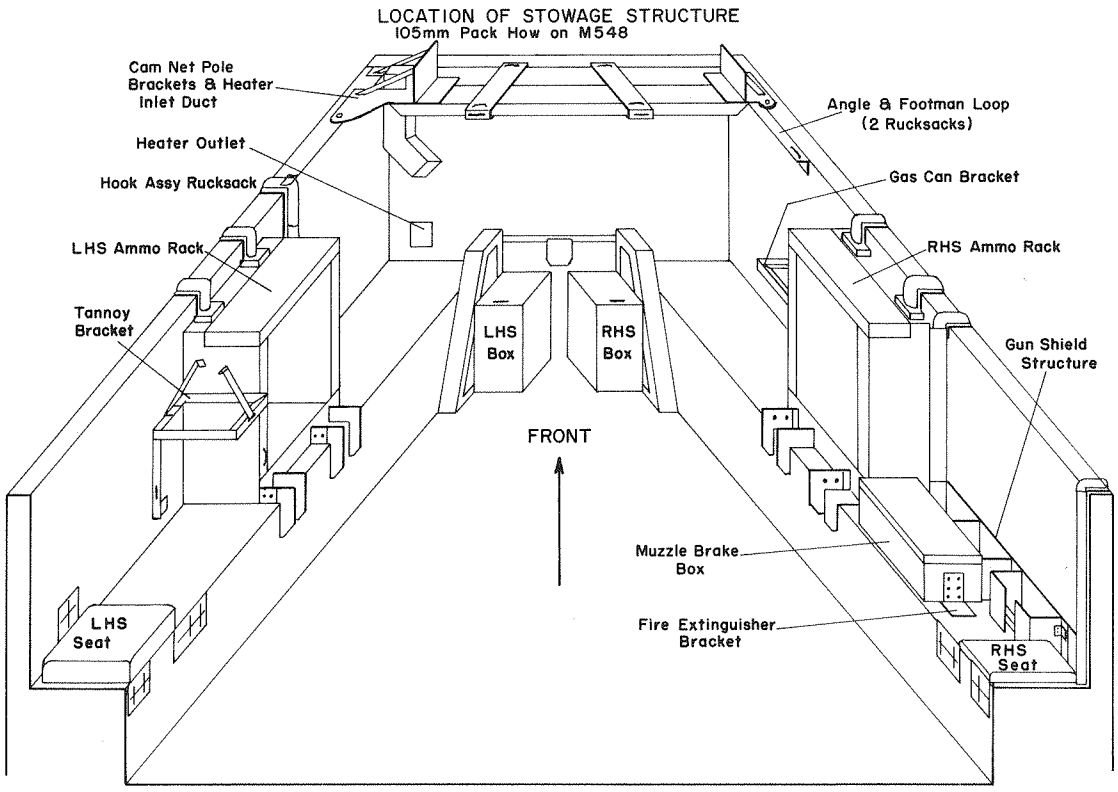
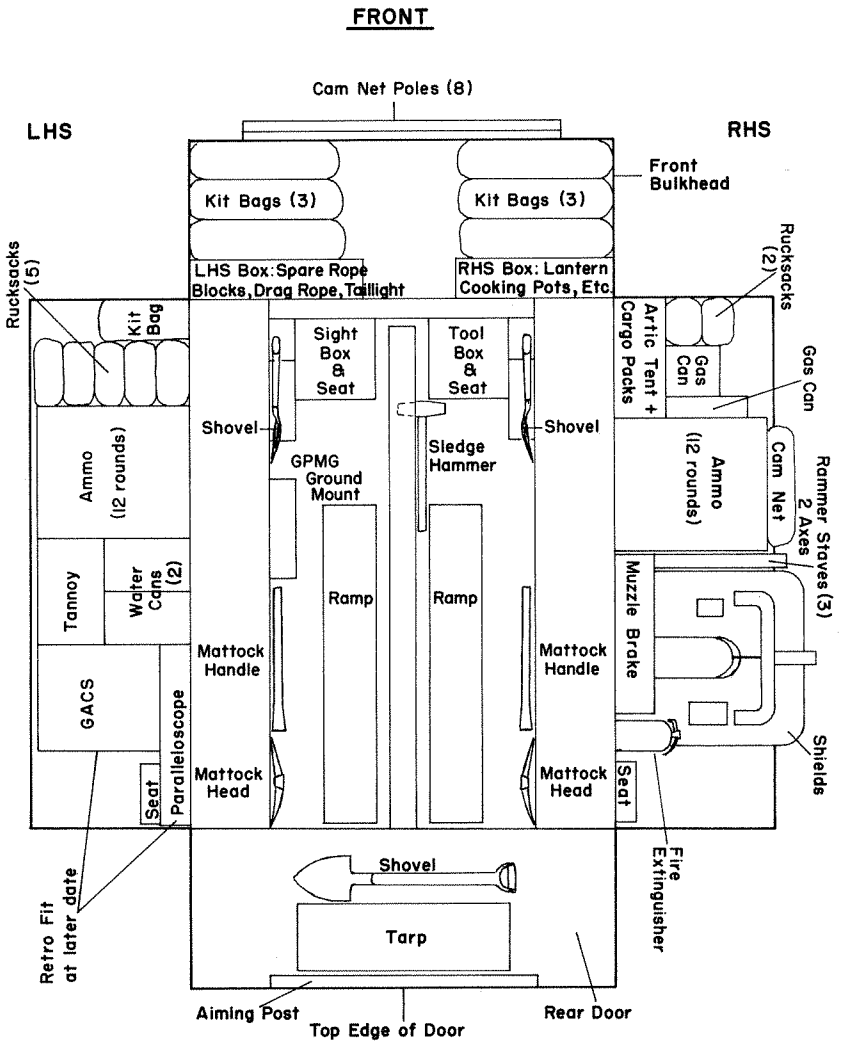


Fig I

kit of the detachment is stored out of the way at the front of the cargo compartment, the ideal location especially when going into and coming out of action. All gun stores are easily accessible and well placed. All stores are secured by clamps or straps, thus avoiding damage on moves when the going is bad. The two boxes which contain spare parts, etc., and the lanterns and cooking pots are lockable. Seats and belts are provided for four members of the detachment. Provision is also made for future storage of the Gun Unit and IR Receiver elements of the Gun Alignment Control System (GACS).

Ammunition storage is very satisfactory. The racks on either side of the cargo compartment each hold twelve rounds in their tubes. Access to the ammunition is good.

The full worth of these storage facilities is yet to be realized, for on air moves few additional arrangements for securing the gun stores and kit should be required. The gun detachments are satisfied with this Portee Kit. And if the gunners are happy with it, then so is the Regiment.



PORTEE KIT STOWAGE IN M548

Fig 2

User Evaluation of Skis for the L5 Pack Howitzer

Lieutenant M.E. Kennedy and Captain A.B. Cooney

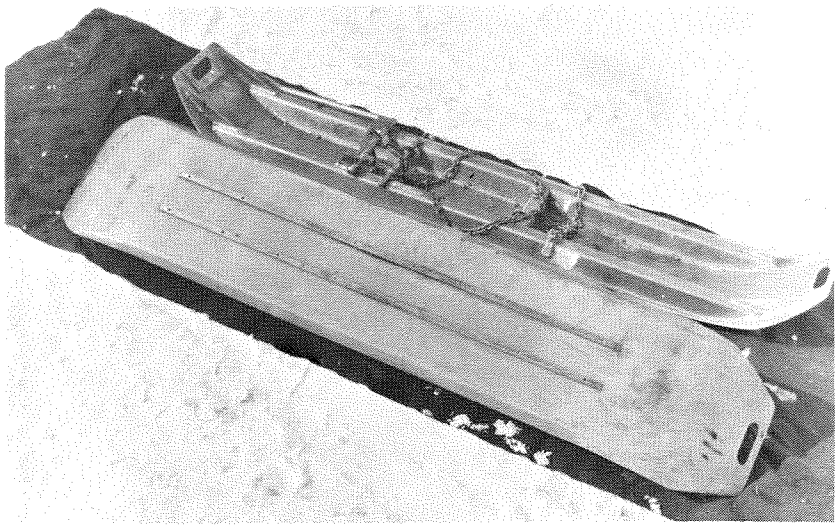


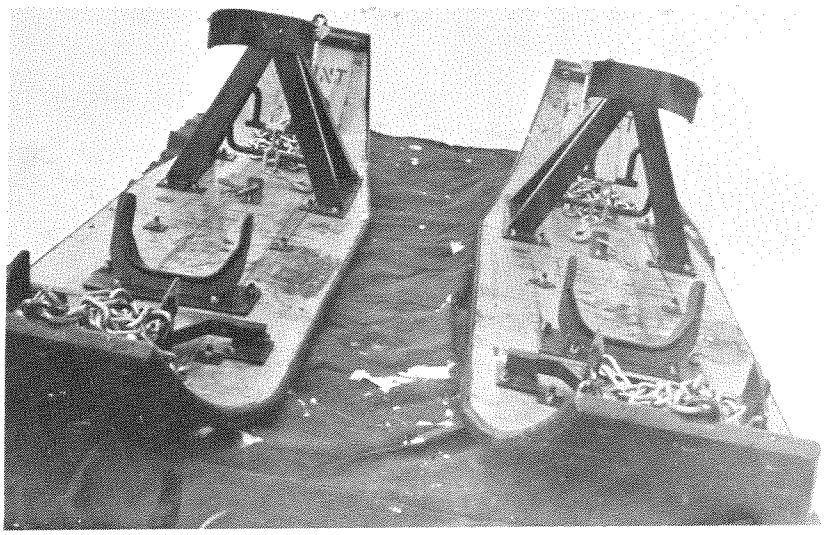
Fig 1 Canadian Ski Design

It has become evident during exercises both in Canada and Norway that towed, wheeled artillery equipment does not satisfactorily meet the mobility requirements of tactical operations under winter conditions. To overcome this mobility deficiency, units were equipped with the M548 tracked cargo carrier. This vehicle provides a through–snow capability and, when fitted with a portee kit, the L5 pack howitzer can be carried inside. This was intended as an interim solution pending the acquisition of an oversnow towing vehicle and skis for the L5.

A prototype model of skis for the L5 was designed by DVFE and subsequently evaluated by 2 RCHA during Mar 71. As a result of this trial, an improved ski was produced. In addition, two sets of British designed skis, previously used by British artillery units in Norway, were obtained. Figs 1 and 2 are illustrations of the two models.

	Canadian Design	British Design
Material	aluminium with a fibre glass coating on the bottom	wood with a covering of moulded sheet metal on the sides and bottom
Weight	100 lbs	162 lbs
Length	96¼ in	76–7/8 in
Width	18¼ in	20¾ in

Fig 2 British Ski Design



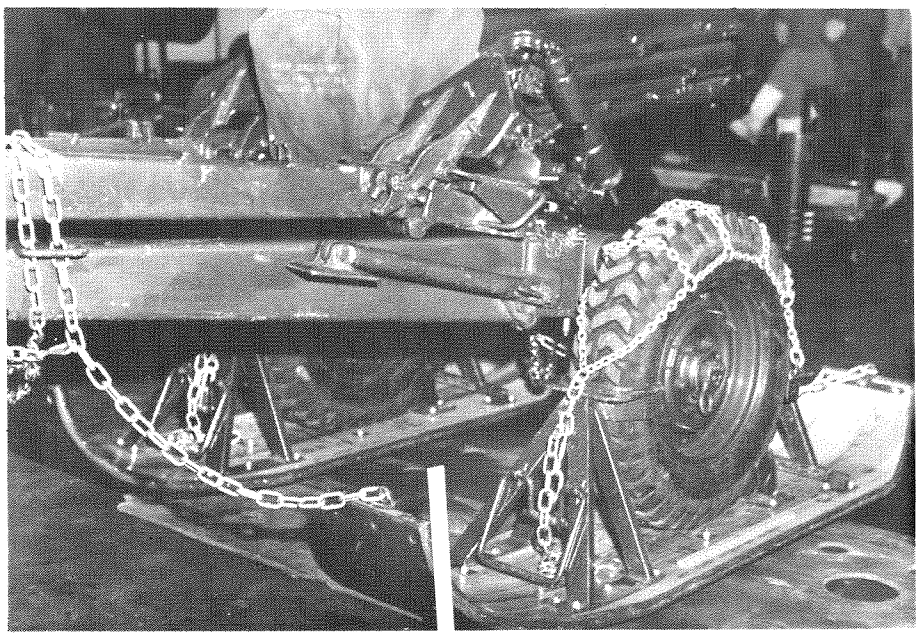


Fig 3

L5 with British Skis Attached

Both types of skis are fitted with full length keels. The Canadian designed ski incorporates a securing chain with a hold down locking device made of cadmium plated steel, whereas the British ski has a steel wheel brace and steel chocks bolted to the wooden portion.

A further trial on the newly designed Canadian ski was conducted by 2 RCHA in Feb and Mar 72. The aim of this trial was to assess the suitability of the Canadian ski for operational use with the L5 pack howitzer in all types of snow conditions. In conjunction with the trial, a comparison between British and Canadian designs was carried out. Both types simultaneously underwent identical tests under the same conditions.

The trial consisted of receiving the skis, familiarization, fitting, removal and storage, into and out of action drills, mobility tests, firing on skis and deployment by helicopter.

The familiarization, fitting, removal and storage was quite simple. There were no storage problems with the M548, 2½ ton or ¼ ton vehicles. The lower profile of the Canadian skis and attached hardware made fitting easy. These also required less storage space, for the same reason. The fitting and removal drills are quite safe, simple and quick to execute. The stands, however, cannot be used and consequently the width of the wheels cannot be changed; this necessitates the towing of the howitzer in the firing (narrow) configuration. In order to adjust the trail configuration, the trails must be supported by the use of chains or straps fastened around the gun barrel and affixed to the skis. (See Fig 4).

The high wheel chocks (see Fig 3) made fitting more difficult with the British model than with the Canadian.

The mobility tests proved very successful. Towing with the M548 vehicle proved to be best as the skis followed on the hump of snow between the tracks of the vehicle. When towed with wheeled vehicles, the howitzer fishtailed and followed in the ruts made by the wheels. Driver experience backing up proved to be the major limiting factor with the wheeled vehicles, however because of the pivot steering, backing was not a problem with the M548. The removal of the shields from the howitzer presented no problem when towing.

Using the skis as a firing platform proved more than satisfactory. The only problem encountered was in the two and three leg straight configuration where some fouling to the underside of the trails occurred where they made contact with the front curved portion of the skis. The most suitable configuration was found to be two or three legs cranked and the spades embedded. Moving the howitzer by hand in deep snow was easy.

Deployment by helicopter did not affect the stability of the howitzer and did not affect the flight behaviour of the aircraft. (See Fig 5). It was not necessary to prepare a platform prior to setting the L5 down, thus greatly speeding up deployments. The Canadian skis required additional straps over the barrel to prevent articulation during flight. The front and rear safety chains on the British skis prevent this.

Both types of skis met all requirements except that both were overweight. It was recommended that the Canadian skis be adopted because of their light weight, ease and safety in handling, and their requirement for less storage space.

The trials proved that skis will go a long way towards providing the mobility required by the artillery when operating in a northern environment.

Fig 5 Iroquois Helicopter Carrying Ski–Equipped L5

Men's Promotion Board 1972

Major E.L. Schrader

In January 1972, I served as a member of the sergeant, warrant officer (WO), master warrant officer (MWO) and chief warrant officer (CWO) Promotion Board for Crewman 011 and Artilleryman 021. The Board comprised an armoured corps lieutenant colonel as chairman and three members; one armoured corps major and two artillery majors. Three of the members were bilingual. The Board considered approximately 539 [1] files of eligible candidates and took from 10 January 1972 until 25 January 1972 to complete its deliberations. At the instructional briefing by the CP staff each Board was told that it could release any information it wished except that the standings of individuals on the Merit List must not be disclosed. Anyone who has never been on a Promotion Board or associated with one is not likely to be familiar with the procedure, therefore, it is my aim to explain how our particular Board functioned.

The Board having assembled, proceeded to "consider the records of past performance and the current recommendation for promotion as recorded on the confidential reports of eligible candidates and assess each man so as to provide an order of merit for promotion within their trade to the next higher rank". [2]

Primarily our task was "to consider, separately by trade and rank, the files of all eligible candidates, and to allot each man a point score". [3] The senior man won in the event of a tie.

The Board's task was completed when each man had been given a point score by the chairman and each member. These had to agree within a maximum permissible differential, which is explained later. Finally, the Board Report had to be completed.

Workbooks containing information on the eligible candidates were prepared by DPCA staffs. It suffices to say that all possible information on every candidate was available from one source or another. To list the sort of data available here would add nothing to the aim of this article.

Generally, if the man had the requisite time-in-rank he was considered by the Promotion Board. It is emphasized that men are not precluded from consideration by a Promotion Board due to medical or compassionate restrictions, age, application for voluntary release, lack of trade qualifications, or approaching CRA, as long as they are eligible for promotion by virtue of time in rank. [3] If the man does not meet the prerequisites at the time the promotion is due to be promulgated he is not promoted.

A scoring system was used to "align the eligible candidates into a relative order of suitability for advancement". [3] The chairman and each member, without consultation, evaluated all data available in the records provided, and, arrived at a total numerical score ranging from 0 to 85 for PERFORMANCE and 0 to 15 for POTENTIAL. It was recommended that the Performance Evaluation Report (PER) be the main source from which the assessment of PERFORMANCE be determined, however, most Board members thought it to be a matter of individual judgement based on an assessment of the candidates entire performance record. All PERs and Course Reports were considered to whatever extent the member deemed necessary in arriving at a final evaluation of each individual's performance. The POTENTIAL score covered such factors as service experience, age, civilian and service qualifications, linguistic qualifications, medical fitness and personal circumstances. The scale of 0 to 15 for POTENTIAL for 021 trades was structured as shown in Table 1 and it could vary from year to year.

NOTES

1. The original figure was 539. During the proceedings some candidates were promoted or released.

2. Quoted from "Proceedings, Canadian Forces Board Report (CF 74)."

3. Canadian Forces Men's Promotion Board Guidance Manual.

TABLE 1

RANK	EDN	LING	GEN POT	AGE	TOTAL
To WO	3.0	5.0	4.0	3.0	15.0
To MWO	3.0	4.0	5.0	3.0	15.0
To CWO	3.0	5.0	4.0	3.0	15.0

A further explanation of the components of the POTENTIAL score follows.

EDUCATION

Both academic and in–service was applied. Obviously a Master Gunner or Chief Artilleryman Pay Level 7 could expect to score high in this area. A hypothetical example is a MWO with grade 12 and a Master Gunner qualification may be given 3, while a MWO with grade 8 and pay level 6B may be given 1.

LINGUISTIC ABILITY

Emphasis was placed on English–French bilinguality. The score was alloted as follows: (see ling Table 1)

	To MWO	To WO/CWO
One language	1.5	2
Ability	9.5	1
Second language	1.0	2
	4.0	5.0

This does not mean the man capable of speaking German, Russian, etc. got no credit. All members applied this score with common sense and were indeed fair to all.

INTUITIVE ASSESSMENT OF GENERAL POTENTIAL (GUT FEEL)

This was hard to explain but was not hard to judge. After assessing a candidate's records, Course Reports and all PERs one could get a "gut feel" about the man's general potential. Also these marks could be used as a "reserve".

AGE

The Board arbitrarily decided to allot 3 points if the candidate was under a certain age and 2 points for everyone else. This decision was based on the average age of the rank being considered.

An individual employed out–of–trade need not worry. Performance is being considered. In other words, it is not what one did but rather how it was done that counted.

Sample line entries in a Member's workbook might be as shown in Table 2.

TABLE 2

	EDN	LING	GEN POT	AGE	POT	PERF
Personnel data WO A	2	1.5	3	2	8.5	61
Personnel data WO B	3	2	4	3	12	63

(This is Number 2 Member's Workbook. See Table 3)

Sample line entries in the Master Copy of the workbook showing all four Member's scores might be as shown in Table 3.

TABLE 3

	PERFORMANCE				POTENTIAL				PERF	TOTAL
	1	2	3	4	1	2	3	4		POT
Personnel data WO A	9.0	8.5	7	7	80	61	65	70	276	32.5
Personnel data WO B	12.5	12	10.5	12	63	63	66	69	261	47.5

(Note: Each member is assigned a number. The Chairman is number 1. The recorder is usually number 2. PERF plus POT equals points to determine position on the Merit List. WO A and WO B have equal scores. The senior man takes priority on the Merit List.)

Where member's scores awarded differ by more than 20.0 points for PERFORMANCE or 2.0 points for POTENTIAL, the scores must be reconciled and adjusted so that the maximum differential is not exceeded. The Board spent about one day doing "trial runs" to ensure each member was operating from a common base. Initially there were several discrepancies, however, these were methodically resolved after each member explained and justified to the others his reasons for the points he allotted. Once the base was established the scores were close and consistent.

Each day during the working sessions of the Board, a progress report was given to the Chairman. This report indicated the number of files completed and the work remaining to be accomplished. It also summarized the rating trends of each member. The purpose in providing the summary of member's scores was to alert the Chairman to changes in standards on the part of the members. The files of candidates to be considered were previously arranged in reverse numerical order using Social Insurance Numbers and were listed in the Board workbooks so that they were reviewed in that order. Therefore the Board reviewed candidates in what was essentially a random order and the same approximate range of performance and ability was usually represented. For this reason a shift in average score, either upwards or downwards may have meant a change in the standard of assessment by one or more Board members. Our ratings did shift; however, fortunately all member's scores shifted upwards and downwards for the same candidates convincing us that a run of relatively good or poor candidates were encountered.

The job of a Board member is shear "bull work" and one can get very frustrated reading the same adjectives and phrases in the PERs. The complaints from the PER Monitors are not figments of their imaginations. Generally, PERs are not well written. Earlier in this article I mentioned that the Board was to "consider the current recommendations for promotion". Often the writers of PERs seldom comment about the suitability of an individual for promotion. The point is that if one wants a man promoted and he is worthy of it one must convince the Promotion Board and no one else. The reports must be written accordingly.

Some humorous statements about our WOs follow:

"WO ---- worked well but his main fault is that he would sooner be doing something else."

"This MWO flows freely from the lip."

"He had difficulty digesting his periods."

"Sgt ---- is employed as a number none of an L5 detachment."

"This WO has reached the point in his lengthy career where he has retrained so many officers in equipment management that he is beginning to lose patience."

"Although the spring has gone out of his step, WO ---- continues to put forth a good solid effort."

In conclusion, a quote from BGen McAlpine, the DGPC, to the Board Members summarizes our approach to the task. "The importance of your task as a Member of the Men's Promotion Board cannot be over emphasized. The men selected for appointment and promotion as a result of your deliberations will assume responsibilities for leadership in the Canadian Forces for years to come. Therefore, in a very real sense, the future effectiveness of the Forces is in your hands."

In my opinion, the 1972 Board has selected the right men for promotion during the annual promotion cycle which commenced 1 April 1972 Machines and computers were not used to make the selection but rather four soldiers who had served much of their careers on Regimental duty.

D Battery in Norway

Captain J.E. Bryce

The Bardufoss area of Northern Norway was the scene of EXERCISE STRONG EXPRESS, a major NATO exercise which was conducted from the 11th to the 30th September. D Battery, 2 RCHA formed part of the 3 RCR Battalion Group, which was Canada's land forces contribution to the exercise. The aim of STRONG EXPRESS was to practice the deployment, employment and redeployment of the AMF (Land and Air) Forces.

The Battery's preparations for the exercise were accelerated on the 5th of September when the warning order for deployment was received and the Battalion Group went into the warning phase of AMF(L) deployment procedures. During the next week, weapons were zeroed, personnel documentation completed,personnel were briefed and vehicles prepared for the flight to Norway. Our deployment phase started on the 10th of September and ended on the 17th with the bulk of the personnel and equipment arriving in the Artillery staging area on the last two days of this phase. Those personnel lucky enough to be on 707 chalks enjoyed a pleasant six and one half hour flight from Trenton to Bardufoss. The others underwent the inevitable endurance contests in Hercules lasting anywhere from 12 to 16½ hours.

The exercise area lies 200 miles North of the Arctic Circle but the climate is moderated by the North Atlantic Ocean, warmed, (relatively) by the Northern extremity of the Gulf stream which flows along the coast of this part of Norway. While the nights were cool, and snow fell near the end of the Battery's stay, in general, the climate was not much different from that experienced in the Maritimes in late fall. From an artillery point of view, the coastal climate and the mountainous terrain were particularly interesting. Both coastal and mountainous regions are areas in which ballistic met changes fairly quickly. The combination of both led to very rapid changes. Snow, rain and sometimes even sunshine could all be experienced within an hour.

In the staging area, the 15th and 16th were devoted to command post and signals exercises, controlled by the regimental FDC. These were designed to work out the rough spots inherent in a regiment formed from Italian, British and Canadian Batteries. One of the OP parties was deployed early with the key company and spent the deterrent phase of STRONG EXPRESS "showing the flag". On the 17th, the Battery was deployed to its main position and the employment phase of the exercise was underway. The main enemy attack fell on the Canadian Battalion Group and this portion of the exercise turned into a very challenging and interesting one. The enemy started to infiltrate and a sniping gun which had been deployed forward by helicopter could not be withdrawn in time. The gun and some of its crew were captured and umpired out for a period of time. In the Battery's main position, the echelon, due to terrain restrictions, was deployed at the base of the hill in front of the dug-in guns. The echelon gallantly slowed down an attack by a simulated battalion of the enemy, (actually a company of Norwegians from Brigade North). The guns brought direct fire to bear and the attack was routed with the umpire deciding the enemy battalion had sustained a company's worth of casualties. The advance began shortly after this incident and STRONG EXPRESS ended with the Canadians in contact with a British battalion, para dropped to secure an area well forward of our initial positions.

D Battery now moved 50 km South to the Saetermoen area to take part in EXERCISE STRONG BARBARA, an AMF(L) Artillery live firing practice, which took place on the 25th and 26th. Bad visibility, snow and cold weather intervened to reduce the amount of firing which could be done, but a great deal of training value was achieved. OPs and Command Posts profited in particular from operating in a mountainous environment where crest clearance, and uphill and downhill shooting are facts of life rather than theoretical areas in gunnery pamphlets. The ability of the regiment to produce effective fire was a tribute to the ability of the multinational force to work together towards a common goal.

The redeployment of the Battery began at 1600 hrs on the 27th of September. Our equipment, excluding GPMGs, radios and command post stores was returning to Canada by sea. The preparations had to be completed by 0700 hrs on the following day. These preparations included the packing of all attractive items, preservation of the guns and a thorough cleaning of all tracked vehicles. The tracks were lowbedded to NARVIK, the wheeled vehicles were cleaned at dockside. The 0700 hrs deadline was met thanks to an almost superhuman effort on the part of the Battery personnel and to the cooperation of the Norwegian Artillery Battalion who provided all the maintenance and material support we requested. At 2330 hrs on the 28th, the Battery personnel less a seven man security party left Bardufoss for Trenton by 707.

Our experience in Norway taught few new artillery lessons but reviewed many valuable ones. Among these, crest clearance and uphill and downhill shooting have already been mentioned. Another problem area worthy of note was the difficulty of communications in the mountainous terrain. We solved this by outfitting our line vehicle as an RRB station and by carrying two extra ground plane antennas. Gun areas were often so tight that the echelon could not be deployed as near to the battery as it normally is. This gave rise to problems in local defence which required extra effort to solve. The FACE computers which the battery had received several weeks prior to leaving for Norway performed up to our high expectations and certainly eased the work load in the Command Posts. It may be, however, that valuable as these artillery lessons are, the main lesson learned was that despite language difficulties the AMF(L) force is a viable organization capable of fulfilling its role and demonstrating the solidarity of nations determined to unite for a common purpose.

The Soviet Battery

Lieutenant P.A. Stewart

One of the best defense systems in war is the thorough knowledge of an enemy's tactics. To this date, the USSR seems to loom as our greatest threat, thus the Soviet battery is reviewed.

The Russian battery, like the Canadian, uses a six-gun firing unit, divided into two sections. Their OP procedures, gun-laying procedures and gun data production however differ. On the large scale, the Soviet battery is but a small part of a huge organization, such as a Regimental Artillery Group, consisting of three to five battalions, as a Divisional Artillery Group consisting of up to six battalions. From this arises their capability to lay down heavy concentrations of fire over a wide area. The Canadian counterpart undertakes a larger responsibility in its smaller organization, the brigade group.

The Soviet battery may operate within a battalion or independently, as a separate tactical unit. Batteries equipped with 57MM, 85MM and 100MM guns are normally assigned to motorized rifle regiments and employed in the direct fire role. These guns accompany the infantry and armour in the attack. The 120MM and larger guns are used in the indirect fire role in battalions of line divisions, army artillery or general reserve. However, guns up to 152MM gun-howitzers are also used in direct fire, a role greatly emphasized in the Russian Artillery.

A general field artillery battery's organization consists of three types of units: the battery headquarters (BHQ), the headquarters (HQ) platoon and two firing platoons. Briefly, the BHQ carries out the command, administrative and political functions. The HQ platoon performs the reconnaissance, observation and communi-

cations, as well as the preparation and conduct of fire. Each firing platoon has a HQ and three guns. Four or five officers are employed in the battery: the battery commander (BC), the HQ platoon leader, two firing platoon leaders, and possibly a deputy commander for political affairs. The commander is located in the BHQ and has complete responsibility for the battery's training and operations. The first sergeant, also in BHQ, acts in the same respect as our BSM. The battery clerk and transportation sergeant complete the list of senior men in BHQ . HQ Platoon consists of the platoon leader, reconnaissance (recce) section leader, senior scout, communication section leaders and computers and technicians. The firing platoons consist of a senior battery officer and the second firing platoon leader. The gun section leaders and gun numbers complete the organization.

The Soviet observation post (OP) parties differ quite extensively from the Canadian parties, in composition and in duties. Various types of OPs are utilized: the command OP, the forward OP, the close-in OP and the lateral OP. The command OP is the most important. It serves as the primary observation post as well as the battery's command post. It is normally situated at or very close to the command post of the supported unit. It includes the BC as the observer, the computer, one or more scout observers and necessary communicators. This is where the gun data is initiated and passed back to the guns. Disadvantages arise. It places the heavy burden of directing and controlling fire upon the BC and the few specialists with him. It also exposes the battery's nerve centre to the hazards of direct enemy fire. Movement is also hampered by bulk and number of personnel involved in the OP.

The forward OP usually consists of the HQ platoon leader, scouts, and communicator. It is used to supplement the command OP and control the firing when the latter OP is moving. The close-in OP is situated only about 200 m from the guns for use in defense of the gun position.

Battery recce is performed either independantly or as part of the battalion. Depending upon the mission, three types of recce parties are employed: a forward recce party, a command recce party and a firing position recce party. The first, under the control of the HQ platoon leader, operates with the leading elements of the advance guard, looking for suitable OP and gun positions. The command recce parties, conducted by the BC operates with the firing position recce party. The BC designates the gun position to the firing position recce party who then proceed to prepare it, while the BC and his party carry on to the OP.

The occupation of the position incorporates extensive local defense procedures. This is necessary because of the Soviet method of gun orientation. The weapons are placed along a straight line perpendicular to the line of fire. with the base piece (gun for which initial firing data is determined) on the right flank. Guns are normally placed 20–40 m apart, howitzers 20–50 m apart and very heavy artillery 60–150 m apart. The base line, or centre of arc, is used to align the base piece and OP instruments in a common direction. Aiming circles and panoramic telescopes are used in much the same manner as in the Canadian Artillery.

The production of firing data in the Soviet Artillery seems to be slow and inaccurate. Converting the sensings to firing data at the command OP and sending subsequent orders back to the firing units, restricts the flexibility that is supplied by NATO's target-grid system. Although their technique requires time-consuming calculations, graphical firing tables are not used. In fact, many Soviet officers employ their own mechanical devices in order to simplify their calculations. Accuracy is bound to suffer.

Three methods of adjustment are used. Estimation has the lowest degree of accuracy, but it is rapid. Rapid preparation corporates corrections for drift, met, etc. through calculations or estimations. Complete preparation is based on a surveyed firing chart. Such is our standard procedure.

This is only a brief outline, but it shows the Soviet organization is not as structurally sound as NATO's. This does not mean however, that the Russian battery is not as effective. Different roles in support artillery have only produced different tactics.

E BTY
2RCHA

CAS

As has been the case since the unit was left in CFB Gagetown the Battery has spent the majority of its time in the training area in support of the Combat Arms School. Things are slowly changing in CFBG as the Base Commander BGEN Radley–Walters has reorganized the base and part of Combat Arms School as well. Even with a bigger and better year working with CAS the unit has still managed to get a lot of our own training in and has also had the luck to meet with many gunners both from Canada and overseas.

With the Combat Arms School now well into its third year at Gagetown more and more courses are getting untracked. The battery is spending more and more time with CAS courses. Over the past year, we have gone to the field in support of the Artillery Instructors course, the Advanced Officers course, Basic and Advanced Technicians courses, Basic Officers Course and other courses run by the School.

The hardest working member of the unit when it works for CAS or for that matter any time it is firing is MCpl Larry Shalla, the Battery Ammo NCO, who has worked many hours with his small crew in delivering all the ammunition to the various gun positions. Like the proverbial postman MCpl Shalla has always managed to bring the bullets where and when they are required.

The summer months were largely taken up with ROTP support and gave the unit an opportunity to do things that it rarely has to practice – digging gun pits, killer junior shoots and emergency smoke shoots.

MCpl Bob Yates Explains Use of Aiming Circle to RMC Cadets and Staff College Personnel

Sports

Sports this year had both its serious and its lighter moments. The battery hockey team swept to an easy victory in Apr over the Field Squadron to win the minor units championship and advance to the base championships. Unfortunately luck was against us as we lost to 1 Field Ambulance 5–4 and 6–3. Nevertheless it was an enjoyable season and several players were selected to play on the base hockey team for the Zone championships.

Big 'E' got its chance for revenge in the summer when it won the base softball championship for the second year in a row defeating 1 Field Ambulance in a best two out of three series.

The lighter side of sports was provided largely by the unit officers. The first occasion was a challenge match between the Unit officers and the Instructors course. Although the battery held a 4–2 lead after the first period our legs gave out and the final score was 6–4 for the "Red Band Warriors". To suitably commemorate the occasion and one particular incident during the game the battery presented the "Broken Skate Trophy" to the course and put it up for annual competition. The units main complaint for this year's game has been the posting of our all–star goalie Capt John Selman to the opponents team.

Elsewhere the men managed to keep a perfect record in their broomball league with the officers and managed to win all six games played this season. Next season the team will be substantially reinforced in an effort to make a better showing.

In the first Battery Golf Tournament, the men walked off with the honours again as Bdr Sunny Bantassel burned up the links to win the trophy for low gross. Naturally Capts Hal Simister and Duncan Milne tied for high gross and the booby prize. This was an extremely popular event and will hopefully become an annual affair.

The Golden Skate Presented by E Bty to the IG Course

Unit TRG News

Cpl Tom Thompson and Lt West McRobbie Search for "Dangerous Terrorists" During IS Exercise

Best OP – 2 RCHA

Despite the heavy workload involved in CAS support, the unit has managed to run several courses during the past year. One of the most notable features of unit courses was the offering of vacancies to members from 2 RCHA in Petawawa. These included M109 driver and detachment commanders courses. The M109 driver course, run by Sgt Ralph Sears, was a bit rough on equipment as four out of our six guns went down with fan drive problems.

In vivid contrast to last years visit to Jamaica, this years contingent carried out winter warfare training with 2 RCR. Unfortunately the weather didn't cooperate this time and most of the training was carried out in cold but snow free weather. Winter also saw the battery participate in Internal Security Training. For a few brief days during Exercise Situation Restored, the familiar features of Gagetown became the prosperous town of Langdon, New Brunswig and the battery was called in to maintain law and order (at the popular hour of 5 a.m.) in view of the various elements led by Igor Stephanovich of the International Brotherhood for Labour Reform, the Students' Democratic League and the Bursting Geraniums. Led by the 2IC, Captain Hyslop, the troops managed to protect the "Mayor" Major Barrett from various plots hatched by a persistent guerrilla troupe led by Lts Barry Hamilton and Dick Hardman. All in all it was an interesting exercise which brought out many valuable points.

All of the units silverware was not won on the sportsfield as the battery demonstrated its gunner skills during the 2 RCHA Regimental Practice Camp in Petawawa. Although time and money would not permit the entire battery from attending an OP party was sent up to Petawawa from 19–22 April. Captain Don Lacey and his crew of Bdrs Hunter, Mason Johnson and Gnr Walker won the RCA Association Trophy presented for the best OP detachment. The unit also won the trophy for best results in annual classification. Major General Sparling the Colonel Commandant presented the trophies to Captain Lacey and Major Barrett at a 2 RCHA mess dinner in Petawawa and they were again presented during a battery parade back in Gagetown.

Several of those rare events known as promotions occurred in the battery this past year with MWO Al MacPherson being made up to that rank effective 1 Mar and Sgt Lorne Vaughan making his present rank on 1 Sep. The battery also bade farewell to our first BSM JARP MacDonald as he moved over to base to take over the Range Survey section. MWO "Blackie" Blackwell moved into the BSM's slot and has since been terrorizing everyone. His most notable coup so far has been a swan to England to visit 42 Royal Marine Commando.

On 21 November the battery held its annual Canoe River Memorial Ceremony with special services in the base chapels. This year for the first time in its existence there were no survivors of the crash left in E Battery and the honour roll was read by those who had served in the Korean war.

In early June the battery endeared itself to the Combat Training Centres headquarters element whilst participating in Ex Rad's Romp, the annual CTC Collective Training Period. The general developed quite a knack of parking his HQ relatively close to the gun positions we occupied and we were always glad to wake everybody up bright and early as we fired our FPF's. One unlucky course of pilots undergoing Land Environment Training also made the mistake of bivouacing near the guns. They were last seen heading for camp at full speed.

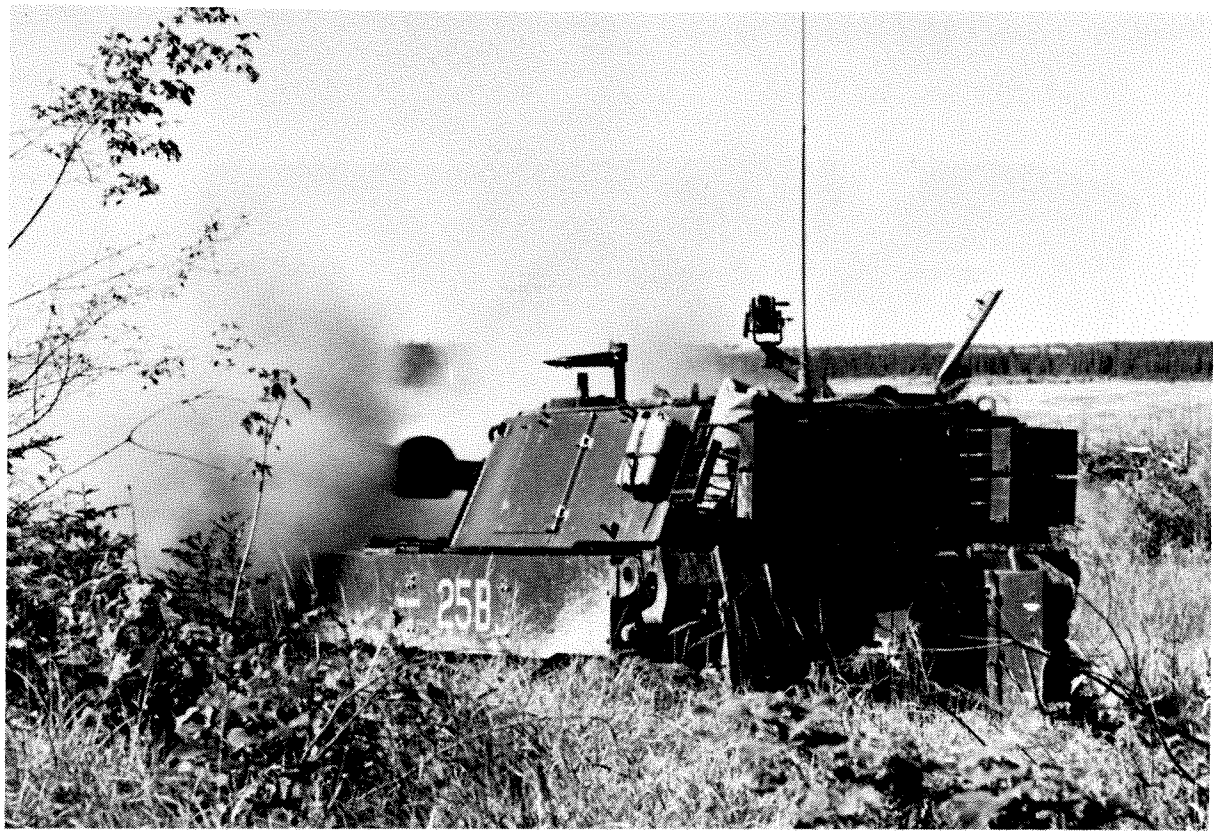
One advantage of being located in Cagetown has been the opportunity to mingle with gunners from throughout Canada and overseas. Over the past year we have seen many familiar faces back on course as well as "Q" Battery 5 RALC during Mobile Warrior and visits from the Maine Army National Guard 1st Bn 152nd Artillery Regt and more recently 8 Alma Battery who are attached to 42 Royal Marine Commando.

MWO Jarp MacDonald Turns Over Reins of Power to MWO EJJ Blackwell

Militia and Cadets

As with most other units the battery has been heavily involved in both Militia and Cadet training. In addition to the normal weekend visits and collective training period the unit has sent personnel off to Halifax and other militia units periodically to assist and assess training. This past summer due to a heavy commitment by area units to local projects and programmes, Militia training was substantially revised from past years. Insufficient personnel meant it was impossible for area units to train as complete units. In order to provide meaningful employment several courses were run to teach the young gunners the basics and develop a greater awareness of the artillery. These classroom periods were combined with live practices which clearly demonstrated the interest of our students. There was a great deal of esprit and due pride apparent as they returned to their units. The fire plan produced on the final day was truly a wonderful sight and could certainly be used as an example for other units.

The Battery also strengthened its ties with our Cadet Corps – No 2340 located on Grand Manan Island. An inheritance from the Air OP troop, the Corps was trained this year by a small team sent down from Gagetown. The training cadre spent an intensive two weeks of instruction in preparation for the annual parade and review by BGEN SV Radley-Walters the Base Commander.



"Engage" – 25B Takes on a Persistent Pillbox During the Sniping Gun Competition

Practice Camp

Once again September saw the battery pack up its tents and disappear into the vast expanses of the training area. A fifty mile lights–off night move got Exercise Quick Powder I off to a chilly start and from the southern area of the ranges we gradually worked our way back to camp. An interesting feature of this year's practice was a danger close shoot carried out in conjunction with C Sqn 8th Canadian Hussars. With special permission from General Rad, Capt Hal Simister – safely tucked inside a Centurion tank along with all of C Sqn brought the fire of the battery down to 300 metres. A brief firepower display and quick smoke shoot were cranked up for the guests and then the guns responded to requests for fire as tankers brushed up on their target grid procedure.

The last day of the practice camp was taken up with our annual competitions. Sgt J.J. MacInnis of C Troop won the sniping gun competition and the coveted pennant. D Troop with the assistance of Capt Peter Partington of 84 Bty in Yarmouth won the Quick Action Competition.

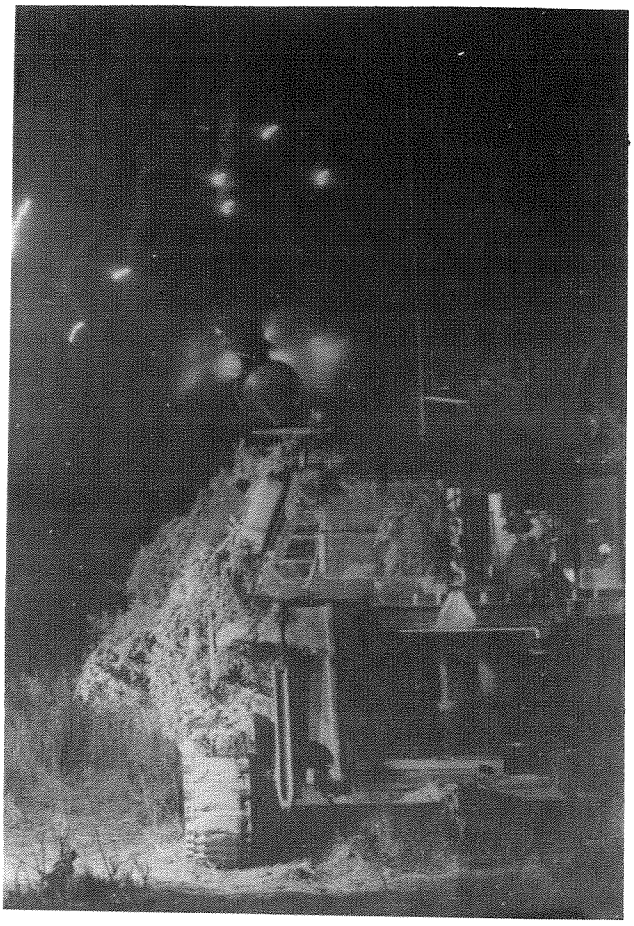
Sgt John Slievert and MCpl Dave Cooper Set Up Director During Quick Action Competition

"Shot 3" – D Troop Wins Quick Action Competition

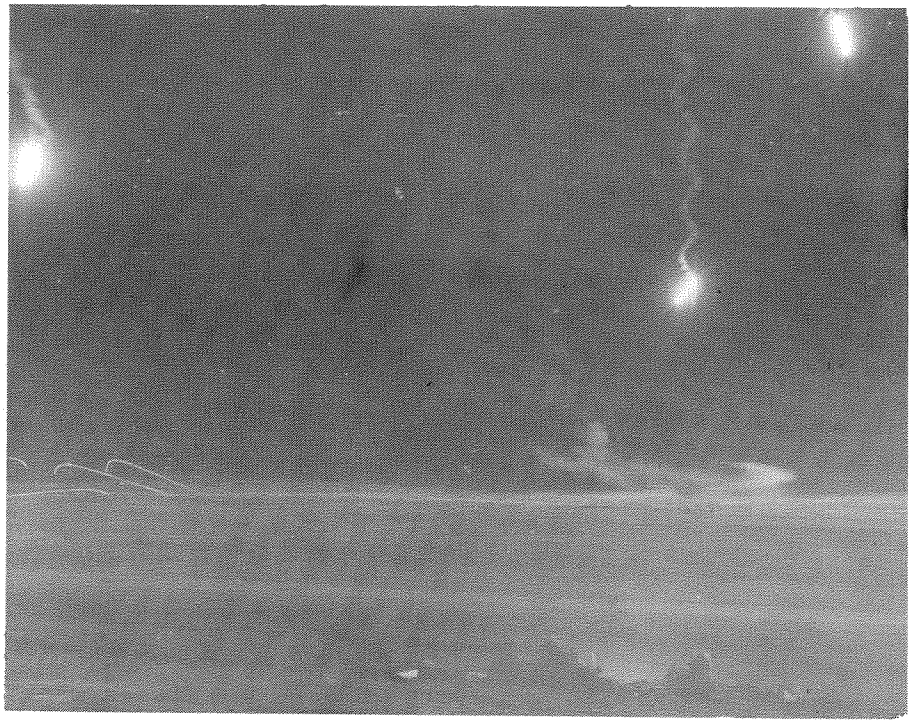
No sooner was the battery finished with Practice camp than it was out in Gun Area No 4 rehearsing for Exercise Mobile Warrior – the annual FMC demonstration. This year's programme was a much different one than that seen in previous years. Live artillery fire was used on the airborne assault, Combat Team attack, and Company in Defense portions of the display in addition to the normal battery deployment and night illumination displays.

With the help of Q Battery from 5e RALC we managed to fire off quite a few rounds both in rehearsals and the actual demonstration. All spectators agreed that this year's display was one of the most realistic displays seen.

As the Battery closes out its year it is fully commited to the user trial of the Gun Alignment and Control System being developed for the forces. It promises to be an interesting and welcome change of pace.



The View from the Gun Position at the Moment of Firing



The View at the Other End as Infanteers Engage Targets

3 RCHA

Winter New Viking '72

Lt RC Stowell and Lt GJ McIlwain

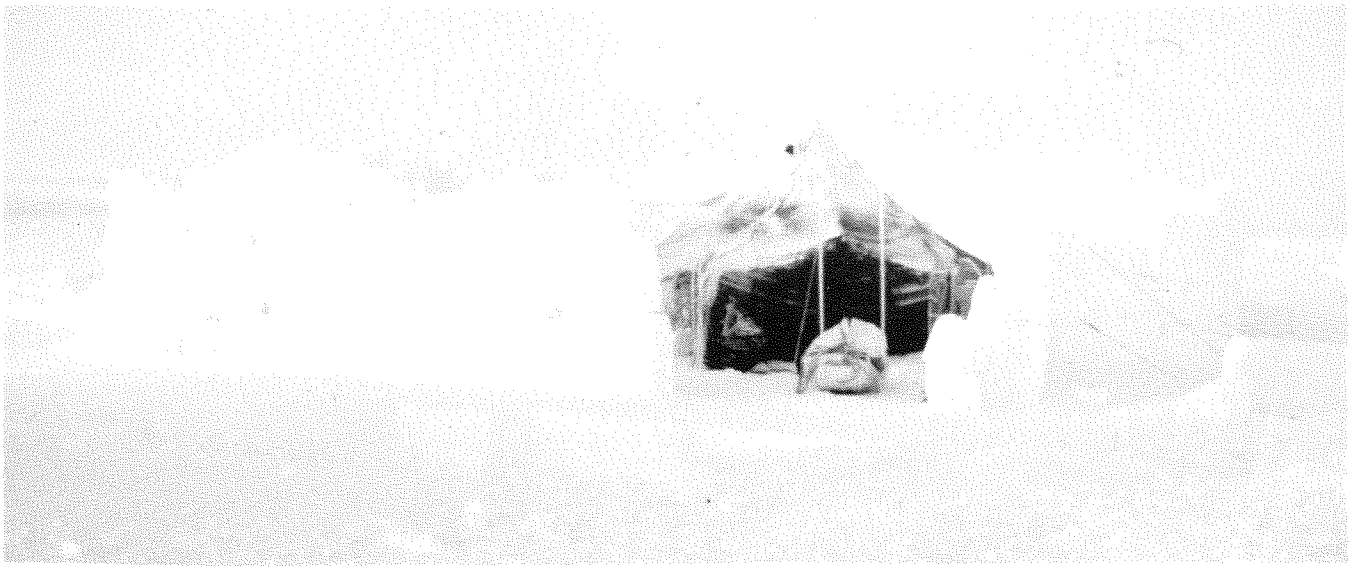
New arrivals and older experienced members of the Regiment joined together (not all voluntarily) to undergo the Canadian Forces course in enlightened sadism/advanced masochism – EXERCISE NEW VIKING. The initial work up, conducted on the sand prairies of Shilo in December, was physically demanding for most, but very few were psychologically prepared to actually cope with the vast and frigid terrain encountered. The exercise, conducted to inure as many CF personnel as possible to the rigors of living in the north, made a lifelong impression on all Gunners involved, who now have strong and decided views on northern exercises conducted in January (or the eleven other months).

The Regiment formed a composite Battery of one hundred stalwart men commanded by BC "G" Major Glenn Decker, ably assisted by BSM TL Larkin. A marked disparity in individual winter skills was reduced through a preliminary workup, and the Battery left aboard two Hercules transports for Churchill on 5 Jan 1972 prepared for the worst. The worst, in the guise of -104 degrees F (with wind chill factor), lent considerable ardor to the initial task of raising tents, which were soon discovered to offer only minimal space for ten men. Stoves were kept to a minimum to ensure no undue noise would disturb the slumber of sleeping men, resting upon freshly packed snow.

The three troops, directed by Lts TD Gerow, GJ McIlwain and RC Stowell, soon developed individual routines and practises which were continually altered in the hopes of discovering a comfortable way to live. By the end of the exercise comfort had been replaced as a consideration by mere thoughts of survival. Four NATO personnel accompanied us for portions of the exercise and developed strong impressions about the harsh north and amiable Canadians.

The period spent in Fort Churchill consisted of a gruelling, stumbling round of preliminary hikes designed to confirm the physical and psychological preparation of the men for the arduous days ahead. Fundamental problems of dehydration, frostbite, performing routine sanitary acts, tent eye and depression were all encountered and solved (with varying degrees of success). The requirement to constantly have men awake and active in order to maintain some degree of warmth gave the hidden, and not so hidden, story tellers ample opportunity to practice their skills. Strangely enough, Cyprus stories tended to occupy many hours of conversation, with sunburns being considered in a new perspective.

Lack of Movement Produced Extensive Construction



Weather conditions were as adverse as ever experienced by New Viking Staff, but the Battery continued to prepare for the final phase- Coral Harbour on Southampton Island. An unexpected bonus was added and a short tour of Churchill including a brief shower and excellent meal, was well appreciated. Actual departure was delayed slightly but the weather held out and the Gunners moved north again.

Landing amid a blizzard provided a poor first impression of our "sovereign" north – which actually got worse. Adverse weather, with temperatures fluctuating between -124 deg F and -60 deg F (with wind chill), forced a cancellation of part one of the Coral Harbour exercise. However, part two, consisting of the troops employing navigational and map reading skills, was successfully completed. Injuries were restricted to strained muscles, chest colds and frostbite (with only two serious frostbite casualties being suffered).Consideration of the mean age of the gunners on the exercise indicates that age and experience can well match the vigorous but inexperienced youth.

Tent group personnel were slowly wearing down, both in spirit and body, and the exercise end was anxiously awaited. Sudden rumours of indefinite delays due to aircraft difficulties and weather prompted a renewed interest and tension began to grow as departure day approached. Unfortunately, only one aircraft did finally arrive on the 19th, which returned Chalk I to Churchill and Brandon on the 20th. Chalk II was left to await the next aircraft, and as the last cigarettes were consumed and the last eyes sealed shut with tent-eye, the group gratefully accepted the hospitality of the limited DOT facilities. The airforce did eventually overcome their immediate difficulties and the last of the New Viking Force returned to Shilo late on Saturday, 22 January.

In retrospect, the Exercise was interesting and hopefully will be considered a "once in a military career" experience. Coral Harbour in January – Never again!

The Bty Moves South

Practice Camp

Captain FH Hansford

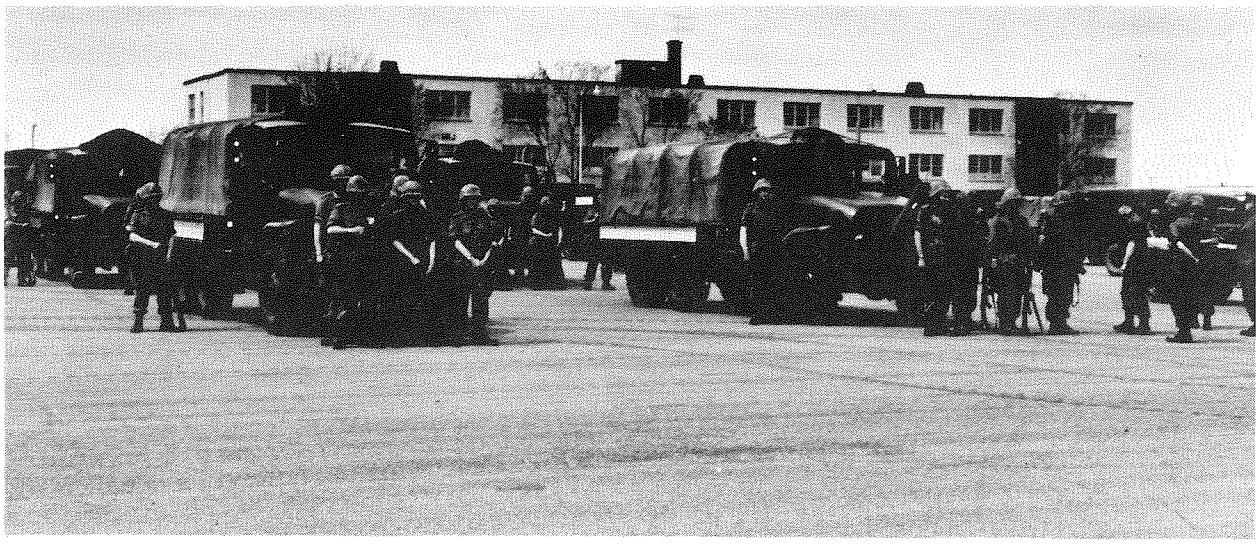
May saw our annual practice camp off with a big bang in fact, over 10,000 bangs would be heard in the next three weeks. Finally all the planning, organizing and hoping was over and we could all settle down to the subject at hand – gunnery. During the period of the camp the Regiment and those units that joined us would send 10,022 rounds, 105mm and 81mm soaring over the Shilo ranges on their way to the numerous objectives and intermediate positions. Shortly, hundreds of MG positions, tens of Coy and Platoon locations would be reeling under the deadly onslaught of 250,000 lbs of steel and TNT. (that's roughly 135 tons!)

Again this year, in addition to the two batteries from the Regiment, the AB Bty joined us; and for the first time the three mortar platoons from the first, second and third battalions, 1 PPCLI. All in all, approximately 675 personnel would participate in the camp including in addition to the Regiment, AB Bty and mortar platoons; a fully mechanized company from 2 2 PPCLI (a tough enemy force); 408 Sqn Det Shilo (Air OP Flight); 434 Sqn Cold Lake (CF5s); 450 Sqn Edmonton (CH113s); and to help us with all the pilots, more pilots and 1 TACU from Calgary. Original plans had also included 408 Sqn from Calgary with their Huey helicopters, however last minute snags prevented their attendance.

The camp, from 15 May to 3 Jun was conducted in three phases. Phase one being a fireplanning course for supported Arms officers; phase two sub–unit training; and phase three a Regimentally controlled fire and movement exercise, ending with a firepower demonstration on 3 Jun for Armed Forces Day.

The first phase, the fireplanning course, was conducted from 15–19 May being attended by 14 young officers from the supported Arms. Although we had hoped for a larger number of students, previous commitments, heavy training schedules, etc., made this impossible so the course went with 14. The students first attended a series of lectures for the first day and a half, basically designed to introduce and familiarize them with the fine art of understanding and controlling indirect fire, then on to three and a half days of live firing. Each student was able to fire at least three targets with a battery and a mortar platoon, and to control at least one simple fire plan applying realistic weights of fire and timings. The course was an enjoyable task and all the students certainly agreed it was of great value in addition to being a rare opportunity in seeing just how the gunners do their job. Although all freely admitted that the Artillery black magic wasn't black, it still had to be magic. One young officer still firmly believes I moved the "lone pine" he was sadly chasing across the ranges (for my part I'm still convinced his objective was Carberry!!).

Major Rich inspects G Battery



As stated, phase two of the camp emphasized sub-unit training. This phase was designed to provide the BCs and Mor platoon commanders with the opportunity to practice and develop battle procedures and the co-ordination of fire support at the battalion FSCC level. In addition, all the BCs and platoon commanders were able to conduct some helicopter training with the arrival of 450 Sqn from Edmonton. Although the week proved invaluable to all involved, it did prove that some very serious problems do exist in co-ordinating artillery and mortar fire. However most of the problems were overcome and with the conclusion of the battery exercises, everyone was ready for the final week; that is, after a day of fun and games during the annual gun competitions.

This year the competitions consisted of the following five events:

a. Sniping gun competitions – John Salmon Trophy,

b. Manhandling competitions – The RSM's Trophy,

c. A/TK competition – The MLS Trophy,

d. Quick action competition – The JEG Dedominigo Trophy, and

e. Open actions competition – The WW Turner Trophy.

Added to the victor's spoils this year was the Commanding Officer's pennant, awarded to the best all-round detachment. The competitions were conducted on a county fair basis with the first detachment across the line at 0800 and everyone finishing in lots of time to attend the big "orders" group that evening. In time for "orders" the judges had computed all the results and there were a few surprises. The Regiment kept the silver for the A/TK and Quick Action Competitions and came a very close second for the Manhandling Competition (1 point). Unfortunately we slipped in the Sniping Guns and the Open Actions and the AB Bty 'stole' the the show and the silver. That evening LCol Wellsman with Maj Doyan, the AB Bty BC, presented the trophies to a happy group of detachments. Sgt Featherling of J Battery was awarded the CO's pennant and informed of his detachment's prize – a week at Manisphere in Winnipeg with full TD, and a spare pair of eyes to watch all the beautiful western girls! After the presentations everyone turned their attention to the main task at hand, the "orders" group, paying particular attention to the logistic support and attempting to relieve the 2 IC and Quartermaster of all the beer, barbecued haunches of beef, chicken and other little surprises. Were the cooks popular that night!!

"Continuous Fire 20 seconds"

– that was quite a smoke screen

The third and final phase of the camp got underway on Sunday evening 28 May with all units deploying for the final exercise. Exercise Thunderhead was a five day regimentally controlled fire and movement exercise designed to place maximum emphasis on fireplanning at the Regimental level. Maximum use of close air support was required and thanks to 434 Sqn, Cold Lake, always available. CO's Tac HQ with 1 TACU Calgary provided the control headquarters for the exercise skillfully directing the live enemy force. During the next five days hundreds of rounds were fired severely testing the logistic supply system. Resupply throughout the exercise was played realistically and although at times the strain was almost to the breaking point, never were we without ammunition, petrol or rations. Everyone from the Base Supply Section to the Gun Number who loaded the ammo, worked hard and long hours to keep the supplies coming, the trucks running and the guns firing. On the final day of the exercise with our aims achieved, and more important our CO happy, the time had come for some more fun-time to let the "old hands" try their luck at shooting. In succession the Adjutant, RSM and BSMs were allotted the Regiment to chase mobile cement bunkers and pine copses across the ranges. But as might have been predicted the old hands proved they still have the eyes of eagles and they're not so old after all – just accurate! Finally when the dust had cleared and the enemy in mass retreat, Exercise Thunderhead and Practice Camp 72 came to an end. A day of rest for all and then on to the firepower demonstration on Sat 3 Jun.

This year's Practice Camp was undoubtedly a big success. Everyone who participated, the Gunners, the pilots, the ground crews, the infanteers, the logisticians, worked hard and learned their new lessons well. To all of those who joined us and made the Camp such a success "Thanks for a job more than well done".

The Anti Tank Competition

MBdr Francis blazes away

Armed Forces Day 1972

Lieutenant JP Culligan

On 3 Jun 72 CFB Shilo welcomed some three thousand visitors to the largest firepower demonstration in recent years. Armed Forces Day 1972 was literally off to a flying start with an L–19 photo run and the chatter of small arms fire as infantrymen from 2 PPCLI engaged several targets for the benefit of the crowd.

Participating units included 3 RCHA; 1 AB Bty; 2 PPCLI; Mortar Platoons from all three battalions of PPCLI AOP Flight 408 Sqn; Tac Sp Flight 434 Sqn; Hel Flight 450 Sqn and 1 TACU.

These units demonstrated several of their capabilities in what proved to be an extremely interesting and informative show. 3 RCHA provided most of the artillery element engaging targets with HE and Time and firing a 21 gun salute with HE. 1 AB Battery demonstrated a parachute drop of a gun and its detachment; anti–tank shooting rapelling and freefall parachuting. The air element provided a great deal of support and contributed a great deal to the success of the day. Helicopter lifts and an airstrike by CF–5 aircraft added an important element to the show.

To round out the afternoon visitors were invited to view static displays of various types of military equipment and partake of the refreshments provided.

For both participants and spectators the afternoon proved a most enjoyable and educational experience.

Manisphere

A 3 RCHA gun det participated in a static military display at Manisphere 72 during the period 20–30 Jun.

The Det, commanded by Lt DN McLaughlin, with Sgt D Featherling as No 1 arrived in Wpg on 20 Jun.

The Artillery contribution consisted of the 105mm L5, the M109SP and an ammunition display. All elements of the CAF were represented, everything from 9mm pistols to jets were on display.

The M109SP was the equipment which attracted the most public attention and the gunners were kept very busy answering the many questions that only a civilian can ask.

Manisphere 72 provided the det members the opportunity to renew many old friendships and to rediscover Winnipeg.

Unfortunately all good things must come to an end; the det returned to Shilo on 30 Jun in order to prepare for MILCON.

Milcon '72

The sudden flurry of activity around the "Q" lines did not herald the imminent arrival of the Germans. It did however represent a major success for both 3 RCHA and the Artillery Militia units of Western Canada. It was a success in many ways. First, from the Regiment's point of view, was the fact that the Artillery Militia Concentration (Arty Milcon 72) was held in Shilo where personnel were able to get home, if only at short intervals. This allowed for better administrative support and much better training facilities for the artillery units involved. Secondly and more important, was the intensive training and the positive results shown by the Militia units. Undeniably the calibre of the Artillery Militia units in the last few years has improved and Milcon 72 has been largely responsible for the continued progress of militia units from Kenora to Victoria.

Units from five provinces were in Shilo that week. The 116th Field Battery from Kenora was Ontario's representative, while the 13th Field Battery from Portage and the 26th Field Regiment from Brandon were Manitoba's contribution. From Regina, the 10th Field Regiment and its subsidiary battery, from Yorkton (the 54th Field Battery) augmented the prairie's contribution. The 20th Field Regiment from Edmonton, the 78th Field Battery from Red Deer and the 20th Independent Field Battery from Lethbridge carried Alberta's colours. From beautiful BC the 15th Field Regiment and the 5th (BC) Field Battery travelled the farthest to attend this very worthwhile Artillery Milcon 72.

Training for the 252 Militia men attending, (2 were females from Saskatchewan) included two days of refresher training on Sunday, 2 July and Monday 3 July, capped with a competition of individual skills which resulted in a very close victory for the BC units. Tuesday and Wednesday were filled with battery firing exercises designed to bring the units to the proficiency required for the complicated Regimental exercise, which began Wednesday evening. The exercise ended Friday at noon and was followed by clean–up and battery smokers. Saturday was filled with aspirin and administration as the units left for home.

In addition, for several officers, there was a tactics course which resulted in the officers attending Milcon 72 in Wainwright, Alberta. There they were employed as Battery Commanders on this 1 Cbt Gp Militia exercise.

Many visitors were in Shilo for Milcon, BGen Summers who was Commander for Militia Prairie Area was there from Saskatoon. Several Honourary Colonels attended, including H/Col Munro (20th Fd), H/Col Playfair (116th Bty), and H/Col Magnacca (26th Fd). Also visiting was Maj NW Johnstone, formerly BC G Battery 3 RCHA, who is now part of Operational Evaluations in FMC. He was here to evaluate the Militia units for Mobile Command.

Arty Milcon 72 was a tremendous success not only from a training view–point, but also from the closer working arrangement which resulted between Regular Force and Militia personnel. 3 RCHA sincerely hopes this type of training can be continued and possibly expanded in Shilo where so much can be gained by everyone.

National RCA(M) Summer School

Captain DA Lockridge

The past summer provided two novel experiences. The first was the establishment of the National RCA(M) Summer School. The second, a summer tasking in CFB Shilo near our dependants (finally!).

The School, commanded by Major W.M. Scott, CD, was staffed by 120 members of 3 RCHA. The School consisted of an administrative element, a four gun Firing Troop, and training cadres for five distinct courses:

a. Captain Qualifying RCA(M) Block 2 (two weeks);

b. Lieutenant Qualifying RCA(M) Block 1 (two weeks);

c. Lieutenant Qualifying RCA(M) Block 2 (two weeks following Block 1);

d. Artillery Technician Pay Level C (three weeks); and

e. Senior NCO RCA(M) (two weeks).

Seven provinces and the majority of Reserve Artillery Units were represented. Eighty-seven all ranks participated in the training programme. Needless to say, the instructor/student ratio approached the optimum

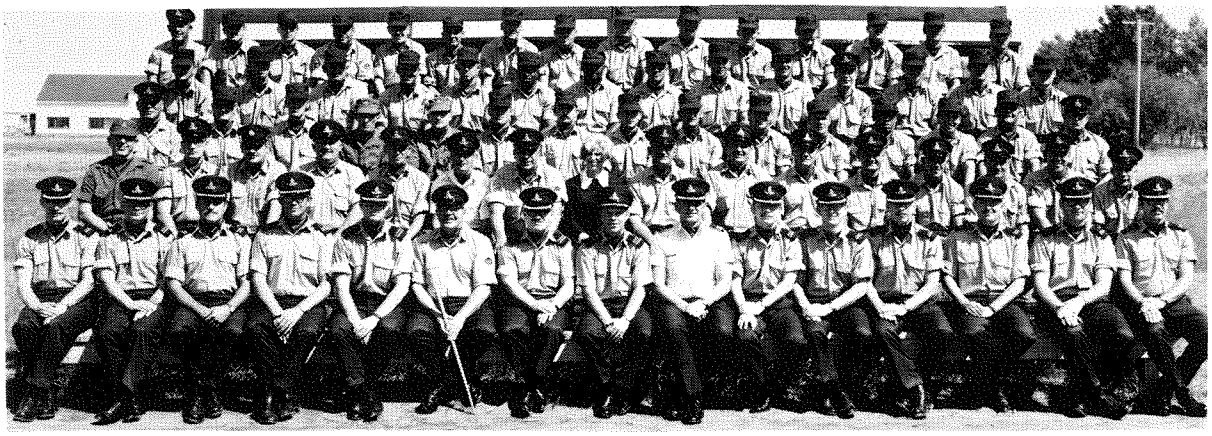
Courses were based on revised standards designed to allow advancement consistent with the individuals availability for training. Each course prepared the candidate for basic employment at his present or next higher rank.

Practical field exercises were utilized as the teaching vehicle whenever possible. Courses were combined to allow candidates to gain experience working with other Militia personnel in command or technical appointments. For example, the Captain Qualifying Course, in the field six to nine training days, were supported by other candidates fifty per cent of the time.

The instructors shared a great deal of knowledge with their candidates in the limited time available. In return the students displayed an equal amount of enthusiasm. The exchange was rewarding. The students departed with enough knowledge to keep them pointed in the right direction. The staff departed with the satisfaction of knowing their efforts were successful and appreciated.

National RCA(M) School Firing Troop

National RCA(M) Summer School Staff



Waincon '72

Captain LC Adkins

Waincon 72 was the western army's fair weather get together for 1972. It was conducted from 5 September to 6 October, the last days of summer one might say. However, a good title for this article might have been, "Third Regiment Conducted Winter Indoc at Wainwright Late Last Summer," or the lament; "I'll Never go to Wainwright Without my Snuggies Again."

Many of us spent the last days of summer 72 beating snow off our tents and huddling around every heat generating device we could procure. So went Waincon 72, that is until the day after the combat group moved into the permanent accommodation in Base Wainwright; and you guessed it, Indian Summer arrived.

Now don't misunderstand please, the REGIMENT didn't soften. A usually reliable source indicates our move indoors was merely a comfortable gesture towards those darlings of the sports meet, the Infantry, who, someone else said, got cold feet! Now, with that off our chests, what else did we do at Wainwright last "summer".

Several days after the sports meet, Arty Tac, BCs, FOOs and CPOs provided the artillery lower control for the combat group CPX PATRICIA PANACHE. Another usually reliable source reports that the most difficult things encountered on this exercise were; trying to find time to sleep and, hasseling about the correct pronounciation for PANACHE.

On the heels of PATRICIA PANACHE the troop commanders were given their troops, the ranges, an adequate supply of ammunition, and 30 hours of prime training time to go and do their thing.

Armed with corrugated iron sheets (galvanized for extra shine at night) and steel pickets; and to the familiar strains of "Dig? I know how to dig, who the hell needs practice digging," the troops dug in.

And when the dust had settled it was painfully obvious that many of the authors of that chorus had allowed their shovels to become grossly out of time. Imagine, a seven foot deep slit trench with a three foot mound heaped in front. Laughed so hard I almost fell in! Even a non-IG could have spotted that one.

Following the digging episode, BGen G.G. Brown, Commander 1 Combat Group, chose a snowy, second-last day of summer for his first formal look at the Regiment. His inspection was in the form of a parade at detachments front, an inspection of the living and working areas, lunch with the Senior NCOs, and he concluded with a look at some of the troops in the field. This led into a regimental fire and movement exercise. The exercise was abruptly terminated that night and we all returned to the bivouac for some important news. LCol Wellsman announced that the entire Combat Group was moving into the permanent accommodation in Wainwright due to the unseasonably low temperatures. 3 RCHA, however, had some shooting to do and remained in the field for a further four days.

The first of these final shoots occurred during a Confidential Artillery Briefing, when, coaxed out of their heated accommodation in anticipation of "training films", many of the Combat Group Officers were treated to an exclusive showing of that famous Gunner flick, "Fire for Effect." The looks on some of those faces, lured twelve miles down a frozen road to sit in an ice-cold tent, were priceless. The film was followed by a beer-can gun competition, and from four to nine hours of war stories/lie telling plus an excellent beef and salmon dinner in the officers mess tent.

The last shooting during Waincon 72 was in support of an Artillery-run fire planning course for company commanders, or "lessons in humility-gunner style", whichever way you wish to look at it. No doubt about it, there's the odd company commander now who'll think twice about laying on a quick attack in five minutes and seriously expect us to be there too.

As a prelude to the final exercise, Panther Claw was a controlled, two–sided exercise designed to practice the infantry company in the dismounted attack. The regiment supplied the enemy force; an independent section, a machine gun detachment, and a platoon. All positions were dug in and well camouflaged. The company advance stretched nearly eight miles, most of it through poorly mapped, swamp infested country.

From our point of view, on top of the objective, Badger Hill, the attacks ranged from fair to good. The big lesson learned was that a dismounted attack up an open hill feature will NOT succeed without timely, well adjusted, well controlled close air and artillery support. If for no other reason, Panther Claw was worth it for that last revelation.

Exercise Quick Silver was the grande finale to Waincon 72. It was a two-sided, controlled FTX pitting 1 PPCLI, G Bty and support elements against 3 PPCLI, J Bty and their supporting elements. Quick Silver was an interesting exercise in that there was no script, the opposing forces were almost identical and it boiled down to a knock down drag out affair, umpired by CO 3 RCHA and Arty Tac, with the best battalion winning.

In conclusion, a word about the trip home. Two of our members narrowly escaped death in a jeep when it was hit by a half ton truck on the Trans–Canada highway. MWO Goodwin RC and Bdr Vandevelde BW suffered only minor injuries; the truck driver was killed instantly.

Several factors combined to minimize the injuries of MWO Goodwin and Bdr Vandevelde; the slow speed of the jeep (40–42 mph), the crush–rate inherent in the vehicle's construction, and their good physical condition to name a few.

For those of us who command convoy packets on long moves home, and the temptation to get home quicker increases with the miles, I'd like to leave you with a comment made by a RCMP Patrolman at the scene, "if either the truck or the jeep had been going as little as 5 or 10 miles per hour faster, the result might have been entirely different, perhaps catastrophic for the army men."

End of mission – WAINCON 72.

"Good morning Capt Palmer and
happy second–last day of summer,"
remarks BGen G.G. Brown as he tours Operations Troop

Cyprus Troop

Captain CO Gustafson

From March to October 1972, 50 members of 3 RCHA were attached to the Lord Strathcona Horse (Royal Canadian) for UN duty in Cyprus. The 48 artillerymen and 2 cooks served in "Suburb Squadron" in Nicosia. Capt CO Gustafson was Squadron Operations Officer and Capt BW Olynick commanded 3 Troop, a rifle platoon assisted by MWO Wagg FG. The mortar group commanded by WO Hebner WE became "Shakespeare Force", a rifle platoon placed under command Suburb Squadron. Last but not least, Sgt Murphy WA presided over the squadron kitchen.

3 RCHA personnel got along well with the remainder of the contingent and took an active part in many activities: Bdr Houle RRA became lead trumpeter in the Strathcona's band. Resplendant in Horse Artillery full dress uniform he greeted visitors to the contingent Officers' Mess on special occasions. Capt Gustafson led the contingent small arms team and Bdr MacNeil GAR, Bdr Misener HT and Gnr Jesky J were perennial competitors in most athletic events. In individual sports MWO Wagg became the contingent scuba instructor (in competition with thewell known Cypriot diver Andreas).

Capt CO Gustafson briefs Dr. Waldheim, the Secretary General on the situation in the Squadron area. LCol JA Fox, CO Ld SH(RC) looks on

Members of 3 RCHA board a Canadian Forces Boeing 707 for the flight from CFB Winnipeg to Cyprus.

Sgt Davis GA receives a briefing from a "Vandoo" on handover

As well as contingent affairs the gunners had some occasions of their own. Prior to the retirement of BGen EMD Leslie, all Canadian gunners in Cyprus met at "Corner House Two" for a barbecue. BGen Leslie took the opportunity to renew acquaintances with several NCOs who had previously served with him. At the barbecue a hand crafted one-quarter scale replica of a Korean war vintage artillery piece was unveiled.

Life in Cyprus is not all sports, scuba diving or barbecues. Most of the tour is a seemingly endless succession of outpost duties and patrols that are invariably boring to the extreme. Off duty time is restricted as the troop is on reserve every third week and the men are confined to the troop area. The routine was broken during the visit of Doctor Waldheim, the Secretary-General of the UN in July. Several security tasks came up, and by luck of the draw, the gunners provided a major part of these security teams. Every credit must go to these men who worked under such conditions with competance and good spirits. The alertness and watchfulness of all members of the contingent must be given some credit for the lack of serious incidents during our tour.

This tour is just another short chapter in the history of the Royal Regiment of Canadian Artillery and once again gunners lived up to their Battle Honours "UBIQUE".

174 years of service represented at farewell gathering in Cyprus

L to R: Sgt Milbery KE; Sgt Lucas DR; Sgt Davis GA; BGen EMD Leslie; MWO Wagg FG WO Hebner WE and Sgt Bethel RW

Promotion Board

Lieutenant Colonel W.D. Wellsman, CD

In accordance with NDHQ direction, Promotion Board No 14 convened at NDHQ on 10 Oct 72 to consider Captains for promotion to Major in the ARMD, ARTY and INF classifications. As a member of this Board I gained considerable knowledge of this important step in the promotion sequence and I believe that there are several points that will be of interest to Gunner officers.

COMPOSITION OF THE BOARD

The Board consisted of the chairman; an Infantry Colonel with extensive command experience and previous participation on promotion boards, one Armoured and one Artillery commanding officer, and representatives of the Air and Sea elements, both with previous command experience within their own elements. The Board secretary was PCO/Inf.

The importance of the participation of the Air and Sea element officers is perhaps not readily apparent. We referred to them as the "honest brokers." With no preconceived prejudices and no personal knowledge of the officers being graded, they provided absolute assurance that every candidate received an objective score based solely on the reporting system.

TASK OF THE BOARD

The task before the Board was to review 418 files with each Board member independently assigning a score to each file. The total possible score was 100 and on the first marking all scores were reconciled to within a 20 point differential. Rescoring was carried out on the top 109 files with reconciliation within 10 points, thus producing a merit list to cover approximately three times the expected promotion vacancies in each classification. Although not required by the terms of reference the Board carefully reviewed the top candidates a third time to ensure that the fairest possible allocation of points had been awarded.

POINT SCORES

Performance accounted for 85 points. Since the Board had agreed that promotion in the Combat Arms must emphasize ability to command within classification, all PERs were reviewed to ensure that performance on regimental duty was completely assessed and undue emphasis was not placed on performance outside of classification. Performance on all service courses was also assessed. This total review of performance identified such important factors as improvement, ability to handle a variety of tasks and abnormally high or low performance not consistant with the total profile.

Potential accounted for 15 points and was scored under four main headings. Language; Age; Education; and Service Experience. The totalpossible score under each of these potential categories varied according to classification and reflected certain management goals necessary to meet classification requirements. As an example, zero points for age were awarded in the Artillery but up to three points were awarded in the Infantry to reflect the need for younger Majors within that classification.

BILINGUALISM

A portion of the potential score was allotted to language proficiency. It was apparent to the Board that many officers have not had the opportunity to be tested in the second official language nor have all had the chance to attend language courses. Those officers who claimed some degree of fluency and indicated that they were making an effort to learn a second language even through private study, were allotted some points in this category. I believe it is important to recognize that the bilingual policy of the CF has been clearly defined and the responsibility to achieve the stated force objectives lies in part with the individual as well as the training system.

THE PER FORM -- USE AND ABUSE

A new PER form will soon come into use. It will reflect the experience gained from the current form and hopefully present the necessary information in a more useful format. Regardless of the layout of the form the essential information needed by a promotion board is a clear, concise and accurate assessment of performance plus an indication of potential. Those narratives that followed the principles of good military writing had significant influence on the Board. Those narratives that were remarkable only for their length did not receive sympathetic review. It was also apparent that the indiscriminate use of the 9–10 rating to gain the Board's attention was rarely verified by the remainder of the file and tended to be disregarded as being too far outside the pattern of performance.

The most disheartening statement seen by the Board was any variation of the theme, "I concur" by reviewing and senior officers. The opinion and assessment of reviewing and senior officers is important, particularly during the reconciliation of marks, and the lack of any specific statement denies the Board much needed information.

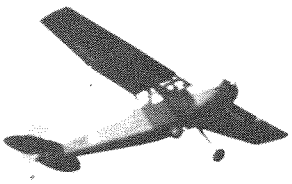
The narratives are not without the occasional bit of humour and the one that earned top honours this year was the following statement by a reviewing officer:

> "This officer should be promoted-- only in the event of a National Emergency."

CONCLUSION

At a time when disappointment and frustration are significant factors in the military profession, it was most rewarding to recognize at first hand the exceptional quality of Combat Arms Officers throughout the Canadian Forces, whose performance record, despite the problems, remains consistently excellent.

End of an Era?



Ex Rapier Thrust 2

Captain GR Manson

Risky Creek – The Dome – blistered feet – steaming sweat – and the picturesque phrase "Don't Eat Yellow Snow" – terms which brush aside the cranial cobwebs and rejuvenate joyous memories of Exercise Rapier Thrust II 'Sword – Push Deuce' was a winter exercise conducted in the Chilcotin region of Beautiful British Columbia, a few miles west of Williams Lake. The area is also famous as the setting for Eric Collier's work, "Three Against the Wilderness".

The rugged training area was transformed overnight into an arctic island. In reality the area was defined as a "practice island" to be used prior to embarking against the FANTASIAN held Radar Sites on Cornwallis, Bylot and Byam Martin Islands in the Northwest Territories.

Unlike its predecessors, "Ex Polar Bear" (44) and "Ex Panther Leap" (68) which were large scale cross–country exercises, Rapier Thrust involved a more confined foot slogging "advance–to–contact" style. Troops and vehicles weaved among the pines up one valley and down the next in search of the elusive and enemy. Snowmobiles foundered in the 4 foot plus snow while APCs charged on, stopping only to rescue wheeled vehicles, and to aid foot weary infanteers.

One favorite tactic of the FANTASIAN Force was to fell pine trees on the main road–way and to booby trap each road block.....a difficult manoeuvre in the "Barren Arctic Islands".

3 RCHA's team comprised one BC's party and two FOO parties in direct support of 3 PPCLI (Victoria). Maj WM Scott, Sgt JA Demond, Bdr WT Hembroff and Bdr JA MacKinnon formed the Arty FSCC component.

Capt K Orton, Bdrs S Gordon, RJ Roux, and RG Sugg made up one FOO party with Capt George Manson, Sgt WG Worobey, Bdrs JJ McAllister, WN Sinclair and WJ Rose comprising the other.

A real highlight of the exercise was the mild weather which had broken a cold snap only a few days before our arrival. Temperatures soared to 35 deg F during the day and down to near 0 at night. The warm weather made heavy winter clothing a burden and potential danger as troops perspired profusely on the long marches.

As a whole the experience provided a useful look at deep snow, mountains, and moderate climate winter operations.

Avalanche Control

Lieutenant DN McLaughlin

The winter of 71-72 saw the most extensive use of artillery for avalanche control operations to date.

Rogers Pass experienced extremely heavy snowfall during the Jan–March period and resulted in an expenditure of ammunition more than double that of a normal year.

The 75mm Pack How will no longer be used in avalanche control operations. The last round was fired on 8 Mar 72 by a det commanded by Lt DN McLaughlin. Future dets will not have the opportunity of working with the little gun, however the 105mm C1 is more than capable of doing the job.

Det Commanders for Avalanche Control this year were Lts WW Riedel, BW Olynick, DN McLaughlin and G McIlwain.

5 RALC

Introduction

During the year 5e RALC participated, either in part or as a unit, in all exercises conducted by 5e G de C. In addition, Q Bty participated in a winter serial of Ex NEW VIKING and X Bty attended Ex PRIME TIME IV in CFB Petawawa in April. Ex MOBILE WARRIOR saw the commitment of a six gun bty to the fire power demonstration; conducted concurrently was the GACS trial at BFC Valcartier supported by a full bty plus a trial staff.

Our additional commitment to the Militia was also significant. Throughout the winter months, instructors were employed on week-ends for training at the various armouries. This winter program was followed by the trades training conducted at the summer militia camp. The value of the training programme was proven by the results of the summer concentration held in Valcartier during Aug 72.

July saw a major change of command and staff appointments in the unit. The CO, 2 IC, Adjt, RCPO, RSM, both BCs, one BK, three TCs, both CPOs and one BSM were all involved in handovers. When it was all over, it was business as usual in this the fifth year of the regiment's history.

Ex Pot Obus

During the week of 7–12 November 71, X Bty provided assistance to Indirect Fire Company, Combat Arms School in the form of exercise "Pot Obus".

The battery was flown to Gagetown on Sunday 7th Nov by C 130E Hercules. The first day of firing was in support of the Advanced Arty Officers Course when a battery less OP officers was provided. The remaining three days of firing the battery supported the Arty Instructors Officers Course.

All members of the battery gained from this experience as there were many IGs and AIGs on the gun position to answer questions. The battery returned to BFC Valcartier on Friday after a very profitable week of firing.

Winter Games

After an interruption of several years the winter sports week was reinstated in Base Valcartier, in the form of Winter Games that entailed maximum participation from all units. 5e RALC was given the task of organizing the games as well as taking part in them. The competition consisted of broomball, volleyball, cross-country skiing, snow-shoe races, curling and a combined event that included cross-country compass marches, bivouac and marksmanship. Thirty teams were entered in each event.

Needless to say everyone welcomed the week's respite from normal duties and without exception all units showed a great deal of enthusiasm and friendly rivalry. The Gunners, although capturing only one first place in cross-country skiing, had enough second and third place finishes in all events to capture the overall Winter Games Championship, nosing out the Van Doos who failed to pick up enough points in the curling finals. Despite rumours to the contrary, the fact that the regiment ran the games had nothing to do with the final outcome.

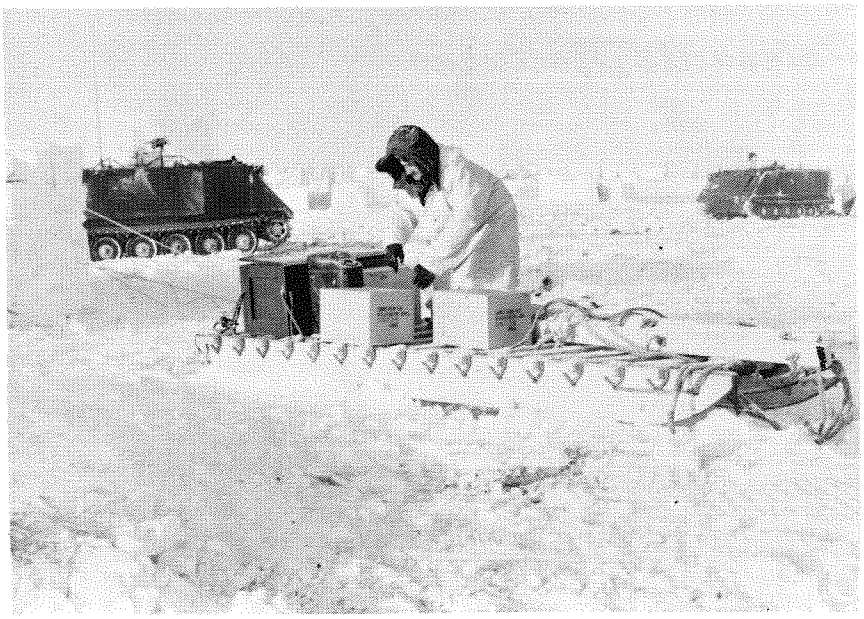
Ex Patrouille Nocturne

The Komatic Trail

Q Bty deployed one pack howitzer to Baffin Island on 28 Jan 72 as part of the battery under command of the 3 R22eR battle group for Exercise PATROUILLE NOCTURNE. This exercise provided an opportunity to evaluate our equipment and our operating procedures in the extreme cold; unfortunately, as no live rounds could be fired because of the danger to Eskimo hunters in the exercise area, only blank ammunition was used.

The more interesting problems concerned methods of transporting the L5 and procedures to be used in carrying out daily maintenance on the howitzer. The exercise area was completely devoid of roads and offered only one rock strewn trail known as the KOMATIC TRAIL. This trail followed creek beds, dry lakes and narrow gullies. The remainder of the area was too steep and rocky to permit mechanized operations.

Callsign "22" Does Some Local Advertising



Gun Stores and Equipment in the Komatic

As M 548 tracked cargo carriers were not available, nor other heavy oversnow vehicles, the battery was faced with a problem of constructing sleighs or finding a method of dismantling the howitzer for transportation. Various ski designs were proposed, but as experts had failed to produce suitable skis for the L5 after two years of effort with readily available source of materials, such a project was considered to be beyond the battery's capability.

Having recently returned from Exercise NEW VIKING members of the battery were very keen to try an Eskimo KOMATIC (a long, narrow wooden lightweight sleigh used by Eskimos to hunt and move). Eighteen foot softwood runners were used as it was uneconomical, if not impossible, to obtain runners of this length in hardwood. The end product was quite magnificent —being eighteen feet long, five feet wide and weighing only one hundred and thirty pounds. A jeep easily towed an L5 around Base Valcartier and we were all astounded by the manoeuvrability of such a long sleigh.

Quebec's "Bonhomme Carnaval" visits "Patrouille Nocturne"

By the time the KOMATIC arrived in the concentration area it was quite a bit worse for wear. It had been tied on the top of an M113 and the frame was twisted. Eventually the great moment approached..."Prepare to move". The howitzer was placed on the KOMATIC and tied down. The trial was short-lived, however, as one runner split along the line of drilled holes through which the rope passed. The green wood had given in to minus 38 degree weather. There was no choice but to tow the relatively fragile howitzer over the lunar-like landscape behind the gun detachment's APC. To ensure the howitzer was not damaged under tow, a sentry was stationed on the rear deck of the armoured personnel carrier. The severe cold required that this sentry be changed every fifteen minutes; nevertheless, depending on the terrain, the howitzer was able to move 5-6 kilometers an hour.

Prior to departure from CFB Valcartier, the oil in the recoil system had been changed to a lighter grade. Grease had been removed from the elevating and traversing arcs and substituted by a very light coat of instrument oil (AEROSHELL GREASE 3-GP-606A). The travelling clamp, leg locking pins and the rear trail securing clamp had also been oiled.

In Frobisher, the breech block limiting stops accumulated small amounts of moisture on firing the piece. This moisture was the result on condensation which froze on the limiting stops thus preventing the breech block from closing. This ice was removed with a clasp knife and the breech block was worked several times before subsequent fire missions. The breech was left open with the canvas breech cover fitted between fire missions.

The automatic cocking lever of the firing mechanism tended to freeze between fire missions; after a few rounds using the manual cocking lever, it would again become serviceable.

The muzzle brake had to be removed and thoroughly dried after each fire mission, for moisture condensed on it during firing. If the muzzle brake was not removed and carefully dried, it froze fast to the barrel and could not be removed for travelling.

The dial sight carrier functioned, save that the longitudinal bubble became frozen for a short period. The grease used in the dial sight carrier would have to be changed for future operations of this nature. The dial sight quick release was very slow; however it remained serviceable throughout the exercise.

Maintenance was extremely difficult because of the absence of sufficient heated space. Heavy pieces had to be serviced in the armoured personnel carrier, as the dry areas of the tent were insufficient for this purpose. Two armoured personnel carriers would have vastly remedied this situation. If M548 tracked vehicles are used on future Arctic operations to portee the howitzer, M113 APCs or other enclosed tracked vehicles are recommended to transport each detachment; these carriers could then be used for daily maintenance.

Though only one gun was brought on PATROUILLE NOCTURNE, the members of the unit who took part in the exercise felt that the experience gained in working under severe arctic conditions was valid and worthwhile.

Ex Martin Pecheur 6

Exercise MARTIN PECHEUR VI was a CPX conducted at the 5e Groupement de Combat in March 72. The aim of the exercise was to practise the Cbt Gp HQ and the unit CPs in the conduct of offensive operations against insurgents conducting clandestine operations.

The regiment was given the task of writing, preparing and conducting this exercise. Maj Pierre Bouvette, BC Q Bty, was volunteered by the CO to perform this task. This involved writing the complete exercise including the activities of both the enemy and the Regional Force HQ (FMC). Along with this, a situation planning team was appointed to help both the higher and lower controls. Such a team was found to be very valuable in thinking up various exercise problems, and is recommended in all future CPXs.

Ex Prime Time 4

In April "X" Battery, augmented by personnel from the Regiment, travelled to Petawawa to join 2 RCHA. The exercise reunited the CAST Combat Artillery Regiment which had not worked together as a regiment since exercise "Running Jump" the previous fall.

On arrival the BC, Major Pierre Marceau, issued deployment orders to get on with the purpose of the trip: to fire. Deployments at the battery level were carried out for the next three days with the much appreciated assistance of Major H Boyles (US Army Artillery Exchange Officer at the Combat Arms School), and two very helpful AIGs. During the evenings the members of 2 RCHA more than adequately looked after the battery with several parties in the messes and many personal invitations to the homes of friends.

The week-end was planned as two days of Regimental Fire Planning. The Regiment deployed on Saturday and the competition between batteries to get adjustment was very keen. Each Battery Commander had at least two fire plans during the day and everyone was trying to become faster reporting "ready". Saturday night saw many discussions of the day's shooting and bets were laid for Sunday. Sunday morning however proved to be a disappointment to all as CFB Petawawa was fogged in so badly that it was somewhat of a navigation exercise to proceed from building to building, and all planned activity had to be cancelled.

On Tuesday the Commanding Officer issued orders for a 72-hour fire and movement exercise. CPOs and A/CPOs were kept busy the first day doing reconnaissance of the gun positions and then having an engineer bulldozer plow the snow out of the areas. It was most difficult to have any sort of a tactical position but everyone tried to "play the game". As the days became warmer and thawing continued even road movement became difficult for everyone, except "D" bty with their tracked vehicles.

The Colonel Commandant with an Attentive Audience

Bdr Lepage is certain to remember very well one of the night moves on this exercise. The move appeared to be going along very well when he discovered to his surprise that his vehicle, loaded with WP ammunition, was on fire! An oil leak caused a fire under the hood and after attempting to put it out with an extinguisher he resorted to shoveling snow into the engine compartment. In spite of all the unforeseen problems with weather and snow conditions the exercise progressed smoothly until its finish on Thursday morning. A pleasant touch was added to the exercise by the visit to the OPs of the Colonel Commandant, Major General H.A. Sparling.

The regiment returned to base camp at noon and the officers of "X" bty hosted the Colonel Commandant and the Commanding Officer and Battery Commanders of 2 RCHA at a luncheon in the officers mess. During the afternoon the Colonel Commandant then made a visit to the Sergeants and Junior Ranks messes. In the evening Major General Sparling was the guest of honour at a mess dinner in 2 RCHA Officers' Mess. Many serving and retired gunner officers were present and once again many old acquaintances were renewed.

It was back to work again as the CAST Arty Regiment prepared for a fire power demonstration that was fired for a Combat Group Officers study group and visiting VIPs. During this period of PRIME TIME Captains Murray Wilson and Skip Beese, with their OP crews, constructed "POX" (poste d'observation "X"). Many long hours were put into the construction of this piece of engineering, and it should be usable for many years.

After the fire power demonstration, the bty prepared for the trip home. It was the first time that X Bty had fired in Petawawa; the exercise and 2 RCHA's hospitality was enjoyed by all.

Captains Wilson and Beese with Crew at "Pox"

Ex Pied D' Argile

PIED D'ARGILE was a combat group exercise held in CFB Valcartier from 15 May to 2 June 72. The scenario depicted an infiltration by terrorists, with 5e G de C being tasked to contain and capture them.

The exercise was conducted in three phases; phase I was an emphasis on the practice of platoon level tactics; phase II emphasized Coy advance and deployment to contain and capture terrorists; and phase III was a full scale operation by the Groupement de Combat to sweep-up the infiltrators. 5e RALC, while not on the exercise ORBAT except for OP parties, was employed throughout the exercise. The regiment carried out the task of assessing the companies; in phase III the regiment had to provide umpires, control staff and villagers for the local simulated villages, the latter being used to add realism to the exercise.

Ex Plein Mouvement 4

During PIED D'ARGILE those from the regiment not involved in the exercise were preparing for Exercise PLEIN MOUVEMENT IV which was held from 2–7 June.

The exercise was a regimental firing exercise augmented by D Bty 2 RCHA. Included in the exercise was the calibration of the guns of the CAST Combat Group Artillery Regiment. The purpose of the calibration was to do an absolute calibration of the three standard guns (one per Bty) and the comparative calibration of the remaining 17 guns (including the two spare guns).

The preparation for the calibration included the surveying of the calibration targets and the zone positions for charges 7, 6, 5 and 3, and the weighing and sorting of ammunition. The arrival of the augmentation personnel, including D Bty 2 RCHA, the CAS team with the chronographs, the combined CAS and 2 RCHA computation team, the survey and Met elements from 2 RCHA to complement the 5e RALC sections was complete by noon on 2 June. Calibration began on 3 Jun with Q Bty firing the first of 1515 calibration rounds.

Each day, the two Btys not involved in the calibration carried on with Bty firing practices. The evening on the 5th was reserved for the man-handling competition which was followed by an all ranks smoker. The afternoon of the 6th Open and Quick actions were held, followed early the next morning by the anti-tank competition.

The three Btys then got together and the surrounding countryside shuddered under the thunder of back-to-back regimental fire missions. By noon on the 7th the ammunition was expended, D Bty prepared for the return home, and 5e RALC turned to its next task – Militia Summer Camp.

Farewell RSM Malcolm

On 30 June 1972 5e RALC members officially bade farewell to the Regiment's first RSM, CWO GN Malcolm. Following a dress rehearsal for the next day's Change of Command parade, the Regiment was reformed on the parade square, and the Commanding Officer fell out the RSM. After the CO's address, in which he thanked the RSM for his immense contribution in the formation of the Regiment and for his exemplary devotion to duty, RSM Malcolm was asked to take the salute. LCol Doucet then led the Regiment in a march past in honour of Mr Malcolm.

All members of 5e RALC wish RSM Malcolm the very best in his new duties at the Warrant Officers School in Esquimalt, BC. On 17 July, CWO MR Sauve, previously BSM of Q Bty, officially replaced CWO Malcolm as RSM.

RSM G.N. Malcolm Ready to take the Farewell Salute in his Honour

The CO Designate, Maj Beaudry, the CO, LCol Doucet and RSM CWO Malcolm in front of the 25 pounder Regimental Flag Gun

Change of Command

MGen HA Sparling, CBE, DSO, CD and BGen BJ Archambault, CD, witness the Change of Command from LCol JJA Doucet to LCol RP Beaudry

On 1 July 1972 5e RALC held a formal Change of Command Parade marking the hand–over of the Regiment from LCol J.J.A. Doucet, CD, to LCol R.P. Beaudry, CD. BGen B.J. Archambault, CD, Commander 5e G de C and MGen H.A. Sparling, CBE, DSO, CD, Colonel Commandant, presided over the ceremonies. Col D.W. Francis, Director of Artillery, also attended.

After the inspection, unit competition trophies were presented. Following addresses by BGen Archambault and LCol Doucet, LCol Beaudry accepted command of the Regiment from the Combat Group Commander. LCol Beaudry then led the Regiment in a march past and a mounted "Drive Past", while LCol Doucet took the salute given in his honour.

The Change of Command was followed by receptions at all Messes, with the Colonel Commandant, the Director of Artillery, the in–coming and outgoing COs and their wives visiting the Sgts' Mess and the Men's Club. In the even–ing MGen Sparling was the guest of honour at a mixed formal dinner at the Officers' Mess.

LCol Beaudry addresses the Regiment on taking command

Camp Dube

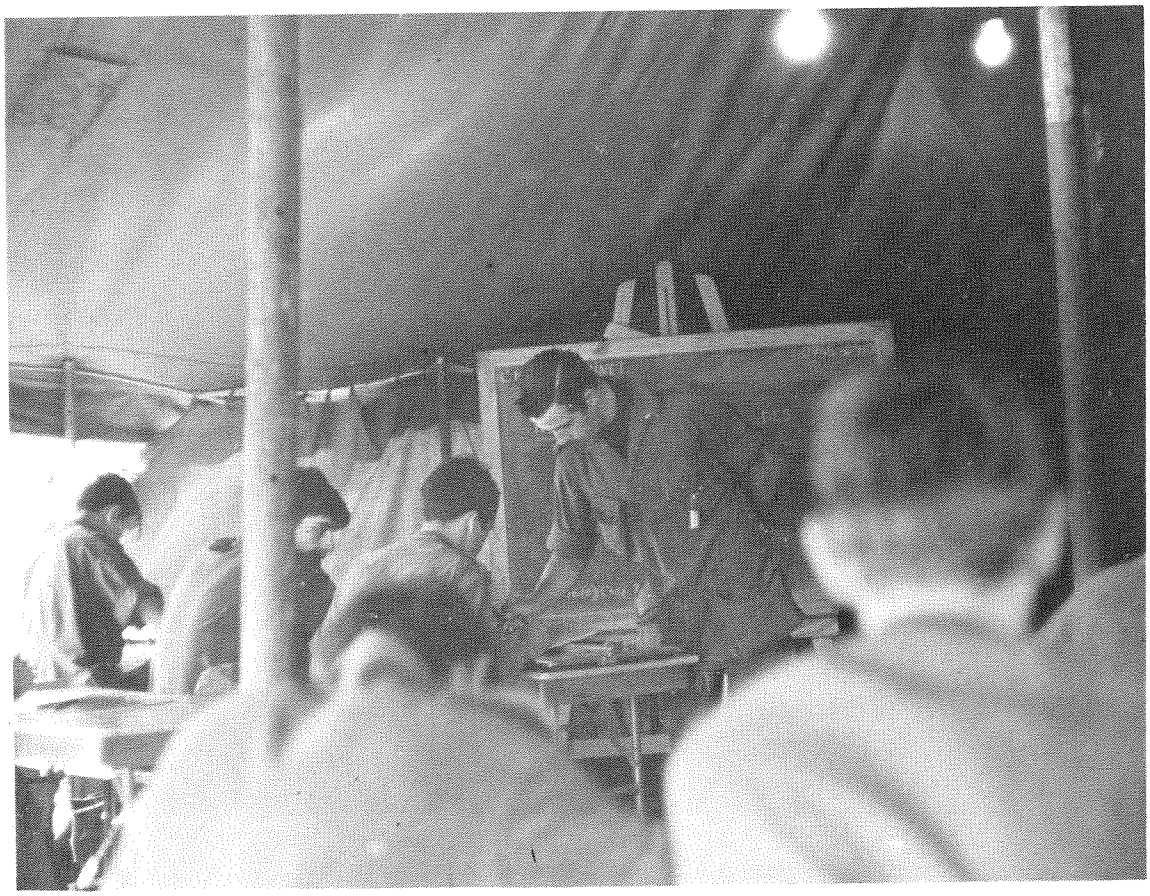
The major task allotted to 5e RALC for the summer months was control of the Militia summer camp. This camp was conducted in Camp Dube, a semi-permanent location situated approximately five miles from the main base area.

Preparations for the opening of the Camp, which included the erection of 168 tents to be used as living accommodation and lecture rooms, began in early June. During this phase, a 100-man work party was kept busy on such tasks as repairing winter damage to buildings, setting up a 20,000 gallon water point, setting up living accommodation for 1200 persons, and a general clean-up of the area. While this was going on, the Camp Commander, Major J.P. Bouvette, and his staff were setting up the administrative organization required to command and control the camp.

The camp was organized along the lines of a training center, with a command element responsible for administration and divisions responsible for the conduct of courses. Q Bty, supplemented by RHQ, was tasked to run the Artillery Training Division.

By the time the first candidates arrived on 26 June, the camp staff, which included civilian help employed under the summer works program and militia call-out personnel, had reached a strength of 300 all ranks and the camp was functioning smoothly and efficiently. By the end of July, over 800 candidates were undergoing training on various courses.

Despite an extremely wet summer which caused two major floods in the camp area, the task was successfully completed without major problems. The last trainees left on 22 Aug and by 1 Sep the camp had been struck and all equipment stored for the winter.



A period of gun drill at Camp Dube

Artillery Division

To conduct the Artillery Trades Qualification Courses for the Secteur de l'Est de la Milice this summer, X Bty was re-organized to become "La Division d'artillerie, Bivouac Dube". The establishment was designed to permit every individual three weeks of annual leave, therefore demanding two people for every vacancy. A Gun Number Course, a Basic Arty Tech Course, and a Basic Communicator Course were conducted. Candidates were offered their choice of language of instruction and a high success rate was achieved.

The training was not monopolized by artillery topics. Each candidate was required to qualify on the FNC1 and the SMG, and to do the five mile forced march battle PT test. A remarkable degree of success was achieved in the run, a result no doubt of the daily work-outs on the sports field. Accuracy on the firing range varied greatly but the majority received a passing mark if not a marksmans qualification.

Unseasonal rains hampered the training throughout the summer. The marquees the militiamen called home were flooded one week-end when the nearby creek overflowed its banks. All got some on-job training in flood control, a TSQ that for years had been monopolized by 3 RCHA.

The training task provided an excellent opportunity for our junior supervisors to practise their instructional techniques. The militia personnel were, as in previous years, extremely willing to learn. Results were sometimes surprisingly good and other times just plain surprising. Nearly all the students remained after the courses to join their units for the militia artillery concentration.

MBdr Bonnet giving instruction on the plotter

Obus Rapide 72

Once again 5e RALC had the pleasure of conducting the annual militia concentration. The participating units were the 2e RAC(M) from Montreal commanded by LCol JRG St–Louis, the 6e RAC(M) from Levis commanded by LCol G Preaux and the 62e RAC(M) from Shawinigan commanded by LCol YE Begin.

Approximately 150 members of the regiment moved out into the field the morning of the 15th of August, and established a Bivouac at Camp Dube. By noon we were all set to greet the arrival of our brother gunners. The militiamen arrived in strength; the 2e RAC manned a complete battery supervised by X Bty, and the 6e RAC and the 62e RAC combined to man a troop each with Q Bty supplying the training cadre and the Bty CP.

The training started with dry troop and battery deployments and progressed quickly to live firing. On the last two days of the concentration the units participated in regimental fire–planning. On Monday the 2nd Regt took part in the RCAA efficiency competition under the watchful and unbiassed eyes of 5e RALC personnel. That evening the concentration was toasted by all at an all–ranks smoker. The militia units departed the next day, and 5e RALC got on with the task of closing Camp Dube 72.

Summer Games '72

To complement the winter games, 5e G de C also held summer competitions in September. Although committed heavily on the GACS trials, the regiment produced a team for every event. The six sports – PAARLAUF, SWIMMING, REGATTA, SOCCER, TUG–OF–WAR and BASEBALL initiated great interest. Paarlauf and swimming were mainly endurance tests in that they were a race against the clock. The regatta conducted on the Jacques–Cartier River over a distance of 5000 metres (2500 upstream and 2500 downstream) demanded great efforts. The regimental tug–of–war team, formed by members of the maintenance section, was not heavy enough to show in the competition – or was it because they could not bring their wrenches and hammers. The Paarlauf team, led by Major Chris Moogk, turned in a good effort, running 47.1 miles in four hours, but this fell short of the 49.8 miles covered by the winning team.

There was no connection between 5e RALC failing to bring home the championship and the unit not being in charge of running the games. (The regiment has been given the task of conducting the 1973 Summer Games).

Mobile Warrior '72

MOBILE WARRIOR 72 was again a great success. 5e RALC contributed to the main effort by supplying a six gun troop to the fire power demonstration exercise. The 50 all ranks that participated in the exercise were a cadre from both X and Q Btys under Maj Norm Bouleau, BC Q Bty.

The road trip from Valcartier to Gagetown was free of troubles. The realistic aspect of the exercise proved to be of great interest to our soldiers, in that they knew they were firing in support of real troops, a task that very few of them had performed before. The quantity and variety of ammunition fired kept the TSM and the ammunition NCO busy, however they contributed maximum efforts to the end.

During the rest periods the battery participated in such sports as baseball and horseshoes; Gnr Mike Lavoie became the champion horseshoe man in the group.

As Q Bty was to return to Gagetown two weeks later to support CAS until early December, guns and vehicles were left behind when the personnel returned to Valcartier at the end of September after a most gratifying demonstration.

The Gun Alignment and Control System

Major C.A. Moogk

During the months of September and October 1972, La Batterie X augmented by the rest of 5e RALC conducted the L5 portion of the Canadian Forces User Trail of the Gun Alignment and Control System (GACS). Without preempting the Trial Officer's report it is felt that our readers may be interested in some of the features of this system which may well become part of the Gunner's tool kit in the near future. Apologies are offered in advance to our TSO's and other space-age brothers for a lack of technical detail. This article is only intended to convey a "mud gunner's" view of the system. The GACS is described as "A radically new fire control equipment for towed or self-propelled artillery which orients all guns on the gun position within seconds and provides an error free numerical display of bearing, fuze and elevation at each weapon". An important misconception, engendered perhaps by this definition, needs to be dispelled here. The GACS system only passes data to the gun. Application is by normal manual methods. This is however a step towards the automation of surface-to-surface artillery.

Let us first examine the GACS components and then see how they are used in operation.

The GACS Reference Unit (RU) (figure 1) is set up on a tripod in the same sort of position as an Aiming Circle and performs a similar function. The RU is oriented on grid north using any of the normal methods (gyro, parallel line, RO bearing or compass).

The RU itself consists of two major components: a narrow laser beam which rotates once per second and an omnidirectional Xenon Flash tube. Each time the laser beam passes through grid south the flash tube emits a pulse of infra red energy in all directions in azimuth.

The Infra-Red Receiver (figure 2) is mounted above the panoramic telescope of the gun. It receives both the IR pulse and the laser radiation from the RU.

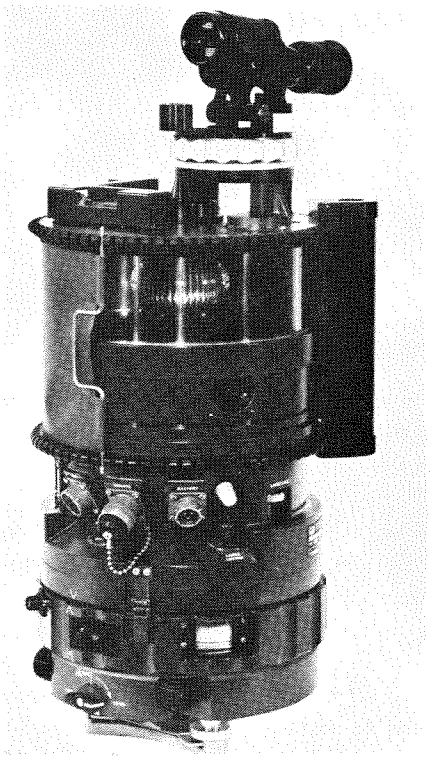


Fig 1

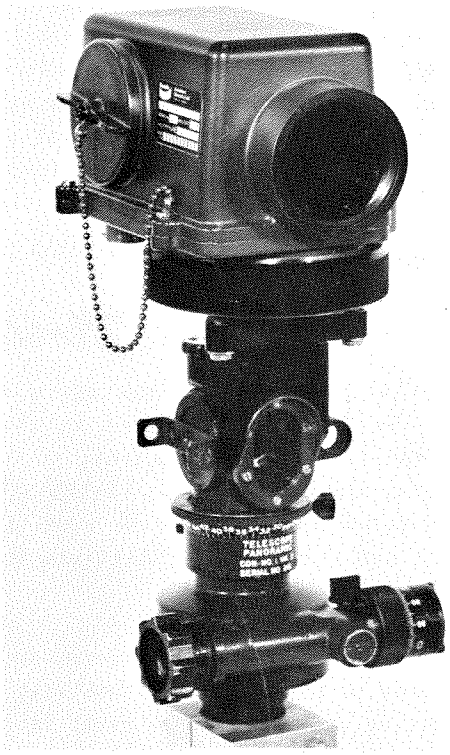


Fig 2

The Gun Unit (GU) (figure 3) is located with the gun and is capable of displaying a reference angle from the RU, a target bearing from the CP or the sum of both of these. It displays these angles in the "Bearing" window. It also displays the fuze and elevation as received from the CP by line or radio (AN/PRC 25).

Command Post Unit (CPU) (figure 4) is used to transmit bearing, fuze and elevation to the gun. It can be set manually or linked to a gun data computer. Common data can be sent to a fire unit or individual data can be sent to each gun.

Fig.3 – The Gun Unit

Fig 4 – Command Post Unit

Now let us see how all this functions during the occupation of the gun position. The RU is set up and oriented during the recce of the position. The gun arrives at its platform and its IR receiver receives an IR pulse once per second as the laser beam passes grid south during its rotation. The GU then essentially counts the time interval between the receipt of the Xenon pulse and the moment the laser beam sweeps past it. This time interval is converted to an angle by the GU, added to the bearing center of arc as received from the CPU and displayed in the "Bearing" window. Figure five is a diagram which is for a center of arc of 0800 mils. The combined angle is now applied to the main scale and the gun is laid in the normal manner. Bearing data during a fire mission is applied in a similar way. Fuze and elevation are received directly from the CPU and displayed by the GU. Figure six shows the GU, RU and IR receivers.

Fig 6 – A view from the Gun Position to the Reference Unit. The IR–RX may be seen over the head of the gunner on the left while the Gun Unit is in the left foreground.

Several advantages of this system are:

FIRST. The gun receives an initial angle for orientation within one second of being ready for this angle. There is no waiting for the GPO to do his sums at the aiming circle. In fact no one need be at the RU during occupation.

SECOND. All guns receive their angle during occupation as soon as they are ready for it. It is thought that a self–propelled unit might remain in a hide up to the fire mission and drive onto the gun position for the mission only. Orientation would be almost instantaneous. Speed into action is thus enhanced.

THIRD. The GACS automatically compensates for any movement of the gun from its initial position caused by recoil forces.

FOURTH. It is claimed that the system will reduce the incidence of human error in the gunnery system. This need may be scoffed at by peacetime gunners of today but may well have an advantage in operations of war with a reduced level of training and an increased "twitch factor".

FIFTH. The system is another step toward the automation of surface–to–surface artillery. The GACS system augmented by servo–mechanisms at the gun may well reduce the man–power bill of our regiments.

Bdr Millar at Reference Unit

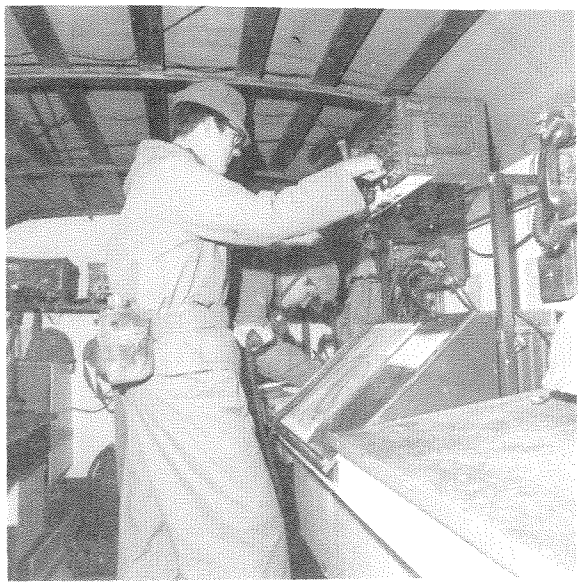
BC detachment receiving angle from Reference Unit

The trials started with one week of familiarization. For the first while, all ranks gawked in awe at the mysterious spaceage machinery but quickly overcame their hesitation and fervently worked at becoming as familiar with the new equipment as with the old. Familiarization was followed by five weeks of all types of gunnery exercises. There were seemingly endless live and dry deployments both as a two-troop battery and as a six-gun fire unit using both GACS and the "old" director orientation method. A three-day exercise was incorporated into the trials which involved several night deployments and night firing. All types of missions were fired including several with that ever-so-rare commodity, the illuminating projectile. Has anyone ever seen a 2500 meter linear illumination shoot? A day of quick actions rounded off the trials.

X Battery with its bolstered ranks worked hard during the trials and fared well in spite of many obstacles. There were people in the composite battery who had never worked together before, and people who were forced into unfamiliar jobs due to a shortage of manpower; there were innumerable vehicle and equipment problems and the GACS equipment was strange, heavy and bulky. Yet, the old gunner flexibility came through and the group soon developed into a functional team.

The trials team wanted a user trial and they got it. They received feedback on every conceivable aspect of the GACS. The "tin goose" was kicked around like any other piece of kit. Endless readings were compiled. In short, the equipment was used by an operational battery and the results recorded.

The GACS trial team moved to Gagetown in mid-October to continue the user trials with E Bty and their M109s. Though members of X Bty have their impressions and ideas on the advantages and disadvantages of the equipment, it is considered more appropriate to await the trial officer's final report rather than to draw premature conclusions at this stage.



Lt Sackett operating GACS Control Unit in Troop CP

Sgt Galleen's detachment. Some detachment commanders preferred placing the Gun Unit near the right spade

1 AB BTY

Ex Northern Lancer

This exercise was carried out at Resolute on Cornwallis Island from 20 to 29 Nov 71. The Regiment was called out on a "quick–rig" at 190200 Nov 71 and the CO held a preliminary briefing at 0400 hrs. The Commander's briefing took place at 1100 hrs and the CO followed with a briefing for the Battery Troops at 1300 hrs. The pathfinder group, including the FOO/FAC party, was to depart at 200200 Nov 71 followed 24 hrs later by the 1 Cdo Gp including ATY and BHQ. The weather gods were not with us, as the winds were too high even for the aircraft to land. After a two hour hold, the winds would allow a landing but the jump was definitely off. The 1 Cdo group followed the next day with a successful parachute drop.

After regrouping, B Coy was tasked to destroy the enemy found by a patrol from the pathfinders earlier. In the meantime the Commander decided to use the same DZ for the 2 Cdo group, and necessitated A Tp moving off the DZ. 2 Cdo and B Tp had a successful night drop, and the Commandos moved off to their objective 5 km north while B Tp set up their gun position on the DZ.

The exercise continued as both Commandos chased and closed with the enemy. At approximately 1100 hrs A Tp fired our first "Northern" round, providing illumination for a 1 Cdo Recce patrol. Firing continued throughout the next two days culminating on the night of 26 Nov. All units redeployed to a base camp area 27 Nov and the Officers and Senior NCOs played their own Grey Cup game and crowned a native Miss Grey Cup. Redeployment to Edmonton commenced 29 Nov and was completed the next day.

December allowed the Battery to take some well earned rest, then back to CFXs and other training, in preparation for the next exercise.

Moving the Guns – Airborne Style

Ex on Top 3

The New Year got off to a quick start with Ex ON TOP III. This was a 2 Cdo Gp winter exercise in the Peace River area near Fort St. John. The AB Bty was placed under command of 2 Cdo and, unlike other AB ops Bty TAC operated at Cdo HQ. Both OP parties were deployed with the forward companies and the guns, together with the CF–5s, were tasked for fire support against an enemy moving South along the Alaska highway. The operation had two phases, the first to hold blocking positions North of the Peace River and the second stage to deny the enemy from crossing the Peace River at the main bridge.

The exercise commenced with the Pathfinders moving in with A Tp FOO/FAC Party 24 hours before the main body. The Battery jumped in with the main body onto Charlie Lake. The OPs and the Cdo moved out on a 7 mile march to occupy positions astride the Alaska Highway while the guns took up a position on the lake itself. With the zones of fire 6400 miles the operation covered a very large area. Averaging one move a day, the guns had to shift constantly to cover all the missions being performed by the commandos.

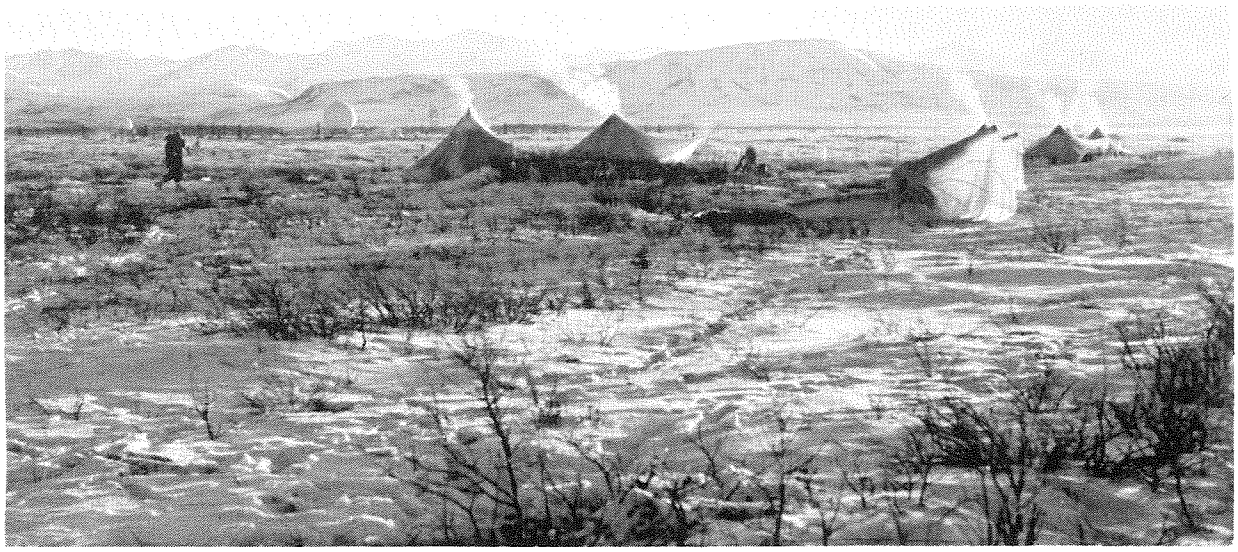
The Cdo was withdrawn by stages to intermediate positions along the highway and in this regard, it was unusual that the guns were the last to be withdrawn to bridge. The reason being that the position on the Lake was relatively secure and the available transport had to be used to carry the Cdo.

An unusual turn of events occurred when a Company of US paratroopers dropped just North of the bridge as an enemy force. This caused a very rapid deployment of the Cdo to the South of the bridge.

In the final stages of the exercise, with all of the Cdo withdrawn South of the bridge and the bridge set to be blown, the American paratroopers were lifted by Voyageur helicopter to an area behind the gun position changing the main direction of attack from the South. In the defence of the gun position, the gunners acquitted themselves extremely well and lost few casualties in the direct fire role.

The exercise concluded with the destruction of the bridge and the destruction of the enemy forces South of the bridge.

Ex ON TOP III proved to be a gruelling exercise with a maximum of moves due to the great extent of the area of operations. Although shorthanded, the guns once again proved up to the task by getting on with the job. At no time during the exercise was there a lack of fire support.



One of the Battery Gun Positions on Ex "On Top III" at Fort St John, B.C.

Ex Patrouille Nocturne

Five members of A Tp took part on Ex PATROUILLE NOCTURNE with 1 Cdo. This was a major winter exercise for 5ieme Groupement de Combat. 1 Cdo was tasked to paradrop on a DZ on the bay and to capture the airfield at the settlement of Frobisher Bay. The drop was successful and the Cdo then took off on foot for Frobisher Bay. The airfield was taken without opposition. 1 Cdo was then tasked to carry out perimeter defence and to guard critical installations awaiting the arrival of the Combat Group.

When the main portion of the Combat Group arrived, the main battalion group, 3 R22eR, sent out a recce patrol to locate the enemy believed to be about 20–30 kilometers North of Frobisher Bay. 1 Cdo was then tasked to provide flank protection for the move of the Battalion to destroy the enemy. One Company of 1 Cdo was to remain at Frobisher Bay to act as a Mobile Reserve, ready to be paradropped or helicopter–lifted to the area.

On the night of the big move the temperature, which had been in the vicinity of 20 below, went down to between 30 and 40 below with winds gusting to 30 miles an hour. The equivalent wind chill was reported to have gone to –125 degrees.

A Tp OP personnel were split up into 3 parties for this phase of the exercise. The Mobile Reserve was committed although the drop was carried out in marginal wind conditions. Its task was to locate and destroy a small enemy pocket while the main body carried out an assault on the enemy HQ location. This action terminated the exercise.

Ex PATROUILLE NOCTURNE was a disappointing exercise for the AB Bty contingent. Due to airlift problems, the guns could not participate in the exercise and the OP parties did no real FOO work. Support from 5 RALC was not available due to ammunition shortage and long working ranges. However some FAC work was carried out successfully.

While the 5 members of A Tp were off at Frobisher learning French, the remainder of the battery refreshed themselves on mortar drills in preparation for the next practice camp.

Battery Mortar Firing Camp

On this exercise at Camp Wainwright the Bty added a new twist to gunnery. The week previous to the exercise, a number of pilots from 408 (HUEY) Helicopter Squadron were instructed on gunnery procedures and had a "go" in the Puff Range. Armed with this knowledge they took part in the exercise with their helicopters.

On the 1st of Feb, the Bty dropped onto Rifle Ridge and deployed the mortars at the base of Patricia Hill. The Firing Camp started with some course shooting and then moved on to GPO shoots, Sec Comd's shoots and No 1's shoots.

Next came the highlight of the exercise. The helicopters became airborne and the pilots tried out their newly acquired skill. Each lift carried some Bty personnel who were given the opportunity to see the targets from a "Bird's–eye view".

The exercise was non–tactical but proved worthwhile in keeping up the mortar firing capabilities and, an interesting sidelight to the helicopter pilots.

The next phase of our training schedule proved to be almost a winter holiday in the beautiful Rocky Mountains.

Regt Ski School

On 14 Feb 72 the AB Bty journeyed to Kananaskis for the annual ski school. The purpose of the ski school is to familiarize Airborne soldiers with cross–country tactical skiing.

On arrival the Bty was split into two groups. For the new arrivals in the Battery, instruction would be at the beginner level. The veterans were grouped into the advanced skier class. The first two days were spent on the trail learning to get used to the skis. The beginner class was definitely the group to watch as many hilarious incidents occurred on the trails. Credit is due to WO Currie whose nerves of steel led the beginner class down one of the most difficult hills encountered during the week.

Since the World Cup Races were being held on Mt Norquay, the Bty personnel were given the opportunity to attend on the opening day. Many had the chance to do some downhill skiing during that time.

The Ski School culminated with a downhill race and ski jump competition. Competition was fierce and spectacular. In the advanced class Bdr Senechal won the race and Bdr Frantz took the honours in jumping. In the beginners group, Bdr Snow proved best in the downhill and Capt Walton was the top jumper. All winners received a "bottle of Body wax".

Now the excitement began for our next Regimental exercise. Some even managed to stay awake during the two week training period learning about the jungle and tropics prior to our departure for Jamaica.

Ex Nimrod Caper 4

On 22 Mar the Bty boarded one of ATC's 707s and flew to Jamaica. Exercise NIMROD CAPER IV was designed to exercise the Airborne Regiment in a tropical setting. The first two days were spent on acclimatization training as the temperature in Edmonton on departure was around the freezing mark. The base camp was at Folly Point near Port Antonio on the North-East side of the island. Upon completion of learning to live with the heat and jungle, the Bty embarked on Watermanship Training. The Bty moved to a rafting site on the Rio Grande and spent the morning learning how to build rafts from bamboo poles. The rafts made by the Bty had to be built considerably larger than normal as the L5 Howitzers had to be transported down the river. After the instructional period, the Bty boarded helicopters and was flown upstream. After a night of rest, and a reveille of 0500 the raft-building commenced. Twenty-three rafts were built and the journey began. The bamboo was green and therefore the floating capability was greatly reduced. The size of the rafts also created difficulties for the "crew" (each of two to three men). The river was of limited width and the depth in certain areas was only inches deep. The first mile or two were enjoyable and then the task became somewhat arduous. Approximately four miles downstream, the Bty had a RV with the guns. Each Troop disassembled a gun and was to carry it to the mouth of the Rio Grande. At this point many of the rafts were in deplorable shape.. The ropes used for the rafts had frayed and the bamboo had split. Hasty repairs were made and the journey continued. Fortunately, only one major incident occurred as Bdr McDiarmid .and his raft had a collision with some rocks, causing the raft to disintegrate. In general, the exercise was well worthwhile as another first was achieved by the Bty. On return to Base, the Bty went on two days R and R.

The next exercise consisted of mountain training. After a morning of refresher training the Bty was lifted by helicopters to a rappel site. From this area the Bty was to make its way across the John Crow mountains to an RV close to the Rio Grande. On the way the Bty was to find and destroy a guerilla encampment. The going was extremely difficult and many ambushes were encountered. Finally the guerilla camp was spotted and after a hasty O Gp the Bty put in an attack and caught the enemy by surprise. After a bivouac on the spot for the night, the Bty then proceeded to move cross-country to the RV for the return trip home. The route was covered by enemy forces but the Bty was so successful in concealing its bivouac that the enemy could not locate us even aided by the native Jamaicans. The exercise was successful for the Bty in that it proved the ability of Gunners playing the role of infanteers.

The third major form of training was in the swamps in the Black River area. The exercise commenced with a paradrop into the Alligator Farm area. The mortars were also dropped. The drop was successful and the trek into the swamp began. The exercise was completed without incident and the troops were able to manpack the mortars without any difficulty.

The final exercise was the jungle phase of training. This was a pure gunner exercise. The guns and mortars were taken to a gun area by vehicles and deployed in a dug-in position. Due to the rocky nature of the ground, the Sappers were called in to help blow the gun pits. During this time a live enemy was in the area and continued to harass the Bty position continuously. After three days, the Bty was redeployed to an intermediate position and then returned to Folly Point.

Finally it was time to return to Edmonton. The exercise proved worthwhile in complimenting the numerous exercises in the North throughout the past year. Many new experiences were gained and valuable training accomplished in a totally new environment.

All good things must come to an end, and we were soon making preparations to return to Wainwright.

CDN AB Regt Birthday

This year the Regt'l Birthday was held on 10 Jun to celebrate three separate occasions: The Regimental Birthday, Canadian Armed Forces Day and Commander Mobile Command's Inspection.

Due to inclement weather the main event was cancelled to the chagrin and disappointment of Bty personnel. The good weather programme was to have been a paradrop of 4 guns and detachments. The Regiment was to mass-drop and form up a parade at the DZ shack. After the General Salute, the guns were to fire a 21 gun salute. Unfortunately this programme had to be cancelled due to weather.

The Battery's inclement weather programme consisted of a demonstration/competition in manhandling an L5 howitzer and a 21 gun salute.

The birthday celebration continued in the afternoon with a parade and inspection for MGen Brown. The parade went reasonably well except for the inferior music provided by the band.

The final celebration was an all-ranks dance in the gymnasium. The turnout was excellent but the mood was not quite what it might have been, possibly due to the cancelled paradrop.

Ex Amazon Beauty

On 2 May 72 the Bty departed for Camp Wainwright to participate in the Regimental Battle School. The next day, bright and early, physical fitness tests were carried out. The test consisted of a 10 miler, and finished with the associated tests such as the wall, the ditch, and the carry.

The second day was spent on Annual Classification with personal weapons. A change from the normal was that all personnel were able to fire the Carl Gustav for the first time.

The next two days were spent in troop training. These were spent "shaking out" and in preparation for the annual practise camp to be held in Shilo. The Troop training culminated with a night recce and night move, which gave BHQ an opportunity to complete Bty survey.

The next three days were spent on Bty fire and movement. Part of this time was spent in support of 2 Cdo and the Bty fired a number of illuminating rounds for patrols and ambushes.

On the 12th of May the Bty returned to Edmonton to prepare for the long move to Shilo.

Ex Chorus Girl

Again this year 1 AB Bty participated in the 3 RCHA Practice Camp. The exercise was to start off with a paradrop of a gun crew and OP party from a Buffalo. Upon landing the gun was to fire live. Due to aircraft problems the exercise was cancelled. Approximately 20 personnel jumped into Shilo from a Hercules while the remainder of the Battery arrived by road.

Once in Shilo the Bty married up with the Mortar Platoon of 1 PPCLI commanded by Capt Ronksley. The Mor Pl remained with the Bty for the duration of the Practice camp.

Practice Camp kicked off with shake out training at the Battery level. FOOs and MFCs received the opportunity to work together while all Command posts sharpened up on drills.

The following two days were spent in fire and movement and technical shooting. This included illumination and coordination illumination using gun and mortars.

The final day of Bty training involved quick and open actions as well as sniping and gun and anti-tank shoots. At the conclusion of the day, the Bty was all set for the Regimental exercise.

The next day was a Regimental "FUN DAY" involving competitions of various types. Two guns per troop commenced a sniping gun role and manhandling competition. Showing plenty of hustle, the Bty took the top three places in this competition. The next competition was AFV recognition and the anti-tank shoot. The Bty placed second in this competition.

The quick action competition followed with A Tp getting their first round away in the remarkable time of 41 seconds. B Tp was close behind with 48 seconds. Although both troops were within 200 meters of the target on their opening rounds, a troop from 3 RCHA with an opening round time of 1 min 45 secs was judged as having more effective fire at FFE and thereby won the competition.

The final competition was an open action shoot conducted by the GPO. In this competition no one could touch the mighty A Tp. All in all, the Bty acquitted itself well with 3 firsts and 5 seconds. The day culminated with a smoker and presentation of trophies.

Saturday was spent in continuation parachuting from the Otter aircraft at Proctor Field. The day was beautiful and approximately 125 descents were made without incident. On Sunday 12 members of the Bty parachuted successfully in a demonstration at the Brandon Airport.

Sunday evening began with the O Gp for the Regimental Exercise. The Bty moved out that night to the South end of the ranges. The exercise consisted of fire and movement with emphasis on fire planning at the Tp Comd and Bty Comd levels. Live fire was given by 434 Sqn of CF 5s and all FACs were requalified during the exercise. The Voyageur helicopter was used successfully for move of guns and mortars as well as for resupply. The exercise was extremely beneficial and at the conclusion, the Regiment was firing at a high standard.

Friday 2 Jun began a rehearsal for a demonstration to the public of fire power for Armed Forces Day 1972. The Bty's contribution was a paradrop of a gun and crew which fired an anti-tank shoot upon landing. The gun was ready to fire in approximately 12 minutes from exit from the aircraft. The Bty also had a mass drop of personnel from a Hercules and an Otter following the gun drop. A later performance saw some members of the Bty demonstrate rappelling from a Voyageur helicopter. The final contribution was a freefall demonstration by Capt Lucas, GPO A Tp and two members from the Airborne School. This was a real crowd pleaser as Capt Lucas landed right on target in front of the spectators. The demonstration was a roaring success.

On Sunday the Bty began the long trek home and a well-deserved rest from the numerous exercises it has been on this year. Again 1 AB Bty demonstrated at Practise Camp their tremendous capability of shooting and soldiering.

Regt Mountain School

1972 provided another first for 1 AB Bty. It was the first time the Bty participated in Mountain School. The Bty moved to KANANASKIS on Friday 23 Jun. Due to rain the course schedule had to be revised.

The Bty was split into 3 groups for training. A, B, and BHQ. Training consisted of Installations, Rappelling and Casevac, and Climbing Techniques. The training was interesting and informative. The final day was spent in a mountain walk and due to other commitments the Bty could not participate in the final exercise.

The training was informative and challenging with the Bty personnel receiving the TSQ of Basic Mountaineer. The Bty enjoyed itself and some amusing incidents occurred during the training. Capt Ross became known as Capt "Avalanche" for his ability to create rock falls.

Change of Command

After two full years the Battery said goodbye to its CO, Major RR Doyon, CD, who was posted to the Artillery Staff Course at CFB Gagetown.

Major TT Itani assumed command on a Battery Parade and Drive Past on 14 Jul 72. Colonel H.C. Pitts, Commander, Canadian Airborne Regiment was the Reviewing Officer. Following the parade, the Officers and Senior NCOs and their ladies gathered for cocktails in the Officers' Mess. That evening a Battery Smoker was held and many good-byes were said due to the many postings received. Major Doyon presented a 3 ft x 4 ft copy of a picture of a jumper about to land to be held in our new Battery Stand-Easy area.

The Battery proceeded on annual leave immediately as all members were to be back by 24 Aug to prepare for exercise.

Ex Ready Now 2

Exercise Ready Now II was held at Fort Assiniboine, Alberta from 28 Aug to 20 Sep 72. It provided the first opportunity for the Regiment to deploy in a DCO summer operation. The concept of operations was a UN Internal Security setting to develop and practise sub unit drills and procedures for rural counter guerilla operations.

The exercise was conducted in four phases. Phase I was the deployment by parachute into the exercise area. The Bty deployed four guns and three vehicles, the most austere scale we've ever worked on.

Phase II was a unit training period and each troop deployed with their respective Cdo group. This provided a chance to practise those drills and procedures that needed work, including gunnery, deployment, use of helicopters and other small group tasks. A tp also worked as an enemy force for 1 Cdo during this period.

Phase III was a Regimental exercise in counter guerrilla operations. This phase was a normal dry exercise for the guns with very little action until the final few hours. One highlight was an extremely unsuccessful night attack by the guerrillas on the Bty position.

Phase IV saw the Regiment redeploying by foot to Edmonton. Needless to say, there were many sore feet and aching muscles after 125 miles.

The Bty is now busy again with Mortar training and CPXs in preparation for a practise camp in Wainwright.

CAS

Arty Instructor/Officers Course

Front Row (L to R): WO Douglas RA (AIG), Capt BTN McGrath (IG), LCol DR Baker (DComdt, CAS), Capt LTB Mintz (IG), WO Wall DE (AIG)

Second Row (L to R): Capt RS Wilson, Capt PR Learmonth, Capt GWA Trimble, Capt LA Branum, Capt LA Adkins, Capt JB Lapointe, Maj JER Tattersall

Back Row (L to R): Capt WW Willis, Jr (US Army), Capt CZJ Chamberland, Lt DJ Phillips and Capt HP Mundell

RCSA - 1946

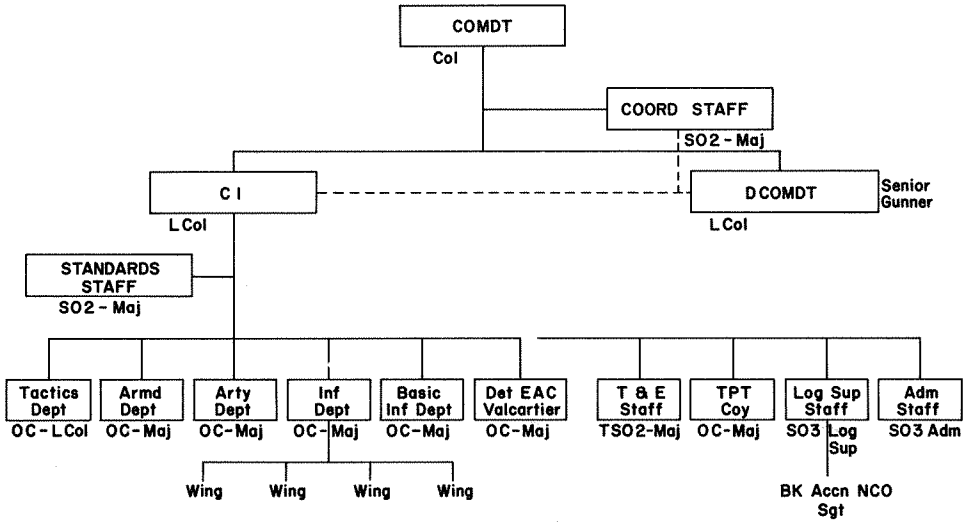
CFSA - 1969

Indirect Fire Company -1971

Artillery Department - 1972

From the 1972 version of RCSA, all ranks (67??) of the Artillery Department would like to say hello and tell you the reader what has been happening in 1972 at The Combat Arms School in Gagetown, N.B.

As the above title changes would indicate we have been reorganised this year in conjunction with the overall reorganization of The Combat Training Centre (CTC) and The Combat Arms School (CAS). To see where we fit in the CTC/CAS organization an organizational chart is shown below.



There are two points that should be made with reference to the chart. First, it does work so we hope it will not be changed for at least six months, secondly, we do not have "wings", squadrons or troops within the department because we can by virtue of the superior training of IGs and AIGs assign instructors to courses as required.

As an indication of the yearly workload, in 1972 we have trained 217 personnel on a total of 16 courses. In addition, to these formal artillery courses we provided IG/AIG assistance to all artillery units and provided the other departments and Standards Staff with gunner input and manpower. We have retained responsibility for conducting the Infantry Advanced Mortar Course and assisted in trials and evaluations of new equipment. This has been done with a total instructional staff of 45 IG/AIGs.

The system has worked this year largely because of the excellent support mainly by E Bty 2 RCHA but also by 5e RALC and 2 RCHA. Without their resources the courses simply would not have run. Until such time as there is a "school troops" organization this is the only way we can function.

As most of the readers are aware we participated in the Artillery Training Conference at FMC in November of this year. A great deal of preparation was done by Standards Staff, The Artillery Department and the Deputy Commandant or Senior Gunner, CAS.

It is expected in 1973 that many of the decisions and recommendations of this conference will be implemented on such items as:

Artillery Trade Progression,

Trades Adjustment Training,

Calibration Policy,

M109 Training,

Officer Classification System,

Regimental Organization,

Two Plotters in the Battery CP, and

Use of Gyro Orientors.

Resolving these areas will be the major task next year and should prove to be worthwhile.

Finally, if the editor will let it go by, we ask for your comments on our "Gunner Newsletter and hopefully some input from the regiments.

Arty Officer Staff Duties Course

Front Row (L to R): WO Douglas RA, Instructor; Maj JR Pearson, Course Officer; Col CH Belzile, Commandant CAS; Col JPR LaRose, past–Commandant CAS; Maj RG Hurley, Instructor; Capt LTB Mintz, Instructor; WO Wall DE, Instructor

Back Row (L to R): Capt DA Elrick; Capt HA Walinsky; Capt JJ Fraser; Maj C Archambault; Capt MV Bezeau; Capt RG Elrick; Capt GJ Oehring; Maj WR Johnston

Lethality and Effectiveness of Artillery Fire

Captain HP Mundell

To employ artillery fire to achieve maximum results in any tactical mission, artillery commanders must have an intimate knowledge of the lethality and expected effectiveness of the weapons they command. This is important in both quick and deliberate fire planning at all levels, and in the allotment of fire units to specific tasks.

The Americans rely on a process of non-nuclear target analysis to determine the military importance of targets, the priority of attack and the selection of the best weapon system and ammunition to obtain a desired level of damage or casualties.

We tend to rely more on sound tactical judgement and experience to produce a solution. Unfortunately few remaining Canadian gunners have this expertise with the result that few of us can fully appreciate the problem. An analysis of almost any campaign of World War II will serve to illustrate this fact. Take for example the Battle of the Rhineland in Feb 1945. A scientific analysis of "Operation Veritable" produced the following conclusions:

1. A density of about 650 field and medium shells an hour per map square or one or two shells every minute within 200 yards seemed to have been enough to keep officers and everyone else in their shelters.

2. A density of about 2,600 shells an hour per map square or about 6 a minute within 200 yards seemed to have been enough to neutralize the quality of troops in these defenses which were manned by a second class division.

3. There was an indication that the number of shells fired was more important than the weight and that pepper pots represented an economical method of increasing fire effect.

The Battle of Boulogne perhaps serves as a more vivid illustration of the problems confronted when attempting to destroy targets with artillery weapons. During the initial attack some 80,000 rounds were fired in CB tasks yet 17 batteries still remained active. In addition enemy records revealed that one 6 gun 88mm Bty (German) fired some 2000 rounds in the ground role in spite of receiving 6000 shells within a radius of 300 yards.

In hope of making individual gunners more aware of just what we can expect from conventional artillery engagements this paper will discuss the following:

a. Lethality and factors affecting it.

b. The effectiveness of artillery engagements and factors affecting it.

c. Weapon systems currently used in the Canadian Artillery and guidelines for their tactical employment.

LETHALITY

The lethality of ammunition refers to its casualty producing potential expressed in square units, (usually sq metres). It is determined by the effects pattern of an individual round and the probability of casualty production within that area.

The lethality of any one type of round is not a standard value but depends on several variable conditions. Such a variable is the nature of the target and the degree of protection it is afforded. By nature of target we refer to whether the target is a material target (APC, armoured formation) or a personnel target (Enemy OP or infantry company). The degree of shielding merely refers to the protection offered to that target by its surroundings. It should be obvious that infantry in the open whether standing or prone are much more susceptible to fragments than if they are in foxholes with overhead cover. Thus a single HE round would have a much greater lethality against the unprotected infantry.

The lethality of a specific calibre of projectile may also depend on the fuze with which it is armed. Common sense tells us that when engaging personnel targets in slit trenches with no overhead cover, airburst fuzes increase the lethality over point detonating fuzes. Furthermore the fragmentation characteristics of the steel used in construction of the projectile influences the expected lethal effect. A special cast-iron 105mm projectile recently developed by the US Army is significantly more lethal than the current standard 155mm.

The final factor we will consider when discussing lethality is the angle of fall of the projectile as it approaches the target. As the angle of fall changes from 200 to 1200 the lethal area, depending on the target nature, may more than double. This quality is a direct result of the velocities of detonation and the terminal fragment pattern. Figure 1 roughly illustrates how fragment patterns change with the angle of fall. The "searching effect" refers to the capabilities of the fragments to penetrate hollows and ground shielded in the horizontal plane.

FRAGMENT PATTERNS

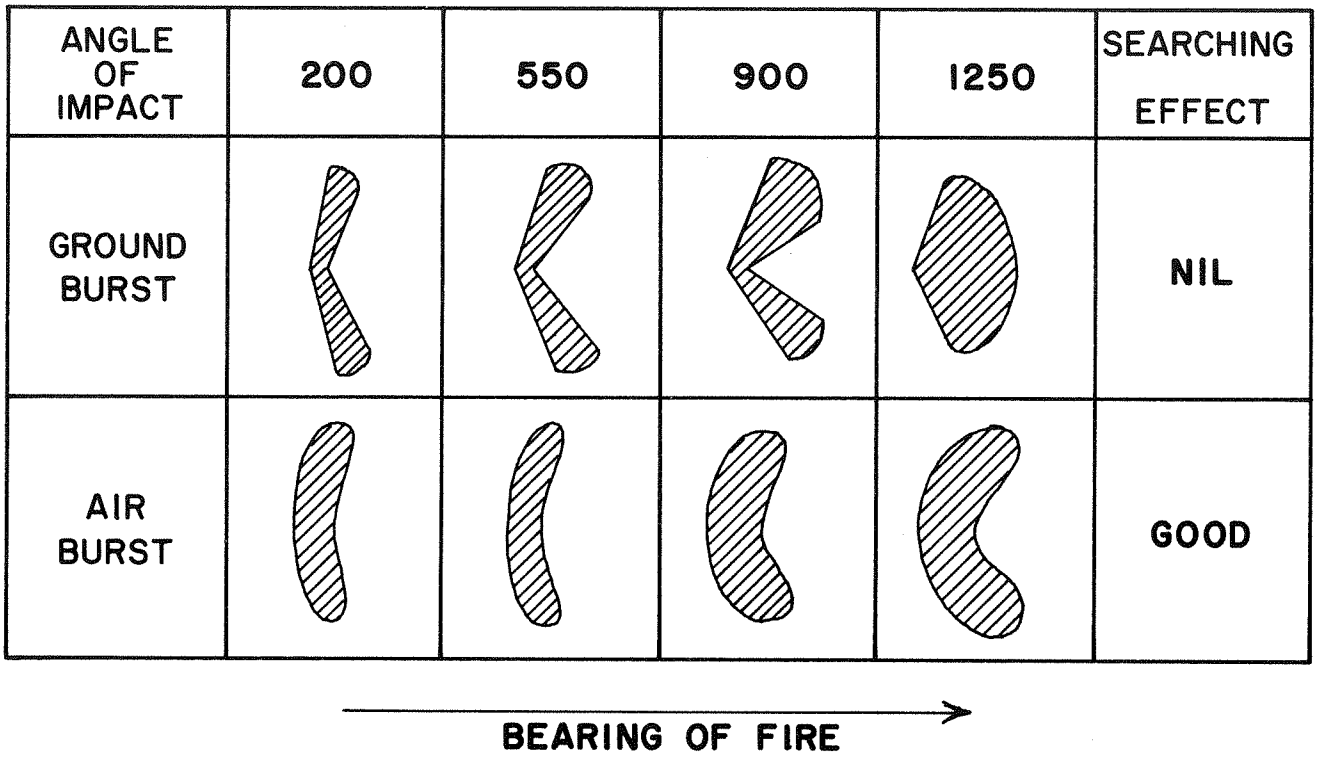


FIG 1

EFFECTIVENESS

The term effectiveness of artillery fire refers to the expected tactical result of a specific mission. This may be measured in casualties produced, damage caused or degree of neutralization achieved.

The effectiveness of a single engagement depends on a number of factors:

a. The number of rounds expected to land in the target area. This is a function of the accuracy of the weapon system in use (including gun and target location) and the number of rounds fired.

b. The size of the target and the size of the fire unit engaging. It is important when large targets are engaged that an adequate number of fire units be employed to ensure that fire is brought to bear throughout the entire target area. In short we say that we must have a high degree of "coverage".

c. Lethality of the ammunition used. To be effective and efficient, officers must have a detailed insight into the effects of various munitions in order to select the most lethal method of attack.

High explosive artillery fire can be employed to achieve basically two aims - the creation of casualties (i.e., destruction) or neutralization. Critical casualty levels will vary for a given target or target area, so we cannot accurately predict the exact damage or casualty level required to defeat a target. This critical casualty level depends on casualties and material losses suffered by the unit plus several less tangible elements such as troop experience, morale, and leadership. Studies undertaken by the Americans indicate that 30% casualties will normally render an attacking unit ineffective. 40% casualties will normally cause a defensive unit to become ineffective in defending its position against attack. Unfortunately artillery in itself is not an efficient casualty rendering agent. Weapon effects table (155mm M107) state that with a gun survey error of 20M, and no target location error, in order to be assured of 30% casualties against a dug in target radius 100M with no overhead cover we must strike it with 20 vollies of VT from 3 six gun batteries (that is one practice camp's worth of VT in one target).

Although artillery fire may not readily produce casualties, it does provide the battle field commander with a potential means of neutralization. The aim of neutralization is to prevent the enemy from using his weapons effectively, observing the battle field, and moving. Neutralization is essentially a morale effect based on the individuals fear of becoming a casualty. This fear is induced by:

a. Noise and blast. This includes the sound of the approaching shell and its detonation effects. The effect does not depend on the calibre of the shell but on the awareness of the individual that the projectile is arriving. Its detonation further intensifies this fear. Because of the confused state of the individual he is unable to distinguish one calibre of shell from the next. In addition the number of "bangs" is more important than the intensity of the sound.

b. Casualties produced. Casualties and damage to equipment assist neutralization by causing confusion and fear.

c. Obscuration. This aids neutralization mainly by inhibiting aimed fire by smoke and by dust.

Neutralization is not a lasting effect. Fire must be held on the target until the last moment in order that the enemy does not recover and exert strong resistance. In WW II the Allies found that in most cases they had less than one minute to reach their objectives once artillery fire was lifted. In addition neutralization fire must fall within the actual target area. The average soldier would be neutralized by rounds impacting up to 100 metres away but once the distance exceeds 200 metres the effect is negligible. FOOs should also remember that rounds slightly minus of targets are better than plus rounds so that neutralization may be increased by the effects of dust and smoke.

COMPARATIVE EFFECTS OF 105MM AND 155MM HOW SYSTEMS (C1 & M109)

Lethality studies by the US Army reveal that the conception by most gunners of the vast superiority of the 155mm M107 round compared to the 105mm M1 is more myth than fact. Although actual figures are classified, one can state that their difference in standing lethal areas is surprisingly small. Of importance however, is the fact that as the degree of protection of the target becomes greater, the 155mm becomes relatively more effective than the 105mm projectile. Table 1 below depicts battery and battalion unit effects patterns. These figures show the area within which casualties can be expected to occur, and should not be confused with effectiveness. The patterns are expressed as circular to simplify the procedure.

Now that we can visualize the extent of the effect patterns on the ground what does this mean to us in terms of casualty effectiveness? Table 2 illustrates the expected casualty level when a battery fires 1 rd FFE of HE ammunition against standing personnel in average terrain. The 105mm target is at a range of 5000 metres while the 155mm target is at 10,000 metres. In all cases survey and target location errors are negligible and the target is engaged with met plus velocity error techniques.

If the analysis continues we can see just how difficult it is to destroy targets. Table 3 states the number of rounds FFE for 1 battery to obtain 30 per cent casualties. Personnel on the offense are considered one half standing and one half prone for the first volley and all prone for subsequent volleys. Personnel in the defence are half prone and half in uncovered foxholes for the remainder. Ranges and system errors are as per Table 2.

One readily sees that the ammunition expenditure is excessive. In battle fire power of this nature simply could not be accepted because of limitations imposed by the tactical situation and the administrative resupply problem.

As previously stated, if we cannot readily destroy targets we must seek to neutralize them for a required period of time. Let us examine, therefore, the two weapon systems in the close support role. In order to "shoot" forces onto objectives they must be able to approach the friendly artillery fire, or follow its advance as closely as possible. This requires a weapon system that can sustain a high rate of fire over an extensive period of time with a minimum hazard to friendly forces. The system therefore must have excellent qualities of accuracy, consistency and lethality. (It is interesting to note here that on some occasions in WW II Commonwealth forces followed barrages at a distance of less than twenty five metres from the fall of shot. Commanders were quite willing to incur a few casualties from our artillery fire in order to allow the enemy to be neutralized for a maximum of time.) Test firings have been conducted by the U.S. Artillery to determine the maximum damage radii – the radius containing the distribution of rounds around the volley centre of impact and the fragment patterns of the projectiles. Their firing produced the following data:

UNIT EFFECTS PATTERN

Table 1

Firing Unit	Area Covered Sq M	Circular Pattern Radii M
105mm How Bty (6 guns)	61,550	140
155mm How Bty (6 guns)	75,475	155
105mm How Btn (18 guns)	145,150	215
155mm How Btn (18 guns)	151,950	220

AVERAGE PERCENT OF CASUALTIES

Table 2

Target	105mm M1	155mm M107
Section Radius 50M	8%	9.6%
Platoon Radius 150M	3.3%	3.5%
Company Radius 250M	1.0%	1.6%

CASUALTY EFFECTIVENESS

Table 3

TARGET	105 (M1) Off	105 (M1) Def	155 (M107) Off	155 (M107) Def
Section Radius 50m	6	40	5	27
Platoon Radius 150m	15	90	12	78
Company Radjus 250m	35	257	25	177

MINIMUM SAFE DISTANCE FOR HE AMMUNITION

Table 4

	Range (Meters)			Met Plus VE		
WEAPON	4000	6000	8000	10,000	12,000	14,000
105mm	350	400	433	447		
155mm		420	420	421	428	433

a. 105mm howitzer 270 metres

b. 155mm howitzer 320 metres

These damage radii include inherent errors and may be used in observed fire as minimum safe distances after adjustment of battery centre of impact on the target.

Table 4 depicts minimum safe distances for weapon systems firing HE ammunition (.99 assurance level). This includes the addition of 2.5 circular error probable to the damage radius. Survey errors are not included.

Surprisingly, throughout the ranges at which we expect to engage targets, friendly forces can actually follow closer to a 155mm rd then they can a 105mm. However the difference is so minimal that it is the opinion of this author that the 105 is a vastly superior close support weapon merely because of its rate of fire. It thus can create more effective neutralization for friendly forces to manoeuvre with a much decreased problem in ammunition preparation, handling and resupply.

A major problem which will face gunners in the future is the threat of armoured–mechanized forces. Both the 105mm and the 155mm would require a direct hit to cause severe damage to an armoured vehicle but if the direct hit did occur the 155 would cause greater destruction. Unfortunately the chance of such luck is very slim in both equipments. Consider the problem of having 10 APCs located at random in a target area of radius 150 metres. In order for us to expect a direct hit we would be required to fire 22 vollies from a regiment of eighteen 155mm guns. The problem is even more acute once the target begins to move – which would be the rule rather than the exception during wartime. Near misses (5–10M) by both projectiles will damage medium vehicles. Despite the slightly smaller lethal radius of the 105mm round it is equally if not more effective against armoured targets because of its much higher rate of fire. This both increases the chances of a hit and creates a greater neutralizing effect. With either weapon (unless open top APCs are employed) impact fuzes should be used.

Now that we have examined the comparative effects of the 105mm and the 155mm weapon systems let us conclude by discussing guidelines for effective weapons employment. Of primary importance is the accuracy of the mpi on the target. Artillery fire produces a maximum effect when the mpi is at target centre. Recent studies have revealed that if target location error changes from 40 to 80 metres, a 155 howitzer battalion (18 guns) must fire 16 times as many vollies to attain the same percentage of casualties on a target of radius 100M. FOOs must strive at all times to attain a maximum degree of adjustment to reduce system and target location errors. The degree of adjustment should not depend on the size of the fire unit available but on the target size. We must also ensure that we have enough fire units (which may have to be individually adjusted) to ensure proper coverage. In predicted fire, gunners at all levels must strive for maximum accuracy through use of drills and precise instruments and equipment in their solution to the gunnery problem, both now and in the future.

Secondly we must always select the most lethal shell fuze combination. As previously mentioned when firing at armoured targets, point detonating fuzes enhance the chance of success. When engaging troops in the open the first volley of fire is most effective using point detonating fuzes. Once troops have gone to ground or have dug in with no overhead cover airburst fuzes may become up to ten times more effective. Commanders must also remember that in some instance smoke mixed with HE may well add to the desired effect.

Officers must never lose site of the tactical advantage gained by surprise fire. It is approximately two times more effective than fire against warned personnel when using HE ammunition.

In other words 1 round FFE from a regiment of 18 guns would be twice as effective as 3 rounds FFE from a battery of 6 guns. In addition to inflicting heavy casualties surprise fire causes greater confusion and disorganization to the enemy. Presently with the advent of computers, laser range finders, muzzle velocity of the moment, and A–METS we are on the threshold of guaranteeing first round effectiveness. With the refinement of such electronic "wizardry" surprise fire will gain even greater prominence.

This brief paper has intended to give a general insight into the effectiveness we can expect from our own artillery fire. It is our duty to strive for excellence in our present means of solving the gunnery problem. It is also paramount that we search the future with an inquisitive and open mind such that artillery techniques might reach a dominance and effectiveness in the battlefield that before was never possible.

Something is Missing From the Battlefield

Does Anybody Care?

Captain DA Gronbeck–Jones

Time once was (and not too long ago), that when a Gunner spoke to a non-Gunner about locating devices, survey, or artillery intelligence, he was greeted with blank looks and the old "another black box-thing" attitude. Outside the Royal Regiment, few people were aware of anything the artillery did, other than service the guns and save the lives of not a few companies of infantry during the war with some pretty impressive firepower. But times are changing, and the other arms still have not any better knowledge of our craft than before. To make matters worse, a whole new breed of Gunners is evolving that also thinks of artillery only in terms of close-support guns. We can all blame force reductions, of course, for the demise of specialized non-gun artillery units, but can't we also look a little more inwardly and examine whether or not we are also at fault for letting some of our "black arts" die an untimely death?

Part of the problem is that non-gun artillery for the most part is found at divisional and higher levels and it is difficult to justify having divisional and higher artillery units without the parent formations. This fact of life resulted in the demise of the Locating Battery, or Command & Control Battery if you wish, which contained all the locating devices at the time of its disbandment in 1968. An effort was made to put the counter-mortar radars into the close-support regiments shortly after that but they too are now out of service, not because of obsolescence, but because of their non-airportability.

Locating devices fell into disrepute even more as fewer officers and other ranks attended courses. The disappearance of locating trades was the next, and fatal step. It is now impossible to find a sound ranger, since, without a TSQ number, the specialty cannot be recalled from NDHQ's computer. Many Gunners are of the opinion that locating artillery is obsolete, but let's review the various aspects as they could have been today.

RADAR

In terms of the basic radar equipment, disregarding mountings, the Canadian AN/MPQ 501 Counter-Mortar Radar is still one of the best around. With its maximum range of 26,000 metres it can range twice as far as comparable radars in other countries. However, in a pure counter-mortar role, such great range is not needed. It's mounting, on the M113A1 APC, causes mechanical failure of the electronic equipment and makes it difficult to conceal. It is not available in any other configuration, but if it were it might still be around today.

The latest development in this field is Cymbeline, a UK-developed radar which is about to come into service in the British Artillery. It is man-portable, Land Rover portable, air-liftable by helicopter (slung), and it can be deployed by just sitting the radar set on the ground behind a hedgerow. It uses the latest in computers, so small that the operating crew of two carry them into a slit trench with them. It can be sited far forward, so that its range of 20,000 metres can reach any enemy mortars, and observe the counter-battery fire to destroy them. A Wankel rotary engine generator is under development, but in the meantime the radar can be powered by conventional generators.

The infantry probably don't realize yet that we are without a mortar-locating capability. It's really surprising how many counter-mortar radars are around once the shooting starts (SE Asia, for example) and our own infantry had better start demanding a little better protection from us, for their own good!

SOUND RANGING

Canada's sound ranging equipment was getting pretty old when it was retired, but it worked well. The main problem was time. Time to do survey, time to lay line, and time to pick it all up again when the base had to be

moved. Some of these problems have been overcome. Now in service with the British is a radio-link microphone, which eliminates the large job of laying line (and frees quite a few men from the establishment). Survey processes are being speeded up all the time. Sound ranging may still be fairly slow to move, but for this one fault it should not be passed into oblivion. It is still the only way to locate hostile batteries effectively (other than mortars), and unless we are willing to sit there and be shot at, we had better do something about re-introducing sound ranging somewhere, just to keep the craft alive.

DRONES

All readers of this article must be familiar with the AN/USD 501 (CL-89) Drone system developed right here in Canada. The fact that it has been bought by several other countries shows how effective a device it is. It has probably been the biggest Canadian seller in the war equipment line since the plastic water bottle! Since we don't use them ourselves, we can only call for a CF-5 to do our behind-the-lines snooping. Wouldn't the drone be a little cheaper? Wouldn't it be easier to get in a battlefield emergency?

SURVEY

While not primarily thought of as a locating device, survey is usually lumped in the same pot, and it is indeed suffering just as much these days. Here we have no equipment problems - ours is the finest in the world. What we do have is a credibility gap, a refusal to use survey, a misunderstanding of survey, and definitely a lack of education on the part of those Gunner officers who have control over it.

We spend many hours of training time and blow a fortune in ammunition trying to adjust fire from guns that have been fixed by mapspot. It is not good enough to park a battery near a bearing picket and leave it to the CPO to figure out where he is. The world is not a big Grafenwoehr, and there aren't BPs in every grid square. In fact there are still plenty of parts of the world without even grids!

Our own northern regions, for example, are one of the worst possible places to shoot, especially without survey. Much like in the deserts of Northern Africa, survey is a must for guns and OPs. Without it, unobserved fire is impossible, and in the arctic night most fire is unobserved.

Even in observed fire, accuracy studies show that one of the largest components of terminal error is the displacement of troop centers as a result of poor survey on the part of the CPO. In these days when laser rangefinders are coming into use at the OP, isn't it ironic that our predicted fire capability is less than it was in the Second World War? We need to keep our surveyors at all levels, use them on every exercise, and make sure that the tradesman gets the courses he needs to understand and effectively employ the art of survey. It takes much longer to train a surveyor or a survey officer than it does for his counterpart on the gunnery side. Our reserve of trained surveyors is dwindling fast, and unless something is done we will find ourselves with no survey capability at all.

THE UNPOPULAR SOLUTION

The way to get around narrow thinking has not been solved, and probably never will be. Perhaps in these media-oriented days we Gunners should do a little reverse advertising. Instead of telling the other combat arms what we can do for them, start telling them what we cannot do. Let the infantryman know that we can no longer do anything about the mortars that cause so many casualties to his troops in their trenches. Let them know every chance you get that our fire would be on the ground quicker if we had accurate enough survey to be able to do a decent job of prediction of fire.

Within our own units we should do all we can to dispel the idea that locating and survey are dead-ends. Get the equipment out, use it every chance you get. Deploy guns where they need survey assistance. Send officers on survey courses so that someone close to the tradesmen can give them a challenge on field exercises. Pull your surveyors out of the regimental library and duty NCO's office and get them to work before they lose faith in their own trade.

No one has shown that locating isn't still a necessary part of the artillery. Why, then, is it being ignored?

1st Field Regt RDCA(M)

Commanding Officer	LCol JW Alward
Deputy Commander	Maj GE Parnell
Battery Commanders	51st Bty Maj DA Grant 87th Bty Maj J Jollota
BKs	51st Bty Capt EH King 87th Bty Capt JE Soward
Adjutant	Capt BC Taylor
Troop Commanders	Capt MW Raine Capt CI Hamilton Capt PJ Fader Capt SW Pushie

Militia Regt Mess Dinner

L to R: Lt Dan Wilson,

Capt Scott Pushie, Lt Bob Jack

1 Field Regiment completed another year in a mobile command role and took part in several training exercises at CFB Gagetown, Greenwood, Camp Aldershot at the Chezzetcook mini gun range and at Halifax. The Unit was airlifted to CFB Gagetown on 3 occasions for live firing exercises apart from FMC summer camp.

A highlight of the year on the social side was the Regimental Mess dinner held on Artillery Day to mark the change of command of our Honourary Colonels. Col SC Oland who has been with our Regiment as an officer, as Commanding Officer and as Honourary Colonel for over 67 years retired in favour of his son BGen The Honourable Victor deB Oland, ED, the Lieutenant-Governor of the Province of Nova Scotia.

A further honour bestowed upon the Regt this year was in the recently announced appointment of a former Commanding Officer, LCol LW MacDonald to the rank of full Colonel as Commander of the Western Nova Scotia Militia District. LCol MacDonald commanded the Regiment from 1967 to 1969 inclusive. LCol MacDonald's Headquarters will be located in the Halifax Armoury on North Park Street at Halifax.

The following is quoted from an article which appeared in the May 26th edition of the Halifax Mail-Star:

Something unique in the annals of Canadian military history will be observed tonight in the Halifax Armoury when the officers of 1st (Halifax-Dartmouth) Regiment Royal Canadian Artillery (Militia) gather on the anniversary of Artillery Day.

The Artillery regiment, in command of Lt-Col JW Alward, CD, QC, will pay honor to its retiring honorary colonel, Sidney C Oland, VD, CD, and welcome its new honorary colonel, Brigadier General Victor deB Oland, ED, lieut-enant-governor of Nova Scotia.

According to Colonel Alward it is unique in Canadian military history that four generations of one family have had such an honored association as officers of the artillery.

Colonel Sidney C Oland's connection with the Gunners began in February, 1935, when he was appointed as a lieutenant with the Canadian Garrison Artillery. His father, George WC Oland had been a militia captain with the Canadian Garrison Artillery.

Brigadier Victor Oland was enrolled as a second-lieutenant with the 1st (Halifax) Coast Brigade RCA in September, 1929.

Eldest son of Brigadier Victor Oland, Captain Sidney Oland was also associated with the artillery regiment before retiring to the supplementary reserve. He is the fourth generation of Olands to serve as a Gunner officer.

The lieutenant-governor's two brothers, Donald and Bruce Oland, until their retirement, had similarly played prominent roles in the services. Cap. Donald Oland, a Can-Loan officer during World War II, served with the Royal Warwickshire Regiment and since the war has been active with the Royal Canadian Legion and the War Amputees Association. Commodore Bruce Oland played a leading role in the development of the Royal Canadian Naval Reserves after having also served for some years as an officer of the Artillery.

Tonight's anniversary gathering of the Gunners will mark a reunion of many of the officers who have served as gunners in the Garrison.

Col Sidney Oland will be 86 years of age come June 17, 1972. His birthplace was Dartmouth. For 57 years he has been a Gunner, the last 21 years an honorary colonel of the 1st (Halifax-Dartmouth) Regiment. He was a commanding officer of his unit, 1922–1926.

His military record has spanned two world wars and along the route he has acquired many honors and awards. He was particularly proud of his achievement as a member of the team which won the King's Cup, presented by King Edward VII, as the best battery between Canada and England, 1907 and 1911.

Honors include: honorary doctor of law; honorary doctor of English; honorary consul-general of Peru; Knight of the Sovereign Order of Malta; Knight of Grace, Order of the Hospital of St. John of Jerusalem.

His decorations include Veterans decoration, the Canadian Forces Decoration and the Colonial Artillery Decoration. And he has served as the honorary aide de camp to three governors-general of Canada, the Earl of Bessborough, Lord Tweedsmuir and the Earl of Athlone.

Col Oland was elected chairman of the Board of Commissioners, Nova Scotia Corps of Commissionaires, at the first meeting of the Nova Scotia Branch in 1937 and retained the chairmanship for 30 years.

Like his father before him, Brigadier Victor deB Oland has devoted the better part of his lifetime, outside of the family business, to the military. He got his start as a second-lieutenant with the 1st (Halifax) Coast Brigade in 1929, promoted to lieutenant in 1931 and to captain in 1935. He was appointed a captain in the 51st Heavy Bty RCA, CASF, in 1939, and promoted to major in 1940 and to command Shelburne defences as a lieutenant-colonel in 1942. He was attached to the US Army during 1945 in the South West Pacific area.

On return to civilian life from active service in 1945 he was appointed to command 1st Coast Regt RCA (RF) in 1946. In 1956 he was promoted to the rank of colonel and to command of HQ 4 Militia Group CA(M). Then he was promoted to brigadier rank in 1958, retiring with that rank Dec 31, 1970.

It was in July of 1968 that Brigadier Oland was sworn in as the 25th lieutenant-governor of Nova Scotia, succeeding Hon HP MacKeen as the representative of Her Majesty Queen Elizabeth II.

As the honorary colonel of the 1st (Halifax-Dartmouth) Regiment RCA (M), Lieutenant–Governor Oland will be maintaining a family tradition that is also unique in the military history of the artillery garrison.

NEW HONOURS – A new honour was conferred upon Brigadier Victor deB. Oland, Lieut–enant Governor of Nova Scotia, when he was installed Friday night as the Honorary Colonel of 1st (Halifax–Dartmouth) Fd Regiment RCA(M), succeeding his father, Colonel Sidney C Oland, VD, CD, in that post. At the regimental dinner held in the Halifax Armoury on Artillery Day are shown, left to right: Colonel William Landry, senior staff officer, oper–ations and training; His Honour, the Lieutenant Governor, new Honorary Colonel of th e Regiment; Lieutenant Colonel JW Alward, CD, QC, commanding officer, and Colonel Sid–ney C Oland, VD, CD, who retired from the post of Honorary Colonel after 67 years as a Gunner Offic er.

26th Field Regt RCA(M)

Commanding Officer	LCol DC Brown
Deputy Commander	Maj RG McDonald
Battery Commanders	13 Bty (Portage) Maj JP Jeffries
	71 Bty (Brandon) Maj DL Berry

To begin this year's report we would like to catch up on some important news from 1971; first, that Major DL Berry, CD, assumed command of 71st Bty in Brandon in October, 1971. Second, on December 6, 1971, personnel from Brandon and Portage Batteries were called to give support to 3 RCHA, with an independent troop of three guns, on a firepower demonstration for the advanced Artillery Officers Course. Our boys appreciated the opportunity and learned a lot. Later on 3 RCHA supported US very ably through a series of refresher courses for all ranks, which kept us in touch with current thinking and trends in gunnery.

The weekend of 28–30 April was designated for our spring Live–Firing Exercise. Due to warm weather coming early, the last vestiges of winter had disappeared long since, and everything augured well for an extremely successful shoot. However, the forces of nature entered the scene on Saturday afternoon with a brisk warm wind which, combined with the tinder–dry grass and a few well–placed rounds of HE, fanned into one of Shilo's larger range fires. As luck would have it, the wind was from the east, and only the combined efforts of our entire personnel, the Air OP directing operations from on high, two bulldozers, the Base firefighters, and six hours of hard labour saved the Shilo Golf Course from damage. If we hadn't managed to turn the fire away from the fairways, this MAY have been our last report! The next day's shooting was rather mundane but more in line with our aim for the exercise.

Our only liaison in the field with the Infantry this year was a May weekend exercise–Discovery II, for which FOO parties were attached to various units to provide real live coverage of the non–existent fire support, and to give learned dissertations on what a jolly fine bunch the Gunners really are.

From 3–9 June several of our personnel were attached to 3 RCHA for some valuable field experience, which they were able to put to practical use a few weeks later at MILCON 72. Finally, after being exiled for two years to the land of rain and mud in the wilds of central Alberta, we were granted amnesty to return to sunny Shilo for MILCON in July. This year it was back to the concept of an all–gunner concentration, so there was a lot of dignity lent to the week's activities.

26th Field was among the units which sponsored SSEP during July and August, programmes 3 and 4. Those who participated were enthusiastic about the venture. One significant feature was the increased interest by females in joining the Reserves.

Oct 20–22 was set aside for our Fall Live–Firing Exercise and RCAA Competition. Results are not yet available, but we were pretty happy with our efforts.

Our Remembrance Day Salute was not without its mishaps. The Brandon section had two deuces go N/S on the way in, and a replacement deuce sent from Shilo broke down as well. But the 13 Bty personnel saved the day by firing the Salute with two guns.

Socially, the annual Military Ball at Brandon, the St Barbara's celebrations, and various other functions were all gala affairs which rounded out the life of the Regiment in good Gunner fashion.

BGen	GR	Coffin, CD	ATC HQ/CSSS
Col	DR	Baker	CFB Shilo
Col	LC	Baumgart	CLFCSC (Staff)
Col	CE	Beattie	HQ UNFICYP
Col	JP	Beer	RSS Pacific
Col	DW	Francis	CF Att Cff Oslo
Col	DH	Gunter	NDHQ/DCDS (Ops)
Col	RGJ	Heitshu	CFB Gagetown
Col	JOVF	Menard	CFB St Jean
Col	NW	Reilander	TCHQ
Col	A	Sosnkowski	NDHQ/D Ops
Col	WW	Turner	NDC
Col	JA	Vandal	RSS Eastern
LCol	RP	Beaudry	5 RALC
LCol	FA	Bussieres	FMCHQ
LCol	MD	Calnan	HQ 4 CMBG
LCol	JLL	Charest	CDLS(W) CFLO
LCol	JA	Cotter	NDHQ
LCol	DB	Crowe	Ex Duty Austr
LCol	JD	Crowe	CDLS(L)
LCol	FA	Davies	NDHQ/DCDS(Ops)
LCol	WR	Dawes	CLFCSC
LCol	JJA	Doucet	CAS
LCol	DC	Fitzgerald	CFSC
LCol	JG	Henderson	CDLS(W) CFLO
LCol	SP	Hunter	NDHQ/DCDS(Ops)
LCol	MD	Kearney	CF Olymp Coord
LCol	SV	Lloyd	CFB Comox
LCol	AC	Moffat	NDHQ/DCDS(Sup)
LCol	GBC	Parenteau	ERFC
LCol	NA	Robertson	NDHQ/Adm(Pers)
LCol	WE	Sills	NDHQ/DCDS(Ops)

LCol	CR	Simonds	NDHQ/DCDS(Ops)
LCol	JH	Stein	1 RCHA
LCol	RAD	Stokes	CDLS(W) CFLO
LCol	RL	Strawbridge	NDHQ/DCDS (Sup)
LCol	DG	Struthers	CFFLS
LCol	JO	Ward	CFB Petawawa
LCol	WD	Wellsman	3 RCHA
LCol	HR	Wheatley	2 RCHA
Maj	JHLC	Archambault	CLFCSC
Maj	FC	Ayers	UNTSO Pale
Maj	NH	Barrett	E Bty 2 RCHA
Maj	AK	Beare	3 RCHA
Maj	JC	Berezowski	CDLS(W) Student Leavenworth
Maj	EJ	Berris	MARPAC HQ
Maj	JP	Bouvette	5 RALC
Maj	MC	Brown	Def Rsch AY Estb
Maj	RV	Carriere	NDHQ/DCIS
Maj	WB	Cheadle	RSS Prairie
Maj	JP	Cheevers	CDLS(W) CFLO Rock Island Ill
Maj	DH	Clark	NDHQ/Adm (Pers)
Maj	WS	Conrod	NDHQ/DCDS(Ops)
Maj	AV	Coroy	RRMC
Maj	WD	Creighton	RSS Central
Maj	JE	Crosman	CAS
Maj	GA	Decker	3 RCHA
Maj	JK	Devlin	FMCHQ
Maj	JJ	Donahue	NDHQ/DCDS(Ops)
Maj	JRR	Doyon	1 AB Bty
Maj	WA	Emery	MARCOM HQ
Maj	FJR	Ervin	RSS Atlantic
Maj	JC	Fleming	1 RCHA
Maj	RN	Gleasonbeard	FMCHQ
Maj	THC	Goodfellow	PTII Est DRB
Maj	RE	Gorham	NDHQ/DCDS(Ops)
Maj	SD	Green	FMCHQ
Maj	OL	Greenizan	MARCOM HQ
Maj	GM	Guy	1 RCHA

Maj	GF	Hammond	CDLS(L) Ex Larkhill
Maj	PF	Heenan	CDLS(W) HQ US Army
Maj	WB	Helman	NDHQ/DCDS(Sup)
Maj	DA	Henderson	NDHQ/DCDS(Sup)
Maj	GR	Hirter	1 RCHA
Maj	JE	Howes	NDHQ/D Hist
Maj	RR	Howsam	NDHQ/C Prog
Maj	NF	Hull	CLFCSC (Staff)
Maj	JMA	Hulsemann	TCHQ
Maj	RG	Hurley	CAS
Maj	TT	Itani	1 AB Bty
Maj	RK	James	3 Svc Bn
Maj	WR	Johnston	CFSC
Maj	NW	Johnstone	FMCHQ
Maj	JC	Kennedy	UNMOGIP
Maj	TJT	Kennedy	UNTSO Pale
Maj	HF	Leggett	FMCHQ
Maj	OJ	Lester	NDHQ/DCDS(Ops)
Maj	G	Logan	FMCHQ
Maj	AG	MacIsaac	CDLS(W)
Maj	EB	MacLatchy	HQ UNFICYP
Maj	NM	MacLean	ACIHA Ottawa
Maj	WR	MacNeil	2 RCHA
Maj	JL	Mantin	ATC HQ
Maj	JAGP	Marceau	FMCHQ
Maj	H	Marston	NDHQ/DCDS(Sup)
Maj	FR	McCall	NDHQ/DCDS(Ops)
Maj	JB	McCanse	NDHQ/ADM(Mat)
Maj	DB	McGibbon	2 RCHA
Maj	HA	McLellan	Vietnam
Maj	RL	McLellan	CFSC
Maj	CJ	Mialkowski	1 RCHA
Maj	CA	Moogk	5 RALC
Maj	GR	Mummery	CDLS(W) CFLO Ft Sill
Maj	CA	Namiesniowski	NDHQ/DCDS(Ops)
Maj	GNR	Olson	HQ CFE
Maj	NM	Pettis	NDHQ/DCDS(Ops)
Maj	KS	Pickard	CDLS(W) CFLO Edgewood ND

Maj	WJ	Ready	CDLS(W) CFLO Ft Bliss
Maj	DJ	Redknap	NDHQ/DCIS
Maj	BA	Reid	NDHQ/DCDS(Ops)
Maj	ME	Rich	CFSS
Maj	JGVN	Rouleau	5 RALC
Maj	MJ	Sadler	CDLS(L) Ex Duties
Maj	JK	Sangster	CFB Edmonton
Maj	HD	Saxon	NDHQ/DCDS(Ops)
Maj	EL	Schrader	Def Rsch AY Estb
Maj	WM	Scott	3 RCHA
Maj	RD	Smyth	NDHQ/DCIS
Maj	DD	Snow	NDHQ/DGDAS
Maj	DE	Stothers	NDHQ/DCDS(Ops)
Maj	JER	Tattersall	CAS
Maj	HD	Thompson	Sir Geo Williams Unv PG Trg
Maj	RV	Thompson	CAS
Maj	WJ	Tippett	PTII Est Sec Gov
Maj	RK	Wallace	CDLS(L) Ex Duties
Maj	DJ	Walters	NDHQ/DCDS(Ops)
Maj	CM	West	UNTSO Pale
Maj	LE	West	TCHQ
Maj	GL	Wetherup	CFB Calgary
Maj	T	Wheeler	FMCHQ
Maj	PA	White	NDHQ/DCDS(Ops)
Maj	WMJ	Wolfe	CFSC

Capt	EJ	Adams	HQ 4 CMBG
Capt	RI	Adams	CFB Shilo
Capt	LC	Adkins	3 RCHA
Capt	EH	Anderson	CFB Petawawa
Capt	RB	Armstrong	2 RCHA
Capt	RL	Armstrong	3 RCHA
Capt	JJ	Baker	NDHQ/ADM(Mat)
Capt	RJ	Beardmore	CAS(Arty Instr Crse)
Capt	DJ	Beatty	HQ 1 Cbt Gp
Capt	JW	Beese	RSS Eastern
Capt	EB	Beno	CDLS(L) Larkhill Student Long Gny Staff
Capt	MV	Bezeau	CAS

Capt	DB	Bianco	HQ 4 CMBG
Capt	JG	Bigras	RSS Pacific
Capt	JNGG	Boudreau	5 RALC
Capt	SJ	Bowers	ACIHA Ottawa
Capt	AB	Bowles	CAS(Arty Instr Crse)
Capt	GW	Bowman	TCHQ
Capt	LA	Branum	2 RCHA
Capt	TE	Brewster	CAS(Arty Instr Crse)
Capt	JD	Briscoe	QG 5e GDEC
Capt	JE	Bryce	2 RCHA
Capt	JE	Bulger	NDHQ/DCDS(Sup)
Capt	AW	Carnell	FMCHQ
Capt	AP	Carroll	TCHQ
Capt	RJ	Chamberlain	CFOCS Chilliwack
Capt	CZJ	Chamberland	QG 5e GDEC
Capt	HF	Champion-demers	ACIHA Ottawa
Capt	JP	Chartres	RSS Prairie
Capt	RW	Chaulk	CFRS Cornwallis
Capt	MF	Clark	CFB Shilo
Capt	RC	Coleman	ADC Gov Gen
Capt	NH	Connolly	5 RALC
Capt	GR	Conway	RSS Central
Capt	AB	Cooney	2 RCHA
Capt	AK	Court	FMCHQ
Capt	RN	Crooks	3 RCHA
Capt	RA	Dallaire	RSS Eastern
Capt	JA	Davidson	3 RCHA
Capt	JA	Dorman	CABC
Capt	HR	Eamor	CFRU St Johns Nfld
Capt	BG	Earl	CDLS(L) Student RMC of S
Capt	DA	Elrick	CLFCSC
Capt	RG	Elrick	CLFCSC
Capt	TA	Favier	ACIHA Ottawa
Capt	DR	Ferguson	CFB Shilo
Capt	TAD	Fetterly	CAS
Capt	W	Filonik	CFOCS
Capt	H	Finestone	NDHQ/FLO
Capt	PW	Forsberg	FMCHQ

Capt	FJ	Forsyth	RSS Prairie
Capt	JJ	Fraser	CLFCSC
Capt	FL	Furness	CFB Halifax
Capt	AG	Gallant	5 RALC
Capt	GA	Gallop	2 RCHA
Capt	WF	Gee	RSS Eastern
Capt	IW	Gibbons	1 RCHA
Capt	RG	Glover	CAS
Capt	WE	Gordon	CFNRHQ Det Whors
Capt	WD	Gowanlock	NDHQ/ADM(Mat)
Capt	BM	Grace	NDHQ/ADM(Mat)
Capt	PJ	Graves	TCHQ
Capt	DA	Gronbeck-Jones	CAS
Capt	WH	Groom	CLFCSC(Staff)
Capt	TJ	Guiler	5 RALC
Capt	CO	Gustafson	3 RCHA
Capt	EC	Hague	1 RCHA
Capt	FH	Hansford	3 RCHA
Capt	MJ	Harmston	NDHQ/DCDS(Ops)
Capt	AV	Harris	CFB Calgary
Capt	DB	Harrison	RSS Pacific
Capt	RN	Haslett	CFRSU Vancouver
Capt	DW	Hawthorne	UNTSO Pale
Capt	JE	Hawthorne	433 ETAC
Capt	JD	Hetherington	RSS Pacific
Capt	MW	Hewes	1 RCHA
Capt	RP	Hodgson	1 RCHA
Capt	JM	Hoffman	TCHQ/Alta PWO
Capt	DR	Hopper	FMCHQ PWO Valcartier
Capt	R	Hoyland	CDLS(L) Ex 3 RCHA
Capt	RY	Hutton	CAS
Capt	DG	Hyman	CAS
Capt	RM	Hyslop	E Bty 2 RCHA
Capt	MK	Jeffery	1 RCHA
Capt	GH	Jussop	RSS Atlantic
Capt	JM	Kavanagh	FMCHQ
Capt	LC	Kempffer	RSS Prairie
Capt	GD	Kerr	3 RCHA

Capt	JB	Knapp	1 RCHA
Capt	DC	Knight	NDHQ/DCIS
Capt	JDL	Krauter	5 RALC
Capt	RG	Kyle	1 RCHA
Capt	DJ	Lacey	E Bty 2 RCHA
Capt	FK	Laforge	2 RCHA
Capt	JB	Lapointe	CAS
Capt	PR	Learmouth	CAS
Capt	BM	Lees	CAS(Arty Instr Crse)
Capt	SW	Lobban	NDHQ/DCDS(Ops)
Capt	DA	Lockridge	CAS
Capt	RJ	Lucas	1 AB Bty
Capt	JM	MacInnes	NDHQ/DCDS(Sup)
Capt	JA	MacInnis	CLFCSC
Capt	JO	Maher	CFB Edmonton
Capt	MD	Maher	CAS
Capt	R	Malcolm	3 RCHA
Capt	GR	Manson	3 RCHA
Capt	RB	May	HQ CFE
Capt	JP	McConville	CFB Borden
Capt	TS	McCoy	HQ 2 Cbt Gp
Capt	BTN	McGrath	CLFCSC (Student)
Capt	JA	McKay	CAS(Arty Instr Crse)
Capt	RW	McKinlay	CFB Gagetown
Capt	TW	Melnyk	NDHQ/ADM(Fin)
Capt	DG	Miller	CFB Kingston
Capt	JE	Miller	1 RCHA
Capt	AG	Mills	AB HQ & Sig Sqn
Capt	DCD	Milne	E Bty 2 RCHA
Capt	LTB	Mintz	CAS
Capt	RB	Mitchell	1 RCHA
Capt	SR	Moore	NDHQ CP Branch
Capt	DS	Moreside	E Bty 2 RCHA
Capt	MB	Morrison	CAS(Arty Instr Crse)
Capt	JW	Mortlock	1 AB Bty
Capt	HP	Mundell	CAS
Capt	JW	Nixon	CFRSU Halifax
Capt	RL	Obanion	1 RCHA

Capt	GJ	Oehring	CLFCSC
Capt	BW	Olynick	3 RCHA
Capt	JK	Orton	3 RCHA
Capt	AF	Ouellette	UNMOGIP
Capt	AZ	Palmer	3 RCHA
Capt	JAR	Paquette	5 RALC
Capt	JA	Parnham	ATC HQ
Capt	WJ	Parton	ACIHA Ottawa
Capt	DE	Peterson	2 RCHA
Capt	RE	Peterson	NDHQ/DCDS(Ops)
Capt	JR	Pleasance	1 RCHA
Capt	JA	Poh	5 CFSD
Capt	TG	Power	RSS Prairie
Capt	GD	Protz	CFB Summerside
Capt	EW	Rance	PTII Est Sec Gov
Capt	CH	Reid	RSS Central
Capt	SJ	Reid	CAS
Capt	JH	Rennie	RMC
Capt	AE	Roach	1 RCHA
Capt	DM	Robb	CLFCSC
Capt	TE	Roberts	CFB Europe
Capt	LH	Robitaille	CADEE
Capt	TAW	Robson	ACIHA Ottawa
Capt	RB	Rogers	CFB Gagetown
Capt	DJ	Rooke	1 CFFTS
Capt	TP	Ross	1 AB Bty
Capt	JA	Roszell	1 RCHA
Capt	DE	Rousseau	CFB Kingston
Capt	RDC	Rowdon	NDHQ/DCDS(Sup)
Capt	NK	Rutter	3 RCHA
Capt	JH	Ryan	TCHQ
Capt	RA	Salisbury	RSS Central
Capt	PS	Sanderson	CFRSU Toronto
Capt	BS	Saunders	1 RCHA
Capt	GH	Sawatzki	CFB Shilo
Capt	DG	Schott	1 RCHA
Capt	GD	Scott	CADEE
Capt	RJM	Selman	CAS(Arty Instr Crse)

Capt	WM	Shellnutt	1 RCHA
Capt	P	Sherrick	CFB Shilo
Capt	JFL	Simard	CFRSU Montreal
Capt	HN	Simister	E Bty 2 RCHA
Capt	JM	Siple	ACIHA Ottawa
Capt	AHC	Smith	HQ 2 Cbt Gp
Capt	GR	Smith	CFNRHQ
Capt	TAH	Sparling	1 RCHA
Capt	KG	Spencer	5 RALC
Capt	JB	Stephens	RSS Central
Capt	BE	Stephenson	3 RCHA
Capt	JC	Stewart	CFOCS Chilliwack
Capt	AG	Stoddard	NDHQ/DCDS(Sup)
Capt	DB	Struthers	1 RCHA
Capt	SS	Takahashi	CFB Petawawa
Capt	JJG	Tanguay	RSS Eastern
Capt	RG	Thomason	CFB Borden
Capt	GE	Trainor	CFB Europe
Capt	JG	Trepanier	5 RALC
Capt	GW	Trimble	CAS
Capt	VA	Troop	CAS
Capt	DG	Tudin	CADEE
Capt	RS	Usher	Def Rsch AY Estb
Capt	DE	Vanrooyen	CFB Europe
Capt	JM	Vanstone	RSS Atlantic
Capt	KD	Varey	CFB Gagetown
Capt	HA	Walinsky	CFB Europe
Capt	GM	Walker	CAS
Capt	DB	Walton	1 AB Bty
Capt	RB	Wark	RSS Atlantic
Capt	WR	Watling	FMCHQ
Capt	JA	Watts	NDHQ/DCDS(Ops)
Capt	KW	Wenek	ULO Ottawa
Capt	AJ	Wilson	CAS
Capt	MR	Wilson	5 RALC
Capt	RS	Wilson	CAS
Capt	MJ	Winter	1 RCHA
Capt	VW	Zaharychuk	RSS Central

Capt	AM	Zamoyski	RSS Eastern
Capt	WL	Zawyrucha	CFOCS Chilliwack
Lt	CR	Anderson	2 RCHA
Lt	JMN	Bernier	5 RALC
Lt	JLHL	Boucher	5 RALC
Lt	FB	Brake	1 RCHA
Lt	JS	Bryce	E Bty 2 RCHA
Lt	MG	Burfitt	2 RCHA
Lt	RH	Burnford	5 RALC
Lt	RE	Cockram	1 AB Bty
Lt	JP	Culligan	3 RCHA
Lt	SM	Davis	3 RCHA
Lt	JB	Dick	1 AB Bty
Lt	WJ	Douglas	3 RCHA
Lt	JP	Garneau	Det EAC Valcartier
Lt	TD	Gerow	HQ 1 Cbt Gp
Lt	SWR	Gillenwater	5 RALC
Lt	MR	Grinius	5 RALC
Lt	KC	Hague	5 RALC
Lt	BA	Hamilton	1 RCHA
Lt	RN	Hardman	E Bty 2 RCHA
Lt	FG	Hickey	1 RCHA
Lt	AD	Hincks	5 RALC
Lt	DC	Holt	1 RCHA
Lt	WJ	Holtz	2 RCHA
Lt	DW	Iler	2 RCHA
Lt	FW	Kendall	5 RALC
Lt	ME	Kennedy	2 RCHA
Lt	RT	King	2 RCHA
Lt	JRA	Laberge	CFRC Dt Chicoutimi
Lt	DJ	Leclair	2 RCHA
Lt	JMR	Lemieux	5 RALC
Lt	WB	Linton	2 RCHA
Lt	JE	MacBride	E Bty 2 RCHA
Lt	RF	Marsden	5 RALC
Lt	CQ	McCallister	5 RALC

Lt	GJ	McIlwain	3 RCHA
Lt	DN	McLaughlin	3 RCHA
Lt	WD	McRobbie	1 RCHA
Lt	DJ	Phillips	CAS
Lt	TR	Pond	1 RCHA
Lt	HJ	Rice	NDHQ/DCDS(Ops)
Lt	WW	Riedel	2 RCHA
Lt	GR	Sackett	5 RALC
Lt	WJ	Soucie	1 AB Bty
Lt	PA	Stewart	2 RCHA
Lt	RC	Stowell	3 RCHA
Lt	SM	Tolson	2 RCHA
Lt	DR	Winters	3 RCHA

OCdt	JAR	Brule	RMC
OCdt	RT	Banks	CAS
OCdt	WJ	Chipchase	Carleton University
OCdt	HM	Duger	Queen's University
OCdt	RJ	Howell	CAS
OCdt	TJ	Kramers	CMR
OCdt	TS	Roberts	RMC
OCdt	DJ	Thompson	University of Saskatchewan

CWO	Barham	JW	9 RSS(Pacific) Vancouver
CWO	Campbell	TH	CAS Gagetown
CWO	Crawford	DJ	CADEE Valcartier
CWO	Fraser	MJ	NDHQ/D Arty
CWO	Holodiwsky	T	CADEE Valcartier
CWO	Holtom	SR	5 RSS(Atlantic) Halifax
CWO	Lunan	WM	CAS Mgnr Crse
CWO	MacDonald	MN	1 RCHA
CWO	Malcolm	GN	CFWOS Esquimalt
CWO	Patrick	EE	CAS Mgnr Crse
CWO	Sauve	MR	5e RALC
CWO	Sonnenberg	W	CAS Gagetown
CWO	Sutherland	RG	NDHQ/DERL
CWO	Syrette	R	NDHQ/DARME

CWO	Thomas	DC	2 RCHA
CWO	Vallee	LJ	Cdn AB Regt
CWO	Walker	LE	NDHQ/DARME
CWO	Williams	DE	CADEE Valcartier
CWO	Wilt	SG	3 RCHA
CWO	Winter	PA	CAS Gagetown
CWO	Witt	SG	CFB Shilo
CWO	Wood	FC	9 RSS(Pacific) Vancouver
MWO	Armstrong	GS	ATC HQ Toronto
MWO	Arnold	CH	CAS Gagetown
MWO	Barrett	GE	3 RCHA
MWO	Begin	JA	5e RALC
MWO	Bittle	DD	CADEE Valcartier
MWO	Blackwell	EJ	E Bty 2 RCHA Gagetown
MWO	Brown	AF	CAS Gagetown
MWO	Clarke	LH	NDHQ/DPCM
MWO	Clifton	HC	CAS Gagetown
MWO	Cloutier	PD	2 RCHA
MWO	Cove	MJ	CAS Gagetown
MWO	Fleet	MW	NDHQ/AJ
MWO	Gardner	FJ	1 RCHA
MWO	Goodwin	RC	3 RCHA
MWO	Hawkes	DW	CAS Mgnr Crse
MWO	Heitshu	RA	5e RALC
MWO	MacDonald	DB	7 RSS (Central) Oakville
MWO	MacDonald	FJ	1 RCHA
MWO	MacDonald	JA	E Bty 2 RCHA Gagetown
MWO	McBay	CB	NDHQ/DLOR
MWO	McLean	JA	CAS Mngr Crse
MWO	McPherson	AA	E Bty 2 RCHA Gagetown
MWO	McTaggart	AE	1 RCHA
MWO	Morris	EJ	1 RCHA
MWO	Mossey	JA	CAS Mngr Crse
MWO	Oderkirk	CG	1 RCHA
MWO	Parkinson	GL	2 RCHA
MWO	Rhyno	RM	NDHQ/DARME
MWO	Ryan	EP	NDHQ/DLOR

MWO	Sawatzky	RE	1 AB Bty
MWO	Schoen	E	3 RCHA
MWO	Schofield	GW	8 RSS (Pacific) Winnipeg
MWO	Snell	D	1 RCHA
MWO	Surette	KJ	CAS Mngr Crse
MWO	Thomson	RL	CFB Shilo
MWO	Turner	J	3 RCHA
MWO	Wagg	FG	3 RCHA
MWO	Walker	HS	1 RCHA
MWO	Wells	EE	CFB Suffield
MWO	Willett	DJ	1 RCHA
MWO	Yavis	CC	CAS Gagetown

WO	Anderson	B	2 RCHA
WO	Baird	JR	CAS Gagetown
WO	Balma	RA	CAS Gagetown
WO	Boudreau	A	CAS Gagetown
WO	Bowden	CM	1 RCHA
WO	Burke	JA	HQ CENTAG
WO	Campbell	PJ	CAS Gagetown
WO	Carter	AG	1 AB Bty
WO	Clark	FE	2 RCHA
WO	Clifton	JN	1 RCHA
WO	Clow	MD	2 RCHA
WO	Currie	A	1 AB Bty
WO	Dent	WW	7 RSS (Central) Oakville
WO	Donnelly	BE	1 RCHA
WO	Douglas	RA	CAS Mngr Crse
WO	Flanagan	JR	1 AB Bty
WO	Game	TK	CAS Gagetown
WO	Garron	AR	5 RSS (Atlantic) Halifax
WO	Harrison	WD	TCMSU Winnipeg
WO	Hatton	WD	CFOCS Chilliwack
WO	Hebner	WE	3 RCHA
WO	Hibbett	RT	CFB Petawawa
WO	Hovey	GD	CAS Gagetown
WO	Jacob	TG	2 RCHA

WO	Jarvie	JG	1 RCHA
WO	Jobe	DN	3 RCHA
WO	Kehler	A	3 RCHA
WO	Lavigne	AJ	5e RALC
WO	Leblanc	LP	5e RALC
WO	Lebreton	JH	5e RALC
WO	Lennox	PA	3 RCHA
WO	MacLeod	RO	MARPAC HQ
WO	MacMillan	WA	CAS Gagetown
WO	McCormack	JE	CAS Gagetown
WO	McCullouch	DA	CAS Gagetown
WO	McGraw	JD	5e RALC
WO	Morley	JM	CAS Gagetown
WO	Perry	WK	E Bty 2 RCHA Gagetown
WO	Pittman	WS	CFRS Cornwallis
WO	Poire	JD	CAS Mngr Crse
WO	Power	PR	CAS Mngr Crse
WO	Rochon	PE	CAS Det Valcartier
WO	Ross	J	3 RCHA
WO	Rossi	FH	9 RSS (Pacific) Vancouver
WO	Rowe	FT	2 RCHA
WO	Saulnier	HJ	5e RALC
WO	Shouldice	EJ	E Bty 2 RCHA Gagetown
WO	Simons	JM	CAS Gagetown
WO	Sinclair	AC	E Bty 2 RCHA Gagetown
WO	Skinner	LE	1 AB Bty
WO	Snyder	WE	CFRSU Winnipeg
WO	Stickland	CW	1 RCHA
WO	Strain	RL	CADEE Valcartier
WO	Thivierge	MD	CFRS Cornwallis
WO	Tiderman	HL	1 RCHA
WO	Turgeon	C	6 RSS (Eastern) Montreal
WO	Turk	LJ	408 Tac Hel Sqn Shilo
WO	Wall	DE	CAS Mngr Crse
WO	White	VA	3 RCHA
WO	Wilson	GJ	5 RSS (Atlantic) Halifax
WO	Young	GB	1 RCHA

ADVERTISING

Wild GAK1

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The GAK 1 is ideally suited for the Wild T 16 and T 2 Theodolites.

Applications

Establishment and control of azimuth for surface and underground surveys; directional control for military units, especially artillery; orientation of navigational and telecommunication equipment; work in areas where compasses cannot be used or for magnetic declination determinations, elsewhere

Further information is given in the pamphlet G1 1404 e, which may be obtained from

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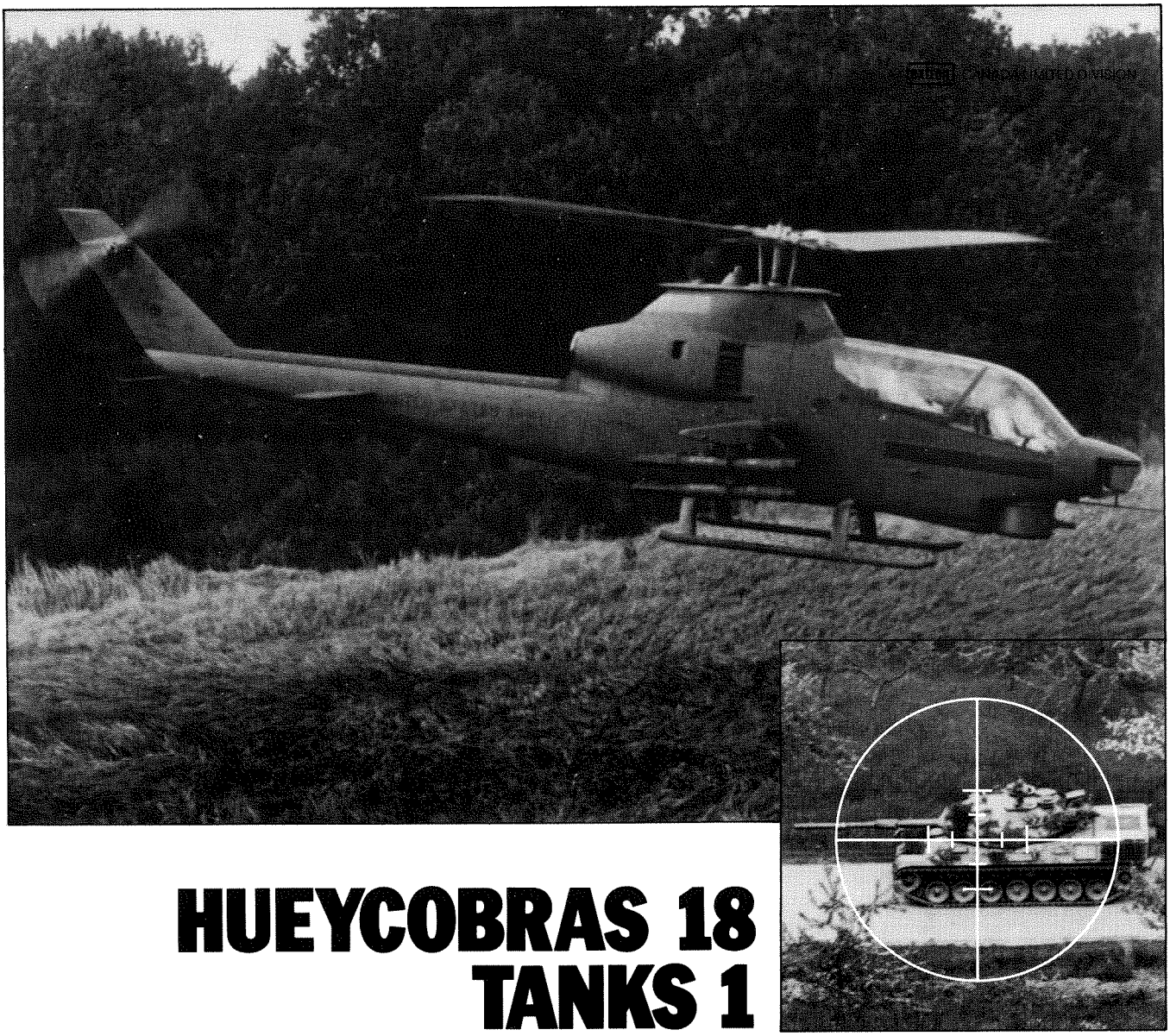

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That was the final average kill ratio in a free-play multi-nation exercise in 1972 that pitted Bell HueyCobras against German Leopard tanks.

The arena: 30 x 40 kilometers of central Europe around Ansbach, Germany.

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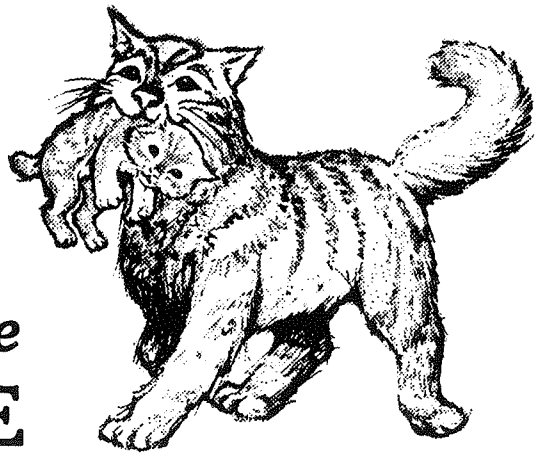

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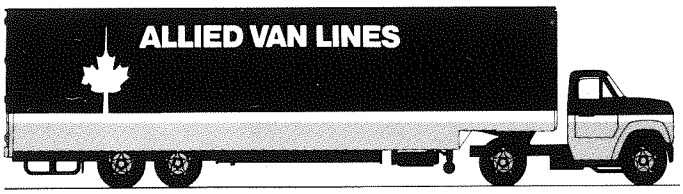

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