SO Armd Eqpt (Maj Cuthbert)
SO Armd Doc (Maj Barnes)
SO Armd Mil (Capt Clement)

ARMOUR BULLETIN DES BLINDES

VOLUME 9

This Bulletin is published under the authority of BGen J.J. Barrett, CD, Commander Combat Training Centre. Views expressed are those of the authors and do not necessarily reflect official policy or opinion unless otherwise stated.

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Le présent Bulletin est publié avec l'autorisation du BGen J.J. Barrett, CD, Commandant du Centre d'Instruction de Combat. Les opinions exprimées n'engagent que la responsabilité de leurs auteurs et ne doivent en aucune façon être considérées comme des prises de position officielles à moins d'avis contraire.

REDACTEUR - Capitaine J.R. Fournier

Toute correspondance doit être adressée au rédacteur, aux soins de la Division des blindés, Centre d'Instruction de Combat, BFC Gagetown, Oromocto, (N.B.).

ARMOUR BULLETIN

EDITOR'S COMMENTS

As our Branch professional publication the Armour Bulletin is produced by Armour Department of the Combat Training Centre. This issue should be of interest to the Branch in that it contains an update of issues in hand at the Director of Armour's shop, new equipment being received or considered, a review of training at the School and what one of our militia regiments did in Europe.

The distribution to the regular and militia units has been increased to ensure that all ranks are given the opportunity to read the Armour Bulletin. It is hoped that in this way more articles of professional interest will be received from all members of the militia and regular force. To ensure that this Bulletin truly develops into a Branch magazine it is again requested that all Armour personnel give this project their maximum support.

In conclusion I would like to express my appreciation to those who helped put this issue together: Miss Brenda Gillett, typist and Miss Gail Jasper, graphic work. Thank-you.

JR FOURNIER
CAPT
EDITOR

CONTENTS/CONTENU

DIRECTOR OF ARMOUR'S FOREWORD

I am very pleased to have been allowed to comment in this Armour Newsletter and will take the opportunity to philosophize a little.

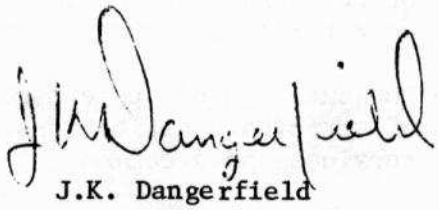
Firstly, I view the Armour Newsletter as a Branch publication and, although it is prepared in Armoured Department of CTC, it should have major input from all agencies and individuals of the Branch. It should be the vehicle by which we disseminate information to all members of the Branch and it doubles as a vehicle to discuss, in a professional manner, those areas that should be addressed to the betterment of the Branch as a whole. Here I include such subjects as tactics, doctrine, equipment, trade progression, training, personnel policies, et al. This will only work if the members of the Branch, at all rank levels, Regular and Militia, fully support the publication with all their energies. To this end I ask that you now begin preparation for your contribution to the next Newsletter. I have included in the text of the Newsletter some subjects which concern me and would be delighted to receive feedback from readers on these.

Secondly, I would like to voice my optimism on the future of the Branch. We have gone from what may be viewed as a low point in the early 1970s when the word "tank" was dropped from the vocabulary of many in high places, to a pendulum swing upwards with manpower increases, equipment buys, more realistic tasking and a move towards the traditional armoured roles. What to some may be seen as

re-invention of the wheel has been accomplished by very hard work by many individuals, primarily my predecessor, the Colonel Commandant and the RCAC Association. My task is to ensure the pendulum maintains its upward momentum. There are still many problems facing us and I will need all the help I can get and actively solicit it from you!

Lastly, I feel I should describe how I view my function as Director and Branch Adviser so that the mechanisms of the "focal point" are clear to all. Since 1971 the Director has been double hatted and has, regretfully, been forced to devote much of his time to the other hat. That situation is still true today. There are now many agencies dealing with Branch matters on a functional basis - personnel, equipment, tasking, training - and many key players do not wear the black beret. At the one end are the Armoured Department, the Regular and Militia Regiments, the ERE and the RSS. In the middle are the execution headquarters - Brigade and SSF headquarters, Militia District and Area Headquarters, FMC HQ - who do the day to day management of the system. The key player here is SSO Armd of FMC HQ who in many respects has the same terms of reference as the Director. At my end in NDHQ, the Director is the policy maker and monitor. However, my formal terms of reference are such that I fall in the category of director of an "informal organization" and have limited direct authority on Branch matters. Within the Canadian military the concept of chain of command is held sacred and paternalism is the norm. It would be very unwise of me to go against this. Conversely, as clearly demonstrated in the last decade, there is a requirement for all who wear the black beret to speak with one voice. It is here I see my main task - to ensure you are all aware of the factors, the aim, and the proposed execution on Branch problems, ideas and aspirations. Similarly, it is here that your main task lies - to ensure I am aware of your perceptions through the means of the "informal organization". In summary, our problems will be resolved in the formal chain of command but they may, and should, be discussed and brought to my attention as your spokesman through the "informal organization".

This Newsletter is an ideal method to support the "informal organization." Please make every effort to do so.



J.K. Dangerfield
Colonel
Director of Armour

THE LEOPARD CLUB

by Maj W.J. Coupland

In 1969 the Defence Ministers of Germany, Norway, Belgium and the Netherlands signed a Leopard User Nations Agreement to carry out the joint supply of spare parts, the repair of material, modifications, development, combat improvements and training in respect of their Leopard tank forces. When Canada purchased the Leopard Main Battle Tank, we signed this Agreement. Since 1969 Australia, Denmark and Italy have subsequently signed the Agreement. The organization is known colloquially as the "Leopard Club".

The objectives of the Leopard User Nations Agreement are:

- The exchange of operational combat training experience and knowledge; the development of training aids, guidelines and manuals; the establishment of joint training programmes and the joint use of training facilities.

- The exchange of operational and technical experience in the use of the Leopard tank; studies and development for the improvement of the combat capabilities of the tank and of armoured warfare tactics; the encouragement of standard tank configurations and the development and control of joint user trials of improvements.

- The exchange of spare parts usage experience; the joint implementation of approved modifications; the joint supply of spare parts and repair services and a common defect reporting system.

The "Leopard Club" is managed by a Steering Committee which consists of Chiefs of National Delegations representing each member nation's Minister of Defence; the chairman and Secretariat are provided by the German Ministry of Defence (GMOD). The Canadian representative to the Steering Committee is the Director General Land Engineering and Maintenance.

The Steering Committee is to carry out jointly: further development of the Leopard weapons system; supply; repair; and modification service. It meets on request and by arrangement between contracting parties, normally twice yearly.

Three Working Groups: combat improvement, training, and logistics report to and are tasked by the Steering Committee. National representation on these Working Groups is at the military officer and civilian official levels. The Chairman and Secretariat for each of the Working Groups are also provided by the GMOD.

The Working Groups normally meet twice yearly at times such that the results of the meetings are available to the National Representative on the Steering Committee at least eight weeks before the Steering Committee meetings.

The Working Group on increasing combat effectiveness concerns itself with items such as the following:

- Exchange of military and engineering experience.
- Investigation and evaluation of the engineering possibility of an increase in combat effectiveness of the LEOPARD tank.
- Joint efforts to increase combat effectiveness, possibly including joint implementation of development and trials.
- Ensuring that the objectives set for military engineering are compatible.
- Joint efforts to obtain as for reaching a standardization of the LEOPARD tank as possible, by coordination of national devisions concerning modifications.
- Observation of the development of assemblies which are intended to increase combat effectiveness.
- Joint planning of all engineering projects.
- Developing trials programmes for engineering trials.
- Developing programmes for troop trials.
- Establishing criteria for the evaluation of the results of engineering tests and troop trials.

The objective of the Working Group on Logistics is the attainment of a joint, unitary and rational procurement of the weapon system in the user nations. This includes:

- Exchange of experience in logistic questions.
- Maintenance of a unified state of construction.
- Joint introduction of engineering modifications.
- Joint procurement of spare parts and assemblies.
- Joint repair.
- Joint modification service.
- Joint ammunition production.
- Mutual logistic support.

The Working Group on Training is concerned with training on and with the LEOPARD tank. The objective is to exchange information in order to: create the necessary conditions for improving the state of training efficiency; and unify

training in so far as national requirements permit. This results from:

- Exchange and evaluation of experience concerning all training problems on or with the LEOPARD tank.

- Information about:

  - National developments in all phases of training, in particular training systems and training methodology (training methods, training process and training equipment).

  - Service manuals and training instructions, in so far as they are of significance to training on the LEOPARD battle tank.

- Study of possibilities and if necessary development of proposals:

  - For the coordination:

    - of training on or with the LEOPARD battle tank;

    - of service manuals and of training instructions;

    - of training processes in units and schools; and

    - of programmes of troop trials on or with new training materials.

  - For the common use of training materials nationally developed.

  - For the common use of existing training installations, including studies of the costs involved.

In summary the advantages to be gained from the Leopard User Nations Agreement are:

- Reduced costs of spare parts and repair services by combining National Defence requirements with those of the military forces of the other member nations in volume procurement.

- Effective logistics support of the operational tank forces in Canadian Forces Europe by providing these forces with direct access to the established and well-managed LEOPARD supply and repair systems of the German Army.

- Access to and participation in improvements to the LEOPARD tank and its operational utilization.

- Joint sharing of information and data on all aspects of LEOPARD tank design, defects and operations.

- Close co-operation with the member nations on all aspects of personnel training on the LEOPARD tank.

- Mutual logistics support between the member nations in emergency conditions.

- Potential for Canadian industrial participation.

Accession to the Leopard User Nations Agreement provides the most effective and economical means of operating and maintaining the Canadian fleet of 128 LEOPARD vehicles with the maximum of standardization and in cooperation with NATO allies.

The Military Salute

This custom is traditional and its origin dates back to Medieval times, when knights wore armour, the helmet having a visor. When two knights met they raised their hands, lifted the visor and were able to identify each other, in raising the visor the hand was kept open, with the palm to the front to show that no weapon was held.

At the same time the yoemen, who were free men, had the privilege of looking their Lords in the face rather than bowing before them, not wearing a helmet, they just looked their superiors straight in the eye from this we retain the drill "eyes left" or "right" as the case may be, when the head is uncovered. Throughout the ages, in every part of the world, when leaders of men have been selected and appointed, their followers have always acknowledged their loyal support by some form of salute.

Many strange theories are held as to saluting, probably one of the worst is that "it is not the individual that is being saluted, but the uniforms he wears", obviously this theory is faulty, otherwise those who believe it would be saluting Officers uniforms in every tailor's window, IT IS NOT THE INDIVIDUAL? BUT THE VIRTUE INVESTED IN THE INDIVIDUAL WHEN HIS AUTHORITY IS PLACED IN HIS HAND BY HER MAJESTY THE QUEEN BY THE GRANTING OF A COMMISSION.

It is this authority, in its varying degrees, according to rank that is acknowledged by subordinates when they salute their superior Officers. This is no new custom it is a service tradition centuries old and maintained by regulations in every service.

There is nothing servile or derogatory in saluting. It is a mark of respect and also in these enlightened days an expression of mutual esteem and good will. The manner in which a salute is given and acknowledged is an indication for all to judge the standard of discipline in any particular unit or Corps. Discipline has been defined as "that quality which transforms a disorganized rabble into an efficient force" ...The commission scroll reads in part "To our trusted and well beloved in whom we place our special trust and confidence ... you are at all times to well discipline the inferior Officers and men serving under you and use your utmost endeavours to keep them in good order and discipline".

A salute given in good spirit will always be returned by a well trained and conscientious officer.

A SITREP
BY THE DIRECTOR OF ARMOUR

GENERAL

In the last few months a number of events have occurred which affect the Branch and it is my hope that through the Newsletter I can bring you up to date on a few of them.

Before addressing the Branch specifically I would like to describe some policies that affect the Army as a whole. From about the mid-sixties there was a period where events had a somewhat negative air about them. Manpower levels were reduced several times, major new equipment was not forthcoming and the very existence of certain elements in the forces, including our Branch, was threatened. Recently, however, that trend has reversed. New equipment programs are in full swing, a significant manpower increase has been approved for the Forces, a combat development process has been re-introduced and some progressive personnel policies have been approved or are being developed.

MANPOWER AND ORGANIZATIONS

I am sure that you are aware of the Defence Structure Review which resulted in a Cabinet approved document which authorizes 4700 additional personnel for the Canadian Forces. Obviously, for financial and training load reasons, this increase will have to be phased over several years. The Army will get the largest share of the total increase and Canadian based combat arms units will be manned much closer to their war establishments than they are now. This will mean a very healthy increase to our armoured regiments.

With the manpower increase we will organize the Strathconas and 12 RBC into three armoured (COUGAR) squadrons, a recce (LYNX) squadron, a headquarters squadron, and a regimental headquarters which will have its own reconnaissance and TOW missile troops. The 8th Hussars will have a similar organization with the exception that one of its three armoured squadrons (B Sqn) will be located in Gagetown. The RCD will increase its equipment by one full tank squadron by March 1979. The manpower to man this third squadron will not be stationed in Germany but will be provided by flyover augmentation.

B Sqn 8 CH will form in Gagetown in the summer. It will be manned at full war establishment for a Standard Brigade Group Armoured Squadron and will be equipped with 19 Leopard C1 tanks. Its primary task will be to provide the immediate flyover augmentation required to man the third RCD tank squadron. Its secondary task will be to support the CTC in the running of their courses. This squadron will regularly practise its flyover role with RCD beginning in 1979.

The Militia, too, should be receiving a boost shortly. An NDHQ Study on the Reserves took place in the fall of 1977 and made several key recommendations. Unfortunately, it would be premature of me to make these public now other than to say that the Militia organizations will become more self-sufficient, they will be tasked as organizations rather than as individuals, they will become more efficient from the point of view of equipment, personnel policies and more training with the Regular Force. It is also hoped that much more use of Reserves can be made for peacekeeping duties. It is probable that the details of the approved policy will be announced early this year, perhaps at The Conference of Defence Associations meeting in January.

The Armoured Department is also undergoing a manpower increase and organizational change, the details of which are found elsewhere in the Newsletter.

The next few years will see significant changes to our organizations; ones which will generate a lot of work but I hope they will be viewed as labours of love.

EQUIPMENT

The budget for capital expenditures is growing. For example, we have a five year program which produced 12% real growth every year plus the necessary inflation factor. This has allowed us to purchase the Leopard tank and the AVGP family of vehicles.

The German Leopard A2 is on loan to The RCD until we receive our Leopard C1. I am sure you are aware of the magnificant performance of The RCD in winning the Canadian Army Trophy for NATO Tank Gunnery weeks after receiving their A2s. The RCD and CTC are well along in training instructors for Leopard.

Commencing in the fall of 1978 and completed by March 1979, The RCD will receive its full complement of three squadrons' worth of tanks (57). The major differences between the C1 and the current A2 loan tanks are:

a. improved protection to the turret;

b. the PZB 200 (low light level TV) image intensification equipment which will allow the gunner to engage accurately at night targets out to a range of 1200 meters;

c. the AN VSS 4 searchlight which is mounted <u>inside</u> the turret;

d. the SABCA fire control system which includes a ballistic computer and a laser rangefinder. The ballistic computer will integrate measurements from a number of sensors which will include crosswind, turret cant, bore wear, air pressure, temperature and the speed of the target.

In addition to the gun tank we have purchased the bridgelayer (BEAVER) and the ARV (TAURUS). The bridgelayer will be organic to the field engineers and the ARV will be balanced between the Regimental echelons and the service battalion.

These vehicles are truly superb and will be a significant boost to our operational capability (not to say anything about our morale!) The problem today is, of course, that there are not enough of them. Distribution of Leopards is to RCD, B Sqn 8 CH, Armour Department and CFSOAE only. There are many reasons why we were not able to purchase tanks for LdSH(RC), 8 CH, and 12e RBC - money and politics being the major ones. Nevertheless we must not lose sight of our aim which is to increase the combat capability which will allow us to win in war. To me that means we must have tanks in the Canadian regiments to allow backup for our NATO commitments and to return to the combined arms combat capability we possessed pre mid-sixties.

To some extent we will shortly be able to get back to our traditional armoured roles once we receive the COUGAR. The COUGAR was ordered at a time when we in the Armoured Branch believed that there was little chance for a replacement for the Centurion. Through a series of arguments and proposals we were able to convince Cabinet that we required tanks in 4 CMBG and a back-up in Canada. As stated before, we were not able to convince them of the requirement to have tanks in Canadian regiments. It was, however, important for all combat arms, and armoured in particular, to retain two skills - the direct fire gunnery techniques and our ability to command, control and practise the tactics of an armoured force. We desperately needed the ability to work with the other elements that make up the combined arms team and, in particular, the infantry.

The decision was made to purchase an armoured version of the AVGP which would allow many of the needed skills to be practised. Hence, the Cougar. I want to make quite clear that the Cougar was not purchased as a specialist vehicle (Internal Security, U.N., Northern Flank, etc). It may, indeed, be used in these roles but it was purchased as a tank trainer in a climate where tanks could NOT be purchased. There are those that say that we should not train on a vehicle in a role that we do not intend to fight. The Cougar is wheeled and thinly armoured and if we teach tank tactics with this vehicle we may be teaching false lessons. If we intended to fight Cougar as a tank they would be right. However, we do not intend to fight Cougar as a tank and, in peace, we are using it to teach the skills required of our crews to augment our NATO tanks and practise with the other elements of the combined arms team. Certainly, this schizophrenia will raise many doctrinal difficulties but as long as we are clear in our minds that:

a. COUGAR is a tank trainer in peace;

b. COUGAR could be used as an operational vehicle in war or on special tasking but with quite different tactics.

Cougar will begin distribution in Jan 79, with the Branch distribution completed for Regular Force by Nov 80 and for Militia by Apr 81. LdSH(RC) and 12e RBC will get two squadrons each, 8 CH will get one squadron and CTC will get 29. The Militia will get 41 in Phase One. Phase Two of the AVGP buy has not received Departmental approval and the decision on this is not expected before this fall. When approved, additional vehicles will be purchased for the Militia. The actual allocation of Cougar to Militia is under study now in FMC and I should be able to give details of the allocation in the next Newsletter.

Cougar is an excellent vehicle. It has good cross country capability, swims very well, has a range of 370 miles, with a road speed of 60 MPH, has a good 76mm gun and should serve our purposes admirably.

As with the Leopard, planning is well along for the training of instructors and distribution of training aids for the Cougar.

We also have a few modifications and ancillary equipments entering service, including:

a. Lynx exhaust screen modification;

b. Vehicle mounts for the crew served weapon sight;

c. New Lynx tool box;

d. Product improvement for the MG mount.

PERSONNEL

There are a number of new personnel policies which will effect the Branch - particularly ORCDP and LOTRP. Both these programs have been well advertised and I do not intend to expand upon them here. ORCDP is a program which has far reaching (and in some cases irreversible) implications for our other ranks. I encourage you all to become very familiar with the program and, in the case of other ranks, to ensure you are very thorough in your investigation of options. There are many advantages to ORCDP - but it is different strokes for different folks, and you must make sure the option you select will lead you to your own career aspirations.

For your information, here is some raw data for the Branch:

a. Officers Strength

Cols	11
LCols	33
Majs	91
Capts	153
Lts/2 Lts	101
O Cdts	32

b. Officers Course Vacancies

Staff College	7
CLFCSC	18
USAOAC	2
LAIC Bovington	2
RMS of S Shrivenham	1
Sqn Comds Course	15
CFJSC	15

c. Unit Strengths (Crewmen)

RCD	273
LdSH(RC)	213
8 CH	276
12e RBC	296

d. Crewman Strengths

CWO	19
MWO	39
WO	111
Sgt	204
MCpl	166
Cpl	313
C/P	710
TOTAL	1562

e. Crewman Promotions and Forecast

	76	77	78
CWO	1	1	0
MWO	1	5	1
WO	30	16	7
Sgt	63	48	38
MCpl	59	64	74

TRAINING

There are comments on training elsewhere in this Newsletter and I only wish to bring to your attention:

a. About **23** officers will begin Phase IV training this year;

b. About 44 NCOs will be given TQ 6A courses this year, on two serials which will finish in Apr;

c. Our 6A and 6B courses will concentrate on tank trades and tactics. Reconnaissance training will only be done at the unit level and on a new Reconnaissance Instructors Course which will be run by Armoured Department.

ARMOURED STUDY

A study is just beginning in D Armd shop which is designed to identify the tasks of armour on a high intensity battlefield and recommend the optimum organization, personnel, weapons, equipment, communications and training. The Study Team comprises a lieutenant-colonel and a major who will be working closely with the Regiments, FMC and CTC. This is designed to be a thorough, all-encompassing study which will take about a year to complete.

DRESS

The following dress changes are in effect:

a. The black beret may be worn with all orders of dress. The NDHQ Dress Committee has just approved the issue of black berets at public expense to all Regular Force and Militia crewmen;

b. Regimental scarves may be worn with all orders of Work Dress and Combat Dress;

c. Regimental collar dogs and regimental cummerbunds may be worn with CF Mess Dress. CF Mess Dress is the approved Corps dress;

d. Regimental buttons may be worn on CF uniforms;

e. Shoulder titles consisting of the regimental abbreviated title in old gold coloured letters on black drill cloth will be worn on the slip-ons of Work Dress;

f. Shoulder titles consisting of the full or short regimental title, in new gold coloured letters on a green cloth, designed in a crescent shape will be worn on the CF tunic.

THE FUTURE

Our main concern must continue to be to improve our combat capability. We need more tanks and more trained people in Canada. We need to return to well practised combined arms drills.

Similarly, our approach to reconnaissance must change. Last year we joined with our NATO Allies and approved a reconnaissance policy that requires a capability to defeat PT 76 - ie, a heavier approach to recce than we now subscribe to.

The main point here is that the Combat Development process will continue to produce organizational, doctrinal and equipment requirements - we should not take Leopard, Cougar and a few missiles and assume for either tactical or financial purposes that we are set for 15 to 20 years. Our re-equipping has really just begun.

Notwithstanding what I just said, it must still be obvious that our strength does not lie in equipment - it lies in men, and men in Regiments. In this technical and sophisticated world some may forget this, but we cannot. It is our strongest and most essential attribute. We must continue to develop our young troopers and officers.

SOME QUESTIONS

We need to develop positions on the following:

a. The employment of TOW in the Canadian Regiments. Should it be in RHQ (ie, a regimental resource) or in the recce squadrons (ie a brigade resource). What are the tactics for either option?

b. The Regular Force is now heavily overtasked. The Militia needs to train more with the Regular Force and needs better support. How do we reconcile these conflicting requirements?

c. There are only a limited number of Cougars available for the Militia. Should we centralize them in pools? Decentralize them so that each Militia Regiment gets a very few? Can the Militia Regiment have two roles - armour and recce?

d. Rotation of troops to Germany is a major contributing factor to instability of Canadian units. How do we minimize this? Can we accomplish sub-unit or unit rotation?

e. Our Chief Warrant Officers are becoming younger and remaining in the service longer. How do we give them a challenging career after they have been RSM?

f. How do we get back to training for war rather than our pre-occupation with our current operational tasks with their narrow and specific training aims?

g. War is fought with a combat system that always involves armour in some form. We must prepare for war, not a war, so tanks must be a prominent element in our forces. However, anti-tank sophistication has raised doubts in some quarters about the survivability of the tank. Will there be a requirement to alter the character and application of the combat team in the 1980s?

046

SLAVED FOR THE LAST TIME

(Courtesy of: Voxaire, CFB Winnipeg)

OTTAWA (CFP) - They won't be making razor blades out of Centurion tank 52-81046. DND presented this 56-ton queen of the battlefield to the Canadian War Museum in Ottawa December 5th.

The veteran lady, grumbling and sputtering, muscled her way into the museum's snow-covered parking lot crewed by two Centurion veterans. They were crew chief CWO R. B. E. "Nobby" Clark (Armour) and driver CWO Jim George (LORE), both of Calgary. They manoeuvred "Old 46" through a crowd of on-lookers to the presentation podium.

The giant's mighty 105mm gun was dipped in a final salute. The 650 hp engine was shut down and the crew, in the true tanker style jumped down to hand over 46's logbooks to MGEN Robert LaRose, of Kapuskasing, Ont., representing the Canadian Forces.

GEN LaRose described what the Centurion meant to the Armoured Corps and the affection held for it, and officially presented the tank and its logbooks to Dr. George Ignatieff, chairman of the board of trustees, Museums of Canada.

46 is resplendent in a new coat of European camouflage paint with the markings of The Royal Canadian Dragoons, the first and last Canadian unit to use Centurions.

Built in 1952, the Centurion has been at Land Engineering Test Establishment, Orleans, Ont., since 1961 where it was used as the Centurion reference vehicle. It conforms to the Centurions used in Europe until June, 1977 except that the infra-red searchlight has been removed.

CWO George recalled his long association with the tank, going back to the early British ones on trails in Shilo, Man., in 1951. He's been with them ever since, and when the last one goes out of the service at Gagetown in 1978, he will also retire, after 36 years' service.

His expertise and time spent on the tank has earned him the name "Mr. Centurion". At the reception in the War Museum following the hand over, he was presented with a cake featuring a gingerbread Centurion, complete with a lighted muzzle-loaded candle in the gun.

It was his 54th birthday, too.


82-81040

Sometime

Sometime, when you are feeling important
Sometime, when your ego's in bloom,
Sometime, when you take it for granted
You're the outstanding man in the room.

Sometime, when you feel your going
Would leave an infillable hole,
Just follow these simple instructions,
And see how you humble your soul.

Take a bucket and fill it with water,
Put your hand in it up to the wrist,
Pull it out and the hole that's remaining,
Is a measure of how much you'll be missed.

You may splash all you please when you enter,
You can stir up the water galore,
But stop -- and you'll find in a minute
That it looks quite the same as before.

There's a moral to this quaint example,
Do the best that you possibly can,
Be proud of yourself -- but remember,
There is no indispensable man.

NUTS, BOLTS, & BLACK BOXES

BY MAJ W.L. PICKERING

During the next few years, the Armoured Regiments and School, after a decade of famine, must digest a cornucopia of new equipment. If used properly, this equipment will greatly improve the Corp's ability to dominate the battle-field. The next few pages will describe the "hardware" involved in equipment programs that have recently been completed, are in progress, or are in the final phases of trial and acquisition.

ARMOURED VEHICLES

The details of the Leopard and Cougar programs are reasonably well known throughout the Corps, although some recently published articles may result in misconceptions.

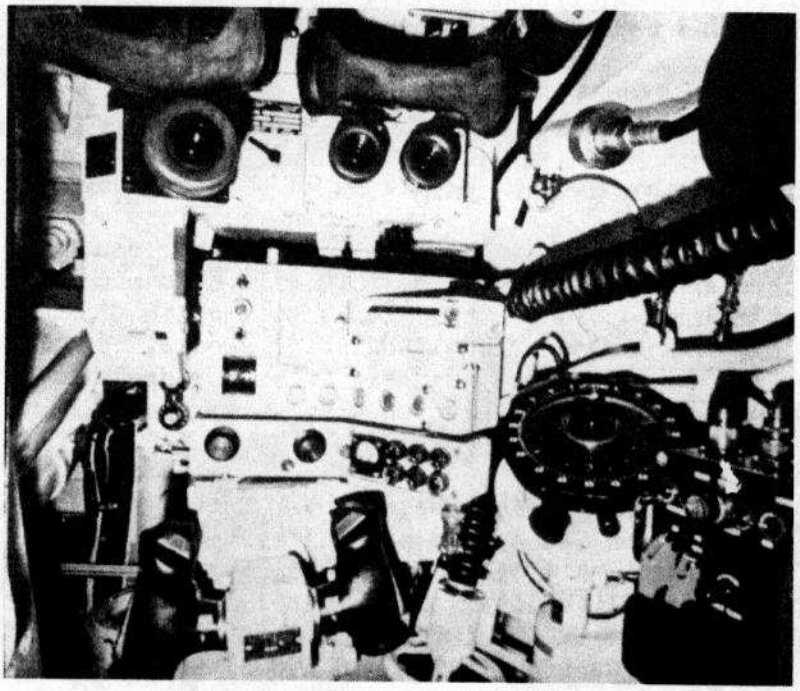
LEOPARD C1 TANK

Weight:	47 tons (combat loaded)	Range:	325 miles (road)
Crew:	4	Armoured protection:	welded steel
Main Armament:	105mm L7A3 gun	In Service:	1978-79
Max effective range:	in excess of 2000m		

The contract for 114 Leopard C1 main battle tanks has been signed and deliveries will begin in Aug 78. The RCD will receive three squadrons worth of equipment. CTC will receive one squadron of tanks to train a flyover squadron for the RCD, and to train officers and NCOs in tactics. CTC will hold nine additional tanks for gunnery and D & M instruction. Other tanks will go to CFSAOE Borden (technician training) and to Operational/Logistics stocks. In addition to the tanks, eight ARVs (recovery vehicles) and six AVLBs (bridgelayers) have been purchased. Each tank squadron will have an ARV, while the AVLBs will go to the Field Engineers.

Leopard is a considerable improvement over Centurion in firepower (same gun, but Leopard has a modern SABCA fire control system with laser range finder and computer; and passive night vision aids), mobility (acceleration, braking and speed) and mechanical reliability. Though XM-1 and Leopard 2 may eventually be superior tanks, supporting the Centurion (short of retrofit) until these tanks would be available to Canada (in the mid 1980s) was a doubtful proposition. Indeed one of the reasons Centurion remained in service for so long was the "let's wait a few more years for something even better" philosophy.

LEOPARD



LEOPARD GUNNER'S STATION WITH
SABCA FIRE CONTROL SYSTEM

COUGAR 6 X 6

Weight:	11.6 tons (combat loaded)	Range:	373 miles (road)
Crew:	3	Armoured protection:	welded steel hull, aluminum turret
Main Armament:	76mm L23A1 gun	In Service:	1979-81

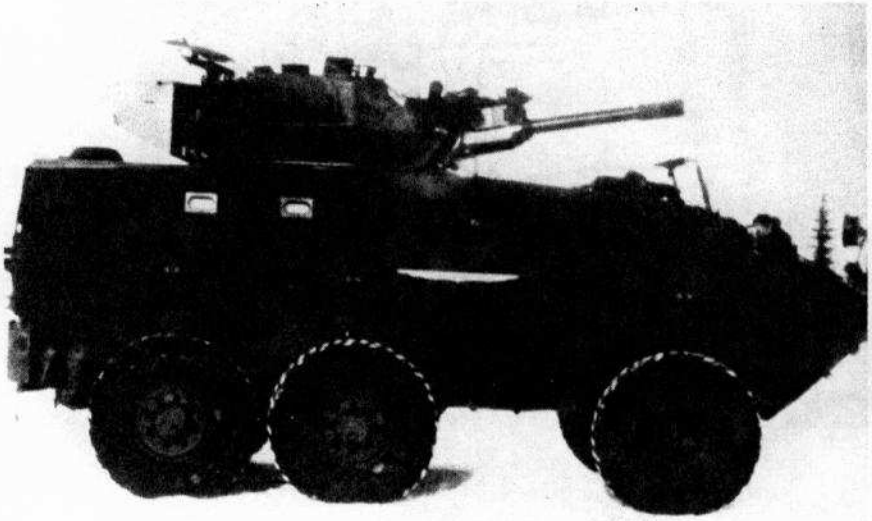
The Cougar fire support vehicle is a Mowag "Piranha" with a Scorpion turret. The contract for 152 Cougars has been signed and deliveries will begin in Jan 79. Present plans call for LdSH and 12e RBC to each receive 30 Cougars, and 8 CH to receive 19. CTC Armour Dept will receive 19 Cougars for tactics training, and a further 10 for gunnery and D & M instruction. The armoured militia are allocated 41 Cougars.

The Armoured Vehicle General Purpose (AVGP) program also includes the purchase of Grizzly APCs and Husky recovery vehicles, which have the same chassis as Cougar. One company of each regular force Infantry battalion will be equipped with Grizzly and 55 will go to the infantry militia. Each regular force squadron and battalion will have a Husky. Further purchases are planned to provide additional vehicles.

Cougar was bought as a tank trainer, to keep the armoured arts alive in the Canadian Regiments, in particular gunnery, crew commanding, and armoured/infantry co-operation. Although its light armament and armour may preclude its use in the fire support role in higher intensities of conflict, Cougar will have obvious utility in lower intensities such as peacekeeping.

The Lynx and the M113A1 family will be with us until at least 1985. Longer lasting and safer Diehl tracks have recently been purchased for these vehicles, with deliveries to be completed by mid 1978. Improvements are being made to Lynx, including modifications to increase its stowage space.

In addition to the armoured vehicles, a number of less dramatic, but nontheless significant pieces of kit have just been delivered/are being delivered/have been contracted for, or are on trial:



WEAPONS

TOW

Type: Heavy anti-armour weapon (HAW)

Crew: 3 or 4

Mounting Vehicle: M113A1 APC or ¼ ton jeep (Airborne Regiment)

Range: up to 3000m

In Service: 1978 (Armoured Regiments)

For the unitiated, TOW stands for Tube launched, Optically tracked, Wire guided anti-tank guided weapon (ATGW). The contract for TOW has been signed. Each Armoured Regiment in Canada will have a troop of four TOW equipped M113A1s in RHQ. TOW is much simpler to bring onto target than the earlier ENTAC and SS11B ATGWs, only requiring the gunner to keep the cross hairs of the sight on target. It has a reduced time of flight. TOW will penetrate the armour of any tank in service but like all ATGWs requires that the gunner track the target during a flight of up to 16 seconds. This results in a low rate of fire and increased vulnerability.

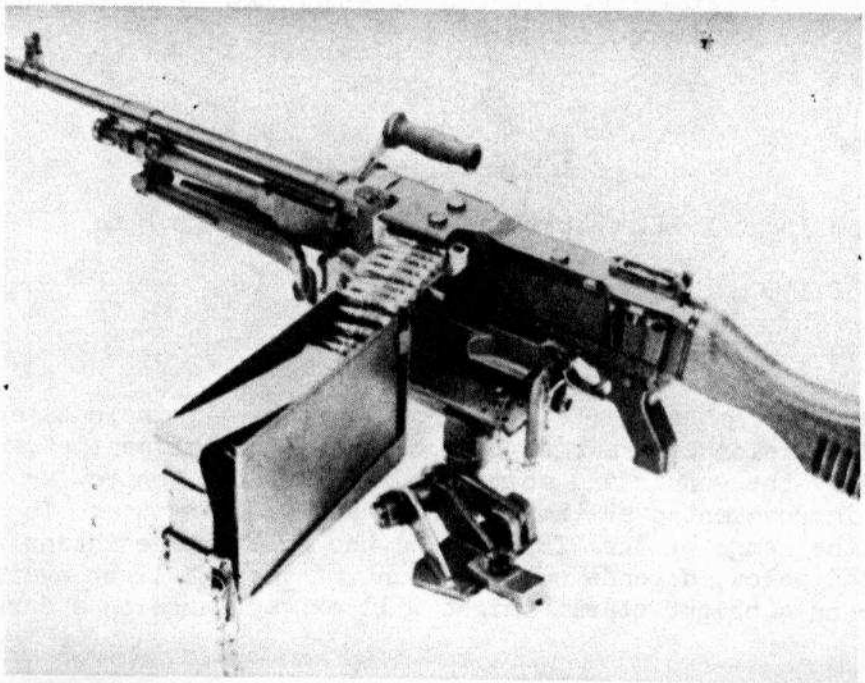
7.62MM GPMG C6

Weight: 23.9 lb (with butt and bipod)

Range: 800 - 1100m (effective)

In Service: 1978-79

This machine gun, the Canadian version of the Belgian FN MAG 58, has been bought as the coaxial and turret top machine gun for the Leopard. It is simpler, lighter and more reliable than the current GPMG C1. MAG 58 has been adopted by the US Army as its standard AFV mounted GPMG.



7.62MM GPMG C5

The well tried GPMG C1, with improvements, will be retained for Cougar, as well as Lynx and APC. These improvements include new head space and timing gauges, and a modified latch cover, trigger bar and feed cam. The improvements were designed to improve performance and reliability, and trials have shown a 50% reduction in stoppages. When modified (1978-80) the C1 becomes the C5. A butt will also be provided, which should improve the accuracy of the Lynx observer's GPMG.

The .50 HMG and Carl Gustav light anti-armour weapon (LAW) will remain in service until at least 1985. The SMG C1, FNC1 rifle and FNC2 LAR may be replaced in the early 1980s.

B VEHICLES

1¼ TON TRUCK 4 X 4

Weight: 4.5 tons (fully loaded)

Range: 250 - 300 miles (road)

Variants in Armoured Regiment: cargo, van, ambulance, specially equipped radio and maintenance vehicles.

In Service: now

The replacement for the 3/4 ton M37 and M43 trucks is a militarized version of the 4 X 4 Chevrolet C209 series. Deliveries of all but a few specially equipped maintenance vehicles have been completed. The 1¼ ton has an automatic transmission, and a heavy duty suspension. It replaces a 25 year old truck whose durability has proven unbeatable.

Replacements for the 2½ ton truck and ¼ ton jeep are planned for the early 1980s.

STANO

STANO is the acronym for Surveillance, Target Acquisition, Night, Observation equipment. A variety of such equipment has been/is being procured. It will increase the Regiment's ability to detect, recognize, identify and engage the enemy at night and during poor visibility. In many cases, STANO technology has advanced so rapidly that it has outstripped doctrin.

PZB 200

Type: Passive, low light level television tank (night) gunsight.

Range: In excess of 1000m

In Service: 1978-79

PZB 200 is the night gunner's sight for Leopard. It includes an image intensifier (II) television camera that can be mounted on the mantlet, a monitor that can be viewed by the gunner and commander, and various control units. It is a considerable improvement over the Centurion active IR system. It should be mentioned that the range of the PZB 200, and the other image intensifier equipments described below, depends on the amount of ambiant light available. For example, range on a bright starlit night will exceed range on a dark, overcast night.

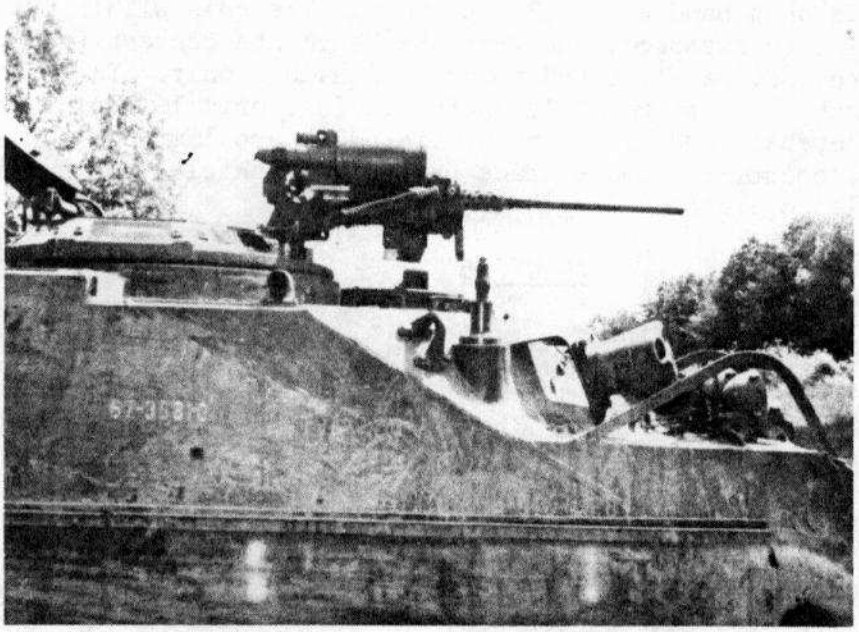
AN/TVS 502

Type: Passive crew served (night) weapon sight (CSWS) for HMG and GPMG, interim night observation device (NOD).

Range: In excess of 1000m

In Service: 1978

AN/TVS 502 will be mounted on some 7.62mm GPMGs and HMGs. Each Lynx M26 cupola will be modified to mount this sight. Until heat sensing thermal imagery devices are introduced, TVS 502, mounted on a machine gun tripod, will also serve as a NOD. Its main use in the Regiment will be in Recce Squadron.



LYNX WITH AN/TVS 502 CREW SERVED WEAPON SIGHT

AN/PVS 502

Type: Passive individual (night) weapon sight for rifles FNC1, FNC2, C3 and for 84mm Carl Gustav.

Range: In excess of 500m

In Service: now

AN/PVS 502 can be mounted on rifles or on the Carl Gustav light anti-armour weapon. In the Armoured Regiment its principle use will be local security at night. It replaces the active IR weapon sight.

AN/VVS 501

Type: Passive driver's night vision periscope.

Range: In excess of 50m

In Service: 1978-81 (tank and AVGP)

AN/VVS 501 has been purchased for the Leopard tank and for a portion of the Cougars. It will eventually replace the M19 active IR devices on Lynx and the M113A1 family. In addition to being passive, it presents a more accurate impression of the ground than does the M19.

AN/PPS 15

Type: Very short range ground surveillance radar

Range: 1500m moving personnel, 3000m moving vehicles

In Service: now

AN/PPS 15 is an X band surveillance radar. Its role within the Armoured Regiment is now being re-assessed, and when the Regiments convert from recce to armoured it will probably be allocated to Recce Squadron only. The use of radar requires some thought. It is certainly useful in fog, drizzle etc, when the ranges of both Mk1 eyeball and image intensifier NODs are limited. On the other hand, it is active, occupies stowage space on a recce vehicle when not in use, and demands a skilled operator.

AN/GVS 5

Type: Hand held laser range finder

Range: 8000m

Weight: 4 lbs

In Service: 1979-81

AN/GVS 5 can quickly and accurately determine ranges to within $\pm$ 10m. It is held against the eyes like binoculars, the target is lined up, and a simple trigger action produces range read out.

Its main users in the Regiment will be Cougar crew commanders, as the greatest source of error for the 76mm HESH round is an incorrect range estimation. Other uses will be in the TOW Troop and in Recce Squadron.

Other STANO equipments under consideration are passive night vision goggles for a variety of users; a replacement for the AN/PPS 4 short/medium range gound surveillance radar; and thermal imagery sights and observation devices.

RADIOS

The number of VHF radios has increased in the Armoured Regiment, as has our reliance on the radio. The potential enemy has an excellent electronic warfare capability for intercepting our radio transmissions, for determining our position from our radio transmissions, and for jamming us when it is most incovenient. Secure voice equipment and the use of HF radios will only partly offset enemy EW. Technology will be of limited use to us in countering the effects battlefield EW in the immediate future, and techniques must be developed to reduce our dependance on the radio.

New radio equipment includes:

CRATTZ

The AN/GRC 142 is a C (HF) set with a secure radio teletype facility. Deliveries of one per Regiment are now in progress. CRATTZ will be used by HQ Squadron, where its advantages in passing detailed messages, such as Supply Requests to Brigade Log Ops, are obvious. It has a range of about 50 miles.

HF RADIO

The Collins AN/PRC 515 is an E set-an AM signal side band HF, man-portable radio. Sets will be provided to RHQ and Recce Squadron. It will be used to complement the AN/GRC 106 for radio communication beyond VHF on the Regimental and Recce Squadron nets if VHF is jammed. It weighs 28 lbs, has a range of 15 miles with a whip antenna and over 100 miles with a dipole antenna. Deliveries are now complete.

The AN/GRC 106, a vehicle mounted AM single side band HF radio (C Set), will be with us until at least 1985.

VHF RADIO

The AN/VRC 12 VHF family radios will be with us until at least 1985. This includes the existing A and B sets.

AN/PRC 77 is an AN/PRC 25 set that has been transistorized. It can be fitted with a secure voice device. It will replace some of the existing 25 sets on a one for one exchange. The 25 sets will then be available to the militia. Deliveries of 77 sets will be during the period 1978-80.

PERSONAL KIT

COMBAT VEHICLE CREWMAN (CVC) HELMET

The Gentex DH 169 CVC helmet has been purchased for all Lynx and APC crews, as well as for Leopard and Cougar crews. It is a considerable improvement over the existing Lynx CVC helmet. The DH 169 weighs 3 lbs, and consists of a very light inner liner with head set and microphone, and an outer shell that provides bump protection and ballistic protection comparable to the M1 helmet. It has a sound intensifier that amplifies voice commands and filters out loud noises. Wearing of this helmet will reduce head injuries (a potential problem in Leopard and Cougar, which accelerate, turn and brake rapidly) and will conserve hearing (a long standing problem for tank crews). Deliveries will be during the period 1978-81.

INDIVIDUAL LOAD CARRYING SYSTEM

This will replace the existing 64 patterns web gear, ammo pockets in combat clothing and hopefully the C2 rucksack. It includes a small pack. Trials are to be conducted in 1978.

BASIC PERSONNEL SHELTER

A light modular type shelter, put together in sections, will replace the bivy, pup tent, tarp etc, used to keep crewmen dry in harbours and leaguers. It will hold three to ten men, depending on how many sections are put together. Trials are to be conducted in 1978-79.

Now the bad news!

Much of this new equipment is more complex than the old. All of it is more expensive. This means both operators and technicians must be more highly trained and practiced than before. Simulators will be of some use here, especially for equipments such as TOW, where the amount of ammunition available for training is limited by cost. Greater care must be taken of this equipment, including preventative maintenance. Some of it can be dangerous if misused, notably lasers and image intensifiers.

Many of these equipments will make it necessary for us to examine our tactics very carefully. We must make very sure that techniques of employment are will defined if we are to get full benefit of the dollars spent. The free exchange of ideas, especially from those who first use the equipment described above, must be encouraged. This newsletter is an excellent form for such discussion.

Equipment must be tied not only to doctrine, but also to manning, to organization, to training and to service support. The establishment of the SBG Armoured Regiment is now being re-examined in FMC HQ and in NDHQ for these reasons.

So you think all this kit gives us as edge! Not only the Eastern Bloc, but many underdeveloped countries where Canada might see future UN peacekeeping duties, have equipment as sophistocated as that described above. NATO countries no longer have the technological advantage that we had in the 1950s and 60s. We may not be winners with this equipment, but we will certainly be losers without it. When two sides are technologically equal, the side that is the weaker numerically has to explore other ways to win battles, such as adjusting tactics and organizations to make best use of technology. This is complicated but the fact that, historically, the results of new technology on the battlefield have rarely been accurately predicted, hence, how do we best adjust our tactics and organizations.

If we go back through history, we find that those democratic societies that survived, when faced by an enemy with superior numbers and equivalent technology, employed certain principles to overcome their weakness:

a. Better trained soldiers (and sailors and airmen) who were able to use what weapons they had more skillfully;

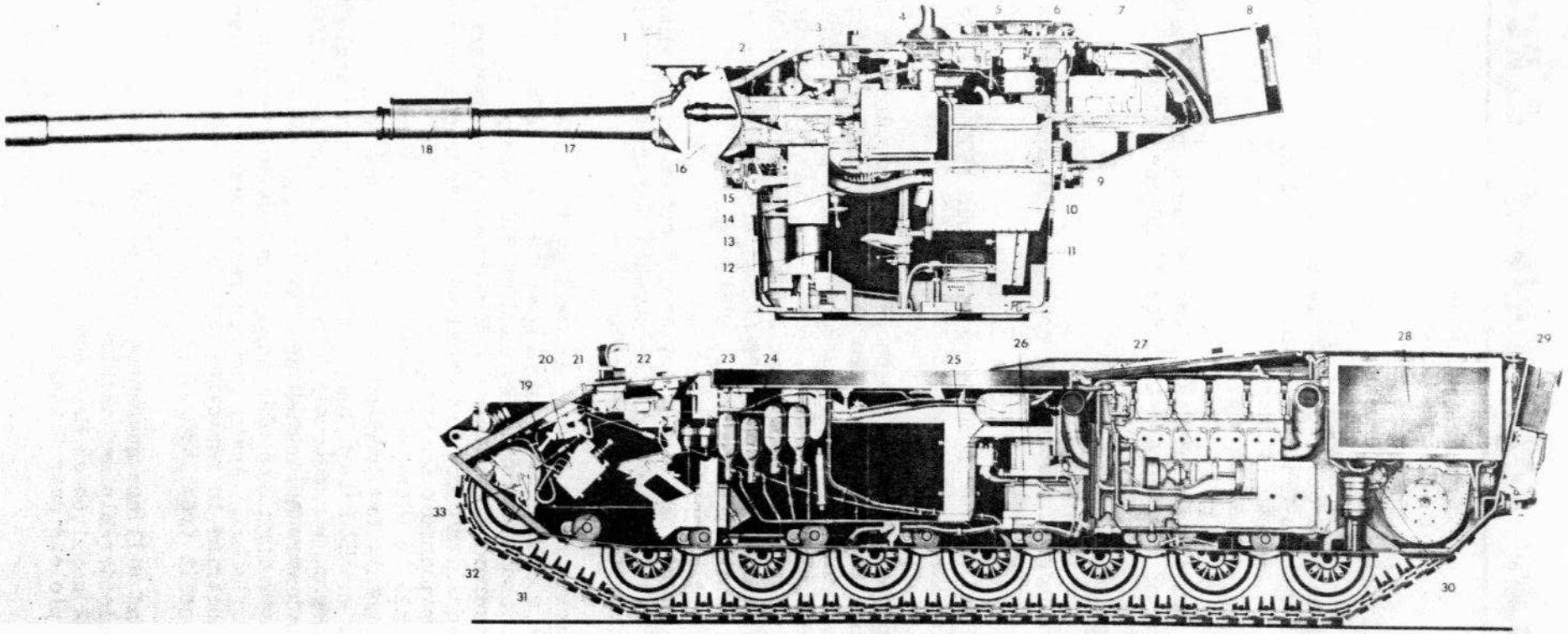
b. Better disciplined soldiers, who were hardened mentally and physically, and were able to withstand the shock that technological improvements often brought to the battlefield;

c. Better leaders, who not only adapted themselves to changing circumstances, but were able to dispel the fear of the unknown in their subordinates;

d. Superior doctrine in employing new weapons and wringing the last drop of benefit from them.

Technology alone will not guarantee the survival of our values. Superior training, discipline, leadership and tactics, combined with technology will, just as it did for the Greek hoplites at Marathon, the Swiff pikemen at Laupen and the Spitfire and Hurrican piolets over Britain.

LEOPARD SECTIONAL VIEW



1. Searchlight
2. Coaxial machine gun
3. Range finder
4. Panoramic telescope
5. Commander's hatch
6. Periscope
7. Radio set SEM 25
8. Stowage box for searchlight
9. Turret ball bearing
10. Empty-cartridge bag (main gun)
11. Turret basket
12. Gunner's seat
13. Electro-hydraulic turret traversing and gun elevating system
14. Scavenger system
15. Empty-cartridge bag (machine gun)
16. Shield
17. Main gun
18. Bore evacuator
19. Hand brake lever
20. Gear selector switch
21. Steering control lever
22. Periscope
23. Heater
24. Fire extinguisher cylinders
25. Hot air duct
26. Batteries
27. Engine
28. Radiator
29. Tool box
30. Transmission
31. Driver's seat
32. Brake pedal
33. Accelerator pedal

GAGETOWN TANK DRIVING CIRCUIT

by Capt H. Marsh

GENERAL

1. The course will be laid out over 5000 meters of rolling ground. It is located less than 2000 meters from the main camp complex.

AIM

2. The aim of the driving circuit is to enable basic and advanced drivers to master the movement of the Leopard C1 under field conditions.

OBSTACLES AND FACILITIES

3. Attached is a sketch of the driving course. The following is a description of each facility:

a. Troop Shelter. A 30 man building with four 1500 watt electric heaters, and latrine.

b. Tank Transporter. This is to teach the drivers load-on and load-off drills. The dimensions and ramp angles approximate those of a European tank transporter and a Bundesbahn flat car. Total length is 18 meters with a width of 3.15 meters. Gravel will be dozed to within .20 meters of the flat bed surface to reduce damage to the tank if a student drives off the edge. Top surface is wood on concrete to minimize slipping in winter months.

c. High Speed Run. This is a wide, smooth but slightly winding course of 1200 meters at the end of the stretch the driver turns a 90° bend and enters the "centre-judgement".

d. Centre-Judgement. Experience in Germany indicated that drivers were having a difficult time in judging where their left and right tracks were. To this end a narrowing land of 2.0 meters high pickets has been incorporated. The lane width reduces at 5.0 meters and narrows to 3.50 meters. Pickets are steel with cylindrical concrete bases. Weight of each picket is 50 kg.

e. Knife-Edge. This is a conventional up and down concrete ramp, 4.5 meters wide and 12 meters long. The approach ramp angle is 500 mils and lifts the tank 1.0 meter. The down ramp angle is 400 mils and drops 2.0 meters. The angles are this shallow because the Leopard rear hull assembly plate will scrape or bump and eventually cause cracks in the welds. Again the concrete surface is covered with wood.

f. Backing-In Exercise. This is a series of "parking slots" in the woods to practice harbour drills, etc. Each parking area is 10 meters deep but each consecutive slot gets narrower. The widths are 10m, 7.0m, 5m, 4m and 3.5 meters. The slots are joined by a common area 10 meters wide by 100 meters long. The surface is hard packed gravel to a depth of 0.5 meters. The area between the slots is forested and is protected by reinforced concrete cylinders.

g. Up-Down Turn Trench. To practice the drive in climbing and descending low obstacles and turning in tight areas (ie rubble in a town). The inital obstacle that confronts the driver is a 0.5 meter high wall. Once he is up on top of it he must descend a vertical drop of 0.7 meters and then turn through a 45° angle to climb back up a vertical step of 0.9 meters onto a flat concrete surface.

h. Concrete Wall. This wall has a vertical step of 1.10 meters, it is 5.0 meters wide and 0.70 meters deep. It is back filled with sand and concrete for long life and covered with replaceable wood.

j. Shallow Pond. It is designed to train the drivers to prepare for fording to a depth of 1.2 meters. A well will be sunk to provide a continuous water source, and a regulating sluice gate maintains a constant depth. The sides and bottom of the pond are made of 0.5 meters of soil cement.

k. Wash Board. This obstacle is designed to teach the driver how to negotiate a series of obstacles at the correct angle and speed to enable the crew to fire the stabilized gun. If he enters at the wrong speed or angle the vehicle will pitch too wildly for the gunner to control the gun. The wash board is a series of 20 centimeter diameter logs spaced at 2.10 meters. The wash board entering width is 40 meters and the departing width is 20 meters. It is 100 meters long.

m. 30% Side Slope. This will be cut from the side of a natural hill. It is approximately 150-200 meters long and 10 meters wide.

n. AVLB. The requirement is to simulate crossing an armoured vehicle launched bridge. A Centurion bridge will lengthen the fatigue life of the bridge. A 2.0 meter ravine will be cut to add realism.

p. Tank Slalom/Village Driving. To practice the driver in negotiating narrow roads and lanes in Europe a "changeable" slalom course has been designed. This course is approximate 200 meters long. The width varies from 10.0 meters to 5.0 meters and the radii of the curves from 41.7 meters to 4.8 meters. In this manner the driver must select the correct gear to stay on the course. Cement/steel pickets line the course and help the driver in judging width. The 40 pickets can be moved by crews to simulate village corners, etc. The actual slalom course is soil concrete to minimize track erosion of the ground.

q. 60% Slope. This mound is 6.0 meters wide and 4.0 meters high. Length is approximately 14.0 meters. Due to the high erosin experienced by our allies it has been decided to build this slope out of compacted gravel covered with 0.5 meters of reinforced concrete. This in turn is covered with several feet of soil.

r. Trench. To practice trench crossing for the basic and advanced driver. The trench has two crossing widths, 2.8 meters and 3.0 meters. The maximum distance that a tank can fall should the driver miscalculate is 0.50 meters.

CONSTRUCTION CHARACTERISTICS

4. The climate and the need to train in winter have been taken into consideration in building this course. All concrete structures have supporting platforms below the frost line (1.5 meters deep). All concrete surfaces have wood coverings to reduce cold weather shatter and to provide a non-skid surface. Concrete strength will be 3000 psi; 5000 psi as required, with reinforcing steel rod.

PROGRESS/SCHEDULE

5. a. Initial drawings of each obstacle/facility have been completed;

b. Blueprints will be forwarded to FMC/NDHQ by Dec 77;

c. Funding should be finalized prior to Mar 78;

d. Contracting should be completed by summer 78;

e. Constructing should start by Aug/Sep 78;

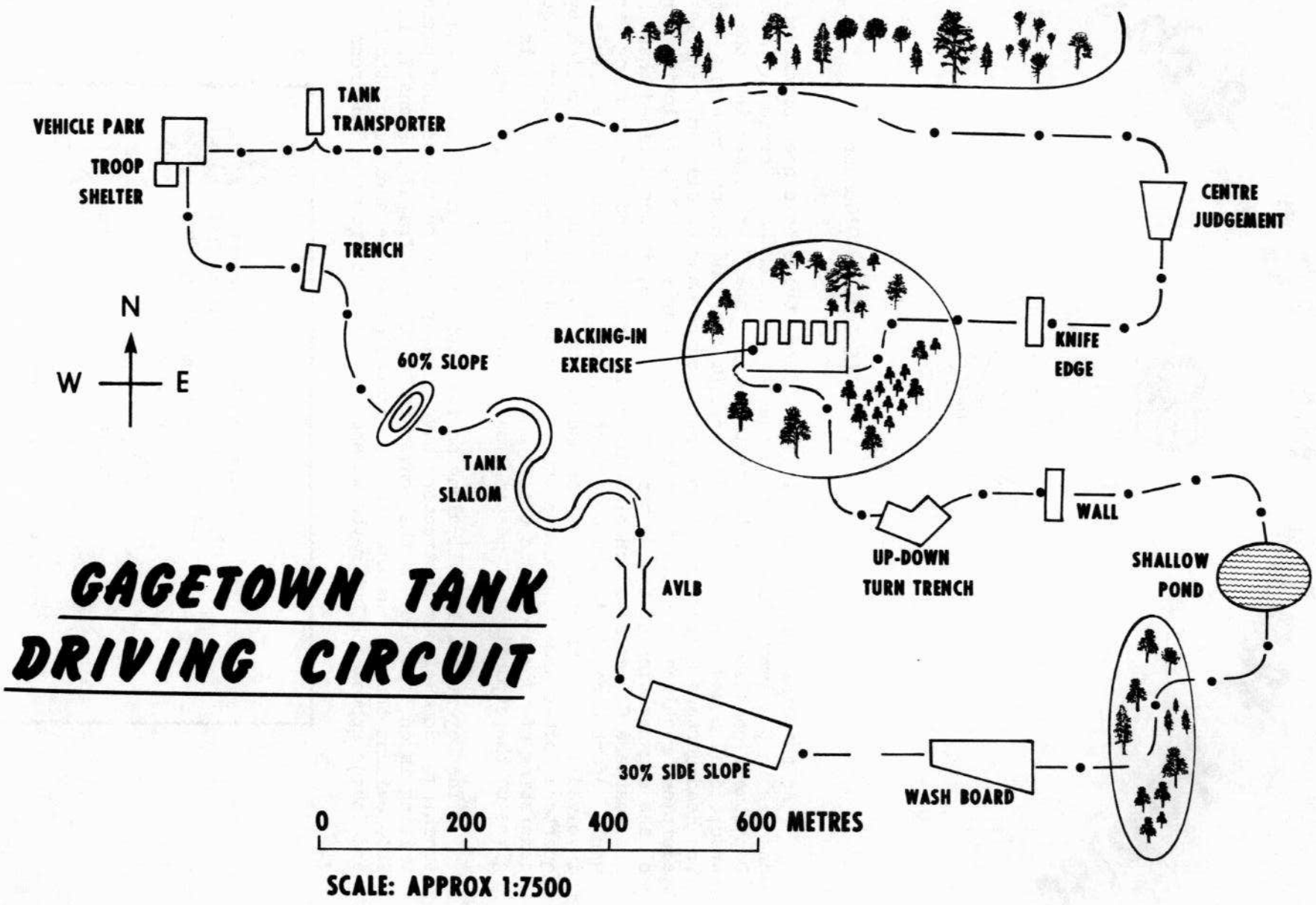
f. Concrete structures will have hardened by Oct 78; and

g. User employment Oct/Nov 78.

OTHER FACILITIES

6. Snorkelling Pit. It is unlikely that the snorkelling pit will be constructed prior to Sep 80, as concept of operations and design requirements have not been identified.

7. Tactical Driving is conducted in the remaining 1000 square kilometers of the training area.



GAGETOWN TANK DRIVING CIRCUIT

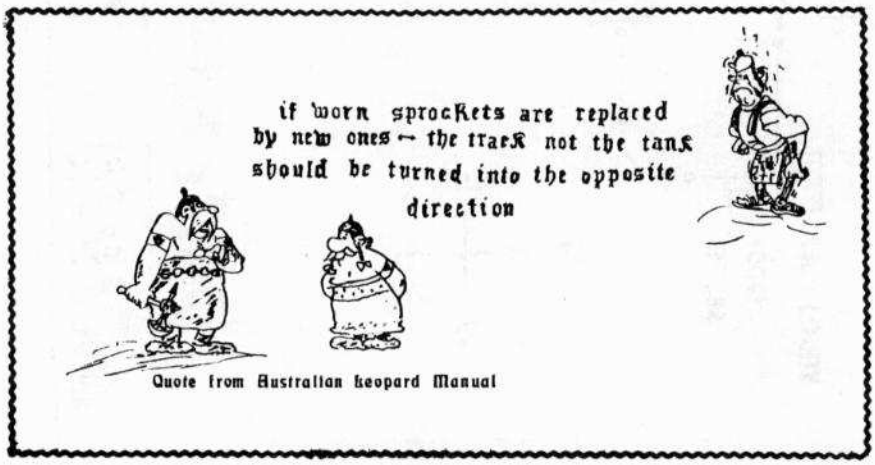
SCALE: APPROX 1:7500

Black Rats at the School

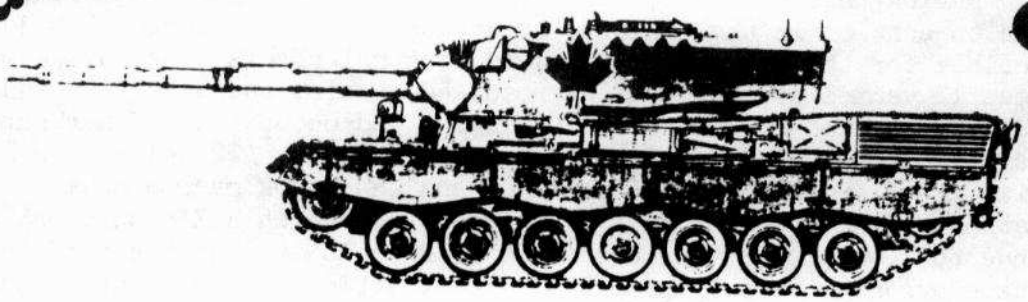
by LCol G. J. O'Connor

As the Director mentioned in his SITREP, there have been organizational changes in the Armour Department in the last six months. Previously, the Department consisted only of the instructional staff organized into the four traditional Squadrons; Tactics, Gunnery, Driving and Maintenance and Communications. The Headquarters Combat Arms School retained command of all men, vehicles and equipment required to support our training. Early in 1977, following a review of the organization of the Combat Training Centre, it was decided that the Headquarters Combat Arms School would cease to exist and the Training Departments would report directly to the Headquarters Combat Training Centre. This decision involved a re-alignment of the men and resources previously controlled by Headquarters Combat Arms School and thus the Department acquired a Cougar Squadron consisting of tank and recce troops and a Headquarters Squadron. This organization gives us the capability of meeting most of our normal training needs.

The Department is well along on its implementation of Leopard and Cougar training. Some of our instructors have already been retrained, our pamphlet writing is on schedule and the conversion of Course Training Plans is in hand. It's evident that enthusiasm here is increasing as the arrival of the Leopard and Cougar approaches but maybe we should hear that from the Squadrons.



Tactics and the Passing of the Centurion



by Capt J.M. Snell

Tactics and the Passing of the Centurion

Since June 1977, Tactics Squadron has been mentally and, in some aspects, physically preparing for the arrival of both new armoured vehicles - the Leopard and the Cougar. During the heavy training period in the summer of 1977, the squadron undertook the following training:

Course	Candidates	
	Commenced Training	Graduated
RESO 1/2	19	16
RESO 3	17	16
Phase 2	28	22
Phase 3	8	6
Phase 4	37	28
TOTAL	109	88

One interesting note with the officer classification courses is that the Francotrain project was initiated. A complete francophone section with francophone instructors was created. This section undertook all of its field training in French as well as a substantial part of its theoritical training.

During the fall of 1977, the Squadron was involved in basic TQ3 GMK training. The troop of 14 recruits are scheduled for posting to the RCD upon completion of their trades training in Gagetown. As well, the Armoured LOFT 2 course exposed 6 pilots and one observer to the basics of reconnaissance training. A total of 22 candidates began the TQ6A course, Serial 7702. This will be the last crew commanders course in which reconnaissance operations are taught.

Twelve Warrant Officers attended the TQ 7, Master Crewman Course, for 5½ weeks in Oct and Nov. Because of a emphasis, this course deserves some seperate consideration. The accent on this years course was shifted from solely theoretical training to theoretical and practical field training, and assessment. For seven days, the candidates participated in Exercise Covered Wagon. During this exercise, students were assessed on their ability to command an echelon in the field. The student "Squadron Sergeant Major" was responsible for the tactical command and control of his echelon, (numbering at times 12 vehicles), resupply by road and by air, the selection and marking of HLZ's by day and by night, the selection and occupation of harbours and leaquers and other echelon operations. Supported by 422 Helicopter Squadron, who air lifted over 30 tons of supplies and undertook over a dozen casualty evacuations, the student "SSM's" learned to establish HLZ's on short notice and undertook the layout and operation of DP's as well as the handling of various emergency resupply problems. The practical evaluations of the students ability to command an echelon during a field exercise provided a more positive assessment must be part of all future Master Crewman Courses.

The summer of 1978 will see the end of Centurion training. The Centurion has served its purpose well.

The spring course schedule is extremely heavy:

Squadron Commanders Course;

Phase 2 course;

Phase 3 course;

2 Serials of the Crew Commanders Course (TQ6A);

Troop Warrant Officer Course (TQ6B);

LOFT 2 (Armour) course; and 2 serials of the Basic Crewman Course (TQ3).

By double loading the Crew Commanders Course in the spring of 1978, the Squadron will be able to free sufficient instructors to undertake Leopard conversion training in the fall. This is absolutely essential if the tactics instructors are to remain professional and current. The results of this double loading are threefold. Firstly, it will permit instructors the necessary time for conversion. Secondly, in all likelihood, there will be little requirement for increment instructors from the Regiments. Finally, it means, the employment for Tac Sqn instructors will be extremely heavy, involving long periods of field training. To cite an example, a Warrant Officer Instructor employed on the crew commanders course will begin the GMT portion on 4 Jan 78 and finish with FTX on 10 Mar 78. On 14 Mar 78, that same Warrant Officer will move on to the field training of serial 7802 without having seen the candidates prior to the latters arrival in the field tank park. He finishes with the Serial 7802 students on 14 Apr 78 and then will join either the Phase 3 AOCT or TQ6B both of which have already started their theoritical tactics training. He continues with either course until 23 May which then leaves avout ten days in which to prepare to teach on one of the summer courses beginning 5 Jun 78. The above illustrates the consequences for Tactics Sqn of the back-to back crew commanders course.

One other project underway with Tactics Squadron is the preparation of the Recce Course. This package should be written by early 1978 and the course will be ready for scheduling by Sep/Oct 1978.

In closing, I would like to make two personal observations. As a relatively new officer in Tactics Sqn, I have been impressed by two aspects - the youth of the instructors and their motivation and dedication. I am certain, in my own mind, that my instructors as an officer cadet were all officers and NCO's near retirement. (In fact the officers were probably in their late forties, while the Senior NCO's were most likely just over forty!). But the instructors here are young and as a consequence are highly motivated and dedicated. They are continually seeking ways of improving both the quality of the courses and the quality of the instruction. One can easily summarize their approach as professional.

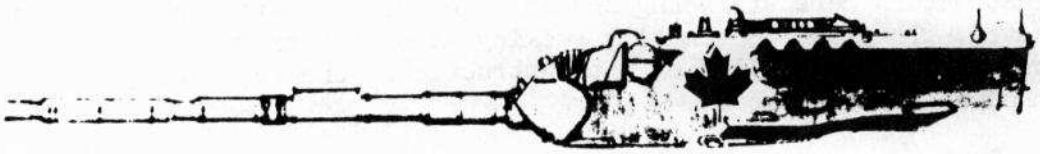
The small cadre of instructors within the squadron are looking forward to 1978 and the introduction of the new armoured equipment within the Corps. For those of you who have been away from Gagetown for sometime, the following is the Sqn slate of instructors.

Major K. H. Mulligan - OC
Capt R. Aubry - 2IC
MWO E. J. MacDonald - SSM
Capt B. E. Hook
Capt J. M. Snell
Capt A. S. Quenneville
Capt J. A. Lutes
Capt E. D. Borylo
Capt A. M. L. Petiot (FR Exch)

WO L. J. Koelbl
WO L. M. Grant
WO L. M. Brown
WO J. J. Doyle
WO M. T. Davis
WO J. L. Martin
WO A. B. Currie
WO T. M. Swyers

Sgt J. H. Leduc
Sgt C. V. Regular
Sgt R. B. Brownridge
Sgt C. Custus
Sgt J. S. McNeil
M/Cpl H. L. Clarke (RCR)

Gunnery Squadron



by Capt B. Jackson

The news of the Leopard CI and Cougar is old news now, however, behind these headlines is the amount of work necessary to get these vehicles into use. There are, of course, many aspects of this including financial, supply and technical concerns but we Armoured soldiers are concerned with the user and in Armoured Gunnery Squadron with the gunner and commander.

The Leopard poses the problem of what techniques of shooting will be used. For the past 25 years, we have employed British techniques from a British tank (Centurion). Now we have a German tank with a Belgian automatic fire control system. Although many other countries (and including our own The Royal Canadian Dragoons) have Leopard they do not have an automatic fire control system. Only the Australians have a tank package similar to the one we are buying.

Deciding on techniques of shooting is not an easy process. The first step must be the adoption of a basic philosophy for Armoured gunnery. Such basic decisions as "do we correct fire of super velocity ammunition (muzzle velocity greater than 1000 meters per second)"?, "up to what range will the gunner be allowed to correct HESH fire"?, etc must be decided on. The adoption of a basic philosophy of Armoured gunnery resulted in the creation of a gunnery text book, CFP 305(9) "THEORY OF ARMOURED GUNNERY". This book lays out the Canadian philosophy of Armoured gunnery and how, in principle, the user is to apply it. This book is in the final preparation stage and will shortly go into print.

Once the basic philosphy had been decided on, a detailed examination of the Leopard's sighting and fire control equipment was necessary. It had to be known what equipment was available and possible variations there were. This was done by reading reference material from many sources, a quick familiarization trip to Belgium and picking the knowledge from those instructors who have used the present Leopard. Basically the findings were that the Leopard's primary gunnery system includes a laser range finder which is linked to an onboard computer. The computer is also linked with a number of sensors that measure most of the parameters that will cause a round to miss the target. These include sensors to measure wind, trunion tilt, air density, powder temperature and barrel wear. Basically then, once the ammunition has been selected and the range established by lasing, the computer will adjust the gunner's sight graticule to correct point of aim (taking all the other parameters into account) and the gunner then lays the graticule on to the target and fires.

The question of what back-up systems are available should the primary not work or conditions not allow for its use had to be answered. For the Leopard CI the gunner's secondary sight has a semi-fixed graticule. This is primary system in the other Leopards. The Commander also has the means to fire the gun.

Having finalized the philosophy and discovered the equipment capabilities the next step was to put it all together in a form understandable to the average crewman. He, of course, is our primary weapon for if he cannot hit a target or wastes time because he does not understand what is to happen in any given technique all is lot.

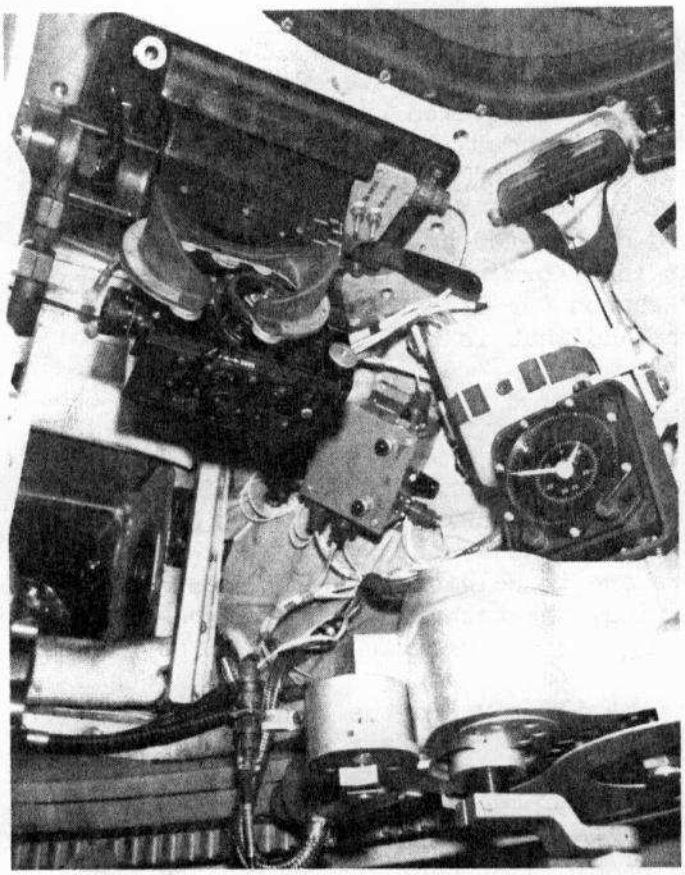
A detailed examination of other countries' techniques was conducted and a blend of their ideas mixed with some original thinking resulted in uniquely Canadian techniques of shooting. These techniques are being put to the test of live firing as the Leopard instructors are in Belgium learning more about this "cat". Following the course and firing, the techniques will be re-examined and finalized.

The discussion to this point has primarily covered the Leopard. The other new cat, Cougar, must also be considered. It is a six wheeled Swiss APC, fitted with the British Scorpion turret, mounting a 70 mm gun. Its primary function is to be a tank trainer for the Canada-based Armoured regiments. Although the sighting and fire control equipment is simple, employing a ballistic sight and gun elinometer/range down, the problems of tank commanding are there. The commander must control a driver whom he cannot see and order a gunner to fire the gun.

Because the Cougar is a tank trainer, the techniques of shooting must be similar to thoses of Leopard so that a crewman can change from one vehicle to the other without a major variation in shooting techniques. The British use the Scorpion as a reconnaissance vehicle and do not feel that there is a need to have completely similar fire orders for Scorpion and their tanks. As well, there are some equipment differences between Scorpion and Cougar. For these reasons unique Canadian techniques of shooting had to be prepared, combining our gunnery philosophy, a compatability with Leopard techniques and the British Scorpion techniques.

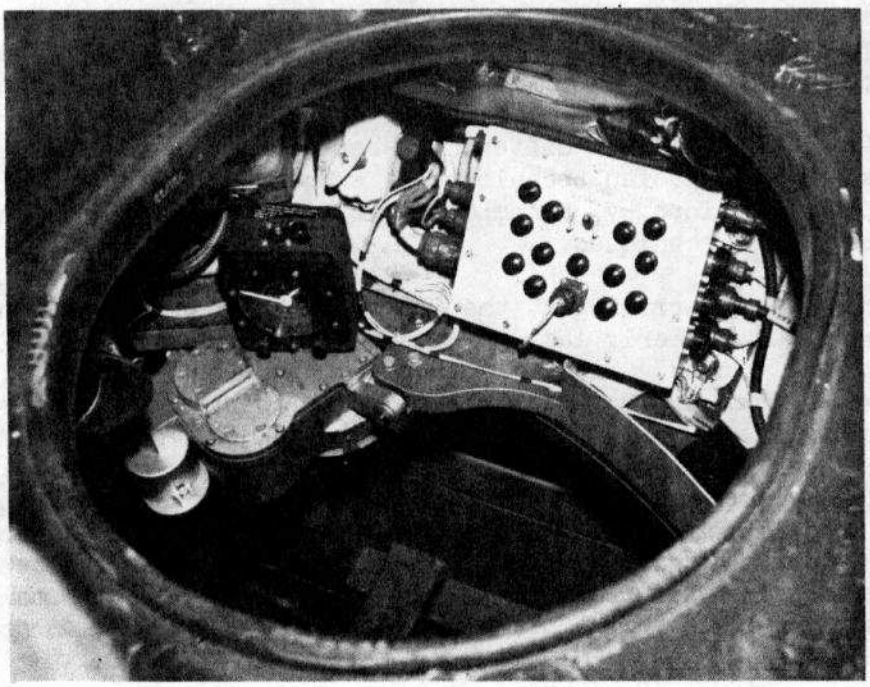
The procedure of arriving at the Cougar techniques was somewhat different than that for Leopard. Early last May instructors were sent to Britain for a British Scorpion course. With this knowledge and the British reference books, they were able to ammend and adjust the British techniques to suit our Canadian needs.

Most of the ground had been prepared for the Canadian techniques of shooting the Leopard CI and Cougar. A healthy blend of other nation's techniques and the Canadian philosophy have resulted in usuable, understandable and effective techniques of shooting. This will allow Canadian tankers to continue to maintain their high standard of gunnery expertise in achieving the aim of getting A FIRST ROUND HIT-FIRST.



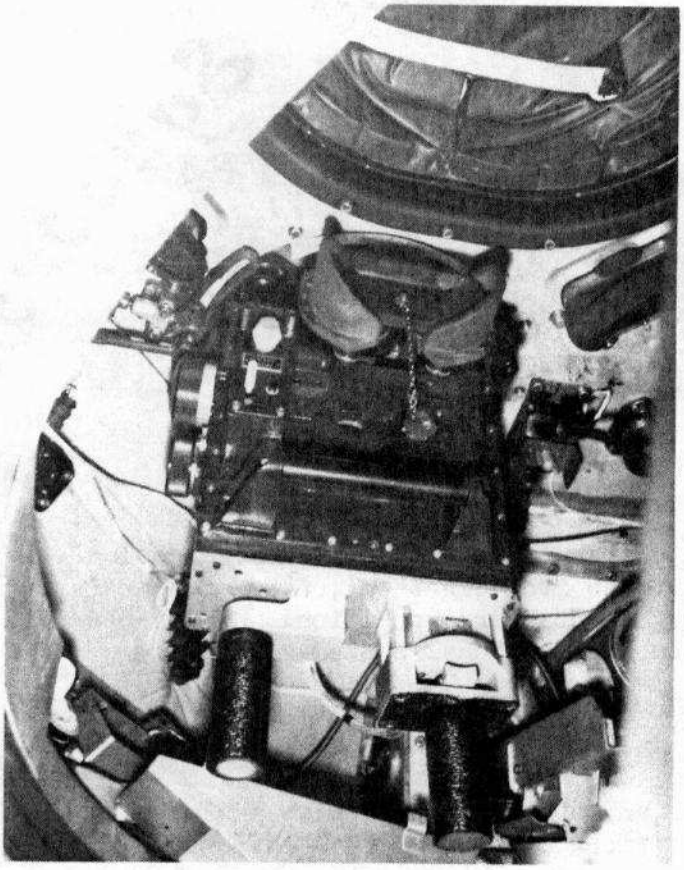
GUNNER'S STATION (COUGAR)

THE TRAVERSE HANDLE IS TO THE RIGHT. WHEN IN THE "DOWN" POSITION HAND TRAVERSE IS POSSIBLE. TO USE POWER TRAVERSE THE HANDLE MUST BE IN THE "UP" POSITION. THE POWER CONTROLLER IS THE CRESENT KNOB SLIGHTLY LEFT OF THE HAND TRAVERSE HANDLE.
THE OPEN SPACE BELOW AND IN FRONT OF THE SIGHT IS FOR THE II L3A1 SIGHT.



GUNNER'S STATION (COUGAR)

LOOKING DOWN THROUGH THE GUNNER'S HATCH.



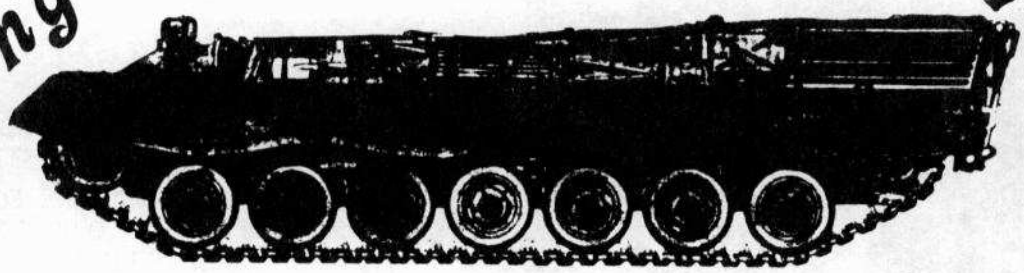
COMMANDER'S STATION (COUGAR)

THE HANDLES ARE FOR THE COMMANDER TO TRAVERSE HIS SIGHT. THE COMMANDER'S TRAVERSE CONTROLLER IS THE CRESENT KNOB ABOVE THE RIGHT HANDLE.

Trooping the Colour

One of the most picturesque military ceremonies is that of "Trooping the Colour". It originated in the 16th century, when the colour of the company was placed in the Ensigns quarters or elsewhere at the end of the days parade or fighting. It was lodged in quarters in much the same manner as the members of the Company were lodged, hence the name "Lodging the Colour". Originally this was a simple ceremony, but gradually grew in complexity and dignity until in 1755, it was incorporated into the regular "Guard Mounting Parade" of the Foot Guards, music played then, during the lodging, was called a "troop" and gradually the word trooping ousted lodging as descriptive of the ceremony, and we have "Trooping the Colour", as it is still known today.

Driving and Maintenance Squadron



INTRODUCTION

1. The year 1977 has seen a complete change of faces in the upper echelon of D&M Squadron. A new OC, Capt Marsh, fresh from eighteen months of courses replaced Capt Hamilton, who moved to the SO3 Standards position. MWO MacDougall, who has spent the last eight years in the instructional system moved from Standards to D&M.

ACTIVITIES

2. The past year was much the same as any other year. Course followed course, trade level three Lynx driver, officer cadets, militia officers and advance courses alike, but as the year got older, things got better. The combat arms advanced driver course flew to Lahr, Germany, in November to conduct the first Leopard driving and maintenance course. Then finally on 12 Dec 77 a long sought goal of the squadron was realized. Our own vehicles were given to us. Needless to say, even though we received the keys, we haven't seen most of the vehicles for they are sitting in base workshops awaiting repairs .... anyways it is a start.

3. The major achievement of the year was getting the Leopard course package assembled for the advance course. If it had not been for the devotion to duty of WO Stach RCD who spent hours translating German manuals into English and WO Nichols who converted permissive repair schedules into course training plans and lesson guides, this would not have been achieved. Also during the year, fifty percent of the instructors were converted from CENTURION to LEOPARD. The goal of 100% conversion will be completed by 8 Feb 78.

1978 FORECAST

4. At times, it is too terrifying to contemplate the activities of 1978, so the Squadron OC only briefs the instructors one month at a time, and talks vaguely about the future. In broad-brush the year looks like this.

a. January is "catch-up" month. A second Leopard course is being run at Lahr to allow all those crewman who have not received the tank portion on previous advanced courses the opportunity to complete their qualification. Once this course is over, the Armoured Corps will have four officers and forty NCO's qualified as Leopard D&M insturctors. The instructors remaining in Gagetown are drafting the new Lynx manual and preparing for the AVGP permissive repair schedule meeting with 202 Workshop.

b. February is course month as we run our normal courses for officer cadets. Also during this month, we anticipate the drafting of a CTP for TSQ Code CRMN 011.26, Leopard Tank Driver, and out lining a CTP for the AVGP.

c. In March the "chosen few" will travel to London, Ontario and receive a factory course on the AVGP chassis. While at General Motors, it is the intention to validate the AVGP CTP and commence preparation of the over head projector slides and training charts that all units will require.

d. April finds us once again plagued by in house courses.

e. In May, the Leopard training aids arrive along with the technicians from Germany. At this time the summer season of endless courses starts and doesn't end until August.

f. June should see the arrival of the Leopard CI chassis manuals. It has already been perceived that these manuals are not quite what we want so a parallel effort called CAS Precis 164 awaits in the wings.

g. By July, all the new autumn courses on Leopard AVGP and the advanced course are to be finalized.

h. August ... leave ?

j. September starts with the arrival of a factory COUGAR and perhaps a grizzly and a conversion course for CTC instructors. Then the Leopards arrive and the advance course starts.

k. October will see the commencement of the first TQ 3 Tank driver serials which will run back to back until 22 Dec.

l. November - December courses continue.

5. A new course training standard will be implemented in 1978 and this has given birth to new Trade Specialty Standards. D&M courses are effected as follows.

a. The old Combat Armd Advanced Driver was difficult for DPCOR to interpret when crewman only completed the common portion of this course, so the new course progression and qualifications are as follows:

SERIAL (a)	TITLE (b)	APPLICABLE TRADE (c)	LENGTH (d)	QUALIFICATION (e)	REMARKS (f)
1.	Combat Arms Advanced Driver	011, 021, 031	30 days	TSQ Code: AP	021 depart
2.	AVCP Advanced Driving and Maintenance	011, 031	8 days	AM	031 depart
3.	Leopard Tanks Advanced Driving and Maintenance	011	18 days	011.01	Course Ends for 011

b. In fact, a crewman will receive three qualifications on one course.

c. It is also worthwhile to list the new trade speciality qualifications which came into effect Oct 77. Note that there is no change in the old TSQs. ie a wheeled recce vehicle driver is still TSQ 011.01.

(1) TSQ 011.01 Adv D&M, Leopard A2 and Cl.

(2) TSQ 011.17 DFSV Dvr (Cougar).

(3) TSQ 011.26 Leopard Tank Dvr A2 and Cl.

FUTURE TRAINING AIDS

6. It has been to our advantage to purchase the Leopard tank 12 years after its experience by the Bundeswehr and other NATO armies. Most of the training problems have been identified and the training aids have been designed at other countries expense. Of course the price of some of these training aids are so high it makes you wonder who is footing the RCD bill.

7. The two main training aids that the squadron is receiving are the Driver's Station and the Training Tank-Instructor's Cabin.

a. Driver's Station is a copy of MBT driver's station. The hull portion of the driver's compartment is shown as a wooden mock-up. It includes the entire front portion of the hull and extends back to the emergency escape hatch behind the driver's seat. The outside of the station is provided with original tank parts except that the suspension is painted on. The interior includes all equipments and linkages that confront the driver. It comes equipped with the heating system and fire extinguishing system. The instructor can also introduce one hundred and one malfunctions or conditions to which the driver must take corrective action.

b. Training Tank - Instructors Cabin eliminates the need for a tank instructor to hang onto the right fender and shout words of encouragement to a trainee. The MBT's turret is replaced by this 8.5 tonne cabin. The cabin provides space for the instructor and 2 student drivers. As in the Leopard, the trainee under instructor sits in the hull. The instructor has the capability of over riding the student in critical situation and if necessary, taking over full control. The display instruments in the cabin monitor the reactions of the driver. The system does not change the riding characteristics of the battle tank. A dummy gun bolted to the ballast ring ensures identical length condition. It also comes equipped with an emergency hammer to break the windows, should a student "turn-turtle".

8. Unfortunately for us, the Canadian Forces is the first to receive COUGAR, so we must pioneer the training aids. To the best of our knowledge, a contract for training aids has not been negotiated so we will be back to the hack saw and red paint tricks that are a hallmark of our profession. As mentioned earlier, once the lesson guides for AVGP are identified, we will ask CTC Training Aid section for assistance in the preparation of slides and charts.

CONCLUSION

9. If any readers have any advice or comments that would assist us in the implementation of these new programs, please write. In particular, I would like to address this to our fellow armoured comrades working with allied armies.

UNITED NATIONS FLAG

Composed and written by Sgt T.A. Gallant
The Ontario Regiment RCAC

SEE THE FLAG THAT WILL ALWAYS STAND

FOR PEACE BETWEEN TWO LANDS

AND MAJESTICALLY IT WILL FLY

SO THAT LOVE ONES WILL NOT DIE

TO WORK AS ONE FOR PEACE

TO PUT TROUBLES NOW AT EASE

ACROSS THE TABLES OF CONVERSATION

IT'S THE FLAG OF THE UNITED NATIONS

TOGETHER WE TRY TO BE AS ONE

TO STOP THE BATTLE BEFORE ITS BEGUN

AND THRU THE MEANS OF CONVERSATION

IT'S THE IDEA BEHIND THE UNITED NATIONS

TO BE ABLE TO HELP IN EVERY WAY

SO PEOPLE MAY LIVE FROM DAY TO DAY

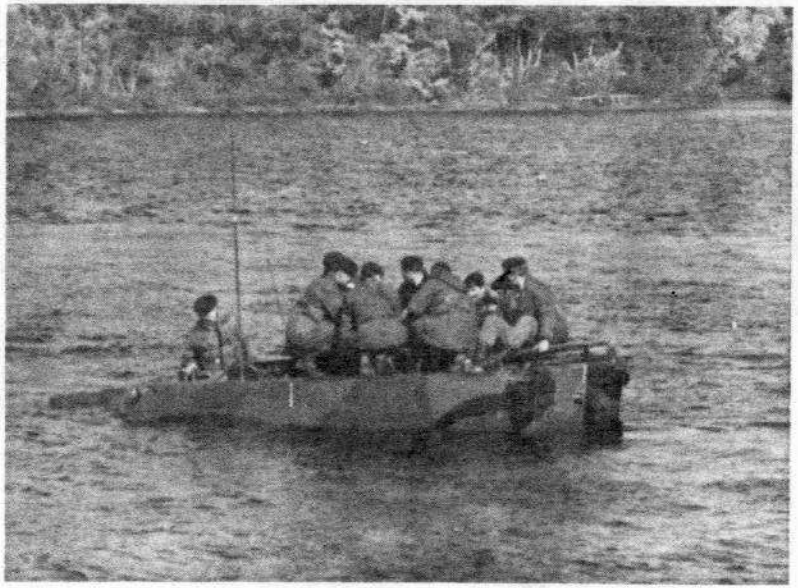
WITHOUT FEAR OF WAR AT HAND

THE UNITED NATIONS WILL ALWAYS STAND

FIRST ADVANCED DCM LEOPARD COURSE
LAHR NOV - DEC 77

CAAD 7702 Evacuation Drill

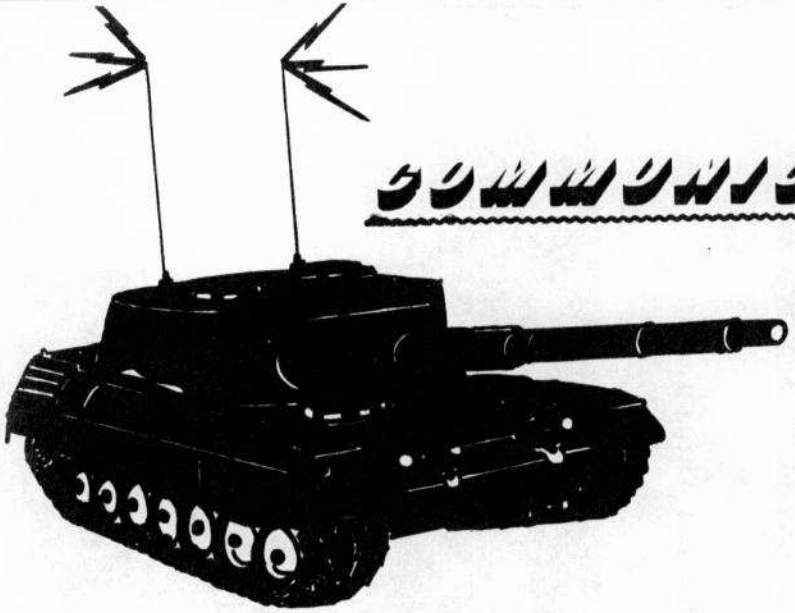
"Nice Entry"



"#?! This thing Leaks"

"Come on, the Crse Officer is on his way."

"It's gone - maybe he won't know a carri[illegible] is missing"



COMMUNICATIONS '77

The past year has seen Communication Squadron hard at work training a great many students on a variety of courses. The courses included Squadron Commanders, Advance Communications, Officer Candidate Training Phase 2 and 3, Reserves Entry Scheme Officer (RESO) 2 and 3, LOFT 2 and TQ 3 for the Armoured Corps. We also conduct the same communications courses for the Infantry and Artillery less the Squadron Commanders course. In addition Communication Squadron was tasked to assist other units on base which requested comms training.

A first for the Squadron came last fall when we were tasked to conduct OCT Phase 2 in both French and English. There were difficulties due to the shortage of necessary equipment and classroom space. French instructors from other departments were attached to the Squadron for the duration of the course. Although they were hard pressed, the course was a definite success. We hope our bilingual capabilities will not only increase but will become a permanent part of the Squadron in the very near future.

Communications Squadron has also received new equipment, the AN/PRC 515, single side band, HF manpack. The 515 was not designed to replace the manpacks presently used in the Canadian Forces, but to increase the operational range of patrol and recce units. The original manpacks have an operational range of approx 8 km, with the 515 this distance will increase the approx 50 km with the whip antenna and to 300 or 400 km using the dipole antenna which has been provided.

One of the more interesting aspects of the AN/PRC 515 is the 280 000 channels available to the operator. Although the 515 is not compatable because of frequency range with the AN/VRC-12 American family of radios it can however be used in conjunction with the AN/GRC 106 set.

The 515 not only comes equipped with the normal assortment of audio accessories of handsets and headsets but also with a CW key. The power source is supplied by a sealed NICAD battery with a life expectancy of 12 hours at a 9 to 1 ratio (9 receive to 1 transmit). A hand cranked, direct current, generator can be connected directly to the battery to extend operating time indefinitely. It takes very little effort to operate and has indicator lights to indicate correct speed when cranking. A battery charger is also provided. It can charge up to six batteries simultaneously and operates from 24 DC or 110 volt AC power sources.

The set will be extremely benifical to Armour because of our mobility, dispersion and vital need to communicate. Serious consitration should be given to the reinstatment of CW in our Communication courses to enable operators to achieve maximum benifit from all the facilities offered by the AN/PRC 515.

AN/PRC 515

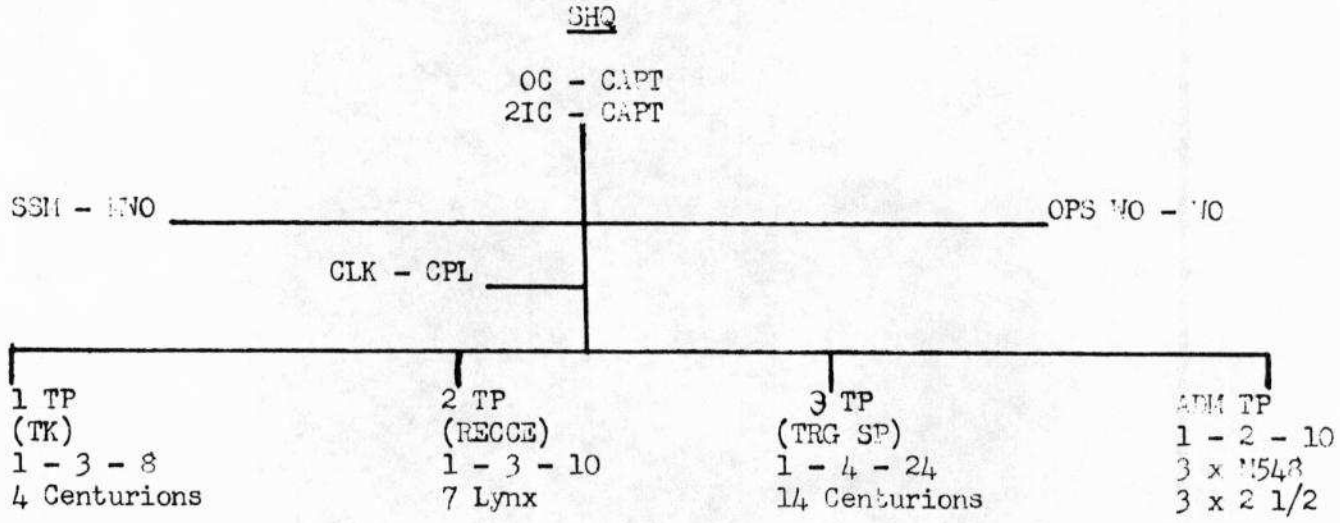
COUGAR SQUADRON

by Capt K.L. Thornton

Depending on your vintage, Cougar Squadron could be equated to the old Armour Training Support Squadron, CAS Armoured Squadron, CTC Armoured Squadron or if you really stretch your imagination it might be equated to a skeleton version of the former "C" Squadron 8th Canadian Hussars. In any case, this squadron is the elite of the Armoured units in Canada, for it has Centurion tanks. If this is the case, then you might well ask; "Why the name Cougar Squadron?" To be frank, our intention is to stabalize the squadron as much as possible and, since we are destined to be outfitted with the Cougar vehicle in 1979, we have adopted the name.

Despite the continuous changing of names, the squadron's role has varied very little until now! For years now, the Squadron has been tasked with providing the training aids in support of Armoured Courses. As a result, our own training and thus the training of our soldiers has taken a back seat to this never ending support requirement. This situation ended 3 January 1978 for the Squadron reorganized and with this, we were given new roles.

Organization wise, we look like this:



Roles of the Cougar Squadron now include:

1. Providing trained tank troop capable of:

   a. demonstrating tank skills up to troop level;

   b. demonstrating troop battle runs;

   c. acting as enemy force for Armour courses; and

   d. supporting Infantry Department training.

2. Providing a trained reconnaissance troop capable of:

   a. demonstrating reconnaissance skills up to troop level;

   b. demonstrating reconnaissance live fire skills;

   c. acting as enemy force for Armour courses; and

   d. supporting 403 and 422 Helicopter Squadron training.

3. Providing tanks with trained drivers and loader/gunner to support:

   a. Armour courses; and

   b. Artillery courses.

4. Providing a trained Armour squadron administrative echelon capable, with Headquarters Squadron (a new addition to Armour Department) assistance of:

   a. Supporting all Tactics and Cougar Squadron activity; and

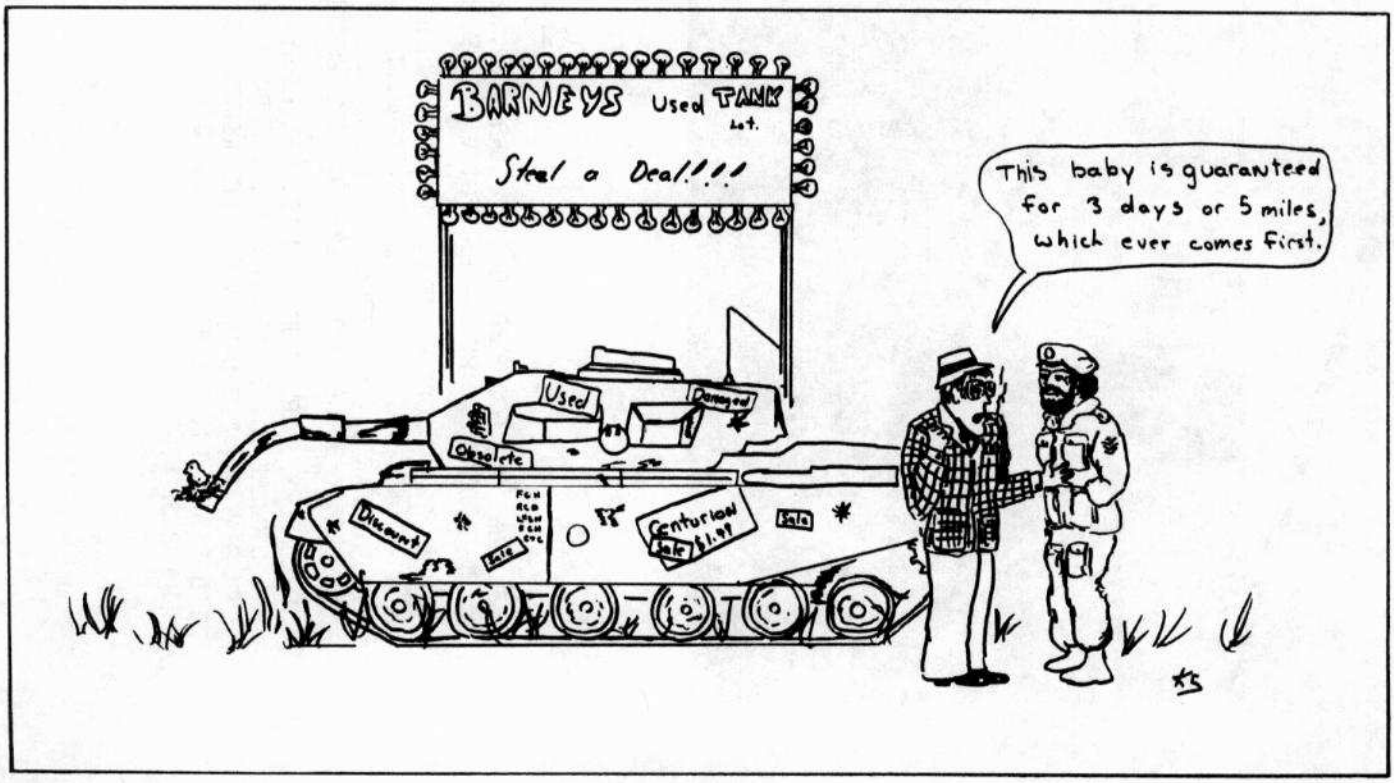
   b. Demonstrating the sighting, movement and operation of an Armoured Squadron administrative echelon.

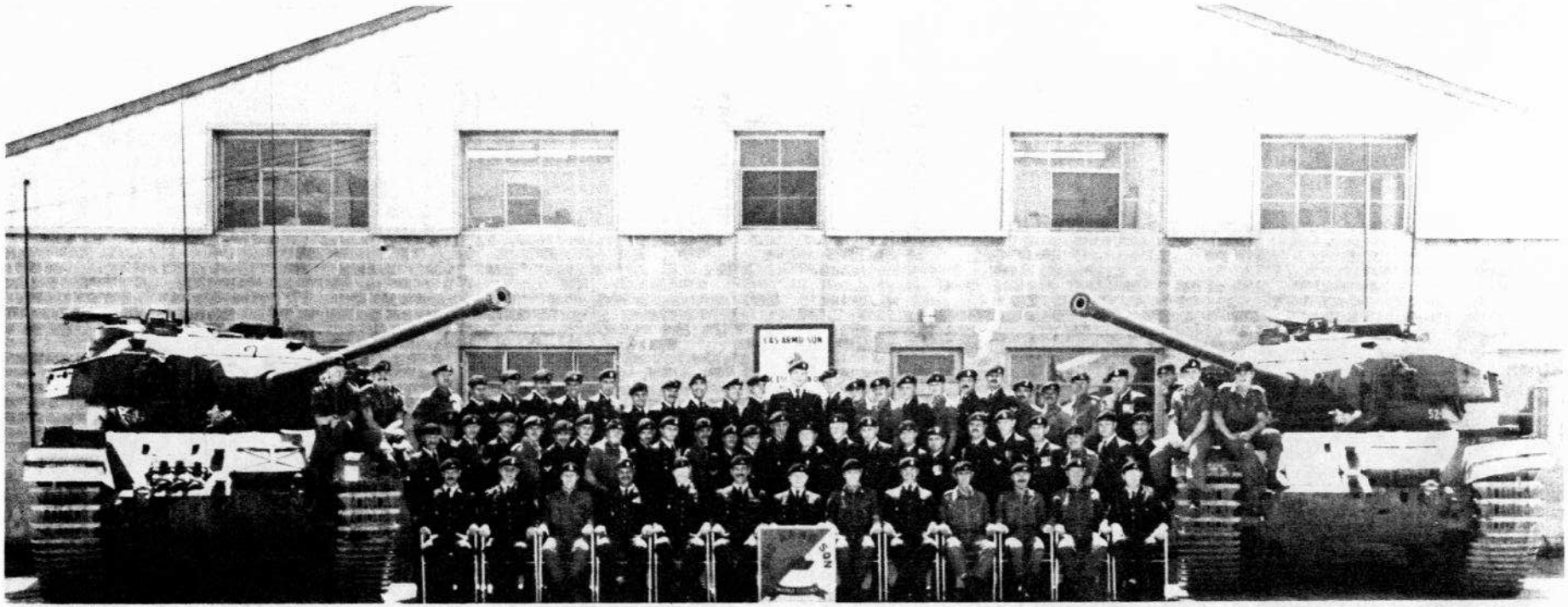
Those of you who will be fortunate enough to attend one of the next Armoured Courses will be given the opportunity to use our men and our vehicles. Despite the vehicle's age, the "OLD" Centurion is still plugging along. With the exception of CSU's, throttle cables, and PVRV's; spare parts should not hinder us from our goal of supporting courses with Centurion tanks up until December 1978 when the Centurion will finally be retired.

As for 1977, the Squadron spent the normal 9 months in the field operating out of the newly designated WORTHINGTON TANK PARK; located in the extreme southern part of the tank training area, some 40 kilometers from base. Aside from the normal armoured courses that we supported, ie. TQ 6A, TQ 6B, Squadron Commanders Course, Armoured Officer Cadet Phase 3 and 4, we were able to salvage enough time to complete a Squadron Gun Camp, participate in a R22eR exercise, perform a Squadron fire power demonstration for the officer cadets and in the fall, troops took to the field in APC's for a week of troop training. We would like to accomplish more but time ran out.

As for the future, those of you that join us in 1978 will be able to look forward to the Cougar. Our first vehicle should arrive in late 1979. In the interim we will busy ourselves training in both the realm of the Leopard and the Cougar. The soldiers of the future Cougar Squadron will be required to "man" either vehicle although the Cougar will be our "bread and butter".

As OC I tip my hat to the soldiers past and present who have served with this squadron; regardless of its name. Keeping the Centurion mobile has been a never ending struggle and with the end so close in sight, I am confident that we can at least limp our way through this final remaining year.





CTC ARMD SQN - AUG 77

FIRST ROW
CPL HUNT GT, SGT PERRY GA, WO CURRIE AB, SGT CUSTUS CB, LT MR MCNORGAN, MWO DF MURRIN, CAPT KL THORNTON
CAPT RL DILL, WO MUNROE BS, SGT VANCE RF, SGT MCPHERSON RN, SGT PINSENT S, SGT MOORE WA

SECOND ROW: MCPL MACKENZIE MW, CPL SCHULTZE BL, TPR POWER PA, CPL TARDIF JR, TPR WEDGE JG, CPL MARCIL JCJ
TPR MALONEY JG, CPL ROWSELL VC, TPR HELE SL, TPR MCLELLAN BL, TPR DUPUIS AG, CPL GARSIDE AE, TPR POWER GH
TPR LINEHAN CJ, TPR TROKE BF, TPR GALLIE DC, TPR CANNING DG, TPR MORTON RW, CPL GLAUDE JHR, CPL BASTARACHE LJ
CPL DURDLE B, CPL ESTABROOKS OG, CPL GAUDON W, MCPL VALLEY FT, CPL MARCHIONI RP

THIRD ROW: MCPL BLUETCHEN LT, CPL PERRY RK, MCPL STRAIGHT CA, CPL O'GRADY JD, CPL FOURNIER D, CPL GAMACHE JP
CPL GIGUERE S, CPL BEAUDRY JE, TPR BOUCHARD JE, TPR YOUNG BM, CPL MCEVOY OE, TPR SHEFFAR JE, TPR MAZEROLL JA,
TPR SHAW JG, TPR MAPPIN VL, TPR KENNEDY DL, TPR KNOX RR, TPR MCLEAN RJ, TPR GREEN AJ, TPR HOPE DA,
TPR FISHER LJ, CPL HARTSHORN DG, CPL UNDERWOOD KBA, CPL ST PIERRE JO, MCPL VOTOUR DC, MCPL JUSTASON B
MCPL BEST LJ

COURS AVANCES
A LA DIVISION BLINDEE DU DET CIC

PAR LE CAPITAINE BEAUDOIN

L'efficacité opérationnelle des unités dépend grandement, en majeure partie, du bon entretien des véhicules et de l'emploi des bonnes procédures de communications. Ainsi, tant dans le domaine des communications que celui de la conduite et de l'entretien des véhicules, les unités de combat Canadiennes Francaises ont besoin d'instructeurs compétents pour former leurs jeunes soldats. Il est donc indispensable d'avoir un outil approprié pour fournier à ces unités des instructeurs compétents et de bons superviseurs des communications et de la conduite-entretien des véhicules.

Le rôle de la division blindée du détachement du centre d'instruction au combat est d'entraîner, pour les unités francophones, des communicateurs et des conducteurs avancés, capables d'enseigner et de superviser l'application des communications à l'unité ou former des conducteurs compétents. Ainsi, chaque année, nous avons pour tâche de conduire un cours de communicateur avancé au printemps et un cours de chauffeur avancé a l'automne. Pendant l'été, le département blindé est responsable de l'entraînement des phase I et II, des élèves-officiers de la milice.

COURS DE COMMUNICATEUR ARMES DE COMBAT (GROUPE AVANCE)

La mise sur pied de notre premier Cours De Communicateur Armes De Combat a necessité une préparation de longue date. If fallut d'abord qualifier tous nos instructeurs comme communicateur avancé à Gagetown; alors, l'adjudant DION alla suivre le cours dès le printemps et fut suivi des Sergents Brissons et Jobin à l'automne 76.

Les mois de Décembre 76 et Janvier 77 furent consacrés à la mise au point de la documentation et des exercises de même qu'à la préparation des aides a l'entraînement.

Le 22 Février 1977, nous commencions le cours avec une équipe aguerrie et bien rodée. Nous accueillions 15 candidats dont 14 fantassins et un artilleur. Ce cours, grâce au précieux support du 5e escadron des transmissions de Valcartier, fut un succès sur toute la ligne. Notre cours a su répondre à un besoin réel et pressant chez les unités de combat francophones en ce qu'il leur donnait des instructeurs compétents dans le domaine des communications en français. Il contribua à rehausser et uniformiser au sein des unités francophones le standard des communications.

Enfin, ce cours permit, pour la première fois, aux francophones de recevoir dans leur langue maternelle la qualification de communicateur avancé. Il est important que ce cours continue car il respond à un besoin réel chez les unités de combat Francophones. Nous nous préparons à conduire notre prochain cours de communicateur avancé des le début de Mars 1978.

CHAUFFEUR ARMES DE COMBAT (GROUPE AVANCE)

Notre premier cours de chauffeur avancé vit graduer 10 candidats dont 8 fantassins et 2 blindés. Ce cours fut aussi un succès car il répondait au besoin des unités Canadiennes-Françaises, en leur formant des instructeurs capables d'enseigner adéquatement la conduite et l'entretien des véhicules. Ce cours servit de base et les procédures d'entretien et de transport au sein des unités francophones. De plus, ce cours permit aux Canadiens-Français des armes de combat de recevoir l'instruction de chauffeur avancé dans leur propre langue. La partie commune seulement de ce cours est donnée à Valcartier. A la fin de cette phase commune, les candidats blindés vont continuer la portion sur le char de combat à Gagetown.

Depuis le 5 Octobre, nous avons débuté notre deuxième cours de chauffeur avancé. Nous profitons d'une solide expérience acquise de deux cours avancés precedents. Le cours actuel marche à merveille et le tout se déroule comme prevu. Nous accueillons un groupe de 16 candidats dont 5 blindés, 1 artilleur et 10 fantassins. Nos 5 candidats blindés de même que quelques-uns de nos instructeurs iront suivre la portion du Leopard en allemagne dès le printemps 78.

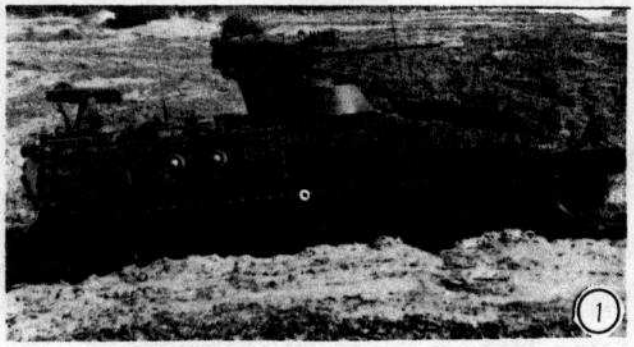
Nos locaux sont très modernes et nous disposons deja d'une foule d'aides a l'entraînement dont la plupart de notre fabrication. Nous avons récemment fait l'acquisition d'une jeep qui sert de modèle découpé pour l'instruction de la mecanizue de base.

Par la nature même de notre travail, nous faisons partie de l'école des blindes et notre souci est d'assurer un standard comparable a tous nos cours avances.

A la division blindée, nous accomplissons une tâche utile et nous devons continuer à assumer notre rôle actuel pour mieux servir les unités francophones.

COURS de COMMUNICATION AVANCE 7701

COURS CONDUCTEUR ARMES DE COMBAT



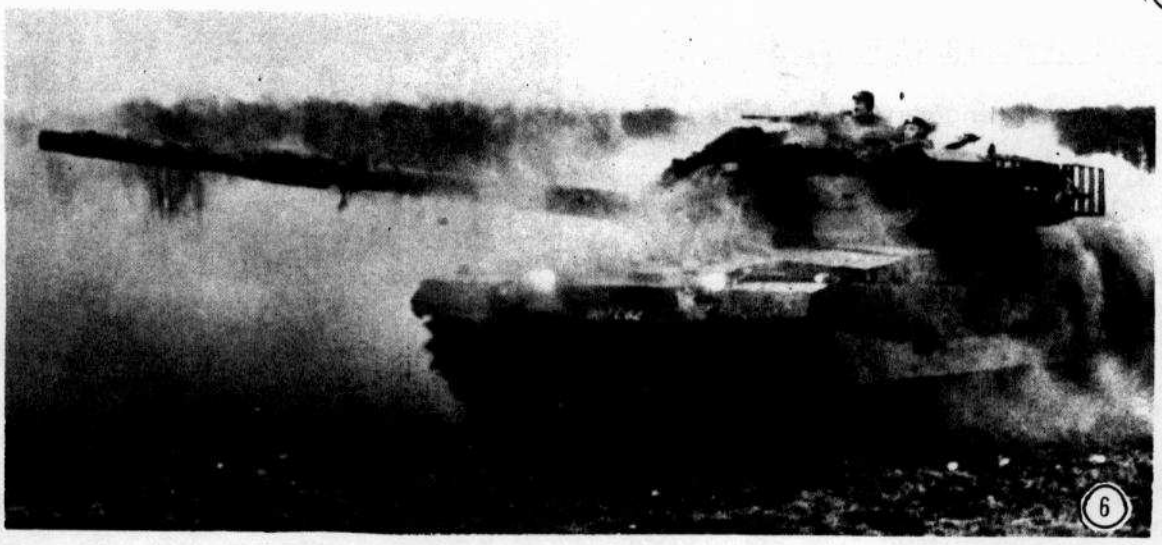
AFV RECOGNITION TEST

answers on page 81

by Capt DS Madill

IDENTIFICATION des VEHICULES BLINDES

reponses à la page 81



THE COMBAT DEVELOPMENT ARMOUR STUDY

by LCol Lightburn

THE ARMY PROBLEM

It is true to say that for some years now the army has been reorganizing, equipping and developing to "no particular grand design". For whatever reasons we have failed to maintain a system which allows us to determine rationally the future structure and equipment of the army in relation to its tasks, and as influenced by changing strategic considerations, changing threats and rapidly developing science and technology.

The process by which the army "blueprint" and "game plan" should be devised is known as Combat Development. Such a process used to exist, but when the former Army Tactics and Operations Board (ATOB) folded in the mid-sixties a void was created. Put very simply the result is that we now have mixes and matches of equipment, a variety of organizations, a severe doctrine problem, fundamental force structure problems and personnel and training policies that are incompatible with field army requirements.

Translating some of these difficulties into the Armour branch we now have a structure with one tank regiment and twenty-one reconnaissance regiments (18 militia and 3 regular), an odd assortment of equipment, less than ideal organizations and a variety of training problems. Various current suggestions to buy more Leopards, buy more (or less) Cougars, rebuild M113, add turrets to Lynx, retain some Centurions and retain some ferrets are all being made by well-intentioned people...but for selfish reasons, none of which fit into any particular overall plan.

THE COMBAT DEVELOPMENT PROCESS

A comprehensive effort is now underway to remedy this situation. Specifically, the Combat Development process is alive and well again and is being directed by a committee of army generals from a variety of agencies. The problem facing the committee is an immense one and cannot be solved by a simple restructure, or by adding a few people, or by buying a new family of vehicles. The problems are more complex and require that we start with a fundamental examination of each part of our system.

In its simplest form the Combat Development process is a series of branch studies, each being written with certain guidance and realistic

constraints from the Combat Development Committee. At some point all of the basic studies will be put together in the form of a systems study. In addition, overall command and control and administrative studies will be effected. Once the blueprint concepts, structure, organizations, equipment and supporting command, administrative and training policies are agreed to then everyone can work to the same plan.

Given the immediate nature of the problem it would be nice if we could hurry up, do the studies and implement their recommendations tomorrow. The complexity of the problem and "putting it all together" will make it 1980 or 1981 before the studies are complete. The studies must then be translated into overall reorganizations, equipment programs and doctrine development. Realistically then the period chosen for each study to examine is post 1985 (1986-95); the same period for which future NATO concepts have been developed. Having agreed to a "1986" blueprint, if we can implement it sooner so much the better.

The fundamental branch studies have commenced, with a broad scope and certain realistic constraints, and include:

a. Infantry

b. Armour

c. Artillery

d. Field Engineers

e. Air Support

f. Combat Communications and

g. Electronic Warfare.

The infantry "cornerstone" study is nearing completion, while the other six studies have just begun and will not be finalized until early 1979. In late 1978 separate studies on command and control, service support and an overall systems (put it all together) study will begin.

The approach in each study will be to work from the basics up; i.e. how many men in tomorrow's infantry section, how many sections per platoon, and so on, carefully identifying those tasks that must be performed by the particular branch. The infantry, for example, will man the trenches and hold ground but they'll need help in the anti-tank battle.

THE ARMOUR STUDY

The armour study is structured to examine the questions of reconnaissance and armour completely separately, and will delve into every aspect of our business. We must consider in detail the operational concepts for the 86-95 period, the tasks of armour (and reconnaissance), the technological areas of firepower, mobility and protection and the STANO and

communications equipment areas. We must also study command and control, combat support, combat service support and personnel administration. Before developing appropriate tank and reconnaissance organizations we must also look at our roles and required capabilities plus the whole impact of the armour battle on the individual (the human factor). To make the study complete considerable thought must be given to the training problems, plus the transition plan to get us from "today" to the desired concepts, organizations, equipment and doctrine.

Some obvious problem areas come to mind in contemplating the reconnaissance and tank organizations:

a. The whole reconnaissance question; pure reconnaissance or economy of force or a mix or both; the equipment; sneak and peak vs shoot and scoot; how much integral reconnaissance in a tank regiment... etc..?

b. Is the size of our basic tank troop correct; 3, 4, 5 ... 10 tanks?

c. The size of the reconnaissance/armoured cavalry troop?

d. 3 or 4 or ? squadrons;

e. Do we need integral assault troopers, indirect fire, air defence, helicopters or armoured engineers?

f. What about TOW or its successor?

g. Is our complex, sophisticated and extremely large communications system workable in the EW environment of the future?

h. Is our current flexible echelon system outdated and too expensive in terms of a teeth to tail ratio?

j. .. etc ..

The study must, however, recognize certain realities. While it would be nice to recommend 1200 man regiments of 78 tanks each, neither the requirement nor the realistic capability to do this exists. We must consider that Leopard and Cougar are major equipment realities (in some context and in some numbers) for at least a portion of the 1986-95 period. It should also be appreciated that we are not yet at the "Buck Rogers/Fighting hovercraft" stage and that, essentially, today's technology is tomorrow's field equipment.

THE PURPOSE OF THIS ARTICLE

Having explained the basic Combat Development process there are two main reasons for having done so.

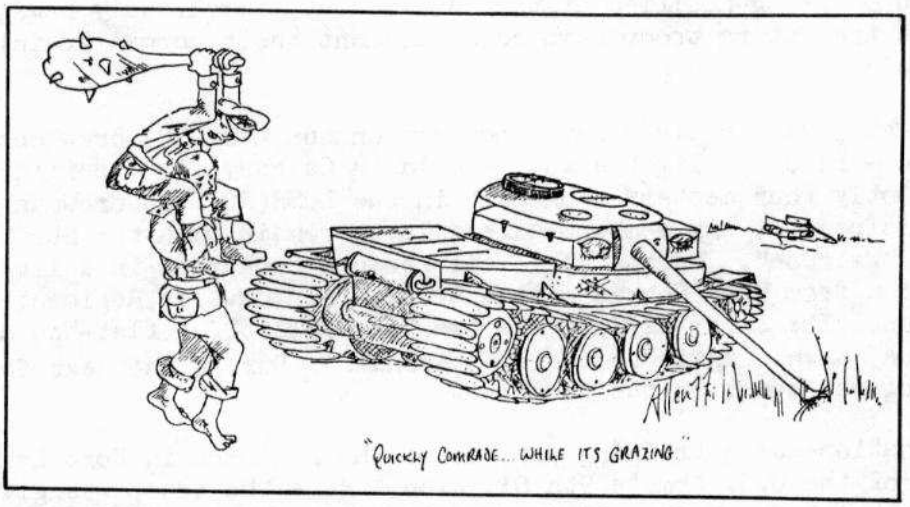
The first is purely educational/informative. The Combat Development process is a most essential step in resolving the myriad of problems now facing the army, but to make the process work means that the foundation studies must be done professionally and comprehensively. If we are to achieve any degree of success we must all understand the process, its importance and the potential long term benefits to be realized.

The second reason for this article is to solicit your support. A comprehensive and proper armour study can only be accomplished with the support of a wide variety of agencies and the input of a large number of interested personnel. It is our firm intent to incorporate the widest possible consensus of views in the development of the Armour "blueprint". Accordingly if you have a point to make, or if you come across an article or other appropriate reference, please forward same to the Director of Armour, NDHQ (attention: Armour Study Team).

CONCLUSION

In concluding there is one other point that is relevant to the success of the whole Combat Development process. It would be easy to say that we're talking 198?, it's a long time away, things will change, it won't help us today - etc etc... Such an initial reaction is understandable but is a gross oversimplification and fails to really put the situation in perspective. If you agreed with some of the general problems alluded to in the first two or three paragraphs of the article then hopefully you'll agree that something substantial must be done. We have traditionally solved such problems with band-aids, temporary fixes, quick reorganizations, a new in-lieu vehicle, a temporary expedient or a compromise of some sort. The result is that today's army is the sum total of a quite a number of these expedient measures.

Accordingly the Combat Development process is a dynamic one, does relate directly to today's problems and must be understood, believed in and supported by all if we are to "get back on track".



(We must not overlook traditional armoured vulnerabilities).

The British Columbia Dragoons in Europe

The British Columbia Dragoons have achieved a significant first for reserve armoured recce. They are supplying a complete Lynx recce troop to D Sqn (Recce) of The Royal Canadian Dragoons. The significance lies in the fact that the Lynx is neither the native recce vehicle of the reserves, nor is it normal for a reserve unit to supply a complete sub-sub unit to the regular army in Germany.

In the fall of 1976, rumors such as "reserves sending formed troops to the RCD" were just that - rumors - to the majority of BCD. However, rumor became reality in January 1977 when the BCD were requested to supply a complete Lynx trained recce troop of one officer and 14 other ranks to supplement Recce Squadron of The Royal Canadian Dragoons.

Last year the Quebec Militia Region sent a troop formed from militia units to act as RCD regimental recce troop. This year the RCD have two complete reserve troops. The Prince Edward Island Regiment has provided 14 all ranks for the RHQ wheeled recce troop and the British Columbia Dragoons supply 15 all ranks for a Lynx troop with Recce Sqn RCD.

The BCD, upon being notified of the requirement, immediately began arranging to have the future troop members supplement their normal training as much as possible.

The first step was to place seven members on the LdSH(RC) crew commanders conversion course - recce to light armour - held in Calgary for a period of two months. Concurrently four members took part in the LdSH(RC) TQ3 crewman course. At the end of this period, six members were able to remain with the Strathcona's for their spring "Waincon". During April, 11 persons took part in a live fire-power demonstration from Huey Cobras of the 3rd/5th Air Cavalry Regiment in Yakima, Washington. The first of June saw two Lynx roll off a flat-bed at the armoury in Kelowna, thanks again to the Strathcona's. During the next four weeks, every spare moment was spent on the vehicles.

The culmination was a training period for the regiment in Fort Lewis, Washington, home of the U.S. Army's 9th Division. Here the troop was given five APC's to simulate the Lynx. After 10 days of very intensive training, the regiment returned to the Okanagan on 3 July.

From March to July, members of the troop gave totally and freely of almost every weekend, plus a minimum of two evenings every week. This was all done while continuing with their normal weekday civilian employment.

The BCD troop arrived in Lahr on 12 July and were designated 4 Troop Recce Sqn. Immediately they began a two week crew commanders' refresher and conversion course and a Lynx D&M course. The former was designed to acquaint the crew commanders with the European environment and the latter to qualify more Lynx drivers.

The next move was to "sunny" Munsingen for two weeks. All ranks had an excellent opportunity to really shake out in their new vehicles and get a feel for the European countryside including training with helicopters from "B" flight, 444 Tac Hel Sqn.

The Squadron returned to Lahr on 18 August with a week to prepare for the final phases of fall training.

From 26 August to 22 September, the real reason for being in Germany was experienced. Through participation in a squadron level exercise, followed by the RCD battle group exercise, a brigade FTX and, finally, Reforger 77 the part time soldiers picked up invaluable experience and many skills.

They will be the first to admit that mistakes were made. But from them much was learned, creating better soldiers with a more open mind towards many facets of armoured recce.

Each year the reserves are being given more responsibility and more opportunity to put into practice the training they receive throughout the year. To a reserve soldier this trust shown by the regular army is immensely gratifying.

If the concept of training reserve soldiers in an environment so strongly conductive to learning is accepted, then all must agree that the only place for a contemporary reserve armoured soldier is with the Recce Squadron RCD.

The reserve force in Canada can do nothing but move ahead by leaps and bounds, if this type of training is made available on a regular basis.

From personal experience this writer has no doubt that these "part timers" will do their very best to take advantage of this rare opportunity to increase their skills as armoured recce soldiers.

This article would not be complete without expressing the sincere appreciation of all members of The British Columbia Dragoons to LCol Clive Milner, CO RCD, and Maj Dave Graham, OC Recce Sqn RCD, for their belief in this endeavor.

"TROOP MEMBERS TAKEN ON A VISIT TO THE BCD AFFILIATED REGIMENT - 5TH ROYAL INNISKILLING DRAGOON GUARDS IN OSNABRUCK"

From Left to Right: Cpl E. Sanderson (Kneeling), MCpl J. Boehler, MCpl P. McKerry, Cpl B. Rumsey, Cpl W. Penguelly (Sitting), Capt B. Stevens (Standing), MCpl S. Critchley (Sitting), Inniskilling Dragoon (Standing), Sgt D. Dyck (Standing), Cpl B. Schill (Sitting), Inniskilling Dragoon (Standing), Sgt K. Cooper (Standing), Cpl R. Rivers (Standing), Inniskilling Dragoon (Sitting), Inniskilling Dragoon (Standing), Inniskilling Dragoon (Standing), Inniskilling Dragoon (Standing), Cpl M. Braam (Standing), and Cpl J. Stecyck (Standing). Missing from Photo: WO R. Cruickshank, and Cpl C. Mennie.

CANADIAN ARMY TROPHY — 1977 —

	TROOP	BOUND 1	BOUND 2	BOUND 3	MG-SCORE	AMMO BONUS	PENALTY POINTS	TROOP TOTAL	TROOP POSITION	TEAM TOTAL	TEAM POSITION
	1	3180	2660	250	120			6210	10	19230	3
	2	1770	2630	2560	130			7090	6		
	3	2070	550	2400	110			5930	12		
	1	3980	2200	1470	180			7830	3	21020	1
	2	2050	2190	2890	240			7370	5		
	3	2040	1580	2030	170			5820	13		
	1	2700	2160	1260	150			6270	9	20720	2
	2	2210	1910	2470	170			6760	7		
	3	2290	1960	3210	230			7690	4		
	1	2640	1870	710	80			5300	14	17360	5
	2	2460	3170	2590	70			8290	1		
	3	1410	550	1740	70			3770	17		
	1	250	2070	570	120			3010	18	17430	4
	2	3210	2100	2780	160			8250	2		
	3	1430	1920	2690	130			6170	11		
	1	2250	1290	660	70			4270	16	16100	6
	2	1810	1960	1350	100			5220	15		
	3	1970	1830	2600	210			6610	8		

CANADIAN ARMY TROPHY 1977

By Capt T.J.I. Burnie, CD

In 1963, Canada decided to provide a trophy for competition to enhance the standard of tank gunnery within the Armoured forces of the Central Region of NATO. This trophy was a half metre silver model of a Centurion Tank and was designated the Canadian Army Trophy. During the period 1963 - 1968, the competition was held yearly and Canada actively pursued the attainment of being "top gun" among the competing nations. In Centennial year, 1967, Canada was successful and captured the trophy for the first time. In the period 1971 - 1975, Canada withdrew from competition when 4 CMBG moved into the Lahr area. However, Canada continued to provide the trophy for competition, now held every second year, under the auspices of the Commander-in-Chief, Allied Forces Central Europe (CINCENT).

Upon completion of the 1975 competition, it appeared that interest was waning. The Supreme Allied Commander Europe (SACEUR) breathed life into the event and in 1977, for the first time, all six allied nations in the central region took part. Canada successfully won for the second time.

The competition has gone through three changes in concept. At the outset, each participating nation provided five tanks and individual tanks fired TPDS and HESH practices from a static pad at ranges of up to 3000 meters. There was no limitation to the amount of ammunition or time allowed for practice, therefore, tank crews were selected and trained like gladiators of old. In 1970, the concept envolved of a two-tank battle run and produced the intended aim, "To further the standard of tank gunnery".

The rules of the 1977 competition required each participant to provide 12 tanks and crews to undergo a troop battle run simulating the advance in contact. Additionally, through a selection process, one troop was drawn and nominated as a reserve troop; therefore, the scores of the remaining three troops were counted. Each troop consisted of three tanks, which was the lowest common denominator of the competing nations. Other riders introduced were: the denial of main armament practice ammunition and the selection of teams one month prior to the competition.

Over a three-bound battle run, each troop was presented with a total of 15 moving and static tank targets (1.9 metre wide x 1.0 meters high) in random presentations of a single, double, triple or pair of doubles up to ranges of 2000 meters. The troop was also presented with six groups of ten (.3 x .3 meter) MG targets between bounds. To engage this variety of targets, each tank was bombed up with ten TPDS and 100 rounds of 7.62 ammunition. The object for the troop to successfully engage all targets with speed and expend the minimum amount of ammunition. The scoring system was designed to reflect the troops' ability, not the individual tank crew's ability, to perform under conditions of war. Obviously, the troop was required to train and function as a well-drilled unit.

The major hurdle for RCD was the recent conversion from Centurion to Leopard and the subsequent lack of in-depth knowledge of the equipment. Albeit the regiment knew that the team would be picked from within its resources, the

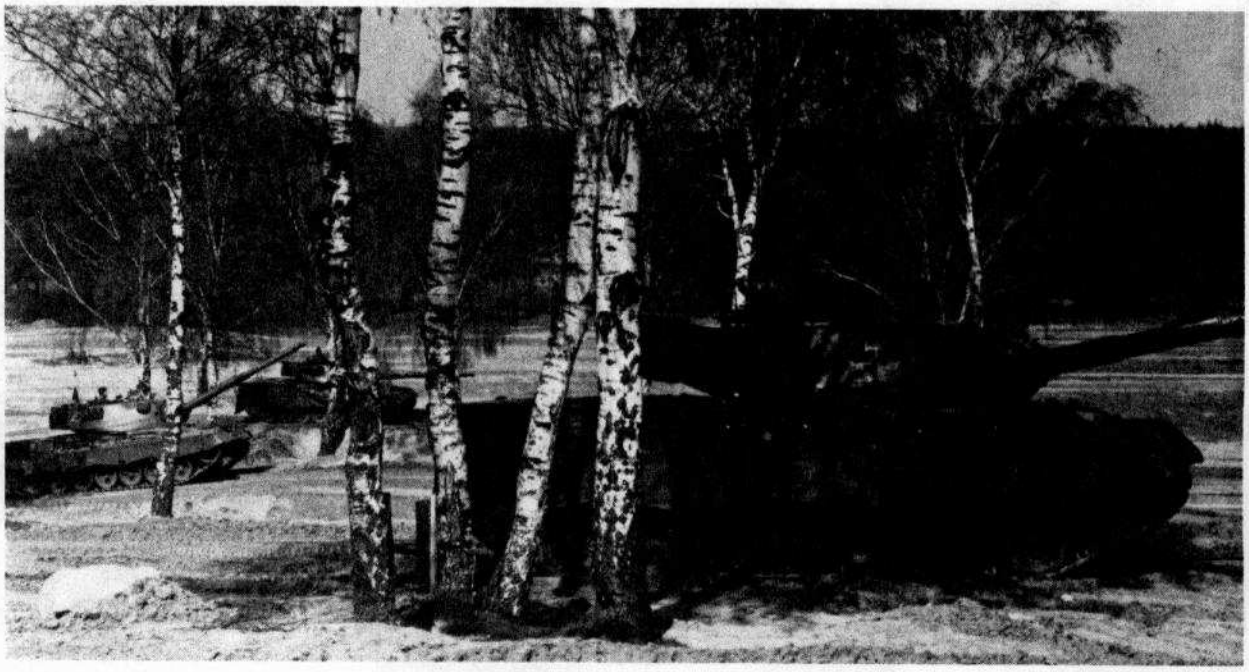
advantage was not claimed as the crews were not selected until after gun camp in March in which each squadron received eight firing days. Much to the chagrin of some and the apprehension of others, the crews were chosen from both tank squadrons and placed under command of the team captain, Captain Tom Burnie.

With three weeks of preparation time available, the team commenced training in Lahr and then moved to Bergen ranges to conduct dry battle runs, FMR practices and live MG practices under the coaching of the team Captain, WO Len Sutherland, WO Toon Martin and Sgt Fred Bierhorst. As time rapidly passed, the remaining NATO teams arrived and the social aspects of the event began with a steady round of activities. The unwelcome position of reserve troop fell upon Lt Mike Pacey and first troop. However, when they competed among the reserve troops, they were runner-up, having achieved the second highest troop score in the competition - and the highest Canadian score.

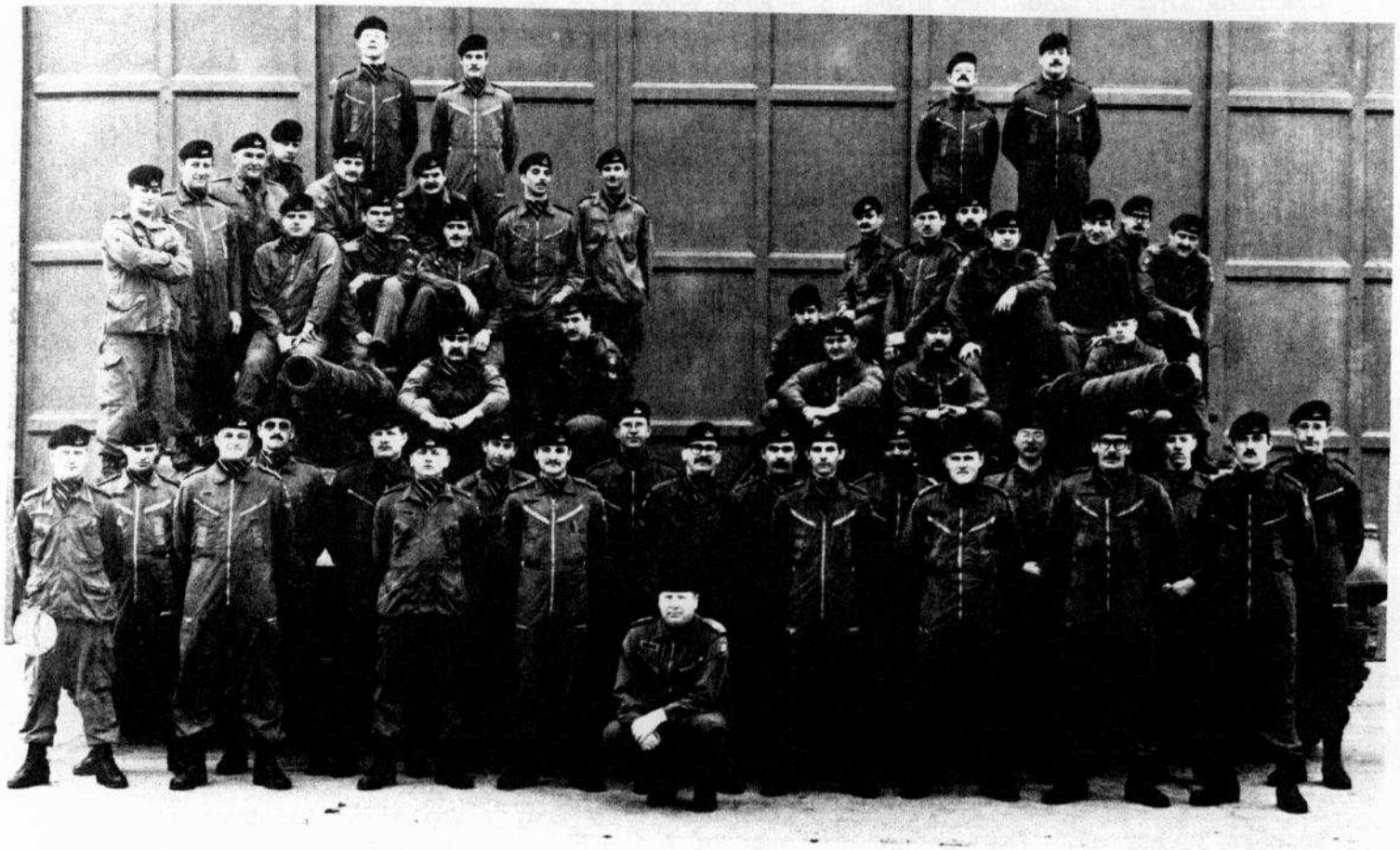
The competition ran very smoothly with the RCD leading in aggregate score every day. The order of march was third troop under the command of Lt Carmen McKay, fourth troop commanded by Lt Steve Moffat, second troop under the command of Lt Chris Davis, followed by the reserve troop. An example of the excellent shooting produced by all troops was the run by fourth troop in which a pair of head on movers were both successfully engaged in nine seconds, followed by a single static target successfully engaged in nine seconds, and a pair of static targets in seven and eight seconds respectively. These times are derived from the time of presentation until successful engagement and all ranges were estimated.

The tension was evident as the days passed and it was with considerable pride that the team was paraded by the team Capt to CINCENT to receive the main trophy. MGen (now LGen) Ramsey Withers presented individual trophies to each team member and MGen JPR Larose presented a commemorative scroll to each team member.

One aspect that has been neglected is the achievements of another segment of the regiment, "CATS ASS" (Canadian Army Trophy Teams' Administrative Support Squadron). This group, composed of A and HQ squadrons, provided all the necessary and sometimes mundane tasks to free the CAT team from everything but training and competition. Their complete support was a contributing factor in Canada's successful venture.



★THE CHAMPS★



Team Capt - Capt T.J.I. Burnie

TP	COMD	GNR	LDR	DVR
1st	Lt MJ Pacey	Tpr Carter DL	MCpl Cloake JA	Cpl Gernsbeck GA
	Sgt Butler RE	Cpl Manser MC	Tpr Fairweather RA	Tpr Yakimenko GR
	MCpl Robert JE	Cpl Ward BS	Cpl Boule JH	Cpl Miville ME
2nd	Lt CJ Davis	Cpl Crerar GW	Tpr Francis CE	Cpl Dougay AJ
	Sgt Harvie VV	Tpr Jewett RW	Cpl Caron JJ	Cpl Wright RP
	MCpl McDougall RE	MCpl Perrier JE	Cpl Dymond BC	Cpl Carroll EM
3rd	Lt KM McKay	Tpr Overink H	Cpl Phillips TG	Tpr Harvey DR
	WO Nichols LD	Cpl Chapman WC	MCpl Grey DP	Cpl St Onge JG
	Sgt Elliot JG	Tpr Whelan JK	Cpl Brownbridge GW	Cpl Galas KA
4th	Lt SE Moffat	Cpl Evans DA	MCpl MacKenzie MW	Tpr Levesque DJ
	WO Rothenburg J	Tpr Visneskie W	Cpl Berry RG	Tpr Dedrick FE
	Sgt Scharatti BB	MCpl Mokler RB	Cpl Myre AJ	Tpr Wright RA

1. The following were appointed as IG's:

   a. WO Sutherland LH;
   b. WO Martin JL; and
   c. Sgt Bierhorst F

DATE: 28 APRIL 77

RELAY NO: RESERVE

CANADIAN ARMY TROPHY

JUDGES TROOP SCORE SHEET

NATION: CANADA

TROOP NO: 1 (RESERVE)

TANK "A" SERIAL NO 015				
CREW POSITION	NUMBER	RANK	NAME	DATE TOS
COMD	442 763 736	LT	PACEY MJ	06 JAN 77
GUNNER	452 449 572	TPR	CARTER DL	28 JUL 75
LOADER	107 537 011	MCPL	CLOAKE JA	15 JUN 73
DRIVER	614 752 392	CPL	GERNSBECK GA	15 NOV 71

TANK "B" SERIAL NO 012				
CREW POSITION	NUMBER	RANK	NAME	DATE TOS
COMD	431 238 815	SGT	BUTLER RE	25 AUG 75
GUNNER	105 976 930	CPL	MANSER MC	22 JUL 75
LOADER	450 237 383	TPR	FAIRWEATHER RA	23 AUG 76
DRIVER	622 994 291	TPR	YAKIMENKO GR	15 JUL 74

TANK "C" SERIAL NO 014				
CREW POSITION	NUMBER	RANK	NAME	DATE TOS
COMD	229 734 272	MCPL	ROBERT JE	01 OCT 75
GUNNER	107 358 616	CPL	WARD BS	26 JUL 74
LOADER	230 457 418	CPL	BOHLÉ JH	25 AUG 75
DRIVER	244 129 128	TPR	MIVILLE ME	21 JUL 75

BOUND 1 ENGAGEMENTS	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	HIT SCORE	TIME SCORE	TIME BONUS	TOTAL MAIN ARMT SCORE
1													2/2	18	500	120	0	620
2	3/1	9	2/1	8	2/0	0									1000	430	20	1450
3									1/1	5	2/1	6			1000	490	20	1510
4																		

MAIN ARMT SCORE BOUND 1: 3580

BOUND 2 ENGAGEMENTS	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	HIT SCORE	TIME SCORE	TIME BONUS	TOTAL MAIN ARMT SCORE
1	1/1	8													500	220	10	730
2	1	TARGET DESTROYED NEW TGT TO BE ENGAGED [illegible]	1	TARGET DESTROYED NEW TGT TO BE ENGAGED [illegible]	1/1	18	1/1	10							1000	320	10	1330
3																		
4																		

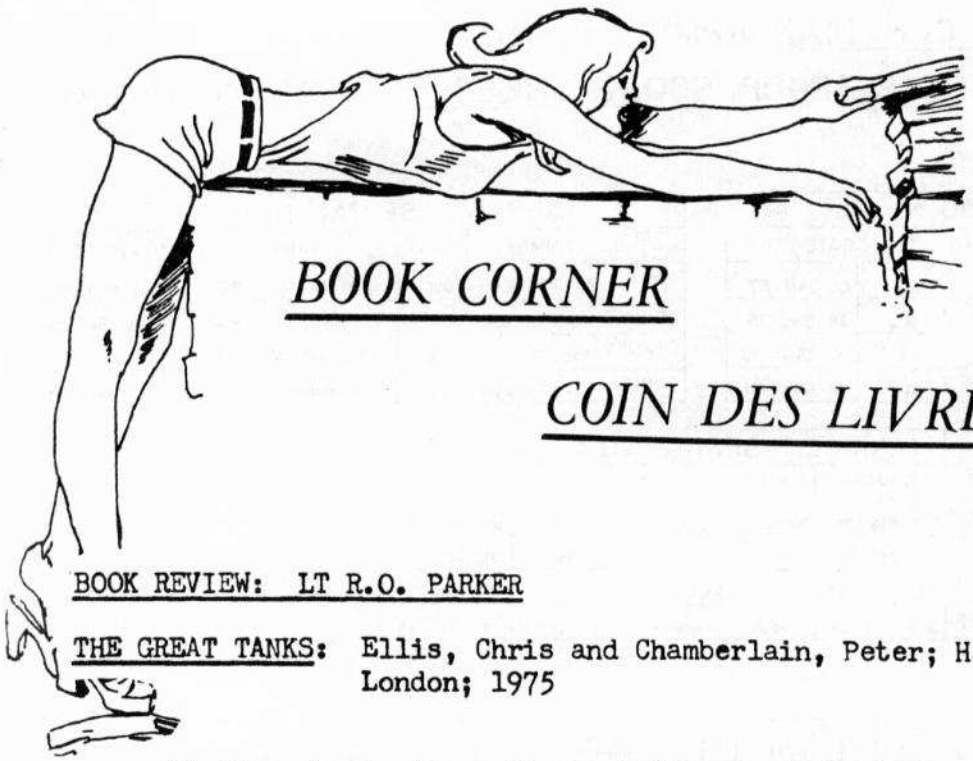
MAIN ARMT SCORE BOUND 2: 2060

BOUND 3 ENGAGEMENTS	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	TOTAL RDS / 1ST RD TO HIT	TIME 1ST RD TO HIT	HIT SCORE	TIME SCORE	TIME BONUS	TOTAL MAIN ARMT SCORE
1													1/1	6	500	240	10	750
2	4/3	24													500	60	0	560
3	2/1	7	2/1	12											1000	410	10	1420
4					2/1	REPLACEMENT TGT 32	2/1	REPLACEMENT TGT 18							750	120	0	870

MAIN ARMT SCORE BOUND 3: 3600

MG AND SUMMARY	MG HITS BOUND 1-2	MG HITS BOUND 2-3	MG SCORE	MAIN ARMAMENT SCORE BOUND 1	MAIN ARMAMENT SCORE BOUND 2	MAIN ARMAMENT SCORE BOUND 3	AMMO BONUS	TOTAL + POINTS	MOVE PENALTY
	12	12	240	3580	2060	3600	NIL	9480	NIL

FINAL SCORE: 9480



BOOK CORNER

COIN DES LIVRES

BOOK REVIEW: LT R.O. PARKER

THE GREAT TANKS: Ellis, Chris and Chamberlain, Peter; Hanlyn Publications; London; 1975

At the outset, the authors of "The Great Tanks" establish as their aim, the discussion of those tanks and tank designs which they consider to be "world beaters or pace setters". This, they admit, requires a good deal of selectivity. Although those vehicles which were technically superior, such as the German Tiger, are briefly analyzed, the main criterion was to examine those patterns which led to further tank developements or families.

As with so many other twentieth century military technological advances, the story of tank evolution is fraught with imaginative thinkers, governmental interferences, alternating periods of financial plenty and deprivation, and senior command squabbling and hesitancy. In almost every industrialized country, this tale repeats itself over and over. The exceptions are the totalitarian nations of Nazi Germany and Soviet Russia. They learned well the lessons of the First World War. Both produced superb fighting vehicles during the short period of peace in the form of the Panzer and the BT family respectively while the major democracies allowed their armoured forces to deteriorate or become obsolescent. It took the allies many of the World War Two years to create tanks which could match their enemy's.

Shifting priorities and situations often fashioned compromises which were dramatic in their consequences. For example, the American, J. Walter Christie, constructed tank suspensions and chassis which were capable of sixty miles per hour, could swim under rivers and operate on either tracks or wheels. However, because the year was 1922, the US government was uninterested in military expansion or developement. It fell to the Russians and British to take, adapt and broaden Christie's ideas. The results were the T34 and Cruiser tanks. Another instance occurred when the Germany army discovered that their vehicles were too slow, too lightly armoured and not armed well enough when they were matched against the T34 in 1941. A commission was set up to examine the problem. The Panther was the outcome. Lastly, in 1939 the Americans realized that their doctrine of tanks, being used solely as an infantry support vehicle, was regressive when compared to the reality of the mobile warfare of France and North Africa. Within two years, the M3 or General Grant was off the drawing board and in production. A year later, in September 1942, the Sherman or M4 made its appearance. Under the stress of war, tank designs have been adapted or created as the need demanded.

The book itself has a number of strengths and weaknesses. The language used is readable with the military jargon kept to the minimum. The technological advantages and disadvantages of the various tanks are discussed in a thorough manner. Sadly the weaknesses of some vehicles are minimized such as the Tiger's slowness and mechanical unreliability which is only briefly mentioned. The pages are interlocked with numerous black and white, colour photographs and drawings from World War One, the Second World War and the Yum Kipper War. Additionally, these are cross-sectional diagrams of the Tank Mark IV, Tiger, T34, Sherman and Centurion which give a good impression of the mechanics and crew space available. Unfortunately, because it was written for the civilian reader, the tactical applications of the various tanks are not addressed in enough detail which limits the military value of the book.

As it is viewed as the principle developement period, the majority of the book deals with the Second World War. This is another restricting factor as many innovations have been incorporated into tank designs which could have been analyzed such as the "spaced armour" which is in use in various countries.

"The Great Tanks" presents a valuable factual overview of tank design and production from the first inception of "landships" to the period immediately following World War Two. It is useful reading for Armoured Corps soldiers, as it gives a good insight into those factors which affect tank creation and manufacture from a historical prespective.

BOOK REVIEW By Capt J.M. Snell

J.L. Granatstein and J.M. Hitsman, Broken Promises: A History of Conscription in Canada. (Toronto: Oxford University Press, 1977).

John Masters in his autobiography Bugles and A Tiger, suggests that soldiers have a responsibility not only to their countries, in our case The Crown, but also a responsibility to themselves. He notes that in most Western democracies soldiers have retained the right to vote. What Masters is attempting to express is that soldiers have a right to participate in, as well as beware of, the political process. Early in our careers as officers and NCO's, the value of military history is directed towards but seldom are we offered or expored to the socio-political history that reflects military decisions.

One book that portrays a significant socio-political theme is Broken Promises. The history of conscription is invariably intertwined with the military history of Canada. Beginning with the earlist complaints about conscription beginning in the era of Governor Frontenac and stretching into the recent past of 1966-67 with the pro conscription basis of the TRIO group, the authors have shown that conscription has been a dominant if not a decisive theme in the structure of Canadian politics.

The authors are both imminently capable scholars. The late J.M. "Mac" Hitsman established his scholastic qualifications at the Directorate of History, DND in the 1960's. His work, The Incredible War of 1812 remains a classic in that field. J.L. Granatstein also served in the Directorate of History and now is the professor of History at the York University. He writes with authority on the politics of the Second World War as is evident in his work on the Conserative Party 1939-45, The Politics of Survival.

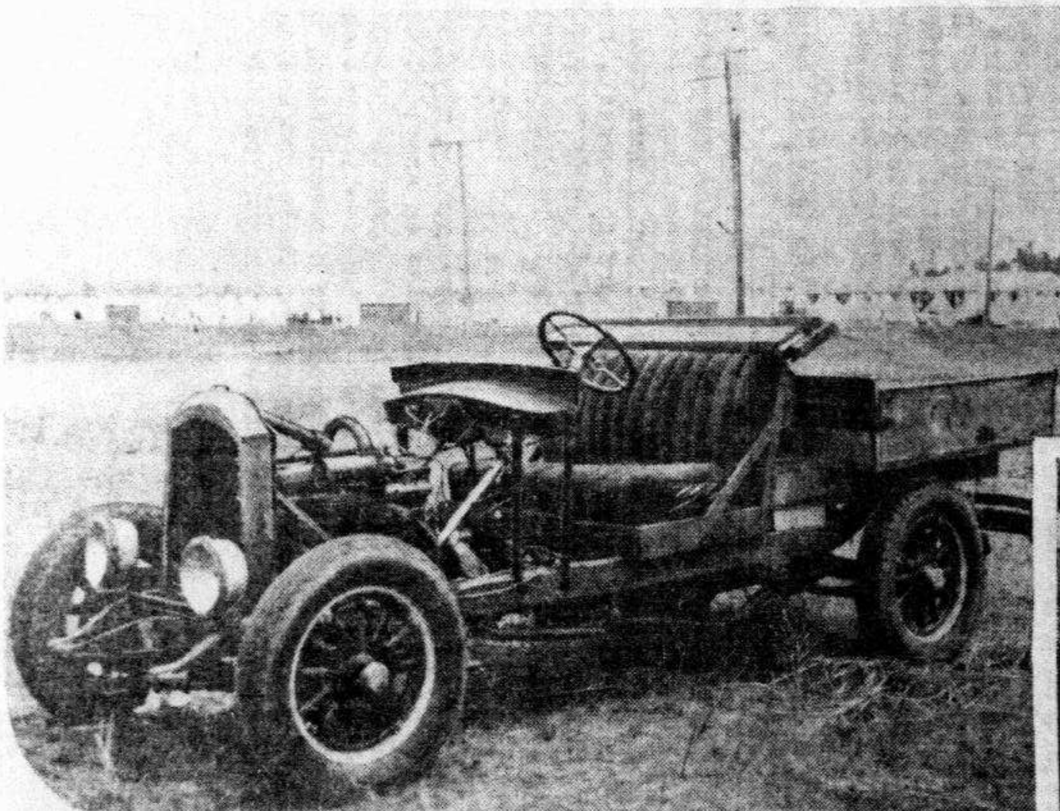
Without trying to cover the full scope of the book, it is worth spending a moment on the issues of the conscription crisis of 1944. As an undergraduate student, I was preplexed by the fact that there was a political crisis in 1944. It always seemed that the effectiveness of conscription was minimal at the most. If King had held to his principles of doing nothing unless it was absolutely necessary, my reasoning went, the whole "crisis" could have been averted. Although never stating this explicitly the authors do suggest, however, that the political split nowhere near equalled the disaster of 1917. "There had been errors in plenty, but MacKenzie's King's skill in dividing Canadians least had been supreme.

The recurring Theme throughout is that conscription may be "the best, the fairest, and the most expeditious way to raise an army; it may equalize the demands and equalize the suffering far better than the hazards of voluntarism," but it does not work here in Canada. It is an interesting yet chilling thought. Written in a clear concise style with impressive documentation, Broken Promises is sure to invoke some mental soul searching for those professional soldiers interested in the socio-political structure of Canadian politics.

FLASHBACK / RETROSPECTIVE NO 8

THE GLOBE AND MAIL, TORONTO, WEDNESDAY, MAY 29, 1940.

Although They Have No Tanks, Oshawans Sing 'Tanks for the Memory



The Ontario Regiment (Tank) of Oshawa yesterday was among the arrivals that completed concentration of troops for early summer training at Camp Borden. They had no tanks, but did possess the note-worthy "service truck" that is pictured at the left. This piece of th mechanized equipment was assembled by men of the unit from spare a discarded parts. At right some of the regiment are shown as they pa phrased a popular song and sang "Tanks for the Memory."—Staff Phot

Fighting Men Languish,

CITY BRIEFS

Mayors Will Discus

Know Your Regiments/ Connais Tes Regiments

DESCRIPTION

Within a wreath of nine maple leaves joined at the base with a scroll inscribed "Ontario Regiment", an annulus bearing the motto "Fidelis Et Paratus"; superimposed upon the base, three-fourths of a circular disc; within the annulus, a cat, statant, guardant, irate; placed upon the points of the topmost leaf and surmounting the whole, the Crown.

THE ONTARIO REGIMENT (RCAC)

Regimental March: "John Peel"
Motto: Fidelis Et Paratus

BATTLE HONOURS

First World War: Somme, 1916, Arras, 1917, '18, Vimy, 1917, Hill 70, Ypres, 1917, Passachendaele, Amiens, Scrape, 1918, Drocourt-Quéant, Hindenburg Line, Canal du Nord, Cambrai, 1918, Balenciennes, France and Flanders, 1916-18.

DESCRIPTION

A l'intérieur d'une couronne formée de neuf feuilles d'érable, unie à la base par une banderole portant l'inscription "Ontario Regiment", se trouve un anneau sur lequel est gravée la devise "Fidelis Et Paratus"; sur la base se superpose le trois quart d'un disque circulaire; à l'intérieur de l'anneau se trouve un chat, posé, observateur, courrouncé; placée sur les pointes de la feuille supérieure et surmontant l'ensemble, la Couronne.

THE ONTARIO REGIMENT (RCAC)

Marche du régiment: "John Peel"
Devise: Fidelis Et Paratus

TITRE DE GUERRE

Première Guerre mondiale: Somme, (1916), Arras (1917-1918) Vimy, (1917), Hill 70, Ypres (1917), Passchendaele, Amiens, Scrape, (1918), Drocourt-Quéant, Hindenburg Line, Canal du Nord, Cambrai, (1918), Valenciennes, France and Flandre (1916-1918)

Second World War: Pursuit to Messina, Sicily, 1943, Colle d'Anchise, The Gully, Casa Berardi, Ortona, Point 59, Cassino II, Gustav Line, Sant Angelo in Teodice, Liri Valley, Aquino, Trasimene Line, Sanfatucchio, Arezzo, Advance to Florence, Italy, 1943-1945, Arnhem, 1945, North-West Europe, 1945.

Seconde Guerre mondiale: Poursuit jusqu'à Messine, Sicile (1943), Colle d'Anchise, The Gully, Casa Berardi, Ortona, Point 59, Cassino II, Gustav Line, Sant' Angelo in Teodice, Liri Valley Aquino, Transimene Line, Sanfatucchio, Arezzo, pénètre jusqu'à Florence, Italie (1943-1945), Arnhem (1945), Nord-ouest de l'Europe (1945).

Perpetuates the 116th and 182nd Battalions, Canadian Expeditionary Force, 1914 - 1919.

Il immortalise les 116e et 182e Bataillions, Canadian Expeditionary Force (1914 - 1919).

Headquarters - Oshawa, Ont.

Quartier général - Oshawa, (Ont).

ORGANIZATION

The Regiment originated on 14 Sep 1866, when the "34th Ontario Battalion of Infantry" was authorized to be formed from nine independent companies. It was redesignated: "34th Ontario Regiment", 8 May 1900; "The Ontario Regiment", 1 May 1920. It was converted and redesignated: "The Ontario Regiment (Tank)", 15 Dec 1936; "11th (Reserve) Army Tank Battalion (The Ontario Regiment (Tank))", 1 Apr 1941; "11th (Reserve) Army Tank Regiment (Ontario Regiment (Tank))", 15 Aug 1942; "11th Armoured Regiment (Ontario Regiment)", 1 Apr 1946; "The Ontario Regiment (RCAC)", 19 May 1958.

FORMATION

Le Régiment est crée le 14 septembre 1866 lorsque le "34th Ontario Battalion of Infantry" est autorisé à être formé à partir de neuf compagnies indépendantes. Il est rebaptisé "34th Ontario Regiment" le 8 mai 1900, et "The Ontario Regiment" le ler mai 1920. Il est converti et reconnu sous le nom de "The Ontario Regiment (chars)" le 15 décembre 1936; de "11th (Réserve) Army Tank Battalion (The Ontario Regiment (chars))", le ler avril 1941; de "11th (Réserve) Army Tank Regiment (Ontario Regiment (Chars))" le 15 août 1942, de "11th Armoured Regiment (Ontario Regiment)" le ler avril 1946; et de "The Ontario Regiment (RCAC)" le 19 mai 1958.

HISTORY

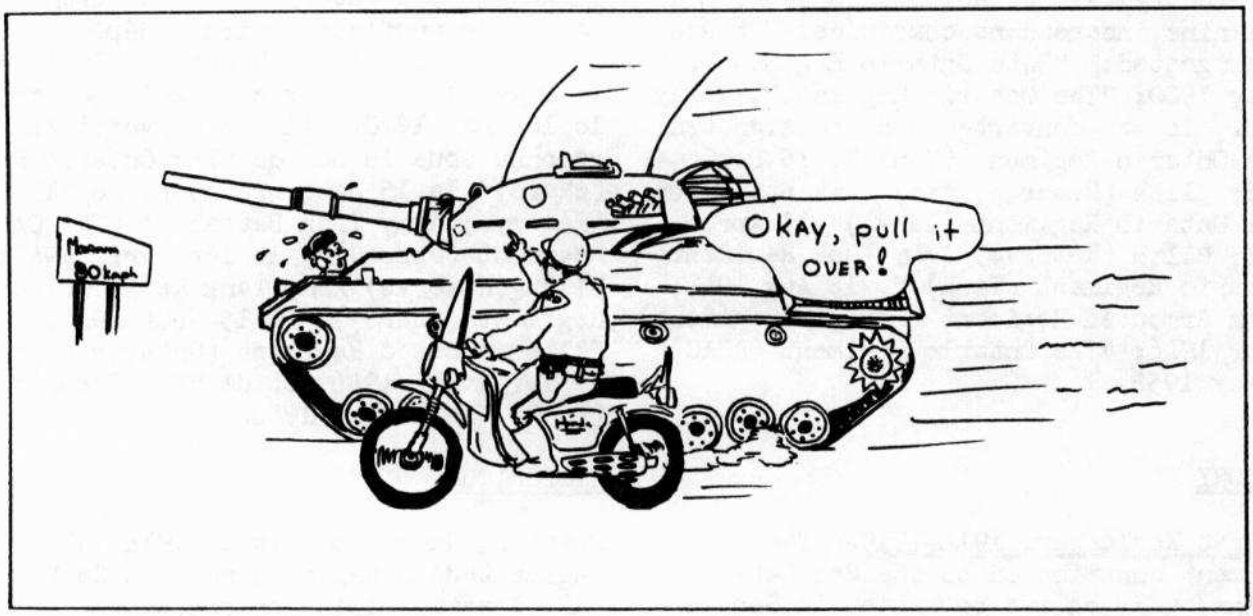
First World War, 1914-1919. The Regiment contributed to the 2nd Battalion, CEF, on its formation in September 1914, and later recruited for the 116th and 182nd Battalions, CEF. The 116th Battalion served in France and Flanders with the 9th Infantry Brigade, 3rd Canadian Division, from 11 Feb 1917 until the Armistice. The 182nd Battalion provided reinforcements for the Canadian Corps in the field.

HISTORIQUE

Première Guerre mondiale (1914-1919): Le Régiment détache des hommes au 2e Battalion, CEF, à sa formation en septembre 1914 et plus tard en recrute pour les 116e et 182e Battalion sert en France et en Flandre avec la 9e Brigade de l'infanterie, 3e division canadienne, du 11 février 1917 jusqu'au jour de l'Armistice. Le 182e Battalion fournit des renforts au Canadian Corps au front.

Second World War, 1939-1945. The Regiment mobilized "The Ontario Regiment (Tank), CASF" on 1 Sep 1939. This unit was redesignated "11 Army Tank Battalion (The Ontario Regiment (Tank))", 11 Feb 1941. On 21 Jun 1941, it embarked for the United Kingdom where, on 15 May 1942, it was redesignated "11th Army Tank Regiment (The Ontario Regiment (Tank))". It landed in Sicily on 13 Jul 1943, as part of the 1st Canadian Armoured Brigade. It was redesignated "11th Armoured Regiment (The Ontario Regiment)", 26 Aug 1943. It landed in Italy on 3 Sep 1943 and moved to NorthWest Europe in March 1945. The active unit was disbanded on 15 Dec 1945. An 11th (Reserve) Army Tank Regiment (Ontario Regiment (Tank)) served in the Reserve Army.

Seconde Guerre mondiale (1939-1945): Le Régiment mobilise le "The Ontario Regiment (Chars), CASF". Le 1er septembre 1939. L'unité est rebaptisée "11th Army Tank Battalion (The Ontario Regiment (Chars))" le 11 février 1941. Il s'embarque pour le Royaume-Uni le 21 juin 1941 où il est converti et reconnu sous le nom de "11th Army Tank Regiment (The Ontario Regiment (Chars))" le 15 mai 1942. Il débarque en Sicile le 13 juillet 1943, comme membre de la 1ere Brigade blindée canadienne. Le 26 août 1943, il est rebaptisé "11th Armoured Regiment (The Ontario Regiment)". Il débarque en Italie le 3 septembre 1943 et se déplace vers le nord-ouest de l'Europe en mars 1945. L'unité active est dissoute le 15 décembre 1945. Un 11th (Reserve) Army Tank Regiment (Ontario Regiment (Chars)) sert dans la Réserve.



ROLL OF HONOR WORLD WAR II

11 CDN ARMD REGT
(ONTARIO REGIMENT)

	Capt	McNABB, Angus Teasdall	15 May 44	MISSING
	A/Capt	HAWKINS, Arthur Ward	21 Jun 44	DIED OF WOUNDS
	A/Capt	TONGS, Arthur Frederick	01 Jul 44	KILLED IN ACTION
	Lt	ECCLESTONE, Walter Stewart	24 Oct 43	DIED OF WOUNDS
	Lt	CAMPBELL, Stuart Caswell	17 Dec 43	DIED OF WOUNDS
	Lt	DICKSON, Chester Stuart	12 May 44	KILLED IN ACTION
	Lt	HOPKINS, Oliver Hugh	01 Jul 44	KILLED IN ACTION
	Lt	POUPORE, Hebert	10 Jul 44	KILLED IN ACTION
B-60874	Cpl	DICKSON, J. H.	05 Mar 43	KILLED IN ACTION
C-5245	Tpr	ASHBY, B. E.	24 Jul 43	DIED OF WOUNDS
B-62443	Tpr	BURRY, Richard A	12 Aug 43	DIED OF WOUNDS
B-113602	Tpr	JARVIS, F. S.	25 Aug 43	KILLED IN ACTION
B-60791	L cpl	DONALDSON, Harvey	23 Oct 43	KILLED IN ACTION
B-62524	Tpr	VEITCH, William S.	23 Oct 43	KILLED IN ACTION
B-74246	Tpr	DUNSTAN, William H.	24 Oct 43	DIED OF WOUNDS
B-60755	Cpl	MANN, Charles G.	10 Dec 43	KILLED IN ACTION
B-55097	Cpl	HILL, Ernest J.	11 Dec 43	KILLED IN ACTION
B-60572	Tpr	KRASUTSKY, Morris	12 Dec 43	DIED OF WOUNDS
A-58442	Tpr	LURAAS, Olav A.	14 Dec 43	KILLED IN ACTION
B-60606	Tpr	SPENCELY, Morley R.	16 Dec 43	KILLED IN ACTION
B-74568	A/L cpl	WILSON, Andrew E.	17 Dec 43	KILLED IN ACTION
B-19049	Tpr	MILLER, John	18 Dec 43	KILLED IN ACTION
B-60931	L cpl	WELSH, Norman F.	23 Dec 43	DIED OF WOUNDS
B-68012	Cpl	MAY, Frederick W.	23 Dec 43	DIED OF WOUNDS
B-77380	A/L cpl	SHEPPARD, Chester L.	31 Dec 43	DIED OF WOUNDS
B-60618	Cpl	WELLS, Ernest J.	19 Jan 44	KILLED IN ACTION
B-62241	Tpr	POLLARD, Ralph H.	12 May 44	DIED OF WOUNDS
A-42157	Tpr	HEMMING, William R.	14 May 44	KILLED IN ACTION
B-88054	Sjt	BROWN, Harold F.	14 May 44	KILLED IN ACTION
B-62555	Tpr	PHILLIPS, John T.	19 May 44	PRESUMED KILLED
B-73270	A/Cpl	SMITH, Harold F.	21 May 44	DIED OF WOUNDS
A-58842	Tpr	WHITE, Kenneth J.	26 May 44	KILLED IN ACTION
B-60748	Tpr	BODDINGTON, Roy C.	21 Jun 44	KILLED IN ACTION
B-62573	Tpr	HISEY, Elgin A.	22 Jun 44	DIED OF WOUNDS
C-38257	A/L cpl	DREW, William F.	24 Jun 44	KILLED IN ACTION
B-62476	Tpr	SHAW, Howard J.	24 Jun 44	KILLED IN ACTION
H-63525	Tpr	WIDLAKE, Thomas H.	24 Jun 44	KILLED IN ACTION
B-60962	Tpr	DEHMEL, Max G.	01 Jul 44	KILLED IN ACTION
B-131900	Tpr	FOREMAN, Walter W.	01 Jul 44	KILLED IN ACTION
B-60690	Tpr	SMITH, William A.	02 Jul 44	DIED OF WOUNDS
B-62517	Tpr	HURST, Allister	02 Jul 44	DIED OF WOUNDS
B-131012	Tpr	KERR, William W.	03 Jul 44	KILLED IN ACTION
B-60666	Tpr	MILLER, Herbert A.	03 Jul 44	KILLED IN ACTION
B-63450	Tpr	RIX, Allie W.	03 Jul 44	KILLED IN ACTION
M-63907	Tpr	STEWART, James	03 Jul 44	KILLED IN ACTION
A-55845	Tpr	HARDIN, Stanley R.	04 Jul 44	KILLED IN ACTION
B-75693	Sjt	MILLER, Matthew	18 Aug 44	DIED OF WOUNDS
A-106109	Tpr	QUAST, Edgar N.	20 Aug 44	DIED OF WOUNDS

ROLL OF HONOR WORLD WAR II

11 CDN ARMD REGT
(ONTARIO REGIMENT)

A-55018	Tpr	CLARINGBOLD, Thomas V. M.	24 Aug 44	KILLED IN ACTION
B-61140	Pte	MERSON, Joseph	24 Aug 44	KILLED IN ACTION
B-60858	Tpr	WILDING, M.	29 Aug 44	DIED OF WOUNDS
H-379	Tpr	HAMMOND, Harvey R.	12 Sep 44	KILLED IN ACTION
F-64806	Tpr	MELANSON, Ernest J.	12 Sep 44	KILLED IN ACTION
L-54919	Tpr	BOHONIS, Cornelius	05 Oct 44	DIED OF WOUNDS
B-31467	Cpl	JONES, Cecil L. (MM)	12 Oct 44	KILLED IN ACTION
A-466	Tpr	THOMAS, George	25 Nov 44	KILLED IN ACTION
B-60813	Tpr	MANION, John	24 Dec 44	DIED OF WOUNDS

Numbering the Soldiers

The duplication of surnames of soldiers must have been a source of confusion in regiments long ago, yet it was not until 1829, that in order to identify each man more precisely, the custom of numbering the soldiers was introduced.

Evidence of the origin may be found in historical records of the 56th Foot (2nd Bn the **Essex** Regt) dated 1829. In the same year the Horse Guards adopted the system, by issuing an order that every soldier would be allotted a number, the method then used was to give the soldier with the longest record the number "1", the next longest "No 2" and so on down to the newest recruit. Every soldier was ordered to make his number known to his family and friends as part of mailing address. Later on, to avoid duplication in the Units, blocks of numbers or series were allotted to the various Regiments or Corps. Later on letters were issued to various provinces and areas. Now we have the SOCIAL INSURANCE NUMBER.

CASUALTY LIST
CANADIAN ARMOURED CORPS WW II

	OFFRS					ORS					ALL RANKS
	Presumed Killed	Missing	Killed	Died of Wounds	TOTAL	Presumed Killed	Missing	Killed	Died of Wounds	TOTAL	GRAND TOTAL
HQ Sqn 1 Cdn Armd Bde					-				1	1	1
11 Cdn Armd Regt (Ont R)		1	4	3	8	1		29	15	45	53
12 Cdn Armd Regt (Three R R)			9	6	15		1	59	16	76	91
14 Cdn Armd Regt (Calg R)	2	1	13	1	17	3	10	53	12	78	95
HQ Sqn 2 Cdn Armd Bde			3		3			3		3	6
6 Cdn Armd Regt (1st Hus)	4		14	1	19	21	9	121	11	162	81
10 Cdn Armd Regt (Fort G H)		1	12	1	14	4	3	95	19	121	35
27 Cdn Armd Regt (Sher Fus)		1	10	2	13	4	4	77	19	104	17
HQ Sqn 4 Cdn Armd Div				1	1		1	4		5	6
HQ Sqn 4 Cdn Armd Bde	1		1	1	3	6		9	2	17	20
21 Cdn Armd Regt (GGFG)			8	4	12		1	71	15	87	99
22 Cdn Armd Regt (CGG)	1	1	10	2	14	1	2	62	13	78	92
28 Cdn Armd Regt (BCR)	2		8	2	12	21	11	51	13	96	08
HQ Sqn 5 Cdn Armd Div					-			3	2	5	5
HQ Sqn 5 Cdn Armd Bde					-					-	-
2 Cdn Armd Regt (LdSH)			8	4	12		1	68	22	91	103
5 Cdn Armd Regt (NBH)			4	1	5			32	16	48	53
9 Cdn Armd Regt (BCD)			2	2	4	1	3	51	15	70	74
1 Cdn Armd Recce Regt (GGHG)			6	4	10	1		40	12	53	63
29 Cdn Armd Recce Regt (S Alta R)		1	8	3	12		3	53	13	69	81
1 Cdn Armd Car Regt (RCD)			5	4	9			35	12	47	56
18 Cdn Armd Car Regt (Man Drags)		1	5	1	7		2	38	7	47	54
4 Cdn Recce Regt (PLDG)	1	2	8	1	12		11	123	37	171	183
8 Cdn Recce Regt (14 CH)		1	10	1	12		3	65	27	95	107
7 Cdn Recce Regt (17 DYRCH)			7	2	9		1	64	15	80	89
25 Cdn Armd Del Regt (Elgins)			2		2	4	2	11	1	18	20
1 Cdn Arms Pers Carrier Regt			1		1			12	3	15	16
1 Cdn Assault Troops				1	1				3	3	4
3 CACRU			1		1					-	1
Rft Dep CAC					-	1		1	1	3	3
32 Cdn Armd Recce Regt					-			1		1	1
					228					1689	1917

Why Dragoons !

The muzzles of early muskets were made with ornamental dragons' heads as an allusion to this fanciful animal's characteristic of breathing fire. Since mounted infantry were armed with short-barreled muskets ("dragoons") they became known as Dragoons.

The Origin of the Beret

Soldiers have wondered at one time or another how this peculiar but practical form of headgear came to be adopted. How did the beret come into existance? Most members of the Royal Canadian Armoured Corps know that it was the distinctive cap of the Royal Tank Regiment, but in most cases their knowledge ends there and a good deal of mythical information is circulated about its orgin.

The following account by the late General Sir Hugh Elles, of the British Army, is excerpted from the "Palestine Post," and the Canadian Army Training Memorandum of April 1946. It may be of interest.

"Some time at the end of 1917," he writes, "at dinner one night at Bermicourt we discussed two well-worn subjects.

One was: "What would happen to the Tank Corps in peacetime?" We agreed that it ought to go on and proceeded to talk about its uniform.

"Someone, I think it must have been Fuller (Major-General J.F.C. Fuller, an authority on armoured warfare), pointed out that after every war the British Army had made a habit of adopting some headdress belonging to its enemies; the bearskin of the Guards came from Napoleon's Imperial Guards; the Lancers' hat came from the Germans; the slouch hat came from the Boers, and so forth. It happened that there lay at Bermicourt, just then, resting, a regiment of Tirailleurs Alpins (mountain riflemen), and the bright idea occurred, I think to myself, that we might make an exception at the end of the war and adopt a headdress from our Allies.

"The choice lay between the beret breton, which the Tirailleurs Alpins wore, and the beret basque, which were worn by our comrades of the chars d'assaut (tank). Neither of these really met with favor; the breton was considered sloppy and the basque skimpy. So we fell back upon the version which was then very popular amongst girls' schools in England. We circulated a large number of girls' schools and received a large number of berets of different colors. And eventually after a stern contest with the War Officer, our black beret was, surprisingly, authorized."

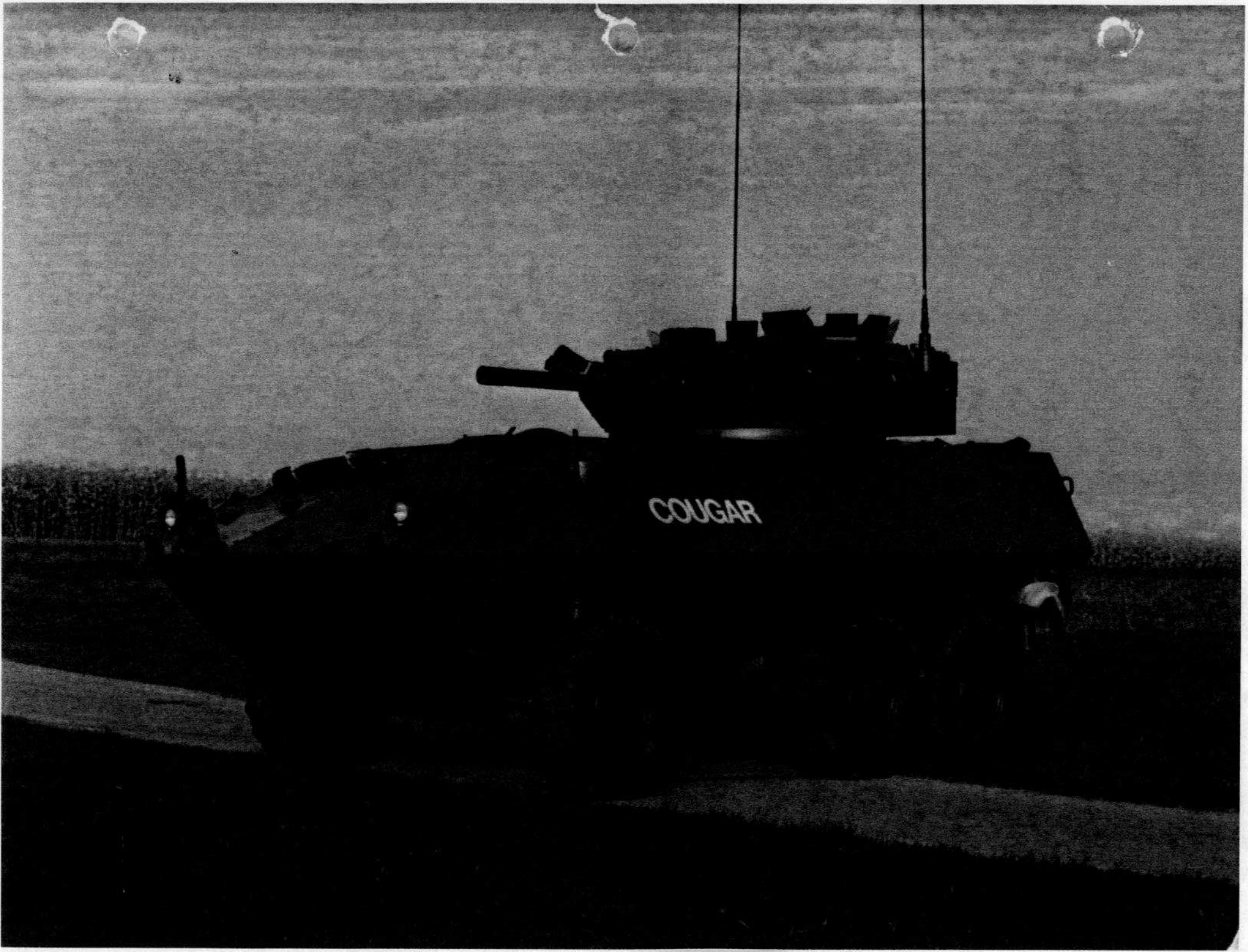
Answers to AFV Recognition Test

1. Marder - German
2. M551 (Sheridan) - USA
3. Leopard A1 - German
4. T54/55 - Russian
5. PT 76 - Russian
6. Chieftain - U.K.

Résponses à l'Identification des Vehicules Blindés

1. Marder - Allemand
2. M551 (Sheridan) - Etats - Unis
3. Leopard A1 - Allemand
4. T54/55 - Russe
5. PT 76 - Russe
6. Chieftain - Grande - Bretagne


CHURCHILL


COUGAR