

ARMOUR BULLETIN

2010



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The *Armour Bulletin* welcomes articles and comments on topics relevant to the Armour Corps. The editors ask that the following guidelines be followed:

- Articles can be submitted in either official language;
- Only material of an unclassified nature should be submitted;
- Articles should be between 500-1500 words and submitted electronically to the editorial staff. Images and endnotes should not be embedded in the text;
- Photographs must be accompanied by the name of the photographer. Please note that you have unrestricted use of the *National Defence and Canadian Forces Image Gallery* (www.forces.gc.ca) so long as you cite the photographer;
- Comments may be submitted directly to the editorial staff, preferably via email;
- The editorial staff reserves the right to deny the publication of an article/comment or to edit articles/comments for content and/or length; and
- Each article must be accompanied by a brief biography and recent photograph of the author.

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About the Cover:

Afghan children show signs of friendship to soldiers from A Squadron, which conducts armoured reconnaissance for the battle group, as the squadron's Coyote vehicles pass through the village of Mazra.

Photo by: Cpl Simon Duchesne, Photographer, JTF Afg Roto 4.



Director of Armour's Foreword

By Colonel J. Cade, CD



In my foreword to last year's edition of the Bulletin, I predicted that although the future is bright, there remain challenges to overcome. A year has passed and my opinion is unaltered. Thanks to Blackhat staffs and commanders across the Army and CF, great advances have been made in moving our Corps foreword in support of Army Transformation. However with this "manoeuvre to the next bound," we hit a few soggy patches of ground that have to be worked through. The focus of my comments is therefore on the "bad ground" we are facing and the "bounds" we achieved this past year.

My single biggest concern is the lack of equipment on the Reserve Armoury floor. At the time of writing this, the majority of the LUVW fleet is grounded. Most Armoured Reserve regiments have little or no radios, C6s or STANO equipment to train on. This has to be corrected to ensure the Armoured Reserve continues to force generate the superb officers, Sr NCOs and Troopers the Army relies upon. While there are no immediate answers to this problem, I know the Chief of the Land Staff and all his senior staff are fully engaged in finding solutions that can stand the test of time.

Another challenge the Army is facing is support of the vehicle fleet, particularly at the Combat Training Centre. The introduction of the TAPV and Leopard 2 will add to existing support challenges. The Army must grow its Support trades, and is doing so, but this takes time. The Corps must therefore be pragmatic in its approach to vehicle basing. Although all in the Army understand the need and are preparing for this increased requirement, the Corps has a responsibility to ensure the strain imposed doesn't break the Army support system. To ensure this doesn't happen, the Leopard 2 fleet will be split into three for the immediate future: Operational Stocks, Edmonton and Gagetown.

Like the rest of the Army, the Armoured Corps needs to get back into the field and train on the basics. As Commandant Canadian Land Force Command and Staff College, (Army Staff College, "Foxhole U"), I see firsthand that, although our Army is made up of the finest "warfighters" in the world, the lack of non-deployment related Collective Training has resulted in a diminishment of some of the basics in Combined Arms tactics. I therefore encourage leaders at all levels to get back into the field and practise everything from putting up "cam nets" to complex obstacle breaching at the brigade level.

Those are the big "swamps" through which the Corps must manoeuvre. As I said, we have also crossed many successful tactical bounds this past year. The Leopard 2, TAPV and LRSS projects are all on track and will deliver excellent capability to the Army. The Armour School and Army Staff are "joined at the hip" to ensure these projects will provide the Army with significantly improved armoured capability. At the same time, the Army Transformation structures for the Armoured Corps will leverage our uniqueness and utility to the Army, both in the Reserve and Regular Force. This may sound relatively benign but it took a lot of hard work from a number of people to ensure the Army is getting best value from the Armoured Corps. We all need to communicate better why the Armoured Corps is important to the Army, the CF and Canadians. Due to a variety of reasons and operational necessity, the squadrons we have deployed on overseas and domestic operations have not always had the most effective structures, which restrained these sub-units from their full potential. Consequently, I believe many tactical and operational commanders now lack an understanding of the full potential we bring to the Combined Arms Team. I therefore encourage everyone at every opportunity to remind our comrades-in-arms what a Tank and Reconnaissance Squadron are capable of when properly resourced, and the unique tasks the Reserve Reconnaissance Squadron can be assigned in domestic emergency. Not surprisingly, this is one of the themes of this edition of the Bulletin.

Always a strong family, I have watched the Armoured Corps become even more unified and of "one mind" this past year. It is my evaluation that the Regular and Reserve halves of the Family face exactly the same challenges. At the Corps Conference in April (merci mille fois, R de Hull), I was overwhelmed by the maturity of discussion, "can do attitude" and imagination expressed by all in attendance. This unity between Regular and Reserve is empowering and must continue at all levels. The Corps enjoys a strength that will manoeuvre us through all challenges because this strength is our people.

My closing comment: the Corps speaks with one voice and this must continue. We have achieved much over the past two years because we are united and focused.

Worthy!



Colonel Commandant's Foreword

By Major-General (Ret) C.J. Addy, OMM, OSTJ, CD



As I visit units and speak with crewmen and leaders across Canada and abroad, I continue to be impressed by the professionalism and dedication displayed by the members of our Royal Canadian Armoured Corps. We serve incredibly well in the present high operational tempo. The Strathcona's, while continuing to deliver a tank squadron for Afghanistan, also did sterling work as one of the lead units providing security to the magnificent Olympic winter games. The RCD, also stretched thin by operational commitments, provided security for the G8 and G20 summits this past summer. As this edition of the Armd Bulletin goes to press, the 12eRBC is undergoing final preparations to provide the armoured tank and reconnaissance troops for the next task force, TF 3-10. The Corps continues to produce superb senior Commanders at all levels in current operations and they have performed marvellously, as our troops demand and deserve. The School, as ever, does more than asked! A joy to behold.

Equally critical to the Corps' success is the continued strength of our Reserve units and their ability to provide skilled troops and individuals for both domestic and deployed operations. Though there is no question in my mind as to their intrinsic value to Army missions at home and abroad, I view with great concern the planned divestment of LUVW, the vital training and operational vehicle for our armoured recce

tasks at home. I have recently been somewhat reassured that the initially suggested total divestment is being reconsidered, but I invite serious Armoured Officers everywhere to ensure that the staff at all levels retain a viable vehicle mounted training platform on our armoured reserve armoury floors.

Regardless of the continuing tempo, significant challenges on the immediate horizon must be addressed, as the Army prepares to draw down in Afghanistan. Senior officers on the Land Staff, including many Black-Hatters, are working hard to define and fill the necessary. Army structures post-Afghanistan that will allow us to meet these challenges. The Corps, as part of the all-arms team, continues to provide a superb war winning capability to the Army. This will remain into the future with the implementation of the Leopard 2 tank fleet, as well as reconnaissance vehicle fleets that include the Tactical Armoured Patrol Vehicle (TAPV) and a new Long Range Surveillance System (LRSS) which is likely to be mounted on an improved LAV III.

The Corps leadership has also undergone some significant change. I take this opportunity to thank both Col Cade and CWO Harvey for their dedication and professionalism. Col Jamie Cade will hand the position of DArmd to Col Mike Nixon in early November. Over the last year, Col Cade has done an excellent job of guiding the Corps through very busy times. He will remain Commandant of the Canadian Land Forces Command and Staff College in Kingston. Col Jamie and Beth have served the Corps well over the years and it was a great privilege for me to have worked with such a dedicated team. CWO Harvey has handed his position of Corps RSM to CWO Belcourt. CWO Harvey, is retiring after years of dedicated service and I wish both Doug and his family the best of luck. I welcome both Col Nixon and CWO Belcourt to the fold. Most significantly, I would like to pay a special tribute to MGen Matt MacDonald for his hard work, wise counsel and dedication to everything we do. He relinquishes the post of Senior Serving Armoured Officer and will be retiring, but count on seeing him around.

Finally, to all unit Honoraries and Associations, thanks for the marvellous and continuing support that you provide in your communities across Canada. Never has the Army been as highly respected by our citizens, and you play a great role in reminding them of those who serve.

Worthy!



Editor – in – Chief's Foreword
By Lieutenant-Colonel W.R. Foster, MVO, CD



In this edition of the Armour Bulletin, we continue to document the incredible work that the Corps is undertaking in Afghanistan, with a particular focus on Armoured Reconnaissance. It also provides insight into the Armoured Recce capability that can be provided by the Reserve Force to domestic operations, along with a foretaste of the new reconnaissance equipment capabilities we have to look forward to in the very near future.

As the Army prepares to move towards its next steps of transformation, it is essential that we not lose sight of the important Armoured Reconnaissance capability that the Corps must provide to the Army to meet its commitments. Leaders at all levels must ensure that we capture and incorporate the lessons learned from our current operations, both international and domestic, and combine them with our well-established doctrine, as we help determine the way ahead for the correct structures and capabilities required by the Army.

At the same time as we work at moving ahead strategically, we must continue to take the same approach with regards to our training, both collectively and with individual training. Our hard earned experience must be combined with our doctrine so that our training can continue to evolve, allowing us to produce the best armoured soldiers possible.

The Armour Bulletin serves as a great medium to help meet these objectives. I offer my sincere thanks to all of those who have contributed to this edition and for making it possible to share your thoughts and experience with our readership, and continue to encourage all members of the Corps to contribute to the Armour Bulletin.

Worthy!



Corps Sergeant Major's Corner
By Chief Warrant Officer J.M.C. Belcourt, MMM, CD



As the new Corps RSM, I would like to thank the Corps leadership for their confidence in me and for offering me the privilege of serving the Corps in this capacity. I would also take this opportunity to thank the outgoing Corps RSM, CWO Doug Harvey, for his outstanding performance and dedicated service. He has held this 3-year position twice: in 2001-2003 and again from 2007-2010; a testament to his commitment and character.

Even though he had a very demanding job as the VCDS CWO, he always found time in his busy schedule to take care of Corps issues, and he was a mentor for all of us. Doug retired last August after more than 36 years of dedicated service to the Forces and to the Corps, and on behalf of the Corps; I would like to wish him and Audrey a well-deserved retirement.

The Corps will see many changes in the years to come: With the current mission scheduled to close down in 2011, to the fielding of the new Leopard 2 in Canada, we will have the opportunity to expand on lessons learned as well as revisit some of the basic combat skills. On the Reserves side, equipment shortages will continue to be a challenge, but I am confident that the Corps will continue to do what it has always done best: Come together as one to achieve the objective.

Finally, I would also like to acknowledge Col Cade, our former Director of Armour, who has past the baton to Col Nixon on November 5th. As his predecessors have done before him, he has represented the interests and defended the values of the Armoured Corps all over Canada. Sir, mission accomplished! Thank you for your excellent support and dedication. In closing, I look forward to meeting most of you either at the Corps Conference in January 2011, or during my travels, but if you ever need to reach me, I'm on the DWAN, so please drop me line.

Tanks



**Armoured Reconnaissance in Afghanistan:
Force Multiplier or a Marginalized Capability?
By Maj S. Boivin and Maj D. Tremblay**



19 Sep 08 – Sqn Handover, FOB FRONTENAC, Shah Wali Kowt District, Kandahar Province. (L to R: MWO C. Rodrigue, Maj S. Boivin, Maj D Tremblay, MWO S. Mercer)

Maj Boivin was OC Recce Sqn during Roto 5 of OP ATHENA while Maj Tremblay was OC Recce Sqn during Roto 6 of OP ATHENA. Both are currently students at the Canadian Forces College in Toronto.

The Army is not like a limited liability company to be reconstructed, remodeled, liquidated, and refloated from week to week as the money market fluctuates. It is not an inanimate thing, like a house, to be pulled down or enlarged at the caprice of the tenant or owner, it is a living thing. If it is bullied, it sulks; if it is unhappy, it pines; if it is harried it gets feverish; if it is sufficiently disturbed, it will wither, dwindle and almost die; it is only to be revived by lots of time and lots of money.

-Winston Churchill, 1905.

BACKGROUND

From the commencement of Canadian Forces (CF) ground operations in Afghanistan in February 2002, Armoured Reconnaissance (Recce) has played a role in the theatre of operations although varying in numbers, structure and primary tasks. Since the onset, force structure has proven to be a factor that has caused much angst and is perhaps the crux of the reoccurring theme of inconsistent force employment over the past eight years. Sqns have ranged in size and structure from a single eight car Coyote Troop; to two eight car Coyote troops; to a non-doctrinal Intelligence Surveillance Target Acquisition and Reconnaissance (ISTAR) Squadron (Sqn) comprised of various sense platforms to include Armoured Recce as well as variations of troop numbers with either an Infantry Recce Platoon (PI) or Snipers attached. The structure and capabilities of the Sqn Headquarters (SHQ) and echelon have also varied in composition such that they have directly impacted the operational flexibility of the Sqn Commander and ultimately the freedom of action of the Battle Group (BG) Commander. It is also important to highlight the fact that the Recce Sqn was deployed and employed, less one distinct instance, as an integral sub-unit of the BG.

The trend to take short cuts in the Table of Organization and Equipment (TO&E) has unfortunately resulted in the deployment of a force that has diminished capacity and therefore does not, without risk or great challenge, achieve all that it could if properly structured. This has therefore created a powerful perception that Armd Recce is not wholly capable of fulfilling the roles we so



adamantly claim we can execute. This then logically leads to a skewed understanding of capabilities and ultimately leads to poor lessons learned with respect to force employment. Commanders who have been exposed to the true capabilities of Armd Recce are then forced to make a risk assessment when it comes to taskings. To task a sub-unit that has already been marginalized by an ineffective force structure would therefore demand that regroupings would be necessary to give it the required resources that are doctrinally inherent to it, in order to achieve the task. When a commander only has a finite number of resources and the Sqn has a constant demand for additional assets to perform some tasks effectively, it is only understandable that the decision to follow another course of action is more predominant. To use an old individual training adage, "use correct tools correctly." We cannot always point the finger at an Infantry BG Commander for improperly employing Armd Recce. If the commander is not given a fully functional tool, he will simply reach for the next tool in the box that can get the job done with a limited amount of fuss. At the end of the day, the Corps has the responsibility to ensure our combat arms brethren know how to harness the capabilities of an Armd Recce Sqn but it is absolutely vital that the Army recognize the importance of force structure. Cutting corners will only lead to the complete marginalization of an extremely important combat force and will lead to generations of Afghanistan combat veterans who have failed to maximize one of the most capable ground components of Operational Sense. As we will soon draw down in Afghanistan we must learn from our experiences and put things right now such that "we can win the first battle of the next war."

AIM

This aim of this paper is to argue that regardless of the changing security environment, the Armd Recce Sqn must be consistently structured, manned and equipped to execute its primary role. This will be achieved by reinforcing the primary role of Armd Recce and comparing it to the reality on the ground in Afghanistan by using the operational "Sense" function as the foundation for comparison.

DISCUSSION

Doctrinal Tasks

The doctrinal role of Armd Recce is to obtain timely and accurate information which both satisfies the commander's information requirements and is received quickly enough to be incorporated in the commander's operational planning process.¹ When related to the Operational Functions of CF Operations, Sense is the one that should drive Armd Recce operations. If a commander is able to improve their understanding of enemy capabilities and the battle space dynamics to include terrain and the human dimension, he will be better prepared to conduct future operations at the tactical and operational level. As stated by Sun Tzu, "know the enemy and know yourself: in a hundred battles you will never be in peril." Failure in the Sense domain will undoubtedly have a negative impact on the remaining operational functions and may jeopardize victory on the battlefield. Unfortunately in Afghanistan there has been an evolving trend to rely primarily on airborne platforms, such as unmanned aerial vehicles (UAV), to conduct surveillance. Although extremely valuable they are not all weather capable, not always available, and more importantly they do not provide that up close and personal assessment of the ground truth. Sense is much more than a platform from which you perform surveillance tasks; it is a mindset characterized by an inquisitive and uniquely trained soldier who is able to provide the white, brown and red situational awareness (SA) gleaned through human and terrain interaction. The fact that no single ground recce element was included in most TF ISTAR matrices reinforces the trend to not maximize Sense to enable future operations. The TF ISTAR matrix was a stand-alone document that did not change to reflect specific operational missions. Relying solely on airborne platforms to achieve Sense does not offer the fidelity or the flexibility that the commander requires.

Op ATHENA ORBAT and TO&E

The Recce Sqn in Afghanistan is not employed to its full capability because it is not properly structured. Armd Recce is generally characterized by mobility, light protection, communication and firepower. Of utmost importance, the Sqn should also be capable of fully independent recce operations and due to its versatility it will be capable of fulfilling a variety of other combat functions when grouped with the appropriate enablers. Because Op ATHENA Recce Sqns are not structured properly they are often misemployed or used to plug holes. The structure therefore does not allow commanders to maximize on the true potential of a Sqn that is accustomed to operating at extended distances, dispersed deployments and for long durations. While deployed Sqns have achieved great success in the performance of their tasks, for the most part they have fallen outside the scope of doctrinal recce tasks. Rather, tasks generally mirror those of other manoeuvre subunits due to the fact that Sqns have been often assigned fixed areas of responsibility. Recce Sqns, with a footprint much smaller than that of Infantry companies, are therefore focused on general security and combat operations linked to their area of operations, vice conducting tasks to support the commander and future tasks throughout the TF or BG area of operations.

¹ Department of National Defence, B-GL-394-002/FP-001, *Ground Manoeuvre Reconnaissance* (Ottawa : Chief of Land Staff, 2008), p.4-1.



In order for the Recce Sqn to perform doctrinal tasks as well as support other combat functions, its structure must be based on combat capable independent sub-sub-units. The Afghanistan experience has proven that two recce troops is insufficient and that the doctrinal three is absolutely necessary to offer full capability and flexibility. One of the limitations of recce troops is the number of dismounts and, doctrinally, this deficiency was fulfilled by the Assault Troop. Since the demise of this critical capability, recce troops have done without and are seriously deficient from a dismounted perspective when also responsible for a combat platform. In Afghanistan this deficiency was covered during specific combat operations by attaching a LAV Platoon or by integrating an Infantry Recce Platoon into the ORBAT of the Sqn. In most cases, when the Recce Sqn was tasked as a land owner and responsible for an AO, the Recce PI was then employed doing traditional infantry or dismounted tasks and not recce tasks. The Recce PI is not structured, equipped nor does it have the same strength in numbers as a LAV PI therefore their ability to perform traditional mounted or dismounted infantry tasks is also hindered. The simple fact that the most capable dismounted recce element in the BG is used to perform tasks that are very much secondary to their primary skill set only amplifies the problem of misemploying Sense elements. The structure of the Recce Sqn therefore demands an integral dismounted capability and if that capability is based on the Assault Troop or something else, it is an essential component of a combat capable and independent Recce Sqn.

The core of the Sqn must be a robust, mobile, and fighting Sqn HQ, to include an integral intelligence capability that facilitates low level collation such that timely and accurate information is gathered and processed. An independent Sqn must be capable of operating away from fixed tactical infrastructure (TI), capable of achieving command and control with sufficient signals infrastructure and manpower to be able to rapidly understand and react to information that is gleaned from the battle space. Although Op ATHENA has experimented with structures to provide logistical support and sustainment, it has been proven time and time again that sub-units demand an integral echelon to support independent operations away from TI. The Recce Sqn can be deployed in a dispersed fashion over prolonged periods of time but can only do so if it has a mobile and combat capable echelon that is capable of projecting to sustain deployed forces. It is acknowledged that a strong echelon is resource heavy however the benefit to operations is unquestioned. As with any other combat unit, the Sqn is reliant on specialist enablers to include engineers, forward observation officers and forward air controllers. From an engineering perspective, although the resource is in very high demand, it is critical that the Recce Sqn have, at a minimum, a fully equipped Engineer Recce Section. From doctrinal engineer recce tasks, to their inherent capabilities and as an advisor to the OC, the asset is indispensable. Due to limited engineer resources in Afghanistan, the Engineer Recce Section has often been called upon to perform tasks normally assigned to CIED or field engineers. Without the Recce Section and their inherent capabilities the Recce Sqn would be left without a critical capability that could be the difference between mission success and failure.

Force Employment

As explained in the Ground Manoeuvre Reconnaissance Manual, the Armd Recce Sqn must be capable of mounted combat, robust C2 and independence. As stated by Col Corbould, CO TF 1-08 BG, "in a perfect world, the Recce Sqn would have not been tied to ground. Unfortunately, because of availability of forces this is what happened when Recce Sqns were attached to BGs. The Recce Sqn should have been used as an operational reserve/rover, able to bounce all over the AO without having to take risk in other areas, or act as an umbrella covering the entire AO as required based on intelligence and planned operations." In short, the necessity to properly man and equip the Recce Sqn would have allowed the commander the ability to employ the Sqn in a doctrinal fashion and support ongoing or help shape planned operations. Although Afghanistan is only one example of a theatre of operations, the Recce Sqn, as with other combat arms sub-units, is inherently flexible. Its flexibility comes from a sound, proven and accepted structure that cannot be played with or altered time and time again. As the CF moves into another mission – be it counter insurgency operations, peace support or full out war – the Recce Sqn has a role to play. From the onset, the Recce Sqn must be considered as a capability that is to be harnessed through effective structure, and only when this is done will we afford commanders the freedom of action to employ Armd Recce effectively. According to Government of Canada policy, our combat commitment in Afghanistan will be 'done' and we must be prepared to face future challenges in the challenging and dynamic security environment that has highlighted the 21st century.

CONCLUSION

We must ensure that the leaders of the CF and the Army acknowledge that the current trend to deploy a small two troop Sqn is neither sufficient nor effective on the modern battlefield. It does not afford the commander the necessary flexibility and it ultimately detracts from our capacity to gain the very essential white, brown and red situational awareness needed to influence current or future operations. We cannot cut corners on the structure of a proven, combat capable organization that, if employed correctly, will only reinforce mission success. The only way to prepare for future operations and prevent the trend of misemployment is to guarantee that future commanders have a solid understanding of Armd Recce. More importantly, the ORBAT and TO&E of the Recce Sqn must be such that it has the capacity and capability to perform assigned tasks to such a level of effectiveness that commanders themselves become the proponent for the existence of Armd Recce. Failure to do so will only lead to the demise of a powerful combat capability.



Story of a Deployment By Maj J.F. Cauden



Maj Cauden in front of the monument at forward operating base Frontenac during the deployment of B Sqn, 12^e RBC. Maj Cauden is currently OC B Sqn, 12^e RBC.

Background

B Squadron of the 12^e Régiment blindé du Canada was deployed to Afghanistan as part of Operation ATHENA Rotation 7 with the 2^e R22^eR Battle Group from April to October 2009. During deployment, the squadron was first stationed at Forward Operating Base (FOB) FRONTENAC for four months, mainly operating in the Shah Wali Kowt and Arghandab Districts. The squadron was then redeployed for the last two months of its mission in Dand district.

Introduction

It is with great enthusiasm and some trepidation that I flew to Afghanistan. I was excited to command my troops in battle, but I also feared my possible errors and the eventuality of losses. There was no doubt that the squadron would face against the enemy and the situation of recent months in our area of operation was worrying. The idea that the fighting season was yet to come was certainly a worrying prospect. Nevertheless, it was with enthusiasm that we started the relief in place of D Squadron, the Royal Canadian Dragoons.

A Difficult Start

The harsh reality of our mission in Afghanistan hit us very quickly. We were at D-Day-1 of the official start of our operations. The transfer of authority was almost completed and rotation between the reconnaissance squadrons, as for the battle group, was to be completed in 24 hours. A patrol was out to establish an observation post to study the pattern of life of a hostile village in our area of operation. While most staff had left the command post for supper, I assured permanency with our communications sergeant and took advantage of the lull to study the various electronic tools available in theatre. At this quiet moment, everything changed. When we heard through the radio the words "contact IED," we hesitated a few seconds before realizing that the patrol had been struck by an improvised explosive device (IED). Everything was confirmed when the second communication gave us a more detailed report of loss.

After a brief hesitation, which seemed like an eternity for me, we activated the alarm, making the horrible ringing sound used to



assemble our quick reaction force. It was with a face of horror that the two Squadron Sergeant-Majors arrived on the command post terrace. At this time, we did not know which regiment the victims belonged to, but we would soon realise that it was the first patrol composed of 12^e RBC members only. That mattered little because we were all united by the events. Rarely have Dragoons and Douxièmes been united so much and the follow-on events would demonstrate the great brotherhood of the Corps. D Squadron (RCD) had suffered heavy losses during its mission and the prospect of another critical incident before the end of their stay was terrible. From our side, an entry into action this fast and intense was equally distressing. After a short time, we received the detailed information. Our opponent had put us in check before we even started the game.

Upon arrival on site, with all the necessary resources, Sergeant-Majors Mercer and Pelletier made considerable efforts to save the lives of the wounded and conduct evacuation. Not only did they face a scene of horror and proceed quickly, but they would soon have to face the worst storm that we experienced during our deployment. In parallel, the staffs of the two squadrons were put to work to ensure the coordination of the evacuation and also had to fight the storm that threatened to destroy the camp. Despite the appalling loss of Trooper Karine Blais, concerted actions of members of both squadrons helped to ensure the efficient conduct of the rescue and saved the lives of our brothers in arms.

The Calm and the Action After the Storm

Following this devilish start, links inevitably tightened within the squadron, allowing us to face daily risks inherent to our operations. We faced the worst scenario as a start, but this did not prevent us from starting the game as lions. The efforts of the first weeks of operation served to define our efforts in our area of operation. Not only did we have to know our environment, but we had to develop a clear picture of the enemy situation in order to fight him. I did not want to spend the long months of our deployment being hit by the enemy without being able to retaliate. The psychological impact of fighting an invisible enemy was my biggest concern for the health of my troops. Fortunately, my worries to this effect would dissipate quickly. In the first week of operation, the reconnaissance platoon that operated with the squadron at this time would take seven detainees during a traffic control operation, which had a direct and positive effect on morale.



The command teams changing the flags on 15 April 2009.

The general situation was back to normal, daily operations of the squadron were going well in the districts of Arghandab and Shah Wali Kowt: shuras, patrols, vehicle checkpoints, village reconnaissance, local development projects etc. However, once the last members of the squadron had arrived in theatre, the squadron-level operations intensified. Our first major operation would be to provide security for the Prime Minister's visit of the Dahla Dam. This joint operation with our special forces had great success and allowed us to consider other joint operations. Then, the flexibility of troops was tested in reorganizing itself to conduct a route clearance in support of a private security company that protected a road construction project. Our first deployment of the squadron for a period of several days would be to undertake a detailed route reconnaissance up to the border of the province of Uruzgan, crossing an area with no presence of coalition forces. This operation was aimed at preparing the area for our eventual replacement by U.S. forces.



Operations Intensified in the Arghandab and Economy of Effort

Instability increased within the Arghandab district in early June, marked by a suicide attack on the chief of police. The squadron was repositioned to establish a Joint District Coordination Center and significantly increase the coalition presence in this key region, near the city of Kandahar. The multitude of operations that we conducted jointly with the Afghan National Army (ANA) were very successful. Not only did we succeed in disrupting insurgent activities, but we avoided the exodus of population that normally occurs at that time of year. Retaining the population was of particular importance for the upcoming presidential elections. To this end, the troops again demonstrated their flexibility by significantly increasing dismounted operations and even conducting a dismounted squadron operation at night, a task which is unusual for an armoured reconnaissance squadron.

Being deployed as an economy of effort in the northern region of the city of Kandahar, we were asked to react to a multitude of events beyond the usually limited resources at our disposal, such as: support for Dutch convoys transiting our area of operation, logistical and operational support of ANA mentoring teams or rescue of a downed Blackhawk Helicopter. Particularly, the squadron achieved great success with a joint security operation with the Afghan National Police in the district of Khakrez, brilliantly led by my second in command while I was on leave, Captain Martin Arsenault. The intensive operations in the Arghandab district were to end with the arrival of American reinforcements. In August, the squadron was replaced by about 1000 men and women of TF 1-17 IN (U.S.). Their intense presence permanently changed the reality of our original area of operation.

Counter-Insurgency in the District of Dand

Elements of the battle group were released by the influx of Americans and the squadron was redeployed in Dand district, south of Kandahar city. The approach was to be closer to our counter-insurgency doctrine. We were deployed in an area much smaller and set directly in the region's key towns. This approach allowed us to focus more on population, in terms of governance, development and security. Although less dynamic in nature, the operations during this period allowed members of the squadron to experience a different interaction with the population. Initially, considerable efforts were made to ensure our protection and survival. But soon thereafter, many dismounted patrols were conducted, local projects implemented, food aid distributed and we even had the opportunity to run a small health clinic. It was in this position that we prepared ourselves to receive our replacements for the next rotation of troops.



At left, Master-corporal St-Pierre takes a break with his young Afghan friends. At right, a troop rotation takes place in Dand District in October 2009.

Organization of the Squadron

The squadron began its operational tour with a structure that was amended a few times, and experimented with different combinations during operations. Basically, we had two reconnaissance troops and initially had the battle group reconnaissance platoon in the same posture as our predecessors. Considering that it would be more beneficial to use this resource centrally, our ranks were increased by some sections of infantry, allowing us to reorganize with three troops, including an assault troop. The troop was led by my liaison officer with his crew, two sections of infantry and a section of engineers. Unfortunately, the first months of operation proved to be our most bloody. After our first incident, our other losses only stopped at the end of June. Despite the fact that the injuries were fortunately less devastating, fate meant that losses were incurred within the same troop, decimating mainly its key leadership, which had considerable impact on the squadron and forced a restructure of the squadron into two combined-arms troops. Finally, our posture in Dand district and around the city of Nakhonay benefitted from the addition of a tank troop. This structure allowed us to briefly experiment with the establishment of an observation post which could also act as a fire base.



The different structures have not been tested during all operations, but our experiments have allowed us to draw some conclusions. Either as a manoeuvre element or in a more traditional reconnaissance role, a third troop is necessary to conduct effective operations and maintain our fundamental flexibility. The assault troop offers a core capability that should be integral to the squadron. The assault troop should not aim to generate a pioneer capacity, but should be incorporated for dismounted reconnaissance capabilities, action on objectives and protection needs which require more dismounted personnel. The creation of a combined-arms troop can work, but an integral troop would be much better prepared if it was generated in our regiments and deployed de facto with a squadron on any operation. One solution would be to maintain reconnaissance squadrons with three troops, consisting of two reconnaissance troops and one assault troop. Adding this capability would also offer interesting employability of reserve reinforcements.

Conclusion

B Squadron has done more than what is described in these few paragraphs and all its members will certainly be happy to share their own stories of war. Above all, what I will most remember from our stay is the true camaraderie that we developed and maintained within the squadron. I am proud of the accomplishments of my soldiers and will be forever grateful for their courageous service under my command.

Sometimes equalled, never surpassed (Motto of B Squadron, 12^e RBC)



Ten Tips for Tactical Commanders **By Maj M.N. Popov**



Maj M.N. Popov has been OC B Sqn, RCD, from May 2008 to the present. From October 2009-May 2010 he was OC Recce Sqn, Task Force 3-09.

Today's Army is a learning institution, with a more effective lesson learning and application process than ever before. On-the-spot examination and investigation of incidents and engagements, both in Canada and during deployed operations, have identified and rectified shortfalls in tactics, techniques and procedures, drills, equipment use, movement, and application of firepower in the contemporary operating environment. However, there is a body of intangible, experiential knowledge that is difficult to quantify and more difficult to capture. Normally it is hard-won through experience, but nearly impossible to pass on in formal courses or training scenarios. After deployments, key leaders are often posted away from their units and not always able to pass on this knowledge informally during Regimental duty. In order to try and capture some of the knowledge and experience that my team gained through the past two years of training and deployment, I have distilled lessons from individual and collective experience into the following ten tips. Many times during operations, leaders say to themselves, "I wish someone had told me this before I deployed." I wish, prior to assuming command and later being responsible for commanding over 250 soldiers in Afghanistan, someone had offered them to me.

1. **Time management** – readings, writing and wrenches. There is never enough time, particularly while deployed, to read anything for yourself, or write anything that is not urgent and directly related to your deployment. The raft of PD readings, COIN readings, theatre directives, lessons learned, post operation reports, orders and information packages that will be pushed to you throughout the Road to War are valuable and should be read. However, don't put them off to be read once in theatre; try to finish reading them all before you arrive – once in theatre, you'll be consumed by other things and they will sit unread on a shelf. Make sure to leave enough time to spend with the soldiers, patrol commanders and junior officers – if all they see is the OC reading and writing, that's all they will think you do. Sit and have lunch with them rather than the CP crew, who see you often enough as it is. Make a conscious effort to do this and the time spent will pay off in spades.
2. **Division of Labour – Let Your People Help You.** Our training system focuses on making the student under assessment, whether a candidate undergoing DP 1 or the Combat Team Commander's Course, conduct nearly every task himself, knowing and attending to every detail. While this ensures that candidates are familiar with all of their subordinates' tasks and are capable of accomplishing them, it is an untenable methodology for sustained operations. As a tactical commander, you absolutely cannot do everything yourself. You will burn yourself out and do your soldiers a disservice by becoming combat ineffective and fuzzy-minded. While you may want to track, manage and coordinate every single detail, you cannot do this while still commanding effectively. You must use the skills, knowledge and considerable ability of your people to help you command your organization. Lean on your Battle Captain and Second-in-Command very hard. The Squadron Commander commands the Squadron, but the Battle Captain runs it minute to minute, handles operational details, maintains the Command Post and manages the myriad parts and lateral interactions required to keep a squadron operating. The 2IC, meanwhile, keeps all the moving parts oriented the same



way, advises the Squadron Commander and keeps administration and large-picture Combat Service Support proceeding. The Sergeant-Major, meanwhile, makes sure that tactical level sustainment, personnel management, manning and equipment readiness is maintained. The Armour Corps division of labour has evolved over many years and has proven to be effective across the spectrum of operations, from high-intensity combat to garrison training. Use this system to help you, to give you the time and space to think and make the right decision at the right time. Delegating and leaning on them is neither a failing of the tactical commander, nor a burden to subordinates – it is the best way to use collective knowledge and skills to help you accomplish the mission.

- 3. Battle Procedure – Who Does What?** After receiving a warning order, give the BC and 2IC some early planning guidance based on a very general effect to be achieved and the timeline required. Always try to give as much notice, as early as possible, in as much detail as possible, as far as possible down the chain, often through detailed radio warning orders – it has always paid dividends. During Op ATHENA Roto 8, plans to be executed more than 2 weeks into the future usually saw the 2IC take the lead in planning, while more immediate plans and minute changes to ongoing operations, such as new targeted effects or CCIR changes, were the BC's domain. Depending on time and distance, the BC and 2IC immediately started looking into planning, linking with the appropriate higher-level staff as required and concurrently with looking at resources. After conducting mission analysis, clarify planning direction based on time, space and effects, then sit down, usually with BC and 2IC together, to plan collectively. Whenever possible, bring the SSM in to look at the sustainment piece, see what is achievable, and offer a sober second look. Even in a small combat team, there are so many moving parts that the OC can rarely track vehicles or maintenance states from minute to minute – the BC and Ops WO can and must. Once the estimate, usually done collectively, is completed, a Scheme of Manoeuvre roughed out and plan formed, finish the written order (if time permits) or radio/overlay order if time is short. For written orders, the BC should write and verify Groupings and Tasks, Coordinating Instructions and most of Command and Signals, the SSM puts input into Service Support and critical coordination items such as detainee handling details or actions on breakdown. When I issue formal orders, the BC normally issues the Groupings and Tasks, most Coordinating Instructions and the SSM issues Service Support. I cannot stress enough the need to lean on your team throughout battle procedure and plan development so that you have the time and space to think, to ensure all the appropriate lateral coordination gets done and then review your orders properly before issuing them. To support this process, the Squadron Headquarters (SHQ) must be a self-running organization with workable and detailed SOPs and a strong SHQ battle rhythm that manages BC, Operations Warrant and Signals Sergeant time and tasks. In the COE, you cannot protect your crew and exempt them from CP shifts and secondary duties; they must also be well-versed in all SHQ duties and be ready to contribute. If the SHQ is not tight and well-managed by the BC, where everyone understands “who does what when and where”, the SHQ will waste effort and burn out, which will cause the whole Sqn to suffer.



Preparing for patrol. Photo taken by Maj M.N. Popov



4. **Take Time to Soldier.** Remember, you are a soldier first, who also happens to be an officer; young soldiers will go out without complaint and follow your orders, so you need to demonstrate the same skills, abilities, determination and endurance that they do. This is a simple principle, often easily said but difficult to do, given the demands on your time. Take the time to patrol with the different elements of your organization, particularly new attachments, sit down with soldiers and clean weapons, go out into the OP screen or conduct a route recce. Take your Tac Group out as a recce patrol and fulfil your own CCIR. It will ground you, remind you of the difficulties and dangers of the terrain your people operate in and keep you in touch with what they do and how they do it, so your decisions will be made from a position of credibility, knowledge and experience, not from a Command Post divorced from the battle.
5. **Leader movement.** In Afghanistan, commanders cannot flit about the battlespace at will. Every move is a deliberate operation that saps combat power from the rest of the Squadron and puts the soldiers in the Tac Group at risk. To support you commanding forward, your vehicle crew must be well-versed in all SHQ duties and be ready to do CP shifts, local defence, communications troubleshooting, map preparation and SHQ soldier duties in austere forward locations from the back of your vehicle. They must also be capable of independent action, understanding the big picture and the next steps of ongoing operations, keeping the vehicle ready to move at a moment's notice and using their initiative to resolve uncertain situations when time and rest are at a premium. Try to plan moves well in advance and link them with sustainment runs, existing patrols, route clearance packages, NSE Combat Logistics Patrols, movements by flanking sub-units or any other elements moving in the battlespace whenever possible. Yes, your movement will be hampered, but you have no choice. If you have to move, pull from the rest of the Squadron as needed to support your requirement to command forward, but be aware of the effect it has. Ensure to plan return moves in as much detail as movements out, so as to prevent being stuck in a location with only one vehicle and unable to return to the Sqn in a timely manner. Maximizing the use of other moving parts in the battlespace is good, but having the OC stuck on an OP with no way to retrieve him is bad.
6. **Resource management.** During deployed operations, the leave plan, which will at times see up to one fourth of the Squadron unavailable for operations, coupled with VOR, will cause such havoc that at times SHQ is forced to centrally manage and allot vehicles and crew members. Often in preparation for large scale deliberate operations, the BC and SSM chess-piece out individual vehicle crewing and patrol make-up. While every attempt is made to give Troop Leaders and Troop Warrant Officers maximum latitude, this planning often cannot be pushed to them, as they would spend so much time gathering combat power, coordinating, planning and linking laterally to exchange personnel and vehicles that they would have no time to lead their troops. While planning in such detail, driven from SHQ, is painful and something most Squadrons never encounter during training, it is a reality that cannot be escaped. Egos must be set aside in this instance in order to permit the functioning of the whole sub-unit. The three-car patrol that trained together in Canada will rarely be able to operate together, so it must be made clear that the Squadron's continuing operational readiness takes precedence over Troop or Patrol cohesion. In training, patrols and troops must practice operating with each other and practice operating with crews and patrols from different troops meshed together for tasks.
7. **Know and Understand Attachments and Enablers.** In the modern battlespace, everything is a combined arms effort. However, the breadth of attachments and enablers used in practice far exceeds those typically covered in training. B Squadron RCD deployed to TF 3-09 as a 91-person Squadron. However, for most of its deployment, it had upwards of 200 Canadian personnel, mostly comprised of attachments over and above those normally found in a combat team, such as engineers, artillery FOO parties and additional infantry. The B Sqn Combat Team had attached CIMIC teams, Construction Management Organization (CMO) teams, Police Operational Mentor Liaison (P-OMLT) teams, civilian Stabilization Officers, civilian police officers, medics, a National Support Element detachment, a number of civilian contracted K-9 patrol dog teams and even PSYOPS and EOD teams from time to time. The Combat Team was also partnered with an Afghan National Police element for all deliberate and most routine operations. Take the time to sit down and learn what your partners, attachments and enablers can offer you, how they work and any restrictions they may have with regards to their employment. Often the perceptions you have may differ from reality on the ground; learning about them as soon as possible will not only offer you the best understanding on how to employ them, it will let the attachments know that you have taken the time to understand them and see them as part of your team, not just resources to be exploited. Finally, attachments may be drawn from all three CF elements; they may not understand very much about combat arms operations whatsoever, so be prepared to educate them.



8. **Tactical patience.** In operations, things happen that will throw timings and plans out the window at a moment's notice. Every time you roll out, you may not be back for days, depending on events beyond your control. A defensive measure failure in the wrong place may make a 30 minute road move from one position to another into a three-day event. Planned H-hours may be pushed off endlessly by enablers, lack thereof, SOF operations or the other frictions of war. Leaders must stay patient and always let subordinates work laterally, feed you SITREPS, suggestions and offer a work-around to challenges that arise. Frequently, particularly when you are deployed forward, the BC will have a better grasp of detail than you do, so should be offering you contingencies at the nuts and bolts level, which will give you time and space to look at the big picture and add minor steering corrections as needed. Plan ahead and remember that things beyond your control do not mean your plans are ineffective or that you've failed as a leader; stay patient, stay focused and work within, rather than against, the situation.
9. **Never Stop Training.** Keep your own skills sharp and keep pushing your subordinates to do the same. This is part of leadership by example; the OC should never be "too busy" to train on critical skills. While it may seem like motherhood or an unnecessary distraction during war, refreshing on simple things like weapons handling, mine detectors, first aid skills or communications equipment will prevent skill fade and save lives. In large combat teams, not all attachments may be as familiar or used to handling weapons or equipment; they must also be included in refresher training if they are under your command.
10. **Casualties.** They will happen. Prepare for it. There will be times when things explode, bullets fly, soldiers, comrades and close friends may be hurt or killed and there is nothing you can do. Find a way to deal with it and lean on the SSM. Keep your team informed as soon as possible about casualties from other units and your Afghan security partners – you may not know them, but they may be close comrades of your attachments. Take the time to publicly commemorate and respect the fallen, but remember that you can no longer help them. Stay focused – the living still need your attention and efforts. You may also be injured, but must continue to lead, and lead well, despite injury. When all is going bad, you and the SSM, of all people, must be calm, collected and lead the organization.

While geared to the deployed Recce Squadron commander, these ten tips are also applicable for Captains in Squadron and unit-level positions and in most cases, to Troop Leaders or Troop Warrant Officers. While they do focus on deployed operations and have been proven in combat, they are also valuable for training or domestic deployment in Canada. Finally, while they are in my words, the soldiers, NCOs and officers in my team are the ones who have brought them into sharp focus, validated them and they are the ones who will benefit most from leaders that apply them in future.



The Role of Captains During Operations

By Capt E. Kerckhoff, Capt M. Lesage and Capt T. Abbott



From left to right: Capt E. Kerckhoff, Capt M. Lesage, and Capt T. Abbott. Capt Kerckhoff was the Operations Officer, Operational Coordination Center – District (Dand). Capt Lesage was the Second in Command, Battle Group Recce Sqn, Task Force 3-09. Capt Abbott was the Battle Captain, Battle Group Recce Sqn, Task Force 3-09.

If you surveyed all Armour Officers on what the best job would be in the Corps, the majority of the answers would be the same – a Troop Leader in an operational theatre. We complete our DP1 training hoping one day to deploy in command of thirty-one soldiers and eight vehicles, and many junior Officers do. The next rung in the career ladder is sometimes less sought-after. Being Second in Command (2IC) or Battle Captain (BC) for a Squadron, however, provides greater responsibility, new challenges and significant responsibility that often goes unnoticed. It is also a necessary stepping stone that will give those selected as BCs or 2ICs much-needed experience to develop them for the next step in their careers – commanding a Squadron.

Doctrinally, the Squadron 2IC commands the Squadron's Administration Troop and is responsible for all aspects of Squadron administration, to include movements and large-scale sustainment functions. He understudies the Squadron Commander and must be prepared to assume command of the Squadron when required. When the A2 echelon is formed, he controls its movement. This position's exact definition is left open; as we have all learned throughout our military careers, everything is situation dependant. Every Recce Squadron rotation to Afghanistan has been different. No two tours have had to face the same limitations and constraints; both the insurgency and our attempts to counter it have caused continuous evolution in organization and tasks. For the specific handover between the TF 1-09 and TF 3-09 Recce Sqn, the experiences handed over were general enough to be applicable across the spectrum of expected tasks. For the 2IC, implied tasks fell within the doctrinal realm: PERs/PDRs, HLTA, personnel and combat supply movement, casualty administration and repatriation, managing the Commander's Contingency Fund and Small Rewards Program, movement and administration of language assistants, and Non Public Funds. Assigned tasks from the OC included future planning as well as assisting the BG plans cell with armour recce subject matter expertise and the employment of armour in counter-insurgency operations. As the deployment progressed, other roles crept out of the woodwork including filling in for the BC, conducting liaison with flanking units and formations and providing force protection to the Squadron echelon during sustainment runs.

No matter the situation or theatre, there are some aspects of the 2IC's job that should remain consistent across deployments. The 2IC provides the OC with sound and impartial advice on wide-ranging issues and concerns. He acts as a sounding board, counsellor, honest broker and expert in any matter that is important to the OC. The OC, 2IC and SSM form a quorum of three and discuss all matters, from pending operations as well as professional and personal soldier issues. The quorum prevents personal pride from ruling the actions of those involved and by default, those of the Squadron. When the OC is on HLTA, the 2IC takes full command of the Squadron for nearly a month, getting a true taste of what the next step is like. He must be prepared to accept this task, as it is laden even heavier with responsibility and accountability – but well worth it.

The BC is the current operations guru. Doctrinally, he must be prepared to assume command of the Squadron temporarily during an operation until the Squadron Commander returns or until the 2IC is able to transition to that position. The BC controls the operation of the CP, whether mobile and deployed for large-scale operations, or stationary within Tactical Infrastructure (TI). He is responsible for drafting operational staff work, staging orders groups and overseeing the efficient operation and training of the Squadron Headquarters (SHQ) staff. He is not often heard on the radio but when he is, it is usually to provide guidance on ongoing operations.



Both the 2IC and BC must be what the Roto 8 Recce Sqn called “the ‘how’ guys”. The OC decides “what” the Squadron will do during an operation and the BC figures out how it gets done, including building and designating the force package required to do it. If imagined in the context of an orders framework, the OC decides the Commander’s Intent, Main Effort and End State. The BC and 2IC work out the remainder of the details in coordination with the SSM for Service & Support. For the BC, the Groupings & Tasks, Coordinating Instruction and Preliminary Moves are the three most critical components of the orders format that need detailed synchronization and coordination.



From left to right Capt Lesage, Capt Abbott, Capt Kerckhoff and Sgt Resal discuss the details for Op HANDSHAKE II. Kandahar Province, Afghanistan, December 2009.

Outside of the doctrinal framework, the BC has a finger in many other realms. Although the 2IC oversees Squadron administration, SHQ soldiers will approach the BC with administrative queries. As such, the BC’s administrative skills must be sharp in order to properly address their concerns. He must be capable of providing the OC with relevant advice based on the current situation and has to be able to develop multiple courses of action (COA) for any given problem. Throughout Roto 8, the BC spent many hours working on VIP visits, public affairs endeavours and lateral liaison with other units. As mentioned, he must be prepared to command the Squadron in the OC’s absence. In one particular instance on Roto 8, the BC was required to take full command of the Squadron while the OC was out of the battle and the 2IC was unavailable to take control for the following 48hrs.

The LO, normally the most junior of the three Captains, must be the most flexible of the three, as he must be prepared to fill in for either of the other Captains’ positions in addition to his regular duties. The LO normally provides liaison at flanking or higher HQs so must fully understand the OC’s Intent, as he will often be called upon to provide advice on specific Squadron courses of action within the larger context. When conducting liaison with flanking units or higher HQ he could potentially be asked to provide detail on where Squadron’s next bound would be. Throughout training, the LO followed that maxim that “if the OC is on one side of the Battlespace, the LO may be representing the Squadron on the other, therefore must know the plan in detail.” Regardless of his employment, the LO must understudy the other two Captains in order to further his professional development and prepare himself for assuming either of their roles when new tasks arise. Once deployed as part of the Roto 8 Recce Squadron, the LO often moved with the OC to provide sufficient force protection and his vehicle acted as a step-up forward command post when required. When the Recce Squadron was tasked to create and man a District Operational Coordination Centre in DAND District (OCC-D(D)), the BC became its Operations Officer and the LO transitioned and became the BC. The presence of a dedicated LO was sorely missed during Operation SHEPHERD, which saw the Recce Squadron escort a new ANA Kandak consisting of more than 100 ANA vehicles from Zabul province to a US FOB in the far western part of Kandahar province. The LO would have been invaluable in ensuring that flanking units and terrain owner activities were properly synchronized with the Recce Squadron’s task in their battlespace; The LO’s presence was sorely missed and several critical coordination functions had to be undertaken by the OC, BC and Troop Leaders throughout the planning and execution of the mission.

While the Canadian Forces prizes flexibility, Recce Squadron prides itself in being the most flexible, agile and quickest-acting sub-unit in the battlespace. For a Captain within the Recce Squadron in particular, being able to rapidly adapt to new situations and organizations is a key trait. Pre-deployment training gave everyone a base upon which to build; however, each Captain on Roto 8 experienced something that they never would have imagined prior to tour. The 2IC was drawn into the BG Plans cell to assist in planning cycles for several Battle Group level partnered operations, while the LO became the BC after the OCC-D(D) was created. Everyone knew prior to deployment that we would be conducting stabilization operations, however, the OCC-D(D) concept was not 100% defined and it became a “learn on the ground” job. The division of labour became primarily directed by



the 2IC and the BC, who developed into subject matter experts on balancing stabilization efforts within the Squadron context and the focus of attention when soldiers asked timely and relevant questions regarding the next step.

With regard to Squadron-level tactical planning and execution, Troop Leaders often cannot ask all the proper questions because they do not necessarily know what questions to ask. When the OC has developed his concept for the operation, the Captains have been the details guys and know the thought process that went into the Battle Procedure. Without continually asking the OC for the details on the plan, the Captains can extrapolate during their own estimates and answer many questions from a staff point of view. Commanders answer commander questions but details regarding coordinating instructions are answered by the Captains. More than this, they need to confirm these details prior to execution, as the Captains will be the ones controlling the battle when the coordination needs to be tight. The only time the OC needs to get involved in these matters is when there needs to be a change of priorities, a shifting of resources from one effort to another or a decision between courses of action.

The OC and SSM have a number of tasks and priorities which can simultaneously be complementary and in conflict. The necessity for sustainment must be balanced with the requirement for aggressive action, the requirement for rest synchronized with the need for deployed elements and security for critical infrastructure reconciled with the need to concentrate forces for deliberate operations. Both are driven to succeed in every task and constantly strive to do as much as possible with few personnel and limited resources. The Captains need to be able to provide a middle ground in order to mediate those conflicting imperatives. By providing a detailed analysis of the troops to task for a given situation and developing mitigation strategies, Captains provide the OC with all the information he requires to make a fully informed decision. The SSM provides info on manning and sustainability of operations, but Captains need to be able to provide context for the current operational considerations and contribute to the decision-making process.

Captains play a role significantly different from that of Troop Leaders – they must think at the Squadron level and understudy the OC in terms of leadership. While a Troop Leader's scope of tactical responsibility is clearly defined by their troop organization and specific area of operation, a Captain must be capable of weighing the relative benefit for the greater good and advise the OC accordingly. A Troop Leader still has the best junior officer job in that he has direct control over the execution of tasks, but for a Captain the opportunity to expand the range of experience and prepare for areas of greater responsibility, whether in command or in a staff role, cannot be ignored.



Members of B Sqn RCD conduct convoy orders prior to conducting Op RED DUCK, Kandahar Province, Afghanistan, November 2009. Picture taken by Major M.N. Popov.



The LRSS UP and the Future of GMR

By Maj F.Z. Lozanski



Major Frank Lozanski is the Project Director for LRSS UP.

The LRSS UP and the Future of GMR

When the COYOTE was introduced into service some fourteen years ago, it replaced the LYNX with a platform which offered many additional capabilities. Most notable was the integration of the state of the art, LAV - Recce Surveillance System (LRSS) onto a reconnaissance platform, greatly enhancing its ability to perform surveillance tasks. Ultimately, the implementation of the LRSS had far-reaching effects, with some arguing that the surveillance capabilities of this new COYOTE were embraced to the detriment of the Army's overall understanding and employment of Ground Manoeuvre Reconnaissance (GMR) elements, such as Armoured Recce. As we know, the soldier on the ground provides a range of attributes that technical systems cannot match.

The Past

The LRSS provided for the first time a portable, long range, all weather sensor suite. It consists of a thermal imager, black and white day camera, laser range finder and MSTAR Radar, with the sensors controlled and information displayed by a rudimentary Operator Control Station (OCS). The LRSS was truly revolutionary with the detection, recognition and identification (DRI) ranges available to Recce troops in the field far exceeding anything possible up to that point in time. In addition, the mast variant extended the field of view of the sensors by allowing them to be placed up to 10 meters above the ground and offering 360 degree visibility. Separately, the remote configuration protected the crew from detection by placing the sensors up to 200 meters from the COYOTE and provided flexibility of employment through the ability to cover multiple arcs simultaneously and covering fields of view not attainable by the mast. The basic system design proved to be sound. However, over multiple missions it has been determined that capability deficiencies exist and since this was a 'one of a kind' system based upon early 1990's technology (8086 computer processor, monochrome monitor etc.) most of it has reached the end of its useful life and the LRSS is now facing serious obsolescence issues.

Leaning Forward

The LAV Recce Surveillance System Upgrade Project (LRSS UP) was initiated with the goal of providing a replacement for the original LRSS, addressing a number of deficiencies and providing capabilities suitable for current and future operations. Because of the decision to divest the COYOTE, the LRSS UP will be mounted on the upgraded LAV III platform in the current mast and remote configurations and will include four basic components; Sensor Suite, Mast, OCS and a Silent Watch System. The project will have entered the Definition Phase in the summer of 2010, with an Initial Operational Capability (IOC) in 2014 and Full Operational Capability (FOC) in 2016. The upgraded system will be in-service for the next generation of Recce soldiers, well into the 2020s, and must be thought of in that context.



B Sqn RCD conducts route security surveillance using a Coyote MMSS, Kandahar Province, Afghanistan, November 2009. Picture taken by Major M.N. Popov

Despite the obvious advantages that will be enjoyed due to the advances afforded by twenty years of technological improvements, the key for LRSS UP will be the configuration of that technology. The mast variant will be configured with a semi-permanently mounted sensor suite which will remain attached to the mast when stowed. This will free up precious storage space within the platform and allow for use at the 'short halt', where the sensors can be brought into action in 30 seconds. Gone will be the days of the LRSS usage being limited to static OPs and 20-30 minute set-up times for the mast variant. Depending on what is offered by industry, there is also a possibility of a limited on-the-move capability. The result will be an enhanced surveillance capability, offering the crew all the advantages of greater DRI and increased field of view, but which can also be employed over a broader range of reconnaissance tasks, thus significantly enhancing the platform's GMR capabilities. The configuration of the remote variant will be similar to the current remote LRSS, maintaining the operational advantages afforded by its flexibility of employment.

The upgraded sensor package will be a purpose built, fully integrated system, fielded in both man portable and semi-permanently mounted versions. As mentioned previously, technological improvements to sensors will allow for increased DRI ranges. In addition the upgraded sensor suite will have an image intensification sensor and pointer, and based upon requirement definition from our experience in counter-insurgency the day camera will be a colour imager and there will be a sensor capability to allow for the identification of human intent; for example, where an individual is pointing his weapon. For the mast configuration, stowage of the elevating device and mounted sensors will be designed to ensure non-interference with turret traverse or weapon depression, elevation or firing while either stationary or on the move.



As many who have served on the Coyote, especially in a Joint Intelligence Surveillance and Reconnaissance (ISR) environment such as OP ATHENA know, one of the biggest deficiencies is the lack of digital input of data and meta data into the Intelligence Surveillance Target Acquisition and Reconnaissance (ISTAR) network. The result is that the sensor operator is the 'most informed MCpl in the Army' with few means of transferring data in a timely manner to relevant decision makers. In addition, physics limits the amount of data that can be transferred through the 'ISTAR pipe'; therefore 'pre-processing' of that information must still be done well forward. This means that the upgraded OCS will have to be much more capable than the current control station and a lot of work has been done to define those requirements. That effort has been led by the Advanced Linked Extended Reconnaissance and Targeting Technology Demonstration Project (ALERT TDP) which has included extensive feedback from soldiers in the Regiments and School. This input has been vital, examining the requirement for and analysis of the efficacy of tools for analysis, interpretation, fusion, production and dissemination of sensor data and ergonomics. For example, with respect to software, the current OCS was essentially limited to controlling the sensors. The new OCS will be required to perform three functions: control the sensors (with greater fidelity), aid the sensor operator in acquiring targets (auto target queuing, etc.) and digital report creation.

Finally, the LRSS UP will be powered by an improved Silent Watch Power System. From lessons learned, the project has ascertained that the requirement for a minimum of eight hours of silent watch is valid. However, because of the projected LRSS UP and platform power budget versus the current state of battery technology, weight and volume available for a bank of batteries for silent watch, it is unlikely that goal is achievable in the medium term. Therefore our pre-definition work has concluded that it is likely that an integrated diesel auxiliary power unit, linked to the battery supply and power management system, will allow for a minimum of four hours of silent watch, but will also provide a significantly lower thermal and acoustic signature and fuel consumption than the prime mover while engaged in re-charging the batteries.

The LRSS UP will enhance the ability of future Recce soldiers to undertake the majority of tasks involved in GMR. Technology and its unique configuration will allow for a seamless transition into and out of surveillance, dramatically decreasing reaction time, allowing for a 'short halt' and the ability to transfer relevant, pre-processed information into the ISTAR network. These are exciting times and the LRSS UP team is dedicated to providing the best capability for our Recce Troops, for both the medium and long term.



Domestic Response Company New Brunswick By Capt J.W. Fogarty



Capt J.W. Fogarty assumed the position of Ops and Trg O of 8 CH in May 2007. In April 2009 he assumed his current position as the DRC NB Ops O.

EX BRUNSWICK READY, 4 Stages to a successful Final Operating Capability

What do the 1998 ice storm, the Swiss Air crash and Hurricane Juan have in common? In each case, the Canadian Forces (CF) deployed Reserve soldiers from 37 Canadian Brigade Group to assist local authorities in those domestic crises. Responding to the needs of Canadians during difficult times is a part of what the Army does. Even though the activation of CF assets and personnel are classified as the force of "last resort," whenever the government identifies the need for the Army, soldiers from formations like 37 CBG are ready to react. Accordingly, 37 CBG has a responsibility to Force Generate (FG) soldiers to respond whenever needed as part of a whole government approach.

In March 2009 the 8th Canadian Hussars (Princess Louise's) was designated as the Lead Unit, to provide an effective command, control and communications component and force employment of the Domestic Response Company in New Brunswick (DRC NB). In order to prepare and be ready for any domestic crises, the DRC NB has completed three phases – Stand up of the DRC, organizing its immediate operating capability (IOC) and validating its final operating capability by 31 March, 2010. EXERCISE BRUNSWICK READY Stage 4 was conducted October 23 – 25 as a no-notice, practice Alert Recall and deployment of the DRC NB. The scenario for this exercise was to deploy the DRC NB and recover sensitive material lost from the wreckage of a downed aircraft.

Once orders were issued, the alert recall process had begun and the contributing units and 37 Canadian Brigade Group stood up their Operation cells. Approximately 125 soldiers from 37 CBG units were force generated and arrived in Cumberland Bay, NB where they conducted "Just In Time Training" in preparation for the task ahead. The units taking part in this exercise were 37 CBG HQ, 1st and 2nd Battalions, The Royal New Brunswick Regiment, 3rd Field Artillery Regiment, 31 (Saint John) Service Battalion, 8th Canadian Hussars (Princess Louise's), 722 Communications Squadron, and 35 Field Ambulance.

The 8th Canadian Hussars (Princess Louise's) filled the majority of the positions in the DRC HQ including the key positions of the CO and Ops O. The addition of the Recce troop supplied by 8CH offered the DRC CO more flexibility when developing his plan. This troop provided security and controlled vehicle movement through TCP's. They were utilized to escort various civilian and military personnel into and out of the AO. Patrols were dispatched to investigate possible environmental contamination and they manned VCPs. Finally, once the search area was narrowed, recce patrols provided security in the immediate vicinity and escorted the sensitive documents back to the DRC HQ once they were found.



This exercise provided an excellent opportunity for the members of the troop to hone their skills for a possible domestic deployment in the future. They were able to practice a number of different tasks. They were also able to increase their knowledge base as the Just in Time Training they covered included the following;

1. Proper search techniques;
2. The handling of hazardous materials;
3. The handling of potential biological hazards they may encounter; and
4. A media awareness brief.

The recce troop, more than any other group on the ground, had the opportunity for contact and visibility with the general public. This provided a venue for training in dealing with the public during an operation. The search was conducted for two days and despite the rain and cold temperatures, the briefcase was found and escorted to the DRC headquarters. The soldiers cleared the search area and their bivouac locations and reported to the DRC HQ for redeployment to their home armoury.

The value of this type of training event cannot be overstated. The set up of the DRC headquarters, the deployment of the troops and the successful completion of the exercise has indeed validated the work conducted by many to see this capability formulated. So, when the New Brunswick government needs the Army for another crisis like an ice storm, flood or what ever may arise, 37 CBG will be ready to respond due to the successful implementation of the DRC NB and the validation of Exercise Brunswick Ready.



The LAV RWS Critiqued Through Combat
By Sgt K. Skinner, Sgt A. Savoie, Sgt R. Power,
MCpl C. White, MCpl S. Black and Cpl J. Walsh



The authors of this article were the patrol commanders, crew commanders, and gunners of Recce Sqn, TF 3-09. They have since returned to Canada to continue their employment with the RCD.

In 2006, the LAV III and Coyote had already been in service in the combat arms for several years. Both of these vehicles were a quantum leap over previous vehicles in terms of maneuverability, surveillance capability and firepower. During fighting in Afghanistan, the vehicles and crews were immediately feared and respected by the Taliban insurgents – so much so that force on force engagements dropped dramatically due to the insurgents consistently facing heavy casualties. This caused them to switch their tactics to a more cowardly method of war fighting – anti-tank mines.

Operations during Task Force 3-06 proved the hull protection and crew survivability that the Coyote and LAV III offered. Both vehicles stood up well to triple stacked anti-tank mines and rocket propelled grenade (RPG) attacks. Triple stacked anti-tank mines would blow off a wheel or two and cause no, light or only moderate crew injuries. In short, the hull design and add-on armour did its job and saved lives. That is, until the new threat arrived in theatre – Improvised Explosive Devices (IED). IEDs are homemade bombs that can be made simply from fertilizer, aluminum powder and diesel fuel. Throw in a little shrapnel for good measure and insurgents have a very effective anti-armour weapon. Cheap to produce, easy to hide, with a myriad of initiating devices at the insurgents' disposal, these heinous weapons began to inflict serious casualties on CF personnel and equipment.

In 2009, Task Force 3-09 Recce Squadron, based on B Squadron RCD, arrived in Afghanistan. This paper's authors were the Squadron's Patrol Commanders, junior Crew Commanders and Gunners, many of whom have already served in Afghanistan on previous Rotos. The recce soldier's job has remained essentially the same, but with a twist. On some previous deployments, Recce Sqns hunted down insurgents and provided enough security to allow the local Afghan National Security Forces (ANSF) to build skills and capability, while on other deployments Recce Sqns held terrain and conducted patrolling as an economy of force in remote areas. For Task Force 3-09, it was all about counter insurgency (COIN). COIN requires us to move about the country stabilizing villages, partnered with ANSF, allowing villagers to work on rebuilding their own country. To do this, we needed new vehicles; no new Coyotes were being brought into theatre, while the size of new IEDs was overwhelming the Coyote design and not protecting crews as much as other vehicles. The LAV III was also being easily destroyed by larger IEDs. The CF and its engineers needed to respond, so the LAV Operational Requirement Interim Technology (LORIT), a LAV III variant with upgrades to increase crew survivability, was born and deployed.



A B Sqn RCD LAV RWS conducts security overwatch of a village of interest to cover a joint ANSF CF clearance operation. Kandahar Province, Afghanistan, February 2010. Photographer unknown.

The LORIT is designed specifically to save crew lives. It incorporates specially designed seats, improved armour and a beefed up suspension – all designed to defeat the effects produced by a homemade high-order detonation. During Task Force 3-09's deployment, the authors used two versions of this vehicle; the LORIT Infantry Section Carrier (ISC) or Command Post (CP) and the LORIT Remote Weapons System (RWS), also known as Nanuk but normally called "RWS" by its crews.

To be fair to the vehicle and its designers, the RWS contains some very good technological ideas. Like all plans and new technology, they rarely survive first contact, and all things in the military have pros and cons, particularly when first brought into service. Pros and cons are hotly debated at all rank levels and will be discussed in this article, which contains discussion points all based on experiences gained first-hand while using the system during Op ATHENA Roto 8.

The Pros and Cons

Learning the System

PRO: Let's face it – the RWS is a new vehicle. New vehicles are always appealing and everybody wants to touch and be taught on them. This vehicle is very easy to learn, particularly those that are already trained on one of the other in-service remote weapons systems, such as those found on T-LAV, RG-31 or E-LAV. Once you figure out what all the acronyms mean that are printed all over the inside of the vehicle and the monitor, it is a breeze to use. Despite not being qualified on the LAV RWS variant of the weapon system, it normally only took one patrol or road move to become comfortable with using the system.

CON: This vehicle was pushed into service so quickly with such a new weapons system variant that there were virtually no personnel or technicians officially qualified to use it or fix it. When first deployed, crews were not provided with user manuals or maintenance manuals, so there was a lot of trial and error during the first few weeks of use. Eventually, manuals were widely distributed, however many of us had by that time been able to learn the system on our own.

RWS Fire Control and Stabilization

PRO: The weapons system and gun sight are an absolutely lethal combination. The traverse mechanism moves smoothly when not in stabilization (stab) mode and the traverse and elevation have an adjustable rate of traverse, allowing for easy tracking of targets and smooth operation. For target tracking, the gunner can set what is called a lead lock. By simply lasing the target and pushing a button, a second aiming reticule appears in the sight; keeping one reticule on the moving target ensures that the gun will automatically lead the target, almost always ensuring a first burst hit.



CON: As stated above, the RWS' stab is not what most crewmen are accustomed to, due primarily to the fact that the RWS is a small piece of equipment installed on a large hull; when the hull bounces or rocks, so does the RWS, which cannot compensate for large hull moves. The stab in armoured vehicles with larger turrets keeps the gun steady and tracking the target; hull movement is far less pronounced in larger vehicles. Crews can fire the gun when on the move; however there is no guarantee of hitting anything. The RWS will not track smoothly and stay on target while the vehicle is in motion. In an ambush situation, as is seen in Afghanistan, your only hope is either to "spray and pray," suppressing the ambush area and driving out of the kill zone, or to stop and fight – the latter is not recommended. Although an impressive feature, the lead lock offers some limitations in practical use. The gunner first has to lase a target and acquire a range so the ballistic computer can adjust the gun's elevation. In contrast, an experienced 25mm gunner can more easily track targets, apply lead markers in the graticule pattern correctly, fire a burst, and then adjust for burst on target.

Optics

PRO: The RWS optics are excellent. The thermal sight offers brilliant fidelity on vehicle sized targets at long ranges. Soldiers using this system in Afghanistan were able to distinguish Local Nationals (LN) coming across the Registan Desert at ranges exceeding 4 km. The day sight on the system is just as good; however, it has its limitations. Its zoom feature is adequate and very effective at scrutinizing possible IED emplacements. During any patrol or road move in the Recce Squadron Area of Operations (AO), crews must frequently conduct Vital Point Searches (VPS). In preparation for VPS, the RWS is often used to visually zoom in on the area of concern, giving the crew a good look with the day sight, while the rear sentry/surveillance operator sees the same image on his monitor in the rear crew compartment, before dismounting to conduct a physical search. This capability gives the dismount a clear idea as to where they are going and what the terrain looks like before even dismounting, which makes VPS not only safer, but more effective.

CON: As mentioned, the day sight has its limitations. The sight is adversely affected by direct sunlight in the later hours of the day. The sun overpowers the day sights ability to "see" or function properly and it does not provide a usable picture in bright, low-angle sun. Both the day and thermal sights are also affected by engine vibration. When the vehicle is stopped to conduct a VPS, the driver immediately has to switch to high idle; when idling normally, engine vibration makes the sight picture fuzzy.

Gun Controls and Weapon Configuration

PRO: Not having a rotating turret is somewhat of a good thing. No moving turret allows the crew to move about more safely in the vehicle without concern about injuries due to turret crush. It allows for more secure stowage inside and beside the turret area itself.

CON: Creating a new vehicle does not mean you have to change everything. If it is not broken, don't fix it. The joystick-type gun controller in the Delco 25mm turret is a perfectly good piece of equipment; the RWS has a fixed joystick, with a thumb controller for traverse/elevation and thumb-operated buttons for menu selection and the laser rangefinder (LRF). Unfortunately, having so many controls operated by the gunner's thumb has eliminated the gunners' ability to do two things at once. Creating a thumb controlled traverse paired with a thumb button for lasing limits the gunner to ambushing every moving target to determine range, then moving the thumb back to the traverse/elevation pad to move the turret back on target to shoot. This motion causes extra steps, can cause the gunner to break his or her lay on target and does not capitalize on the system's potential.

Ballistic Computer

PRO: One of the RWS' more impressive features is the ballistic computer. Once initial calibration and bore sighting are complete the RWS is an extremely accurate weapon. The Target Acquisition (TA) mode allows for first and second burst on target accuracy. When used in conjunction with the stab mode at short ranges, the gunner has a very tight beaten zone, which can allow for ammunition conservation and enable gunners to kill point targets on the first or second burst.

CON: TA in the RWS is a double edged sword. To use it effectively, the gunner must first lase the target, and then select "TA" on the monitor. The ballistic computer takes over and applies the proper elevation for the range. Further, once TA is selected, the computer automatically selects its traverse and elevation speed. Anyone who has ever been under fire will tell you that when you are being shot at, you tend to move quicker; in TA mode, the RWS often does not feel the same urgency. In order for a gunner to lay onto a moving target, he has to leave TA mode, reacquire the target and switch to burst on target application of fire. Despite TA mode's precision, for real-world applications most crews cannot effectively use TA mode during engagements.



Vehicle Design and Ancillary Systems

PRO: The LAV RWS, as a vehicle platform, has a great deal of power. During operations in the fall of 2009, an RWS pulled a broken and bogged infantry LAV III out of the Tarnak River and up the river bank to a safe area with little difficulty.

CON: After the first few nights employing the RWS in a mounted Observation Post (OP), everyone quickly realized that the RWS guzzles an extreme amount of fuel. While patrols in Afghanistan need to be self-sufficient for 72-96 hours at any given time, the RWS can consume up to 140L of fuel in a single day! Some RWS crews have to limit the equipment they bring with them on operations in order to carry additional fuel. During mixed Coyote/LORIT/RWS OPs, the extra fuel carried by Coyotes (most vehicles carry at least 8 external cans) is normally consumed by the RWS. Many AFVs have the ability to adjust fuel consumption to suit the task, however the RWS does not. With the amount of horsepower that the RWS has, it should be possible to sacrifice engine power for better fuel efficiency when in static operations.

CON: Unfortunately, the RWS' designers did not improve one of the most useful ancillary vehicle systems – the TACNAV. This system allows soldiers to destroy the enemy more efficiently by providing an accurate grid reference for targets. One TACNAV return provides enough information to call in an artillery fire mission, one of the many weapons the Recce soldier has at his disposal in a fire fight. Unfortunately, the necessity for precision targeting in the modern battle space, particularly in a COIN environment, has surpassed the information the TACNAV can provide. All battlefield enablers such as artillery, UAV, rotary wing and fixed wing air require precise grid references to bring effects to bear. The TACNAV is simply outdated and needs to be replaced with a system that is more current. Soon, the day will come when artillery fire or UAV delivered munitions may be denied when needed the most because the grid of the enemy location is not sufficiently accurate. Sniper teams and engineers equipped with hand-held Vector binoculars can offer eight-figure grids; vehicle-mounted systems tailored for Recce use should be able to surpass the ability of hand-held systems.

CON: Eyesight is the one most effective tools of the Recce soldier. When this is restricted by unnecessarily large ammunition bins, there is a problem; the extremely large RWS bin is so big that it limits 360 degree observation by both the crew commander and gunner. Armoured soldiers rarely complain about having too much ready ammunition. However, possibly a 660 or 880 round capacity bin, mounted higher on the RWS mount itself, would offer better outside vision. With the current configuration, the commander must stand up and expose 75% of his body to see over the gun and ammunition bin, which is a frequent necessity for crew and bystander safety when travelling through crowded urban areas like Kandahar City. Changing the ammunition bin design should be explored for future RWS configurations.

CON: One of the first shortfalls crews discovered was the fact that the RWS weapons mount did not properly fit the weapons employed in theatre. The mounts were designed for the HMG, .50 calibre M2, not the C6. Once crews were able to properly mount the C6 after some trial and error, they discovered that the ammunition bin was also designed for .50 cal ammunition and did not properly keep 7.62mm aligned for proper feeding. After firing the first few bursts, ammunition tended to fold over on itself and jam, causing stoppages. This was first discovered when a patrol came under contact and attempted to return fire with the RWS, only to have a stoppage after firing only a few bursts. Given the RWS' design, the only way to clear the stoppage is for a crew member to expose themselves out of the vehicle. This fault was rectified by placing a piece of steel next to the internal ammunition box divider, which rectified the problem.

Despite the numerous gripes we have identified with the RWS, it is important to note that overall it is a good vehicle that has served us well in combat. Positive points not yet mentioned in detail include excellent positive gun safety due to the design of the mount and cocking mechanism, the height of the vehicle from ground to hull, where vertical distance equals survivability in an IED strike, the built in driver's back up cameras and forward thermal viewer, not to mention an excellent built in power inverter for those hot coffees on cold and frost-filled mornings in the OP screen. The RWS has a place in the Armoured Corps now and in the future, particularly as it has enough internal volume to potentially mount the next generation of surveillance equipment once Coyote is retired.

Conclusion

Technology and warfare are and have always been linked together. From the first ape throwing a rock at his neighbour for stealing his bananas, to destroying an IED team from 1000 metres with a single burst of machine gun fire or dropping a bomb on the enemy through his living room window, technology allows us to survive battles and defeat our enemies. It should not inhibit or hinder a soldier from accomplishing his task. The RWS is here to stay and it is being used with excellent results. While its users had to employ some ingenuity and creativity to overcome some initial problems, RWS crews now resist the idea of giving it up. The Nanuk RWS has proven to be an effective vehicle that will serve us well for years to come.



Leopard 2A4M CAN Roll-Out By Capt Alain Bernard



Leopard 2A4M CAN

Munster, Germany — Over 175 civilian and military guests from Germany, Canada, Belgium, Denmark and France assembled on Range 6 in Bergen-Höhne on October 7th to witness the End-Of-Training 'Thank You' Ceremony and Leopard 2 A4M CAN Roll-Out. With the end of the 14th Serial of the Leopard 2 A6M Crew Conversion Training in Germany, the Canadian Forces and the Royal Canadian Armoured Corps wanted to highlight the tremendous contribution made by Germany, the Bundeswehr, Ausbildungszentrum Munster, Fahrschule and Germany industry over the last three years to support Canadian tank crews in Afghanistan. Additionally, and the icing on the cake, it was an excellent occasion to officially unveil the newly refurbished Leopard 2 A4M CAN.

Canadian Representation

Canadian representation was assured by the presence of the Canadian Military Representative to NATO, Vice-Admiral Denis Rouleau, the Colonel Commandant of the Royal Canadian Armoured Corps, Major-General (retd) Clive Addy, the Chief of Land Staff Representative, Brigadier-General Steve Bowes, the Canadian Defence Attaché in Berlin, Colonel Tony Lovett, the Commander of 1 Canadian Mechanized Brigade Group, Colonel Omer Lavoie, the Commandant of the Royal Canadian Armoured Corps School, Lieutenant-Colonel William Foster, the Commanding Officer of the Lord Strathcona's Horse (Royal Canadians), Lieutenant-Colonel Trevor Cadieu, both the Project Manager and Project Director of the Tank Replacement Project, Mr. Daniel Hébert and Lieutenant-Colonel Perry Wells, the Project Contracting Officer, Mr. Sébastien Prévost from Public Works and Government Services Canada and all the respective Sergeants-Major and Executive-Assistants. Not to mention the students and Canadian Shadow Instructors from Serial 14.

German Representation

The importance of this Ceremony was directly proportional to the overwhelming response received from former German instructors and interpreters who travelled from all over Germany to be re-united with Canadians on this very special day. Unfortunately, Major-General Bruno Kasdorf, Deputy Chief of Staff of the Bundeswehr, had to cancel his trip to Bergen at the last second because of conflicting events in his schedule. Therefore, Brigadier-General Klaus Feldmann and all the Commandants of the Ausbildungszentrum Munster and Bergen Training Area, as well as several Panzer Battalion Commanders, assembled in Bergen to participate in the Ceremony.



Sgt Denson (right) and Cpl Thomas (left) shake hands with their fellow crewmates, Stabsfeldwebel Tenniger (centre-left) and Hauptfeldwebel Zack (centre-right).

Canada Room

Before the formal Ceremony on Range 6, all Canadian Guests were invited to the Fahrschule (Driver School) for the official dedication of the 'Canada Room'. A year ago, instructors from the Fahrschule had the idea to dedicate one of their classrooms to the Canadian students and Shadow Instructors who took part in the training in Munster over the last three years.

One wall of this classroom now has the nametag from each Canadian student and Shadow Instructor prominently displayed above the 14 course photographs from each serial. This simple gesture guarantees that Canadians have a place of honour in the hearts of all who will train at the Fahrschule for years to come. With the class and respect expected from our German comrades, the nametag of Trooper Michael Hayakaze features a black ribbon to commemorate the fact that Michael was trained at the Fahrschule and later tragically Killed in Action in Afghanistan on 2 March 2008.

Thank You Ceremony

In 2007, the Governments of Germany and Canada reached an historic agreement that saw Canada borrow, at no cost, 20 German Leopard 2 A6M MBTs and 2 ARVs for use in Afghanistan. While individual training for the maintenance personnel was provided under contract by Krauss-Maffei Wegmann (KMW), individual training for crewmen/operators was provided by the Bundeswehr/Ausbildungszentrum Munster. This crew training concept proved to be extremely successful as German Course Staff, assisted by interpreters, gave the theory portion of training while Canadian Shadow Instructors were responsible for the "Canadianization" of the German drills.

Each Conversion Course was four weeks long and included one week of live fire gun camp. In total, 140 crews or 560 crewmen coming from all Regular Force and some Reserve units were converted to the Leopard 2 A6M before their deployment to Afghanistan. Due to the bilingual language requirements of Canada, German to English and German to French crew training had to be provided to support the force generation plan.

On the day of the "End of Training" Thank You Ceremony, the first event to take place on Range 6 was a demonstration by the students of Serial 14 showing the firepower and mobility of the Leopard 2 A6M. Using a scenario applicable to the Afghan theatre, Captain Elizabeth England and her troop used speed and violence to go through a Battle Run that provided the guests with a clear understanding of the capabilities of the Leopard 2 A6M and also the high level of training achieved by the course during their 4-week Crew Conversion Training.

The Battle Run was followed by a symbolic tank engagement performed by two German and two Canadian instructors. In a spirit of true comradeship Sgt Denson (Crew Commander), Stabsfeldwebel (MWO), Tenniger (Gunner), Hauptfeldwebel (WO), Zack (Loader), and Cpl Thomas (Driver) fired five rounds. These five rounds represented Germany, Canada; our Past, Present, and most importantly, our Future.

To show Canada's appreciation for all that was done to train Canadian crews for a theatre of war, three Chief of Land Staff Achievement Awards were presented to the Ausbildungszentrum Munster, the Ausbildungszentrum 'Panzertruppen' and the Kraftfahrausbildungskompanie Fahrsimulator Kette Munster, in recognition of the exceptional cooperation and dedication shown to effectively train 140 Canadian tank crews on the Leopard 2 A6M Main Battle Tank. When the decision was made in 2007 to deploy the Leopard 2 A6M to Afghanistan, Canada had an urgent requirement to train experienced Leopard 1 C2 crews to operate the Leopard 2 A6M. As Canada did not have the resources required to conduct this training at home, we needed a partner that would be able to do it on our behalf. These three organisations offered outstanding support by coordinating all administrative and training details needed for Canadians to train at a foreign facility.



The Colonel Commandant of the Armour Corps, MGen Addy, addresses the attendees of the ceremony.



In order to maintain the close ties established between the German and Canadian Armour Schools, a Partnership was signed by Oberst Artur Schwitalla and Lieutenant-Colonel William Foster. The intent of this partnership is to continue to improve the delivery of Leopard 2 crew training through periodic visits to each other's school in order to exchange lessons learned, Tactics, Techniques and Procedures. As I write this article, I have already heard of initiatives to start as early as 2011.

Leopard 2 A4M CAN Roll-out

It has been approximately 30 years since Canada officially received a new Main Battle Tank. Most of us were still in school when we took delivery of the Leopard 1 A4 from Germany in the late 70s and on 7 October 2010 a historic milestone was achieved when Canada officially received the first of 20 Leopard 2 A4M CAN from Krauss-Maffei Wegmann. The fact that the Roll-Out took place in front of the Students and Staff of Serial 14, as well as the German Staff and former instructors, made it that much more significant for all Canadians present.

From the moment the Leopard 2 A4M CAN was seen, positive comments were heard; 'Awesome', 'I want to drive it now', 'Wow look at the Armour Package' and so on. This was, for a Project Officer, absolutely priceless and worth every minute spent toiling on the Tank Replacement Project. Coming through a smoke screen produced by a Leopard 2 A6M, the Leopard 2 A4M CAN commanded by Sergeant Slade from the Armour School, Gagetown made its way to the viewing area. Finally, parked just in front of the Students of Serial 14, it stood ready for action.

Proudly, the Master of Ceremonies, Lieutenant-Colonel Perry Wells who is also the Project Director for the Tank Replacement Project stated: 'Canada signed the contract with KMW to build 20 Leopard 2 A4M CAN on 16 June 2009. In just over a year we are taking delivery of the first tank. We were able to take lessons learned by not only ourselves in Afghanistan, but also Denmark, in conjunction with all the R&D work done by KMW, the German MoD and BWB to optimize the upgrade package to create a tank better suited for non-conventional, asymmetric theatres of war such as Afghanistan.'

Leopard 2 A4M CAN – Characteristics

The Leopard 2 A4M CAN is a modified Dutch Leopard 2 A4 with the following upgrades:

- Protection system designed to cover 360 degrees. It is based on technology designed for the Peace Support Operation (PSO) tank and the Leopard 2 A7;
- New Digital Central Logic and Main Distribution Box linked to a new Crew Commander's Control Unit and a new Loader's Control Unit;
- Digital Electric Turret Drive, as opposed to the analogue turret drive found on the Leopard 2A5 or A6;
- Full mine protection kit, like on the Leopard 2 A6M;
- Fitted with the SAAB Barracuda thermal blanket system;
- Hydraulic Track Tensioner;
- Latest generation of front and rear looking driver vision equipment;
- Enhanced service brakes; and
- Many other upgrades.



A Leopard 2A4M CAN conducting a battle run.

Conclusion

It is very difficult for anyone involved in the Leopard 2 A6M Crew Conversion Training in Munster to see it come to an end. All of us, Canadians and Germans alike, are now looking toward the future. For Canada, the challenge will be the integration of the Leopard 2 into the Canadian Armoured Corps. For the Germans, it will be a restructure of their whole Armoured Corps. Nevertheless, with the Partnership signed on 7 October, tank instructors from both sides of the Atlantic will have the opportunity to exchange information on a regular basis with their comrades. This will ensure that both German and Canadian tank crews receive what they deserve: world class training from day one. An incredible standard of excellence was reached over the last three years and will be maintained for years to come.



Army Direct Fire Specialist **By Capt R.C. Bulley**



Capt Rich Bulley is currently the Army IG Team Leader at the Armour School.

In 2008, the Advanced Gunnery Instructor Course (AGIC) was redesigned to better address the needs for Instructor Gunnery (IG) qualified personnel within the Combat Arms. The redesigned Army Direct Fire Specialist (ADFS) kicked off with the first serial in September 2008 and again with a second serial in September 2009 at the Armour School. The next serial is scheduled to run in the Fall of 2010, and will hopefully be as successful as the previous two serials with a wide range of ranks and trades from across the Combat Arms taking part.

The new course is designed to provide candidates with the knowledge to instruct Armoured Fighting Vehicle (AFV) crews to engage targets using direct fire weapons systems. They also learn how to plan and conduct unit gunnery continuation training, so they will be able to run more complex ranges when they return to their home units. The course is designed to accomplish this by providing the students with classes on how to create Danger Area Templates for direct fire weapons systems from small arms to the 105mm Leopard C2, classes on how to plan and conduct unit gunnery training, classes giving an overview of capabilities and limitations of AFV weapon systems, and finally with instruction on how to instruct AFV gunnery. The ADFS course runs for 35 training days and includes both Regular Force and Reserve Force personnel, as opposed to the former AGIC which was a modularized format of 53 training days. Reserve Force personnel will especially enjoy the new ADFS as they now stay for the entire course, and learn the method of how to coach AFV gunnery. This is an important addition as Reservists can now take these important skills and run a whole variety of ranges back at their home units.

A popular addition made to this new course is the technical visit portion. This was added in order to allow students to visit places like General Dynamics Land Systems (GDLS) in London, Ontario, Munitions Experimental Test Centre (METC) in Valcartier, Quebec and 202 Workshop in Montreal, Quebec. This portion proved to be beneficial to the course as students are able to see theories they were taught during the overview of capabilities of AFV weapon systems put into practice.

The ADFS course also features a large demonstration shoot to expose students to the various gunnery platforms within the Canadian Forces, and to provide the students with a penetration demonstration. The students get to see the Leopard C2, RG-31, RWS T-LAV, 1m Turret T-LAV, LAV III Nanuk RWS, Coyote 25mm, and the TUA fire at various targets that are put on the range like brick walls, and old cars. The students are then allowed to move down range and look at the terminal effects on the targets of the various weapons systems.



As with any new course, the redesigned ADFS course has a few shortfalls that will need to be addressed when new AFVs are introduced into the current fleet. One of these shortfalls is that the ADFS course does not cover 105mm gunnery coaching. The former AGIC did this by dedicating a complete module, of 17 days, in order to cover this important material. The current ADFS solely focuses on coaching on the 25mm gunnery platform for Regular Force personnel and the Light Utility Vehicle Wheeled (LUVW) mounted with a C6 for Reservists. As a result of this, there is going to be a gap in training for Armour IGs when instructing on tanks. This is going to develop into a larger problem when the Leopard 2A4 is introduced into the Canadian fleet to replace the Leopard C2 because the former way of assessing students will no longer be possible. This is because the IG will no longer be able to sit on the back of the tank turret because of blast overpressure from the 120mm gun on the Leopard 2A4. As a result of this, a new way of coaching and assessing students will need to be developed. There are various options that could be used to address this issue, whether it is through the use of Live Firing Monitoring Equipment (LFME), or having the IG act as the loader in the tank when assessing a student crew commander, or the IG being the crew commander when assessing a student gunner and loader. Whichever way is adopted, this new way of assessing and coaching students will need to be brought into the ADFS course to ensure that Armour candidates are provided with the vital knowledge to safely train crews on the Leopard 2A4.

Running the new ADFS provides a lot of advantages for the Canadian Forces. With all of the various trades loading personnel onto the ADFS, the standard of gunnery training across the entire CF will increase. Gunners will be more confident with their abilities, and with the higher level of training personnel will have gained through ADFS, equipment will be maintained to a higher standard. This course will ensure there are knowledgeable IGs for years to come.