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## **FORCE-GENERATING, ARMoured-ENABLED LAND FORCES: PAPER TIGER?**

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By Major Jeffrey W. Brown

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## **FORCE-GENERATING, ARMOURED-ENABLED LAND FORCES: PAPER TIGER?**

### **AIM**

1. This service paper will examine the current state of atrophied Canadian Army (CA) core competencies with respect to armoured enable land maneuver in order to provide realistic and achievable training and employment recommendations. With the aim of presenting viable recommendations within the current resource limited capabilities, it has been necessary to scale the recommendations to unit level and below. This paper's approach focuses on the deployment and employment of the Battle Group (BG) and combat team (cbt tm) and does not specifically advance the Commander of the Canadian Army (CCA), LGen Eyre's guidance that the Brigade Group (Bde Gp) remains the key terrain for the CA.<sup>1</sup> This is due to significant resource limitations faced by the Canadian Mechanized Brigade Group (CMBG) as of the time of writing. Addressing this resource gap will be critical to enable larger scale deployments up to and including a CMBG.

### **INTRODUCTION**

2. Over the last two decades, the CA has engaged in operational deployments in the Middle East, North Africa and Europe in a variety of roles. These roles include combat counter-insurgency roles in Afghanistan, partner force development in North Africa, Iraq and Ukraine, and a key part in the leadership of a combined North Atlantic Treaty Organization (NATO) BG in Latvia. The CA has attained a high degree of success throughout these missions at the cost of losing certain core close combat competency in armoured enabled land warfare during high intensity conflict.<sup>2</sup> The CA has moved to re-invigorate core competencies through the annual CA High Readiness (HR) exercise, Ex MAPLE RESOLVE (Ex MR) which is focused at the CMBG level. Unfortunately, resource realities have had significant impacts on units and equipment fleets. In part, this was due to the necessity to draw from across the entire CA and lean heavily on allied participation in order to enable an effective CMBG. Significant capability deficiencies include an assault bridging, anti-armour, lack of sufficient indirect fire, and reduced capacity of the armoured regiment due to significant serviceability issues. Additionally, communications limitations and logistic shortcomings, including heavy lift, recovery, and fuel requirements, are unable to meet the CMBG's needs in high intensity combat. This indicates that it is necessary to consider how armoured enabled land forces are force generated (FG) with a view to enabling the CA's vital ground, the combined arms team.<sup>3</sup>

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<sup>1</sup> Canada. Department of Defence, A-PP-106-000/AF-001, *Advancing with Purpose: The Canadian Army Modernization Strategy*, 4th ed. (Ottawa: DND Canada, 2020): 17-18.

<sup>2</sup> Canada. Department of Defence. and Canadian Army Land Warfare Center, *Close Engagement - Land Power in an Age of Uncertainty - Evolving Adaptive Dispersed Operations* (Kingston: Army Publishing Office, 2019).

<sup>3</sup> Canada. Department of Defence, A-PP-106-000/AF-001, *Advancing with Purpose: The Canadian Army Modernization Strategy*: 17-19

3. This service paper will address the subject starting with the desired end state of highly competent, integrated armoured enabled land forces and work backwards to identify the conditions that must be established given current fleet and resource constraints. The focus will be on training and employment in the current environment. Further examination of recapitalization of capability and equipment is beyond the scope of this analysis.

## DISCUSSION

4. It is not in doubt that the CA requires highly competent combat ready forces. Canada's defence policy, *Strong, Secure, Engaged*, recognizes the rise of great power competition in an era of violent non-state actor growth, necessitating the need for highly competent combat forces.<sup>4</sup> CCA states in *Advancing with Purpose*, "Interstate competition is now the primary concern of the operating environment."<sup>5</sup> Further, it goes on to clarify that this will be achieved through a medium weight structure augmented by light and heavy forces with the combined arms team at its core, capable of defending our nation at home and supporting our allies in expeditionary operations.<sup>6</sup>

5. *Employment of Armoured Enabled Land Forces.* Despite a very high operational tempo, or perhaps in some cases due to it, the CA has atrophied core competencies in armoured enabled land maneuver at the cbt tm, BG and bde levels. To redevelop such skills it is necessary to first examine at what level combined arms maneuver is achievable within the current vehicle and personnel limitations. Fleet limitations make it difficult to achieve combined arms objectives above the BG level, and even then is consistently strained in the training environment.<sup>7</sup> The Canadian Leopard 2 fleet faces significant challenges maintaining an acceptable level of serviceability, as do Armoured Engineering Vehicles (AEV).<sup>8</sup> Critical to a combined arms maneuver capability is the ability to logistically support operations forward, which has atrophied to nearly unsustainable levels. Armoured squadrons (armd sqn) and mechanized infantry companies (mech inf coy) no longer have the integral ability to transport sufficient fuel and ammunition to support independent maneuver and require significant support from the regimental (regt) or battalion (bn) level to the detriment of other unit operations. While it is achievable to operate at the BG level, the amount of support required draws from both of the armoured and infantry units and is often backstopped by the Service Battalion (Svc Bn).<sup>9</sup> This robbing Peter to pay Paul mentality has resulted in significant

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<sup>4</sup> Canada. Department of Defence., *Strong, Secure, Engaged: Canada's Defence Policy* (Ottawa: DND Canada, 2017): 49-55.

<sup>5</sup> Canada. Department of Defence, A-PP-106-000/AF-001, *Advancing with Purpose: The Canadian Army Modernization Strategy*: 56

<sup>6</sup> Ibid.; Canada. Department of Defence., *Strong, Secure, Engaged: Canada's Defence Policy*

<sup>7</sup> S. M. BGen Lacroix, *3 Cdn Div Impact Analysis Annual Recurring Tank FG for CA RTHR3rd* Cdn Division, (2019).

<sup>8</sup> Matthew Johns, *Leopard without Claws: The Future of Tanks in the Canadian Army*, DS 545 Component Capabilities ed., Vol. JCSP 45 (Toronto: Canadian Forces College, 2018).

<sup>9</sup> Force structure reviews of current fleet allocations focus largely on F echelon capability, largely describing doctrinal A1, A2, B and HQ Sqn capabilities. This is inaccurate. For example, *RCAC Force* 2/7

wear on a limited fleet of armoured vehicles and, just as critically, its logistical support. Further, it creates a false impression of capability that is in reality under resourced to complete the tasks assigned. This indicates that the CA needs to review how it conducts and institutionalizes combined arms training in the near term in order to better preserve the limited fleet while still enabling combined arms maneuver training to occur.

6. Based on a substantial body of work produced in large part by 3 Cdn Div, it is clear that the CA is faced with two choices if it continues to direct that armour remains critical to the CA land capability.<sup>10</sup> The first and least palatable is to increase the resources available for armoured enabled training, ideally to create equal capabilities across the CMBG's. This would require a significantly revised Canadian tank and AEV project, additional logistics vehicles added to first and second line capabilities, increased ammunition allocations and a significant new investment in a third line armoured maintenance capability.<sup>11</sup> Senior decision making to date has made it clear that the level of investment required to achieve this goal is untenable, nor is it explicitly funded through *Strong, Secure, Engaged*. The armour fleets are facing considerable parts, labour and facility issues that have yet to be sufficiently addressed to satisfy the needs of the CA, either in significant new investment or in divestment.<sup>12</sup> The second course of action is to reduce the training burden on the vehicles and maintenance capabilities to sustainable levels at the sacrifice of broad and equal capability across the combat arms units.<sup>13</sup>

7. *Targeted Live and Simulated Training.* In order to better resource the training of armoured enabled land forces, the training audience must be scaled to the level of support that is sustainable under current resource constraints. This will mean that only a small portion of the force in high readiness would achieve Level 4 (L4) and Level 5 (L5) live range validation. The remainder could achieve a lower level of live readiness supplemented by high quality simulation exercises to achieve L4 and L5 validation through simulation. The 1 CMBG Ex STEELE BEASTS provides an excellent example of using United States (US) Army simulation capabilities to achieve critical training milestones. Leveraging the substantial US simulation capabilities that allow individual crews to operate their combat vehicles and integrate up to and including the combined arms team level, simulated training could offer a potential solution for achieving combined arms training goals. Without the attendant maintenance, logistic and fiscal burdens that are associated with live range training, considerable savings can be

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2021 Update (Oct 17, 2018) shows each squadron has 3 FAR, when in reality it has none or at most 1 supported heavily by HQ Sqn.

<sup>10</sup> Canada. Department of Defence, A-PP-106-000/AF-001, *Advancing with Purpose: The Canadian Army Modernization Strategy*: 16

<sup>11</sup> Col Robert Ritchie, *Leopard 2 Family of Vehicles (FoV) 1 Canadian Mechanized Brigade Group Outstanding Integration Concerns 2018-2019*. Headquarters 1 Canadian Mechanized Brigade Group: file 12350-1(G4), 17 Sep 18; Col Robert Ritchie, *1 CMBG Leopard 2 Update and Request for Contracted Support – Leopard 2 A6M Turret Conversion Project*. Headquarters 1 Canadian Mechanized Brigade Group, 12 May 2020.

<sup>12</sup> Johns, *Leopard without Claws: The Future of Tanks in the Canadian Army*

<sup>13</sup> In line with CCA direction, asymmetric CA capabilities will need to be accepted in the future based on resource and manning deficiencies. Canada. Department of Defence, A-PP-106-000/AF-001, *Advancing with Purpose: The Canadian Army Modernization Strategy*: 46

achieved through a reduction in transportation and fueling costs that can be reallocated to high quality simulated training.

8. *Strengthening Close Combat Core Competency.* The traditional model of using FG activities to create a broad base of limited experience through large exercises like Ex MR have had limited success in redeveloping high intensity core competencies. This is in large part due to fiscal, maintenance, equipment and personnel deficiencies that preclude brigade level live training. The requirement to get a CMBG complete through live L5 ranges annually is breaking the CA's limited fleet of vehicles.<sup>14</sup> Restricting the amount of personnel who receive this training will preserve a certain amount of fleet capability, but it does not serve to deepen armoured land force competencies. In order to achieve such an aim, repeated and enduring training must be completed in realistic environments. While live ranges and simulation can achieve a moderate level of training, it is in deployment and employment of the capability that will create personnel steeped in combined arms maneuver. Op REASSURANCE (Latvia) offers the clearest opportunity to develop personnel to this training level. To date the Canadian-led NATO BG employs allied tanks to provide its armoured capability, yet this arrangement does not allow the CA to benefit fully from combined arms employment and development, limited as it is to a single CA mech inf coy. The change of the commitment from a mech inf coy to a cbt tm would serve to create subject matter experts (SME) in combined arms maneuver across the inf and armour corps, deepening CA combined arms maneuver competency. This change, though challenging, would offer the greatest opportunity for redeveloping the core skills of armoured enabled land warfare. Furthermore, deployment of a cbt tm would create a significant cadre of SME's to add to the CA's training and leadership capabilities at both units and schools, multiplying the benefits.

9. *Sustainment of the Combined Arms Team.* The CA has a robust system of dry and live fire requirements to validate core competencies to include armoured enabled combat operations. In fact, the system is so robust with checks at every level that it can be a significant challenge to get all the required operators and enablers through their various gateways to allow for combined training objectives to be met.<sup>15</sup> These gateways are important, as an error on a live range can, and has, cost soldiers lives and thus cannot be reduced without significant risk. Yet the same level of precision and dedication is not afforded the support echelons largely due to significant shortfalls of the necessary flatbed and fuel resources to enable combat maneuver. Further, support to F echelon training and daily support requirements limits the time available for Combat Service and Support (CSS) training. Ammunition requirements alone for an armoured squadron outstrip a regt's capability to support without significant support from the Svc Bn. The same worrying transport and logistic problems exist in the inf bn's. As an example, a single armoured sqn would require five or six flat bed loads of ammunition in order to carry one complete front line ammunition reload. It would additionally require a minimum of three Forward Area Refuelers (FAR) to keep the tanks running.<sup>16</sup> Current

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<sup>14</sup> Lacroix, 3 Cdn Div Impact Analysis Annual Recurring Tank FG for CA RTHR

<sup>15</sup> Canada. Department of National Defence. B-GL-383-002-FP-001. *Battle Task Standards for Land Operations*. 2014.

<sup>16</sup> RCAC Force 2021 Update. 4 Feb 2021.

vehicle allocations see no flat beds allocated to the sqn echelon and 1 FAR. Just as problematic, the mech inf bn and armd regt are not allocated Palletized Loading Systems (PLS) required for modern ammunition requirements as all PLS are held at the second line Svc Bn.<sup>17</sup> Units have been forced into sharing arrangements with the Svc Bn's in order to complete even baseline training and has created a reliance on dumping to solve the near term issues. This has led to L5 ranges culminating before the consolidation phase in favour of static refueling points and ammunition dumps. A significant training scar is thus created and allows for a false sense of support capability at both the coy/sqn and bn/regt level.

## RECOMMENDATIONS

10. *Employment.* The traditional model of training all mechanized infantry and armoured units to L5 live is unsustainable based on current resource allocation. Therefore, it is recommended that live combine arms training of high readiness units be limited to two units, a mechanized infantry battalion and an armoured regiment, with only four combat teams in total being verified at L5 live. These two units would be allocated additional resources as available to support both sqn and coy support echelons to full strength. The remainder of the units and the mechanized infantry battalion that has not been earmarked for live training would achieve L4 - L5 simulated through an expanded Ex STEELE BEAST style training event.

11. *Deployment.* In order to better institutionalize the combined arms team, it is recommended that the commitment to the Op REASSURANCE BG in Latvia be reconsidered as a fully enabled combat team rather than the current mech inf coy. While it is recognized that this would pose significant challenges in both maintenance of the fleet as well as strategic considerations of a tank deployment, it is only through the active operational use of the capability that it will become reinvigorated in the CA. Operational deployment would strengthen the CA's position that armour is a critical capability to the CA that cannot be allowed to wither in line with *Advancing with Purpose*. Importantly, it would specifically support *Strong, Secure, Engaged* through enhancing the CA's ability to support the core missions of detecting, deterring and defending Canada, North America and NATO or coalition efforts.<sup>18</sup>

12. *Sustainment.* Current live training focuses specifically on the actions of the assault and serials typically wrap up after one attack and generally skip the forward sustainment in favour of ammunition and fuel dumps behind the line of departure. This creates a significant training scar and a false understanding of the gaps in the ability of the mechanized armoured force to sustain itself on operations. It is recommended that L5 live validation include a series of attacks as permissible by range conditions and require the complete refuel, rearm and consolidation of the element by their integral echelons. This will serve to ensure the echelons are also trained to a high standard as

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<sup>17</sup> While the new MSVS allows for some flat deck capability, no PLS decks are assigned against them.

<sup>18</sup> Canada. Department of Defence., *Strong, Secure, Engaged: Canada's Defence Policy*: 82



well as expose critical deficiencies that need to be addressed to enable operational employment.

## CONCLUSION

13. Through successive iterations of *Advancing with Purpose* and the most recent *Close Engagement*, the CA has been clear that it sees armour as a key enabler to its LAV based land forces, as a key component of the CMBG. Yet despite policy statements, resource requirements to maintain such a capability have not been realized. The recommendations in this paper serve as a mitigating measure in the near term to ensure a real and proficient combined arms capability, though limited in scale, for high readiness tasks. Given the significant resource constraints faced by the CA, limiting the scale of live training, including a complete sustainment capability, and institutionalizing the employment of combined arms maneuver through operational employment would allow for significant gains to be made. Further, lessons learned would allow for a better understanding and validation of modern combat support requirements that are critical to any relevant capability.

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