



ROYAL CANADIAN ARMoured CORPS MODERNIZATION: FORCE GENERATION UNDER THE ARMoured-COMMON (CAVALRY) MODEL

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JCSP 50

Service Paper

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ROYAL CANADIAN ARMoured CORPS MODERNIZATION: FORCE GENERATION UNDER THE ARMoured-COMMON (CAVALRY) MODEL

AIM

1. The aim of this service paper is to explore how an essential aspect of the Royal Canadian Armoured Corps (RCAC) Modernization program (falling under what was originally known as the Armoured-Common and later Armoured Cavalry Concept) is critical to maximizing the force generation capacity of the Canadian Army's armoured capability for the Canadian Armed Forces.

INTRODUCTION

2. According to the official RCAC Modernization Letter signed by the Director RCAC, the "Armoured Common Concept began in 2015 and was superseded in 2021 by the Armoured Cavalry Concept which represented 'a conceptual pathway from the provision of a limited and narrow dual-stream direct fire and furtive reconnaissance combat support capability, to a single, cohesive mounted close combat manoeuvre force'".¹ Practically speaking, the RCAC had existed to force generate combat support squadrons for infantry battalions, so this Concept saw the move back towards a single occupation as a combat manoeuvre force able to force generate combat manoeuvre squadrons and armoured battlegroups.² These efforts were officially endorsed in 2020 with Commander Canadian Army direction to "D[irector] Armd to adopt [the] cavalry squadron concept",³ and with the Canadian Army's subsequently release of a Doctrine Note while the updated *Armoured Regiment in Battle* was being finalized.⁴ A key aim of these efforts was to drastically increase the Force Generation capacity and lethality of the RCAC without any additional resources in the immediate term, and to build on it from there with modern equipment and other capabilities necessary for a truly fit for purpose modern armoured fighting force. It seems that this key operational output, which can be dubbed The Armoured-Common (Cavalry) Force Generation Model, has been overlooked in practice, risking to then undermine one of the most significant drivers of this significant institutional shift in the first place.

DISCUSSION

From armoured-common to armoured cavalry

3. The adoption of the term "Cavalry" was what could be called a branding decision. The concept itself was called the "Armoured-Common Concept". Subsequently, "Cavalry" in the Canadian context was simply meant to convey a modernized, cohesive,

¹ Director Royal Canadian Armoured Corps, "Royal Canadian Armoured Corps Modernization" (Royal Canadian Armoured Corps Headquarters, May 2022), 1.

² Director RCAC, "The Armoured Cavalry Concept" (Royal Canadian Armoured Corps Headquarters, August 13, 2021).

³ Acting Commander Canadian Army, "Army Council #21-01 Record of Decision" (Canadian Army Headquarters, November 26, 2020).

⁴ Army Doctrine Centre, "Canadian Army Doctrine Note 23-01 - The Armoured Regiment in Battle" (His Majesty the King in Right of Canada, 2023).

and credible *armoured* Corps and was never defined to mean a combat support, reconnaissance-only, support force in the vein of "Cavalry Scout" or simply a new title for what was formerly labelled as a "reconnaissance squadron". So, while this expansion was supposed to cover what I had coined the "cavalry gap" in the *Canadian Army Journal* through the readoption of a single, cohesive trade with a common baseline set of Military Employment Specification (MES), Doctrine, Organization, Individual Training (IT) System, and culture,⁵ understandings of "cavalry" as simply another name for what was formerly labelled as "reconnaissance" as opposed to "tank" has provided a significant institutional inertia impeding the realization of the actual operational aim of the overall Model.

4. The fact that, under this model, a squadron mounted on Leopard II heavy tanks is explicitly labelled a "Heavy Armoured Cavalry Squadron" is proof of this,⁶ which is to say that the Armoured Cavalry Concept is predicated on the words "Cavalry", "Armoured Cavalry", and "Armoured" effectively being mutually interchangeable terms.⁷ With all these efforts having taken now nearly a decade to work through the wider institution, this then naturally begs the question, what was it all for, or simply, what did the Armoured-Common (Cavalry) Concept set out to achieve in the first place?

Drawbacks of the previous model

5. First, the model set out to overcome some of the most glaring drawbacks of the previous status quo. The division of the trade into separate "recce" and "tank" trade-groups (each with their own Regular and Reserve Force silos) served to provide two (or more if one were to include the Reserves) arbitrarily constrained combat support forces almost exclusively focused on generating combat support subunits for Infantry Battlegroups (BGs) based on the technical capacities of a given fighting vehicle platform. Such dubious logic may perhaps be rendered slightly more apparent if applied in another context, for example, if one were to state that a 105mm howitzer is obviously only suitable as a "reconnaissance gun" whereas a 155mm howitzer is limited to being an "attack gun" only, or that a C7 rifle is somehow inherently and exclusively limited to "scout" tasks. Of course, such arbitrary and simple-minded restriction represents a logical and unproductive absurdity. Much in the same way as a hatchet, axe, and splitting maul are fundamentally the same tool (capability of cutting wood in that case) but their size and weight make one far more suitable to a particular situation (capacity). As such, armies have long required scalable capacities (i.e. light, medium, and heavy) available or many of their capabilities.⁸

⁵ Mathew McInnes, "First Principles and the Generation of Armoured Fighting Power," *Canadian Army Journal* 17, no. 3 (2017): 93.

⁶ Col F.G. Auld, Director RCAC, "Royal Canadian Armoured Corps Brief to Commander Canadian Army."

⁷ This in a way not too dissimilar from what the terms "Infantry Coy", "Rifle Coy", "LAV Coy", and "Mechanized Infantry Coy" can mean, which is to say, in many cases those four terms can (and often are) used interchangeably.

⁸ Here we mean capability as the "thing" a tool achieves and is often referred to in shorthand simply as the physical object itself: the machine gun, the AFV, the howitzer, etc. Whereas the *capacity* of the tool speaks

6. Second, and perhaps most importantly, the RCAC under this outdated model is only able to force generate (FG) half of a “tank” squadron (now “heavy armoured cavalry”) and a single “light armoured cavalry squadron”.⁹ To make matters worse, the former had a very narrow range of tasks largely predicated on infantry close support while the former was unable to operate in a warfighting context.¹⁰ Interestingly enough, when the tank was declared as once again required, and German-leased Leopard IIs were placed into theatre, this output was achieved through the adoption of an impromptu “armoured-common” model out of sheer necessity (and many frictions over several years).

7. Since Canada had never purchased or operated the Leopard II, all technical training was conducted in Germany prior to deployment to Afghanistan. Furthermore, due to the inability to sustain a deployed squadron with only the three squadrons of personnel within the Lord Strathcona’s Horse (LdSH), a Royal Canadian Dragoons (RCD) and a 12^e Régiment blindé (12^e RBC) squadron were “rerolled” as tank squadrons, becoming qualified during work-up training and falling onto the already deployed fleet of

to its suitability for different contexts, such as a C9 (light) vs C6 (medium) vs .50cal (heavy) machine gun. The application, tactics, and capability of a machine gun remain the same across different technical variants, but its capacity (in this case largely the calibre and weight of the weapon) provide trade-offs and therefore better suitability to a given tactical situation. In the contemporary armoured context, the US Army has long identified the need for a light tank, using their version of the LAV II Coyote (LAV 25) as their interim light tank with the M10 Booker now in production as the official solution to fill that gap. While the term “light tank” was used initially, and continues to be informally, the project was called Mobile Protected Firepower. The project also morphed over time, for example the “interim light tank” used in trials weighing approximately 16 tons and over the development and selections process the overall weight increased to the point where the M10 Booker selected can weigh approximately 42 tons and be equipped with either a 105mm or 120mm canon. As a point of comparison, the Leopard C2 (main battle tank) that the Canadian Army used to operate weighed 42 tons and had a 105mm canon. In other words, by any reasonable standard, the M10 Booker’s characteristics are nearly indistinguishable from what would have formerly been referred to as a medium or main battle tank. One could then say that the US Army has moved to having a capability (tank or tank-like vehicle) with a scalable capacity (M1 Abrams for heavy, M10 Booker for medium, and M3 Bradley for light).

⁹ With the Managed Readiness System based on 6-month tours and three phases (the three sides of the deployment triangle) this requires six elements to complete a single cycle of the Managed Readiness Plan (MRP), which is to say, to sustain a single deployed squadron over a three-year cycle requires the total availability of six squadrons over that period. So, with only three “tank” squadrons and the requirement for six force packages the only way forward is to cut the three squadrons in half to achieve the required six elements. With there being six “recce” squadrons, there are just enough for a full cycle. This means then that the Royal Canadian Armoured Corps (and therefore Canada) cannot sustainably deploy even a *single “tank” squadron* and also therefore cannot FG a single armoured battle group. At the point of no longer being able to sustainably field a single subunit one should seriously question what the word “credible” means.

¹⁰ Even the Reconnaissance Squadron in *Ground Manoeuvre Reconnaissance* held that the 8-vehicle reconnaissance troop divided into 2-vehicle patrols was incapable of doing its baseline tasks such as Observation Posts for any length of time without significant augmentation. Theatre Standing Orders in Afghanistan stated a minimum of three vehicles to move anywhere, effectively doing away with the patrol forcing the 8-vehicle reconnaissance troop to operate as two 4-vehicle patrols (i.e. the baseline organizational standard for all armoured troops) down to three during home leave or casualties. Underscoring the fact that this particular “recce sqn” model failed in COIN operations let alone major conventional warfighting operations.

leased tanks (along with a significant number of reserve soldiers). As such, when forced to triple our force generation output, we saw a shift towards cross-training to a common armoured baseline, and then rotating through these now armoured-common squadrons (in terms of personnel), regardless of what their day-to-day mounts domestically may have been. Now, if one were to have a completely common trade structure, doctrine, organization, culture, and tactical training set by design, all that would be required would be technical cross-training (such as “turret operator” and driver qualifications) as part of their workup, and then rotating them through the deployed fleet of operational vehicles, whatever those vehicles may be.

The aim of the Armoured-Common (Cavalry) Model

8. Subsequently, the aim of the Armoured-Common (Cavalry) Model should be becoming increasingly apparent. Arbitrary restrictions and silos such as a “tank” vs “rece” distinction serve to severely hamper the operational output and lethality of Canada’s armoured forces. Instead of optimizing by increasing FG output only when absolutely required in a haphazard and unplanned way rife with the inherent frictions of “rerolling” and resultant cultural schisms and inertia, it is far more effective and efficient to be optimized as a baseline and to be so *by design*, particularly when the resources required (i.e. costs) are the same in both cases. Second, such rigid specialization or task-exclusion is a luxury the Canadian Army can ill-afford given our size, resources, and capabilities, which is to say we cannot properly field the vehicles and units we currently have let alone maintain a variety of task-bespoke forces.

9. The armoured-common model provides for nine common baseline armoured squadrons (instead of three “tank” and six “reconnaissance”) who as a foundation can be mounted on any tank or tank-like vehicle to achieve armoured manoeuvre. Clearly there are cases where tanks do reconnaissance,¹¹ and where lighter vehicles such as LAVs or Bradleys can conduct aggressive offensive armoured manoeuvre.¹² However, to achieve

¹¹ For example, the first stage of the Mounting Phase of any attack is for, in the more specific case of a tank attack, for those tanks to conduct reconnaissance. Canada deployed Leopard I tanks to Kosovo where they conducted framework patrolling, VCP/TCP, and reconnaissance. The Second World War Canadian Armoured Reconnaissance Regiments were equipped with Sherman tanks and had nearly identical equipment and organization as any other armoured regiment. Finally, when enemy lead forces have tanks and want to prevent the freedom of movement and reconnaissance of friendly forces, then it is difficult to imagine friendly lead reconnaissance elements (such as a brigade advance guard) being successful or as successful without at least some number of tanks (and in fact, Canadian doctrine clearly lists the brigade advance guard as one of the “bread and butter” tasks for an armoured regiment). Which is to say that the fact that tanks must routinely do reconnaissance and are therefore inherently well-suited to this task-set should be self-evident.

¹² There are numerous examples, for example a LAV-25 going against Iraqi tanks and winning during Op Desert Storm, and more recently with Bradley fighting vehicles going up against Russian T90 tanks and similarly winning, see David Axe, “Face To Face With A Russian T-90 Tank, A Ukrainian M-2 Fighting Vehicle Ran Out Of Armor-Piercing Ammo. So Its Gunner Got Creative.,” Forbes, accessed February 16, 2024, <https://www.forbes.com/sites/davidaxe/2024/01/19/face-to-face-with-a-russian-t-90-tank-a-ukrainian-m-2-fighting-vehicle-ran-out-of-armor-piercing-ammo-so-its-gunner-got-creative/>.

this *by design* requires most importantly a common culture,¹³ as well as a common employment specification, doctrine, organization, and individual training stream, all of which the Corps and Army has painstakingly achieved over the past decade.

The Armoured-Common (Cavalry) Force Generation Model

10. As can be seen in Figure 1 below, with such an armoured-common approach, we no longer are restricted to the number of vehicles we actually have in service. If we have a set of 20 to 40 deployed Leopard IIs, LAV VI, CV90, M10 Booker, etc., whether purchased or leased, then we (from a force generation point of view) now have nine squadrons to rotate through that deployed fleet. Or in other words, and to use the Leopard II fleet as an example, now instead of being arbitrarily restricted to only three squadrons force generating to rotate through a deployed fleet of 10-15 Leopard tanks, we now effectively have nine “Leopard Squadrons” instead available to rotate through 20-40 Leopard tanks. This can be applied to something like a deployed fleet of leased M10 Bookers, etc as well, meaning that even the restriction to currently in-service vehicles is eliminated from a Corps institutional point of view, in addition to making the Corps far more agile in terms of it now being an option to rapidly lease a deployed fleet, cross-train, deploy, and sustain that deployed squadron up to battle group more or less indefinitely.

11. In terms of number of personnel available to commit towards operational force generation, the Armoured-Common organizational model has also restored the regimental troops through a complete overhaul of all positions and vehicles allocated to the Corps, creating a subunit sized combat support element (which has traditionally been called Regimental Headquarters or RHQ, and with the Combat Service Support traditionally called Headquarters or HQ Sqn).¹⁴ When additionally the now complete commonality of the Regular and Reserve Forces are taken into account allowing for the seamless *integration* of entire Reserve troops (as opposed to simply individual *augmentation*), the Armoured-Common (Cavalry) model can actually further add an additional three squadrons of personnel for a total of 12 theoretically available to rotate through a deployed fleet as part of the Managed Readiness Plan (MRP) cycle.

12. In this way, the core capability resides within the armoured crews, and this capability is made manifest through scalable capacities by virtue of being mounted on

¹³ For example, when I was responsible for the Canadian Army’s Combat Team Commander Course, I would witness armoured officers who had only ever done combat support “recce” their entire careers fail their combat team attack simply because they never actually launched the attack. As the well-worn adage goes ‘culture eats doctrine for breakfast’, and no more so than when under stress. As such, training and particularly *culture* takes years to develop and cannot simply be switched on in the same way that a vehicle weapons operator course can be completed in a matter of just a few weeks.

¹⁴ In effect, the move from 8-vehicle “recce” troops to 4-vehicle armoured troops resulted in the same number of leadership positions, however, with 16 junior ranks available for reallocation per troop to restore the RHQ (necessitating PY remapping to account for required rank differences). This essentially allowed for the creation of an entire combat support squadron (traditional known as RHQ) to put the Armoured Regiment back in line with doctrinal generic structures with a Command element (Command Troop), four combat elements (armoured or “sabre squadron”), a combat support element (traditionally known as RHQ), and a combat service support element (traditionally known as HQ Sqn).

light, medium, or heavy tanks or tank-like vehicles.¹⁵ Consequently, we move from only being able to generate half of a “tank” squadron to now being able to force generate and sustain up to two “tank” squadrons, making the sustained deployment of an armoured battle group possible, and representing a quadrupling of the Canadian Army’s deployed “tank” capacity, and all without any additional resources simply through the effective use of this Armoured-Common Force Generation Model. While the near complete institutional overhaul required to achieve this is no easy feat, the happy news is that all this heavy lifting commenced in 2015 and is now nearly entirely complete.

RCAC Armoured-Common (Cav) FG Model

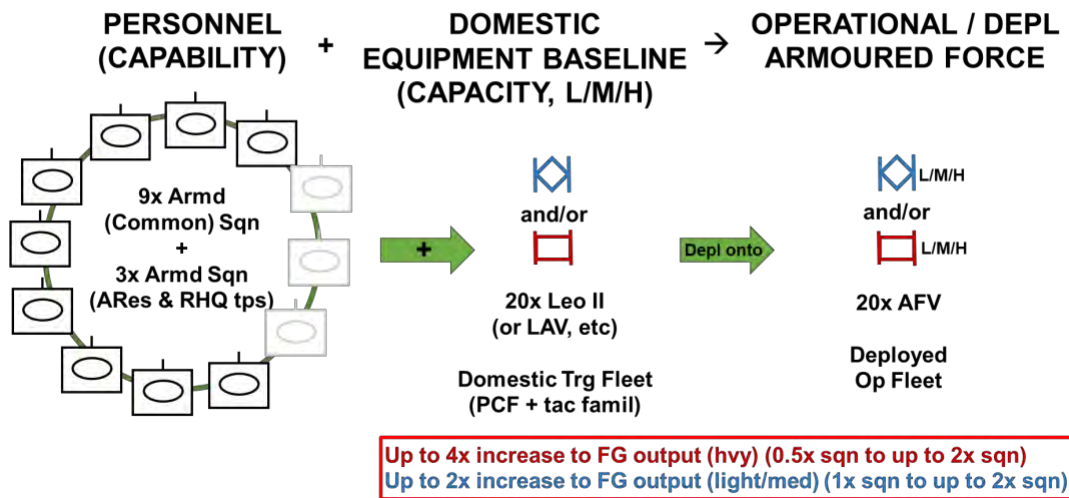


Figure 1 – RCAC Armoured-Common (Cav) Force Generation Model¹⁶

Frequent Arguments against the Armoured-Common (Cavalry) Model

13. What about reconnaissance?

- a. A common argument is that this model is suboptimal as Canada continues to require reconnaissance forces. However, armoured forces are an inherently multi-purpose combat manoeuvre force and are subsequently suited for these tasks (just as an infantry can do reconnaissance and attacks in equal measure), and the nature of the task can be accounted for through the intelligent application of the right tool, and even more so when augmented and enabled appropriately. Second, armoured regiments under the Cavalry concept have had their regimental reconnaissance troops restored (‘60’) in addition to the creation of Pioneer (‘50’)

¹⁵ While the Model has and continues to be explicit that Heavy Armoured Cavalry Squadrons are mounted on Leopard II (or any equivalent heavy tank), and Light Armoured Vehicles (LAVs) are clearly light, the Canadian Army is currently using the LAV VI in the medium role in a defacto ‘interim basis’. As the latest brief to the Commander of the Canadian Army from the RCAC states, there currently is “No Medium Armoured Cavalry fighting platform in [the] C[anadian] A[rmy]”, making this area a critical gap in Canada’s capability set.

¹⁶ Royal Canadian Armoured Corps Headquarters, “Royal Canadian Armoured Corps Modernization (PowerPoint)” (Ottawa, 2022).

and Surveillance ('70') troops which did not exist under the old model, and so provide even more robust capability.¹⁷ Finally, as any squadron can now fall onto any deployed fleet whether owned or leased, particularly given the six to 12 months of work-up training leading up to deployment, we can say we now have nine far more robust armoured combat "reconnaissance" squadrons (*an increase of 50%*) in the same way we can say we have nine "tank" squadrons. Further, these light armoured cavalry squadrons are actually organized and trained for the conduct of combat operations (previous 8-vehicle reconnaissance squadrons were not, for example, troop leaders were not trained nor assessed in the conduct of the attack or troop fire control given their clear combat support function, and under the new model they are). So, in effect, this model serves to drastically increase Canada's armoured reconnaissance capability through additional squadrons available for rotation through the MRP, those squadrons actually being combat manoeuvre capable, and with the addition of specialized regimental reconnaissance and surveillance troops and other integral enablers. Or, in other words, the "Cavalry Concept" results in drastic increases to both the quantity and quality of armoured "reconnaissance forces".

14. Cavalry and Armoured forces are fundamentally different.
 - a. This argument entirely depends on how one defines both "armoured" and "cavalry". Again, in the Canadian Model Armoured Cavalry, Armoured, and Cavalry are interchangeable terms, and our heavy Leopard II equivalent force *is* a (heavy) Cavalry force in the Canadian context. Further, British Army Armoured Cavalry were slated to have the AJAX¹⁸ with the same basic organization, vehicle (AJAX), and baseline doctrine as their Medium Armoured Regiments with four-vehicle troops, which bears striking resemblance to the Canadian model. As for US Army Cavalry forces, there are simply far too many different permutations, organizations, and equipped platforms over the years to tackle in one swoop, but I would note that US Cavalry has been equipped with M1 Abrams (i.e. heavy tanks).¹⁹
 - b. So, with that in mind, what is the concrete difference between a heavy armoured cavalry force equipped with M1 Abrams tanks, and a heavy armoured force equipped with M1 Abrams tanks? Particularly when those two terms are interchangeable in the Canadian model? Simply, the tool is not the task or the output. Instead, the tool (in this case meaning a tank or a tank-like vehicle, whether light, medium, or heavy) can be intelligently applied to any armoured task. This, in the same way as the C7 rifle can be intelligently applied to the broad

¹⁷ Now also with the RCAC slated to receive loitering munition by 2025 potentially using the same platform as the current MUAS employed by troop 70, these troops may also soon have an added loitering munitions capability as well.

¹⁸ A roughly 40 ton tracked vehicles with a 40mm canon (in effect, very much a 'tank or a tank-like vehicle', in this case what could be widely constituted as a medium vice a heavy one).

¹⁹ "Abrams Tank," U.S. Department of Defense, March 29, 2018, <https://www.defense.gov/Multimedia/Photos/igphoto/2001899529/>.

array of potential activities, from a reconnaissance patrol, the trench line, an observation post, or an attack, the basic logic remains.

CONCLUSION

15. The original purpose of the Armoured-Common (Cavalry) Concept was to drastically increase the value and operational outputs of the RCAC without any (necessarily) additional resources. The aim then was to move from an arbitrarily siloed combat support trade not able to sustain the generation of a single “tank sqn” and with “recce sqns” unable to operate in warfighting contexts, to a single, cohesive, combat manoeuvre force able to generate up to nine (or theoretically up to 12) light, medium, or heavy armoured combat squadrons (and therefore battle groups) thereby able to effectively sustain the force generation of two full squadrons on any armoured fighting vehicle whether already within the Canadian inventory or not. Unfortunately, this has yet to be realized within the MRP.

RECOMMENDATION

16. An updated RCAC Modernization letter be promulgated via the RCAC Modernization process currently being led by Chief of Staff Army Strategy through the Canadian Army Land Warfare Centre to make explicit the Armoured-Common force generation model, thereby realizing and implementing the aim of the concept which sees up to a quadrupling of the Canadian Army’s armoured force generating capacity.

17. Update the draft of the *Armoured Regiment in Battle* to modify and expand the explanation of the Armoured-Common Concept to clarify that “regardless of platform” more properly means “regardless of tank or tank-like vehicle”.²⁰ In addition, expand on its force generation model to articulate that if we are to have an armoured-common FG capacity then we require true interchangeability of armoured squadrons as a doctrinal baseline from which to build policy.

18. Proceed with work supporting the procurement of a Medium Armoured Cavalry Vehicle (i.e. a medium tank or tank-like vehicle) necessary for contemporary warfighting.²¹ Further, analysis should be conducted to determine if it is effective and efficient for Canada to attempt to maintain Heavy (such as Leopard II) and Light (such as an up-gunned LAV VI) armoured fleets, or would it provide higher value and efficiencies to instead move to an exclusively medium fleet (such as M10 Booker) and to ensure not only integration but interchangeability with US Armoured Forces moving forward.

²⁰ Army Doctrine Centre - ACT - Armour Desk Officer, “Re: Armoured Doctrine,” February 15, 2024.

²¹ Royal Canadian Armoured Corps Headquarters and Directorate of Land Requirements, “Statement of Capability Deficiency: Medium Armoured Fighting Vehicle (MAFV)” (RCAC HQ, April 2023).

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