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JOINT TERMINAL ATTACK CONTROLLER (JTAC) REQUIREMENT AS AN OCCUPATION OR SUB-OCCUPATION

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JOINT TERMINAL ATTACK CONTROLLER (JTAC) REQUIREMENT AS AN OCCUPATION OR SUB-OCCUPATION

AIM

1. The aim of this paper is to propose that Canadian Army (CA) Joint Terminal Attack Controllers (JTAC) be designated as an occupation or sub-occupation.¹

INTRODUCTION

2. Close Air Support (CAS) is defined as air action by fixed or rotary-winged aircraft against hostile targets, that are in close proximity to friendly forces, and which requires detailed integration of each air mission with fire and movement of these forces.² The Canadian Armed Forces (CAF) employs JTACs in directing CAS air strikes, among other duties. Controllers have ground terminal attack release authority so as to ensure positive target identification and achievement of the desired effects against the enemy, with minimal collateral damage.³

Integrating joint effects (lethal and non-lethal) from indirect fire and aircraft requires specialized training and knowledge. JTACs must be knowledgeable of the capabilities and limitations of specialized equipment, aircraft platforms, delivery tactics, and characteristics of many different munitions to integrate the tactical application of air power with the fire and movement of ground forces and advise ground commanders.

3. JTAC minimum training and standards (CAO 24-05),⁴ are derived from internationally agreed standards to ensure interoperability and minimize risk in the execution of CAS during multinational operations. The complex and joint nature of CAS requires JTACs to be proficient in a wide variety of mission sets, normally taking years to master. Resource intensive joint

¹ The CAF and NATO have adopted JTAC to replace Forward Air Controller (FAC) in 2015. For the purposes of this paper, FAC and JTAC can be considered synonymous.

² Joint Chiefs of Staff, *Doctrine for the Armed Forces of the United States*, JP 3-09.3 Close Air Support (Washington, D.C.: Joint Chiefs of Staff, November 2014).

³ Department of National Defence, Canadian Army Order 24-05, *Forward Air Controllers*. (Ottawa: DND Canada, February 2014).

⁴ *Ibid.*

training is required to maintain proficiency with evolving technology, Tactics, Techniques, and Procedures (TTPs).

4. The current CAF Force Employment (FE) model situates JTACs as part of the artillery observation battery. JTACs and Forward Observer Officers (FOOs) are employed in the field as FOO/FAC teams, sharing a Light Armored Vehicle (LAV). In the CAF, the JTAC skill set is not considered a Primary Combat Function (PCF), and is executed as a secondary duty, with the majority filled by artillery NCMs and the remainder by combat arms officers (majority are artillery officers). Since the beginning of combat operations in Afghanistan, the current FE and Force Generation (FG) models of the JTAC capability have evolved. Despite expending extensive resources during combat operations, this capability has consistently struggled to meet the Managed Readiness Plan (MRP).

5. In September 2014, the Air-Land Integration Executive Board (ALI EB) directed that a joint FAC/TACP⁵ Capability Sub-Working Group (SWG) conduct a complete assessment of the capability, including current personnel management policies.⁶ The SWG has concluded that the current JTAC capability is unsustainable in the long term and JTACs cannot continue to operate as a secondary duty. The SWG has developed several Courses of Action (COA) to restructure the JTAC FE/FG model for endorsement at the Spring ASPT, 5 April 2016, Annex A. In support of the JTAC FE restructure, this paper intends to define the JTAC capability problem with respect to personnel management, and serve as a starting point for Director General Military Personnel (DGMP) to conduct a feasibility study in the creation of a JTAC occupation or sub-occupation.

This paper is structured as follows:

⁵ TACP – Tactical Air Control Party: JTAC trained Air Force Officers established in Battle Group and above headquarters to provide planning and advice to air integration and conduct CAS controls as appropriate.

⁶ J.M. Lanthier and D.L.R. Wheeler, Record of Decisions, *Air-Land Integration Executive Board 17 Nov 14*. (Canadian Forces Base Kingston: file 3185-1 (OC ALIC), 17 Dec 2014).

- a. Background information. Evolution of JTAC employment in Afghanistan and lessons learned. CAS doctrine and the Army of Tomorrow;
- b. Discussion. Current JTAC capability in terms of candidate selection, training, standards and experience. JTAC occupation and sub-occupation considerations, and;
- c. Conclusion and recommendations.

BACKGROUND

6. Combat operations in Afghanistan were a landmark for the evolution of CAS as a critical enabler to land operations for the CAF. The lessons learned collected up to 2006 by the Army Lessons Learned Center (ALLC) cite: the importance of JTAC capabilities to company support, the lack of JTAC equipment, the requirement for collective JTAC training, and the separation of resources and tasks between FOOs and FACs to operate effectively. In Sep 2006, a USAF A-10A under the control of a Canadian JTAC strafed Canadian soldiers, killing one and wounding several others. A Board of Inquiry (BOI) investigated the fratricide and found; although not causal to the incident, several deficiencies in regards to JTAC training and equipment contributed to the accident.⁷ As a result of the BOI, the Air-Land Integration Cell was established in 2007 to provide national JTAC and TACP standards and capability management. FOO/FAC parties were formed as separate entities (although in the same vehicle without separate resources), and the creation of a few augmenting FAC/FOO parties⁸ was proposed to address deficiencies in capacity, although never fully implemented.⁹

⁷ Board of Inquiry Minutes of Proceedings, *A-10A Friendly Fire Incident 4 September 2006 Panjwayi District, Afghanistan [Declassified]* (Ottawa: DND Canada, 2006).

⁸ FAC/FOO parties have a combat arms officer (non-Arty) as the Comd and FAC, with a FOO Sgt 2i/c. The reverse is true for FOO/FAC parties, ie. Arty officer is FOO and 2i/c is FAC.

⁹ A.R.Wood and M.J.C. Sullivan, Briefing Note for CLS, *Dedicated FAC/FOO Parties* (Ottawa: COS Strat, DMCS 46554, 16 Jul 2007).

7. JTAC training and standards has improved considerably following the friendly fire accident, although requiring substantial amounts of resources. Remarkably, International Security Assistance Force (ISAF) and US forces have experienced similar CAS incidents in Afghanistan prompting the development and enforcement of Standard Operating Procedures (SOPs), TTPs and eventually, agreeance to create a unified JCAS Memorandum of Agreement to which Canada is a signatory with 17 other countries and services. The purpose of the MOA is to ensure interoperability and minimize risk in the safe and effective application of CAS. Following the drawdown of ISAF from Afghanistan, many partner countries were experiencing similar issues maintaining their JTAC capabilities given the demand of resources. In return, the USAF, UK, France, Latvia, and New Zealand all consider JTACs to be a unique specialist occupation within their respective forces. All signatories to the US JCAS MOA are in agreement that the demand for JTAC capabilities will increase in future conflicts. As well, future resources will likely be more limited with the implementation of next generation combat aircraft. Many coalition partners are implementing the F-35, which presently is not expected to accommodate practice munitions, potentially affecting CAS training costs. JCAS MOA countries are looking to the mix of live/virtual/constructive synthetic environment to provide cost savings and enhance training.

8. The CAF also employs Special Operating Forces JTACs (SOJTAC) and TACP to conduct CAS missions. These personnel conduct the same primary training as the CA JTACs before completing task-specific training and combat-ready certification differing from JTACs. SOJTACs are treated as a specialty within the Canadian Special Operations Forces Command (CANSOFCOM), and after training; continue to be employed solely in that role. TACPs are

generated from Royal Canadian Air Force (RCAF) officers of any air ops trade and experience similar JTAC capability challenges as the CA.

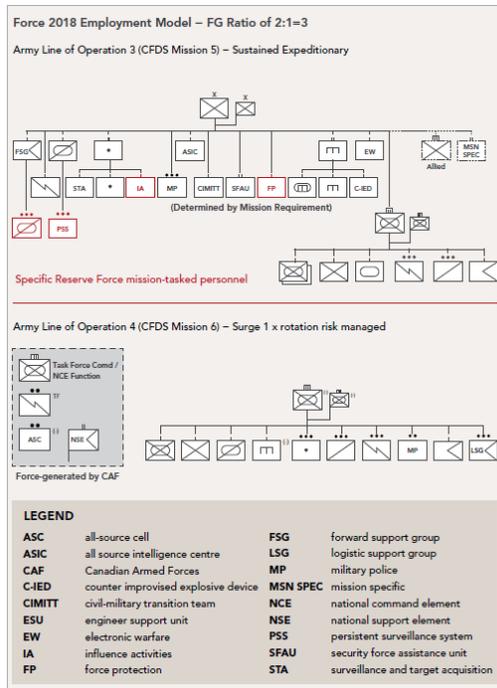


Figure 1 - FE model of CMBG

Source: Waypoint 2018: The Canadian Army Advancing Toward Land Operations 2021

9. The FE Concept for Canada’s Army of Tomorrow identifies the requirement for the synchronization of integrated joint resources and joint fires.¹⁰ Given Adaptive Dispersed Operations (ADO), the number of required JTACs will likely increase. Canadian Mechanized Brigades (CMBG) must be ready to support Lines of Operation (LOO) 3 and 4 concurrently as shown in figure 1. The updated CA document, Waypoint 2018 outlines the Canadian Army’s strategy. One of the lines of effort emphasizes the requirement to be supported by “institutionalized war-winning joint enablers, all interoperable jointly and with partners.” Two of the identified critical enablers are Air-Land Integration and Joint Fires, specifically

¹⁰ Department of National Defence. B-GL-310-001/AG-001, *Land Operations 2021: Adaptive Dispersed Operations: The Force Employment Concept for Canada’s Army of Tomorrow* (Kingston: DND Canada, 2007), 31.

“institutionalizing of JTAC and TACP... through training, certification and new digitized equipment.”¹¹

DISCUSSION

10. There are three main areas regarding career management and skill retention that must be addressed if the CAF intends to sustain its capability to meet the requirements of the JTAC capability as a whole: Selection, training/standards, and experience. These areas will be discussed followed by options for restructuring the JTAC as a separate occupation or sub-occupation.

11. In 2012, the Director of Army Training requested assistance from Director General Military Personnel Research and Analysis (DGMPRA) to develop a selection system for JTACs due to the high failure rate of 40% (prior to 2008) and associated expensive training (i.e. \$1 million per member). DGMPRA conducted a validation study focusing on personality traits, cognitive ability and pre-screening.¹² The results of the study were published in 2013 and implemented in the fall of 2013.¹³ The effectiveness of the selection process in reducing failure rates is under review, however the screening process allows Commanding Officers to identify potential candidates early in their careers and provide language training (French units) and early exposure to JTAC operations to develop skills and increase success in certification. JTAC is a specific occupation in the United States Air Force (USAF). The USAF identifies potential JTAC candidates early and assigns them to the position of Radio Operator, Maintainer and Driver (ROMAD) for one to two years to gain experience before starting JTAC training. The ROMAD

¹¹ Department of National Defence. B-GL-300-000/AG-003, *Waypoint 2018: The Canadian Army Advancing Toward Land Operations 2021* (Kingston: DND Canada, 2015), 2.

¹² K.J. Rankin, *Forward Air Controller (FAC) Concurrent Validity Study: The Development of a New Selection System* (Director General Military Personnel Research and Analysis, DGMPRA TN 2013-010, July 2013).

¹³ Department of National Defence, CANFORGEN XXX/13, *Forward Air Controllers-New Selection Process* (Ottawa: DND Canada, 2013).

is the JTAC's fire-team partner, someone to watch the JTACs six, aid in operating specific equipment (i.e. laser designators and infrared (IR) markers), and provide a double check of the JTACs work. In the CA, the FOO tech provides a similar function for the FOO, however there is no such construct for the JTAC. Combat operations have shown that a JTAC mistake can have catastrophic repercussions.

12. The JTAC training model described in CAO 24-05 is illustrated in figure 1. JTAC candidates begin with a selection process in their respective service. Selected candidates from CANSOFCOM, RCAF and the CA conduct an initial 10 week JTAC certification training in Galetown. The JTAC course, conducted by the Royal Regiment Canadian Artillery School (RRCAS), is accredited internationally by the US Joint Staff and NATO. The 10 week course was revamped in 2013 to address the historical high failure rates, newly implement selection process, and field force concerns of weak JTAC performance. Graduates of the JTAC course are limited combat ready until their JTAC specific combat ready training is completed. CANSOFCOM JTACs are combat ready after completing the SOJTAC course and TACP officers must complete a TACP course. CA JTACs typically undergo a six month mentorship period under the instruction of their unit JTAC Instructors (JTAC-I) before JTAC Evaluators (JTAC-E) from the Air Land Integration Cell (ALIC) conduct their combat ready evaluation. Ideally, combat ready JTACs would be employed in the field force for two to three years and conduct advanced JTAC training, with minimum 18 months experience, to become JTAC-Is. In reality, some JTACs never achieve combat ready status; most are posted for career progression and trade-specific experience prior to becoming an instructor and passing-on valuable JTAC experience.

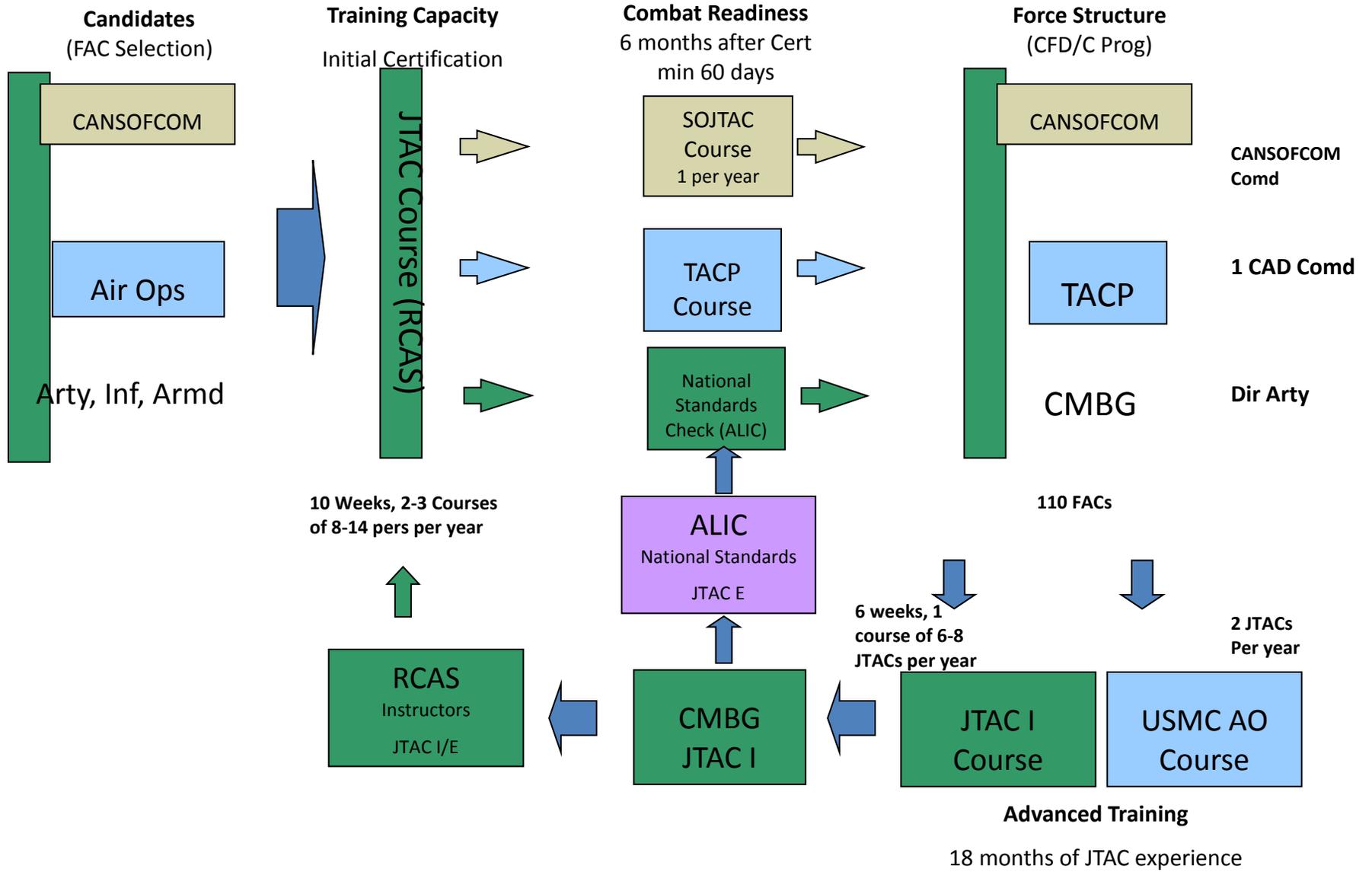


Figure 2 - JTAC Training Model

13. JTACs must log a certain number of controls to remain qualified as combat ready every six months as explicated in CAO 24-05 and in compliance with international agreed standards. If a JTAC is unable to achieve the required controls, their combat readiness expires, if the time lapsed is greater than 12 months, they must complete a recertification programme that includes completing the same number of controls required of the certification JTAC course. If their qualification lapses greater than two years, that JTAC must complete the entire 10 week JTAC course to re-qualify. Currency and proficiency training are conducted both at the unit and during two nationally held JTAC exercises, Ex Maple Strike. JTACs spend a significant amount of time travelling to training events as it is more economical to bring JTACs to CAS aircraft and ranges rather than the other way. Skill fade is a constant problem as JTACs must be conversant with changing TTPs and specialized equipments, such as radios, video data link (VDL), laser designators, laser range finders, IR markers, night vision equipment, and Digitally-aided CAS (DaCAS) systems.

14. The FAC/TACP Capability SWG analysed the current JTAC capability and made the following findings (see Annex A):
- a. Typical Afghanistan ROTO consisted of nine JTACs, WG determined that each CMBG require 16 JTACs to effectively execute their high readiness mandate;
 - b. Current numbers of trained JTACs as Dec 2015 are in table 1. If a named operation was designated, the high readiness CMBG would need to borrow JTACs from other CMBGs, causing follow-on effects for proceeding rotations. The RRCAS would have to conduct three JTAC courses per year to FG enough JTACs to backfill follow-on ROTOs, and JTAC experience would be very low;

years.¹⁴ High failure rates and inability to maintain MRP prompted changes to FG. Changes included a JTAC selection process, revised standards, introduction of LCR and CR, and a revamped JTAC course syllabus. These changes have not been effective in correcting MRP and JTAC experience levels. The FAC/TACP capability SWG was directed to analyse FE, FG, and sustainability of the JTAC capability and provide options to address capability deficiencies. The SWG developed four COAs (Annex A) that provide an analysis of options that considered: manning timeline, proposed career progression, Order of Battle (ORBAT) and command structure. These COAs share the following recommendations:

- a. DGMP study to inform JTAC occupation/sub-occupation decision;
- b. JTACs must stay in position minimum four years if sub-occupation to get return on investment;
- c. Tactical Armoured Patrol Vehicle (TAPV) identified as a potential platform for JTAC teams to operate independent from FOO parties. This option would require a driver, gunner, and radio operator (ROMADs);
- d. JTACs have an individual suite of equipment; and
- e. COAs assume that CANSOFCOM and RCAF JTAC requirements do not significantly change.

16. The JTAC role meets the Military Employment Structure (MES) structure principles set in DAOD 5070-1 in terms of operational effectiveness, work scope optimization, training optimization, and career path rationalization.¹⁵ Occupations and sub-occupations are derived from capabilities-based Function Employment Areas (FEAs). The skill-sets and competencies of

¹⁴ D.D. Marshall, *Force Generation (FG) of Forward Air Controllers (FAC)* (Canadian Forces Base Gagetown: file 3185-1 (D Arty), DMCS 23148, 30 Nov 2009), 2.

¹⁵ Department of National Defence, DAOD 5070-1, *Military Employment Structure Framework* (Ottawa: DND Canada, 2015).

a JTAC occupation would meet current requirements and be flexible to respond to future roles in this capability.¹⁶ The decision to make the JTAC an occupation or sub-occupation will have to be weighted with the chosen FE concept. There are advantage and disadvantages to both options. As a sub-occupation, the artillery branch is the obvious choice of parent occupation; however this may unnecessarily limit the potential pool of talented JTACs existing in other combat arms trades or services. The option to designate JTAC as a managed speciality would likely result in continued capability deficiencies as observed in the status quo.

CONCLUSION

17. Combat experience has demonstrated the importance of integrating air power to land operations, both in terms of effectiveness and ramifications if poorly executed. Doctrine and future capability development stress the importance of integrating key enablers such as joint fire support. The JTAC has proven to be a key enabler in integrating air power. Trends among NATO partners indicate that the future demand for JTACs will increase and training resources will diminish. JTAC training is challenging and resource intensive and the current CAF JTAC FE and FG models have proven unsustainable; during the past five years amidst combat operations, the CAF trained 45 JTACs at the cost of \$42.9 Million and today has lost 44 personnel to career management issues. A comprehensive approach to addressing the JTAC capability in terms of career management and FE will be critical to success.

RECOMMENDATION

18. DGMP conduct an analysis of the JTAC capability to determine options designating JTAC as either an occupation or sub-occupation. This analysis must be conducted collaboratively and with advice of the FAC/TACP Capability SWG, Director Artillery, and

¹⁶ Department of National Defence, A-PD-055-001/AG-001, *The Canadian Armed Forces Military Employment Structure. Vol 1.* (Ottawa: DND Canada, 01 July 2015).

ALIC at the Canadian Army Doctrine and Training Center to ensure the problem is holistically evaluated to appropriately match options to COAs.

Annex: A. JTAC Manning COA Development.



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