

## FSG 100-01 AIRCREW MEDICAL SELECTION

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**References:**

- A. [AMA Directive 100-01](#) Medical Standards for CF Aircrew
- B. [1 Cdn Air Div Orders 3-714](#) Aeromedical Screening of Non-Aircrew Occupational Specialties Routinely Engaged in Flying Operations
- C. [CF H Svcs Instruction 7100-03](#) Basic Aviation Medicine Provider – Responsibilities
- D. [FSG 400-01](#) Aircrew Visual Requirements
- E. [AMA 400-02](#) Laser Refractive Surgery for CF Aircrew
- F. [CFP 154](#) Medical Standards for the Canadian Forces
- G. [CF H Svsc P&G 4000-04](#) Shallow Water Divers' Periodic Health Assessment and Medical Administration.

**Record of Amendments:**

Date (DD/MMM/YY)	Reason for Change	Fully Reviewed (Y/N)
15/09/17	Complete revision including: Links to references updated, references added, inclusion of current version of forms for completion, clarification of second level review responsibility, updated aptitude testing process and file transmission, addition of aircrew validity, SAR-Tech and UAV processing, and re-enrollment processing	Y
19/01/18	Minor editorial change pg 7 removing requirement for 2088 to be sent to CFEME with Phase 2 SAR-Tech processing	N

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## GENERAL INFORMATION

1. Aircrew selection is a multi-step process that includes an initial medical examination, preliminary medical testing, and second level review followed by further CFEME processing for air factor approval and assignment ([ref A](#)). Timing of the examination and further actions to enable CFEME processing varies depending on the trade and situation, specified later in this document. This document describes the initial assessment process, required testing, and trade-specific processing, including re-enrollment.

## INITIAL ASSESSMENT PROCESS

### Initial Medical Examination

2. All Aircrew applicants whose MOSID requires an Air Factor of 1, 2, 4 or A5-UAV (Unmanned Aerial Vehicle) require an initial aircrew medical examination by a BAvMed Provider or Flight Surgeon or, in the case of a Canadian Forces Recruiting Centre (CFRC), a delegated medical authority (Physician Assistant 6B) (refs [A](#), [C](#)).

3. The initial medical examination includes a complete history and physical (height, weight, waist circumference and blood pressure must be documented) and preliminaries as specified below.

4. *Aircrew* undertaking occupational transfer to a new aircrew MOSID still must have a new MOSID-specific Air Factor assignment by CFEME (even if the Air Factor number remains unchanged). This requires a current aircrew PHA and preliminaries with the file forwarded to CFEME for review.

### Preliminary Medical Testing

5. Aircrew candidates must have the required medical preliminaries completed per [ref A](#), Table 3. These include labs, ECG, audiogram, and vision assessment (details below):

- a. required labs include CBC, lipid profile (TC, TG, HDL, LDL), HbA1C, fasting blood glucose, urinalysis (dip) and microscopy;
- b. additional tests are required for SAR-Tech and pilot applicants; these may include, but are not limited to, CXR, PFT, additional serum/urine testing, cardiac echo, retinal imaging and corneal topography. See [Trade-Specific Processing section](#) below for more information; and
- c. the majority of medical preliminaries, as well as the initial aircrew medical exam, are valid only for 1 year. Exceptions include ECG (valid for 4 years), CXR (5 years) and pilot testing completed at CFEME (5 years). Any processing delays may necessitate that these be repeated to remain current.

6. Second-level Review:

- a. for CAF personnel applying for occupational transfer to an aircrew trade, the reviewing authority is the supporting Wing/Base Surgeon or, alternatively, an

experienced Flight Surgeon. The reviewing authority will document an initial assessment of fitness as “likely fit”, or “unfit”; and

- b. for civilian candidates, the reviewing authority is the Recruiting Medical Officer (RMO).

7. It is imperative that the CF2033 (for CAF members) or the CF2027 (for recruits) be annotated with the occupation classification/MOSID for which the member is being screened, because air factors are trade-specific. Candidates who clearly do not meet the published aircrew medical standards ([ref A](#)) should be rejected at this time. Borderline or complex cases can be discussed as needed with the Medical Consult Services (MCS) at Canadian Forces Environmental Medicine Establishment (CFEME) Toronto prior to approval and forwarding of documents. In the case of applicants requiring aptitude testing, files are transmitted to CFEME after applicant success at ASC Trenton; pre-screening is not required.

### **INITIAL AIRCREW VISION EXAMINATION**

8. Initial aircrew vision testing (refs [D](#), [E](#)) is to be completed on form DND 2776 *Visual Acuity for Initial Aircrew*. A complete initial aircrew vision exam includes corrected/uncorrected visual acuity at 6 m, 30-50 cm, and 100 cm, dilated funduscopy, colour vision, muscle balance, visual fields, ocular pressures and stereopsis. Exams can be done by an Ophthalmologist, an Optometrist or an Ophthalmic Technician. A cycloplegic *refraction* is required for all initial aircrew. For those who have had laser refractive surgery, the pre-operative cycloplegic refraction is also required (form DND 2778 *Refractive Surgery - Information for Recruitment*). Additional information on procedures for colour vision testing is available in [ref F](#) (Appendix 2 of Annex A - Instruction for Testing Colour Vision).

### **APTITUDE TESTING AT CANADIAN FORCES AIRCREW SELECTION CENTRE (CFASC)**

9. Aptitude testing is required for some trades (pilot/00183, ACSO/00182, and AEC/00184). Aptitude for all 3 trades (pilot, ACSO, AEC) is tested simultaneously at CFASC Trenton. Results are recorded for all trades in each applicant. This is not a medical process. An air factor is NOT required or assigned prior to aptitude testing.

10. Military members transferring to trades requiring aptitude testing will require the initial aircrew assessment before CFASC Trenton however, initial CFEME screening is NOT required unless the local flight surgeon has concerns about a possibly disqualifying medical condition. Civilian candidates have their initial medical assessment AFTER CFASC Trenton.

11. Candidates who are successful at CFASC Trenton have their Air Factor assigned thereafter. Only those candidates who are successful for Pilot at CFASC require further medical screening in person at CFEME prior to air factor assignment. Successful ACSO and AEC applicant files are forwarded without additional CFEME medical assessment. More detail is available in the Trade-Specific Processing section.

## TRADE-SPECIFIC PROCESSING

### Pilot Candidates (A1)

#### 12. Pilot Candidates:

- a. Civilian Pilot Candidates attend the CF Aircrew Selection Centre (CFASC) in Trenton prior to initial medical examination. Those successful are scheduled thereafter for an initial aircrew medical (medical assessment, medical testing, and second level review by RMO). Once complete, an in-person assessment is then booked at CFEME. Medical documents should be forwarded to CFEME so as to be available at the time of the assessment. After additional testing is completed, the air factor assigned with a signature on the recruit medical form CF2027.
- b. Military Members occupationally transferring to Pilot must have an initial aircrew medical (CF2033) with the required preliminary investigations and second level review prior to attending CFASC. A CF2088 should also be initiated, with the Air Factor block left blank. Candidates who clearly do not meet the published aircrew medical standards ([ref A](#)) should be rejected at this time and should not proceed to CFASC Trenton. Once aptitude screening has been completed at CFASC, successful candidates will be scheduled for an additional in-person assessment at CFEME. The medical file must be forwarded to CFEME prior to the appointment to be available for review during the appointment and subsequent assignment of the appropriate Air Factor.
- c. CFEME additional testing. The in-person assessment at CFEME Medical Consult Services in Toronto for pilot applicants successful at CFASC includes designated CFEME clinician review, pulmonary function tests, echocardiography, retinal photographs and corneal topography, and additional testing as required.

### ACSO (A2) and AEC (A4) Applicants

13. The files of candidates who pass for, and are offered either the ACSO or AEC trade after success at CFASC are annotated as such and continue processing without additional in-person assessment at CFEME, as per trades not requiring aptitude testing.

### Other A2 and A4 Trades (not requiring CFASC testing)

14. Medical documentation is prepared with completed forms CF2033 and CF2088 for military members or CF2027 for civilian recruits. The recommended air factor block is left blank. This documentation, together with the complete CF2034 for military members, is forwarded from the unit directly to CFEME Toronto for review and approval of the Air Factor with annotation of the CF2033 and CF2088 as Likely Fit/Unfit for the appropriate Air Factor.

### **Search and Rescue Technicians (SAR-Techs)**

15. SAR Techs are both Aircrew and Shallow Water Divers, and require dual medical certification IAW refs [A](#) and [G](#).

16. The SAR-Tech selection process occurs in 2 stages (Jarvis Lake – aptitude testing and CFEME – medical testing). Medical requirements however are completed in 3 phases:

a. Phase 1: Before Jarvis Lake

- (1) SAR Tech applicants undergo preliminary aptitude selection at the “SAR Tech Selection Course” held at Jarvis Lake in the February timeframe each year. This course entails no actual flying or diving, and candidates do not require an A4 Air Factor to attend.
- (2) Candidates for the selection course undergo a preliminary medical review by a CAF health-care practitioner (BAvMed or Flight Surgeon) to ensure that:
  - (a) they have no active medical conditions that might interfere with arduous physical activity at Jarvis Lake;
  - (b) they meet the minimum medical standards for SAR Tech apart from the Air Factor (i.e. V2, CV2, G2, O2) they have no obvious disqualifying medical conditions for future aeromedical fitness; and
  - (c) if the candidate meets these criteria (able to perform arduous physical activity, has a category of at least V2 CV2 G2 O2, and has no obvious aeromedical disqualifying conditions) then the member's Voluntary Occupational Transfer application should be annotated with "Medically eligible for aircrew selection. Air Factor to be assigned by CFEME prior to SAR Tech course loading following successful completion of Jarvis Lake selection.”
- (3) Also at this time (prior to Jarvis Lake), in order to expedite post-Jarvis Lake processing, aircrew and dive prelims are arranged IAW refs [A](#) (Table 3) and [G](#). Dive requirements include:
  - (a) dive labs: creatinine, electrolytes, and liver function tests (AST, ALT, GGT, Alk phos) in addition to the standard aircrew prelim blood work;
  - (b) chest x-rays for divers must include PA, lateral and inspiration and expiration views; and
  - (c) spirometry is required for initial diver PHAs.

- (4) The medical file does not require review at CFEME prior to the Jarvis Lake selection process, but any concerns about future diving or flight duty that arise from this assessment should be discussed with CFEME consultants, preferably prior to Jarvis Lake.

b. Phase 2: After Jarvis Lake, prior to CFEME

Following the Jarvis Lake selection course, a list of successful SAR Tech applicants is promulgated. Only these successful candidates require further medical assessment at CFEME. In preparation for the CFEME assessment, the successful candidate's files will be reviewed by a BAvMed provider or Flight Surgeon at the candidate's home base, to ensure that all of the earlier completed initial diver and aircrew prelims ([ref A](#), Table 3 and [ref G](#)) are complete and within normal range. If not, additional testing prior to CFEME may be required at this time. Once complete, the file is forwarded to CFEME awaiting the Phase 3 assessment.

c. Phase 3: CFEME Assessment and Air Factor Assignment

- (1) Beginning in 2017 candidates successful at Jarvis Lake have the initial dive and aircrew medical exam in-person at CFEME during SAR-Tech selection clinic. All available dive/aircrew prelims completed at the base (e.g. labs, CXR, aircrew vision exam) must be forwarded to CFEME in advance and available for review during the assessment. At CFEME, approval of an A4 for SAR requires dual sign-off by a Consultant in Diving Medicine, and a designated Aerospace Medicine Consultant.
- (2) Direct Entry Civilian SAR candidates require a standard enrolment medical, and then must be seen at CFEME Toronto in-person to satisfy the rest of the requirements of refs [A](#) and [G](#). Once all medical screening has been completed, approval of an A4 for SAR requires dual sign-off by a Consultant in Diving Medicine and a designated Aerospace Medicine Consultant.

**UAV Operators – Tier 3 (NATO Class 1)**

17. Tier 3 UAVs include CU169 Maveric, CU173 Raven-B and CU 165 Scan Eagle, the latter of which is a registered CAF aircraft. Medical screening is required per [ref B](#) for personnel to act as an Air Vehicle Operator (AVO). A minimum medical category of 323/33/Any/ is required for this specialty. Medicals for selection are conducted as an initial aircrew medical with the same preliminary process as for trades not requiring aptitude testing, and forwarded to CFEME-Toronto for enhanced aeromedical screening. Tier 3 (Class 1) UAV Operators are not aircrew, and the Air Factor is annotated A5-UAV per [ref E](#).

**AIR FACTOR VALIDITY**

18. Air Factors assigned by CFEME are valid for a period of one year from the date of the aircrew physical examination, or for pilot applicants examined at CFEME, for one year from the date of assignment at CFEME.

19. If, after one year, the aircrew applicant is not yet enrolled or MOSID assigned, the Air Factor will expire. Aircrew applicants must have their Air Factor renewed annually until enrolled and/or MOSID/OSS assigned. This is accomplished by a repeat aircrew PHA (type I or type II) with required investigations followed by review and approval at CFEME.

### **RE-ENROLMENT MEDICAL SCREENING FOR EXPERIENCED AIRCREW**

20. Experienced aircrew applicants, either previously in the CAF or in another military, must meet the minimum medical standard for the applicable MOSID, as specified under DAOD 5002-1. In certain circumstances, a waiver of the minimum MOSID medical standard may be granted by CMP.

21. The nature of file review for re-enrolment aircrew medical screening is determined by the time since release. If the experienced aircrew applicant is re-enrolling:

- a. within two years of release: A CF2027 enrolment medical is not required. An aircrew Periodic Health Assessment (PHA) (type I or type II as appropriate) must be completed at their assigned unit with **local approval of the Air Factor**;
- b. more than two years but less than five years since release: A CF2027 enrolment medical is not required. A complete type I PHA must be completed at the assigned unit. **Review and assignment of the Air Factor at CFEME** is required before returning to aircrew duties;
- c. after five years or more: A complete aircrew medical assessment including preliminaries **at the CFRC with subsequent CFEME assessment**, in person for pilots, and by document review for other aircrew is required; and
- d. aircrew who component transfer from Regular Force to Reserve may transfer back to the Regular Force provided their aircrew medical has been kept current.

### **DEFINITIVE SOURCE**

22. Parts of this Guideline may be inconsistent with the current DOADs, CFAOs, and CFP 154. These documents are continually under review by D Med Pol Ottawa. This guideline may be considered the “definitive source” pending formal revision to existing orders.