RA 2135 - Aircrew Medical Requirements

Rationale
► Operating Military Aircraft is both physically and mentally demanding. Without the correct level of fitness and aviation medical training, aircrew will place themselves, the aircraft and the public at increased risk. This RA requires the Regulated Community to ensure aircrew maintain the required level of fitness and are given appropriate aviation medical training, in order to reduce these risks. ◄

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Regulation 2135(1) Aircrew Medical Certificate

2135(1) Aircrew shall hold an appropriate and valid medical certificate.

Acceptable Means of Compliance 2135(1)

Aircrew Medical Certificate
1. Aviation Duty Holders (ADH) and Accountable Managers (Military Flying) (AM(MF)s) should ensure that all aircrew within their Area of Responsibility (AoR) hold an appropriate and valid Medical Employment Standard (MES).
2. ADH and AM(MF)s should stipulate in Orders the MESs for all aircrew in their AoR.
3. Aircrew should be certified medically fit in the first instance through an initial medical examination by Recruitment and Selection Department of Occupational Medicine (R&S DOM).
4. Thereafter, aircrew should be certified medically fit by a Military Aviation Medical Examiner (MAME), periodically as follows:
   a. Military Aircrew (Regular\(^1\)). Military aircrew (Regular) should attend a Periodic Medical Examination (PME) conducted by a MAME.
   b. Other Aircrew:
      (1) Other aircrew flying ejection seat equipped aircraft should attend a PME conducted by a MAME, supported by a Medical Attendant Report (MAR) and a Statement of Health (SoH).
      (2) Other Aircrew flying non-ejection seat equipped aircraft should either:
         (a) Attend a PME conducted by a MAME, supported by a MAR and an enhanced SoH or;
         (b) Present a valid civilian medical certificate, supported by a MAR and a SoH, to a MAME as follows:
            i. For manned aircraft, an EASA\(^2\) Class 1 medical certificate or;

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\(^1\) As defined by section 374 of the Armed Forces Act 2006. In the context of this Regulatory Article, this also includes Full Time Reserve Service aircrew.

\(^2\) EASA European Aviation Safety Agency
Acceptable Means of Compliance 2135(1)

ii. For Remotely Piloted Air Systems (RPAS) categorized as Class 3, an EASA Class 1 medical certificate or;

iii. For RPAS categorized as Class 2 and below, an EASA Class 2 medical certificate.

5. Aircrew should comply with all restrictions noted on their medical certificate.

6. From the age of 60, aircrew should be subject to enhanced cardiovascular screening.

7. ADH and AM(MFs) should stipulate in Orders the MESs for all supernumerary crew in their AoR.

Aircrew Medical Certificate

8. For aircrew attending a PME to determine medical certification, the MES will normally correspond to a Joint Medical Employment Standard, as detailed in JSP 950. For all other aircrew, the MES will normally correspond to the type and class of civilian medical certificate required of their aircrew role.

9. Dispensations to the requirement to attend R&S DOM for initial medical examination may be authorised by R&S DOM for those Defence Contractor aircrew flying non-ejection seat aircraft.

10. A MAME is a Medical Officer (MO) authorized by either Consultant Advisor in Aviation Medicine (CA Av Med) (RN / Army) or Command Flight Medical Officer (RAF) (CFMO(RAF)) respectively.

11. Defence Contractor Flying Organizations will have a designated MAME, details of whom are available from the CFMO(RAF)4.

12. Defence Contractor Flying Organizations may use dedicated Civil Aviation Medical Examiners (AMEs) in place of a MAME, where those Civil AMEs have been endorsed to do so by Deputy Assistant Chief of Staff Aviation Medicine via CFMO(RAF), RAF Centre of Aviation Medicine (CAM).

13. Civilian aircrew may seek advice from the CFMO(RAF) with any concerns regarding access to a MAME.

14. Where this Regulatory Article states that a MAME must be consulted, contact by telephone may be appropriate.

15. A MAR is for MAME use only, and is designed to provide information to enable a full assessment of aircrew fitness for their role. Full details of a MAR can be found in AP 1269A Leaflet 3-02 Annex C.

16. A SoH is for MAME use only, and is designed to provide information to enable a full assessment of aircrew fitness for their role. Full details of a Statement of Health can be found in AP 1269A Leaflet 3-02 Annex B.

17. Aircrew required to provide a MAR must ensure it is completed by their civilian Medical Practitioner, be available to the certifying MAME and be dated within 2 months of the medical certificate due date.

18. If the individual has an EASA Class 1 Medical Certificate with a 6-monthly validity, the PME may nonetheless be endorsed by the MAME to 12-months. This applies for non-ejection seat aircraft flying only.

19. The certification of medical fitness will be entered in aircrew flying logbooks or records, signed by a MAME and is valid until the last day of the month in which the next aircrew medical is due.

20. The definitive medical guidelines and instructions for assessment of medical fitness standards are published in AP 1269A and may be augmented in single-Service

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2 European Aviation Safety Agency.
3 R&S DOM, Adastral Hall, PO Box 1000, RAFC Cranwell, Sleaford, Lincs NG34 8GZ.
4 CFMO(RAF), RAF CAM, RAF Henlow, Bedfordshire, SG16 6DN. AIR 38Gp-CAM-CFMOSO1@mod.uk.
5 Via CFMO(RAF), RAF CAM, RAF Henlow, Bedfordshire, SG16 6DN. Air 38Gp-CAM-CFMOSO1@mod.uk.
6 See RA ◄2401(3)► - Documents and Records.
orders and other documents.

21. Non-aircrew whose duties require them to fly regularly must be certified medically fit in accordance with RA 2340(1) – Flying of Passengers on UK Military Aircraft.

22. Enhanced cardiovascular screening arrangements may be facilitated by a MAME.

23. **Supernumerary Crew.** For military supernumerary crew (Regular1) the MES must be determined in conjunction with the CFMO(RAF) or the respective CA Av Med (RN / Army). For all other supernumerary crew the MES must be determined in conjunction with the CFMO(RAF). Aircrew holding an appropriate and valid aircrew MES may fly as supernumerary crew without additional medical examination.

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**Regulation 2135(2)**

**Aircrew Fitness-to-Fly**

2135(2) Aircrew uncertain of their fitness to fly **shall** report to a MAME or a Medical Practitioner before flying.

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**Acceptable Means of Compliance 2135(2)**

**Aircrew Fitness-to-Fly**

24. Supervisors and Authorizing Officers who have reason to doubt the medical fitness, including anthropometric fitness, of any aircrew **should** seek the advice of a MAME.

25. All aircrew **should**:
   a. Seek medical advice even for relatively minor illness, since they have a duty to ensure their own safety and the safety of any crew or passengers.
   b. Seek medical advice if they have any reason to doubt their fitness to fly or their anthropometric fitness for the aviation platforms they are required to operate.
   c. Contact a MAME prior to returning to flying duties if any advice has been sought from a Medical Practitioner who has no aviation medical training.
   d. Report any period of non fitness to fly to their Commander or, for Defence Contractor Flying Organizations, the Flight Operations post-holder.

26. Medical Officers **should** ensure that commanders are informed of any change in medical fitness affecting the flying status of their aircrew.

27. Flight Operations post-holders **should** ensure that a mechanism exists to ensure he is notified of any change in medical fitness affecting the flying status of their aircrew.

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**Guidance Material 2135(2)**

**Aircrew Fitness-to-Fly**

28. Aircrew may declare, without medical advice, that they are not fit-to-fly.

29. Strenuous or prolonged physical exercise may adversely affect individual ability to withstand the stress of flight, including G tolerance.

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**Regulation 2135(3)**

**Pilot Operations - Upper Age Limit**

2135(3) Pilots **shall not** operate an aircraft once they attain the age of 65 unless the aircraft is fitted with dual controls and is operated with a second pilot who has not yet attained the age of 65. Furthermore, the second pilot **shall** hold an appropriate qualification and MES entitling him to act as pilot in command.
Acceptable Means of Compliance
2135(3)

Pilot Operations - Upper Age Limit
30. ADH and AM(MF)s should stipulate in Orders the MES and qualifications to be held for the second pilot.

Guidance Material
2135(3)

Pilot Operations - Upper Age Limit
31. The second pilot must be suitably qualified to undertake the manoeuvres, roles, or exercises to be carried out.

Regulation
2135(4)

Enhanced Cardiovascular Screening
2135(4) Withdrawn – Incorporated into RA 2135(1)

Acceptable Means of Compliance
2135(4)

Enhanced Cardiovascular Screening
32. Withdrawn – Incorporated into RA 2135(1)

Guidance Material
2135(4)

Enhanced Cardiovascular Screening
33. Withdrawn – Incorporated into RA 2135(1)

Regulation
2135(5)

Flying After an Accident or In-Flight Medical Incident
2135(5) After being involved in a flying accident or in-flight medical incident, aircrew shall not operate an aircraft without appropriate medical approval.

Acceptable Means of Compliance
2135(5)

Flying After an Accident or In-Flight Medical Incident
34. A MAME should issue medical approval prior to any return to flying duties for aircrew involved in a flying accident or in-flight medical incident.

Guidance Material
2135(5)

Flying After an Accident or In-Flight Medical Incident
35. ADH and AM(MF)s must consider the guidance in AP 1269A Leaflet 3-93 Annex I for the management of aircrew following an accident.

36. AP 1269 Leaflet 12-06 lists in-flight medical incidents7 and provides guidance for the management of aircrew following an in-flight medical incident.

Regulation
2135(6)

Initial & Refresher Aviation Medical Training
2135(6) All aircrew shall complete an initial course of aviation medical training prior to basic flying training. All aircrew engaged on flying duties shall receive appropriate refresher aviation medicine training.

7 Such as G-LOC, fumes in cockpit, spatial disorientation, oxygen system malfunctions etc.
Acceptable Means of Compliance 2135(6)

Initial & Refresher Aviation Medical Training
37. ADH and AM(MF)s should:
   a. Determine appropriate initial and refresher aviation medical training requirements in conjunction with RAF CAM.
   b. Ensure all aircrew complete initial and refresher aviation medical training.
   c. Stipulate in Orders:
      (1) The initial and refresher aviation medical training requirements within their AoR.
      (2) The procedures to be followed when a dispensation or extension to aviation medical training requirements is deemed necessary.

Guidance Material 2135(6)

Initial & Refresher Aviation Medical Training
38. All aircrew engaged on flying duties will receive appropriate refresher aviation medical training at intervals not exceeding 5 years.
39. CFMO( RAF), or the respective CA Av Med (RN / Army) must be consulted prior to any dispensation or extension to any aviation medical training requirements.
40. STANAG 3114 contains appropriate syllabi for initial and refresher aviation medical training by platform type.

Regulation 2135(7)

High G Training
2135(7) All aircrew whose employment exposes them to High G environments shall successfully complete High G training.

Acceptable Means of Compliance 2135(7)

High G Training
41. High G training should be conducted using an appropriate centrifuge.
42. ADH and AM(MF)s should:
   a. Determine initial and refresher High G training requirements in conjunction with RAF CAM.
   b. Stipulate in Orders:
      (1) The training requirements for all aircrew whose employment exposes them to High G environments.
      (2) The procedures to be followed when a dispensation or extension to High G training requirements is deemed necessary.
      (3) The procedures to be followed for trainees who do not complete High G training to the determined standard.
43. After centrifuge exposure aircrew should not return to flying duties until they are both 6 hours after exposure and free of residual symptoms.

Guidance Material 2135(7)

High G Training
44. Centrifuge based refresher training will be undertaken at least every 5 years by aircrew operating in the high G environment or on return to flying duties after an absence of 3 years or more.
45. RAF CAM must be consulted prior to any dispensation or extension to any High G training requirements.
46. Training may be conducted by a combination of centrifuge and additional training.

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8 OC AMW Training Section, RAF CAM, RAF Henlow, Bedfordshire, SG16 6DN. ►AIR38Gp-CAM-AMW-OCAMWTS@mod.uk◆
9 STANAGs are available to Defence Contractor Flying Organizations, on request, from the MAA.
training conducted in the air.

47. Aircrew must receive appropriate centrifuge based High G training pertinent to the platform being flown for the purposes of: G awareness; where applicable, experiencing high onset rates and High Sustained G; and learning to perform an effective anti-G straining manoeuvre pertinent to their platform anti-G system. Training instructions must cater for both ab-initio and continuation training requirements and include both theory and practical training.

48. Exposure to G stress will be performed in accordance with STANAG 3827.

49. Centrifuge exposure may adversely affect aircrew due to the physical strain of high G and sensory disturbance induced by centrifuge manoeuvres.

**Temporary Medical Restrictions to Flying Duties**

2135(8) Aircrew shall comply with any restrictions placed upon them following exposure to conditions affecting their fitness to fly.

**Acceptable Means of Compliance 2135(8)**

50. Aircrew should not:
   a. Take any prescription medicine, drugs, tablets or remedies (ie non over-the-counter) before flying unless prescribed or approved by a MAME.
   b. Use any over-the-counter medicines, drugs, tablets or remedies within 24 hours of reporting for flying duties unless approved by a MAME, as the effect on an individual's fitness to fly may not be immediately apparent.
   c. Use any dietary supplements, homeopathic remedies or alternative medicines.
   d. Fly until 48 hours have elapsed following a general, spinal or epidural anaesthetic, or for 12 hours after a local or regional (dental) anaesthetic, unless the period is extended in consultation with a MAME.
   e. Fly until 12 hours have elapsed following acupuncture treatment.
   f. Fly until 36 hours have elapsed after donating blood.
   g. Fly until 24 hours have elapsed following the application of mydriatic eye drops or agents.

51. Aircrew should ascertain from a MAME (or Medical Practitioner in consultation with a MAME), the duration of any flying restrictions following inoculations or vaccinations as most inoculations and vaccinations will restrict flying, normally for at least 12 hours.

52. Aircrew should consult a MAME prior to undergoing treatment for any of the following:
   a. Elective surgery.
   b. Corneal refractive surgery for visual correction.
   c. Routine immunisation.
   d. Hypnotherapy.
   e. Acupuncture.
   f. Complementary and alternative medicine.

53. Personnel should not fly or undergo low-pressure chamber experience:
   a. Within 12 hours of swimming/diving using compressed-air breathing apparatus (aqualung equipment), or within 24 hours if a depth of 10m has been exceeded (an exception can be made if 100% oxygen-only has been breathed throughout the dive after which immediate flying is permissible) or;
b. Within 12 hours of experiencing hyperbaric pressures\textsuperscript{10}.

54. Personnel \textbf{should not} fly or undergo low-pressure chamber experience within 24 hours of Short Term Air Supply System training, except that flying may be permitted when all the following apply:
   a. The time of immersion is less than 20 minutes.
   b. The depth of immersion has not exceeded 3 metres.
   c. There is an interval of 4 hours between the end of training and commencing flying.
   d. The cabin pressure altitude will not be above 8000 ft.

55. Personnel \textbf{should not} fly at a cabin altitude above FL100 within 12 hours of exposure in a low-pressure chamber.

56. Following exposure to any chemical warfare training agents, aircrew \textbf{should not}:
   a. Return to flying duties until all physical and psychological effect produced by the agent have cleared.
   b. Return to flying duties for a minimum period of 12 hours following exposure to CS gas.
   c. Fly in any clothing or equipment that remains contaminated from the training.

57. Following exposure to any chemical warfare training agent, passengers \textbf{should not} fly in any clothing or equipment that remains contaminated from the training.

58. Aircrew who have engaged in boxing (including sparring, but not including noncontact training) \textbf{should not} fly for 48 hours after a bout, and must be examined by a MAME before resuming flying duties.

\textbf{Guidance Material 2135(8)}

\textbf{Temporary Medical Restrictions to Flying Duties}

59. \textbf{Complementary and Alternative Medicine}. Some techniques used by Complementary or Alternative Medical Practitioners are not currently subject to the same controls as conventional medicine and may not be evidence based. Complementary or alternative medicine cannot be guaranteed not to have side-effects which may be detrimental in aviation.

\textsuperscript{10} Such as cabin pressure testing.