RA 2135 - Aircrew Medical Requirements

Rationale
Operating military ►Air Systems◄ is both physically and mentally demanding. Without the correct level of fitness and aviation medical training Aircrew will place themselves, the ►Air System◄ and the public at increased risk. This ►Regulatory Article (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
Aircrew shall hold an appropriate and valid medical certificate.

Acceptable Means of Compliance
2135(1)
1. Aviation Duty Holders (ADH) and Accountable Managers (Military Flying) (AM(MF)) should ensure that all Aircrew within their Area of Responsibility (AoR) ►are medically fit and meet the requirements detailed in Annex A.◄
2. ADH and AM(MF) should ►detail in orders the Medical Employment Standard (MES) for all Aircrew and Supernumerary Crew in their AoR1.◄
3. ►◄
4. ►◄
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. ►◄

Guidance Material
2135(1)
8. For Aircrew attending a ►Periodic Medical Examination (PME)◄ to determine medical certification, the MES will normally correspond to a Joint ►MES,◄ as detailed in JSP 950*2*. For all other Aircrew the MES will normally correspond to the type and class of civilian medical certificate required of their Aircrew role.
9. ►◄
10. A ►Military Aviation Medical Examiner (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))3.
11. ►If ADH / AM(MF) have any doubt over the suitability of a MES for Aircrew in their AoR they may consult with CA Av Med (RN / Army) or CFMO (RAF), through their respective MAME.◄

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1 ►Minimum MES for Remotely Piloted Air Systems (RPAS) military Aircrew are detailed at Annex A.
2 Refer to JSP 950 - Medical Policy. ◄
3 CFMO(RAF), RAF CAM, RAF Henlow, Bedfordshire, SG16 6DN. AIR 38Gp-CAM-CFMOSO1@mod.gov.uk.
12. Defence Contractor Flying Organizations will have a designated MAME, details of whom are available from the CFMO(RAF).

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

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

15. 

16. A Medical Attendant’s Report (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.

17. A Statement of Health (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 SoH can be found in AP 1269A Leaflet 3-02 Annex B.

18. Aircrew required to provide a MAR must ensure it is completed by their civilian General Practitioner (GP) be available to the certifying MAME and be dated within 2 months of the medical certificate due date.

19. If the individual has a European Aviation Safety Agency (EASA) Class 1 Medical Certificate with a 6-month validity, the PME may nonetheless be endorsed by the MAME to 12 months.

20. 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.

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

22. Non-aircrew whose duties require them to fly regularly must be certified medically fit in accordance with RA 2340(1).

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

24. For military Supernumerary Crew (Regular) 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.

### Aircrew Fitness-to-Fly

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

### Acceptable Means of Compliance

25. 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.

26. All Aircrew should:

   a. Seek medical advice if they have any reason to doubt their fitness to fly, even for relatively minor illness, since they have a duty to ensure their own safety and the safety of any crew or passengers.

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8 Via CFMO(RAF).
9 Refer to AP 1269 - Assessment of Medical Fitness.
6 Refer to RA 2340 - Flying of Passengers on UK Military Aircraft.
7 As defined by section 374 of the Armed Forces Act 2006. In the context of this RA, this also includes Full Time Reserve Service Aircrew.
b. Seek medical advice if they have any reason to doubt their anthropometric fitness for the Air System 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.

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

28. Flight Operations post-holders should ensure that a mechanism exists to ensure they are notified of any change in medical fitness affecting the flying status of their Aircrew.

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

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

Pilot Operations - Upper Age Limit

2135(3) Pilots shall not operate an Air System once they attain the age of 65 unless the Air System 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.

31. ADH and AM(MF) should stipulate in orders the MES, qualifications and flying currency to be held for the second Pilot. The second Pilot should be capable of undertaking the manoeuvres, roles or exercises to be carried out.

32. Nil.

Enhanced Cardiovascular Screening

2135(4) Withdrawn – Incorporated into RA 2135(1).

33. Withdrawn – Incorporated into RA 2135(1).

34. Withdrawn – Incorporated into RA 2135(1).

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 Air System without appropriate medical approval.
Acceptable Means of Compliance 2135(5)

Flying After an Accident or In-Flight Medical Incident
35. 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
36. ADH and AM(MF) must consider the guidance in AP 1269A Leaflet 3-03 Annex 5 for the management of Aircrew following an accident.
37. AP 1269 Leaflet 12-06 lists in-flight medical incidents and provides guidance for the management of Aircrew following an in-flight medical incident.

Regulation 2135(6)

Initial and 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.

Acceptable Means of Compliance 2135(6)

Initial and Refresher Aviation Medical Training
38. ADH and AM(MF) 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.
      (a) CFMO(RAF), or the respective CA Av Med (RN / Army) should be consulted prior to any dispensation or extension to aviation medical training requirements.

Guidance Material 2135(6)

Initial and Refresher Aviation Medical Training
39. In accordance with AAMedP-1.2, all Aircrew engaged on flying duties will receive appropriate refresher aviation medical training at intervals not exceeding 5 years.
40. ◄
41. AAMedP-1.2 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.

References:
9 ► Refer to AP 1269 - Medical Management and Administration.
10 Such as G-LOC, fumes in cockpit, spatial disorientation, oxygen system malfunctions etc.
11 Refer to AAMedP-1.2 - Aeromedical Training of Flight Personnel. AAMedP-1.2 is available to Defence Contractor Flying Organizations on request from the MAA.
High G Training
42. High G training should be conducted using an appropriate centrifuge.
43. ADH and AM(MF) 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.
         (a) RAF CAM should be consulted prior to any dispensation or extension to High G training requirements.
      (3) The procedures to be followed for trainees who do not complete High G training to the determined standard.
44. After centrifuge exposure Aircrew should not return to flying duties until 6 hours after exposure and free of residual symptoms.

Guidance Material 2135(7)

High G Training
45. In accordance with AAMedP-1.13, refresher training is required following a 3-year absence from the High G environment and before returning to high performance flying, and is recommended for aircrew of high performance aircraft on a 5-yearly basis.
46. ►◄
47. ►◄
48. Aircrew must receive appropriate centrifuge based High G training pertinent to the Air System 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 manoeuvre pertinent to their platform anti-G system. ►◄
49. Exposure to G stress will be performed in accordance with AAMedP-1.13. ►◄
50. Centrifuge exposure may adversely affect Aircrew due to the physical strain of High G and sensory disturbance induced by centrifuge manoeuvres.

Regulation 2135(8)

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)

Temporary Medical Restrictions to Flying Duties
51. Aircrew should not:
   a. Take any prescription medicine, drugs, tablets or remedies 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 unless approved by a MAME.
   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.

12 ►Refer to AAMedP-1.13 - Minimum Requirements for Physiological Training of Aircrew in High “G” Environment. AAMedP-1.13 is available to Defence Contractor Flying Organizations on request from the MAA. ◄
52. Aircrew **should** ascertain from 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.

53. Aircrew **should** consult a MAME prior to undergoing treatment for any of the following:
   - Elective surgery.
   - Corneal refractive surgery for visual correction.
   - Routine immunisation.
   - Hypnotherapy.
   - Acupuncture.
   - Complementary and alternative medicine.

54. Personnel **should not** fly or undergo low-pressure chamber experience:
   - 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;
   - Within 12 hours of experiencing hyperbaric pressures\(^\text{13}\).

55. Personnel **should not** fly or undergo low-pressure chamber experience within 24 hours of Short Term Air Supply System training, except ►◄ when all the following apply:
   - The time of immersion is less than 20 minutes.
   - The depth of immersion has not exceeded 3 metres.
   - There is an interval of 4 hours between the end of training and commencing flying.
   - The cabin pressure altitude will not be above 8000 ft.

56. Personnel **should not** fly at a cabin altitude above FL100 within 12 hours of exposure in a low-pressure chamber.

57. Following exposure to any chemical warfare training agents, Aircrew **should not**:
   - Return to flying duties until all physical and psychological effects produced by the agent have cleared.
   - Return to flying duties for a minimum period of 12 hours following exposure to CS gas.
   - Fly in any clothing or equipment that remains contaminated ►by◄ the training.

58. Following exposure to any chemical warfare training agent, Passengers and Supernumerary Crew **should not** fly in any clothing or equipment that remains contaminated ►by◄ the training.

59. Aircrew who have engaged in boxing (including sparring, but not including non-contact training) **should not** fly for 48 hours after a bout, and ►**should**◄ be examined by a MAME before resuming flying duties.

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\(^{13}\) Such as cabin pressure testing.
Temporary Medical Restrictions to Flying Duties

60. 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.
ANNEX A

1. All Aircrew of manned Air Systems should complete an Initial Medical Examination (IME) and thereafter should be subject to PME. The medical examiners required for award of IME and PME are detailed at Table 1.

Table 1. Medical Examiners Required for Award of IME and PME for Aircrew of Manned Air Systems

<table>
<thead>
<tr>
<th>Regular Military Aircrew UK (1), NATO (2), Aus / NZ</th>
<th>Civilian or Other Military Aircrew</th>
</tr>
</thead>
<tbody>
<tr>
<td>IME</td>
<td>Ejection Seat</td>
</tr>
<tr>
<td></td>
<td>Non-Ejection Seat</td>
</tr>
<tr>
<td>PME</td>
<td>MAME (4)</td>
</tr>
<tr>
<td></td>
<td>Ejection Seat</td>
</tr>
<tr>
<td></td>
<td>Non-Ejection Seat</td>
</tr>
<tr>
<td></td>
<td>MAME (supported by a MAR and a SoH)</td>
</tr>
<tr>
<td></td>
<td>MAME (supported by a MAR and a SoH) or EASA Class 1 (supported by a MAR and a SoH, presented to a MAME)</td>
</tr>
</tbody>
</table>

Table 2. Minimum Requirements for RPAS Aircrew

<table>
<thead>
<tr>
<th>RPAS Category</th>
<th>RPAS Military Aircrew</th>
<th>RPAS Civilian Aircrew (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I(a) and I(b) / I(b) Mil</td>
<td>A4</td>
<td>Nil</td>
</tr>
<tr>
<td>I(c)</td>
<td>A4 (5-yearly level 3 PME)</td>
<td>DVLA Gp1 (Passenger car driver) standard (6)</td>
</tr>
<tr>
<td>I(d)</td>
<td>A4 (5-yearly level 4 PME)</td>
<td>DVLA Gp2 (HGV driver) standard (6)</td>
</tr>
<tr>
<td>II</td>
<td>A4 (Annual level 4 PME)</td>
<td>EASA Class 2 or European Class 3 (7) (both supported by MAR and SoH, presented to a MAME) (8)</td>
</tr>
<tr>
<td>III</td>
<td>A3 (Annual level 4 PME) (9)</td>
<td>EASA Class 1 or European Class 3 (7) (both supported by MAR and SoH, presented to a MAME) (8)</td>
</tr>
</tbody>
</table>

Notes:

1. As defined by section 374 of the Armed Forces Act 2006; in the context of this RA this also includes Full Time Reserve Service Aircrew.
2. Refer to STANAG 3526 - Interchangeability of NATO Aircrew Medical Categories.
3. R&S DOM, Adastral Hall, PO Box 1000, RAFC Cranwell, Sleaford, Lincs NG34 8GZ.
4. Where foreign Aircrew choose to have their annual PME performed by their home nation the new certificate should be presented to a UK MAME for update of their UK medical records.
5. Alternatively, civilian Aircrew are deemed to meet the minimum requirements for a RPAS category if they have the military Aircrew MES (from a MAME led PME) for that RPAS category.
6. Where the individual does not hold the DVLA licence a letter should be provided by their GP stating that they would meet the required medical standards.
7. Refer to EASA Medical Requirements for Air Traffic Controllers.
8. If the operator does not maintain a manned Air System certification, at annual PME the MedLim 2003 – ‘Fit RPAS flying duties only’ should be awarded.
9. IME is also required and should be conducted by R&S DOM.