

► This RA has been substantially re-written; for clarity, no change marks are presented - please read RA in entirety ◀

RA 2130 - Survival Equipment, Drills and Training

Rationale

All personnel who fly in Aircraft are subject to a degree of Risk. Without the correct Survival Equipment (SE) and survival training, personnel will be exposed to increased Risk to Life (RtL). This Regulatory Article (RA) requires Aviation Duty Holders (ADH) and Accountable Managers (Military Flying) (AM(MF)) to detail in orders the SE and survival training required for all personnel who fly, or are flown in, UK military registered Aircraft within their Areas of Responsibility (AoR).

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Regulation

2130(1)

Survival Training and Currency

2130(1) The ADH and AM(MF) **shall** publish orders that detail the survival drill training requirements for Aircrew, Supernumerary Crew, Supernumerary Support Crew and Passengers on Aircraft within their AoR.

Acceptable Means of Compliance

2130(1)

Survival Training and Currency

1. ADH and AM(MF) Orders **should** detail, as a minimum, the following:
 - a. The application of periodicity of survival drills at Annex A to each unit within their AoR;
 - b. Any additional requirements to those detailed at Annex A to be applied within their AoR;
 - c. The procedures to be followed when a dispensation or extension is required. Personnel who have exceeded the maximum periodicity for a required element of survival training **should not** be permitted to fly unless a dispensation or extension has been granted.
 - d. The survival drill requirements following conversion to a different Aircraft type;
 - e. Underwater Escape Training (UET) requirements for Supernumerary Crew, Supernumerary Support Crew and, if appropriate, Passengers who fly regularly in helicopters over the sea;
 - f. The Aircrew Equipment Assemblies (AEA) and SE to be worn during survival training;
 - g. The qualifications to be held by personnel delivering survival training.
2. The ADH and AM(MF) **should** ensure that all drill SE is suitably representative, exhibits the same dynamics and operation as the actual SE used onboard the Aircraft, and / or is most likely to be used in a survival situation. Whilst differences may exist, the ADH and AM(MF) **should** be satisfied that sufficient resolution exists to provide effective training to aid survival.

**Acceptable
Means of
Compliance
2130(1)**

3. Aircrew, Supernumerary Crew, Supernumerary Support Crew and Passengers **should** be current for all survival drill requirements as stipulated in ADH / AM(MF) Orders.
4. **Safety Boat.** Whenever survival training is carried out at sea or in open water, a safety boat **should** be in attendance.
5. **Dry Training.** Where applicable, ADH and AM(MF) Orders **should** detail the content of:
 - a. Abandon Aircraft drills. As a minimum these **should** be practised from the strapped in position.
 - b. The ejection and manual separation drill. As a minimum this **should** include:
 - (1) A comprehensive review of the seat components, operation, limitations and ejection sequence;
 - (2) The strapping in procedure and safety implications of not strapping in correctly;
 - (3) Practical drills in the use of each firing handle and seat failures.
 - c. The dry life raft and life preserver drills. As a minimum these **should** include:
 - (1) A lecture and appropriate demonstrations covering all aspects of personal SE carried;
 - (2) Instruction in helicopter rescue techniques.
 - d. Synthetic Parachute Training (SPT). As a minimum this **should** include:
 - (1) Parachute flight drills;
 - (2) Parachute landing drills;
 - (3) A briefing to cover ground dragging and harness release.

**Guidance
Material
2130(1)**

Survival Training and Currency

6. The ADH and AM(MF) may grant extensions to the periodicities detailed at Annex A for operational reasons or in exceptional circumstances.
7. The ADH and AM(MF) may exempt units from a specific drill detailed at Annex A in exceptional circumstances, when they consider that the drill is not applicable to an Aircraft type and / or role. Additionally, the ADH and AM(MF) may exempt Aircrew and trainees from the life raft / preserver drills, wet winching drills and UET / Short Term Air Supply System (STASS) drills where those Aircrew and trainees are not required to conduct over water sorties. Any exemption must be formally recorded in the Air System Safety Case¹.
8. **Wet Drills.** When a wet drill is completed the equivalent dry drill is also deemed to have been completed. Similarly, when a sea / Environmental Pool Trainer drill is completed the associated pool drill is also deemed to have been completed.
9. **Synthetic Parachute Training.** Normally SPT is to be conducted wearing full AEA and SE appropriate to the Aircraft type. However, the ADH and AM(MF) may detail alternative AEA and SE (as per para 1.f.) where they assess the wearing of full AEA and SE to be inappropriate. Water parachute dragging drills will normally be practised in conjunction with wet life raft drills.
10. **Wet Multi-Seat Life Raft Drill.** Multi-seat life raft drills are a requirement for Aircrew whose Aircraft do not normally carry multi seat life rafts. They are conducted to familiarize Aircrew with the type of life raft that may be supplied by rescue crews or when flying as a Passenger in a transport Aircraft. However, some dispensations are given in the periodicity detailed at Annex A.

¹ Refer to RA 1205 - Air System Safety Cases.

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11. **Underwater Escape Training.** UET will normally be carried out in a suitable rotary-wing module at the UET Unit (UETU), RNAS Yeovilton, although alternative facilities may be used for detached units or Defence Contractor Flying Organizations.
12. **STASS Dry Drill.** Initial STASS dry drills will be completed at the UETU. Subsequent STASS dry drills may be carried out locally.
13. **STASS Wet Drill.** STASS wet drills will be completed by eligible personnel at the same time as UET. All personnel required to undertake wet STASS training will be medically screened prior to the training, using the Medical Screening Questionnaire².
14. **STASS Exemptions.** The ADH and AM(MF) may permit personnel who are medically boarded and assessed as permanently unfit for wet STASS training, but who have previously completed wet STASS training, to conduct dry STASS drills only. This judgement will be made with medical guidance on a case by case basis and will be recorded in the individual's Flying Logbook³.
15. **Environmental Pool Trainer.** Military student Aircrew will experience the effects of cold-water shock and sea survival, from their initial Aircrew Maritime Survival Drills provided by the Defence Survival, Evasion, Resistance and Extraction Training Organisation. However, the initial wet winching drill may be conducted at the Environmental Pool Trainer. Thereafter, the Environmental Pool Trainer (including winch trainer) is entirely interchangeable with the sea for drill validities detailed at Annex A.
16. **Survival, Escape / Evasion, Resistance and Extraction (SERE).** The requirements for land-centric SERE training, for operating in a potentially hostile environment, are directed in Joint Service Publication (JSP) 998⁴. These requirements are theatre specific and will be initiated as required by the relevant Force Commanders after consultation with Permanent Joint Headquarters. The currency and revalidation of SERE training is detailed in JSP 911⁵.

**Regulation
2130(2)**

Wearing and Carriage of Aircrew Equipment Assemblies and Survival Equipment

- 2130(2) The ADH and AM(MF) **shall** publish orders that detail the wearing and carriage of AEA and SE on Aircraft within their AoR.

**Acceptable
Means of
Compliance
2130(2)**

Wearing and Carriage of Aircrew Equipment Assemblies and Survival Equipment

17. ADH and AM(MF) Orders **should** detail the minimum AEA and SE to be worn and carried on the person by all Aircrew, Supernumerary Crew, Supernumerary Support Crew and Passengers within their AoR. Only AEA and SE approved in the Air System Document Set **should** be worn or carried.
18. **Modification of Equipment.** The approval of the relevant Engineering Authority **should** be sought prior to any modification to AEA or SE. The ADH and AM(MF) **should** consult the Aircraft Type Airworthiness Authority or Type Airworthiness Manager, prior to seeking approval for modifications to AEA and SE.

**Guidance
Material
2130(2)**

Wearing and Carriage of Aircrew Equipment Assemblies and Survival Equipment

19. **Immersion Thermal Protection.** Guidance on the wearing of AEA to protect against cold water immersion is available in JSP 911⁵.

² The Medical Screening Questionnaire is available on the RA 2130 page of the MAA gov.uk website.

³ Refer to AP1269A – RAF Manual of Medical Fitness; Leaflet 4-02 Annex J - Fitness for Short Term Air Supply System (STASS) Wet Drill Training.

⁴ Refer to JSP 998 – MOD Policy for Joint Personnel Recovery (JPR); Annex B – JPR and SERE Training Policy.

⁵ Refer to JSP 911 – Survival, Evasion, Resistance and Extraction; Part 1 – Directive.

**Guidance
Material
2130(2)**

20. **Chemical Warfare Training.** See RA 2135(7)⁶ for details regarding flying in clothing or equipment following chemical warfare training.

**Regulation
2130(3)**

Restraint Systems

2130(3) The ADH and AM(MF) **shall** publish orders detailing the wearing of Restraint Systems on Aircraft within their AoR.

**Acceptable
Means of
Compliance
2130(3)**

Restraint Systems

21. The pilot controlling the Aircraft **should** be securely strapped into their seat at all times.

22. All other Aircrew, Supernumerary Crew, Supernumerary Support Crew and Passengers **should** wear an appropriate restraint system, secured to a suitable anchorage point, at all times, except when attached to a winch cable or when specifically authorized by the Aircraft Commander. The time spent solely restrained in a dispatcher harness or attached to a winch cable **should** be kept to a minimum consistent with the safe completion of the task.

23. Aircraft Commanders **should** only allow restraint systems to be unfastened in flight when necessary to complete authorized tasks.

24. The ADH and AM(MF) **should** specify the occasions, and safety procedures, when an ejection seat occupant is permitted to unstrap in flight.

25. For take-off and landing, Aircrew and Supernumerary Crew **should** normally be seated and restrained using a seat harness. The ADH and AM(MF) **should** detail the specific circumstances when a seat-harness restraint is not required for Aircrew or Supernumerary Crew during take-off and landing.

26. Passengers and Supernumerary Support Crew **should** be securely strapped into their seats at all times when the Aircraft is moving, except when authorized by the Aircraft Commander.

**Guidance
Material
2130(3)**

Restraint Systems

27. Dispatcher harnesses, whilst preventing the wearer from inadvertent exit from the Aircraft, do not provide the same degree of restraint or protection as seat harnesses.

**Regulation
2130(4)**

Aircraft Survival and Rescue Equipment

2130(4) The ADH and AM(MF) **shall** publish orders detailing the survival and rescue equipment to be carried in Aircraft within their AoR.

**Acceptable
Means of
Compliance
2130(4)**

Aircraft Survival and Rescue Equipment

28. ADH and AM(MF) Orders **should** detail when the following are to be carried, and the type and quantity to be carried:

- a. **Life Rafts.** As a minimum these **should** be carried when it may not be possible to achieve a forced landing over land. They **should** be of sufficient number and capacity to accommodate all the occupants of the Aircraft;
- b. **Medical Supplies / First Aid Kits.** These **should** be appropriate to the Aircraft role and number of occupants;
- c. **Survival packs.** ADH and AM(MF) Orders **should** specify when they are to be carried, and the type and quantity to be carried.

⁶ Refer to RA 2135(7) –Temporary Medical Restrictions to Flying Duties.

**Guidance
Material
2130(4)**

Aircraft Survival and Rescue Equipment

29. **Life Rafts.** Operational considerations may render the carriage of life rafts impractical. For guidance on ADH responsibilities in Operations see RA 1020⁷.

**Regulation
2130(5)**

Ejection Seat Anthropometrics

2130(5) The ADH and AM(MF) **shall** ensure that personnel occupying ejection seats are within the cleared and Authorized anthropometric limits.

**Acceptable
Means of
Compliance
2130(5)**

Ejection Seat Anthropometrics

30. As a minimum, ADH and AM(MF) Orders **should** detail:
- a. When an ejection seat check is required;
 - b. Who can conduct an ejection seat check;
 - c. The AEA and SE to be worn by the seat occupant during an ejection seat check;
 - d. The minimum and maximum boarding weight limits for the ejection seats within their AoR;
 - e. Where minimum and maximum boarding weight limits are to be displayed;
 - f. The frequency of boarding weight checks.
31. Where Supernumerary Crew, Supernumerary Support Crew or Passengers have not previously had an ejection seat anthropometric check, the ADH or AM(MF) **should** ensure an anthropometric check is conducted prior to flight.

**Guidance
Material
2130(5)**

Ejection Seat Anthropometrics

32. **Ejection Seat Check.** The ADH and AM(MF) may wish to stipulate different levels of AEA and SE to be worn during an ejection seat check for Aircrew, Supernumerary Crew, Supernumerary Support Crew and Passengers based on the sortie to be flown.

**Regulation
2130(6)**

Fire, Smoke and Fumes Training

2130(6) The ADH and AM(MF) **shall** detail in their orders the required Fire, Smoke and Fumes Training with associated periodicities for the Aircraft within their AoR.

**Acceptable
Means of
Compliance
2130(6)**

Fire, Smoke and Fumes Training

33. As a minimum, ADH and AM(MF) Orders **should** detail:
- a. The periodicity and conduct of Aircrew on-Aircraft fire training.
 - b. The periodicity and conduct of Aircrew live fire extinguisher training⁸, where possible using a type of extinguisher suitably representative of that installed in the Aircraft.
 - c. The periodicity and conduct of Aircrew smoke and / or fumes training (to include cabin crew protective breathing equipment training where appropriate).

⁷ Refer to RA 1020 – Aviation Duty Holder and Aviation Duty Holder-Facing Organizations - Roles and Responsibilities.

⁸ Only fire extinguishers that are safe to operate will be used for practice at a dedicated fire training facility.

**Guidance
Material
2130(6)****Fire, Smoke and Fumes Training**

34. CAA Paper 2009 / 01⁹ provides useful guidance and recommendations for fire, smoke and protective breathing equipment training, including the management of passengers, directly relevant to large passenger carrying Aircraft.

35. ADH and AM(MF) may wish to consider the following in relation to Fire, Smoke and Fumes Training:

- a. Periodicity requirements based on the type, complexity and number of fire, smoke or fume sources that Aircrew might be expected to manage (Aircraft type specific).
- b. Requirements for realism and accuracy in the conduct of training.
- c. Ensuring practice equipment if not identical (eg Halon Fire Extinguishers) is suitably representative.

⁹ Refer to CAA Paper 2009 / 01 - Cabin Crew Fire Training - Training Needs Analysis.

ANNEX A

PERIODICITY OF SURVIVAL DRILLS (MONTHS)

Role	Fixed Wing Aircraft with Ejection Seats			Fixed Wing Aircraft with Parachutes			Fixed Wing Aircraft without Parachutes			Helicopters		
	Maritime (1)	Non-Maritime (7)	Overland (2)	Maritime (1)	Non-Maritime (7)	Overland (2)	Maritime (1)	Non-Maritime (7)	Overland (2)	Maritime (1)	Non-Maritime (7)	Overland (2)
Dry Training												
Non-airborne abandon Aircraft	6	6	6	6	6	6	6	6	6	6	6	6
Ejection and manual separation	6	6	6									
Bale out (static seat)				6	6	6				6(5)	6(5)	6(5)
Synthetic parachute training	24	24	24	24	24	24				24(5)	24(5)	24(5)
Dry life raft (primary) and preserver drill	12	12		12	12		12	12		12	12	
Dry multi-seat life raft drill (3)(4)	24	24		24	24		12	12		12	12	
Pool Training (6)												
Parachute dragging	12	12		12	12					12(5)	12(5)	
Pool life raft (primary) and preserver drill	12	12		12	12		12	12		12	12	
Training at sea or Environmental Pool Trainer												
Parachute dragging	24	24		24	24					24(5)	24(5)	
Sea / EP life raft (primary) and preserver drill	24	24	I/O	24	24	I/O	24	I/O		12	I/O	
Sea / EP multi-seat life raft drill (3)(4)	I/O	I/O	I/O	I/O	I/O	I/O	24	I/O		12	I/O	
Wet winching	I/O	I/O		I/O	I/O		I/O	I/O		36	I/O	
Underwater Escape Training Unit												
STASS dry drill										12	12	
STASS wet drill										24	36	
Underwater escape training	48									24	36	

I/O – Initial / Opportunity – Initial drill to be conducted during the initial Aircrew Maritime Survival Course, thereafter drill to be on opportunity basis.

Notes

1. 'Maritime Role' includes, but is not limited to, Aircrew who during their posting / appointment, might be required to serve at, to or from sea with up to 3 months' notice.
2. 'Overland Role' is declared by the ADH or AM(MF) and describes Aircrew who operate Aircraft that remain within gliding or autorotative distance from land.
3. Drill applies when the multi-seat life raft is not the primary Aircraft life raft.
4. Helicopter crews who fly with both single and multi-seat life rafts **should** carry out the drills for both.
5. Drill applies when helicopter Aircrew fly with parachutes.
6. Training can also be conducted at sea or the RNAS Yeovilton Environmental Pool Trainer, or comparable Environmental Pool Trainer as approved by the Operating Duty Holder / AM(MF).
7. 'Non-Maritime Role' includes Aircrew who operate Aircraft beyond gliding or autorotative distance from land, but are not expected to serve at, to or from sea with up to 3 months' notice.
8. To aid with the management of individual drill currencies, drill expiry dates will be the last calendar day of the month in which they are due.