

► This RA has been substantially rewritten; for clarity, no change marks are presented – please read the RA in its 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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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.

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Survival Training and Currency

1. ADH and AM(MF) orders **should** specify, as a minimum, the following:
 - a. The survival drills to be conducted by Aircrew, within their AoR, in accordance with (iaw) the minimum requirements and periodicity as detailed in Annex A.
 - b. Which of the survival drills and associated periodicities at Annex A, that Supernumerary Crew, Supernumerary Support Crew and Passengers within their AoR are to complete.
 - c. Any additional requirements to those detailed at Annex A to be applied within their AoR.
 - d. 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.
 - e. The survival drill requirements following conversion to a different Aircraft type.
 - f. Underwater Escape Training (UET) requirements for Supernumerary Crew, Supernumerary Support Crew and, if appropriate, Passengers who fly frequently¹ in helicopters over the sea.
 - g. The Aircrew Equipment Assemblies (AEA) and SE to be worn during survival training.

¹ Passengers who exceed one flight in a 4 month period are classed as undertaking 'frequent' flights. However, in the case of Service personnel flying as Passengers to undertake an operational task, the series of flights required to complete the task might be considered a single flight.

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- h. 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.
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.
 - e. Winching drill theory and demonstration requirements in accordance with the Defence Survival, Evasion, Resistance and Extraction Training Organization (DSTO) learning specification. As a minimum this **should** include:
 - (1) Prepare for winching drills.
 - (2) Winching techniques, including Hi-Line transfers.

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Survival Training and Currency

6. To aid with the management of individual currencies, drill expiry dates will be the end of the last calendar day of the month in which they are due.
7. The ADH and AM(MF) may grant extensions to the periodicities detailed at Annex A for operational reasons or in exceptional circumstances.
8. 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 from the life raft / preserver drills, wet winching drills and UET / Emergency Breathing System² (EBS) drills where those Aircrew are not required to conduct over water

² EBS includes, but it not limited to, Short Term Air Supply System (STASS) and Zeagle Defender EBS

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sorties. Other than individual temporary dispensations or extensions, any Exemption must be formally recorded in the Air System Safety Case³.

9. The ADH and AM(MF) may increase the frequency of drills at Annex A to improve skill retention. This is particularly relevant when considering low drill experience levels for trainees and for those returning to flying.

10. **Wet Drills.** Before a wet drill is conducted, the participant will be in-date for the relevant dry drill. When a sea / Environmental Pool Trainer (EPT) drill is completed the associated pool drill is also deemed to have been completed.

11. **Synthetic Parachute Training.** Normally SPT is 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.g.) 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.

12. **Wet Multi-Seat Life Raft Drill.** Multi-seat life raft drills may be a requirement for Aircrew whose Aircraft do not normally carry multi-seat life rafts but may fly over water. 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.

13. **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.

14. **EBS² Dry Drill.** Initial EBS dry drills will be completed at the UETU. Subsequent EBS dry drills may be carried out locally.

15. **EBS Wet Drill.** EBS wet drills will be completed by eligible personnel at the same time as UET. All personnel required to undertake wet EBS training will be medically screened prior to the training, using the Medical Screening Questionnaire⁴.

16. **EBS Exemptions.** The ADH and AM(MF) may permit personnel who are medically boarded and assessed as permanently unfit for wet EBS training, but who have previously completed wet EBS training, to conduct dry EBS 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 Logbook⁵.

17. **Environmental Pool Trainer.** The initial exposure of military student Aircrew to the effects of cold-water shock and sea survival will take place during their initial Aircrew Maritime Survival Drills provided by the DSTO. Thereafter, the EPT (including winch trainer) is entirely interchangeable with the sea for drill validities detailed at Annex A.

18. **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) 998⁶. 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 911⁷.

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.

³ Refer to RA 1205 – Air System Safety Cases.

⁴ The Medical Screening Questionnaire is available on the [RA 2130 page of the MAA gov.uk website](#).

⁵ Refer to AP1269A – RAF Manual of Medical Fitness; Leaflet 4-02 Annex J - Fitness for Short Term Air Supply System (STASS) Wet Drill Training.

⁶ Refer to JSP 998 – MOD Policy for Joint Personnel Recovery (JPR); Annex B – JPR and SERE Training Policy.

⁷ Refer to JSP 911 – Survival, Evasion, Resistance and Extraction.

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Wearing and Carriage of Aircrew Equipment Assemblies and Survival Equipment

19. 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. If AEA or SE is worn or carried on the Aircraft, it **should** be authorized in the Air System Document Set.
20. AEA and SE users **should** conduct Before Flight Visual Examinations⁸ of the AEA / SE to assess serviceability prior to accessing an Aircraft.
21. **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.

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Wearing and Carriage of Aircrew Equipment Assemblies and Survival Equipment

22. **Immersion Thermal Protection.** Guidance on the wearing of AEA to protect against cold water Immersion is available in JSP 911⁷.
23. **Chemical Warfare Training.** See RA 2135(7)⁹ for details regarding flying in clothing or equipment following exposure to any chemical warfare training agents.

**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.

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Restraint Systems

24. The pilot controlling the Aircraft **should** be securely strapped into their seat at all times.
25. 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.
26. Aircraft Commanders **should** only allow restraint systems to be unfastened in flight when necessary to complete authorized tasks.
27. The ADH and AM(MF) **should** specify the occasions, and Safety procedures, when an ejection seat occupant is permitted to unstrap in flight.
28. 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.
29. 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.

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Restraint Systems

30. 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.

⁸ Refer to DAP108A-0006-2(N/A/R)1 (Chap 9.1) - Support Policy Statement - Aircrew Equipment.

⁹ Refer to RA 2135(7): Temporary Medical Restrictions to Flying Duties.

**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.

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Aircraft Survival and Rescue Equipment

31. ADH and AM(MF) **should** detail in orders the type and quantity of Aircraft survival and rescue equipment to be carried. The following equipment **should** be detailed as a minimum:

- 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.** These **should** be appropriate to the Aircraft role, operating environment and number of occupants.

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Aircraft Survival and Rescue Equipment

32. **Life Rafts.** Operational considerations may render the carriage of life rafts impractical. For guidance on ADH responsibilities in Operations see RA 1020¹⁰.

**Regulation
2130(5)**

Seat Anthropometrics

2130(5) The ADH and AM(MF) **shall** ensure that personnel who occupy seats with cleared and Authorized anthropometric limitations, are anthropometrically fit to do so.

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Seat Anthropometrics

33. As a minimum, ADH and AM(MF) orders **should** detail:

- a. When a seat check is required.
- b. Who can conduct a seat check.
- c. The AEA and SE to be worn by the seat occupant during a seat check.
- d. Where a weight limit is applicable to the seat:
 - (1) The minimum and maximum boarding weight limits for the seats within their AoR.
 - (2) Where the minimum and maximum boarding weight limits need to be displayed.
 - (3) The frequency of boarding weight checks.

34. Where Supernumerary Crew, Supernumerary Support Crew or Passengers have not previously had a seat anthropometric check, the ADH or AM(MF) **should** ensure an anthropometric check is conducted prior to flight.

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Seat Anthropometrics

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

¹⁰ Refer to RA 1020 – Aviation Duty Holder - Roles and Responsibilities.

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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.

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

36. 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 training¹¹, 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).

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

37. Civil Aviation Authority (CAA) Paper 2009 / 01¹² 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.
38. 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.

¹¹ Only fire extinguishers that are safe to operate will be used for practice at a dedicated fire training facility.

¹² Refer to CAA Paper 2009 / 01 - Cabin Crew Fire Training - Training Needs Analysis.

Annex A

Maximum Periodicity (8) of Survival Drills (Months)

	Fixed Wing Aircraft with Ejection Seats		Fixed Wing Aircraft with Parachutes		Fixed Wing Aircraft without Parachutes		Helicopters		
	Not Overland Only	Overland Only (3)	Not Overland Only	Overland Only (3)	Not Overland Only	Overland Only (3)	Maritime (1)	Non-Maritime (2)	Overland Only (3)
Dry Training									
Non-airborne abandon Aircraft	6	6	6	6	6	6	6	6	6
Ejection and manual separation	6	6							
Bale out (static seat)			6	6			6(6)	6(6)	6(6)
Synthetic parachute training	24	24	24	24			24(6)	24(6)	24(6)
Winching brief	12		12		12		12	12	
Dry life raft (primary) and preserver drill	12		12		12		12	12	
Dry multi-seat life raft drill (4)(5)	24		24		12		12	12	
Pool Training (7)									
Parachute dragging	12		12				12(6)	12(6)	
Prepare for winching drill	12		12		12		12	12	
Pool life raft (primary) and preserver drill	12		12		12		12	12	
Training at sea or Environmental Pool Trainer									
Parachute dragging	48		48				48(6)	48(6)	
Sea / EPT life raft (primary) and preserver drill	48	I/O	48	I/O	I/O	I/O	12	I/O	I/O
Sea / EPT multi-seat life raft drill (4)(5)	I/O	I/O	I/O	I/O	I/O		12	I/O	
Prepare for winching drill	48		48		I/O		12	I/O	
Wet winching (9)	0		0		0		I/O	0	
Underwater Escape Training Unit									
EBS dry drill							12	12	
EBS wet drill							24	36	
Underwater escape training							24	36	

I – Initial – Drill **should** be conducted during the initial Aircrew Maritime Survival Course
 O – Opportunity – Drill conducted on an opportunity basis.

Notes

1. 'Maritime' is declared by the ADH or AM(MF) and includes, but is not limited to, Aircrew who during their posting / appointment, might be required to serve to or from a ship or over the sea, with up to 3 months' notice.
2. 'Non-Maritime' is declared by the ADH or AM(MF) and includes, but is not limited to, Aircrew who operate Aircraft beyond autorotative distance from land, but are not expected to serve to or from a ship or over the sea, within 3 months.
3. 'Overland Only' is declared by the ADH or AM(MF) and describes Aircrew who operate Aircraft that remain within gliding or autorotative distance from land.
4. Drill applies when the multi-seat life raft is not the primary Aircraft life raft.
5. Helicopter crews who fly with both single and multi-seat life rafts **should** carry out the drills for both.
6. Drill applies when helicopter Aircrew fly with parachutes.
7. Training can also be conducted at sea, the RNAS Yeovilton EPT, or comparable EPT as approved by the Operating Duty Holder / AM(MF).
8. The periodicities listed in Annex A are the maximum periodicities permitted to remain compliant. ADH & AM(MF) may increase the frequency based on, for example, an individual's experience or to improve skill retention.
9. Although a live helicopter winch does not provide additional knowledge and skill on top of that acquired during dry / wet drills, it does provide valuable experience; it is therefore recommended that Aircrew conduct a helicopter winch whenever possible. For those personnel that have a UET currency to maintain it is recommended that, if available, an EPT winching facility be utilized at the same time.