
Overview

This standard identifies the competences you need to carry out servicing and maintenance activities on ejection seat headbox parachute assemblies, in accordance with approved procedures. You will be required to select the appropriate tools and equipment to use, based on the maintenance activities to be carried out and to check that they are in a safe and serviceable condition.

The maintenance activities will involve dismantling the equipment, cleaning the various parts using suitable solutions, carrying out a thorough examination of the parachute and associated parts in line with the relevant schedule, replacing any damaged or defective parts, carrying out any required modifications, making any required adjustments, checking and testing equipment operation and performance.

Your responsibilities will require you to comply with organisational policy and procedures for the maintenance activities undertaken and to report any problems with these activities that you cannot personally resolve, or that are outside your permitted authority, to the relevant people. You will be expected to work with a minimum of supervision, taking personal responsibility for your own actions and for the quality and accuracy of the work that you carry out.

Your underpinning knowledge will provide a good understanding of your work and will provide an informed approach to applying maintenance techniques and procedures to parachute assemblies. You will understand the type of parachute being maintained, and its application, and will know about the various components, in adequate depth to provide a sound basis for carrying out the activities, identifying and correcting faults and ensuring that the equipment is maintained to the required specification.

You will understand the safety precautions required when carrying out maintenance operations on parachute assemblies. You will be required to demonstrate safe working practices throughout and will understand the responsibility you owe to yourself and others in the workplace.

Performance criteria

You must be able to:

1. work safely at all times, complying with health and safety and other relevant regulations, directives and guidelines
2. follow the relevant maintenance schedules to carry out the required work
3. carry out the maintenance activities within the limits of your personal authority
4. carry out the maintenance activities, and replace components in the specified sequence and in an agreed timescale
5. report any instances where the maintenance activities cannot be fully met or where there are identified defects outside the planned schedule
6. dispose of waste materials in accordance with safe working practices and approved procedures
7. complete the relevant documentation, in accordance with organisational requirements
8. leave the work area and assembly in a safe and appropriate condition, free from damage or foreign object debris on completion of the activities

Knowledge and understanding

You need to know and understand:

1. the specific safety precautions and procedures to be observed whilst carrying out the maintenance of the parachute assemblies (including any specific legislation, regulations or codes of practice relating to the activities, equipment or materials)
2. the health and safety requirements of the work area in which you are carrying out the servicing/maintenance activities and the responsibility these requirements place on you
3. the hazards associated with maintaining parachute assemblies and with the materials, tools and equipment used and how to minimise them and reduce any risk
4. the requirements and importance of understanding and applying human factors as defined by the regulatory requirements and the potential impact if these are not adhered to
5. the personal protective equipment (PPE) that you need to use during the maintenance activities and where it can be obtained
6. the maintenance schedules and servicing specifications that are used during the servicing and maintenance, and the importance of following the procedures listed in these documents (to include Urgent Technical Instructions (UTI), Routine Technical Instructions (RTI), Maintenance Instructions (MI), Preliminary Warning Instructions (PWI) and Serious Defect Signals)
7. the types of fault, defect or wear characteristic that are likely to occur with the parachute assemblies
8. how to determine when components require adjustment, repair or replacement
9. the components to be replaced in the parachute assemblies and the method of replacement
10. how to identify the components to be used for the various types of parachute assemblies being maintained
11. the quality control procedures to be followed during the maintenance procedures
12. how to conduct any necessary checks to ensure that the parachute assemblies function to specification
13. the problems that can occur with the maintenance of parachute assemblies and how these can be overcome
14. the importance of correct securing and locking of connections

15. the importance of tool control and the organisational tool control procedures used

16.

the tools and equipment used in the maintenance activities and their calibration/care and control procedures

17.

the importance of ensuring that when the maintenance is completed the parachute assembly is free from dirt and foreign objects

18. the disposal methods for waste and petrol, oil and lubricants (POL)

19. problems with the maintenance procedures and the importance of informing appropriate people of defects

20. the recording documentation to be completed for the activities undertaken and where appropriate, the importance of marking and identifying specific pieces of work in relation to the documentation

21. the extent of your own responsibility and to whom you should report if you have problems that you cannot resolve

Scope/range related to performance criteria

1.

Carry out Scope/range related to performance criteria of the following during the servicing and maintenance of the parachute assemblies:

1.1 obtain and use the appropriate documentation (such as job instructions, servicing or maintenance schedule, technical instructions and specifications)

1.2 adhere to procedures or systems in place for risk assessment, COSHH, personal protective equipment and other relevant safety regulations and procedures to realise a safe system of work

1.3 provide and maintain a safe working environment for the maintenance activities

1.4 obtain the correct tools and equipment for the activity and check that they are in a safe and usable condition and within current calibration date

1.5 use approved servicing and maintenance techniques at all times

1.6 return all tools and equipment to the correct location on completion of the activities

1.7 dispose of waste materials in accordance with approved procedures

2.

Carry out all of the following repair/maintenance activities, using appropriate methods and techniques:

2.1 dismantling the equipment to component or sub-assembly level (such as removal of harness, pack elastics)

2.2 cleaning the equipment (such as rigid pack, metallic components) using appropriate solutions

2.3 monitoring the condition/deterioration of components

2.4 replacing all damaged or defective components

2.5 reassembling the equipment

2.6 carrying out any required modifications to the equipment

2.7 carrying out adjustments to components and connections

2.8 checking equipment operation and performance

2.9 testing the equipment, in accordance with the relevant specification

3.

Carry out a thorough examination of the parachute, to include checking/examining all of the following:

3.1 the parachute canopy, rigging lines, vent control lines, for correct sequence of attachment, damage, deterioration, contamination and security of attachment

3.2 main and controller drogue - all rigging lines, anti-squid line and connecting stop for damage, security of attachment and assembled in the correct sequence

3.3 harness assembly for damage, deterioration and correct assembly

3.4 PSP connector, screws and fasteners, for correct operation and security of attachment

- 3.5 rigid pack and containers for damage, dents, cracks, freedom from loose articles, burrs and sharp edges
- 3.6 mechanical lock and metallic labels for damage, corrosion, security of attachment
- 3.7 inner and outer closure flaps, stowage trays, for damage and security of attachment
- 3.8 drogue withdrawal line for damage and 'in-use life'
- 3.9 all grommets, screws and fasteners for security of attachment
- 3.10 all shackles and screwed couplings, for damage and security of attachment

4.

Replace a range of parachute components, to include six of the following:

- 4.1 back pad assembly
- 4.2 mechanical lock assembly
- 4.3 rigid pack outer closure flaps
- 4.4 padded apron
- 4.5 drogue withdrawal line
- 4.6 rigid pack inner closure flaps
- 4.7 canopy withdrawal line
- 4.8 controller drogue anti-squid line
- 4.9 split pin
- 4.10 quick-release connector
- 4.11 drogue connecting strop
- 4.12 castellated nut
- 4.13 lap strap sub-assembly
- 4.14 extender strap
- 4.15 auxiliary parachute
- 4.16 harness yoke
- 4.17 drogue-to-parachute attachment line
- 4.18 rigging lines and stowage flap
- 4.19 front lift webs
- 4.20 parachute withdrawal line (seat portion)
- 4.21 attachment gaiter
- 4.22 rivets
- 4.23 head support panel grommets
- 4.24 strap and pack sub-assembly
- 4.25 rubber band
- 4.26 auxiliary parachute connecting strop
- 4.27 assembly pin, transit and flag
- 4.28 rigid pack
- 4.29 container

5.

Carry out maintenance requirements, in accordance with two of the following types of instruction:

- 5.1 Urgent Technical Instructions (UTI)
- 5.2 Routine Technical Instructions (RTI)

- 5.3 Maintenance Instructions (MI)
- 5.4 Preliminary Warning Instructions (PWI)
- 5.5 Serious Defect Signals

6.

Carry out maintenance work in compliance with one of the following standards:

- 6.1 Civil Aviation Authority (CAA)/European Aviation Safety Agency (EASA)
- 6.2 Ministry of Defence (MoD)
- 6.3 Military Aviation Authority (MAA)
- 6.4 Aerospace Quality Management Standards (AS)
- 6.5 Federal Aviation Authority (FAA)
- 6.6 BS, ISO or BSEN standards and procedures
- 6.7 customer standards and requirements
- 6.8 company standards and procedures
- 6.9 manufacturers standards and procedures

7.

Complete the relevant maintenance records, to include one from the following and pass it to the appropriate people:

- 7.1 maintenance schedule/log
- 7.2 job cards
- 7.3 aircraft service/flight log
- 7.4 other specific recording method

Behaviours

You will be able to apply the appropriate behaviours required in the workplace to meet the job profile and overall company objectives, such as:

- strong work ethic
- positive attitude
- team player
- dependability
- responsibility
- honesty
- integrity
- motivation
- commitment

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Carrying out maintenance of ejection seat headbox parachute assemblies



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