

Overview

This standard identifies the competences you need to carry out maintenance activities on aircraft equipment and furnishings, in accordance with the approved aircraft maintenance manual, approved change documentation (service bulletin) and airworthiness requirements. It covers both fixed wing and rotary winged aircraft, and includes those removable items of equipment and furnishings externally mounted on the aircraft or contained in the flight, passenger, cargo and accessory compartments. The maintenance activities will include the removal, fitting and, where appropriate, testing of a range of equipment and furnishings. You will be required to select the correct tools and equipment to use, based on the operations to be performed and the equipment to be removed or fitted. The aircraft equipment and furnishings will include galley and toilet equipment, flight crew seats, tables, food containers, wardrobes, curtains, wall coverings, carpets, overhead storage compartments, movable partitions, mirrors and other similar equipment. You will remove the required components and fit approved replacements, as appropriate. You will then need to test and adjust the completed system to meet the aircraft maintenance manual, change documentation (service bulletin) and airworthiness requirements.

Your responsibilities will require you to comply with the specific practices and procedures identified in the aircraft manual, change/service bulletin documentation and airworthiness requirements for the maintenance activities undertaken, and to report any problems with these requirements that you cannot personally resolve, or that are outside your permitted authority, to the relevant people. You must ensure that all tools, equipment and materials used are correctly accounted for on completion of the activities, and that all necessary job/task documentation is completed thoroughly, accurately and legibly. 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 the appropriate maintenance techniques and procedures to aircraft equipment and furnishings. You will understand the removal, fitting and testing/checking methods and procedures, and their application, along with the equipment's maintenance requirements. You will know how the equipment functions, the common problems that can occur, the purpose of the individual components and associated defects, in adequate depth to provide a sound basis for

carrying out the maintenance activities, correcting faults and for ensuring that the equipment is maintained to the required standard.

You will understand the safety precautions required when working on the aircraft equipment and furnishings, and when using the associated tools and equipment. You will be required to demonstrate safe working practices throughout, and will understand your responsibility for taking the necessary safeguards to protect yourself and others in the workplace.

Notes:

1. This standard is designed to cover the practical experience requirements of the Airline Transport Association (ATA) Chapter 25 Equipment and Furnishings.
2. To display competence in this standard, it is necessary to both remove and fit aircraft equipment and furnishings. You must remove equipment and furnishings; however, you may fit replacement equipment and furnishings where the original was previously removed by another person. You should also be aware of how to leave a system in a safe condition if maintenance tasks cannot be completed. This covers both the physical systems and the job documentation.

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. complete relevant documentation in accordance with organisational requirements
7. dispose of waste materials in accordance with safe working practices and approved procedures
8. leave the aircraft in a safe and appropriate condition, free from foreign object debris on completion of the activities

Knowledge and understanding

You need to know and understand:

1. the specific safety practices and procedures that you need to observe when carrying out maintenance activities on aircraft equipment and furnishings (including any specific legislation, regulations/codes of practice for the activities, equipment or materials)
2. the importance of maintenance on aircraft equipment and furnishings, and impact upon Extended Range Twin-Engine Operations Procedures (ETOPS) systems, legislation and local procedures
3. the hazards associated with removing and fitting aircraft equipment and furnishings, and with the 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 protective equipment that you need to use for both personal protection (PPE) and protection of the aircraft
6. what constitutes a hazardous voltage and how to recognise victims of electric shock
7. how to reduce the risks of a phase to earth shock (such as insulated tools, rubber matting and isolating transformers)
8. the importance of aircraft husbandry and of ensuring that, throughout the maintenance activity, the aircraft and work area are maintained free from foreign objects, and the implications of FOD to the safety of the aircraft
9. how to extract and use information from aircraft manuals, log books, flight logs, and other documents needed in the maintenance process
10. how to carry out currency/issue checks on the specifications you are working with
11. the range of equipment and furnishings that may need to be maintained/replaced
12. the various mechanical fasteners that are used to hold the equipment in place,

and their method of removal and replacement (such as threaded fasteners, special securing devices)

13. the importance of using the specified fasteners for the installation and why you must not substitute others

14. why securing devices need to be locked and labelled, and the different methods that are used to remove and install them

15. the torque loading requirements on the fasteners and what to do if these loadings are exceeded or not achieved

16. the various types of electrical connector that are used, methods of unlocking, orientation indicators and locating and locking-in of the connections

17. the need to take care when removing equipment and furnishings so as not to cause damage to the equipment or surrounding structure

18. the need to label and store correctly components that require repair or overhaul, and to check that replaced components have the correct part/identification markings and accompanying release documentation

19. the need to correctly position, align, adjust and secure the replaced equipment in the aircraft without damage to the components or surrounding structure

20. methods of lifting, handling and supporting the components/equipment during the removal and fitting activities

21. why electrical bonding is critical, and why it must be both mechanically and electrically secure

22. how to carry out routine checks of the aircraft equipment and furnishings (such as checking contents of emergency and first aid equipment, checking condition and security of seat belts)

23. why tool/equipment control is critical and what to do if a tool or piece of equipment is unaccounted for on completion of the activities

24. the problems that can occur with the maintenance operations and how these can be overcome

25. 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

26. the procedure for the safe disposal of waste materials and scrap components

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

Scope/range related to performance criteria

1.

Carry out all of the following during the maintenance of the aircraft equipment and furnishings:

- 1.1 ensure that appropriate authorisation to work on the aircraft is obtained, and observe all relevant isolation and safety procedures
- 1.2 obtain and use the correct documentation (such as job instructions, technical instructions, aircraft manuals and maintenance documentation)
- 1.3 obtain the correct tools and equipment for the activity, and check that they are in a safe, tested and usable condition and within current calibration dates
- 1.4 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
- 1.5 ensure that the relevant safety devices and mechanical/physical locks are in place (where appropriate)
- 1.6 use approved removal, fitting and testing techniques and procedures at all times
- 1.7 return tools and equipment to the correct storage location on completion of the activities
- 1.8 ensure that work carried out is correctly documented and recorded
- 1.9 ensure that any outstanding tests are correctly documented

2.

Carry out maintenance on equipment and furnishings from two of the following areas of the aircraft:

- 2.1 flight compartment
- 2.2 buffet/galley
- 2.3 emergency kit
- 2.4 passenger compartment
- 2.5 toilet/dressing rooms
- 2.6 insulation
- 2.7 cargo compartments
- 2.8 accessory compartments

3.

Remove and fit six different aircraft equipment and furnishing components (at least two must be from group A):

Group A

1. flight crew seats
2. movable partitions
3. cargo rollers/drive equipment
4. passenger seats

Maintaining equipment and furnishings on aircraft

5. removable and fixed cabinets
6. cargo restraint equipment
7. berths
8. ovens
9. evacuation equipment
10. wardrobes
11. refrigerators
12. drag parachutes
13. overhead storage compartments
14. garbage containers/compactor
15. Kevlar/armour plating
16. inertia reels
17. coffee maker and dispenser

Group B

18. carpets
19. mirrors
20. life rafts
21. sound proofing
22. curtains
23. cargo restraint nets
24. life jackets
25. signal flares
26. wall coverings
27. emergency locator transmitters (ELT)
28. first aid kit
29. spare bulbs/fuses
30. insulation blankets
31. seat belts
32. batteries
33. other specific components

1.

Carry out fifteen of the following maintenance activities:

- 1.1 removing access panels and covers to expose components/fastenings to be removed
- 1.2 carrying out fault diagnosis and system checks
- 1.3 preparing the equipment for maintenance (such as isolating)
- 1.4 disconnecting electrical connections
- 1.5 replacing damaged/defective components
- 1.6 removing securing devices and mechanical fasteners
- 1.7 refitting components in the correct position, orientation and alignment

Maintaining equipment and furnishings on aircraft

- 1.8 supporting components to be removed
- 1.9 removal of bonding
- 1.10 positioning and aligning replaced equipment
- 1.11 supporting equipment to be removed
- 1.12 making mechanical connections
- 1.13 dismantling equipment to an appropriate level
- 1.14 making electrical connections
- 1.15 covering (protecting) exposed components, wires, pipework or vents
- 1.16 carrying out bonding
- 1.17 torque loading as required
- 1.18 checking components for serviceability
- 1.19 carrying out equipment functional checks
- 1.20 ensuring that replacement equipment is of the correct type (have the correct part numbers)
- 1.21 labelling (and storing in the correct location) equipment that requires repair or overhaul
- 1.22 setting, and adjusting replaced components (such as seats)
- 1.23 applying bolt locking methods (such as split pins, wire locking, lock nuts)
- 1.24 carrying out area inspections prior to task close down

2.

Service/check aircraft equipment and furnishings, to include carrying out four of the following:

- 2.1 checking inertia reels for correct operation
- 2.2 checking seat belts for damage and security
- 2.3 checking that emergency equipment is all present and in a serviceable condition
- 2.4 checking emergency locator transmitters (ELT) for compliance with regulations
- 2.5 changing cabin configuration
- 2.6 repairing upholstery
- 2.7 checking seat structure, recline and table mechanisms
- 2.8 checking contents of first aid kit
- 2.9 checking operation of emergency megaphone
- 2.10 checking operation of galley compartment door primary and secondary latches

3.

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

- 3.1 job cards/work sheets
- 3.2 computer records
- 3.3 aircraft technical log
- 3.4 aircraft cabin log
- 3.5 aircraft log book

4.

Maintaining equipment and furnishings on aircraft

Carry out maintenance on aircraft equipment and furnishings in compliance with one of the following:

- 4.1 Civil Aviation Authority (CAA)/European Aviation Safety Agency (EASA)
- 4.2 Extended Range Twin-Engine Operations Procedures (ETOPS) (where appropriate)
- 4.3 Ministry of Defence (MoD)
- 4.4 Military Aviation Authority (MAA)
- 4.5 Aerospace Quality Management Standards (AS)
- 4.6 Federal Aviation Authority (FAA)
- 4.7 aircraft maintenance manual/approved change documentation (service bulletin)
- 4.8 manufacturers standards and procedures

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

Maintaining equipment and furnishings on aircraft

Developed by	Enginuity
---------------------	-----------

Version Number	3
-----------------------	---

Date Approved	30 Mar 2021
----------------------	-------------

Indicative Review Date	01 Mar 2024
-------------------------------	-------------

Validity	Current
-----------------	---------

Status	Original
---------------	----------

Originating Organisation	Enginuity
---------------------------------	-----------

Original URN	SEMAE3309
---------------------	-----------

Relevant Occupations	Engineer, Engineering, Engineering and Manufacturing Technologies, Engineering Technicians
-----------------------------	--

Suite	Aeronautical Engineering Suite 3
--------------	----------------------------------

Keywords	engineering; aeronautical; removal; fitting; testing; equipment; furnishings; galley and toilet equipment; flight crew seats; tables; food containers; wardrobes; curtains; wall coverings; carpets; overhead storage compartments; movable partitions; mirrors
-----------------	---