

RA 4808 - Equipment, Tools and Material (MRP 145.A.40)

Rationale

Air Systems require the availability of a range of equipment, tools and material to maintain them in accordance with (iaw) Technical Information (TI). Failure to adequately control all such items, especially when considering the potential Hazard of a lost tool, could significantly increase the Risk to Air Safety. This RA details the requirements for a Maintenance organization to use correct and Serviceable equipment, tools and materials, in a controlled manner.

Contents

4808(1): Accounting of Equipment, Tools and Materials (MRP 145.A.40(a))

4808(2): Availability of Equipment, Tools and Materials (MRP 145.A.40(b))

4808(3): Management and Calibration of Equipment and Tools (MRP 145.A.40(c))

Regulation 4808(1)

Accounting of Equipment, Tools and Materials (MRP 145.A.40(a))

4808(1) The organization **shall**:

- a. Ensure that it can account for any equipment, tool or material used on an Air System or component.
- b. Ensure that the Air System or component is clear of all equipment, tools and materials on completion of any Continuing Airworthiness activity.

Acceptable Means of Compliance 4808(1)

Accounting of Equipment, Tools and Materials (MRP 145.A.40(a))

1. The organization **should** define and document a process that readily identifies when equipment, tools or materials are in-use on an Air System or component.
2. The organization **should** define and document a process to readily identify on which Air System or component any equipment, tools or materials are in-use and by whom.
3. The organization **should** define and document a process that identifies the whereabouts of all equipment, tools and materials at the following points, as a minimum:
 - a. At the start and cease of the working day.
 - b. At any handover or takeover of a task or shift personnel.
 - c. When the loss of any equipment, tools or materials is suspected.
4. All records of stocktake and accounting of equipment, tools or materials, to meet the requirements of Paragraph 3, **should** be retained. Retention periods **should** be at the discretion of a suitably nominated individual(s)¹, but as a minimum, records **should** be retained for a period not less than the frequency of any additional checks.
5. The organization **should** define and document a process that controls equipment, tools and materials used within its facilities by another organization's personnel.

Guidance Material 4808(1)

Accounting of Equipment, Tools and Materials (MRP 145.A.40(a))

6. The intent of the Regulation and Paragraphs 1, 2 and 3 are to ensure that there is documented process for the appropriate control of all equipment, tools and materials used for the Maintenance of Air Systems and / or components. It is not expected that this process will involve the strict control and / or recording for the use of large Ground Support Equipment (GSE) (eg staging, crash mats and power supply units), which

¹ Refer to RA 4806(2): Personnel Responsible to the Accountable Manager (Maintenance) (MRP 145.A.30(b)).

Guidance Material 4808(1)

may be controlled differently to hand tools. However, GSE that could pose a higher Airworthiness impact if used incorrectly or is more likely to introduce a Fault to the Air System and / or component (eg a risbridger) will be strictly controlled.

7. For the purpose of this Regulation, 'materials' include consumables that are used in the preparation for Maintenance work and any engineering hygiene that is necessary before its completion.

8. In the event of any equipment, tool or material not being accounted for, the Loose Article requirements² will be followed.

9. The process referred to in Paragraph 5 is intended to ensure that equipment, tools or materials, other than what is already under the control of the loaned organization, are controlled to at least the same standard as undertaken by the originating Maintenance organization.

Regulation 4808(2)

Availability of Equipment, Tools and Materials (MRP 145.A.40(b))

4808(2) The organization **shall** have available and use the necessary equipment, tools and materials to perform its intended (or, for Approved Maintenance Organizations (AMOs), approved) scope of work.

- a. Where the Air System Document Set (ADS) specifies a particular tool or equipment, the organization **shall** use that tool or equipment, unless the use of alternative tooling or equipment is agreed by the Type Airworthiness Authority (TAA)³, via approved procedures. For AMOs, such procedures **shall** be detailed in the Maintenance Organization Exposition (MOE)⁴.
- b. Equipment and tools **shall** be permanently available, except in the case of any tool or equipment that is so infrequently used that its permanent availability is not necessary. For AMOs, such cases **shall** be detailed in a MOE procedure.
- c. An organization carrying out Air System Maintenance **shall** have sufficient Air System access equipment and inspection platforms / docking available such that the Air System can be properly inspected when required.

Acceptable Means of Compliance 4808(2)

Availability of Equipment, Tools and Materials (MRP 145.A.40(b))

Common AMC

10. Nil.

Additional AMC - Military Maintenance Organizations (MMOs) only

11. Only Defence provided hand tools and Test and Measuring Equipment (TME) **should** be used. Such tools, including Precision Termination Tooling, and TME **should** be appropriately managed.

² Refer to RA 4253 – Loose Articles – Recovery Procedures.

³ ► Where the Air System is not UK MOD-owned, Type Airworthiness (TAW) management regulatory responsibility by either the TAA or Type Airworthiness Manager (TAM) needs to be agreed within the Sponsor's approved model; refer to RA 1162 - Air Safety Governance Arrangements for Civilian Operated (Development) and (In-Service) Air Systems, or refer to RA 1163 - Air Safety Governance Arrangements for Special Case Flying Air Systems. Dependent on the agreed delegation of TAW responsibilities TAM may be read in place of TAA as appropriate throughout this RA. ◀

⁴ Refer to RA 4816 – Maintenance Organization Exposition (MRP 145.A.70) – Approved Maintenance Organizations Only.

Acceptable Means of Compliance 4808(2)

Additional AMC - AMOs only

12. Once the organization has determined the intended scope of Approval for consideration by the MAA, it **should** be able to show that all tools and equipment as specified in the TI can be made available when needed.

Guidance Material 4808(2)

Availability of Equipment, Tools and Materials (MRP 145.A.40(b))

13. Nil.

Regulation 4808(3)

Management and Calibration of Equipment and Tools (MRP 145.A.40(c))

4808(3) The organization **shall** ensure that all tools, equipment and particularly test equipment, as appropriate, are controlled and calibrated according to an officially recognized standard, at a frequency to ensure serviceability and accuracy. Records of such calibrations and traceability to the standard used **shall** be kept by the organization.

Acceptable Means of Compliance 4808(3)

Management and Calibration of Equipment and Tools (MRP 145.A.40(c))

Common AMC

14. The organization **should** have a procedure to inspect / service and, where appropriate, calibrate tools and equipment on a regular basis and indicate to users that the item(s) is within any inspection, service or calibration expiry limit. A clear system of labelling all tooling, equipment and test equipment **should** be employed and provide information on when the next inspection, service or calibration is due and if the item is Unserviceable for any other reason that may not be obvious.

15. Any tools and equipment that the organization authorizes for use **should** be clearly identified and listed in a control register.

16. ▶ Hand torque tools **should** be tested prior to use, using an appropriate and calibrated torque analyzer, to ensure the tool meets the required torque setting, as detailed within the respective Air System or Air System component TI, considering any tolerances.

17. Hand torque tools provided as Government Furnished Equipment **should** be managed and used iaw Hand Torque Tools General and TI⁵. ◀

Additional AMC - MMOs only

18. All hand tools and TME **should** be uniquely identified and stored in an authorized location.

Additional AMC - AMOs only

19. Inspection, service or calibration on a regular basis **should** be iaw the equipment manufacturer's instructions ▶ as a minimum. ◀

Guidance Material 4808(3)

Management and Calibration of Equipment and Tools (MRP 145.A.40(c))

20. For the purpose of this Regulation, 'officially recognized standard' will normally mean those standards established by the manufacturer ▶ ◀.

⁵ ▶ AP119G-0128-1 – This is available through the Technical Documents On-Line (TDOL) Viewer at <https://plm.web.logis.r.mil.uk/viewer/>. ◀

**Guidance
Material
4808(3)**

21. Additional checks may be instigated by appropriately authorized individuals and / or iaw a tool manufacturer's TI.
22. ► The use of an extension bar / adapter with a hand torque tool will increase the amount of torque being applied to the fastener / component being torque loaded and this length needs to be taken in account. Pre-use testing is to be done with the extension bar / adapter fitted. When unable to carry out pre-use testing with the extension bar / adapter fitted, the tool's torque setting needs to be calculated, the necessary formula can be found within AP119G-0128-1. ◀