EASA Part 145 Regulatory Changes introduce a new area “48”

Welcome to Area 48 !

Following on from the issue of EU Regulation 2015/1536 EASA followed up with issue of AMC & Guidance Material.

The requirements are applicable from 25 August 2016

Review the changes and consider if you are fully compliant with all requirements

Answer the following questions a) to f) for your own organisation!

a) Do you nominated Authorised Persons – If yes how do you control and manage competence?

b) Do you have a procedure to identify the error-capturing methods in your organisation? Where is this procedure? How do you measure the effectiveness of the procedure?

c) Do you have a procedure to identify the critical maintenance tasks, related to your aircraft types to consider all of the recommended sources?

d) How are you training your staff to ensure they understand error-capturing methods, and critical maintenance tasks.

e) Have you documented the contents of an independent inspection – where? Does it also reference software?

f) How do we control task grouping and signing to ensure it is compliant?

The organisation should pay particular attention to possible adverse effects of any change to the wiring of the aircraft, even of a change not specifically associated with the fuel tank system.

g) How are we able to demonstrate the above in our organisations?

GM 145.A.48 Performance of maintenance AUTHORISED PERSON An ‘authorised person’ is a person formally authorised by the maintenance organisation to perform or supervise a maintenance task.

An ‘authorised person’ is not necessarily ‘certifying staff’.

SIGN-OFF A ‘sign-off’ is a statement issued by the ‘authorised person’ which indicates that the task or group of tasks has been correctly performed.

A ‘sign-off’ relates to one step in the maintenance process and is, therefore, different to a certificate of release to service.’

AMC1 145.A.48(b) is added as follows: ‘AMC1 145.A.48(b) Performance of maintenance

The procedure should identify the error-capturing methods, the critical maintenance tasks, the training and qualification of staff applying error-capturing methods, and how the organisation ensures that its staff is familiar with critical maintenance tasks and error-capturing methods.’

AMC2 145.A.48(b) Performance of maintenance

CRITICAL MAINTENANCE TASKS

(a) The procedure should ensure that the following maintenance tasks are reviewed to assess their impact on flight safety:

(1) tasks that may affect the control of the aircraft flight path and attitude, such as installation, rigging and adjustments of flight controls;

(2) aircraft stability control systems (autopilot, fuel transfer);

(3) tasks that may affect the propulsive force of the aircraft, including installation of aircraft engines, propellers and rotors; and

(4) overhaul, calibration or rigging of engines, propellers, transmissions and gearboxes.

(b) The procedure should describe which data sources are used to identify critical maintenance tasks. Several data sources may be used, such as:

(1) information from the design approval holder;
(2) accident reports;
(3) investigation and follow-up of incidents;
(4) occurrence reporting;
(5) flight data analysis;
(6) results of audits;
(7) normal operations monitoring schemes; and
(8) feedback from training.’

AMC3 145.A.48(b) Performance of maintenance ERROR-CAPTURING METHODS

(a) Error-capturing methods are those actions defined by the organisation to detect maintenance errors made when performing maintenance.

(b) The organisation should ensure that the error-capturing methods are adequate for the work and the disturbance of the system.

A combination of several actions (visual inspection, operational check, functional test, rigging check) may be necessary in some cases.'

AMC4 145.A.48(b) is added as follows: 'AMC4 145.A.48(b) Performance of maintenance

INDEPENDENT INSPECTION Independent inspection is one possible error-capturing method.

(a) What is an independent inspection

> An independent inspection is an inspection performed by an 'independent qualified person' of a task carried out by an 'authorised person', taking into account that:
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> (1) the 'authorised person' is the person who performs the task or supervises the task and they assume the full responsibility for the completion of the task in accordance with the applicable maintenance data; the 'independent qualified person' is the person who performs the independent inspection and attests the satisfactory completion of the task and that no deficiencies have been found.
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> (2)The 'independent qualified person' does not issue a certificate of release to service, therefore they are not required to hold certification privileges;
>
> (3) the 'authorised person' issues the certificate of release to service or signs off the completion of the task after the independent inspection has been carried out satisfactorily;
>
> (4) the work card system used by the organisation should record the identification of both persons and the details of the independent inspection as necessary before the certificate of release to service or sign-off for the completion of the task is issued.

(b) Qualifications of persons performing independent inspections The organisation should have procedures to demonstrate that the 'independent qualified person' has been trained and has gained experience in the specific inspection to be performed. The organisation could consider making use of, for example:

(1) staff holding a certifying staff or support staff or sign-off authorisation or equivalent necessary to release or sign off the critical maintenance task;

(2) staff holding a certifying staff or support staff or sign-off authorisation or equivalent necessary to release or sign off similar task in a product of similar category and having received specific practical training in the task to be inspected; or

(3) a commander holding a limited certification authorisation in accordance with 145.A.30(j)(4) and having received adequate practical training and having enough experience in the specific task to be inspected and on how to perform independent inspection.

(c) How to perform an independent inspection

An independent inspection should ensure correct assembly, locking and sense of operation. When inspecting control systems that have undergone maintenance, the independent qualified person should consider the following points independently:

(1) all those parts of the system that have actually been disconnected or disturbed should be inspected for correct assembly and locking;

(2) the system as a whole should be inspected for full and free movement over the complete range;

(3) cables should be tensioned correctly with adequate clearance at secondary stops;

(4) the operation of the control system as a whole should be observed to ensure that the controls are operating in the correct sense;

(5) if different control systems are interconnected so that they affect each other, all the interactions should be checked through the full range of the applicable controls; and

(6) software that is part of the critical maintenance task should be checked, for example: version, compatibility with aircraft configuration.

(d) What to do in unforeseen cases when only one person is available

REINSPECTION:

(1) Reinspection is an error-capturing method subject to the same conditions as an independent inspection is, except that the ‘authorised person’

performing the maintenance task is also acting as ‘independent qualified person’ and performs the inspection.

(2) Reinspection, as an error-capturing method, should only be performed in unforeseen circumstances when only one person is available to carry out the task and perform the independent inspection.

The circumstances cannot be considered unforeseen if the person or organisation has not assigned a suitable ‘independent qualified person’ to that particular line station or shift.

(3) The certificate of release to service is issued after the task has been performed by the ‘authorised person’ and the reinspection has been carried out satisfactorily. The work card system used by the organisation should record the identification and the details of the reinspection before the certificate of release to service for the task is issued.’

AMC 145.A.48(c) Performance of maintenance

The procedures should be aimed at:

(a) minimising multiple errors and preventing omissions. Therefore, the procedures should specify:

(1) that every maintenance task is signed off only after completion;

(2) how the grouping of tasks for the purpose of sign-off allows critical steps to be clearly identified; and

(3) that work performed by personnel under supervision (i.e. temporary staff, trainees) is checked and signed off by an authorised person; (b) minimising the possibility of an error being repeated in identical tasks and, therefore, compromising more than one system or function.

Thus, the procedures should ensure that no person is required to perform a maintenance task involving removal/installation or assembly/disassembly of several components of the same type fitted to more than one system, a failure of which could have an impact on safety, on the same aircraft or component during a particular maintenance check. However, in unforeseen circumstances when only one person is available, the organisation may make use of reinspection as described in point (d) of AMC4 145.A.48(b).’

GM 145.A.48(c) Performance of maintenance To minimise the risk of multiple errors or errors being repeated, the organisation may implement: — procedures to plan the performance by different persons of the same task in different systems; — duplicate inspection or re-inspection procedures.

GM 145.A.48(d) Performance of maintenance — critical design configuration control limitations (CDCCL) The organisation should ensure that when performing maintenance the CDCCL are not compromised.

The organisation should pay particular attention to possible adverse effects of any change to the wiring of the aircraft, even of a change not specifically associated with the fuel tank system. For example, it should be common practice to identify segregation of fuel gauging system wiring as a CDCCL.

The organisation can prevent adverse effects associated with changes to the wiring by standardising maintenance practices through training, and not through periodic inspections.

Training should be provided to avoid indiscriminate routing and splicing of wire and to provide comprehensive knowledge of critical design features of fuel tank systems that would be controlled by a CDCCL.

Guidance on the training of maintenance organisation personnel is provided in Appendix IV to AMC 145.A.35.’