

International Maintenance Review Board Policy Board (IMRBPB)
Issue Paper (IP)

Initial Date 15 Feb 2013

IP Number: IP 126

Revision 0 / Date: 24 April 2013

Title: Use of Technical Standard Order (TSO) for MSG-3 Analysis

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Issue: TSO-C64b, effective as of 05/21-08, requires TSO applicants to stipulate scheduled maintenance requirements including inspection times, life limits, inspection methods and procedures, in the Component Maintenance Manuals (CMM). Seattle FAA AEG requires that such CMM given instructions overwrite the MSG-3 analysis conducted by the operators, Boeing and FAA AEG per AC 121-22B, the results of which are traditionally provided in the Maintenance Review Board Report (MRBR) for a given aircraft type. As a result, lack of clarity exists in regard to the role of the MSG-3 process vs. TSO directions for scheduled maintenance requirements. TSOs have traditionally been used by design engineering to qualify a part for installation and certification on the aircraft whereas the MSG-3 process incorporating operator service data has been used for scheduled maintenance requirements development.

Problem:

Boeing has recently been requested in writing by the Seattle FAA AEG that scheduled maintenance requirements for TSO articles after the effective date of TSO-C64b, be copied from applicable CMMs rather than be the result of MSG-3 analysis which has been the industry practice so far.

Boeing objects to using TSO articles CMM data in place of the MSG-3 process for establishing MRBR scheduled maintenance tasks for the following reasons:

- a. The MSG-3 methodology is a proven vehicle for developing on-wing scheduled maintenance requirements at the aircraft level and incorporates service experience provided by the operators. The process through which a supplier or vendor is arriving at component on-wing maintenance instructions while installed on the aircraft is unknown and may at times be arbitrary rather than structured.

It is unknown if vendors have a standard process to utilize operator service data and inspection findings in a structured and consistent manner during scheduled maintenance requirements development. The vendor's item is part of an overall aircraft system for which the OEM and the operators have access to service data and inspection findings. As such, scheduled maintenance development is a collaborative effort by the OEM, operators and the regulatory agencies. In the absence of a structured process for developing vendor maintenance requirements, a risk could exist that vendors may introduce excessive maintenance requirements thus unduly increasing operator maintenance burden and costs.

- b. TSO-C64b is ambiguous in that it uses both the terms "recommended" and "required" which leaves the provided maintenance requirements subject to interpretation. CMM manuals from the various vendors are not written in a standardized manner in regard to "recommended" vs. "required" maintenance instructions either. Again, both terms are used.

As an example, for certain oxygen masks, CMM verbiage exists that OEM's aircraft maintenance manual (AMM) be used for ICA purposes. Only in the absence of such AMM instructions the CMM data should be used.

- c. CMM manuals do not follow the latest industry standards in regard to MSG-3 nomenclature and definitions. As such, using the CMM verbiage in an MRB report, will show lack of adherence to MSG-3 standardized verbiage which is used throughout the rest of these documents.
- d. The issue is severely complicated in that many CMM maintenance instructions have been superseded by vendor service letters (SL), bulletins (SB) and/or other publications. No process exists in the OEM and the operator community for verification and tracking vendor data using vendor SLs and SBs. Such publications are not mandatory for implementation by the operators,

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albeit many may be of value. Operators typically decide on SL and SB implementation, both from the OEM and vendors, based on their aircraft or component reliability programs. Following up on vendor SLs and SBs in itself would pose a significant additional effort for the ISC and MRB community while performing MSG-3. Furthermore, no process exists for tracking future vendor SLs and SBs whose revisions may easily render current ICAs obsolete.

- e. If following CMM instructions for aircraft level ICAs would indeed be required, such TSO articles should be removed from the list of MSG-3 analysis items altogether as there is no point in performing MSG-3 analysis of any kind if the results are to be known beforehand from the vendor CMM.
- f. Use of CMM provided instructions for aircraft level ICA would constitute a significant shift in maintenance requirement determination philosophy. This appears to be a step backwards toward the times when no industry, structured, MSG-3 process existed, but a compilation of CMM data had been used to define scheduled maintenance requirements.

Boeing is bringing the TSO issue forward to the MPIG as information only, pending further FAA guidance and direction, and is seeking clarification of the industry's position regarding TSO applicability in place of, or overriding of, MSG-3 derived analysis for each OEMs MRB document.

Recommendation (including Implementation):

Create a letter stating the position of the industry (Annex 1).

Action was taken by Boeing and the Seattle AEG to have the letter forwarded to the aircraft certification office in Washington DC.

Obtain FAA position in regards to the use of TSO applicability during MSG-3 analysis (Annex 2).

Propose change to MSG-3 wording to clarify TSO, in section "2-3-2 Analysis Procedure":

Original text:

All available Vendor Recommendations (VR) should be fully considered, discussed in the MWG meetings, and accepted only if they are applicable and effective according to MSG-3 criteria.

Suggested new text:

All available Vendor Recommendations (VR) **including maintenance data that supports Technical Standard Order Authorization articles (or equivalent)**, should be fully considered, discussed in the MWG meetings, and accepted only if they are applicable and effective according to MSG-3 criteria.

IMRBPB suggestion to add a new definition for VR, which will not require a change to MSG-3 Section 2-3-2, as follows:

Vendor Recommendation (VR)

Maintenance instructions, including supporting data, provided by the OEM of materials, parts, appliances or components. VR may include for example recommended inspection intervals, periodic maintenance, calibration and testing procedures, installation instructions, or service life. VR's may be contained in various types of source documents such as TSO's and CMM's.

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IMRBPB Position:

Date: April 24, 2013

Position: The suggestion to include a new VR definition into MSG-3, Appendix A, and to replace vendor requirements with vendor recommendations within MSG-3 on page 22, Section 1-3-1, paragraph 2.

Status of Issue Paper (when closed state the closure date): Closed. April 24, 2013

Recommendation for implementation: Amend MSG-3 on the next revision. Also, the applicable section of MSG-3 Volume II will also require revision.

Important Note: The IMRBPB positions are not policy. Positions become policy only when the policy is issued formally by the appropriate National Aviation Authority.