



SAFETY ALERT 2017-06

Issue 01

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SUBJECT:

HYDROSTATIC TEST REQUIREMENTS FOR PRESSURE VESSELS INSTALLED ON AN AIRCRAFT

REFERENCE PUBLICATION:

EASA SIB 2015-11 “Hydrostatic Test Requirements for Pressure Vessels Installed on an Aircraft”.

REASON:

Following removal by several Type Certificate Holders from various Maintenance Review Board Reports (MRBR) or Maintenance Planning Documents (MPD) of hydrostatic test requirements, the Authority has received many questions regarding requirements for hydrostatic test on bottles installed on an aircraft.

There are several sources defining requirements for hydrostatic test:

Maintenance Steering Group-3 (MSG-3) generated task

Depending on the equipment, system, installation and functions, the MSG-3 analysis may:

- Identify the hydrostatic test as a maintenance task required;
- Identify no special maintenance task;
- Identify any other kind of maintenance required.

If the MSG-3 analysis identifies a hydrostatic test as applicable and effective, then operators of these aircraft need to consider this task in their maintenance program.

National requirements

Various aeronautical or non-aeronautical national regulations require hydrostatic test for pressure vessel. For example, in the US high pressure cylinders are regulated by the Title 14 of the Code of Federal Regulation (14 CFR Aeronautics and Space), if installed on an aircraft; and regulated under the Title 49 CFR, issued by the Department of Transport (DOT), when not installed on an aircraft. The DOT requirement is however not specifically aeronautical one, and only applies to operators under the concerned jurisdiction. Therefore, it may not be considered in a MRBR or a non-customized MPD, which are applicable to the world fleet independently of any jurisdiction.

Vendors / Equipment manufacturer recommendations

In addition, vendors of these bottles may publish maintenance recommendations applicable to their equipment. These recommendations may include periodic hydrostatic tests, however they usually do not consider the specific installation on an aircraft, nor are issued based on the MSG-3 analysis. They may have other considerations, such as warranties and limitation of liability aspects.



It has also to be highlighted that even if the hydrostatic test is defined through the MSG-3 analysis, as well as required by the national jurisdiction, and/or through a vendor recommendation, the interval may differ from one source to the other. It is therefore very important to consider the source of hydrostatic test requirements.

When the hydrostatic test is identified by the MSG-3 analysis, then the task is applicable to all aircraft using the MRBR, and must be included in the aircraft operator maintenance program. When the hydrostatic test is coming from the national regulations, then it is only applicable to the aircraft or operator under the concerned jurisdiction. If the hydrostatic test is issued by the vendor(s) as a recommendation (CMM, SB, etc.), then this task has to be considered by the operator following procedures acceptable to the Authority. Usually, the MRBR which represents the minimum initial maintenance requirements should only include the hydrostatic test task, when arising from the MSG-3 analysis and therefore is applicable to all aircraft.

RECOMMENDATION:

When considering hydrostatic test requirements for bottles, the Authority recommends that owners, operators and maintenance organizations identify the exact source of the task. Depending on the source of the task, the following approach can be taken:

1. If the source is the MSG-3 analysis, then the task is applicable to all aircraft, independently of any national requirement(s) or vendor(s) recommendation(s).
2. If the source is a vendor recommendation, then the task should be considered as per operator's procedures acceptable to the Authority.
3. If the source is a UAE national non-aeronautical regulation then it will be applicable, as long as it does not contradict recommendations 1 or 2 above as applicable, though it may not be mentioned in the aircraft manufacturer documentation. It is therefore highly recommended for each operator, to check any such requirement, which may exist from various sources for his equipment and their applicability.

Note: At the time of the publication of this Alert, there is no UAE national non-aeronautical requirement related to hydrostatic test similar to the US DOT requirement. Emirates Authority for Standardization & Metrology (ESMA) may be contacted for more information for such a requirement.

CONTACTS:

For more information contact the GCAA through email: airworthiness@gcaa.gov.ae