

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

Date: 27/04/2011

IP Number: 111

Revision / Date:

Title: Handling of failures/degradations evident during pre flight inspection
b) Zonal Analysis Procedure

Submitter: Airbus

Issue:

A consistent approach for handling the types of failures/degradation that justify the required pre-flight inspections (e.g. walk round) should to be identified in MSG-3.

Problem:

Current MSG-3 guidelines do not provide advice on how to identify appropriate zonal inspection intervals for zones containing components and structural surfaces that are subjected to visual inspection from the ground during pre-flight (or pre first flight of the day) walk round inspections. If no credit may be taken for these inspections then the damage / deterioration must be considered hidden and the zonal inspection interval selected accordingly. Since the purpose of the pre-flight walk round is to ensure that there are no obvious defects that could impact the safety of the flight it is difficult to justify any interval other than 'Pre Flight / Daily / 24hrs elapsed'. Since typically MRB Reports do not contain multiple zonal inspections at such intervals it is evident that at least some credit can be taken from the walk round.

Various options have been followed by OEMs to avoid unnecessarily restrictive MRB tasks. Some have taken credit for the walk round and have selected an interval for the zonal inspection assuming that any significant defect (eg fuel leak, bird strike damage, foreign object damage, cut tyre) will be seen and addressed on a daily basis. Such assumptions lead to zonal inspections at intervals compatible with operator A and C checks. Other OEMs have taken no credit and have identified zonal inspections at 'Daily' interval (or equivalent) in their Zonal Inspection Programs. In order to minimise the high burden for the operator, at least one of those who followed this second option subsequently removed these tasks from the Zonal Inspection Program and included them in a note in the introductory text. The intent of this was to allow operators increased scheduling flexibility and to highlight that the quoted intervals are recommended only where no similar inspections already exist on comparable fleets.

Recommendation (including Implementation):

Dedicated MRB Report ZIP tasks with 'Daily' intervals are unnecessary if it is obvious that the failure / degradation would be noted pre flight through performance of the walk round required by operational requirements. However, if there is any doubt that a specific failure / degradation might not be evident during pre-flight inspection and that this cannot be left unaddressed for a typical A-chk interval, then a Zonal Inspection task must be identified for inclusion in the MRB Report.

MSG-3 should acknowledge that:

1. It is a flight crew responsibility to ensure that the pre-flight inspection has been carried out. This is thus part of the crew's 'normal duties'. Evidence of this responsibility is provided under European regulations in JAR OPS 1.085(f)(12) and under US regulations via 14CFR 121.441 (see note below) and 14 CFR 91.7b

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Note: 14CFR 61.157(f) Proficiency and competency checks conducted under 14CFR Part 121 and 135 requires the successful completion of a PIC proficiency check under 121.441 (14CFR 121.441 "Proficiency Checks"). This Rule requires a PIC to satisfactorily complete a proficiency check that must include the procedures and manoeuvres set forth in appendix F of that part. Appendix F I(b) under Pre-flight Inspections: The pilot must (1) conduct an actual visual inspection of the exterior and interior of the airplane

2. The definition of 'maintenance' excludes the pre-flight inspection (this is explicitly stated in European regulations under EC 2042/2003 Article 2 Definitions)
3. In regulation M.A.301, European regulations acknowledge that the accomplishment of pre-flight inspections contributes to ensuring 'the aircraft continuing airworthiness and the serviceability of both operational and emergency equipment'.

Pre-flight inspections must be performed prior to each departure for the purpose of ensuring that the aircraft is fit for the intended flight. The person performing the inspection will have received appropriate training and is responsible for highlighting any findings. Departure clearance will not be given until these have been addressed. Whether the flight crew, the operator's maintenance staff or a subcontracted third party performs the inspection is not significant. The operational requirement to perform the inspection leads to certain failures / degradations being evident prior to departure. MSG-3 should be updated to allow credit to be taken for these inspections. It is proposed that the following paragraph is added in 2-5-2 Zonal Inspection Task Intervals:

The pre-flight inspection is not to be considered as a maintenance function. It is required by Operational rules and may be performed by any appropriately trained person. The content of this inspection is practically identical for all aircraft types. The MSG-3 analyst may justify that certain failures / degradations will definitely be seen and addressed as a result of accomplishment of this operational requirement. Thus, in determining the appropriate zonal inspection interval for zones containing components or structure that are subject to pre-flight inspection, the analyst may assume that certain failures / degradation are evident and thus define the interval in recognition of the failures / degradations that would not be expected to be seen and addressed during a pre-flight inspection.

IMRBPB Position:

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Position:

MSG-3, rev 2009.1, chapter 2.3.5, states that flight crew normal duties are described in the Airplane Flight Manual (AFM). Working groups may consider these normal duties, as described in the AFM, for the purpose of categorizing failures as evident in the MSG-3 analysis.

A pre-flight inspection performed by flight crew is not part of the normal duties, as described in the AFM. Typically, the manufacturer, operator and National Airworthiness Authority develop the pre-flight inspection. As a result, the content of a pre-flight inspection can and will vary between countries of operation.

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Since the pre-flight inspection is not part of the AFM, and MSG-3 only considers flight crew duties that are part of the AFM, the IMRBPB will not allow results from a pre-flight inspection to be used to categorize failures as evident in the MSG-3 analysis.

Also, since there has been many accidents attributed to sources of degradation that should have been evident during a pre-flight inspection, combined with non-standardized pre-flight inspection content/criteria, the IMRBPB will not consider amendments to the MSG-3 analysis process to allow for pre-flight inspections to become part of the flight crew normal duties.

Only flight crew duties described in the AFM may be used during the MSG-3 analysis.

Status of Issue Paper (when closed state the closure date): closed 27/04/2011

Recommendation Implementation:

Important Note: The IMRBPB positions are not policy. Positions become policy only when the policy is issued formally by the appropriate National Aviation Authority. (EASA, JAA, FAA, or TCCA)