Zonal

AMP Reference: IAL/330/T Revision 00 Initial

Contents

1. GENERAL

This section provides the General Visual Inspection (GVI) requirements for each aircraft zone to inspect system, power plant installations and structure for security and general condition. Inspections are to be accomplished at or before the stated intervals.

The inspections are specified by quoting the relevant zone number, zone description, access requirements and intervals.

The extent of the inspection is defined by the preparation and access requirements.

The zone is to be inspected as visible with the relevant access open.

There are zones which will require more than one inspection at different intervals, because the depth at which the zone is to be examined may necessitate differing levels of accessibility.

The inspection tasks in this Zonal section (ZIP) do not provide a complete summary of all structure and systems items to be inspected in the affected zone. It is therefore considered that the person performing the inspection has an adequate knowledge of the aircraft construction and of its system installation.

Any evolution of Zonal Inspection tasks involving an escalation to the inspection task interval should consider that credit has been taken for many of these tasks providing the most appropriate opportunity to detect degradation of wiring installations, electrical bonding and structural corrosion.

As a result, operators should consider the need to identify dedicated tasks if findings suggest that interval escalation might lead to an unacceptable level of deterioration of these particular features prior to the repeat inspection. This action would allow any ZIP task interval escalation to proceed while at the same time ensuring that operators do not overlook the potential impact on EWIS, L/HIRF and structural corrosion issues.

In view of the fact that all zonal tasks contribute to the identification of degradation that, if ignored, could ultimately lead to a reduction in certification margins, zonal tasks must not be deleted from an operator's maintenance program.

Operators shall consider that all Zonal tasks identified with "(EWIS)" after the task description are required to support compliance with Electrical Wiring Interconnection System (EWIS) requirements.

GVI tasks arising from EZAP Analysis considered not fully covered by the Zonal section and any non-GVI task arising from the EZAP analysis are included within ATA 20 of the Systems and Powerplant Section and are identified by "(EWIS)" after the task description. These dedicated tasks remain under the responsibility of the Zonal MWG. All ATA 20 tasks are uniquely identified in the Systems and Powerplant Section with (EWIS) after the task description to prevent the inadvertent deletion or escalation of dedicated EZAP derived tasks without proper consideration of associated risk basis for task and interval.

2. GUIDANCE FOR ACCOMPLISHMENT OF A ZONAL GVI

A Zonal GVI requires a visual examination to detect obvious unsatisfactory conditions and discrepancies.

It shall be performed from within touching distance unless otherwise noted, that being the distance from the examiner's eye to the area/item being inspected.

The tasks inspect:

- Structure by looking for signs of accidental damage, corrosion, cracks and for general condition of fasteners.
- System installations for proper attachment ,security and general condition (components, wiring, ducting, tubing, pulleys, bearings, electrical bonding, leaks, chafing marks etc...).
- The general condition of any fairings, panels, or other items which are removed/opened to gain access to a particular zone.
- Condition of L/HIRF (Lightning & High Intensity Radiated Field) protection
- For accumulation of any kind of contamination (including potential combustible material) for EZAP (Enhanced Zonal Analysis Procedure) concerns.

The items in the zone are to be visually inspected from within touching distance where physically possible unless otherwise specified. A mirror may be necessary to enhance visual access to all exposed surfaces in the inspection area. The inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight or drop-light and may require removal or opening of access panels or doors. Access to zones should be easily accomplished and should not require the use of special tools.

Stands, ladders or platforms may be required to gain proximity to the area being checked.
There is no requirement for equipment removal or displacement unless this is specifically called for in the access instructions. However, should unsatisfactory conditions be suspected, additional items may need to be removed or displaced in order to permit proper assessment.

Paint and/or sealant removal is not necessary and should be avoided unless condition is suspect.

It is expected that the area to be inspected is clean enough to minimise the possibility that accumulated dirt or grease might hide unsatisfactory conditions. Any cleaning that is considered necessary should be performed before the Zonal inspection.

In general, the person performing the inspection is expected to identify degradation due to wear, vibration, moisture, contamination, excessive heat, aging, etc. and make an assessment as to what actions are appropriate to address the noted discrepancy. In making this assessment, the person performing the inspection shall take into account potential influence on adjacent system installations, particularly if these include wiring.

The following list is intended to clarify the type of deterioration that constitutes a discrepancy that is expected to be found and corrected. The list is not intended to be exhaustive and may be amended or expanded as considered appropriate.

Structural Items/Assemblies General

- Deformations e. g. bulging skin joint
- Corrosion
- Cracks
- Delamination or disbanding
- Obstructed drain holes
- Damage to hinges or latches
- Evidence of fluid spillage or pooled liquids

Accidental Damage

- Dents
- Impact marks
- Scratches or gouges
- Evidence of hail damage
- Evidence of lightning strike
- Evidence of foreign object damage (FOD) / bird strike

Fasteners

- General condition of fasteners
- Missing or broken fasteners

Surface Protection

- Damaged, detached or missing sealant
- Damaged, blistering or missing paint
- Severely discoloured paint (evidence of corrosive fluid spillage)
- Accumulation of contaminants (dirt, grease, Skydrol etc.)

Repairs

- Deterioration of previous repairs

Electrical installation

- (also refer to AMM Chapter 20 Standard Practices)

Wire / Wire Harnesses

- Wire bundle sagging or badly secured
- Wires damaged (large scale damage due to mechanical impact, overheat, localized chafing etc.)
- Lacing tape and/or ties missing/incorrectly installed
- Wiring protection sheath/conduit deformity or incorrectly installed
- End of sheath rubbing on end attachment device
- Grommet missing or damaged
- Dust and lint accumulation
- Surface contamination by metal shavings / swarf
- Contamination by liquids
- Deterioration of previous repairs

Connectors

- External corrosion on receptacles
- Backshell tail broken
- Rubber pad or packing on backshell missing
- No backshell wire securing device
- Fool proofing chain broken
- Missing or broken safety wire
- Discoloration/evidence of overheat on terminal lugs/blocks
- Torque stripe misalignment

Switches

- Rear protection cap damaged

Ground Points

- Corrosion

Bonding braid/bonding jumper

- Braid broken or disconnected
- Multiple strands corroded
- Multiple strands broken

Wiring clamps or brackets

- Corroded
- Broken/missing
- Bent or twisted
- Faulty attachment (bad attachment or fastener missing)
- Unstuck/detached
- Protection/cushion damaged

Supports (rails or tubes/conduit)

- Broken
- Deformed
- Fastener missing
- Missing edge protection on rims of feed through holes
- Racetrack cushion damaged

The following item could be considered to be covered by the ZIP if access to the electrical power centre, relay boxes etc. are added in the access requirements:

Circuit breakers, contactors or relays

- Signs of overheat

Hydraulic/Fuel/Water Waste/Oxygen/Fire Detection/Fire Suppression system installation

- Seepage/leakage of liquid
- Broken or incorrect wire locking
- Pipes badly secured
- Pipe/pipe or pipe/structure contact (check for chafing and restore separation)
- Missing or broken clamps
- Crushed / damaged pipes
- Broken/disconnected bonding leads / jumpers
- Deterioration of previous repairs
- Obstruction of smoke detectors
- Plugged or damaged distribution nozzles

Air systems installation

- Evidence of leakage on adjacent structure/components
- Crushed/split ducts
- Misaligned, missing or broken clamps
- Ducting badly secured

Mechanical systems installation

- Bent/crushed control rods
- Sagging control cables
- Excessively worn, frayed or kinked control cables
- Excessively worn fairleads
- Extruded bearing liners
- Broken or incorrect wire locking
- Significant corrosion on cables, threads

Cargo Systems

- Split/holed compartment liners
- Seal damage
- Excessively worn rollers (sign of jamming and resultant overheat)
- Missing/damaged stops/latches
- Damaged cargo net restraining attachments

Engines/Pylons

- Blade damage (e.g., nicks, cracks)
- Blades rub (on rub strip)
- Vane damage
- Cowling damage
- Loose or migrating fasteners and bushings (due to vibration)
- Discoloration (due to heat damage)
- Foreign Object Damage (FOD)
- Damage due to bird strike/ingestions

General

- Illegible labels
- Condensation in windows
- Window crazing
- Oil canning

3. SECTION NOTES

NOTE 1 and 3: The Content of MRBR notes is given as full text in the corresponding MPD task.

4. REPORTING SYSTEM

As a result of the CPCP requirement to control corrosion to Level 1 or better (Refer to MPD Structure section) operators shall report corrosion findings to the manufacturer in accordance with the MAINTENANCE TASK REPORTING SYSTEM. Please refer to AirbusWorld eSite : Content Library > Maintenance Engineering > Scheduled Maintenance Requirements > MPD Reporting Templates.