


EASA	COMMENT RESPONSE DOCUMENT
	EASA PAD No. 13-146 [Published on 23 September 2013 and officially closed for comments on 21 October 2013]

Commenter 1: Singapore Airlines – Cheekheong – 23.09.2013

Comment # 1

It would not be appropriate to use 'DET' for the special detailed inspection stated in PAD No. 13-146.

ATA 57	Wings – Cruciform Fitting Frame 56 – Inspection / Modification
Manufacturer(s):	Airbus
Applicability:	Airbus A380-841, A380-842 and A380-861 aeroplanes, all manufacturer serial numbers, except those on which Airbus modification 68010 has been embodied in production.
Reason:	<p>During full scale fatigue testing of the A380 aeroplane, cracks were detected on a cruciform fitting at frame (FR) 56. The results of the subsequent investigations determined that the subject cracks were fatigue related and initiated by high local stress.</p> <p>This condition, if not detected and corrected, could reduce the structural integrity of the wing.</p> <p>To address this potential unsafe condition, Airbus issued Service Bulletin (SB) A380-57-8076 to provide inspection instructions.</p> <p>For the reasons described above, this AD requires a one-time special detailed inspection (DET) of the Left Hand (LH) and Right Hand (RH) cruciform fittings at FR56 and modification of the affected wing area.</p>
Effective Date:	[TBD: 14 days after final AD issue date]



A380 MRB REPORT

SECTION D

STRUCTURES

1 GENERAL

This section provides the basic scheduled maintenance tasks and intervals applicable to the aircraft structure.

Note: The Structures part of an operator's maintenance program is not necessarily limited to the list of maintenance tasks identified in Section D of this document.

The purpose of the Structure Program is to maintain the continuous airworthiness of the aircraft structure and to control corrosion to Level 1 or better (refer to: paragraph 3. CORROSION PREVENTION AND CONTROL PROGRAM for definition of Level 1 corrosion).

This program has been developed by considering and analyzing the effect of expected damage and deterioration on the aircraft Significant Structure. All structure not selected as Significant Structure is classed as 'Other Structure' (Refer to GLOSSARY, Appendix 5) and is covered by the requirements of the Zonal Inspection Program.

2 INSPECTION LEVELS

According to the analysis performed, for each Structural Significant Item (SSI), various inspection levels have been considered with the aim of selecting the most appropriate one which is compatible with the type of damage expected and the design of the part or assembly. The inspection levels considered are:

- General Visual Inspection (GVI)
- Detailed Inspection (DET)
- Special Detailed Inspection (SDI)

For definition of these inspection levels refer to GLOSSARY, Appendix 5.

INSPECTION - DETAILED (DET):

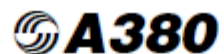
An intensive visual examination of a specific structural area, system, installation or assembly to detect damage, failure or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirrors, magnifying lenses, etc. may be necessary. Surface cleaning and elaborate access procedures may be required.

INSPECTION - GENERAL VISUAL (GVI) :

A visual examination of an interior or exterior area, installation or assembly to detect obvious damage, failure or irregularity. This level of inspection is made from within touching distance unless otherwise specified. A mirror may be necessary to ensure visual access to all surfaces in the inspection area. This level of 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. Stands, ladders or platforms may be required to gain proximity to the area being checked.

INSPECTION - SPECIAL DETAILED (SDI) :

An intensive examination of a specific item, installation, or assembly to detect damage, failure or irregularity. The examination is likely to make extensive use of specialised Inspection Techniques and/or equipment. Intricate cleaning and substantial access or disassembly procedure may be required.



SERVICE BULLETIN

References	
Non Destructive Test Manual (NTM)	Task 57-21-01-250-801 Task 57-21-01-250-802
Service Bulletin (SB)	A380-57-8072 A380-57-8074
Fig. A-FBEAA Inspection Areas	Sheet 01 Sheet 02 Sheet 03
Fig. A-FFAAA Flow Chart for the inspection of the LH Side	Sheet 01

(a) At the threshold given in PLANNING INFORMATION paragraph E.(2) Table 1.

Do a special detailed inspection of the LH cruciform fitting.

Refer to [Fig. A-FBEAA](#)

Refer to [Fig. A-FFAAA](#)

Refer to NTM Task 57-21-01-250-801

Refer to NTM Task 57-21-01-250-802

EASA response:

EASA agreed.

Commenter 2: Qantas Airways Limited – Vincent Romeo – 10.10.2013

Comment # 2

Reference: QS8838 / A380 / VR 2013/1

I have reviewed the subject PAD and wish to make the following points and suggested improvement for your consideration.

1. It would seem that the Inspection compliance times given in Table 1 in “The Required Actions and Compliance Times” section are designed to provide an optimal window for carrying out the modification of the cruciform fitting in order to reach the Design Service Goal with the minimum of future requirements.
2. Para (2.) states that if NO crack is found before further flight carry out the modification per SB A380-57-8074 (LH) or A380-57-8075 (RH) or do further inspections of fastener holes.
3. The modifications per the above Service Bulletins are also applicable if a crack up to 1 mm is found as noted in para (6) and Table 2.
4. It is also clear that the later the inspection is done the more chance of a larger crack being present and the need for the more extensive rework being required per SB A380-57-8072 (LH) or SB A380-57-8073 (RH)
5. I also understand that if the fitting is reworked for NO crack or a crack up to 1 mm it is likely that the maximum re-inspection threshold can be obtained.
6. From an operator perspective it is important to have the flexibility to accomplish the inspection earlier than the mandated compliance time if it better suits the maintenance program. This is the normal way we operate.
7. It is also beneficial if the inspection is made as early as practicable to reduce risk of finding large cracks that may require extensive rework and provide less residual life.
8. I also imagine EASA would not object if an operator chose to remove an unsafe condition sooner than what the OEM recommends.
9. Whilst the compliance envelope presented in Table 1 appears to give relief or flexibility to the operator, in reality it only creates what appears to be an unnecessary constraint and force inspections outside of a heavy maintenance check.

All of the above concerns can be addressed if the AD simply specifies the maximum compliance time limits of 4200 Flight Cycles or 30,900 Flight hours whichever occurs first.

Please review the above and take into account when finalising the AD. Please advise if further clarification is required on any of my points.

EASA response:

Comments understood. Airbus clarified that earlier embodiment is technically allowed from fatigue perspective. Final AD has been amended to remove the lower limit of the compliance time. Nevertheless Airbus recommends in order to minimize the risk of further repair before DSG not to perform the inspection before 2 800FC or 20 600FH from FF whichever occurs last.