

COMMENT RESPONSE DOCUMENT

EASA PAD No. 19-052

[Published on 01 April 2019 and officially closed for comments on 22 April 2019]

Commenter 1: Delta Air Lines – Heidi Lee – 02/04/2019

Comment # 1

Per EASA PAD 19-052, the “Parts Installation” section states “Do not install on any engine an EEC with affected SW installed...”.

Delta would like to suggest the wording to be changed to “Do not operate any engine with affected SW installed on the EEC”. Delta asks this because per SB 73-AK228, any update to the software on an off-wing EEC will require the EEC to be sent for overhaul by an approved vendor. Therefore, for any for any serviceable spare EEC currently with operators, the only method to update the software is to install the EEC on the engine first and then download the software from the aircraft. Furthermore, the EEC installation procedure in the AMM (Ref. MP A350-A-73-21-34-00001-720A-A) requires the EEC configuration to be checked and software to be updated as applicable per MP A350-A-73-21-XX-01001-752A-A. This will ensure once the aircraft software system is updated per SB 73-P007-00, the latest software version will be installed on the EEC prior to engine operation.

EASA response:

Comment agreed. The Final AD has been amended, as follows: paragraph (2) has been amended to only prohibit uploading of affected SW, while a new paragraph (3) has been inserted to allow engine or EEC installation, provided that serviceable SW (as defined in the AD) is uploaded before release to service of the aeroplane.

Commenter 2: Air France Powerplant Engineering (on behalf of Air Caraïbes and French Bee Operators) – Loïc Bourdais – 08/04/2019

Comment # 2

PAD 19-052 mandates the following:

Definition: “Group 1 engines are those that have an EEC with an affected SW installed.”

Chapter Required Action(s) and Compliance Time(s):



Paragraph (1) SW update: *“For Group 1 engines: Within 30 days after the effective date of this AD, update the EEC SW in accordance with the instruction of the SB.”*

This means that EEC's installed on spare engines will have to be modified within the same time frame as installed engines so EEC's will have to be removed and sent to the Vendor.

Paragraph (2) Parts Installation: *“Do not install on any engine an EEC with affected SW installed [...]”*

Therefore, all spare EEC's serviceable on shelf having an Affected software have to be sent to the Vendor in order to implement a Serviceable software prior to installation on an engine either Spare or On Wing.

Proposal is to include a sentence in the AD that specifies that for engines not currently installed on aircraft and for EEC's not currently installed on engines, it is allowed to implement the Serviceable SW at first on-wing installation prior to service operation.

Alert SB Trent XWB 73-AK228 original issue dated 22 March 2019 states the following in paragraph 1.E.(1) *“For engines not currently installed on aircraft and for EEC's not currently installed on engines this Service Bulletin must be accomplished at first on-wing installation prior to service operation.”*

Notes: A350 AMM revision dated March 01st 2019 covers these mandated actions.

- MP Task A350-A-73-21-34-00001-720A-A Installation of the Engine Electronic Controller (EEC) requests some Mandatory tests following an EEC installation, including the software configuration check per MP Task A350-A-71-XX-XX-06ZZZ-398Z-A.
- MP Task A350-A-71-00-51-00001-720A-A Installation of the Demountable Power Plant, requests to check the EEC software configuration per Subtask 710051-50000070001: *‘Make sure that the Engine Electronic Controller software on both engines is permitted [...]’*.

EASA response:

Comment partially agreed. Unless specified otherwise, AD actions are related to engines that are in service. Any engine not being in service does not need to comply with any AD requirements, until that engine is (about to be) released to service. The same principle applies to components like EEC units.

Nevertheless, the Final AD has been amended. See EASA answer to Comment #1 above.



Commenter 3: Airbus – Thierry Perie – 12/04/2019**Comment # 3**

I would propose to keep one month application limit for the Engine equipped with Mark 1D Blades (Reaction time is June 2019) and to provide more time for the other engines. More time may be 3 months or 6 months. 6 months seems adequate for a software application with the size of the fleet.

EASA response:

Comment noted. The engine TC holder has established that the reaction time for the Mark 1D fan blade is shorter than for the Mark 2. The AD compliance is driven by the shortest reaction time and is therefore conservative. The proposed software update covers both standards of Trent XWB-84 fan blades.

No changes have been made to the Final AD in response to this comment.

Commenter 4: Lufthansa Technik – Binai Mathew – 18/04/2019**Comment # 4**

- A. The AD defines “The SB” as Rolls-Royce SB 73-AK228 or Airbus SB A350-73-P007. It is asked to update the EEC SW in accordance with the instructions in the SB. These are two different documents with two different work scopes. The Airbus SB introduces the new EEC Software (RRY25XWB0010022) as well as the EEC MSL and EMU MSL. The Rolls-Royce SB only considers the EEC Software update. Can EASA confirm that EASA only considers the EEC software to be mandatory and the EEC MSL files as well as EMU MSL Files to be non-mandatory?
- B. The PAD currently defines Group 1 engines as those that have an EEC with an affected SW installed. The SW update is required within 30 days after the effective date of the AD. This in our opinion does not clearly identify the requirements for engines in different conditions. From our point of view, there are three conditions of an engine. This is significant since the applicability of the AD is defined as Trent XWB-75, -79, -84 engines, all S/N and not A350 A/C.
 - o Engines installed on aircraft – Here there is no ambiguity. The SW update must be performed on-wing.
 - o Engine having a shop visit and not yet certified – Do these engines have to be modified prior to its release from shop? The Rolls-Royce SB states within the compliance section that the engines not currently installed on aircraft and EECs not currently installed on engines should receive the



modification at first on-wing installation, prior to service operation. This could lead release of an engine with an affected EEC and this could be conflicting with the intent of EASA. Therefore it would be good to clearly state what should be done with an engine undergoing shop visit.

- o Engines which are past shop visit certification and are currently uninstalled (spare) in serviceable condition. Should these engines be modified within 30 days although the engine might not be installed on an aircraft for several months or years? We do not expect that EASA intends to send the engines to shop again or remove the installed EECs to send to shop and recertify the Engine after installation of an updated EEC.
- o Spare EECs – It is possible that operators might have spare EECs which have the affected software. Normally after installation of the EEC the software assigned for the Aircraft will be downloaded and assigned to the EEC prior to release of the maintenance work. We do not expect that EASA intends to send all spare EECs to shop for a software update prior to their installation.

We request that the requirement for an engine undergoing shop visit to be clearly defined: Modify during shop visit or modify at next installation (prior to service operation).

Perhaps the way to solve the remaining points listed above would be to rephrase the AD with the following considerations.

C. Redefine Group 1 as “engines installed on aircraft that have an EEC with affected software”. Group 2 definition can stay the same.

(Comment: Engines in shop and spare engines have not been put into any group at this time, however they may not require a group classification since they can be covered under Parts / Engine installation)

Retain: SW update (1) for all Group 1 engines within 30 days as is currently stated.

(Comment : This ensures that all operative engines and thereby the airplane will be modified within 30 days)

D. Rephrase: Parts and Engine installation: (2)

When installing an engine on any airplane already modified by the SB, upload the serviceable software on to the EEC prior to next flight.

When installing on any engine an EEC, upload the serviceable software on to the EEC, as required by paragraph (2.1) or (2.2) of this AD, as applicable, prior to next flight.

Retain Paragraph (2.1) and (2.2) as is.

E. It is expected that both EECs on the Aircraft should have the same software version. Since the Airbus SB is also stated as qualified to be “The SB”, perhaps it might be more manageable to define the applicability at Aircraft level rather than engine level, thereby making the Airbus SB to be the leading document to implement. That is only if this does not cause any issue due to different TC Holders (A/C and Engine).

We hope that the feedback is constructive and would help to improve the clarity of the AD.

EASA response:

A. EASA confirms that, to correct the potential unsafe conditions, the EEC SW XWB_84-6.1.1, P/N RRY25XWB0010022, must be installed on the engine. The aircraft TC holder informed EASA that the MSL files software included in Airbus SB A350-73-P007 is not required to correct these



potential unsafe conditions. According to the aircraft TC holder, not loading the updated MSL files software might only prevent performing some maintenance tests, which would then lead to further trouble-shooting actions and associated burden.

B. Comment noted. See EASA answers to Comments #1 and #2 above.

C. Comment not agreed. See EASA answers to Comments #1 and #2 above.

D. Comment noted. See EASA answers to Comments #1 and #2 above.

E. Comment noted. See EASA answer to point A of this comment.

No changes have been made to the Final AD in response to points A, C and E of this comment.

