

## COMMENT RESPONSE DOCUMENT

EASA PAD No. 24-129

[Published on 25 October 2024 and officially closed for comments on 22 November 2024]

### Commenter 1: Deutsche Lufthansa AG – Hedwig Irriger – 24/11/2024

#### Comment # 1

DLH has reviewed and assessed the feasibility of PAD 24-141. We have encountered several problems that may render it hard or impossible for operators to comply with this PAD in the proposed timeframe without assistance from Airbus and the FCRM manufacturer.

#### BACKGROUND

The PAD requests scrapping of FCRMs upon reaching of a FH/FC-based life limit.

Those FCRMs are not yet tracked as a standard. Even for recent on-going A350 deliveries, the FCRM PN/SN is not part of the documentation. No back-to-birth tracking requirement does exist until now either.

In addition, the FCRMs are on-wing and in-shop replaceable sub-assys of several Flight Control Actuators.

Form 1s of the respective Flight Control Actuators do include the PN/SN of the installed FCRM since some time, but no counter info.

#### PROBLEMS

Even once the operators find out the installed FCRM PNs/SNs, it remains unclear how many FH/FC this SN accumulated unless it has never been changed yet.

As the Flight Control Actuator reliability on the A350 is rather low, in many cases the FCRM will not be on-wing since delivery.

- ➔ For each such FCRM, the operator will need to do a back-to-birth research through part pools and previous operators, to accumulate the movement-trackability-info.
- ➔ From previous experience, such research takes weeks or months and can be impossible if previous operators are out of business.

#### REQUESTS

Airbus shall please provide all PN/SN-installation info from all affected A350s as delivered. The MSN shall please be included in such a list. This will help all operators to make the required calculations.

The FCRM OEM shall please furthermore provide a list FCRM SNs with their manufacturing dates. This will allow operators to make conservative assumptions about FH/FC accumulated on specific FCRM SNs in case previous operators are unresponsive.

DLH furthermore asks EASA to delay publication of the AD until such time as above info from Airbus and the FCRM OEM have been fulfilled.



**EASA response:**

***Comment #1 not agreed – The risk assessment does not support the postponement of the issuance of the final AD. The AD strategy has been discussed with Airbus who has already engaged the affected Operators, in anticipation to the publication of the final AD, offering the necessary support. Lufthansa is therefore encouraged to contact Airbus in case any assistance is needed.***

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

**Commenter 2: Lufthansa Technik AG – Mustafa Akkaya – 25/11/2024**
**Comment # 2**

PAD 24-141 proposes to introduce life limitations for Flight Control Remote Module (FCRM), having Part Number (P/N) CA71323-013, P/N CA71323-014, P/N CA71323-015 or P/N CA71323-016.

It is from Airbus side respectively from the authority side planned to implement this life limitation requirements in ALS Part 4 section 3.

If yes, this information should be also given in the forthcoming Airworthiness Directive in order to enable operators to initiate timely adequate action for the mandated requirements.

**EASA response:**

***Comment #2 not agreed. The risk assessment requires prompt action which can be attained only by introducing the FCRM life by means of an AD.***

***To be noted that, from an Operator's stand point the introduction of a component life requirement by means of AD or specific entry into the suitable ALS section is expected to prompt the establishment of the same follow up actions.***

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



**Commenter 3: Turkish Airlines – Yılmaz Bahcekapili – 27/11/2024****Comment # 3**

As you know SB A350-27-P066 requires identifying the PN, SN, FH, and FC of all FCRMs installed on aircraft by inspecting maintenance records or reading on the aircraft. After that, SB instructs to repeat the inspection and replace the FCRM before reaching 9 000 FC or 50 000 FH, whichever occurs first.

During periodic webinars hosted by Airbus with A350 operators regarding this issue, the possibility of tracking the FCRMs through the maintenance tracking system (similar to life-limited parts) instead of repetitive inspections on aircraft has been raised. Airbus agreed that tracking the FCRMs satisfies the repetitive inspections. Turkish Airlines supports this method and believes that this method is more effective without compromising safety. Turkish Airlines kindly requests that EASA consider this method to be included in the subject AD as an alternative method of compliance.

**EASA response:**

***Comment #3 acknowledged. The PAD requires to inspect the affected parts in accordance with the instructions of Airbus SB and such SB already allows for the usage of maintenance records as a suitable mean to identify the affected parts installed on aircraft, so the scenario described by this comment is already covered by the current text of the PAD.***

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

**Commenter 4: Qatar Airways – M. Asad Khan – 09/12/2024****Comment # 4**

Ref.1: EASA PAD 24-141

Ref.2: Airbus A350-27-P066

Ref.1 RACT 1 instruct to replace the affected part (FCRM) Before the it accumulates 9 000 FC or 50 000 FH , whichever occurs first.

Table 1 Compliance time: A or B, whichever occurs later provide two time lines:

- A. Part replacement: For life limit of FCRM (9 000 FC or 50 000 FH whichever occurs first)
- B. Part Life calculation: Based on Aircraft life 5000 FC/ between 3000 to 5000 FC/ Less then 300 FC



If we take the most restrictive time line for “Part Life Calculation” which is “within 05 months after the effective date of the AD, there is a possibility that after completion of “Part Life Calculation” there will be parts which will have the Life Limit already exhausted

Request(s):

Based on above we believe that this EASA AD should provide a grace period for parts with life limit exhausted.

QTR Proposal:

This EASA AD should provide grace period equal to the Compliance Time for Life calculation.

| <b>Aeroplane FC at the effective date of this AD</b> | <b>Life Limit Calculation Time line<br/>(after the effective date of this AD)</b> | <b>Grace Period if <u>Life limit is exhausted</u> within Life Limit Calculation Time line.<br/>(after the effective date of this AD)</b> |
|--|---|--|
| 5 000 FC or more                                     | 5 months  | 5 months   |
| 3 000 FC or more, but less than 5 000 FC             | 7 months  | 7 months   |
| Less than 3 000 FC                                   | 9 months  | 9 months   |

**EASA response:**

***Comment #4 not agreed. Table 1 requires to comply with the requirements A or B, whichever occurs later. The calendar compliance time expressed in months in Table 1, B, is already to be considered as grace period granted to continue operation with affected parts installed having exceeded 9000FC/50000FH. To avoid disruptions Operators are invited to determine the accumulated and remaining life of the affected parts installed as soon as possible.***

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



**Commenter 5: Singapore Airlines Limited (SIA) – Abel Li – 09/12/2024**
**Comment # 5**

- A. Given the introduction of a “life limit” for such critical component, would EASA expect Airbus to incorporate this component into the Airbus Airworthiness Limitation Section (ALS) section of the MPD, so that Operators can track this in their respective Aircraft Maintenance Schedule (AMS)?
- B. As part numbers (P/N) and serial numbers (S/N) of the FCRM are not declared by Airbus in the Aircraft Inspection Report (AIR) nor Single Traceability File (STF) for each delivered aircraft, how does EASA / Airbus / Moog expect Operators to record and track the life of each FCRM sub-component differently from the next-higher assembly (Servocontrol)? We also observed that new or repaired Servocontrols (SC) issued by Moog to Operators do not indicate the FCRM P/N and S/N information on the front page of the Authorised Release Certificate (ARC) Form 1, this makes it extremely difficult for non-technical receiving stores inspector to identify the critical information in a timely manner. Consequently, it poses a maintenance burden on Operators like SIA with a huge fleet of 65 aircraft QPA 22, coupled with gaining access to high location of rudder/elevator, to identify and record such information to begin with. More time should be factored in to gather this information before the AD is officialised.

**EASA response:**

**Comment #5 A. not agreed. See reply to Comment #2.**

**Comment #5 B. acknowledged. The risk assessment does not support an extension of the compliance time. In order to ensure present and future compliance to the AD Operators have to ensure proper monitoring of the FCRMs. Operators are encouraged to contact Airbus for assistance, if necessary.**

**No changes have been made in the final AD in response to these comments.**

**Commenter 6: Cathay Pacific Airways Limited – Alfred Lee – 10/12/2024**
**Comment # 6**

- A. The relevant SB 27-P066 mentions about the repetitive inspection at every 9000 FC /50000 FH but AD does not. Could EASA confirm the requirement?
- B. Will this hard life FCRM (9000 FC/ 50000 FH) requirement reflect in further ALS part 4 as mandatory requirement to terminate this AD?



- C. As the FCRM usage has not been a mandatory data before this AD published, believe operators (especially large 350 fleets) may not have 100% visibility on every FCRM unit data and would take some time to retrieve all the FCRM usage in order to fulfil the usage control per AD. Would EASA consider to give operators some more time buffer before the final AD is published?

**EASA response:**

*Comment #6 A acknowledged. The PAD spells out a life requirement for the affected part. This means that from AD effective date on the AD requirements have to be complied with at any time, also in the future. As a consequence once the “grace” period granted in Table 1, B., will have elapsed every FCRM’s life will have to be monitored and it will have to be ensured that they will not remain in service beyond 9000FC/50000FH since new. Therefore, by all means, compliance with this AD will require continuous monitoring of the affected parts’ remaining lives.*

*Operators are encouraged to contact Airbus for assistance, if necessary.*

*Comment #6 B not agreed -see reply to Comment #2.*

*Comment #6 C not agreed - see reply to Comment #1.*

*No changes have been made in the final AD in response to these comments.*

**Commenter 7: Delta Air Lines – Brian Duff – 11/12/2024**

**Comment # 7**

**Reference:**

(A) EASA Proposed Airworthiness Directive: PAD No. 24-141, dated 15 NOV 24

(B) Airbus Service Bulletin (SB) A350-27-P066, Rev 00, dated 12 NOV 24

(C) Airbus IN-SERVICE INFORMATION (ISI 00.05.00005), Rev 6, dated 20 DEC 23

**Comment #A**

Commenter Request

Add Airbus “IN-SERVICE INFORMATION (ISI 00.05.00005)” to the PAD “Definitions” section (Ref (C))

Request justification

Ref (B) points to Ref (C) as a clear process for assigning current FC/FH to a component with an incomplete history. As the Affected Parts were not all tracked from first installation on an aircraft, a clear process is required to establish a starting point and current FC/FH status for each part. The process defined by Ref (B) is not a clear process.



The intent is to establish a current FH/FC history for each affected part. Normal industry practices using maintenance records and new Ref (C ) can be used for this task. An SB, like Ref (B) is not required for this task.

List paragraphs that change; describe (nonobvious) changes

Definitions:

- New Definition for Airbus “IN-SERVICE INFORMATION (ISI 00.05.00005)” to the PAD “Definitions” section (Ref (C))

**Comment #B**

Commenter Request

Modify Ref (A) PAD, to add statement exempting operators from any mandatory reporting required by SB Ref (B)

Request justification

Paragraph 3.C. of SB Ref (B) contains instructions to complete an Inspection Report Sheet form and send the completed form to Airbus. Ref (B), Paragraph 3.C is considered a Required for Compliance (RC) paragraph and therefore the inspection results reporting will be considered mandatory upon the issuance of the AD that mandates compliance of the proposed AD Ref (A).

Typically, reporting is needed from operators to determine root cause of the issue. The root cause of the safety concern addressed in proposed AD Ref (A) is understood.

List paragraphs that change; describe (nonobvious) changes

- New Exception paragraph to be added to the Ref (A) PAD

**Comment #C**

Commenter Request

Focus the intent of the AD on establishing a new life limit as defined by Table 1 of Ref (A) and remove any AD mandated process for replacing affected parts that have reached their new life limit. This can be done by replacing paragraph (1) of Ref (A) with this new paragraph (1) and new Note 2:

(1) Within the compliance time as provided in Table 1 of this AD, as applicable, replace each affected part with a serviceable part, as defined in this AD (See Note 2)

Note 2: The Airbus A350 Maintenance Procedures manual is an acceptable source of data for replacing an affected part that has reached its life limit.

Request justification

Paragraph 3.C. of SB Ref (B) contains instructions to accomplish tasks that are not essential to the safety intent of Ref (A), which is to establish a mandatory (reduced) life limit for the affected parts.

Mandating how an affected part is replaced by making normal removal and installation tasks in the A350 MP manual mandatory through RC steps in Ref (B) falls outside the safety focus of Ref (A).



List paragraphs that change; describe (nonobvious) changes

- Replace paragraph (1) of Ref (A) with revised paragraph (1) as described in the “Commenter Request” section above.
- Add new “Note 2” to Ref (A) as described in the “Commenter Request” section above

**Comment #D**Commenter Request

Add Airbus “IN-SERVICE INFORMATION (ISI 00.05.00005) Revision 6 dated 20 December 2023” to the PAD “Ref. Publications” section (Ref (C))

Request justification

Ref (B) points to Ref (C) as a clear process for assigning current FC/FH to a component with an incomplete history. As the Affected Parts were not all tracked from first installation on an aircraft, a clear process is required to establish a starting point and current FC/FH status for each part. The process defined by Ref (B) is not a clear process.

The intent is to establish a current FH/FC history for each affected part. Normal industry practices using maintenance records and new Ref (C) can be used for this task. An SB, like Ref (B) is not required for this task.

List paragraphs that change; describe (nonobvious) changes

- Ref. Publications: Add “Airbus IN-SERVICE INFORMATION (ISI 00.05.00005) Revision 6 dated 20 December 2023” to the PAD “Definitions” section (Ref (C))

***EASA response:***

**Comment #7A not agreed. The PAD requires to inspect and determine the remaining lives of the affected parts in accordance with the instructions in Airbus SB, which in turn refers to ISI 00.05.00005. The usage of such ISI to determine the lives accumulated by the affected parts is already allowed by the current PAD wording.**

**Comment #7B not agreed. Reporting is not mandated by the AD.**

**Comment #7C not agreed. The AD has to provide instructions as to how the AD requirements are expected to be complied with, hence reference to Airbus SB is necessary. To be noted that Airbus SB refers to the applicable A350 MP procedure for the replacement of the affected FCRMs.**

**Comment #7D not agreed - see reply to Comment #7A**

***No changes have been made in the final AD in response to these comments.***

