

COMMENT RESPONSE DOCUMENT

EASA PAD No. 21-093

[Published on 01 July 2021 and officially closed for comments on 15 July 2021]

Commenter 1: Air France HOP – Muhittin Kahraman — 01 July 2021

Comment # 1

Our aircraft (Embraer 190) are equipped with an affected part due to installation during manufacturer process but the Design approval Holder & Type/Model designation of our aircraft is not mentioned on the PAD.

Could you confirm that this PAD is applicable in our case although our aircraft manufacturer / model are not mentioned ?

We suggest you to add the mention : “ These fire extinguishers are known to be installed on, but not limited to, ... » on applicability item as already done on the SIB 2021-14

EASA response:

Comment noted. Since the affected fire extinguisher P/N do not have an EASA ETSO approval, EASA has decided to issue an AD at aircraft level for European products which are known to have the affected part installed. For non-EU products where it is confirmed the extinguishers have been installed, it is expected that the State of Design and design approval holder will assess the risk and take appropriate action.

The information that an affected part is “known to be installed on, but not limited to...” is only used where the AD is issued at appliance/equipment level (i.e. equipment holding an ETSOA). No changes have been made to the revised PAD (21-093R1) in response to this second comment.

Commenter 2: Helvetic Airways – Paul Davies – 02 July 2021

Comment # 2

EASA PAD 21-093 has not been issued as an “APPLIANCE” PAD, but as an Airframe PAD.

PAD extract: “Affected part: umlaut Engineering GmbH (formerly P3 Engineering GmbH) HAFEX (Halon-free) hand-held fire extinguishers, having Part Number (P/N) P3APP003010A, P/N P3APP003010B or P/N P3APP003010C, all s/n”.



The Airframes we operate are all contained within the Type Certificate EASA.A.071, issue 23. The aircraft are: ERJ 190-100 LR; ERJ 190-300; ERJ 190-400 (Yaborã Indústria Aeronáutica S.A. (this was Embraer)).

- The ERJ 190-300 and ERJ 190-400 are both compliant with CS 25.851(a)(6) at Amdt. 18 in regards to the equipment installation and qualification of Halon free hand-held Fire Extinguishers.
- The ERJ 190-300 and ERJ 190-400 are both equipped with the PAD affected part number: P3APP003010A.
- PAD 21-093 does not contain the Design Approval Holder's name: Yaborã Indústria Aeronáutica S.A.
- PAD 21-093 does not contain the Type/Model designation(s): ERJ 190-300 and ERJ 190-400
- PAD 21-093 does not contain the TCDS: EASA.A.071
- PAD 21-093 does not contain the Manufacturer: Yaborã Indústria Aeronáutica S.A.
- PAD 21-093 does not contain the Applicability: ERJ 190-300 and ERJ 190-400

Yesterday, I contacted the vendor of the affected part (umlaut). They have informed us of the EASA PAD.

We do not operate any of the aircraft mentioned in the PAD, and so our regular search of the EASA website (our search includes APPLIANCES) does not show a result for PAD 21-093.

Without the reply from umlaut, we would not be aware of PAD 21-093. And the situation would be the same when PAD 21-093 becomes an Airworthiness Directive.

Please inform us if TCDS: EASA.A.071 (Yaborã Indústria Aeronáutica S.A.) (ERJ 190-300 and ERJ 190-400) is excluded from the requirements of PAD 21-093, and also inform us of the reason(s) why.

Alternatively, please consider that PAD 21-093 needs to be re-issued as an APPLIANCE Proposed Airworthiness Directive.

EASA response:

Comment partially agreed. See EASA answer to Comment #1 above. EASA can only issue an AD at appliance/equipment level where the appliance/equipment holds an ETSOA, which is not the case for the affected parts.



Commenter 3: Vector Aircraft Services – Kevin McElroy – 02 July 2021**Comment # 3**

I note that PAD No 21-093 Reason paragraph details a prolonged exposure timescale of “12 hours or more” however the vendor SB P3VSB000003 Rev A Reason paragraph details a timescale of 288 hours which is 12 days. Is there a reason for this difference?

EASA response:

Comment noted. EASA has determined that it is not possible for an operator to determine the environmental conditions an extinguisher has been exposed to, and so the AD actions are not linked to temperature and duration of exposure. Where the AD deviates from the VSB instructions, the AD instructions take legal precedence.

Changes made to the revised PAD (21-093R1) ‘Reason’ in response to this comment.

Commenter 4: Luxembourg Air Ambulance – Mathieu Nennig – 02 July 2021**Comment # 4**

Would it be possible to add a section in this AD to take credit for the inspection performed via Airbus ASB MBB-BK117 D-2-26A-004 (see attached)? It seems that they used umlaut Engineering GmbH VSB P3VSB000003 as the base to create their document and inspection procedure. Additionally, found a small typo in the increment of numbering the section of requirements [...].

EASA response:

Comment noted. The PAD states to “[...] inspect each affected part in accordance with the instructions of paragraph 3.2 of the VSB, or equivalent maintenance instructions issued by the design (change) approval holder.” Thus, inspections performed in accordance with the DAH instructions are already accepted if equivalent to the VSB. No changes have been made to the revised PAD (21-093R1) in response to this comment.

The paragraph numbering has been corrected in the revised PAD (21-093R1).



Commenter 5: Japan Airlines – Hiroshi Ishikawa – 05 July 2021**Comment # 5**

- A. The Umlaut VSB requires monthly inspections of fire extinguishers that may have been exposed to temperatures above 65 °C for more than 12 days. On the other hand, EASA PAD is described as "after prolonged exposure (12 hours or more) to high temperature conditions of more than 65 °C, the spindle in the fire extinguisher head can discharge, making the fire extinguisher inoperative."

In Japan, there is no historical record of temperatures exceeding 40 degrees Celsius at public airports. As the temperature in the parking spot does not exceed 40 degrees Celsius, and it is considered that the cabin is not kept in a high-temperature environment of 65 degrees or higher for a long period of time. Therefore, it is considered the inspection per Umlaut VSB paragraph 3.2 will not be required. Is it possible to exclude it from repeated AD inspections in accordance with the Umlaut VSB?

- B. The EASA PAD is described as "after prolonged exposure (12 hours or more) to high temperature conditions of more than 65 °C, the spindle in the fire extinguisher head can discharge, making the fire extinguisher inoperable." while the Umlaut VSB states, "This effect might occur after exposure of the equipment to temperatures higher than 65 °C for a period longer than 288 hours continuous exposure."

We would like to know why EASA choose 12 hours instead of 288 hours?

- C. The Umlaut VSB paragraph 3.2.C.6 is described as "In any case please report test results to equipment OEM and design holder." but this is considered to be a necessary report only for aircraft judged to be subject to inspection by the determination in Umlaut SB paragraph 3.1.

If an inspection is conducted in accordance with SB 3.2 for all AD-applied aircraft, is a report required for the aircraft judged to be unnecessary in accordance with Umlaut VSB paragraph 3.1? If a Report is required for all aircraft, OEM and design holder will receive a large number of reports, and we are concerned that the situation will be out of control. Please make it clear if EASA will mandate to report the inspection result to the OEM and design holder for all inspection performed by AD or not.

EASA response:

A. and B. Comment noted. See EASA answer to Comment #3 above.

C. The AD also takes precedence regarding the reporting aspect; note that, unless explicitly stated in an AD, reporting inspection results is not required.

No changes have been made to the revised PAD (21-093R1) in response to this comment.



Commenter 6: Aer Lingus – Daniel Fanning – 07 July 2021**Comment # 6**

- A. The PAD does not indicate the required actions for affected PN extinguishers held in spares stock. EIN would expect a statement to clarify that spares held in stock provided they are in a controlled environment are not applicable to the initial inspection requirement and only the 6M repeat inspection is required after it is installed on an aircraft.
- B. The following section would be better included within the Return to Service AMM Ch 10 task for aircraft with affected PNs installed. It is a difficult criteria to capture if it is not within the AMM.
- C. Furthermore, EIN has provided feedback to Umlaut in relation to the reporting requirements contained within the VSB – see attached.

EASA response:

- A. Comment agreed. Paragraph (5) on parts installation has been amended accordingly to clarify that the next inspection following installation is due within 6 months.**
- B. Comment not agreed. The PAD states to “[...] inspect each affected part in accordance with the instructions of paragraph 3.2 of the VSB, or equivalent maintenance instructions issued by the design (change) approval holder.” An operator can certify the inspection in accordance with the VSB if no AMM task yet exists.**
- C. Comment noted. See EASA answer to Comment #5 A. and B. above.**

No changes have been made to the revised PAD (21-093R1) in response to these comments.

Commenter 7: Deutsche Lufthansa AG – Benjamin Meurer – 08 July 2021**Comment # 7**

- A. In paragraph “Definitions: Serviceable part:”: The requirement for the installation of an affected part on an aircraft is a previous performed inspection in accordance with the instructions of the referenced VSB.
In order to fulfill this requirement DLH requests Airbus to provide a revision or an Advanced Copy of the affected AMM Tasks regarding inspection instructions prior to installation of an affected part, before the effective date of the AD.



- B. In paragraph “Required Action(s) and Compliance Time(s): Repetitive Inspections: (2)” : For Group 1 aircraft that are parked or stored for more than 30 days, this PAD requires to perform an inspection of affected parts in accordance with the instructions of the referenced VSB before next flight. In order to fulfill this requirement DLH requests Airbus to provide a revision or an Advanced Copy of the affected AMM Tasks regarding parking or storage return to service procedures, prior to effective date of the AD.
- C. In paragraph “Required Action(s) and Compliance Time(s): Part(s) Installation: (4)” : For Group 1 and 2 aircraft, affected parts must be inspected as required by this PAD following installation.
- Paragraph “Repetitive Inspections: (1)” requires an inspection of affected parts within 30 days after effective date of the AD. Therefore it is suspected that this requirement is also applicable for paragraph “Required Action(s) and Compliance Time(s): Part(s) Installation: (4).
- DLH requests EASA to state more precisely which inspection time requirements are applicable after installation of an affected part on an aircraft .

EASA response:

- A. Comment not agreed. The PAD states to “[...] inspect each affected part in accordance with the instructions of paragraph 3.2 of the VSB, or equivalent maintenance instructions issued by the design (change) approval holder.” An operator can certify the inspection in accordance with the VSB if no AMM task yet exists.**
- B. Comment not agreed. See EASA answer to point A above.**
- C. Comment agreed. Paragraph (5) on parts installation has been amended accordingly to clarify that the next inspection following installation is due within 6 months.**

Commenter 8: EasyJet – Konstantinos Tsaknakis – 08 July 2021

Comment # 8

We appreciate that an affected part has been determined based on the P/N and not on a review of an unsafe condition directly affecting the part itself and that the action is to inspect those affected parts; effectively all P/N 3010A/3010/B/3010C. However, EZY feels that some information of the PAD differs from the information provided in the referenced OEM VSB with respect to the definition of the unsafe condition as far as exposure conditions are considered; 288hrs of continuous exposure to high OATs 40C+ in the VSB compared to 12hrs of exposure in 65C in the VSB.

A. Comments on Repetitive Inspections of para.1:

- EZY would like EASA to review the compliance time 30days and increase that to 60days as this is very short for operators with large fleets of aircraft



- EZY would like to investigate the possibility of an alleviation of the repeat 6mo interval to a 12mo interval considering we are operating in a geographical location rarely affected by the conditions.
- B. Comment on Terminating action of para 3:
- Should this be numbered as para (4) and Part(s) Installation as para (5), it seems that Corrective Action(s) is already marked as (3)?
 - Does the replacement of an affected P/N with a non-affected P/N constitute a terminating action? This is a recommended action as per the VSB SECTION 2.0, M.Materials
- C. Other questions:
- Should EZY expect an AOT to be issued?
 - Can credit be claimed based on previous accomplishment of the inspection as per the VSB? If we perform the VSB on our fleet prior to the AD issuance, do we need to re-inspect upon issuance of the AD if no credit para is included?

EASA response:

- A. Comments not agreed. The initial inspection has a short compliance time due to the risk of inoperative extinguishers on aircraft already having been exposed to high temperatures. The repetitive inspection is the best compromise based on differing operating conditions.**
- B. Comments partially agreed. The paragraph numbering has been corrected in PAD R1. AD paragraphs (1), (2), and (5) require inspections of affected parts only. Per affected part definition, a different P/N is not an affected part. Therefore, replacement on an aircraft of affected parts with non-affected parts moves the aircraft into Group 2.**
- C. It is the (S)TC holder's responsibility to issue service information. The PAD states to "[...] inspect each affected part in accordance with the instructions of paragraph 3.2 of the VSB, or equivalent maintenance instructions issued by the design approval holder." An operator can certify the inspection in accordance with the VSB if no AMM task yet exists. Credit is given to previous inspections using the VSB instructions; see "Required as indicated, unless accomplished previously".**

No changes have been made to the revised PAD (21-093R1) in response to points B and C of this comment.



Commenter 9: Air France – Jérémy Dourou – 12 July 2021**Comment # 9**

AFR Engineering considers that the technical solution suggested by Section 3.2. of the Umlaut VSB P3VSB000003 is not robust enough for a safety equipment such as Portable Fire Extinguisher.

#1 : The instructions are subjective and can be misinterpreted by technicians : “with low force and using only one finger” / “If there is a gap” can lead to scrap an operative FIREX or in the worst case, retain an inoperative FIREX on aircraft.

#2 : A repetitive inspection is not considered adequate since aircraft can be exposed to “high temperature” in day-to-day operations. In addition, without any Terminating action, it requires an additional Direct Maintenance Cost while the PFE is initially guaranteed operational for 12 years.

Knowing that the new PFE standard P/N P3APP003010D covers this potential safety issue, a full retrofit should be expected as Replacement after inspection or at least as Terminating action.

EASA response:

#1 : Comment noted. EASA considers the inspection robust, as the spindle is either in its intended position, or pushed out of the extinguisher head and held in that position. Thus, the inspection has a go/no-go outcome.

#2 : Comment partially agreed. Operators may choose to replace (using an approved change) each affected part with a serviceable part having a different P/N, thereafter, no further inspections will be required. There is currently no fix (thus no terminating action) available for affected P/N, which can continue to be operated under the required inspection scheme.

No changes have been made to the revised PAD (21-093R1) in response to these comments.

