



適航指令發布單

Airworthiness Directive Issuance Form

民航局 AD 編號 AD number	CAA-2021-04-002	發布日期 Date issued	2021/4/7
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	Model E4 and E4P engines, all serial numbers (s/n). These engines are known to be installed on, but not limited to, Diamond Aircraft Industries DA 40 NG, DA 42 NG, DA 42 M-NG and DA 62 aeroplanes.		
主旨摘要	Engine - Oil Pump - Replacement		
民航局 CAA <input type="checkbox"/> 本國產品 Native products <input type="checkbox"/> 其他個案 Other	設計國民航主管機構 Original Authorities <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> FAA <input checked="" type="checkbox"/> EASA <input type="checkbox"/> Brazil <input type="checkbox"/> Transport Canada Civil Aviation <input type="checkbox"/> DGAC </div> <div> <input type="checkbox"/> Germany LBA <input type="checkbox"/> CAA-NL <input type="checkbox"/> UK CAA <input type="checkbox"/> Japan CAB <input type="checkbox"/> CAA of Israel <input type="checkbox"/> Other _____ </div> </div>		
	設計國 AD 編號 Original AD number	2021-0094	
	1. 直接採用原 AD 之內容?(Is the original AD directly adopted?) <input checked="" type="checkbox"/> 是(Yes) <input type="checkbox"/> 否(No) _ a. 生效日期另訂為(Re-specify the effective date as) : _____ b. 執行時限另訂為(Re-specify the compliance time or period as) : _____ <input type="checkbox"/>		
	2. 使用人是否需要將 AD 執行結果向民航局提出報告?(Do <input type="checkbox"/> Users need to report the status of compliance to the CAA?) <input type="checkbox"/> 是(Yes) <input checked="" type="checkbox"/> 否(No)		
備註 Note	This AD supersedes EASA AD 2021-0055R1(CAA-2021-02-015A) dated 10 March 2021.		

註： 1. AD 內容後附。
 2. 航空器產品使用人得向民航局提出豁免、替代符合方法、執行時限之展延之申請。
 3. 如有任何問題，請聯絡交通部民用航空局初始適航科。Tel：(02)2349-6331~3, Fax：(02)2545-8464, e-mail：
adcaa@mail.caa.gov.tw

Note： 1. The AD text is enclosed.
 2. Exemption, an alternative method of compliance or adjustment of the compliance time may be proposed to the CAA for approval.
 3. For further information, please contact Civil Aeronautics Administration on Tel：(02)2349-6331~3, Fax：(02)2545-8464, e-mail：
adcaa@mail.caa.gov.tw



Airworthiness Directive

AD No.: 2021-0094

Issued: 31 March 2021

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 of that Regulation.

This AD is issued in accordance with Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [Regulation (EU) 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [Regulation (EU) 2018/1139, Article 71 exemption].

Design Approval Holder's Name:

AUSTRO ENGINE GmbH

Type/Model designation(s):

E4 and E4P engines

Effective Date: 14 April 2021

TCDS Number(s): EASA.E.200

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2021-0055R1 dated 10 March 2021.

ATA 72 – Engine – Oil Pump – Replacement

Manufacturer(s):

Austro Engine GmbH

Applicability:

Model E4 and E4P engines, all serial numbers (s/n).

These engines are known to be installed on, but not limited to, Diamond Aircraft Industries DA 40 NG, DA 42 NG, DA 42 M-NG and DA 62 aeroplanes.

Definitions:

For the purpose of this AD, the following definitions apply:

The SB: Austro Engine Service Bulletin (SB) MSB-E4-030 Revision 4.

Affected part: Oil pumps having Part Number (P/N) E4A-50-000-BHY and having a s/n as listed in the SB, as defined in this AD.

Serviceable part: Any oil pump, eligible for installation, which is not an affected part.

Groups: Group 1 are Model E4 engines in configuration “-A”, installed on single engine aeroplanes, which have an affected part installed.



Group 2 are Model E4 engines in configuration “-B” or “-C” and Model E4P engines, installed on twin-engine aeroplanes, which have an affected part installed.

Group 3 engines are those that do not have an affected part installed (any Model/configuration)

Reason:

Occurrences were reported of oil pump blockage on E4-A and E4-B engines. Subsequent investigation determined that the blockage was caused by oil contamination with casting sand from the production process of oil pump P/N E4A-50-000-BHY. A blocked oil pump causes failure of the engine lubrication system. The root cause was found in the sand casted oil pump housing cleaning process, which was not properly performed.

This condition, if not corrected, could lead to engine in-flight shut-down with consequent forced landing, possibly resulting in damage to the aeroplane and injury to occupants.

To address this potential unsafe condition, Austro Engine published the SB at original issue (later revised to add affected part s/n) to provide instructions to replace the affected oil pumps, and EASA issued AD 2021-0055-E to require replacement of affected parts, and replacement of the oil and filter. Subsequently, AD 2021-0055R1 was issued to refer to the SB at Revision 2, where certain engines were removed from the applicability. The SB at Revision 2 also expanded the list of affected part s/n, but without impact on AD compliance, as all added s/n were still in stock and would not be delivered to operators anymore.

Since that AD was issued, it was determined that affected parts are installed on additional engines, and Austro Engine published the SB at Revision 3 to correct the list of affected engine s/n. An additional oil pump replacement option was introduced with SB Revision 4 (with no further change to the list of affected engines/parts).

For the reason described above, this AD retains the requirements of EASA AD 2021-0055R1, which is superseded, and refers to the SB at Revision 4 (including the additional engine s/n and the new oil pump replacement option). This AD also expands the Applicability to include all engines where the affected part is eligible for installation, and prohibits (re)installation of an affected part on all engines.

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

Required as indicated, unless accomplished previously:

Replacement:

- (1) For Group 1 and Group 2 engines, within the compliance time as specified in Table 1 of this AD, as applicable, replace each affected part with a serviceable part, and replace the oil and the oil filter in accordance with the instructions of the SB.



Table 1 – Replacement of Oil Pump, Oil and Filter (see Note 1 of this AD)

Group / Flight Hours (FH)	Compliance Time
Group 1 and Group 2 / 10 FH or less	Within 1 month, or before accumulating 10 FH, or during the next scheduled maintenance, whichever occurs first after the effective date of this AD
Group 1 / more than 10 FH, but less than 50 FH	Within 3 months, or before accumulating 70 FH, or during the next scheduled maintenance, whichever occurs first after the effective date of this AD
Group 1 / 50 FH or more	Within 3 months or 20 FH, or during the next scheduled maintenance, whichever occurs first after the effective date of this AD
Group 2 / more than 10 FH	Within 3 months or 100 FH, or during the next scheduled maintenance, whichever occurs first after the effective date of this AD

Note 1: Unless indicated otherwise, the FH specified in Table 1 of this AD are those accumulated, on the effective date of this AD, by the engine since new (first installation on an aeroplane).

Credit:

- (2) Replacement of an affected part on an engine, accomplished before the effective date of this AD in accordance with the instructions of the SB at original issue, Revision 1, Revision 2, or Revision 3, is acceptable to comply with the requirements of paragraph (1) of this AD for that engine.

Part(s) Installation:

- (3) From the effective date of this AD, do not install an affected part on any engine.

Ref. Publications:

Austro Engine SB MSB-E4-030 original issue dated 18 February 2021, or Revision 1 dated 23 February 2021, or Revision 2 dated 03 March 2021, or Revision 3 dated 18 March 2021, or Revision 4 dated 30 March 2021.

The use of later approved revisions of the above-mentioned document is acceptable for compliance with the requirements of this AD.

Remarks:

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.
2. Based on the required actions and the compliance time, EASA have decided to issue a Final AD with Request for Comments, postponing the public consultation process until after publication.
3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.



4. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the [EU aviation safety reporting system](#). This may include reporting on the same or similar components, other than those covered by the design to which this AD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.
5. For any question concerning the technical content of the requirements in this AD, please contact: Austro Engine GmbH, Rudolf-Diesel-Str. 11, 2700 Wiener Neustadt, Austria, Telephone +43-2622-23000-2525, E-mail service@austroengine.at.

