



### 適航指令發布單

### Airworthiness Directive Issuance Form

民航局 AD 編號 AD number	CAA-2018-06-001	發布日期 Date issued	2018/6/12
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	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 - Turbocharger Waste Gate Controller and Control Rod Circlip - Life Limit / Modification		
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 <input type="checkbox"/> FAA <input checked="" type="checkbox"/> EASA <input type="checkbox"/> Brazil <input type="checkbox"/> Transport Canada Civil Aviation <input type="checkbox"/> DGAC <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 _____		
	設計國 AD 編號 Original AD number	2018-0125	
	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) : _____ 2. 使用人是否需要將 AD 執行結果向民航局提出報告?(Do 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	ATA 72. This AD supersedes EASA AD 2017-0250(CAA-2017-12-006) dated 18 December 2017. Ref. Publications: Austro Engine MSB MSB-E4-022 revision 2 dated 27 November 2017, and revision 3 dated 16 April 2018.		
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： <a href="mailto:adcaa@mail.caa.gov.tw">adcaa@mail.caa.gov.tw</a> 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： <a href="mailto:adcaa@mail.caa.gov.tw">adcaa@mail.caa.gov.tw</a>			



## Airworthiness Directive

**AD No.:** 2018-0125

**Issued:** 06 June 2018

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) 216/2008 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 66 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 (EC) 216/2008, Article 14(4) exemption].

### Design Approval Holder's Name:

AUSTRO ENGINE GmbH

### Type/Model designation(s):

E4 engines

**Effective Date:** 04 July 2018

**TCDS Number(s):** EASA.E.200

**Foreign AD:** Not applicable

**Supersedure:** This AD supersedes EASA AD 2017-0250 dated 18 December 2017.

## ATA 72 – Engine – Turbocharger Waste Gate Controller and Control Rod Circlip – Life Limit / Modification

### Manufacturer(s):

Austro Engine GmbH

### Applicability:

Model E4 and E4P engines, all serial numbers.

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 MSB:** Austro Engine Mandatory Service Bulletin MSB-E4-022 revision 3 dated 16 April 2018.

**Circlip:** Waste gate control rod circlips.

**Groups:** Group 1 engines have configuration “-B” or “-C”, and are installed on DA 42 M-NG aeroplanes with external containers; or have configuration “-A”. Group 2 engines are those in any other configuration than those in Group 1.



**Reason:**

Occurrences were reported where, on some engines, turbocharger waste gate control rods were found broken and/or disconnected. Investigation results indicate that these failures were due to insufficient fatigue life or improper handling of the waste gate control rod and improper installation of the non-spring-loaded circlip.

These conditions, if not corrected, could lead to improper operation of the waste gate with consequent engine power loss, possibly resulting in reduced control of the aeroplane.

To address this potential unsafe condition, Austro Engine designed a new spring loaded circlip and published MSB-E4-022 (later revised), introducing a life limit for the affected waste gate controllers and circlips. Consequently, EASA issued AD 2017-0250, requiring implementation of those life limits, and prohibiting reinstallation of non-spring-loaded circlips.

Since that AD was issued, Austro Engine developed a modification, which allows replacing the waste gate controller and the circlip on condition, and issued the MSB accordingly.

For the reason stated above, this AD retains the requirements of EASA AD 2017-0250, which is superseded, and requires an engine modification by installing a waste-gate control-rod fail-safe bridge and a new circlip, which cancels the life limitations.

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

Required as indicated, unless accomplished previously:

**Re-statement of the requirements of EASA AD 2017-0250:****Replacement:**

- (1) Within the compliance time as identified in Table 1 of this AD, as applicable, and, thereafter, at intervals not to exceed 250 flight hours (FH), replace the waste gate controller and the circlip in accordance with the instructions of Austro Engine MSB-E4-022, revision 2.

Table 1 – Initial replacement compliance time

Group	Compliance Time (A or B, whichever occurs later)	
1	A	Within 50 FH or 2 months, whichever occurs first after 01 January 2018 [the effective date of EASA AD 2017-0250]
	B	Within 250 FH since first installation on an engine
2	A	Within 100 FH or 5 months, whichever occurs first after 01 January 2018 [the effective date of EASA AD 2017-0250]
	B	Within 250 FH since first installation on an engine



**Parts Installation:**

- (2) From 01 January 2018 [the effective date of EASA AD 2017-0250], do not install on any engine a non-spring-loaded circlip Part Number DIN6799-5.

**New requirements of this AD:****Modification:**

- (3) Within 200 FH or 6 months, whichever occurs first after the effective date of this AD, modify the engine in accordance with the instructions of the MSB.

**Terminating Action:**

- (4) Modification of an engine, as required by paragraph (3) of this AD, cancels the replacement requirement of paragraph (1) of this AD for that engine.

**Ref. Publications:**

Austro Engine MSB MSB-E4-022 revision 2 dated 27 November 2017, and revision 3 dated 16 April 2018.

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. This AD was posted on 08 May 2018 as PAD 18-067 for consultation until 05 June 2018. No comments were received during the consultation period.
3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: [ADs@easa.europa.eu](mailto: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](#).
5. For any question concerning the technical content of the requirements in this AD, please contact: Austro Engine GmbH, Rudolf-Diesel-Str. 11, A-2700 Wiener Neustadt, Austria Telephone +43-2622-23000-2525, E-mail [service@austroengine.at](mailto:service@austroengine.at).

The referenced publication can be downloaded directly from the Austro Engine GmbH [Service Bulletin](#) webpage.

