



# 適航指令發布單

## Airworthiness Directive Issuance Form

民航局 AD 編號 AD number	CAA-2019-12-011	發布日期 Date issued	2019/12/20
適用之航空產品 Applied to (models, serial numbers or part numbers, as applicable)	Dornier 228-212 aeroplanes, all serial numbers.		
主旨摘要	Landing Gear - Carbon Brake Assembly - Inspection / 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 style="width: 48%;"> <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 style="width: 48%;"> <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	2019-0307	
	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 32. This AD supersedes EASA Emergency AD 2006-0352-E(CAA-2006-11-012A) dated 24 November 2006.		
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.:** 2019-0307

**Issued:** 18 December 2019

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:**

RUAG AEROSPACE SERVICES GmbH

**Type/Model designation(s):**

Dornier 228-212 aeroplanes

**Effective Date:** 01 January 2020

**TCDS Number(s):** EASA.A.359

**Foreign AD:** Not applicable

**Supersedure:** This AD supersedes EASA Emergency AD 2006-0352-E dated 24 November 2006.

### ATA 32 – Landing Gear – Carbon Brake Assembly – Inspection / Replacement

**Manufacturer(s):**

RUAG Aerospace Services GmbH, formerly Dornier Luftfahrt GmbH

**Applicability:**

Dornier 228-212 aeroplanes, all serial numbers.

**Definitions:**

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

**Affected part:** Carbon Brake Assemblies, having Part Number (P/N) 5009850-1, P/N 5009850-2, P/N 5009850-3 or P/N 5009850-4.

**The ASB:** RUAG Aerospace Services Alert Service Bulletin (ASB) Dornier 228-265 Revision 1.

**Groups:**

Group 1 aeroplanes are those that have an affected part installed that has not yet been overhauled.  
Group 2 aeroplanes are those that have an affected part installed that has already been overhauled.



**Reason:**

During a maintenance inspection, loose bolts and nuts were detected on the landing gear carbon brake assembly.

This condition, if not detected and corrected, could result in detachment of the brake assembly and subsequent malfunction, degrading brake performance, and loss of control of the aeroplane during landing or roll-out, possibly resulting in damage to the aeroplane and injury to occupants.

RUAG issued ASB Dornier 228-265 (original issue) to provide instructions for a visual inspection of the bolts, the gap between brake housing subassembly and torque tube assembly and hydraulic plumbing. Consequently, the Luftfahrt-Bundesamt (LBA) issued a mandatory measure under EU Regulation (EC) 1592/2002, Article 10(1) for affected aeroplanes registered in Germany and notified EASA. The Agency concurred with the LBA action and issued EASA Emergency AD 2006-0352-E to require inspection of the affected brake assembly and, depending on findings, replacement with a serviceable brake assembly.

Since that AD was issued, RUAG was informed by the manufacturer of the brake assembly that anti-seize and screw locking compound have been applied in a wrong way during production of new brake assemblies.

Prompted by this finding, RUAG issued the ASB, as defined in this AD, to amend the intervals (reducing the flight hours (FH) interval, adding a flight cycle (FC) interval and deleting the calendar time interval) of the repetitive inspections.

For the reason described above, this AD retains the requirements of EASA AD 2006-0352-E, which is superseded, and requires the inspections within new compliance times.

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

Required as indicated, unless accomplished previously:

**Inspection(s):**

- (1) Group 1 aeroplanes: Before next flight after 27 November 2006 [the effective date of EASA AD 2006-0352-E] and, thereafter, at intervals not to exceed 50 FH or 150 FC, whichever occurs first, inspect each affected part in accordance with the instructions of the ASB.
- (2) Group 2 aeroplanes: Before next flight after 27 November 2006 [the effective date of EASA AD 2006-0352-E] and, thereafter, at intervals not exceeding the values as defined in the applicable RUAG Dornier 228 Time Limits / Maintenance Checks Manual (TLMCM), inspect each affected part in accordance with the instructions of the ASB.

**Corrective Action(s):**

- (3) For Group 1 and Group 2 aeroplanes: If, during any inspection as required by paragraph (1) or (2) of this AD, as applicable, discrepancies are detected as identified in the ASB, before next flight, contact RUAG Aerospace Services Dornier 228 Customer Support for approved corrective action instructions and accomplish those instructions accordingly.



**Credit:**

- (4) Inspection(s) and corrective action(s) accomplished on an aeroplane before the effective date of this AD in accordance with the instructions of the ASB at original issued are acceptable to comply with the initial requirements of paragraphs (1) and (2) of this AD for that aeroplane.

**Terminating Action:**

- (5) None.

**Parts Installation:**

- (6) From the effective date of this AD, it is allowed to install an affected part on an aeroplane, provided that, prior to installation, it has passed an inspection in accordance with the instructions of the ASB, and that, following installation, the affected part is inspected as required by this AD.

**Ref. Publications:**

RUAG ASB Dornier 228-265 original issue dated 17 November 2006, and Revision 1 dated 02 September 2019.

RUAG Dornier 228 TM-TLMCM-228-090305-ALL Revision 8 dated 01 August 2018.

RUAG Dornier 228 TM-TLMCM-228-00002-150610 Revision 4 dated 01 August 2018.

The use of later approved revisions of the above-mentioned documents 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 27 September 2019 as PAD 19-182 for consultation until 25 October 2019. The Comment Response Document can be found in the [EASA Safety Publications Tool](#), in the compressed (zipped) file attached to the record for this AD.
3. Enquiries regarding this AD should be referred to the EASA Programming and Continued Airworthiness 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: RUAG Aerospace Services GmbH, Dornier 228 Customer Support, P.O. Box 1253, 82231 Wessling, Federal Republic of Germany, E-mail: [custsupport.dornier228@ruag.com](mailto:custsupport.dornier228@ruag.com).

