

EASA	NOTIFICATION OF A PROPOSAL TO ISSUE AN AIRWORTHINESS DIRECTIVE
	PAD No.: 15-099 Date: 24 July 2015 Note: This Proposed Airworthiness Directive (PAD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.
In accordance with the EASA Continuing Airworthiness Procedures, the Executive Director is proposing the issuance of an EASA Airworthiness Directive (AD), applicable to the aeronautical product(s) identified below. All interested persons may send their comments, referencing the PAD Number above, to the e-mail address specified in the 'Remarks' section, prior to the consultation closing date indicated.	
Design Approval Holder's Name: BOEING COMPANY, THE BFGOODRICH AEROSPACE, Aerostructures Group (formerly Rohr Inc.)	Type/Model designation(s): DC-9-80 series and MD-88 aeroplanes Boeing 727-200 (STC-modified) aeroplanes
Approval Numbers: USA TCDS A6WE, A3WE and STC SA4363NM, UK AAN No. 26883.	
Foreign AD:	None
Supersedure:	None
ATA	Airplane Flight Manual – Unreliable EPR Indications – Implementation of Procedure
Manufacturer(s):	McDonnell Douglas Corporation (previously Douglas Aircraft Company) and The Boeing Company
Applicability:	Model DC-9-81 (MD-81), DC-9-82 (MD-82), DC-9-83 (MD-83), DC-9-87 (MD-87) and MD-88 aeroplanes; all serial numbers (MSN); and Model 727-200 and 727-200F aeroplanes, all MSN, if modified by Supplemental Type Certificate (STC) SA4363NM as validated by CAA-UK Airworthiness Approval Note (AAN) No 26833.
Reason:	A number of operational events have occurred on aeroplanes of the DC-9 type design, where the engine nose cone pressure sensor had frozen without the flight crew being aware that they were flying in icing conditions. These events typically occurred at high altitude, flight level (FL) 310 – 330, with engine anti-icing (A/I) off. The obstruction of the nose cone pressure sensor generated an erroneous indication of the engine pressure ratio (EPR). As a consequence, the auto-throttle system reduced N1 engine speed to keep the erroneous EPR within the limits, thus reducing thrust and causing a gradual but rapid loss of airspeed. In some cases, the flight crew, noticing the reducing speed and the near stall condition at high altitude, took control by switching engine A/I on, and/or starting a descent to maintain the airspeed. In other cases, a stall condition developed before the flight crew had the time to recover the speed loss. In all but one such case, the flight crew successfully recognized the stall and recovered the aircraft.

	In a recent accident, still under investigation, involving an European-registered MD-83 and occurred in Mali, the stall was not recovered and the aeroplane was destroyed upon impact with the ground. At present, the approved Boeing Airplane Flight Manual (AFM) and BFGoodrich Aerospace, Aerostructures Group AFM Supplement (AFMS), as applicable, do not contain specific flight crew procedures to cover this situation although operating manuals and other documents include guidance relating to this issue. For the reasons described above, this AD requires an amendment of the applicable AFM(S), to insert a procedure to be applied by the flight crew in case of unreliable EPR indications. EASA have also issued Safety Information Bulletin (SIB) 2015-07, which provides guidance on prevention of hazardous low speed at high altitude cruise.
Effective Date:	[TBD: 14 days after final AD issue date]
Required Action(s) and Compliance Time(s):	Required as indicated, unless accomplished previously: (1) Within 30 days after the effective date of this AD, accomplish the following actions: (1.1) Amend the applicable AFM(S) by incorporating the normal procedure as specified in Appendix 1 of this AD. This may be accomplished by inserting a copy of Appendix 1 of this AD into the applicable AFM. (1.2) Amend the applicable AFM(S) by incorporating the abnormal procedure as specified in Appendix 2 of this AD. This may be accomplished by inserting a copy of Appendix 2 of this AD into the applicable AFM(S). Note: Operators should contact Boeing, or BFGoodrich Aerospace, Aerostructures Group, as applicable, to obtain the correlation data of N1 vs EPR. (2) Concurrently with the AFM(S) changes as required by paragraph (1) of this AD, inform all flight crews, and, thereafter, operate the aeroplane accordingly.
Ref. Publications:	None.
Remarks:	1. This Proposed AD will be closed for consultation on 21 August 2015. 2. Enquiries regarding this PAD should be referred to the Safety Information Section, Certification Directorate, EASA. E-mail: ADs@easa.europa.eu. 3. For any question concerning the technical content of the requirements in this PAD, please contact: Boeing Commercial Airplanes, Attention: Data & Services Management, 3855 Lakewood Boulevard, MC D800-0019, Long Beach, California 90846-0001, United States of America; Telephone: +1 206-544-5000, Extension 2; Fax: +1 206-766-5683; Internet https://www.myboeingfleet.com.

Appendix 1 - NORMAL PROCEDURES

WARNING:

Engine nose cone pressure sensor icing can occur, even with no visible moisture, particularly near convective clouds. This type of icing does not appear on radar due to its low reflectivity, and neither the airplane ice detector (when installed) nor visual indications indicate the presence of icing conditions. This condition can generate a false EPR indication causing the auto-throttle to reduce N1 to maintain the erroneous EPR within the limit. If not promptly identified by the crew the aircraft can rapidly lose speed developing a stall or a near stall condition.

During flight, particularly when flying near convective clouds, monitor airspeed and thrust. For monitoring of thrust the flight crew shall check the correlation of N1 vs EPR by using applicable (S)TC Holder data.

If erroneous EPR data is confirmed, the abnormal procedure on “Unreliable EPR Indications” as defined in Appendix 2 of this PAD shall be used.

Appendix 2 - ABNORMAL PROCEDURES

UNRELIABLE EPR INDICATIONS

1. If the auto-throttle reduces N1 unexpectedly and an unwanted airspeed decay is observed:
 - a. Auto-throttle – Disconnect
 - b. Max Continuous N1 – Apply
 - c. ENG A/I – on
2. Airspeed - monitor:
 - a. If airspeed increases to cruise Mach:
 - i. Flight level - maintain
 - ii. ENG parameters – monitor
 - iii. Throttles – as required
 - b. If airspeed continues to decrease or does not increase:
 - i. Without delay, start a descent to recover and maintain speed
 - ii. Coordinate with ATC or squawk 7700
 - c. If indications of an impending stall (buffet or stick shaker) are present:

Approach to stall or stall recovery procedure – Apply