

EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2012-0269 Date: 19 December 2012 Note: This Airworthiness Directive (AD) 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.
This AD is issued in accordance with EU 748/2012, Part 21.A.3B. In accordance with EC 2042/2003 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 [EC 2042/2003 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].	
Design Approval Holder's Name: Diamond Aircraft Industries GmbH	Type/Model designation(s): DA 42 NG and DA 42 M-NG aeroplanes
TCDS Number:	EASA.A.005, EASA.A.513
Foreign AD:	Not applicable
Supersedure:	None
ATA 71	Power Plant – Air Intake / Induction Filter Icing – AFM Revision
Manufacturer(s):	Diamond Aircraft Industries (DAI) GmbH (Austria), Diamond Aircraft Industries Inc. (Canada).
Applicability:	DA 42 NG aeroplanes, all serial numbers, DA 42 M-NG aeroplanes, all serial numbers.
Reason:	Three occurrences of in-flight engine control unit (ECU) A/B caution initiation were reported which were followed by an un-commanded power reduction. All of these events happened in snow or moist conditions and resolved themselves in warmer air conditions. The subsequent investigation identified that the engine air inlet filter is subject to icing under certain, currently not fully identified, icing conditions. The DA 42 NG is equipped with a manually controlled alternate air valve which bypasses the inlet air filter and provides sufficient air to the engine. The aeroplane flight manual (AFM) procedures include procedure for activation of the alternate air valve in case of power loss but these procedures were not applied by the pilots in these events. The DA 42 NG is certified for flights in known icing conditions during which engine inlet filter icing may occur, therefore it is expected that flights into suspected icing conditions, where inlet filter icing may occur, is more likely. Additional occurrence of dual ECU A/B caution initiation was reported followed by loss of power and loss of flight altitude. Again, the alternate air valve was not opened, which would have immediately resolved the situation. It has been recognized that the engine control ECU A/B caution triggers the

	pilot to focus on engine electrical or fuel supply problem and thus causes a misinterpretation of the situation. It has also been identified that the conditions during which air filter icing may occur could include the critical take-off and climb phase. This condition, if not corrected, could lead to a loss of engine power and reduced controllability of the aeroplane. To address this unsafe condition, DAI revised Supplement S03 "Ice Protection System" to the aeroplane AFM and issued Service Information SI 42NG-039 to advise the owners and pilots of the proper use of the engine alternate air. For the reasons described above, this AD requires revision of the aeroplane AFM to incorporate updated Normal and Abnormal Operating procedures for alternate air valve operation during suspected rain, snow or visible moisture conditions. The requirement of this AD is considered as an interim action. DAI is currently developing a modification that addresses the unsafe condition identified in this AD.
Effective Date:	02 January 2013
Required Action(s) and Compliance Time(s):	Required as indicated, unless accomplished previously: Within 30 days after the effective date of this AD, revise the Normal and Abnormal Operating procedures of DA 42 NG AFM Doc. 7.01.15-E or Doc. 7.01.16-E, as applicable to the aeroplane configuration, to incorporate Temporary Revisions TR-MÄM 42-701 and TR-OÄM-42-200/a, as applicable, and operate the aeroplane accordingly. Revision of the DA 42 NG AFM may be accomplished by inserting a copy of Temporary Revision TR-MÄM 42-701 and TR-OÄM-42-200/a, as applicable, into that AFM.
Ref. Publications:	DAI Doc. No. 7.07.15-E TR-MÄM 42-701, dated 20 November 2012, DAI Doc. No. 7.07.16-E TR-MÄM 42-701, dated 20 November 2012, DAI Doc. No. 7.07.15-E TR-MÄM 42-200/a, dated 30 November 2012. The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD. DAI SI 42NG-039 dated 14 November 2012.
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 Safety Information Section, Executive Directorate, EASA. E-mail: ADs@easa.europa.eu. 4. For any question concerning the technical content of the requirements in this AD, please contact: Diamond Aircraft Industries GmbH, Austria. Telephone +43 2622 26700, Facsimile +43 2622 26780, E-mail office@diamond-air.at.