



Airworthiness Directive

AD No.: 2016-0094

Issued: 19 May 2016

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:

CZECH SPORT AIRCRAFT a.s.

Type/Model designation(s):

PS-28 Cruiser aeroplanes

Effective Date: 02 June 2016

TCDS Number(s): EASA.A.546

Foreign AD: Note applicable

Supersedure: None

ATA 72 – Engine – Engine Cylinder Head – Inspection / Replacement

Manufacturer(s):

Czech Sport Aircraft a.s.

Applicability:

PS-28 Cruiser aeroplanes, all manufacturer serial numbers up to C0556 inclusive, if equipped with BRP-Powertrain GmbH & Co. KG Rotax 912 ULS2 engines.

Reason:

A design change of the engine cylinder heads was introduced by BRP-Powertrain in March 2013, which modifies the engine/aeroplane interfaces by substituting the previous cylinder head temperature (CHT) measurement (limit temperature 135°C) with a coolant temperature (CT) measurement (limit temperature 120°C). The design change was communicated on 15 May 2013 by BRP-Powertrain Service Instruction (SI) 912-020R7/914-022R7 (single document), but was not identified by a change of the engine model designation or of the engine Part Number (P/N), but only through the cylinder head P/N and the position of the temperature sensor.

Consequently, engines with the new cylinder heads (installed during production or replaced in-service during maintenance) may be installed on an aeroplane without concurrent modification of that aeroplane. In this case, the coolant temperature with a maximum engine operating limit of 120°C (valid for engines operated with water diluted glycol coolant) is displayed on a CHT indicator with a typical limit marking (red radial/range) of more than 120°C.



This condition, if not detected and corrected, will prevent the pilot to identify coolant limit exceedances, with subsequent loss of coolant (120°C is the boiling temperature of the coolant), which could lead to engine in-flight shut-down, possibly resulting in a forced landing, with consequent damage to the aeroplane and injury to occupants.

EASA issued AD 2015-0240 to address this potential unsafe condition on certificated Rotax 912 engines (TCDS EASA.E.121), requiring to determine the actual engine configuration and, depending on findings, engine re-identification and (depending on TC or STC holder installation) modification of the affected aeroplane.

PS-28 Cruiser aeroplanes may be equipped with a Rotax 912 ULS2 engine, certified as part of the aeroplane type design, on which the same unsafe condition may exist or develop. Consequently, Czech Sport Aircraft a.s. issued Service Bulletin (SB) No. SB-CR-033 to provide instructions to inspect and, depending on findings, modify the affected PS-28 Cruiser aeroplanes.

For the reason described above, this AD requires a one-time inspection to determine the actual engine configuration and, depending on findings, re-identification of the engine (including those operated with waterless coolant) and modification of the aeroplane.

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

Required as indicated, unless accomplished previously:

Within 3 months after the effective date of this AD, accomplish the actions as required by this AD.

- (1) Inspect the engine to determine whether a cylinder head, having P/N 413185 is installed on cylinder head position 2/3. A review of aircraft and/or engine maintenance records is acceptable to make the determination as required by this paragraph, provided those records can be relied upon for that purpose.
- (2) If, during the inspection as required by paragraph (1) of this AD, a cylinder head having P/N 413185 is found installed on position 2 or 3, accomplish the actions specified in paragraphs (2.1) or (2.2) of this AD, as applicable.
 - (2.1) For an engine with cylinder heads, having P/N 413185, installed on both positions 2 and 3, change the designation of that engine in accordance with the instructions of Czech Sport Aircraft a.s. SB-CR-033.
 - (2.2) For an engine with one cylinder head, having P/N 413185, installed on a single position (2 or 3), replace the cylinder head installed on the unchanged position (3 or 2, as applicable) with a cylinder head having P/N 413185, and concurrently change the designation of that engine in accordance with the instructions of Czech Sport Aircraft a.s. SB-CR-033.
- (3) Concurrently with the corrective action as required by paragraph (2) of this AD, inspect the engine temperature indicating instrument designation and its displayed operating limits in the aeroplane cockpit in accordance with the instructions of Czech Sport Aircraft a.s. SB-CR-033.



- (4) If, during the inspection as required by paragraph (3) of this AD, an engine CHT indicating instrument or an engine temperature instrument with the maximum temperature limit higher than 120°C is detected, accomplish all the corrective actions in accordance with the instructions of Czech Sport Aircraft a.s. SB-CR-033.

Ref. Publications:

Czech Sport Aircraft SB-CR-033, original issue dated 18 March 2016.

The use of later approved revisions of this 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 14 April 2016 as PAD 16-054 for consultation until 12 May 2016. 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.
4. For any question concerning the technical content of the requirements in this AD, please contact: Czech Sport Aircraft a.s., Na Záhonech 212, 686 04 Kunovice, Czech Republic, Telephone: +420 576 514 032, Fax: +420 576 519 394, Email: office@czechsportaircraft.com.

