

 CZECH SPORT AIRCRAFT	<h2 style="margin: 0;">SAFETY ALERT / SAFETY DIRECTIVE</h2>	Czech Sport Aircraft a.s. Na Záhonech 212, 686 04 Kunovice Czech Republic office@czechsportaircraft.com
No. SA-SC-009		Rev.: -
Date: 2018-11-08		
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MODEL AFFECTED:	SportCruiser / PiperSport (except the aircraft under EASA Permanent Flight Conditions).
SUBJECT:	Change of maximum operating temperature limit determination related to the change from the original Cylinder Head Temperature measurement method to the new Coolant Temperature measurement method for aircraft equipped with Rotax 912 ULS2 engines with a new cylinder head design.
AIRCRAFT AFFECTED:	All SportCruiser / PiperSport airplanes from section "MODEL AFFECTED" equipped with Rotax 912 ULS2 engine S/N starting from 6 770 937 inclusive, or with Rotax 912 engines with type designation followed by suffix-01, or with all other Rotax 912 engines equipped with the new cylinder heads design bearing P/N 413185 at cylinder head measuring position 2/3.
COMPLIANCE:	Execution of this Safety Alert is mandatory and must be performed immediately. Instructions contained herein, if not followed, may lead to unsafe conditions, resulting in a possible personal injuries, power loss or engine failure and damage.

DESCRIPTION:

With the change of the cylinder heads design introduced by Rotax company (i.e. introduction of the new cylinder heads bearing P/N 413185 at cylinder head measuring position 2/3), which has been applied on all new Rotax 912 ULS2 engines starting from S/N 6 781 410 inclusive as well as on all Rotax 912 engines with type designation followed by suffix-01 as well as on all Rotax 912 engines which have been later equipped with the new cylinder heads design (bearing P/N 413185 at cylinder head measuring position 2/3), the Cylinder Head Temperature (CHT) is not measured any more, but the Coolant Temperature (CT) is measured instead. This change results in a different maximum operating temperature limit determination. The maximum operating temperature limit for the original CHT measurement method was 135°C (275°F), while it is **120°C (248°F)** for the current Coolant Temperature method.

Information and instructions contained in this Safety Alert become effective and mandatory immediately and it is on the pilot's and owner's full responsibility that all the instructions of this Safety Alert are followed immediately after this Safety Alert issue.

Updated POH pages for the aircraft affected by this Safety Alert will be provided through a Service Bulletin that will be issued by the aircraft OEM.

AUTHORISATION TO PERFORM:

Owner / pilot

REASON:

With the change to a new cylinder heads design (P/N 413185 at cylinder head position 2/3) the Cylinder Head Temperature is no longer measured, but the Coolant Temperature is measured instead.

The measuring position of the temperature sensor has changed. With this new installation position of the temperature sensor, potential loss of coolant can be recognized more easily. The change to the new cylinder heads does not affect the cooling capacity.

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Due to these changes the Coolant Temperature is displayed instead of the Cylinder Head Temperature and the Coolant Temperature of 120°C (248°F) constitutes the new and only valid operating temperature limit.

MANPOWER:

N/A

SPECIAL TOOLS:

N/A

WEIGHT AND BALANCE:

N/A

ELECTRICAL LOAD DATA:

N/A

REFERENCES:

ROTAX® SB-912-016 / SI-912-020 / SB-912-066UL / SB-912-068 / SB-912-068UL
ROTAX® Operators Manuals
ROTAX® Illustrated Parts Catalogue
ROTAX® Installation Manual
SportCruiser / PiperSport Airplane Maintenance Manual SC-AMM-1-0-00

PUBLICATIONS AFFECTED:

POH
SC-AMM-1-0-00, Rev.6

MATERIAL:

N/A

COSTS:

To be covered by the aircraft owner.

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GENERAL INFORMATION:

- a) **The engine serial number** is located on the top of the crankcase, magneto side. Basic scheme of the Rotax 912 engine with location of the engine serial number and cylinder heads positions, see Figure 1.

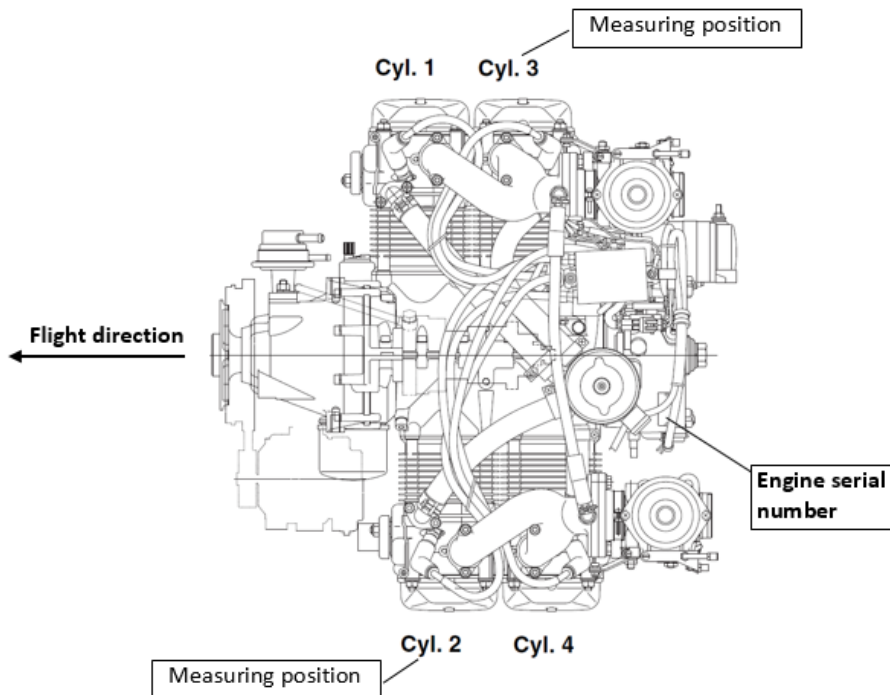


Figure 1: Location of the engine serial number and cylinder head positions

- b) **The temperature sensors** are located on cylinder 2 and 3. For checking whether the engine is equipped with the new cylinder head design (P/N 413185 for 2/3 cylinder head) or not, read the Part number of the 2/3 cylinder heads, see Figure 2.

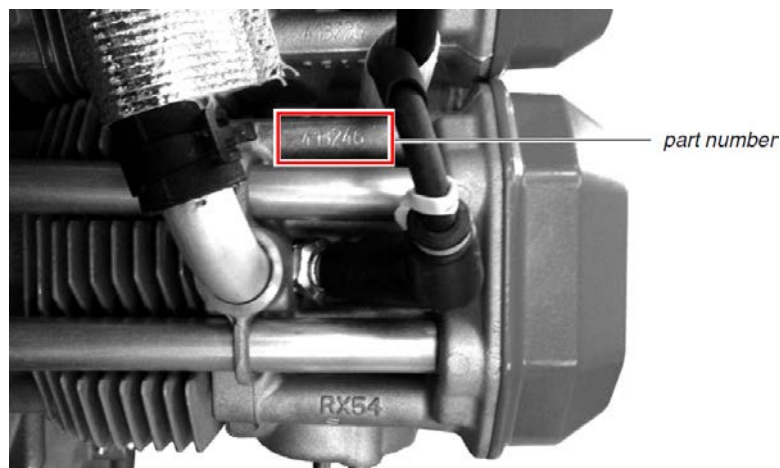
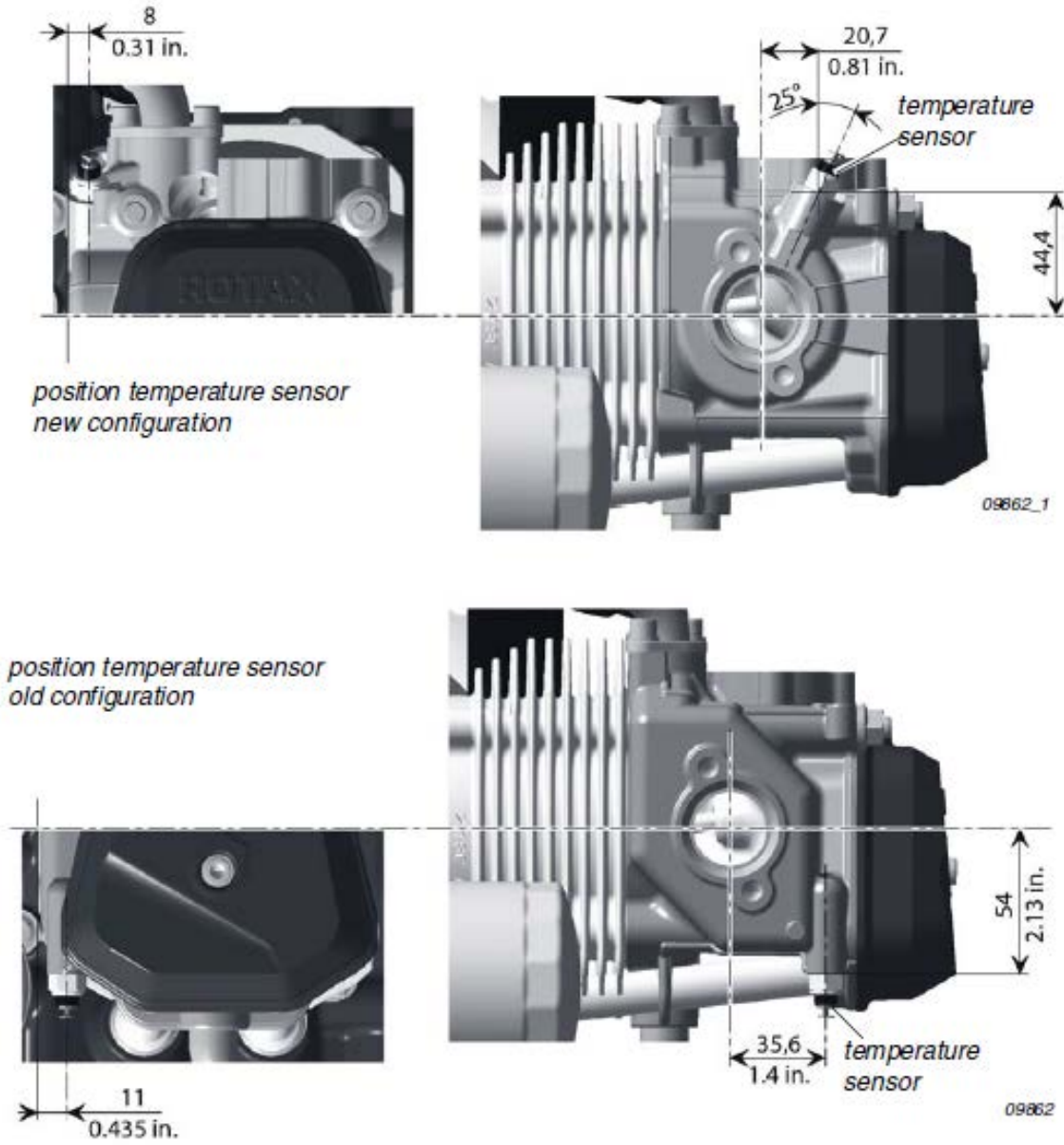


Figure 2 - Part number location of cylinder head

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c) For recognizing the **difference between the old and new cylinder head design and the temperature sensor position**, see Figure 3.



*Figure 3
Difference between the old and new cylinder head design and temperature sensor position*

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d) **Coolant Temperature limit** (measured on cylinder head measuring point), see Table 1.

*Table 1 - Coolant Temperature limit - Effective for engines with new cylinder head design
(P/N 413185 for 2/3 cylinder head)*

Coolant Temperature limit for measuring point in the cylinder head (new configuration)	Maximum 120 °C (248°F)
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Warning: Waterless coolants are not allowed to be used for Rotax engines with the new cylinder head design. Only conventional coolant based on ethylene glycol with 50% of water is permitted.

Coolant used by aircraft manufacturer:

Specification: ASTM D 3306, VW TL 744C-G11,
 Mixture ratio coolant/water: 50 / 50 [%]
 Max. Coolant Temperature: 120°C

ACCOMPLISHMENT INSTRUCTIONS:

To accomplish this Safety Alert carry out the following steps:

1. Move the aircraft to a suitable place to perform the work. Remove the upper and bottom engine cowlings.
2. Check the engine serial number to find out if the aircraft is affected by this Service Alert, see Figure 1 above.
3. Check the part numbers of the cylinder heads at the measuring positions 2/3, see Figure 1 and Figure 2 above.
4. If the **cylinder heads with the new design are not installed**, enter the aircraft log book and insert the following text: *“The SA-SC-009 applicability has been checked with the result not applicable. Cylinder heads with new design are not installed”*.
5. If the **cylinder heads with the new design are installed** (P/N 413185 at the cylinder head position 2/3), enter the aircraft log book and insert the following text: *“Cylinder heads with the new design are installed. The SA-SC-009 applicability has been checked with the result applicable. The maximum Coolant Temperature limit is 120°C (248°F)”*.

Then follow the new Coolant temperature limit of 120°C (248°F) carefully during the aircraft operation!

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If there is only one cylinder head of the new type (P/N 413185) at a single position 2 or 3 installed, ensure that the remaining cylinder head of the old type on the other position (2 or 3, as applicable) is replaced by the new type of the cylinder head at an authorized service organization. Any changes performed according to this Safety Alert must be duly reflected and confirmed in the aircraft logbook.

- Assemble the bottom and upper engine cowlings back and restore the aircraft to airworthy condition. The SA-SC-009 performance is hereby completed.

APPROVAL:

This Safety Alert was approved by:

Title	Head of the Design Organisation	Airworthiness Manager
Name	Jiří Konečný	Miroslav Koukal
Hand written signature		