



SERVICE BULLETIN

Change of measurement method from cylinder head temperature to coolant temperature for ROTAX® Engine Type 912 and 914 (Series)

ATA System: 75-00-00 Cool system

MANDATORY

Symbols used:

Please, pay attention to the following symbols throughout this document emphasizing particular information.

General note



Identifies an instruction which, if not followed, may cause serious injury or even fatal injury.



Identifies an instruction which, if not followed, may cause minor or moderate injury.

NOTICE

Denotes an instruction which if not followed, may severely damage the engine or could lead to suspension of warranty.

ENVIRONMENTAL NOTE

Environmental notes give you tips on environmentally conscious behaviour.

NOTE: Information useful for better handling.

A revision bar outside of the page margin indicates a change to text or graphic.

To obtain satisfactory results, procedures specified in this publication must be accomplished with accepted methods and prevailing government regulations.

BRP-Powertrain GmbH & Co KG. cannot be responsible for the quality of work performed in accomplishing the requirements of this publication.

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1) Planning information

1.1) Applicability

All engines of Series 912 A, 912 F, 912 S and 914 F are affected, if at least one of the following criteria applies:

Criterion A) Engine Serial number:

Engines with a serial number listed below, which have a new cylinder head installed at the measuring position of the temperature, are affected.

For part numbers of new cylinder heads see section 1.1.1).

Engine type	Serial number
912 A	from S/N 4 410 982 up to S/N 4 411 086 inclusive
912 F	from S/N 4 413 020 up to S/N 4 413 044 inclusive
912 S	from S/N 4 924 544 up to S/N 4 924 910 inclusive
914 F	from S/N 4 421 178 up to S/N 4 421 444 inclusive

NOTE: Identifying of new cylinder heads: The electrical connection of the temperature sensor is pointing upwards. New configuration see [Fig. 2](#). Old configuration see [Fig. 3](#).

Criterion B):

Further all engines which have been equipped with new cylinder heads as spare part or during engine repair/general overhaul since March 1st, 2013 are also affected. For part numbers of new cylinder heads see section 1.1.1).

1.1.1) Additional support to criteria A and B:

Part no. of new cylinder heads:

Engine type		cylinder head position
912 A/F; 914 F	912 S	
part no. 413235 part no. 413236	part no. 413185	2/3
part no. 413245 part no. 413246	part no. 413195	1/4

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1.2) Concurrent ASB/SB/SI and SL

In addition to this Service Bulletin the following Service Bulletins/Instructions must be observed and complied with:

Service Bulletin SB-912-068/SB-914-049, title "Specification/change of engine configuration and/ or type plate" current issue.

Service Instruction SI-912-016/SI-914-019, title "Selection of suitable operating fluids" current issue.

Service Instruction SI-912-020/SI-914-022, title "Running modifications" current issue.

1.3) Reason

In the course of continuous development and standardization with ROTAX® 912 i Series, new cylinder heads with modifications in its mold have been introduced. Due to these changes the coolant temperature instead of the cylinder head temperature in the aluminium will be displayed. Check the temperature limit for the new positioned measuring point of the cylinder head displayed in the cockpit and if necessary correct its naming (measuring position) and limit. See chapter 3.1.1.

NOTICE

The cooling capacity is not affected by the change of cylinder heads (new configuration).

1.4) Subject

Change of measurement method from cylinder head temperature to coolant temperature for ROTAX® engine type 912 and 914 (Series).

1.5) Compliance

- Within the next 25 hours of operation, but at the latest by 31 March 2015 the change of measurement method from cylinder head temperature to coolant temperature must be conducted according to the following instructions in section 3.

WARNING

Non-compliance with these instructions could result in engine damages, personal injuries or even fatal injury.

1.6) Approval

The technical content of this document is approved under the authority of DOA ref. EASA.21J.048.

1.7) Labor time

Estimated labor time:

Labor time will depend on installation and therefore no estimate is available from the engine manufacturer.

1.8) Mass data

change of weight - - none.

moment of inertia- - - unaffected.

1.9) Electrical load data

no change

1.10) Software accomplishment summary

no change

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1.11) References

In addition to this technical information refer to current issue of

- Operators Manual (OM)
- Illustrated Parts Catalog (IPC)
- Installation Manual (IM)

NOTE: The status of manuals can be determined by checking the table of amendments of the Manual. The 1st column of this table is the revision status. Compare this number to that listed on the ROTAX® WebSite: www.FLYROTAX.com. Updates and current revisions can be downloaded for free.

1.12) Other Publications affected

none

1.13) Interchangeability of parts

not affected

2) Material Information

2.1) Material- cost and availability

none

2.2) Company support information

- Shipping costs, downtime costs, loss of income, telephone costs etc. or costs of conversion to other engine versions or additional work, as for instance simultaneous engine overhauls are not covered in this scope and will not be borne or reimbursed by ROTAX®.

2.3) Material requirement per engine

none

2.4) Material requirement per spare part

none

2.5) Rework of parts

none

2.6) Special tooling/lubricant-/adhesives-/sealing compound

none

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3) Instructions/Accomplishment

NOTE: Before maintenance review the entire documentation to make sure you have a complete understanding of the procedure and requirements.

Accomplishment

All measures must be implemented and confirmed by at least one of the following persons or organizations:

- Persons approved by the respective Aviation Authority
- Persons with approved qualifications to the corresponding engine type. Only certified technicians (iRMT-Level: Heavy Maintenance) are qualified to work on these engines.

NOTE: All work has to be performed in accordance with the relevant Maintenance Manual.

Safety notice

 **WARNING**

Proceed with this work only in a non-smoking area and not close to sparks or open flames. Switch off ignition and secure engine against unintentional operation. Secure aircraft against unauthorized operation. Disconnect negative terminal of aircraft battery.

 **WARNING**

Risk of scalds and burns! Allow engine to cool sufficiently and use appropriate safety gear while performing work.

NOTICE

Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one.

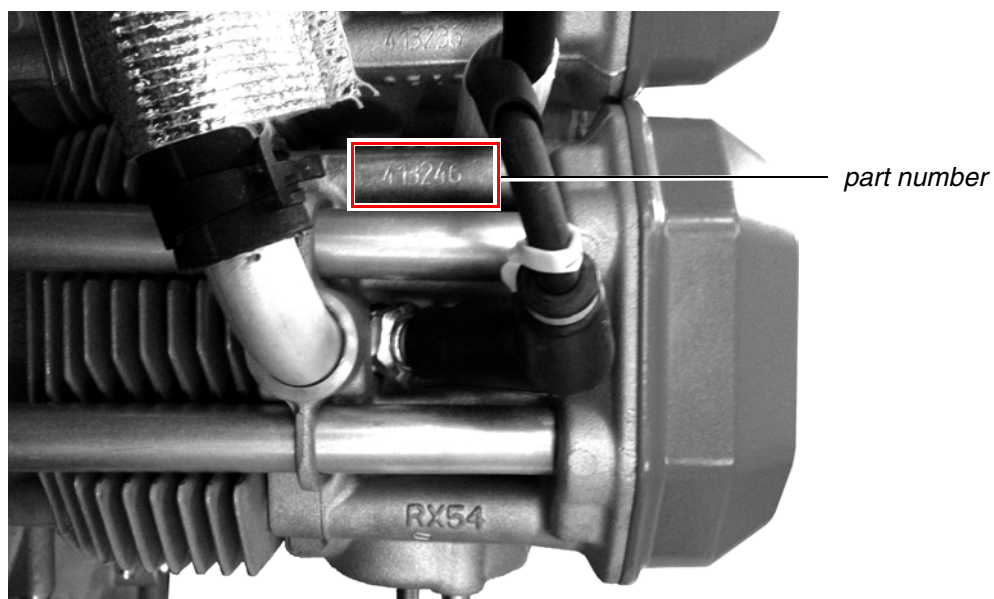
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3.1) Instructions

The following steps are necessary for checking the relevant indicating instruments of the cockpit:

Step	Procedure
1	Check the engine serial number S/N, if the aircraft is affected by this SB.
2	Check of maintenance documentation if a repair or maintenance was performed on one of the cylinder heads.
3	Check the part numbers of the cylinder heads. See Fig. 1.
4	Check of the cockpit (indicating instruments) or the aircraft-specific manuals or consultation with the aircraft manufacturer or its service facilities if the coolant temperature or cylinder head temperature is displayed.
5	The measurement position naming in the indicating instrument or the operating limit must be amended or corrected in consultation with the aircraft manufacturer, if necessary. See section 3.1.1)

Fig. 1



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3.1.1) Coolant temperature limit (measured at cylinder head measuring point)

Effective for engine serial number **criteria A)** and **B)**. See section 1.1.

Coolant temperature limit for measuring point in the cylinder head (new configuration)	Engine type
maximum 120 °C (248 °F)	912 A/F/S
	914 F
Permanent monitoring of coolant temperature is necessary	

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NOTICE

When selecting a suitable coolant, the information in Service Instruction SI-912-016, latest issue, must be observed.

3.1.2) Coolant types

Effective for engine serial number **criteria A)** and **B)**. See section 1.1.

NOTICE

Using waterless coolant is not permitted (e.g. Evans).

Permissible coolant types:

Description	
1	Conventional coolant based on ethylene glycol.

3.2) Installation relevant changes

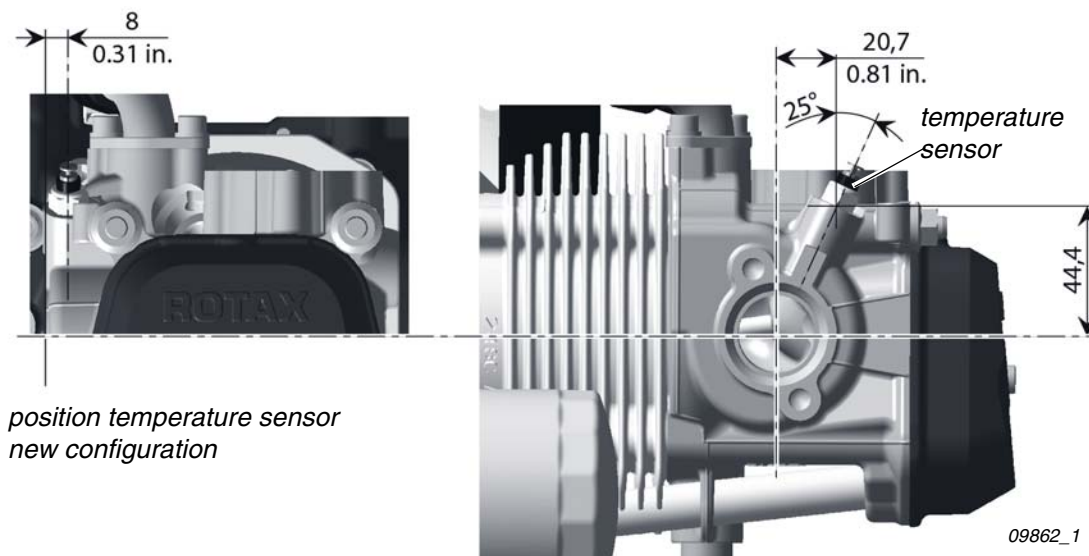
See latest Installation Manual for the related engine type.

Regarding change of temperature sensor position, see Fig. 2 and Fig. 3.

NOTE:

It is NOT mandatory to retrofit engines with the old cylinder heads. The different versions of the cylinder heads can be mixed installed, but make sure, if and at which position the cylinder head temperature and coolant temperature is measured. This also defines the naming of the indicating instrument with the appropriate temperature limit.

Fig. 2



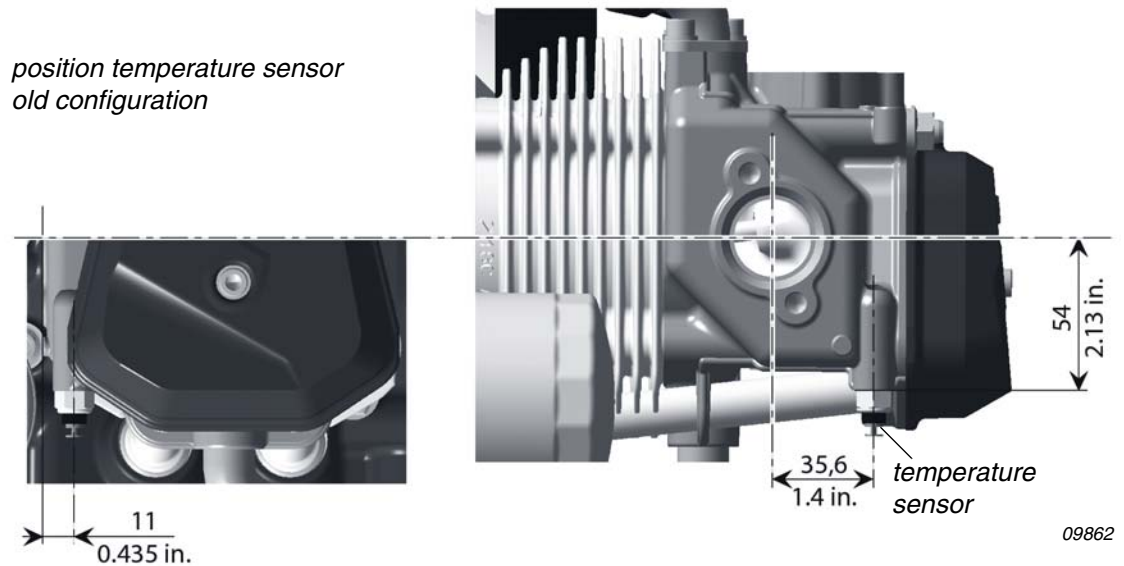
position temperature sensor
 new configuration

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Fig. 3



3.3) Checking (replacement of the type plates)

Check and/or replace type plates at engines with serial numbers out of **Criterion A)** and **B)** in accordance with SB-912-068/SB-914-049.

3.4) Test run

none

3.5) Summary

These instructions (section 3) have to be conducted in accordance with the deadlines from section 1.5. The execution of the mandatory Service Bulletin must be confirmed in the logbook.

Approval of translation to best knowledge and judgement-in any case the original text in German language and the metric units (SI-system) are authoritative.

3.6) Enquiries

Enquiries regarding this Service Bulletin should be sent to the ROTAX® authorized distributor of your area. A list of all distributors is provided on www.FLYROTAX.com.

NOTE:

The illustrations in this document show a typical construction. They may not represent full detail or the exact shape of the actual parts but have the same or similar function.

Exploded views are **no technical drawings** and are for reference only. For specific detail, refer to the current documents of the respective engine type.