SERVICE BULLETIN

CHANGE OF COOLANT SPECIFICATION
ON ROTAX® ENGINE TYPE 912 AND 914 (SERIES)

SB-912-043 UL R1
SB-914-029 UL R1

1) Planning information

1.1) Engines affected

All versions of the engine type:
- 912 UL all
- 912 ULS all
- 912 ULSFR all
- 914 UL all
- all aircraft manufacturer which aircraft equipped with ROTAX® engine type as listed.

For complete instructions and compliance to this service bulletin refer to Service Bulletin SB-912-043/SB-914-029, latest edition section 1.2 onward.

◆ NOTE: Section 1.6) Approval: Is not required for engines of the type UL (series).

Section 3) Accomplishment: In addition: persons with adequate type-specific training.
SERVICE BULLETIN

CHANGE OF COOLANT SPECIFICATION
ON ROTAX® ENGINE TYPE 912 AND 914 (SERIES)

SB-912-043 R1
SB-914-029 R1

MANDATORY

Repeating symbols:

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

▲ WARNING: Identifies an instruction, which if not followed, may cause serious injury or even death.
■ CAUTION: Denotes an instruction which if not followed, may severely damage the engine or could lead to suspension of warranty.
◆ NOTE: Information useful for better handling.

1) Planning information

1.1) Engines affected

All versions of the engine type:
- 912 A all
- 912 F all
- 912 S all
- 914 F all
- all aircraft manufacturer which aircraft equipped with ROTAX® engine type as listed.

1.2) Concurrent ASB/SB/SI and SL

More to this Service Bulletin the following additional Service Instruction must be observed and complied with:
- SI-912-016 / SI-914-019 “Selection of suitable operating fluids” current issue

1.3) Reason

Using conventional coolant with a mixing ratio of 50% coolant and 50% water may cause in some applications boiling of the coolant before reaching the max. allowable cylinder head temperature.
On all affected engines the following changes have to be considered and accomplished (if applicable).
- Change of coolant specification
- Change of the cylinder head temperature limits
- Introduction of a new coolant temperature limit and the requirement to measure and monitor this parameter
- Change of radiator cap

1.4) Subject

Change of coolant specification on ROTAX® engine type 912 (Series) and 914 (Series)

1.5) Compliance

- at latest December 31, 2007, incorporate the mandatory use of waterless coolant into the relevant documentation of the aircraft.
Alternatively after this time limit the use of conventional coolant is possible. In such case the new operating limit (coolant temperature) has to be applied. The work/compliance has to be performed according to section 3.
▲ WARNING: Non-compliance with these instructions could result in engine damages, personal injuries or death.

Current valid documentation see:
www.rotax-aircraft-engines.com
1.6) Approval  
The technical content is approved under the authority of DOA Nr. EASA.21J.048.

1.7) Manpower  
Engine installed in the aircraft - - - manpower time will depend on installation and thus, 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

1.11) References  
In addition to this technical information refer to current issue of  
- Operator’s Manual (OM)  
- Illustrated Parts Catalog (IPC)  
- Maintenance Manual (MM)  
- all relevant Service Instructions (SI)

1.12) Other publications affected  
The following documentations become effective with this Service Bulletin:

<table>
<thead>
<tr>
<th>Description</th>
<th>part no.</th>
<th>Issue</th>
<th>Date</th>
<th>Rev.</th>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operator’s Manual 912 Series</td>
<td>899370</td>
<td>0</td>
<td>1998 07 01</td>
<td>4*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operator’s Manual 914 Series</td>
<td>899641</td>
<td>0</td>
<td>1998 12 01</td>
<td>4*</td>
<td></td>
<td></td>
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<tr>
<td>Installation Manual 912 A</td>
<td>897860</td>
<td>0</td>
<td>1997 01 16</td>
<td>2*</td>
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<td></td>
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<tr>
<td>Installation Manual 912 F</td>
<td>897796</td>
<td>0</td>
<td>1996 01 23</td>
<td>3*</td>
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<td></td>
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<tr>
<td>Installation Manual 912 S</td>
<td>899376</td>
<td>0</td>
<td>1998 09 01</td>
<td>2*</td>
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<td></td>
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<tr>
<td>Installation Manual 912 UL</td>
<td>897711</td>
<td>2</td>
<td>1997 03 26</td>
<td>2*</td>
<td></td>
<td></td>
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<tr>
<td>Installation Manual 914 F</td>
<td>897816</td>
<td>1</td>
<td>2006 02 01</td>
<td>0*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* or higher revision  
The replacement pages have to be included without delay into the respective documentation of the aircraft manufacturer.

1.13) Interchangeability of parts  
Not affected

2) Material Information  

2.1) Material - cost and availability  
Price and availability will be supplied on request by ROTAX®, Authorized Distributors or their Service Centers.

2.2) Company support information  
None

2.3) Material requirement per engine  

<table>
<thead>
<tr>
<th>Fig.no.</th>
<th>New part no.</th>
<th>Qty/engine</th>
<th>Description</th>
<th>Old part no.</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>922075</td>
<td>1</td>
<td>radiator cap</td>
<td>922070*</td>
<td>ROTAX®, 912/914 (Series)</td>
<td></td>
</tr>
</tbody>
</table>


2.4) Rework of parts  
None

2.5) Special tooling/lubricant/-adhesives/-sealing compound - Price and availability  
None
3) Accomplishment / Instructions

Accomplishment

3.1) Replacement of the radiator cap
Replace on all affected engines the radiator cap part no. 922075 (0,9 bar) (13 psi) with a new radiator cap part no. 922070 (1,2 bar) (18 psi).

◆ NOTE: The boiling point depends additionally on other factors such as the system pressure. At higher system pressure slightly higher boiling point can be obtained.

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

3.2) Check cooling system - Efficiency of the cooling system
These measures must be performed by the aircraft manufacturer.

◆ NOTE: All work has to performed in accordance with the relevant Installation Manual (section Cooling system).

3.2.1) Determination of the achievable maximum coolant temperature and cylinder head temperature
Depending on the maximum operating temperature achieved following measures have to be taken:

<table>
<thead>
<tr>
<th>maximum values for</th>
<th>coolant used for tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coolant temperature</td>
<td>Cylinder head temperature</td>
</tr>
<tr>
<td>less than 120 °C (248 °F)</td>
<td>less than 135 °C 1) (266 °F) 150 °C 1) (300 °F)</td>
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</tr>
</tbody>
</table>

1) depending on the engine type

2) monitoring of the coolant temperature by means of the cylinder head temperature is possible. See current relevant Installation Manual.

◆ NOTE: Depending on the gained temperatures (coolant outlet temperature compared to cylinder head temperature) the aircraft manufacturer has to adapt the obtained limits in the relevant documentation (operators manual and/or flight manual).

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