

SERVICE BULLETIN

EXTENSION OF TIME BETWEEN OVERHAULS (TBO) FOR ROTAX® ENGINE TYPE 914 (SERIES) SB-914-039

OPTIONAL

Repeating symbols

Please, pay attention to the following symbols throughout this document:

- ▲ **WARNING:** Safety precautions and safety instructions, which if not followed, may cause serious injury or even death to the operator or other persons.
- **CAUTION:** Denotes an instruction or a precaution, which if not followed, may severely damage the engine or could lead to suspension of warranty.
- ◆ **NOTE:** Information useful for better handling.

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

1) Planning information

1.1) Engines affected

a) Extension of TBO for engine type 914 F (Series) from 1200 h to 2000 h or from 12 to 15 years operational time respectively:

- 914 F from S/N 4,420.909

provided the 1000 h special check has been performed. Refer to section 3.3).

b) For all engines with a S/N lower than given in a) a TBO extension, to 1200 h, 2000 h or from 10 years to 12 years and 15 years period of operation, according to the Service Bulletins mentioned in chapter 3) can be effected. Prerequisite for that is accomplishment of all specified and appropriate Service Bulletins as well as modifications stated in section 3.2), 3.3), and 3.4).

1.2) Concurrent ASB/SB/SI and SL

In addition to this Bulletin the following additional Service Bulletins must be observed:

- SB-914-027, „Extension of time between overhauls (TBO), current issue.
- SB-914-011, „Replacement of valve spring retainer on single valve spring“, current issue.
- SB-914-014, „Checking and replacement of stator assy.“, current issue.
- SB-914-010, „Checking of the propeller gearbox“, current issue.
- SB-914-016, „Checking or replacement of engine suspension frame“, current issue.
- SB-914-018, „Checking of crankcase“, current issue.
- SB-914-019, „Checking of carburetor flange on cracks, wear and distortion“, current issue.
- SB-914-020, „Inspection of the propeller gearbox of series 3 engines when using leaded fuel“, current issue.

1.3) Reason

A program for extending the period of operation was carried out in agreement with the type certificate authority Austro Control GmbH (ACG). The TBO (engines concerned see section 1.1) can be extended on account of the positive results of the examined engines.

1.4) Subject

Extension of time between overhauls (TBO) for ROTAX® Engine Type 914 (Series).

1.5) Compliance

At release of this Service Bulletin.

1.6) Approval

The technical content is approved under the authority of DOA No. EASA.21J.048.

1.7) Manpower

none

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 the current issue of:

- Operators Manual (OM)
- all relevant Service Bulletins (SB)
- Maintenance Manual (MM)

◆ 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.rotax-aircraft-engines.com. Updates and current revisions can be downloaded for free.

1.12) Other publications affected

The following documentation will become effective with this Service Bulletin. The replacement pages have to be incorporated without delay into the respective documentation of the aircraft manufacturer :

Description	Part no.	Issue	Date	Rev.	Chapter	Page
Maintenance Manual Line 914 Series	899608	02	2010 01 01	0	05-10-00	

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

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

2.3) Material requirement per engine

Parts requirement:

Depending on the engine modification state (see chapter 3).

2.4) Material requirement per spare part

none

2.5) Reworks of parts

none

2.6) Special tooling/lubricant/adhesives/sealing compound

Price and availability will be supplied on request by ROTAX® Authorized Distributors or their Service Centers.

parts requirement:

- according to the relevant Maintenance Manual.

■ CAUTION: When using special tools adhere to the manufacturer's specifications.

3) Accomplishment / Instructions

Accomplishment

All the measures must be taken and confirmed by the following persons or facilities:

- ROTAX® -Airworthiness representative
- ROTAX® -Distributors or their Service Centers
- Persons approved by the respective Aviation Authority

▲ **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.

▲ **WARNING:** 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.

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

3.1) General

A program for extending the period of operation (extension of the TBO) for engines from a certain manufacturing period and onward has been introduced. For engines which have already been accepted into this program, see section 1.1a).

However, engines not listed in section 1.1a) can receive an increased TBO according to the following instructions.

The following table 1 gives an overview of the current engine TBO status at the time of delivery and the associated SB's that, if complete with, can allow TBO's of 1000 h, 1200 h or 2000 h to be reached accordingly.

engine type description	engines affected engine S/N	TBO Time Between Overhaul	effective SB's for extensions of the TBO ⁽¹⁾
914 F			
914 F	up to and incl. 4,420.313	1000 h or 10 years whichever comes first	SB-914-027 (1000 h to 1200 h)
914 F	from 4,420.314 to 4,420.908	1200 h or 12 years whichever comes first	SB-914-039 (1200 h to 2000 h)
914 F	from 4,420.909	2000 h or 15 years whichever comes first	none

Table 1

⁽¹⁾ An extension of the TBO is possible and regulated by the Service Bulletins (SB) complied with the respective engine type. Respective extensions Service Bulletins (SB's) that have already been complied with should be verified by the technical records such as the engine log book and/or the release certificate.

3.2) Extension of the TBO

In principle an extension of the TBO for engines according to table 1 is possible. A necessary prerequisite would be the implementation of all relevant Service Bulletins and/or Service Instructions. See section 1.2.

■ **CAUTION:** An engine may be affected again by a previous modification. Retrieve the necessary information from the respective maintenance documents or the engine log book.

The SB or SI to be performed are assigned to the respective engine S/N ranges. All SB or SI need to be carried out in ascending order.

◆ **NOTE:** You need to keep the correct sequence and order to attain an extension of the TBO according to the respective engine types (1000 h to 1200 h, 1200 h to 2000 h).

3.3) Extension of the TBO from 1200 h to 2000 h according to SB-914-039

An extension of the TBO according to SB-914-039 is possible if all listed retrofits have been performed. The components for the extension of the TBO have to be retrofitted on the affected engines.

Besides the part no. also the Amendment Modification (AM) number per engine type is stated. The respective AM numbers can be taken from the maintenance documents or the engine log book.

◆ **NOTE:** For additional information components which have been incorporated into the affected serial number range have been listed. If such components have been replaced in the course of a modification, then such engines are not affected by this otherwise necessary modification.

3.3.1 Crankcase

Replacement of a crankcase part no. 888364 (to S/N 27.811) by part no. 888368 or part no. 892654 (from S/N 06.0010) is required for TBO extension.

◆ **NOTE:** At introduction of a new crankcase the serial number was changed.

Example:

S/N Crankcase		
up to 27.811	=	sequential number
from 06.0010		
06.	=	year of production
0010	=	sequential number

The following engines are affected:

- 914 F up to and incl. S/N 4.420.606

The modified crankcase has already been installed on engines beyond this S/N.

◆ **NOTE:** All engines, which were already retrofitted with the new crankcase at engine repair/general overhaul are not affected.

3.3.2 Plug screw of the oil pump

Replacement of a plug screw M12x1 part no. 841982 by part no. 841983 is required for TBO extension. In the course of this replacement the pressure spring part no. 838122 must be replaced.

The following engines are affected:

- 914 F up to and incl. S/N 4,420.908

This modified plug screw has already been installed on engines beyond this S/N ranges.

◆ NOTE: The new plug screw is made of wear-resistant material.

3.3.3 Electric fuel pump

When performing the 1000h overhaul the main electric fuel pump must be replaced. If the 1000h overhaul already has been exceeded then the replacement has to be performed at the 1200 h overhaul limit.

- Restore aircraft to original operating configuration.
- Connect negative terminal of aircraft battery.

3.4) Test run

Conduct test run including ignition check and leakage test.

3.5) Summary

These instructions (section 3) have to be conducted in accordance with compliance in section 1.5.

▲ WARNING: Non-compliance with these instructions could result in engine damage, personal injury or death!

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.

4) Appendix

none