SERVICE BULLETIN

EXTENSION OF TIME BETWEEN OVERHAULS (TBO) FOR ROTAX® ENGINE TYPE 912 (SERIES) SB-912-057 R1

OPTIONAL

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.

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

1) Planning information

1.1) Engine affected

a) Extension of TBO for engine type 912 A/F/S (Series) from 1500 h to 2000 h or from 12 years to 15 years period of operation for all engines of type:

- 912 A from S/N 4 410 857
- 912 F from S/N 4 412 975
- 912 S from S/N 4 923 890

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

b) For all engines with a S/N lower than given in **a)** a TBO extension to 1000 h, 1200 h, 1500 h, 2000 h or from a 10 years to a 12 years and 15 years period of operation can be effected according to the Service Bulletins mentioned in chapter 3). Prerequisite for this is accomplishment of all specified and appropriate Service Bulletins as well as modifications stated in section 3.2), 3.3), and 3.4).

c) This extension of time between overhaul (TBO) is not applicable for the ROTAX engine type 912 iSc Sport, because these engines have a TBO of 2000 hours or 15 years (whichever comes first) since their start of series production.

1.2) Concurrent ASB/SB/SI and SL

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

- SB-912-004, “TBO increase 1000 h“, current issue.
- SB-912-005, “Special inspection to increase the TBO for engine“, current issue.
- SB-912-014, “TBO increase 1200 h“, current issue.
- SB-912-022, “Replacement of valve spring retainer“, current issue.
- SB-912-026, “Checking and replacement of stator assy, current issue.
- SB-912-027, “Checking or replacement of the propeller gearbox“, current issue.
- SB-912-028, “Inspection or replacement of engine suspension frame“, current issue.
- SB-912-029, “Checking of the crankcase“, current issue.
- SB-912-030, “Cracks, wear and distortion on the carburetor flange“, current issue.
- SB-912-031, “Checking or replacement of the fuel pump assy. part no. 996596“, current issue.
- SB-912-033, “Inspection of the propeller gearbox 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 (see section 1.1 for affected engines) 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 912 (Series).

1.5) Compliance

At release of this Service Bulletin.

1.6) Approval

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

1.7) Labor time

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 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 in the Manual. The 1st column of this table shows the revision status. Compare this number to the one listed on the ROTAX WebSite: www.flyrotax.com. Updates and current revisions can be downloaded for free.

1.12) Other publications affected

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

Description	Part no.	Issue.	Date	Rev.	Chapter	Page
Maintenance Manual Heavy 912/914 Series	899603	01	05 01 2007	3	00-00-00	
Maintenance Manual Line 912 Series	899735	02	10 01 2009	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 independent Service Center.

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 independent Service Centers.
parts requirement:

- according to relevant Maintenance Manual.

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

3) Accomplishment / Instructions

Accomplishment

All the measures must be taken and confirmed by one of the following persons or organizations:

- ROTAX® -Airworthiness representative
- ROTAX® -Distributors or their independent 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 equipment while performing work.

▲ WARNING: Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required during 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) and b).

However, engines not listed in section 1.1a) and b) can increase the TBO according to the following instructions.

The following table 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, 1500 h or 2000 h to be reached accordingly.

Engine Type description	engines affected engine S/N	TBO Time Between Overhaul	deliverable SB for extensions of the TBO (1
912 A			
912 A	up to and incl. 4 076 191	600 h or 10 years, whichever comes first	SB-912-004 (from 600 h to 1000 h)
912 A	from 4 076 192 up to and incl. 4 410 065	1000 h or 10 years, whichever comes first	SB-912-014 (from 1000 h to 1200 h)
912 A	from 4 410 066 up to and incl. 4 410 471	1200 h or 10 years, whichever comes first	SB-912-041 (from 1200 h to 1500 h)
912 A	from 4 410 472 up to and incl. 4 410 856	1500 h or 12 years, whichever comes first	SB-912-057 (from 1500 h to 2000 h)
912 A	from 4 410 857	2000 h or 15 years, whichever comes first	none
912 F			
912 F	up to and incl. 4 412 585	1000 h or 10 years, whichever comes first	SB-912-014 (from 1000 h to 1200 h)
912 F	from 4 412 586 up to and incl. 4 412 816	1200 h or 10 years, whichever comes first	SB-912-041 (from 1200 h to 1500 h)
912 F	from 4 412 817 up to and incl. 4 412 974	1500 h or 12 years, whichever comes first	SB-912-057 (from 1500 h to 2000 h)
912 F	from 4 412 975	2000 h or 15 years, whichever comes first	none

Table 1

Engine Type description	engines affected engine S/N	TBO Time Between Overhaul	deliverable SB for extensions of the TBO (1
912 S			
912 S	up to and incl. 4 922 776	1200 h or 10 years, whichever comes first	SB-912-041 (from 1200 h to 1500 h)
912 S	from 4 922 777 up to and incl. 4 923 889	1500 h or 12 years, whichever comes first	SB-912-057 (from 1500 h to 2000 h)
912 S	from 4 923 890	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) for the respective engine type. 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

An extension of the TBO for affected engines is basically possible according to table 1. 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: Observe the correct sequence and order to attain an extension of the TBO according to the respective engine types (600 h to 1000 h, 1000 h to 1200 h, 1200 h to 1500 h and 1500 h to 2000 h).

3.3) Inspecting the propeller gearbox 912 S (Series)

◆ NOTE: On all engines of type 912 S (Series) the propeller gearbox has to be inspected at 1000 h TSN. If a TSN of 1000 h has already been exceeded the check must be done at the next 100 h inspection.

3.4) Extension of TBO from 1500 h to 2000 h according to SB-912-057

An extension of the TBO according to SB-912-057 is possible provided all stated retrofits (if applicable) are performed.

3.4.1 Crankcase

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

◆ NOTE: At introduction of the new crankcase the serial number has been changed to production year + sequential number.

Example:

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

3.4.2 Plug screw of the oil pump

Replacement of plug screw M12x1 part no. 841982 through part no. 841983 is required for TBO extension. In the course of this replacement the pressure spring part no. 838122 must be replaced.
Following engines are affected:

- 912 A to S/N 4 410 856
- 912 F to S/N 4 412 974
- 912 S to S/N 4 923 889

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

◆ NOTE: The new plug screw has a abrasion resisting material.

3.5) Test run

Conduct test run including ignition check and leakage test.

3.6) Summary

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

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

4) Appendix

none