

# SERVICE BULLETIN

## CRACKS, WEAR AND DISTORTION ON THE CARBURETOR FLANGE ON ROTAX® ENGINES TYPE 912 AND 914 (SERIES)

**SB-912-030 R1**

**SB-914-019 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 to S/N 4,410.628
- 912 F to S/N 4,412.867
- 912 S to S/N 4,923.040
- 914 F to S/N 4,420.420 and all engines on which the genuine ROTAX® airbox assembly or its support have been changed.
- all engines with S/N higher than the one listed above, with the old style carburetor flange part no. 267787 installed as a spare part.

#### Following engines are not affected:

- all engine with S/N higher than the one listed above, the carburetor flange part no. 267788 was already fitted.
- all engines were the carburetor flange part no. 267788 installed as a spare part.
- all engines already equipped with the genuine ROTAX® airbox assembly suspension with support.

◆ **NOTE:** The genuine ROTAX® airbox assy. acts also as additional support of the carburetors, if the airbox is properly supported.

▲ **WARNING:** In case of inadequate support (e.g. insufficient support of the airbox, integration of intake intercoolers on the ROTAX® engine type 914, etc.) an additional carburetor support has to be provided.

#### 1.2) Concurrent ASB/SB/SI and SL

- SI-25-1997, "Running modifications on ROTAX® engine type 912 and 914 (series)" current relevant edition.

#### 1.3) Reason

Introduction of a optimized carburetor flange with improved strength properties and spacer for the clamp. One or more of the following could result in increased stress and consequently in damage of the carburetor flange assembly:

- Over-torque of the flange clamb
- Unapproved and untested changes of installation, as for instance carburetor installation with intake manifolds pointing outwards
- Use of an airbox assembly and airfilter not approved or distributed by ROTAX®
- Improper carburetor synchronization
- Unsuitable idle speed (too low)
- Unsuitable engine suspension / non-neutralized vibrations
- Propeller balance out of tolerance
- Friction torque value in the propeller gearbox with overload clutch is below that specified in the relevant Operators Manual (See chapter „Daily checks“)
- Carburetor attachment not as specified by engine manufacturer
- Lack of maintenance
- Unsuitable fuel, not as specified in the relevant Operators Manual or with more than 5 % Alcohol added
- Excessive weight on the carburetors or carburetor flanges

Vibration, impacts, forces etc., occurring during start up or operation that might result in damage of the carburetor flanges.

▲ **WARNING:** Rectify any of the aforementioned without delay.

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#### 1.4) Subject

Cracks, wear and distortion on the carburetor flange on ROTAX® engine type 912 und 914 (Series)

#### 1.5) Compliance

- Within the next 10 hours of operation the carburetor flanges must be inspected for damage, cracks, wear and distortion according to the following instructions in section 3. Replace with part no. 267788 as required.
  - Every 50 hours of operation the carburetor flanges must be inspected for damage, cracks, wear and distortion according to the following instructions in section 3. Replace with part no. 267788 as required.
- ▲ **WARNING:** Non-compliance with these instructions could result in engine damage, personal injury or death!

#### 1.6) Approval

The technical content of this document is approved under the authority of MOT, DOA Nr. MOT - JA 03.

#### 1.7) Manpower

Estimated man-hours:

- engine installed in the aircraft - - - manpower 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

#### 1.11) References

In addition to this technical information refer to current issue of

- Maintenance Manual (MM)

#### 1.12) Other publications affected

none

#### 1.13) Interchangeability of parts

At exchange take care of the following:

- If necessary remove the carburetor flange as per the following instructions.
- If replacement of part no. 267788 is necessary **both** carburetor flange are to be replaced per engine. (Do not mix new style with old style on the same engine)

### 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

(see fig. 2 to fig. 4)

For the replacement of the carburetor flange the following parts are required:

- ◆ **NOTE:** The new parts volume is only necessary if cracks have been detected in the carburetor flange.

Fig item no	New part no	Qty per engine	Description	Old part no	application
	267788*	2	carburetor flange assy.	267787	ROTAX® 912 / 914
		2	O-Ring 47-2	230300	

\* ▲ **WARNING:** Due to differences in spacing **don't use** the distance sleeve (1) included in delivery of the carburetor flange part no. 267788 in combination with the carburetor flange part no. 267787.

▲ **WARNING:** **Don't use** aluminum insert included in delivery of the carburetor flange part no. 267785 or 267780 in combination with the carburetor flange part no. 267788.

#### 2.4) Material requirement per spare part

none

#### 2.5) Rework of parts

none

#### 2.6) Special tooling/lubricant-/adhesives-/sealing compound - Price and availability

none

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### 3) Accomplishment / Instructions

#### Accomplishment

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

- ROTAX<sup>®</sup> -Airworthiness representative
- ROTAX<sup>®</sup> -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:** Carry out work on a cold engine only.

▲ **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.

#### 3.1) Inspection of the carburetor flanges

Inspection of the carburetor flanges in accordance with the relevant Maintenance Manual and the information contained in Section 4) Appendix, Figure 1 .

#### 3.2) Replacement/Installation of the carburetor flanges

Replacement/Installation of the carburetor flanges in accordance with the relevant Maintenance Manual. Tighten clamp (2) of the carburetor flange part no. 267788 with tightening torque 2.5 Nm (22 in.lb ) (see fig. 4) .

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

#### 3.3) Test run

Conduct test run including ignition check and leakage test in accordance with the current Maintenance Manual of the respective engine type. If necessary the carburetors have to be synchronized in accordance with the relevant Maintenance Manual.

#### 3.4) 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!

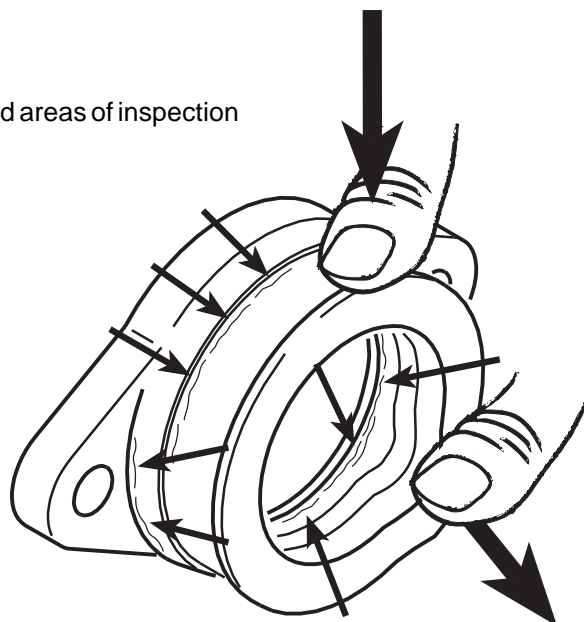
Approval of translation to best knowledge and judgement - in any case the original text in German language and the metric units (SI-system) are authoritative.

#### 4) Appendix

The following drawing should convey additional information:

Recommended areas of inspection

Fig. 1



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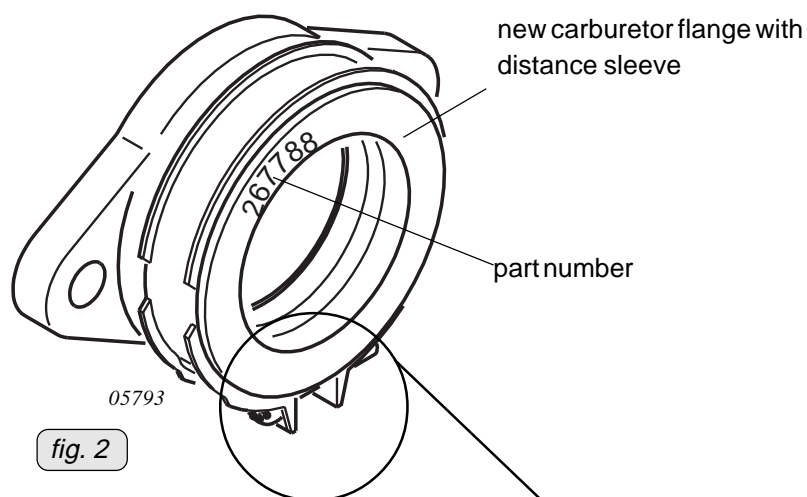


fig. 2

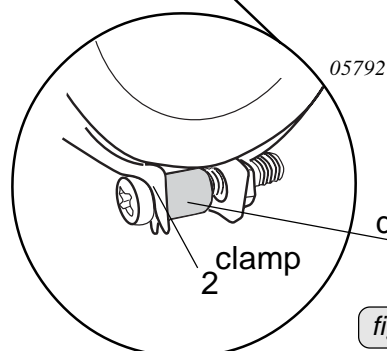


fig. 4

carburetor flange old

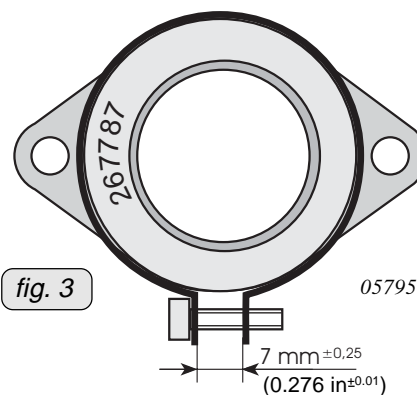
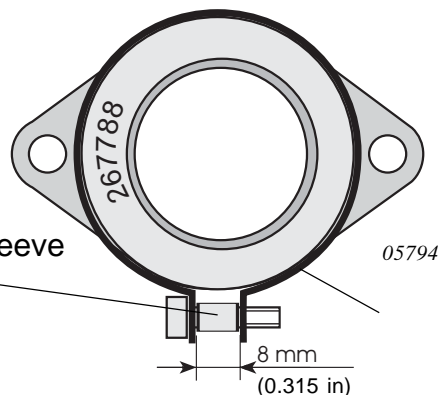


fig. 3

carburetor flange new



#### ◆ NOTE:

The illustrations in this document show the typical construction. They may not represent full detail or the exact shape of the parts which 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.