

SERVICE INSTRUCTION

INCREASE OF DISK SPRING PRE-TENSION IN THE GEARBOX ON ROTAX[®] ENGINE TYPE 912 AND 914 (SERIES)

SI-912-015

SI-914-018

MANDATORY

Repeating symbols:

Please, pay attention to the following symbols throughout the Service Bulletin 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 from S/N 3,792.551 to S/N 4,410.545
- 912 F from S/N 4,412.501 to S/N 4,412.824
- 912 S from S/N 4,922.501 to S/N 4,922.865
- 912 UL from S/N 3,792.501 to S/N 4,404.991
- 912 ULS from S/N 4,425.001 to S/N 4,428.154
- 912 ULSFR from S/N 4,429.501 to S/N 4,429.787
- 914 F from S/N 4,420.001 to S/N 4,420.353
- 914 UL from S/N 4,417.501 to S/N 4,418.223

or all gearboxes to S/N 21936, as long as they are equipped with a overload clutch.

- ◆ **NOTE:** On certified engines an overload clutch is installed as standard and on UL-engines as an optional extra!
- ◆ **NOTE:** On engines after mentioned serial range or from gearbox SN 21937 the increase of disc spring pre-tension is introduced in serial producton as standard.

1.2) Concurrent ASB/SB/SI and SL

None

1.3) Reason

Due to field experience the disk spring pre-tension has been increased.

1.4) Subject

Increase of disk spring pre-tension and resulting increase of the friction torque for overload clutch equipped models in the gearbox on ROTAX[®] engine type 912 and 914 (series).

1.5) Compliance

At the next maintenance, engine repair or overhaul of the gearbox.

- ▲ **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 DOA Nr. MOT. JA-03.

1.7) References

- In addition to this technical information refer to
- Maintenance Manual (MM)

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) Material requirement per engine

parts requirement:

Fig.no.	New part no.	Qty/engine	Description	Old part no.	Application
(3)	927401	a. r.	shim 0,2 mm		gearbox assy
(3)	927402	a. r.	shim 0,5 mm		gearbox assy
(3)	927403	a. r.	shim 1,0 mm		gearbox assy

3) Accomplishment / Instructions

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

- ROTAX[®] -Distributors or their Service Center
- Persons with 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 (namely lock tabs, self-locking fasteners) 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) Removal and disassembly of gearbox assy

Removal and disassembly of the gearbox assy in accordance with the relevant Maintenance Manual so that the ring halves could be removed and the propshaftassembly is loose of its pre-tension .

3.2) Pre-tensioning of disk spring

With springs in the released state, the face (1) for the ring half must be **1 mm (.039 in.)** over the upper edge (2) of the groove in propeller shaft. Adjust by inserting shims (3) placed without fail between eccentric (5) and step collar (4).

◆ **NOTE:** Due to the difficulty in making the described measurement, it possible to shim the assembly to align the face of the ring half (1) with the upper edge of the groove (2) and then add a 1mm shim (3) between the step colar (4) and the eccentric (5).

After setting the above value, depress gear (6) with assembly tool, until the ring halves can be inserted. Insert ring halves. Release disk springs. For all works see also the relevant Maintenance Manual.

■ **CAUTION:** Never depress springs flat with a too short alignment, otherwise the dog gear will damage the gear cover!

■ **CAUTION:** The ring halves must be completely inserted in the groove on propeller shaft!

3.3) Installation of gearbox assy

Installation of the gearbox assy in accordance with the relevant Maintenance Manual.

3.4) Checking of the friction torque

Due to extension of the disk-spring pre-tension the friction torque of the dog connection has being changed. The friction torque must be min. 25 Nm to max. 60 Nm (220 to 530 in. lb.). See also the relevant Maintenance Manual except the new specified ficition value.

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

3.5) Test run

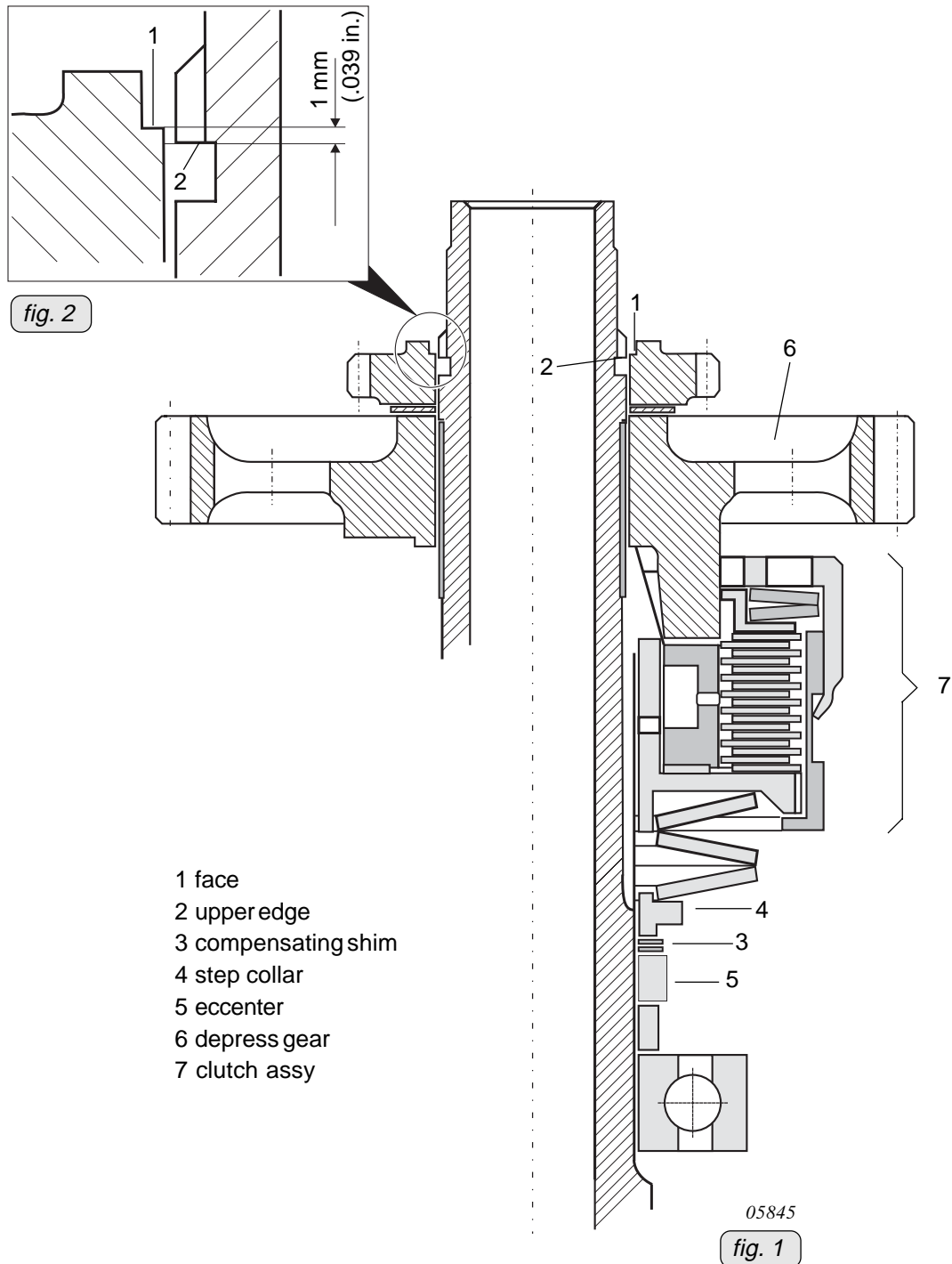
Conduct test run including ignition check and leakage test.

3.6) Summary

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

4) Appendix

The following drawings should provide additional information:



◆ 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 **not technical** drawings and are for reference only. For specific detail, refer to the current documents of the respective engine type.