

SERVICE INSTRUCTION

VERIFICATION OF THE LUBRICATION SYSTEM AND REPLACEMENT OF THE OIL PRESSURE SPRING FOR ROTAX® ENGINE TYPE 912 (SERIES) AND ROTAX® ENGINE TYPE 914 (SERIES)

SI-912-002

SI-914-004

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.
- **ATTENTION:** 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:

- 914 F from S/N 4,420.114 to S/N 4,420.174
- 914 UL from S/N 4,417.710 to S/N 4,417.805
- 912 F from S/N 4,412.765 to S/N 4,412.796
- 912 A from S/N 4,410.296 to S/N 4,410.381
- 912 UL from S/N 4,402.659 to S/N 4,403.451
- 912 ULS from S/N 4,425.004 to S/N 4,425.324
- 912 S from S/N 4,922.503 to S/N 4,922.512

1.2) Concurrent ASB/SB/SI and SL

Further to this service instruction the following additional service instructions must be observed and complied with:

- SI-20-1994 (Lubrication System ROTAX® 912) current issue
- SI-04-1997 (Venting of the lubrication system) current issue
- SI-18-1997 (Selection of engine oil) current issue
- SI-27-1997 (Oil level check) current issue

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1.3) Reason

In isolated cases, wear of the oil pressure spring caused by irregularities in the lubrication system has been detected.

1.4) Subject

Verification of the lubrication system where irregularities of oil pressure are indicated.

1.5) Compliance

RECOMMENDED

In case of oil pressure fluctuations in excess of 1 bar (14,5 p.s.i.), verification of the lubrication system is necessary. Proceed as per instructions.

1.6) Approval

not required

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

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1.10) Software accomplishment summary

no change

1.11) References

In addition to this technical information refer to

- current issue of the Illustrated Parts Catalog (IPC)
- Installation Manual (IM) and Check List
- all relevant Service Instructions (SI)
- Maintenance Manual (MM)

1.12) Other publications affected

none

1.13) Interchangeability of parts

All redundant parts which cannot be used must be scrapped.

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2) Material Information

2.1) Material - cost and availability

Price and availability will be supplied on request by our ROTAX[®] Authorized Distributors or their Service Center.

2.2) Company support information

none

2.3) Material volume per engine

- parts volume:

item no.	New part no.	Qty.	Description	Old part no.	remarks
1	838.122	1	oil pressure spring	838.123	oil pump housing

2.4) Material volume 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[®] -Distributors or their Service Center
- Persons with the respective Aviation Authority
- Persons with type-specific training (applicable only for non-certified engines)

▲ **WARNING:** Proceed with this work only in a non-smoking area and not near open flames. Switch off ignition and secure engine against unintentional operation.

- Secure aircraft against unauthorized operation.
- Disconnect minus pole of aircraft battery.

3.1) Checking of the oil pressure observation

Verify the following components for correct operation:

- Oil pressure indicating instrument
- Oil pressure sensor
- sensor cable

3.2) Checking of the lubrication system:

If not done yet, verify all the installation requirements as follows:

3.2.1) Inspection of oil lines and connections:

- Inspect all oil lines for damage, leakage, hardening by heat, porosity, tight connection, secure attachment and routing without kinks;
- Verify all oil lines for compliance with the current Installation Manual in regard to diameter, length, bending radii, routing, unsuitable fittings and connections, etc.

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3.2.2) Verification of oil tank and oil cooler:

- Check if installation (location and position, connections, etc.) of the oil tank is in compliance with the current Installation Manual.
- Check if installation (location and position, connections, etc.) of the oil cooler is in compliance with the current Installation Manual.

3.2.3) Verification of the operation limits:

- Check if all limits of operation comply with the current Operator's Manual.

3.3) Replacing of the oil pressure spring

Remove plug screw (1) of pressure release valve (2) along with oil pressure spring (3), clean and inspect ball seat in the pump housing. A shim (4) is only fitted if it was necessary for achieving the correct oil pressure.

Fit ball 8,5 mm (2), new oil pressure spring part no. 838.122 (3) and plug screw (1) M12x1. Tighten plug screw to 25 Nm (220 in.lb) and safety-wire.

3.4) Oil level check and venting of the lubrication system

Replenish oil as per the current Maintenance Manual.

Oil level check according to SI-27-1997.

Venting of the lubrication system in accordance with SI-04-1994.

3.5) Test run

Start engine. Conduct test run including ignition check and leakage test in accordance with the current Maintenance Manual of the respective engine type.

3.6) Summary

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

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

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4) Appendix

The following drawings should convey additional information:

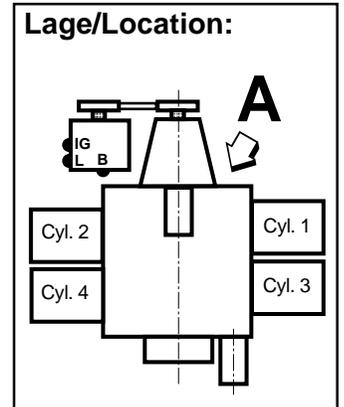
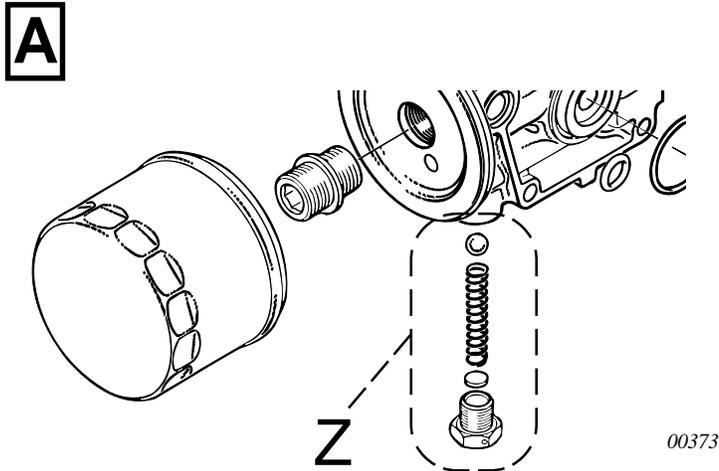


fig. 1

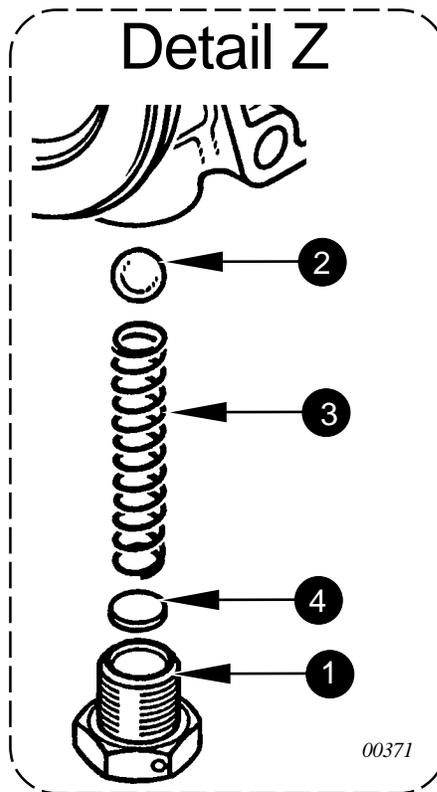


fig. 2

View: **oil pump**

Fig.: **1 and 2**