

## SERVICE INSTRUCTION

# Change of oil cooling of stator for ROTAX® Engine Type 915 i A (Series) and 912 i (Series)

ATA System: 24-20-00 Ignition system

### 1) Planning information

To obtain satisfactory results, procedures specified in this publication must be accomplished with accepted methods in accordance with prevailing legal regulations.

BRP-Rotax GmbH & Co KG cannot accept any responsibility for the quality of work performed in accomplishing the requirements of this publication.

#### 1.1) Applicability

All versions of ROTAX® engine types:

| Engine type   | Serial number    |
|---------------|------------------|
| 915 iSc A     | from S/N 9127353 |
| 915 iS A      | from S/N 9132575 |
| 912 iSc Sport | from S/N 7702203 |
| 912 iS Sport  | from S/N 7705909 |

NOTE: On engines with S/N equal or higher than those listed above, new stator cooling has already been fitted in serial production.

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

In addition to this Service Instruction the following documents must be observed and complied with:

- in general all relevant Alert Service Bulletins (ASB), Service Bulletins (SB), Service Instructions (SI), Service Letters (SL), Service Instruction - Parts and Accessories (SI-PAC) with relevance to perform this maintenance, repair or overhaul task.

#### 1.3) Reason

In the course of further development and standardization, the location of stator oil spray has been changed to optimize stator cooling.

#### 1.4) Subject

Change of oil cooling of stator for ROTAX Engine Type 915 i A and 912 i (Series).

#### 1.5) Compliance

NONE - For Information Only (It is not mandatory to retrofit non-applicable (see section 1.1) engines to the new oil sprayer).

#### 1.6) Approval

The technical content of this document is approved under the authority of the DOA ref. EASA.21J.048.

#### 1.7) Labor time

Estimated labor hours:

Engine installed in the aircraft - - - labor time will depend on airframe installation and therefore no estimate is available from the engine manufacturer.

d06870.fm

# SERVICE INSTRUCTION

---

## 1.8) Mass data

Change of weight - - - none.

Moment of inertia - - - unaffected.

## 1.9) Electrical load data

No change.

## 1.10) Software modifications

No change.

## 1.11) References

In addition to this technical information refer to current issue of

- in general Operators Manual (OM)
- in general Illustrated Parts Catalog (IPC) and in particular:  
Chapter 24-00-00 and 72-00-00
- in general Installation Manual (IM)
- in general Maintenance Manual Line (MML) and in particular:  
Chapter 12-20-00, section Locking / Loosen of the crankshaft and section Test run of engine
- in general Maintenance Manual Heavy (MMH) and in particular:  
Chapter 24-20-00, section Ignition housing removal  
Chapter 72-20-00, section Wear limits  
Chapter 80-00-00, section Removal and installation of the electric starter

NOTE: The status of the Manuals can be determined by checking the table of amendments. The 1<sup>st</sup> column of this table shows the revision status. Compare this number to the one listed on the ROTAX website:  
[www.flyrotax.com](http://www.flyrotax.com). Updates and current revisions can be downloaded for free.

## 1.12) Other Publications affected

None.

## 1.13) Interchangeability of parts

Not all parts are interchangeable.

# SERVICE INSTRUCTION

## 2) Material Information

### 2.1) Material

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

### 2.2) Company support information

- Any possible support by BRP-Rotax will be provided on request by ROTAX® Authorized Distributors or their independent Service Centers

### 2.3) Material requirement per spare part

| New part no. | Qty/<br>engine | Description            | Old part no.    |
|--------------|----------------|------------------------|-----------------|
| 912248       | 1              | Ignition housing assy. | 912247          |
| 852409       | 1              | Sprag clutch housing   | 852407 / 852408 |
| 456540       | 1              | Oil spray nozzle assy. | -               |

#### NOTICE

Do not mix old and new parts!  
The sprag clutch housing part no. 852409 (with oil spray nozzle) must only be paired with ignition housing part no. 912248.

### 2.4) Rework of parts

None.

### 2.5) Special tooling/lubricants- /adhesives- /sealing compounds

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

| Description       | Qty/engine | Part no. | Application          |
|-------------------|------------|----------|----------------------|
| LOCTITE 243 BLUE  | 10 CC.     | 897651   | Oil spray nozzle     |
| LOCTITE 648 GREEN | 5 CC.      | 899788   | Sprag clutch housing |
| LOCTITE 603 GREEN |            | 899789   | Allen screw M6x12    |

NOTE: Check all procedures referenced and verify the completeness of this list before beginning work.

#### NOTICE

If using these special tools observe the manufacturers specifications.

# SERVICE INSTRUCTION

## 3) Accomplishment/Instructions

- ROTAX® reserves the right to make any amendments to existing documents which might become necessary due to this standardization, at the time of next revision or issue.

NOTE: Before maintenance, review the entire documentation to make sure you have a complete understanding of the procedure and requirements.

### Accomplishment

All measures must be implemented and confirmed by at least one of the following persons or organizations:

- ROTAX® - Airworthiness representatives
- ROTAX® - Authorized Distributors or their independent Service Centers
- Persons approved by the respective Aviation Authorities
- Persons with approved qualifications for the corresponding engine types. Only authorized persons (iRMT, Level Heavy Maintenance) are entitled to carry out this work
- Persons with type-specific training



All work has to be performed in accordance with the relevant Maintenance Manuals of the respective engine type.

### General

Further material on general inspection, maintenance and repair can be found also in relevant Advisory Circular AC 43.13 from FAA.

### Advisory Circular

This Manual "Advisory Circular" AC describes maintenance methods, techniques and practice.

### 3.1) Spare Parts - related information

See Fig. 1.



See relevant Illustrated Parts Catalog (IPC) for the respective engine type, Chapter 24-20-00 and 72-20-00.

- 1 Sprag clutch housing
- 2 Oil spray nozzle
- 3 Ignition housing

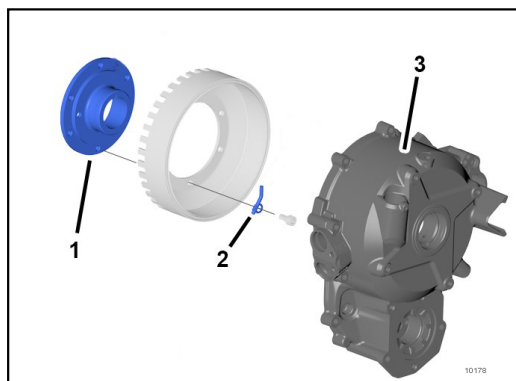


Fig. 1

d06870.fm

# SERVICE INSTRUCTION

## 3.2) Installation - related information



See current Installation Manual (IM) for the respective engine type.

## 3.3) Operation - related information



See current Operators Manual (OM) for the respective engine type.

## 3.4) Maintenance (Line) - related information



See current Maintenance Manual Line (MML) for the respective engine type.

## 3.5) Maintenance (Heavy) - related information



See current Maintenance Manual Heavy (MMH) for the respective engine type.

See Fig. 2.

- 1 Sprag clutch housing
- 2 Magneto flywheel assy.
- 3 Oil spray nozzle
- 4 Allen screw M6x12
- 5 Ignition housing

**B** LOCTITE 243  
**C** LOCTITE 648  
**Z** LOCTITE 603

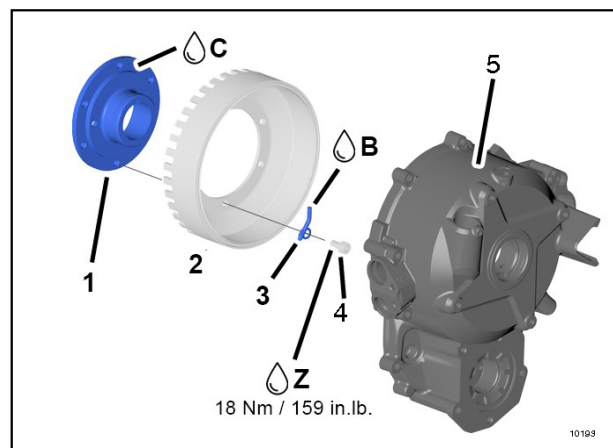


Fig. 2

### 3.5.1) Removal of the magneto flywheel assy.

#### Preparation

- Disconnect the battery (negative pole)
- Remove the electric starter. See Maintenance Manual Heavy (MMH) Chapter 80-00-00.
- Remove the ignition housing. See Maintenance Manual Heavy (MMH) Chapter 24-20-00.
- Lock crankshaft. See Maintenance Manual Line (MML) Chapter 12-20-00.

d06870.fm

## SERVICE INSTRUCTION

See Fig. 3.

| Step | Procedure   |
|------|---|
| 1    | Loosen 6 Allen screws M6x12.  |
| 2    | Remove the oil spray nozzle from the sprag clutch housing.<br>Note: The nozzle is secured with LOCTITE 243. |
| 3    | Remove magneto flywheel assy.   |

1 Magneto flywheel assy.  
2 Allen screw M6x12  
3 Oil spray nozzle

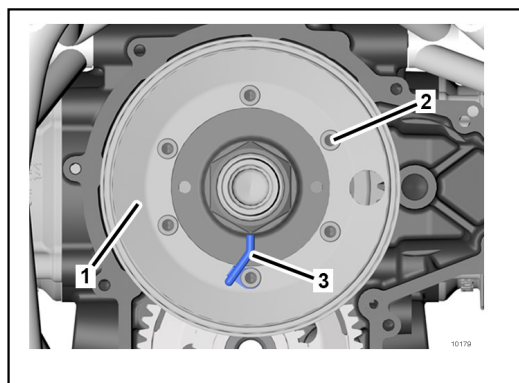


Fig. 3

NOTE: The location on the magneto flywheel assy. does not have to be marked, because the bolt pattern allows only a single orientation.

### 3.5.2) Oil spray nozzle inspection

See Fig. 4.

| Step | Procedure   |
|------|---|
| 1    | Check that the oil passage is clear.<br>Note: The oil passage is 0.8 mm (0.030 in.) in diameter. Check using a 0.5 mm (0.020 in.) wire. Use a wire with appropriate material specification (e.g. cooper, brass,...) in order to avoid damage to the inside of the oil spray nozzle. |

1 Oil passage

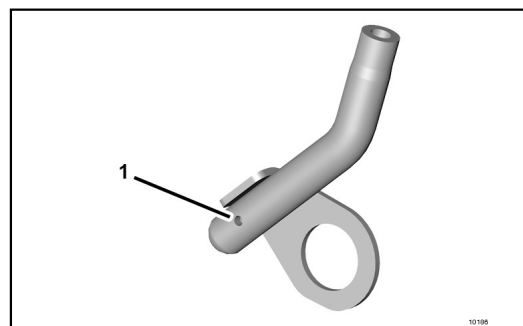


Fig. 4

d06870.fm

# SERVICE INSTRUCTION

## 3.5.3) Sprag magneto flywheel assy. installation

**Preparation** See Fig. 5.

- Lock the crankshaft into place. See Maintenance Manual Line (MML) Chapter 12-20-00.

| Step | Procedure  |
|------|--|
| 1    | Apply a small thin layer of LOCTITE 648 to the flat surface of the sprag clutch housing. |
| 2    | Place magneto flywheel assy. on top.   |
| 3    | Secure 5 Allen screws M6x12 (12.9 screw strength) with LOCTITE 603.                      |

1 Allen screw M6x12  
2 Magneto flywheel assy.

**C** LOCTITE 648  
**Z** LOCTITE 603

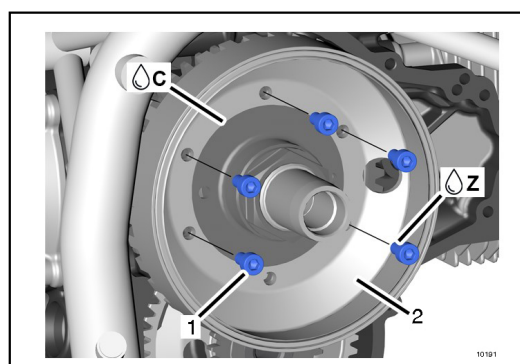


Fig. 5

## 3.5.4) Oil spray nozzle assy. installation

See Fig. 6.

| Step | Procedure   |
|------|---|
| 1    | Apply a small amount of LOCTITE 243 to open end of the oil spray nozzle.<br>Note: Make sure oil supply passage does not get blocked by LOCTITE! |
| 2    | Place the oil spray nozzle assy. into the sprag clutch housing bore.  |
| 3    | Secure Allen screw M6x12 (12.9 screw strength) with LOCTITE 603 and tighten all 6 screws. Tightening torque 18 Nm (159 in. lb.).                |

3 Allen screw M6x12  
4 Oil spray nozzle assy.

**B** LOCTITE 243  
**Z** LOCTITE 603

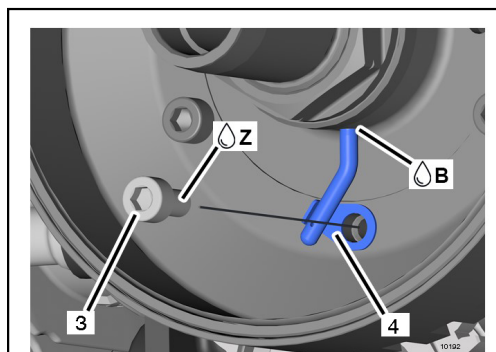


Fig. 6

d06870.fm

# SERVICE INSTRUCTION

| Step | Procedure   |
|------|---|
| 4    | Measure the axial clearance of the free wheel gear. |



See current Maintenance Manual Heavy (MMH), Chapter 72-20-00 section Wear limits, for the respective engine type.

### 3.6) Finishing work

- Remove the crankshaft locking thread bolt.  
See Maintenance Manual Line (MML) Chapter 12-20-00
- Install the ignition housing. See Maintenance Manual Heavy (MMH) Chapter 24-20-00
- Install the electric starter. See Maintenance Manual Heavy (MMH) Chapter 80-00-00
- Restore aircraft to original operating configuration
- Connect negative terminal of aircraft battery

### 3.7) Test run

Conduct test run.

In case of uninstalled engines test run is accomplished with the mandatory test run after installation into aircraft.



See current Maintenance Manual Line (MML), Chapter 12-20-00 for the respective engine type.

### 3.8) Summary

These instructions (section 3) have to be followed in accordance with the deadlines specified in section 1.5.

The execution of the Service Instruction must be confirmed in the logbook.

**NOTE:** Work on EASA certified parts might affect the EASA Form 1 and does require appropriate documentation by authorized persons. Repairs (like e.g. Option 2) must be entered into the engine logbook and also do apply for the EASA Form 1.

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

Translation into other languages might be performed in the course of language localization but does not lie within ROTAX® scope of responsibility.

In any case the original text in English language and the metric units are authoritative.

d06870.fm



# SERVICE INSTRUCTION

---

## 3.9) Inquiries

Inquiries regarding this Service Instruction should be sent to the ROTAX® Authorized Distributor of your area.

A list of all ROTAX® Authorized Distributors or their independent Service Centers is provided on [www.dealerlocator.flyrotax.com](http://www.dealerlocator.flyrotax.com).

**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.