

SERVICE INFORMATION LETTER



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SERVICE INFORMATION LETTER NO. SIL20A1-009

NOTE: Service Information Letters are used only:

1. To distribute information from Diamond Aircraft Industries (DAI) to our customers.
2. To distribute applicable information/documents from our suppliers to our customers with additional information.

NOTE: Typically there is no revision service for Service Information Letter (SIL). Each new information or change will be sent along with a new SIL.

1. TECHNICAL DETAILS

1.1 Aircraft Affected

All DA20-A1 aircraft.

1.2 Subject

EASA Emergency Airworthiness Directive No 2011-0067-E
ATA Code: 74 - Ignition

1.3 Reason

EASA AD No.: 2011-0067-E

EASA has issued the Emergency Airworthiness Directive No.: AD 2011-0067-E mandating accomplishment with Rotax Service Bulletin SB-912-058, which prescribes the replacement of the washer P/ N 944072 on the Flywheel hub at certain engine series

1.4 Information

For detailed technical information refer to EASA AD 2011-0067-E which is applicable without any further additions or restrictions. (Note this AD is specific to certain serial numbers only, check the AD for this information)

2. OTHERS

EASA AD No.: 2011-0067-E is attached to this SI.
Rotax Mandatory SB 912-058 is attached to this SI.

Contact BRP-Rotax GmbH & Co. KG, DAI or your local authorized Diamond Service Center.

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To obtain satisfactory results, procedures specified in this service information letter must be accomplished in accordance with accepted methods and current government regulations. Diamond Aircraft Industries Inc. cannot be responsible for the quality of work performed in accomplishing the requirements of this service information letter. Diamond Aircraft reserves the right to void continued warranty coverage in the area affected by this service information letter if it is not incorporated. If you no longer own the aircraft to which this service information letter applies, please forward it to the current owner and send the name of the current owner to Diamond Aircraft Industries Inc. at the address below.

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EASA	EMERGENCY AIRWORTHINESS DIRECTIVE
	<p>AD No.: 2011-0067-E</p> <p>Date: 15 April 2011</p> <p>Note: This Emergency Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.</p>
<p>This AD is issued in accordance with EC 1702/2003, Part 21A.3B. In accordance with EC 2042/2003 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [EC 2042/2003 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].</p>	
<p>Type Approval Holder's Name: BRP-Powertrain GmbH & Co. KG</p>	<p>Type/Model designation(s): Rotax 912 and 914 series engines</p>
<p>TCDS Numbers : EASA.E.121, EASA.E.122</p>	
<p>Foreign AD : Not applicable</p>	
<p>Supersedure : None</p>	
ATA 74	Ignition – Magneto Flywheel Hub Washer – Replacement
<p>Manufacturer(s): BRP-Powertrain GmbH & Co. KG</p>	
<p>Applicability:</p>	<p>Rotax 912 A1, 912 A2, 912 A3 and 912 A4 engines, serial numbers (s/n) 4,410.888 through 4,410.899 inclusive.</p> <p>Rotax 912 F3 engines, s/n 4,412.986 and 4,412.987.</p> <p>Rotax 912 S2, 912 S3 and 912 S4 engines, s/n 4,924.087 through 4,924.139 inclusive, and s/n 4,924.141 through 4,924.166 inclusive.</p> <p>Rotax 914 F2, 914 F3 and 914 F4 engines, s/n 4,420.970 through 4,420.990 inclusive, s/n 4,420.997, and s/n 4,421.001 through 4,421.003 inclusive.</p> <p>These engines are known to be installed on, but not limited to, the following types of aeroplanes: 3-i Sky Arrow 650 TC, 650 TCN, 650 TCNS and 710 RG; Aeromot AMT-200 Super Ximango and AMT-300 Turbo Super Ximango; Aircraft Philipp (formerly Alpa-Werke; Nitsche) AVO 68 series Samburo; Aquila AT01; Cessna 150 and A150 series; and (Reims) F150 and FA150 series; Diamond (formerly HOAC) H 36 Dimona, HK 36 series Super Dimona, DV 20 Katana and DA20-A1 Katana; Evektor-Aerotechnik EV-97 VLA; Grob G 109; Issoire APM-20 Lionceau; Scheibe SF 36R and SF 25C; Stemme S10-VT; Tecnam P 92-J, P 92-JS and P2002-JF; W.D. Aircraft D4 Fascination.</p> <p>Note: The installation of these engines was either done by the respective aeroplane manufacturer or through modification of the aeroplane by Supplemental Type Certificate.</p>

Reason:	<p>During a production process review, a deviation in hardening of certain Part Number (P/N) 944072 washers has been detected, which exceeds the hardness of the design specification.</p> <p>The affected washers are part of the magneto ring flywheel hub installation and have been installed on a limited number of engines. No defective washers have been shipped as spare parts.</p> <p>This condition, if not corrected, could lead to cracks in the washer, loosening of the magneto flywheel hub and consequent ignition failure, possibly resulting in damage to the engine, in-flight engine shutdown and forced landing, damage to the aeroplane and injury to occupants.</p> <p>For the reasons described above, this AD requires, for the affected engines, the replacement of the P/N 944072 washer and associated gasket ring P/N 950141 with serviceable parts, having the same P/N.</p> <p>This AD also prohibits installation of an affected engine on an aeroplane, unless the washer on that engine has been replaced as required by this AD.</p>
Effective Date:	15 April 2011
Required Action(s) and Compliance Time(s)	<p>Required as indicated, unless accomplished previously:</p> <ol style="list-style-type: none"> (1) Within 10 flight hours or 4 calendar months, whichever occurs first after the effective date of this AD, replace the P/N 944072 washer and associated gasket ring P/N 950141 on the magneto ring flywheel hub with serviceable parts, having the same P/N, in accordance with Section 3) Accomplishment Instructions of BRP-Powertrain Mandatory SB-912-058 or SB-914-041, as applicable to engine type. (2) Within 10 days after the replacement as required by paragraph (1) of this AD, return the P/N 944072 washer that has been removed from the engine to BRP-Powertrain, in accordance with Section 1.13) Interchangeability of Parts of BRP-Powertrain Mandatory SB-912-058 or SB-914-041, as applicable to engine type. (3) From the effective date of this AD, do not install an affected engine, identified by s/n in the Applicability section of this AD, on an aeroplane, unless the washer on that engine has been replaced as required by paragraph (1) of this AD.
Ref. Publications:	<p>BRP-Powertrain Mandatory SB-912-058 and SB-914-041 (same document) dated 15 April 2011.</p> <p>The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.</p>
Remarks:	<ol style="list-style-type: none"> 1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD. 2. The safety assessment has requested not to implement the full consultation process and an immediate publication and notification. 3. Enquiries regarding this AD should be referred to the Airworthiness Directives, Safety Management & Research Section, Certification Directorate, EASA. E-mail ADs@easa.europa.eu. 4. For any question concerning the technical aspects of the requirements in this AD, please contact: BRP-Powertrain GmbH & Co. KG Telephone: +43 7246 601 0; Fax: +43 7246 601 9130; E-mail: airworthiness@brp.com, Website www.rotax-aircraft-engines.com.



SERVICE BULLETIN

REPLACEMENT OF WASHER PART NO. 944072 (FLY WHEEL HUB) FOR ROTAX® ENGINE TYPE 912 AND 914 (SERIES)

SB-912-058

SB-914-041

MANDATORY

Symbols used:

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 of the page margin indicates a change to text or graphic.

1) Planning information

1.1) Engines affected

All versions of the engine type:

- 912 A from S/N 4,410.888 up to S/N 4,410.899
- 912 F from S/N 4,412.986 up to S/N 4,412.987
- 912 S from S/N 4,924.087 up to S/N 4,924.139 / 4,924.141 up to 4,924.166
- 914 F from S/N 4,420.970 up to S/N 4,420.990 / 4,420.997 / 4,421.001 up to 4,421.003
- Washers delivered as spare part no. 944072 are not affected.

1.2) Concurrent ASB/SB/SI and SL

none

1.3) Reason

A deviation in hardening process could cause an exceeding of hardness of certain washer. This deviation could lead to cracks in the washer and could cause loosening of fly wheel, ignition failure or engine damage.

1.4) Subject

Replacement of washer part no. 944072 (fly wheel hub) for ROTAX® engine type 912 and 914 (Series).

1.5) Compliance

- Required within the next 10 flight hours of operation after the effective date of this Service Bulletin, but at the latest before 31 August 2011. The replacement of washer part no. 944072 identified by the engine serial number (S/N) listed in section 1.1) must be conducted according to the following instructions in section 3.

- ▲ **WARNING:** Non-compliance with these instructions could result in engine damages, personal injuries or death.

1.6) Approval

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

d05072.fm

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)

◆ NOTE: The status of Manuals can be determined by checking the table of amendments of the Manual. The 1st column of this table is the revision status. Compare this number to that listed on the ROTAX WebSite: www.rotax-aircraft-engines.com. Updates and current revisions can be downloaded for free.

1.12) Other publications affected

none

1.13) Interchangeability of parts

- All washers according to section 1.1) must be returned F.O.B to a ROTAX® Authorized Distributor or their Service Center.

◆ NOTE: Used parts should be tagged with a respective "UNSERVICEABLE" mark.

2) Material Information

2.1) Material - cost and availability

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

Fig.no.	New p/n	Qty/engine	Description	Old p/n	Application
	944072	1	washer 17/36/5		fly wheel hub
	950141	1	gasket ring A8x13		crank case

2.4) Material requirement per spare part

none

2.5) Rework of parts

none

2.6) Special tooling/lubricant/adhesives/sealing compound

none

3) Accomplishment / Instructions

- ◆ NOTE: Before maintenance, review the entire documentation to make sure you have a complete understanding of the procedure and requirements to prevent mistakes from an incomplete review of all of the information in this document.

Accomplishment

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

- ROTAX® -Airworthiness representative
- ROTAX® -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: Risk of scalds and burns! Allow engine to cool sufficiently and use appropriate safety gear while performing work.

▲ 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.

- ◆ NOTE: All work has to be performed in accordance with the relevant Maintenance Manual.

3.1) Replacement of washer part no. 944072

See fig. 1.

1. Remove ignition cover (1).
2. Lock the crankshaft in accordance with the relevant Maintenance Manual (Line).
3. Remove hex. screw (4) in accordance with the relevant Maintenance Manual (Heavy).

- ◆ NOTE: Fly wheel hub does not have to be removed unless it has become loose.

■ CAUTION: If the fly wheel hub has loosened during the disassembly and/or in case of doubt, then remove, clean and install the fly wheel hub in accordance with the relevant Maintenance Manual. In this case the tightening torque is 45 Nm (33.2 ft.lb) + 180° angle to rotation.

4. Install hex. screw (4). **Tightening torque 120 Nm (89 ft.lb).**

■ CAUTION: During installation the new washer (2) part no. 944072 must be used.

5. Remove locking pin of crankshaft in accordance with the relevant Maintenance Manual.
6. Check trigger coil gap, if necessary adjust it in accordance with the relevant Maintenance Manual.
7. Install ignition cover (1). The hex. screws (6) are locked with Loctite 221. Tightening torque 5 Nm (44 in. lb.).

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

3.2) Test run

Conduct test run including ignition check and leakage test.

3.3) Summary

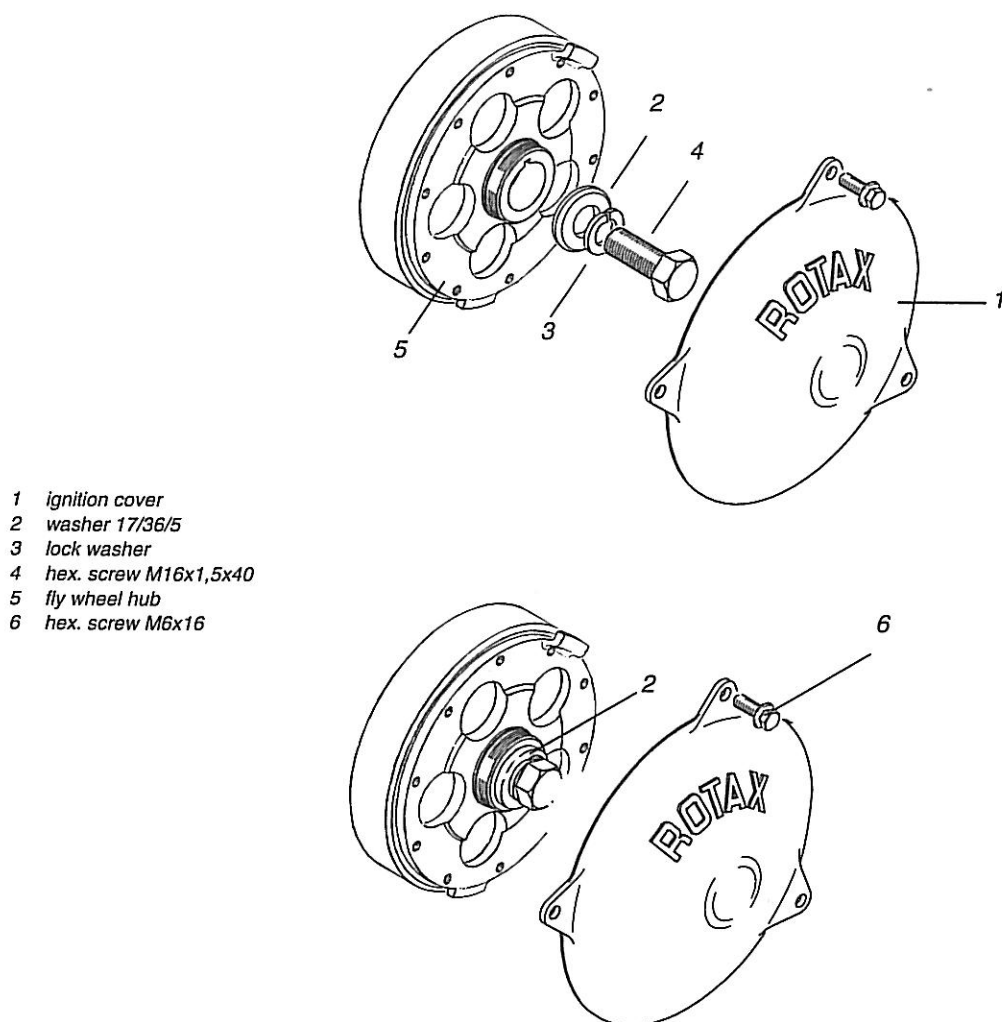
These instructions (section 3) have to be conducted in accordance with compliance in section 1.5.

The execution of the mandatory Service Bulletin must be confirmed in the logbook.

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 drawings should convey additional information:



06314

Fig. 1

magneto ring, fly wheel hub, ignition cover

- ◆ 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.