

SERVICE INFORMATION

NO. SI 20-089

NOTE: SI's are used only:
1) To distribute information from DAI to our customers.
2) To distribute applicable information/documents from our suppliers to our customers with additional information.
Typically there is no revision service for SI's. Each new information or change of that will be sent along with a new SI.

I. TECHNICAL DETAILS

1.1 Airplanes affected:

Type: DV 20, all airplanes

1.2 Subject:

BRP-Rotax GmbH & Co KG Service Bulletin SB-912-078

ATA-Code: 72-10

1.3 Reason:

BRP-Rotax GmbH & Co KG has issued Service Bulletin SB-912-078 requiring the replacement of propeller shaft on ROTAX® Engine Type 912/914 (Series) and 912 i (Series) for a limited number of engine serial numbers. The affected engine serial numbers are listed in the Service Bulletin SB-912-078.

1.4 Information:

For detailed technical information refer to BRP-Rotax GmbH & Co KG Service Bulletin SB-912-078 which is applicable without any further additions or restrictions.

II. OTHERS

BRP-Rotax GmbH & Co KG Service Bulletin SB-912-078 is attached to this Service Information.

In case of doubt contact BRP-Rotax GmbH & Co KG.

Exchange of propeller shaft on ROTAX® Engine type 912 / 914 (Series) and 912 i (Series)

ATA System: 72-10-00 Propeller gear assy.

MANDATORY

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 engines of Series 912 A, 912 F, 912 S, 914 F and 912 iSc Sport are affected, if at least one of following criteria applies:

Criterion A) Engine Serial number:

These engines have been originally delivered from the factory with the affected propeller shaft part no. 937047.

Engine type	Serial number
912 A	from S/N 10000823 up to S/N 1000826 inclusive
912 S	S/N 10000403 / S/N 10000405 / S/N 10000406 S/N 10000408 / S/N 10000409 from S/N 10000411 up to S/N 10000414 inclusive from S/N 10000472 up to S/N 10000475 inclusive S/N 10000789 / S/N 10000790 / S/N 10000792 S/N 10000793 / S/N 10000832
914 F	from S/N 10000878 up to S/N 10000887 inclusive
912 iSc Sport	S/N 10000893 / S/N 10000894 / S/N 10001088 S/N 10001089

NOTE: On engines with S/N higher than those listed above, propeller shaft exchange has already been completed during serial production.

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Criterion B) Spare parts:

These propeller shafts have been delivered as a spare part or as a part of a gearbox assy. are also affected:

Propeller shaft part no.	Serial number
937047	S/N 222444 / S/N 222459 / S/N 222465 / S/N 222472 S/N 222480 / S/N 222485 / S/N 222492 / S/N 222496 S/N 222517 / S/N 222548 / S/N 222588 / S/N 222596 S/N 222615 / S/N 222622 / S/N 222626 / S/N 222632 S/N 222641 / S/N 222644 / S/N 222665 / S/N 222700 S/N 222715

NOTE: Propeller shaft with serial number (S/N) lower or higher than the range listed above are not affected.

General

NOTICE

Please also contact the aircraft manufacturer for possible further aircraft related information and requirements related to further accessory parts.

1.2) Concurrent ASB/SB/SI and SL

In addition to this Service Bulletin 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

Due to a deviation in the machining process of the propeller shaft, the affected batch shows abnormalities on the surface. This could lead to increased wear of the propeller shaft bearings and subsequent serious engine problems.

1.4) Subject

Exchange of propeller shaft on ROTAX® Engine Type 912/914 (Series) and 912 i (Series).

1.5) Compliance

- Before next flight check the magnetic plug according to the latest Maintenance Manual Line (MML). If the magnetic plug indicates a good condition of the gearbox, it is allowed to repeat this inspection every 10 hours up to 50 hours of engine TSN. At latest, at 50 hours of engine TSN carry out this exchange of the propeller shaft on the engines listed in section 1.1, according to the instructions in section 3
- Exchange the propeller shaft on engines prior to initial installation
Return affected spare parts to authorized service partner
- On engines, gearbox assy. and propeller shaft, prior to delivery

WARNING

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

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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

A labor credit will be provided for work performed by a technician with current applicable iRMT rating.

Work performed	iRMT rating required	Labor credit
Disassembly, inspection, reassembly, engine test run and logbook entry as per Chapter 3 (per engine)	iRMT Maintenance Heavy	2.5 hours

To apply for labor credit, contact your ROTAX® Authorized Distributor or their independent Service Centers.

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 Illustrated Parts Catalog (IPC) and in particular: Chapter 72-10-00 and 73-10-00
- in general Installation Manual (IM) and in particular: Chapter 61-00-00 and 73-00-00
- in general Maintenance Manual Line (MML) and in particular: Chapter 12-20-00
- in general Maintenance Manual Heavy (MMH) and in particular: Chapter 72-00-00 and 73-00-00

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

1.12) Other Publications affected

None.

1.13) Interchangeability of parts

- All used parts are unserviceable and must be returned FCA (Free CARRIER) to ROTAX® authorized distributors or their independent Service Centers

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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
- Exchanged parts must be returned FCA (Free CARRIER) to ROTAX® Authorized Distributors or their independent Service Centers
- Shipping costs, downtime costs, loss of income, telephone costs etc. or costs of conversion to other engine versions or additional work, as for instance simultaneous engine overhauls are not covered in this scope and will not be borne or reimbursed by ROTAX®

2.3) Material requirement per engine

See Fig. 1.

Parts requirement in case of replacement:

Part no.	Qty/engine	Description	Application
937047	1	Propeller shaft	Version 2
832587	1	Ball bearing 35-72-17	Gearbox side
950470	1	Oil seal 40x55x7	Gearbox side
232246	1	Roller bearing	Crankcase side
950200	1	Oil seal 30x52x7	Crankcase side
950228	1	Isolating flange	Fuel pump (912 Series)

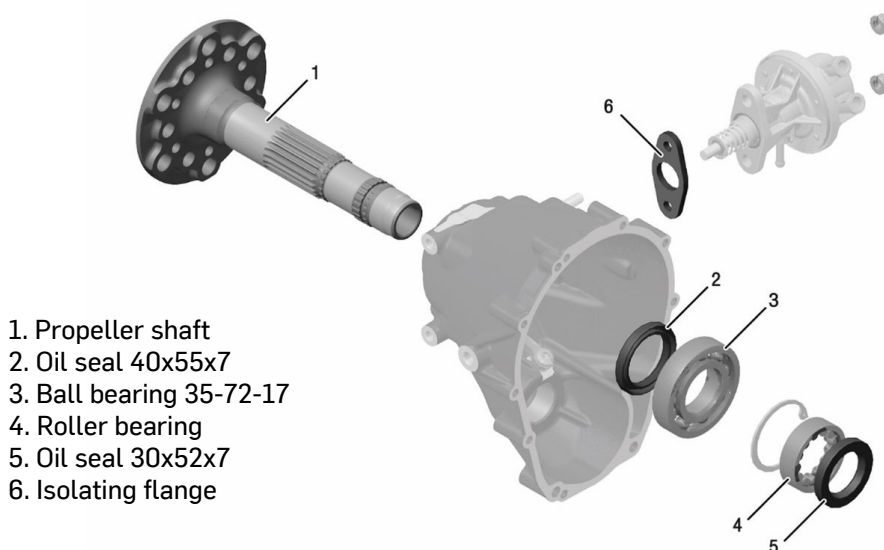


Fig. 1

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2.4) Material requirement per spare part

None.

2.5) Rework of parts

None.

2.6) Special tooling/lubricants- /adhesives- /sealing compounds

See [Fig. 2.](#)

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

Description	Qty/engine	Part no.	Application
EXTRACTOR ASSY.	1	877615	Roller bearing 25x25x15, oil seal 30x52x7
PULL -IN SPINDLE M24x1.5	1	877580	Extractor assy.
BOLT 12x250	1	276155	Extractor assy.
HEX. SCREW M24x1.5 - 19 MM	1	842585	Extractor assy.
PRESS-OUT MUSHROOM	1	877605	Prop shaft (Version 2)
PRESS-IN JIG	1	877594	Oil seal 30x52x7 (Version 2)
PRESS-IN MUSHROOM	1	877590	Roller bearing 25x52x15
STUD M10x45/20	1	941180	Roller bearing 25x52x15, oil seal 30x52x7
PULL-OUT PLATE	1	877561	Roller bearing 25x52x15, oil seal 30x52x7
HEX. NUT M10	1	242092	Roller bearing 25x52x15, oil seal 30x52x7
THREAD BOLT M8x50	1	240880	Crankshaft locking screw
PUSHING JIG ASSY.	1	877540	Gearbox
PULLER ASSY.	1	877660	Gearbox
MOUNTING YOKE	1	876885	To compress dog gear
LOCTITE 243 BLUE	as required	897651	Hex. screw M7x16
LOCTITE ANTI SEIZE 8151	as required	297434	Propeller shaft at ball bearing
LOCTITE 5910	as required	899791	Flange sealant

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1. Extractor assy.
2. Pull-in spindle M24x 1.5
3. Bolt 12x250
4. Hex. screw M24x1.5
5. Press-out mushroom
6. Press-out mushroom.
7. Press-in jig
8. Press-in mushroom
9. Stud M10x45/20
10. Pull-out plate
11. Hex. nut M10
12. Thread bolt M8x50
13. Puller assy.
14. Pushing jig assy.
15. Mounting yoke

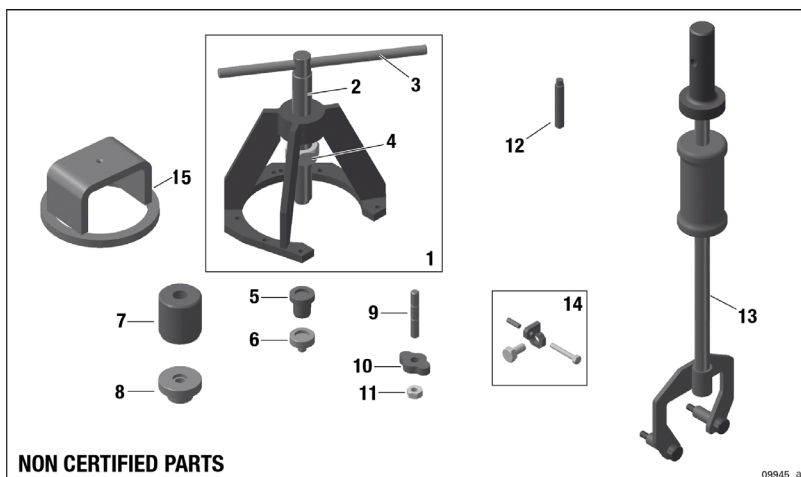


Fig. 2

NOTICE

If using these special tools observe the manufacturers specifications.

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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

NOTE: Indicates supplementary information which may be needed to fully complete or understand an instruction.



All work has to be performed in accordance with the relevant ROTAX® Instructions for Continued Airworthiness (ICA) of the respective engine type.

General

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

Advisory Circular

The Advisory Circular (AC) contains maintenance methods, techniques and practices.

Procedure

Step	Procedure
1	Check the criteria given on page 1, section 1.1, if the aircraft engine is affected by this SB.
2	Check the engine logbook and maintenance documentation, if this SB has already been accomplished.

3.1) Illustrated Parts Catalog - related information



See current Illustrated Parts Catalog (IPC) for the respective engine type, Chapter 72-10-00 and 73-10-00.

3.2) Installation - related information



See current Installation Manual (IM) for the respective engine type, Chapter 61-00-00 and 73-00-00.

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, Chapter 12-00-00.

3.5) Maintenance (Heavy) - related information



For removal, disassembly/assembly and installation see current Maintenance Manual Heavy (MMH) for the respective engine type, Chapter 72-00-00 and 73-00-00.
For removal and installation of the gearbox assy. see current Maintenance Manual Line (MML) for the respective engine type, Chapter 12-20-00.

Following instructions in the current Maintenance Manual Heavy (MMH) and Maintenance Manual Line (MML), perform the following tasks:

- Remove gearbox assy. from the engine
- Disassemble gearbox and press out affected propeller shaft
- Reassemble the gearbox using a new propeller shaft, oil seal and ball bearing
- Remove crankcase side propeller shaft roller bearing and oil seal and replace with new
- Attach gearbox assy. to crankcase
- In the case of an engine installed in an aircraft, perform an engine test run

NOTE: Only authorized person (iRMT, Level Heavy Maintenance) are entitled to carry out this work.

3.6) 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) for the respective engine type, Chapter 12-20-00.

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3.7) Engine log entry

Step	Procedure
1	Make an entry in the engine logbook stating the corrective actions performed.

NOTICE

If engine is still within its original packaging the (blue) plastic bag must carefully re-sealed after performing this inspection. The plastic bag contains a Volatile Corrosion Inhibitor (VCI) essential to maintain appropriate storage conditions.

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 mandatory Service Bulletin 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 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.

3.9) Inquiries

Inquiries regarding this Service Bulletin 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 <https://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.