

SERVICE INSTRUCTION

Introduction of sodium filled exhaust valves for ROTAX® Engine Type 914 (Series)

ATA System: 72-00-00 Valve train

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
914 F	from S/N 4 421 923
914 UL	from S/N 9 576 603

NOTE: Engines with serial numbers higher than those listed in section 1.1 have already been equipped with sodium filled exhaust valves and are therefore not affected.

1.2) Concurrent ASB/SB/SI and SL

None.

1.3) Reason

Due of ROTAX' commitment to innovation and continuous product improvement a new type of exhaust valve for the engine type 914 Series will be introduced. The new sodium filled valve (part number is listed in section 2.3) will provide further improved wear characteristics especially in corrosive environments (e.g. 100% AVGAS operation).

1.4) Subject

Introduction of sodium filled exhaust valves for ROTAX® Engine Type 914 (Series).

1.5) Compliance

NONE - For Information only.

Optional at the time of overhaul or replacement of old style exhaust valves.

1.6) Approval

The technical content of this document is approved under the authority of 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.

1.8) Mass data

change of weight - - - none.

moment of inertia - - - unaffected.

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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

- Illustrated Parts Catalog (IPC)
- Maintenance Manual Heavy (MMH)

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 that 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 parts are interchangeable.

2) Material Information

2.1) Material- cost and availability

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

2.2) Company support information

None.

2.3) Material requirement per engine

parts requirement:

Fig.no.	New p/n	Qty/engine	Description	Old p/n	Application
1	854113	as required	Exhaust valve 32 mm	854111	Valve train

2.4) Material requirement per spare part

None.

2.5) Rework of parts

None.

2.6) Special tooling/lubricants- /adhesives- /sealing compound- /price and availability

None.

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

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

Safety notice



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.

NOTICE

Should removal of a locking device (e.g. lock tabs, self-locking fasteners etc.) be required during disassembly/assembly, always replace with a new one.

ENVIRONMENTAL NOTE

When removing components (e.g. gearbox etc.), some residual oil will be present. Ensure that used oil is properly disposed of.

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

3.1) Installation / Maintenance (Heavy) related information

Maintenance procedures and wear limits for sodium filled exhaust valves (part no. 854113) are identical with the solid exhaust valves (part no. 854111).

Pay attention to the specifications of the latest version of the Maintenance Manual Heavy for ROTAX® engine type 912 and 914 Series, chapter 72-00-00 section Cylinder head.

NOTE: It is NOT mandatory to retrofit engines to the new sodium exhaust valves (part no. 854113). Exhaust valves can be individually replaced with sodium valves, allowing the mixing of the different exhaust valves within an engine. When installing sodium exhaust valves, the engine log book or overhaul record must reflect the execution, including cylinder head position etc.

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3.2) Disposal information



Exhaust valves (part no. 854113) contain sodium (Natrium). Sodium, when in contact with water, can produce a violent and potentially explosive exothermic chemical reaction. Avoid any contact of the sodium inside the valve with water.

- NOTE:
- Do not cut open the exhaust valve.
 - When handling damaged sodium exhaust valves (part no. 854113), protect against contact with water.
 - Dispose of exhaust valves in compliance with your local regulations.
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- Restore aircraft to original operating configuration.
 - Connect negative terminal of aircraft battery.

3.3) Test run

Conduct test run. See chapter 12-20-00 of the latest Maintenance Manual Line for the respective engine type.

3.4) Summary

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



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.

3.5) 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.FLYROTAX.com.

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4) Appendix

The following drawings should convey additional information:

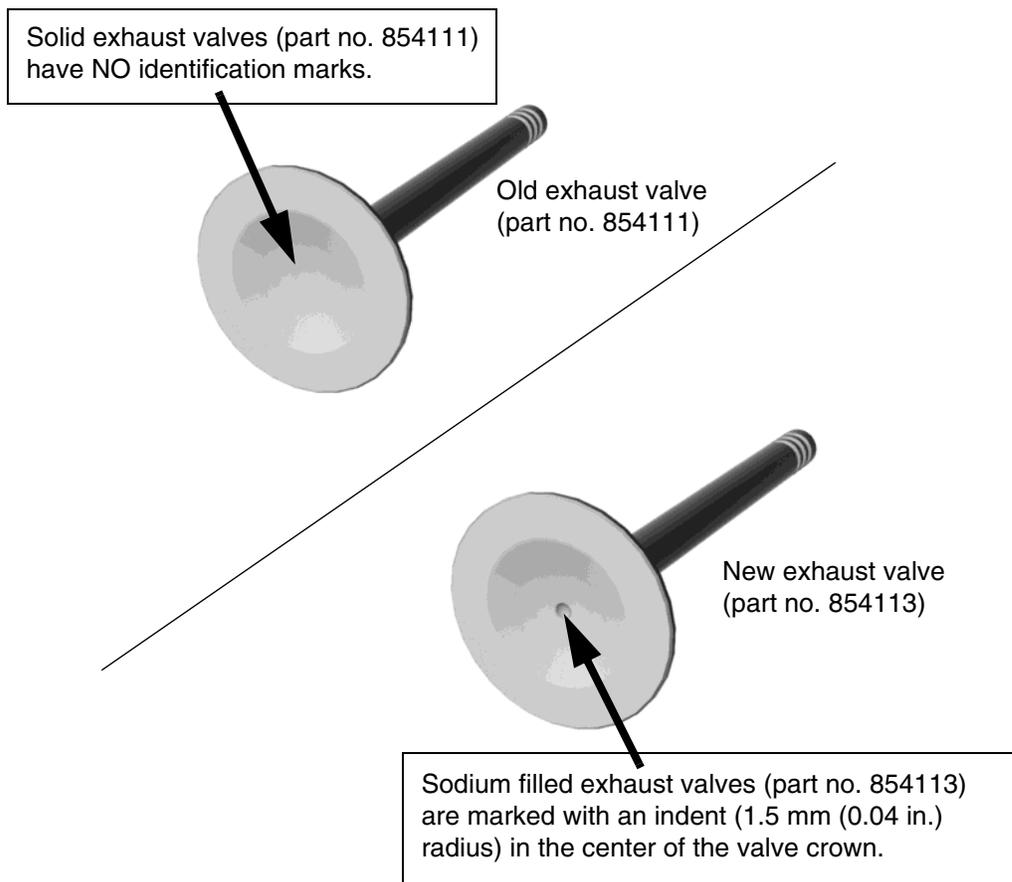


Fig. 1
Exhaust valves (Old and New)

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.

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