ALERT SERVICE BULLETIN

Replacement of the check valve housing on ROTAX® 915 iS A/C24 (Series) and 916 iS A/C24 (Series) Aircraft Engines

ATA System: 78-10-00 Turbocharger

MANDATORY	OBLIGATORY	RECOMMENDED	OPTIONAL
	X		

Description:
Mandatory: unsafe condition, therefore legally binding after publishing an (E)AD as referenced in EASA CM-21.A-J-001.
Obligatory: no unsafe condition, but BRP-Rotax demands to implement measures referred to in this document.
Recommended: no unsafe condition, BRP-Rotax assumes it is advisable to implement measures referred to in this document.
Optional: no unsafe condition, advancement but no need to implement measures referred to in this document.

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 iS A	The serial numbers of the affected engine types are mentioned in section 6.1). NOTE: To search for serial numbers, please use the search function (Ctrl+F) in the PDF.
916 iS A	

1.2) Concurrent ASB/SB/SI and SL

In addition to this Alert Service Bulletin the following documents must be observed:

- 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

Internal quality checks revealed that there is a deviation in the valve housing and the banjo bolt connection. This could lead to oil leakage at the turbocharger.

1.4) Subject

Replacement of the check valve housing on ROTAX® 915 iS A/C24 (Series) and 916 iS A/C24 (Series) Aircraft Engines.

1.5) Compliance

- Before the initial installation in an aircraft and/or spare part
- On undelivered engines, prior to delivery

d07136.fm

- Carry out this exchange before next flight on the engines listed in section 1.1, according to the instructions in section 3, but at the latest after 1 year (from the date of the initial issue of this Alert Service Bulletin)

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

1.6) Approval

This technical documentation is approved under the relevant processes of the effective BRP-Rotax quality management system.

1.7) Labor time

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

Engine type	Work performed	iRMT rating required	Labor credit	
			Engine installed	Engine in stock
915 iS A/C24 (Series) 916 iS A/C24 (Series)	Disassembly, exchange check valve housing, reassembly, oil purge, engine test run and logbook entry as per Chapter 3 (per engine).	iRMT Maintenance Heavy	1.25 hours	0.65 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.

d07136.fm

1.11) References

In addition to this technical information refer to current issue of

- in general Illustrated Parts Catalog (IPC) and in particular:
  Chapter 78-10-00
- in general Operators Manual (OM)
- in general Installation Manual (IM) and in particular:
  Chapter 78-00-00 and 79-00-00
- in general Maintenance Manual Line (MML) and in particular:
  Chapter 12-20-00
- in general Maintenance Manual Heavy (MMH) and in particular:
  Chapter 78-00-00, 78-10-00, 78-20-10, and 79-00-00

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 Center.

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

Fig.no.	New part no.	Qty/ engine	Description	Application
2-1	250646	1	SEALING RING A12X18-CU	Valve housing
2-2	956492	1	VALVE HOUSING	Check valve
2-3	631140	1	O-RING DIN 3771-8X1,5-N, FPM 80	Valve housing
2-4	950141	2	SEALING RING A8X13	Banjo bolt M8
2-5	840733	1	BANJO BOLT M8X1X18,5	Check valve
2-6	230150	3	SEALING RING A10X14	Banjo bolt M10

1 Sealing ring A 12X18
2 Valve housing
3 O-ring 8x1.5
4 Sealing ring A 8X13
5 Banjo bolt M8X1X18,5
6 Sealing ring A 10X14

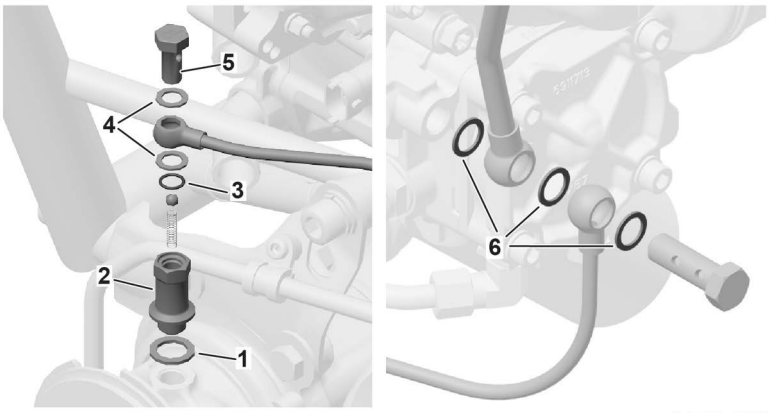

Fig. 1
Parts requirement

d07136.fm

2.4) Material requirement per spare part

None.

2.5) Rework of parts

None.

2.6) 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
XPS® OIL 5W-50 Full Synthetic Aviation Engine Oil	1	298110	Turbocharger oil purging

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 78-10-00.

d07136.fm

3.2) Installation - related information

See current Installation Manual (IM) for the respective engine type, Chapter 78-00-00.

3.3) Operation - related information

See current Operators Manual (OM) for the respective engine type, Chapter 3.

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

3.5.1) Removal - check valve housing

See Fig. 2

⚠WARNING Danger of severe burns and scalds! Allow the engine and exhaust system to cool to ambient temperature before starting work.

Step	Procedure
1	Remove banjo bolt M10X1X34 (1) from the turbo pressure oil line at the oil pump housing.
2	Remove Allen screws M5X12 (2), lock nuts M5 (3) and cable clamps 5/M5 (4).

1 Banjo bolt M10
2 Allen screw M5x12
3 Lock nut M5
4 Cable clamp 5/M5

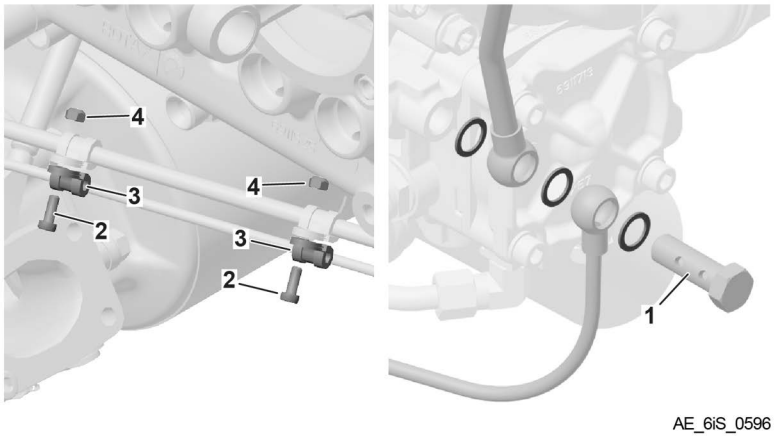

Fig. 2
Check valve housing removal

See Fig. 3

Step	Procedure
3	Remove the turbo pressure oil line (7) with sealing rings (6) by loosening the banjo bolt (8) at the check valve housing (2).
4	Remove the check valve housing (2) with the compression spring (3) and the ball (4) including the O-ring (5) and sealing ring (1). NOTE: Be sure not to lose the ball and the compression spring.

d07136.fm

1 Sealing ring A12
2 Check valve housing
3 Compression spring
4 Ball 5.556
5 O-ring 8X1.5
6 Sealing ring A8
7 Turbo pressure oil line
8 Banjo bolt M8x1x18,5

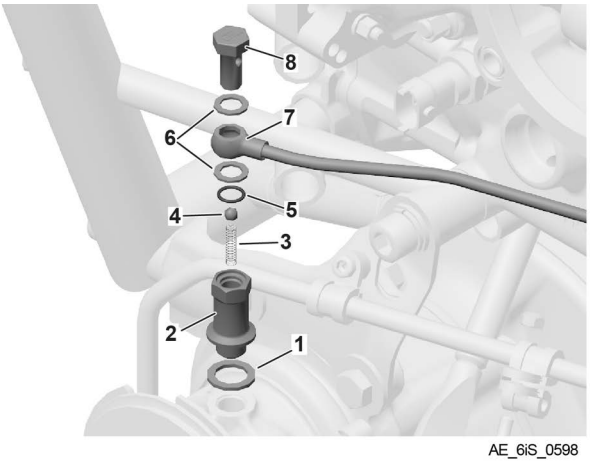

Fig. 3
Check valve housing removal

3.5.2)Installation - check valve housing

See Fig. 4

Step	Procedure
1	Install new check valve housing part no. 956492 (2) with new sealing ring A12 (1). Tightening torque 25 Nm / 18 ft.lb. NOTE: New check valve housing is marked with a green dot (paint marking).
2	Place the compression spring (3), ball 5.556 (4) and new O-ring 8X1.5 (5) into the check valve housing.
3	Attach turbo pressure oil line (7) to the check valve housing using new sealing rings A8 (6) and new banjo bolt part no. 840733 (8), hand tighten only.

1 Sealing ring A12
2 Check valve housing 956492
3 Compression spring
4 Ball 5.556
5 O-ring 8X1.5
6 Sealing ring A8
7 Turbo pressure oil line
8 Banjo bolt M8X1X18,5

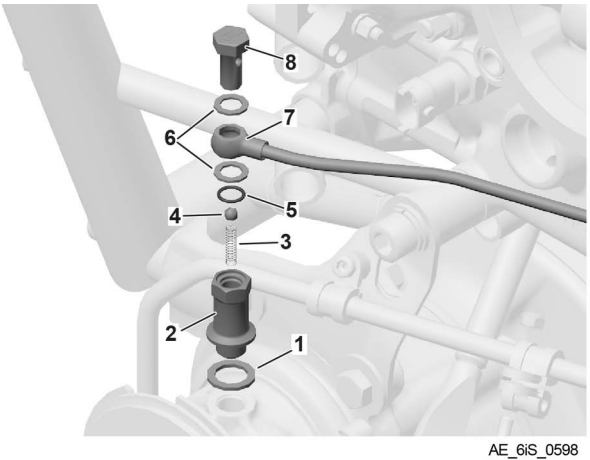

Fig. 4
Check valve housing installation

See Fig. 5

Step	Procedure
4	Attach the turbo pressure oil line at the oil pump housing using banjo bolt M10X1X34 (8) and new sealing rings A10 (9), hand tighten only.
5	Attach cable clamps 5/M5 (10) with Allen screw M5x12 (11) and lock nut M5 (11). Tightening torque 5 Nm / 44 in.lb.
6	Tighten banjo bolt M10 at the oil pump housing (8) to 12 Nm / 106 in.lb. Tighten banjo bolt M8 at the check valve housing.to 17 Nm / 150 in.lb.

8 Banjo bolt M10X1X34
9 Sealing ring A10
10 Allen screw M5x12
11 Cable clamp 5/M5
12 Lock nut M5

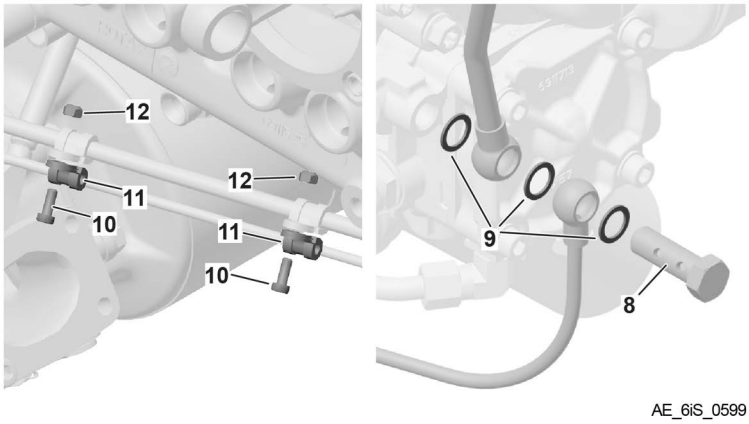

Fig. 5
Turbo pressure oil line install

3.6) Finishing work

- Replenish operating fluids or check filling levels, see current Maintenance Manual Line (MML) for the respective engine type, Chapter 12-00-00.
- Purge the oil system, see current Installation Manual (IM) for the respective engine type, Chapter 79-00-00, section Purging the lubrication system.
- Restore aircraft to original operating configuration.

d07136.fm

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

Perform a leakage check of the whole system, see current Maintenance Manual Line (MML) for the respective engine type.

3.7.1) Engine log entry

Step	Procedure
1	Make an entry in the engine logbook stating the execution of this Alert Service Bulletin and 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..

4) Summary

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

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

I 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.

5) Inquiries

Inquiries regarding this Alert 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.

d07136.fm

6) Appendix

1 Sealing ring A12
2 check Valve housing 956492
3 Compression spring
4 Ball 5.556
5 O-ring 8X1.5
6 Sealing ring A8
7 Turbo pressure oil line
8 Banjo bolt M8X1X18,5

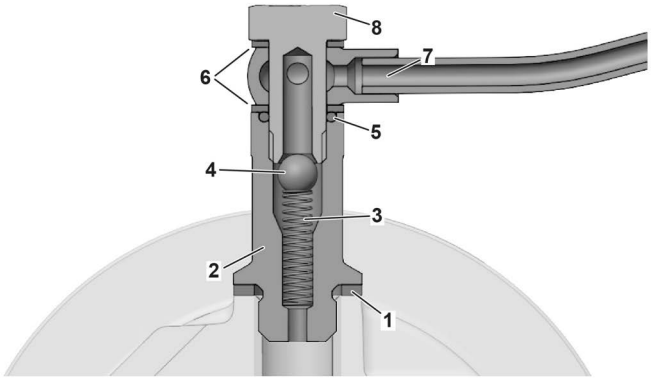

Fig. 6
NEW check valve components - 915 i (Series) and 916 i (Series)

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.

6.1) Affected S/N (see following list)

d07136.fm

Engine type	S/N
915 iS3 A	10010389
915 iS3 A	10010390
915 iS2 A	10010404
915 iS3 A	10010405
915 iS3 A	10010406
915 iS3 A	10010407
915 iS3 A	10010408
915 iS3 A	10010409
915 iS3 A	10010410
915 iS3 A	10010411
915 iS3 A	10010412
915 iS3 A	10010413
915 iS3 A	10010414
916 iS3 A	10010418
916 iS3 A	10010419
916 iS3 A	10010420
916 iS3 A	10010438
916 iS3 A	10010439
916 iS3 A	10010440
916 iS3 A	10010441
916 iS3 A	10010442
916 iS3 A	10010443
916 iS3 A	10010444
916 iS3 A	10010445
916 iS3 A	10010446
916 iS3 A	10010447
916 iS3 A	10010461
916 iS3 A	10010462
916 iS3 A	10010463
916 iS3 A	10010464
916 iS3 A	10010465
916 iS3 A	10010479
916 iS3 A	10010480
915 iS3 C24	10010510
915 iS3 A	10010511
916 iS2 A	10010512
916 iS2 A	10010513
916 iS2 A	10010514
916 iS2 A	10010527
916 iS3 A	10010528
916 iS3 A	10010529
916 iS3 A	10010530
916 iS3 A	10010531
916 iS3 A	10010532
916 iS3 A	10010533

Engine type	S/N
916 iS3 A	10010534
916 iS3 A	10010535
916 iS3 A	10010536
916 iS3 A	10010550
916 iS3 A	10010551
916 iS3 A	10010552
916 iS3 A	10010553
916 iS3 A	10010554
916 iS3 A	10010555
916 iS3 A	10010556
916 iS3 A	10010557
916 iS3 A	10010558
916 iS3 A	10010559
916 iS3 A	10010573
916 iS3 A	10010574
916 iS3 A	10010575
916 iS3 A	10010576
916 iS3 A	10010577
915 iS2 A	10010591
915 iS2 A	10010592
915 iS2 A	10010593
915 iS2 A	10010594
915 iS2 A	10010595
915 iS2 A	10010596
915 iS2 A	10010597
915 iS2 A	10010598
915 iS2 A	10010599
916 iS2 A	10010600
916 iS2 A	10010615
916 iS2 A	10010616
916 iS2 A	10010617
916 iS3 A	10010618
916 iS3 A	10010619
916 iS3 A	10010620
916 iS3 A	10010621
916 iS3 A	10010622
916 iS3 A	10010623
916 iS3 A	10010624
916 iS3 A	10010635
916 iS3 A	10010636
916 iS3 A	10010637
916 iS3 A	10010638
916 iS3 A	10010639