

Oil tank assy. BIG for ROTAX® Aircraft Engines

ATA System: 79-20-00 Oil tank

1) Planning information

“PAC” Service Instruction Documents provide detailed information on ROTAX® Aircraft Engine Parts and Accessories. Depending on the engine type used with referenced parts and accessories may be provided with or without EASA certification or ASTM compliance. Certification / Compliance of referenced Parts and Accessories must in such cases be completed by the aircraft OEM.

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

Refer to the current Illustrated Parts Catalog of the respective engine type.

NOTICE

The oil tank assy. BIG might not be a part of the Engine Type Design. Such a PAC part has been then tested and released by BRP-Rotax, but it might not be certified for the relevant engine type.

In such a case the correct function in conjunction with the entire system is the responsibility of the aircraft manufacturer and must be carried out jointly with the aircraft.

1.2) Concurrent ASB/SB/SI and SL

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

SI-PAC-013, title “Oil system connectors for ROTAX® Aircraft Engines“, current issue.

SI-PAC-014, title “Oil radiator sets for ROTAX® Aircraft Engines“, current issue.

1.3) Reason

In the course of product maintenance and expansion of our spare parts program, oil tank assy. with large capacity (BIG) is available.

1.4) Subject

Oil tank assy. BIG for ROTAX® Aircraft Engines.

1.5) Compliance

NONE - For Information Only.

1.6) Approval

None.

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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.

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

- Operators Manual (OM)
- Illustrated Parts Catalog (IPC)
- Installation Manual (IM)
- Maintenance Manual Line (MML)
- 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 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 parts are interchangeable

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2) Material Information

2.1) Material- cost and availability

Price and availability will be provided on request from 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 engine

Parts requirement:

Fig. no.	Part number	Qty/ engine	Description	Application
1	656222	(1)	Oil tank assy. UNF BIG	Engine lubrication
	consist of: The following parts are not available as single parts for purchase. Bill of material (BOM) only for information on content of parts kit.			
	974650	1	Oil tank cover, without venting big tank	Oil tank
	230150	1	Sealing ring A 10x14	Oil tank
	241408	1	Plug screw M12x12	Oil tank
	641733	1	Plug screw M10X1 DIN 908-A2-70	Oil tank
	250010	1	Gasket ring C12x18	Oil tank
	850491	1	O-ring 145x6	Oil tank
	951817	1	Profile clamp 163	Oil tank
	956154	1	Oil dipstick big	Oil tank
	656861	1	Partition 2	Oil tank
	956205	1	Baffle insert (Screen)	Oil tank

2.4) Material requirement per spare part

None.

2.5) Rework of parts

None.

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

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® - Airworthiness representatives
- 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 Line Maintenance) are entitled to carry out this work.

3.1) Spare Parts - related information



See current Illustrated Parts Catalog for the respective engine type, Chapter 79-20-00.

3.2) Installation - related information

General



Refer to the current version of the Installation Manual (IM) chapter 79-00-00 for details such as oil tank position, oil line specifications and validation of installation.

Installation positions

System limit	Min.	Max.
Angular deviation	- 10 °	+ 10 °
Tank height position in relation to engine (measured from the middle of profile clamp)	- 40 mm (- 1.57 in.)	360 mm (14.17 in.)

WARNING

Non-compliance can result in serious injuries or death!

At higher positioning of the oil tank oil might leak through clearances at bearings back into crankcase during longer periods of engine stop. Oil tank may empty and all oil will be in the crankcase. If fitted too low it might happen that the oil filter will be drained. In that case oil pressure is too low for the first seconds after starting the engine.

- The oil tank must be installed in a low-vibration position and not on the engine directly
- The oil tank cover assy. (oil tank cup) and the plug screw (drain screw) must be easily accessible

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3.2.1) Technical data

The oil tank assy. BIG consists of a taller oil tank that has more volume than the standard version, see Fig. 1 for dimensions. Ensure that the aircraft installation allows the taller oil tank assy.

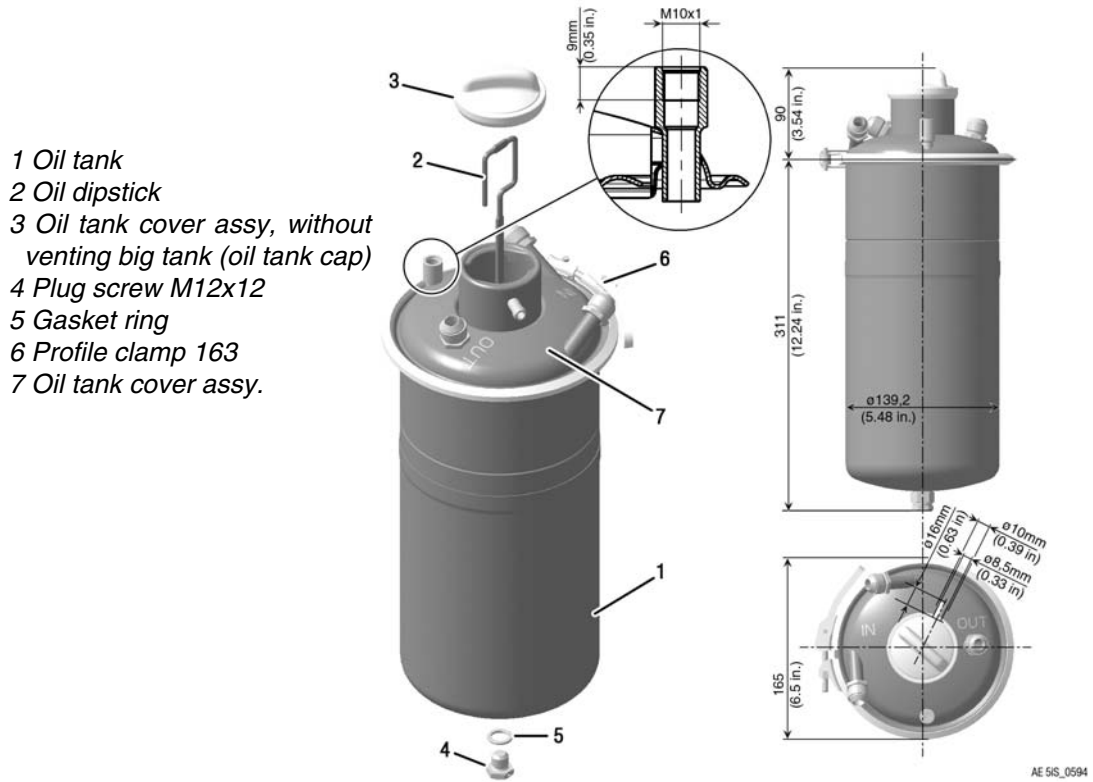


Fig. 1

Oil volume

Oil tank assy. type	Oil volume
“BIG”	4.3 liters (1.14 gal (US))*

* Approximate oil tank volume when filled to “Max” dipstick level.

NOTICE

Oil tank assy. “BIG” (which is taller than oil tank assy. “Standard”) must be used in conjunction with matching baffle insert BIG part no. 956205, and oil tank cover assy. UNF BIG.

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Fitting on the oil tank cover assembly are provided as follows:

- 2 x Oil tank inlet

Marked as “**IN**” on the oil tank cover assy. (2 fittings).

Interface parameter	Value
Thread UNF	3/4-16 UNF (AN-8)
Tightening torque	25 Nm (18.5 ft.lb)

NOTICE

The oil tank cover is marked “**IN**” - Oil tank inlet (oil return from engine crankcase) & “**OUT**” - Oil tank outlet (oil supply through oil cooler to oil pump).

- 1x Oil tank outlet

Marked as “**OUT**” on the oil tank cover assy..

Interface parameter	Value
Thread UNF	7/8-14 UNF (AN-10)
Tightening torque	25 Nm (18.5 ft.lb)

- 1x Oil tank inlet (turbocharger).

Interface parameter	Value
Thread	M10x1
Tightening torque	17 Nm (150 in.lb)

- 1x oil tank vent fitting

Interface parameter	Value
Outside diameter	8 mm (0.31 in.)
Slip-on length	15 mm (0.59 in.)

3.3) Operation - related information



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

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3.4) Maintenance (Line) - related information

Points of inspection	Interval Operating hours						Chapter Reference
	25* h	50 h	100 h	200 h	600 h	1000 h	
*no periodic maintenance requirement after the first 25 hours of operation							
General visual inspection of the oil tank assy. and connections for secure fit, damage and signs of wear.	X		X				12-20-00 Visual inspection
Drain oil from oil tank.	X	X) ¹	X				12-20-00 Oil change, Flushing the oil circuit
Check the oil tank and clean the oil tank if contaminated.			X) ¹	X			12-20-00 Oil change, Cleaning the oil tank
Refill oil tank with approx. 4.3 liters of oil. For oil quality, see Operators Manual latest edition.	X	X) ¹	X				12-20-00 Flushing the oil circuit, Purging the oil system
Cleaning of the baffle insert (screen) in oil tank.		X) ¹	X				

¹⁾ in the case more than 30 % of operation with leaded fuel e.g.: AVGAS 100 LL



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

3.5) Maintenance (Heavy) - related information

Safety information



Follow the general safety instructions during all work on the engine and the assemblies around it.



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

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3.5.1) Oil tank assy. - disassembly

Preparation - Disconnect the battery

ENVIRONMENTAL NOTE

Dispose of used oil according to local environmental regulations.

- Drain the oil
- Remove the oil tank according to the aircraft manufacturer's specifications

NOTICE

Prevent the ingress of debris particles into all disconnected lines and connections. Use appropriate protective coverings.

NOTE: The assemblies, hoses and lines are only to be removed if necessary and only as far as is necessary.

See Fig. 2.

Step	Procedure
1	Remove surrounding assemblies and detach oil hoses.

- 1 Oil tank
- 2 Oil tank cover assy, without venting big tank (oil tank cap)
- 3 Oil dipstick

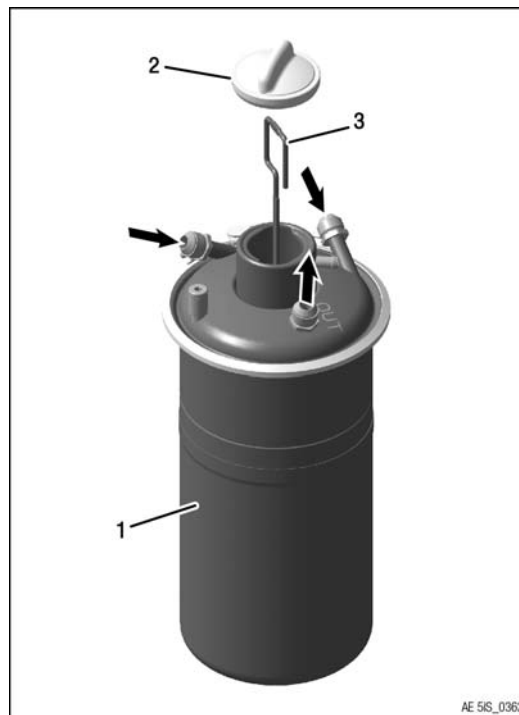


Fig. 2

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See Fig. 3.

Step	Procedure
2	Open profile clamp 163.
3	Remove the oil tank cover assy. and O-ring.

- 1 Oil tank
- 2 Oil tank cover assy.
- 3 O-ring
- 4 Profile clamp 163

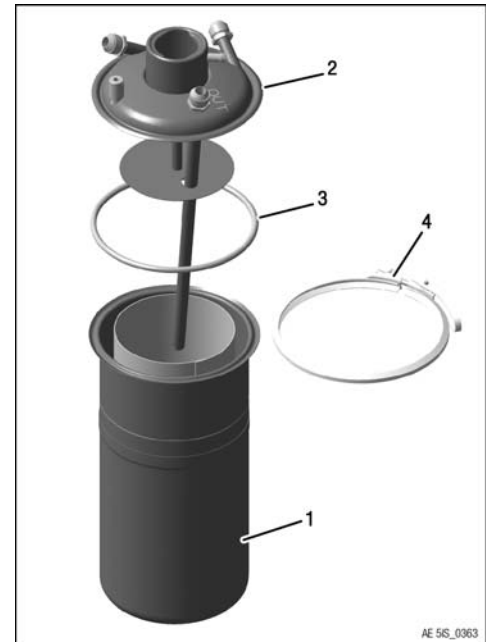


Fig. 3

See Fig. 4.

Step	Procedure
4	Remove the baffle insert (screen) and partition from the oil tank.

- 1 Oil tank
- 2 Baffle insert BIG (screen)
- 3 Partition

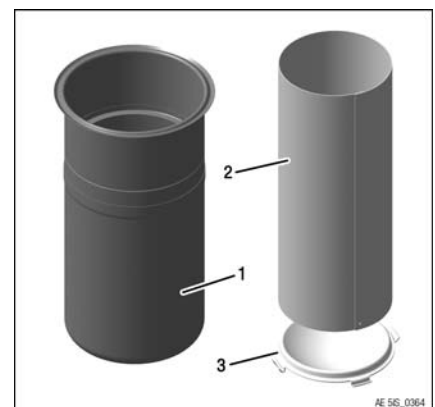


Fig. 4

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3.5.2) Oil tank assy.- single parts inspection

Preparation



Clean all parts carefully. See current Maintenance Manual Line (MML) for the respective engine type, Chapter 05-00-00 section Procedures.



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

See [Fig. 5](#).

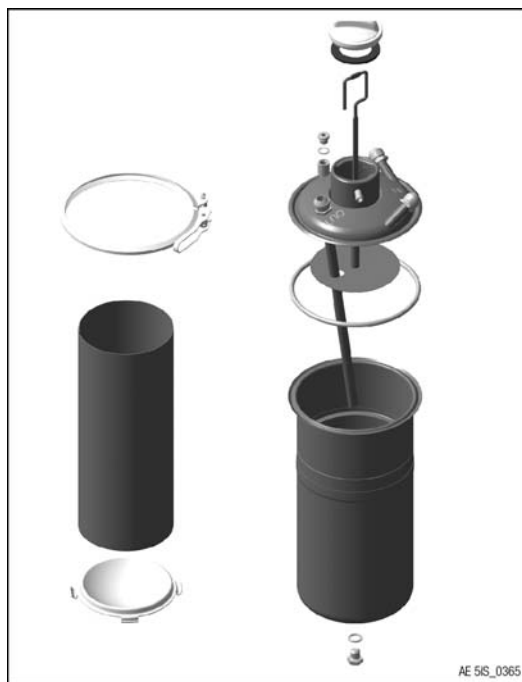


Fig. 5

- Restore aircraft to original operating configuration
- Purge the lubrication system according to the current Maintenance Manual and Service Instruction SI-912 i-004/SI-915 i-003/SI-912-018/SI-914-020, current issue (if the lubrication system was opened or drained during maintenance work)
- Connect negative terminal of aircraft battery

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3.6) Test run

In case of uninstalled engines test run can be skipped as this is covered by the mandatory test run after installation.



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

3.7) Summary

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

| 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.

3.8) Inquiries

Inquiries regarding this Service Instruction - PAC 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.

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.