Additional information on engine preservation for ROTAX® 4-stroke Aircraft Engines

ATA System: 71-00-00 Power plant

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
912 UL	all
912 ULS	all
912 A	all
912 F	all
912 S	all
914 UL	all
914 F	all
912 iS Sport	all
912 iSc Sport	all
915 iS A/C24	all
915 iSc A/C24	all
916 iS A/C24	all
916 iSc A/C24	all
916 iSc B	all

1.2) Concurrent ASB/SB/SI and SL

In addition to this Service Instruction 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.
- SL-912-022 / 914-020 / 912 i-011 / 915 i-003 / 916 i-003, title “Information about storage and storage conditions of ROTAX® genuine spare parts for ROTAX® Aircraft Engines”, current issue.

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1.3) Reason

General information about fuel additive for use during 4 stroke engine storage to prevent problems caused by fuel residues sticking on components after longer periods between engine operations.

1.4) Subject

Additional information on engine preservation for ROTAX® 4-stroke Aircraft Engines.

1.5) Compliance

NONE - For Information Only

- These maintenance instructions shall be considered at any maintenance events, retrofitting, repair and overhaul.

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

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

- In general Illustrated Parts Catalog (IPC)
- In general Operators Manual (OM)
- In general Installation Manual (IM)
- In general Maintenance Manual Line (MML)
- In general Maintenance Manual Heavy (MMH) and in particular: Chapter 71-00-00

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

Not affected

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

None.

2.3) Material requirement per engine

None.

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
STA-BIL FUEL STABILIZER 118 ml.	(AR)	897346	Fuel system

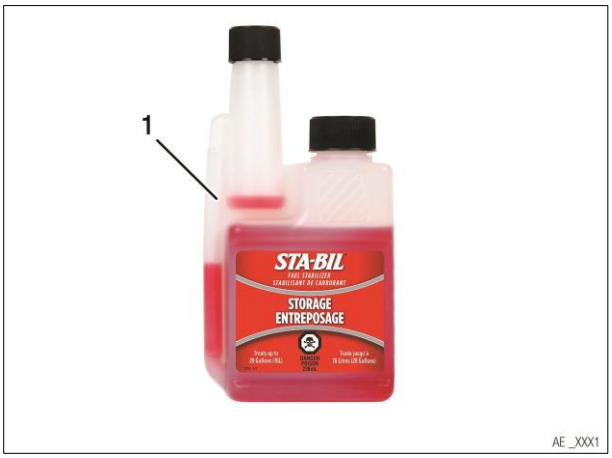

Fig. 1
STA-BIL storage

NOTICE

If using these special tools observe the manufacturers specifications.

NOTICE

STA-BIL storage product is designed to be used with both Ethanol-free and Ethanol-blended fuels. It is not recommended by BRP-Rotax for use with leaded AVGAS fuels

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 must 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

This Manual "Advisory Circular" AC describes maintenance methods, techniques and Procedures.

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

3.1) General information

NOTE: BRP-Rotax has tested and determined that the use of STA-BIL fuel stabilizer with a mixing ratio of up to 100:1 has no measurable effect on engine performance and thermodynamic parameters

NOTE: STA-BIL fuel stabilizer is compatible with fuel system components that are provided in the scope of delivery of all ROTAX® aircraft engines.

STA-BIL fuel stabilizer	
Part no.	897346
Color	Red
Flash point	84°C (185°F)
Intended purpose	to prevent problems caused by fuel residues sticking on components after longer periods between engine operations (up to 24 months).

NOTE: All ROTAX® 4-stroke Aircraft Engines are test-run after assembly using ROTAX® approved Ethanol-free automotive fuel (MOGAS) treated with STA-BIL fuel stabilizer at a ratio of 100:1.

3.2) Suitability of airframe fuel system components

BRP-Rotax urges owners to confirm with their airframe manufacturer that STA-BIL fuel stabilizer is compatible with all aircraft fuel system components.
It is the responsibility of the aircraft manufacturer to test their fuel system components and supply any further information on techniques, procedures and limitations of using STA-BIL fuel stabilizer.

3.3) Illustrated Parts Catalog - related information

See current Illustrated Parts Catalog (IPC) for the respective engine type.

3.4) Installation - related information

See current Installation Manual (IM) for the respective engine type.

3.5) Operation - related information

See current Operators Manual (OM) for the respective engine type, Section 8.1.

3.5.1) Storage and preservation of an engine which has been in operation

In addition to the instructions in section 8.1 of the respective engine's Operators Manual (OM), BRP-Rotax recommends the following to protect fuel system components such as carburetors and fuel injectors against the formation of varnish and / or gum:

Step	Procedure
1	Carefully add the appropriate volume of STA-BIL storage to the fuel tank(s) to achieve a mixture of approximately 100:1.
2	Operate the engine until temperatures have stabilized for a period of 5 min (engine oil temperature between 50 to 70 °C (122 to 160 °F). NOTE: The fuel stabilizer will be distributed throughout the entire fuel system including carburetors or fuel injectors.
3	Switch the engine OFF.
4	Continue with engine preservation as per Operators Manual (OM) for the respective engine type, Section 8.1.

3.5.2) Engine back to operation

If STA-BIL storage was added to the fuel tank(s) during engine storage / preservation, perform the following tasks to return the engine to operation:

Step	Procedure
1	Drain the fuel from the fuel tanks.
2	Drain the fuel in the carburetor bowls and / or gascolator.
3	Add fresh fuel to the fuel tank(s).
4	Continue with engine back to operation tasks as per Operators Manual (OM) Section 8.1.
5	Perform an engine test run, see Maintenance Manual Line (MML) for the respective engine type, Chapter 12-20-00 Section – Test run of engine.

3.6) Maintenance (Line) - related information

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

3.7) Maintenance (Heavy) - related information

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

3.8) 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.

3.9) Summary

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

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.

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.

3.10) 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 https://dealerlocator.flyrotax.com.