

SERVICE LETTER

RUNNING MODIFICATIONS ON CARBURETORS FOR ROTAX® 2-STROKE UL AIRCRAFT ENGINES

SL-2ST-005

Repeating symbols:

Please, pay attention to the following symbols throughout this document emphasizing particular information.

- ▲ **WARNING:** Identifies an instruction, which if not followed, may cause serious injury or even death.
- **CAUTION:** Denotes an instruction which if not followed, may severely damage the engine or could lead to suspension of warranty.
- ◆ **NOTE:** Information useful for better handling.

1) Planning information

1.1) Engines affected:

- all 2-stroke UL aircraft engines

1.2) Concurrent ASB/SB/SI and SL

Further to this Service Letter the following additional Service Instruction must be observed and complied with:

- SI-07-1995 current issue

1.3) Reason

Owing to continuous development and the standardization of carburetors a number of modifications have been introduced.

1.4) Subject

- Running modification on carburetors for ROTAX® 2-stroke UL aircraft engines.

1.5) References

In addition to this technical information refer to the current issue of:

- Operator's Manual (OM)
- Installation Manual (IM)
- Maintenance Manual (MM)
- Illustrated Parts Catalog (IPC)
- all relevant Service Instructions (SI)

1.6) Interchangeability of parts

- All parts are interchangeable

2) Material Information

2.1) Material - cost and availability

Price and availability will be supplied on request by ROTAX® Authorized Distributors or their Service Center.

2.2) Material volume

- ◆ **NOTE:** Introduction of the various modifications into serial production started with the following engine numbers:

- ROTAX 447 UL: from S/N 3,940.675
- ROTAX 503 UL: from S/N 4,795.201
- ROTAX 582 UL: from S/N 4,656.088
- ROTAX 582 UL mod. 99: starting with serial production (S/N 5.305.901)
- ROTAX 618 UL: from S/N 4,380.198

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Carburetor overview:

Fig. item no.	New part no.	Qty. per eng.	Description	Old part no.	application
(13)	887.815	1	Carb. 54/36/2001	590.905	447 UL with intake silencer
(13)	887.810	1	Carb. 54/36/2002	590.900	447 UL without intake silencer
(13)	887.825	1	Carb. 54/36/2003	590.885	503 UL with intake silencer
(13)	887.820	1	Carb. 54/36/2004	590.880	503 UL without intake silencer
(13)	887.827	2	Carb. 54/36/2005	590.887	503 UL with intake silencer
(13)	887.822	2	Carb. 54/36/2006	590.882	503 UL without intake silencer
(13)	887.835	2	Carb. 54/36/2101	590.915	582 UL 90/99 48 kW with intake silencer 582 UL 90/99 40 kW with intake silencer
(13)	887.832	2	Carb. 54/36/2102	n.a.	582 UL 90/99 40 kW without intake silencer
(13)	887.830	2	Carb. 54/36/2103	590.910	582 UL 90/99 48 kW without intake silencer
(13)	887.846	2	Carb. 54/36/2104	590.460	618 UL with intake silencer PTO-side
(13)	887.848	2	Carb. 54/36/2105	590.462	618 UL with intake silencer MAG-side
(13)	887.841	2	Carb. 54/36/2106	590.464	618 UL without intake silencer PTO-side
(13)	887.843	2	Carb. 54/36/2107	590.466	618 UL without intake silencer MAG-side

interchangeable parts per carburetor:

Fig. item no.	New part no.	Qty. per carb.	Description	Old part no.	application
(3)	861.181	2	float	861.180	carburetor
(3)	827.347	1	spring cup	827.345	carburetor
(2)	831.715	1	O-Ring 2,5 x 15	-	carburetor
(10)*	830.890	1	sealing ring 6,2/8,9/1	-	carburetor
(11)*	940.557	1	hose nipple	-	carburetor

* New carburetors are supplied with a depression-connection for high altitude compensation (HAC-kit). Only these new carburetors can be retro-fitted with a HAC-kit.

3) Accomplishment / Instructions

Accomplishment

All the measures must be taken and confirmed by the following persons or facilities:

- ROTAX[®]-Airworthiness representative
- ROTAX[®]-Distributors or their Service Center
- Persons with type-specific training (applicable only for non-certified engines)
- ▲ **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:** Carry out work on a cold engine only.
- ▲ **WARNING:** Should removal of a locking device (e.g. lock tabs, self-locking fasteners, etc.) be required when undergoing disassembly/assembly, always replace with a new one.

3.1) Modifications on the carburetor

The new carburetor generation differs externally very little from the previous models, the modifications are on internal items.

The modifications are as follows:

- Damping of jet needle (1) against vibration by additional O-ring (2) 2,5x1,5 (see fig. 1).
- **NOTE:** This O-ring can be installed on older carburetors only if a new spring cup (3) is fitted, as for the additional O-ring a recess (4) in the spring cup is necessary.
- Additional bore (6) Ø 2 mm in the cast fin for wire securing.

▲ **WARNING:** Secure all intake components or other parts that might come loose.
See current issue of Service Instruction SI-07-1995.

- The suction side carburetor flange (7) is furnished with a thread groove to increase the hold of the intake system (airfilter, intake silencer etc.). See fig. 3.
- The idle air regulating screw (8) is provided with a hexagon head (wrench 13 mm) instead of knurled head. See fig. 3.

This means an improvement for carburetor adjustability, especially on 2-carburetor versions and intake silencer versions.

- All new carburetors have a depression connection for the high altitude kit (HAC kit). See fig. 3.

◆ **NOTE:** Normally this connection is plugged with a screw (9) M6x5. If the HAC kit is to be connected, this screw is replaced by the sealing ring (10) and hose nipple (11).

- The new carburetors are supplied only for choke actuation with Bowden cable (12). If choke with hand lever actuation is needed, the kit has to be ordered additionally.

■ **CAUTION:** Modification, jetting and all other works are only allowed to be carried out by an authorized ROTAX® distributor or their Service Centers in accordance with the last valid Repair Manual of the relevant engine type.

- All new carburetors are fitted with floats (13) of the optimized external shape.

- Connect negative terminal of aircraft battery.

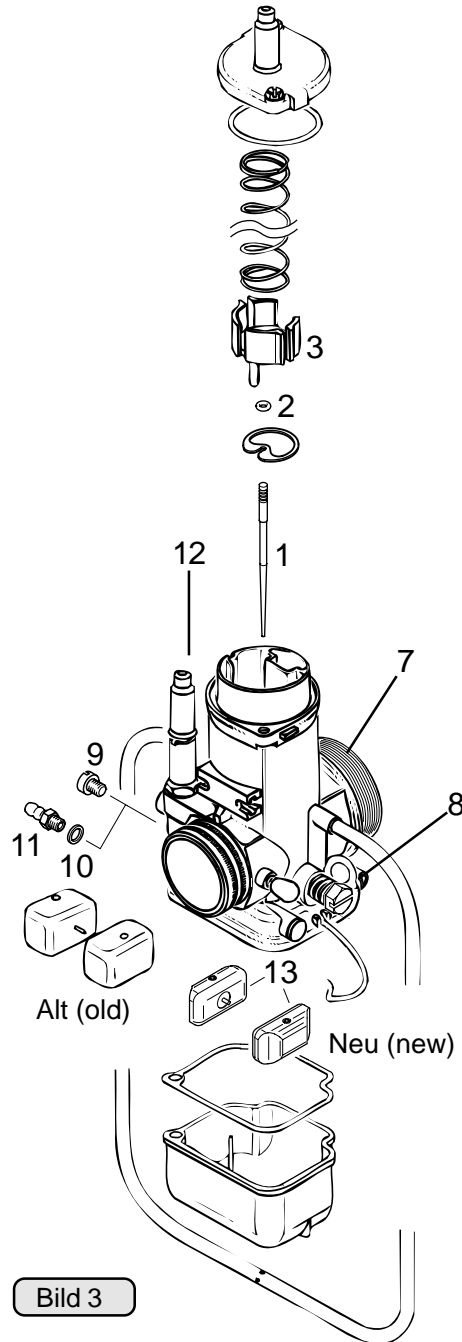
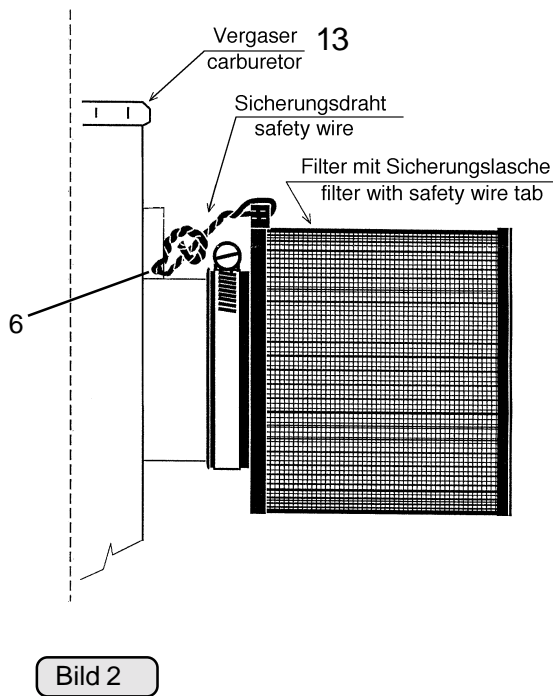
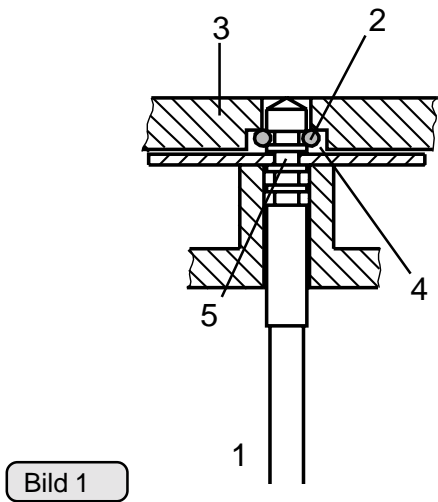
3.2) Summary

▲ **WARNING:** Non-compliance with these instructions could result in engine damage, personal injury or death!

Approval of translation to best knowledge and judgement - in any case the original text in German language and the metric units (SI-system) are authoritative.

4) Appendix

The following drawings should convey additional information:



View: Carburetor / Air Filter
Fig.: 1, 2 and 3

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.

■ CAUTION: Our exploded views are no technical drawings and are fashioned in various scales. We have tried our best to depict true to the original but any deduction of dimensions and other information is not permissible.