ROTAX
AIRCRAFT ENGINES

SERVICE INSTRUCTION

Optimizing of mixture distribution
SI-914-002

Repeating symbols:

Please, pay attention to the following symbols throughout the Service Bulletin emphasizing particular information.

▲ WARNING: Identifies an instruction, which if not followed, may cause serious injury or even death.

■ATTENTION: 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 versions of the engine type:

914 F (Series) from S/N 4,420.002 to S/N 4,420.118

Commencing with engine no. 4.420.119 the carburetor calibration has been verified in serial production in accordance with this Service Instruction.

914 UL (Series) from S/N 4,417.503 to S/N 4,417.717

Commencing with engine no. 4.417.718 the carburetor calibration has been verified in serial production in accordance with this Service Instruction.

pre-series engines 914 all

1.2) Concurrent ASB/SB/SI und SL

further to this service instruction the following additional technical bulletin and service information must be observed:

Technical bulletin no. 914-03 current issue

Service information 7 UL 97 D/E current issue

1.3) Reason

At repair or renewal of the airbox and when encountering mixture distribution problems a matching carburetor calibration will be required to achieve the best possible mixture distribution and consumption values.

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1.4) Subject

Replacement of the main jet 162 (part no. 268.990).

1.5) Compliance

RECOMMENDED

for technical reasons it is recommended to

Change the main jet to 160 on carburetor 1/3 and to main jet 164 on carburetor 2/4, in accordance with the following instructions

a) At replacement of the airbox

b) At mixture distribution problems (rough engine run, vibrations etc.)

1.6) Approval

not required

1.7) Manpower

estimated man-hours:

engine installed in the aircraft - - - manpower, depending on installation and therefore no statement is feasible 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 accomplishment summary

no change

1.11) References

In addition to this technical information refer to

- current issue of the Operator's Manual (OM)
- engine data sheet
- power, torque and fuel consumption curves
- current issue of the Illustrated Parts Catalog (IPC)
- Installation Manual (IM) and Check List
- all relevant Service Information
- all relevant Technical Bulletins
- all relevant Service Bulletins (SB)
- all relevant Service Instructions (SI)
- all relevant Service Letters (SL)
- Maintenance Manual (MM)

1.12) Other publications affected

none

1.13) Interchangeability of parts

All parts are interchangeable

2) Material Information

2.1) Material - cost and availability

cost and availability will be supplied on request by our authorized distributors

2.2) Company support information

none

2.3) Material volume per engine

parts volume:

For the modification/optimizing of the carburetor jetting the following parts are required:

item no.	New part no.	Qty.	Description	Old part no.	remarks
	268.985	1	main jet 160		carb assy. 1/3
	268.993	1	main jet 164		carb assy. 2/4

2.4) Material volume per spare part

none

2.5) Rework of parts

none

2.6) Special tooling - Price and availability

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

parts volume:

For the modification/optimizing of the carburetor jetting the following parts are required:

item no.	New part no.	Qty.	Description	Old part no.	remarks
		as required	safety wire		attachment screw

3) Accomplishment / Instructions

Accomplishment

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

- ROTAX® -Distributors or their Service Center
- Persons with the respective Aviation Authority
- Persons with type-specific training (applicable only for non-certified engines)

▲ WARNING: Proceed with this work only in a non-smoking area and not near open flames. Switch off ignition and secure engine against unintentional operation.

- Secure aircraft against unauthorized operation.
- Disconnect minus pole of aircraft battery.

▲ WARNING: Carry out work on a cold engine only.

3.1) Replacement of the airbox (if required)

— Exchange the airbox assembly as per the current Maintenance Manual 914 F, section 13.1.

3.2) Removal of the main jet 162 (part no. 268.990)

— Remove the main jet 162 from the carburetor 1/3 and 2/4 as per the current Maintenance Manual 914 F, section 13.1.

3.3) Installation of the new main jet in the respective carburetor

— Fitting of the following main jets as per the current Maintenance Manual 914 F, section 13.1:

a) on carburetor 1/3 (part no. 887.091 or 887.092) fit the main jet 160 (part no. 268.985)

b) on the carburetor 2/4 (part no. 887.096 or 887.097) fit the main jet 164 (part no. 268.993)

◆ NOTE: For easy distinguishing of the two carburetors use the throttle potentiometer which is installed only on the carburetor 2/4.

— Reconnect minus pole of aircraft battery

3.4) Carburetor synchronisation

— Synchronize the carburetors as per the current Maintenance Manual 914 F, section 13.1.

3.5) Verification/calibration of the mixture enrichment jet (if airbox was changed)

— Verify or recalibrate if necessary the mixture enrichment jet for correct position and CO-values as per

Technical Bulletin 914-03 or

Service Information 7 UL 97 D/E.

3.6) Test run

Conduct engine test run inclusive leakage test and ignition check, as per the current Maintenance Manual 914 F, section 12.3.22):

3.7) Summary

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