

SERVICE INSTRUCTION

CHECKING AND LUBRICATION OF THE WASTEGATE

SI-914-003

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)
- 914 UL (Series)
- V 914 (pre-series engines)

1.2) Concurrent ASB/SB/SI and SL

none

1.3) Reason

Owing to operation with leaded fuel (AVGAS) lead could build-up at certain conditions on the wastegate shaft, possibly causing sticking of the wastegate.

1.4) Subject

Checking and lubrication of the wastegate unit

1.5) Compliance

INFORMATION

This information is intended to assist the aircraft builder and operator in achieving the proper operating conditions, correct engine installation and consequently optimum performance and reliability.

Perform checking and lubrication of the wastegate unit as per the following instructions.

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1.6) Approval

not required

1.7) Manpower

estimated man-hours:

engine installed in the aircraft - - - manpower time will depend on 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 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
- Maintenance Manual (MM)

1.12) Other publications affected

none

1.13) Interchangeability of parts

not affected

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2) Material Information

2.1) Material - cost and availability

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

2.2) Company support information

none

2.3) Material volume per engine

none

2.4) Material volume per spare part

none

2.5) Rework of parts

none

2.6) Special tooling/lubricant-/adhesives-/sealing compound - Price and availability

- Penetrating oil like MoS₂ spray or equivalent products.
- Price and availability will be supplied on request by our ROTAX® Authorized Distributors or their Service Center.

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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.

3.1) Checking of the wastegate for free movement and verification of the turbo charger

See fig. 1.

— Checking of the wastegate for free movement

- a) Switch on TCU for a short while
- b) Verify complete run of self-test
- c) Verify if at self-test the positions „wastegate open“ and „wastegate close“ will be reached (see fig. 1)

▲ **WARNING:** If the wastegate is not freely moving, proceed as per the following points.

— Inspect the turbo charger.

▲ **WARNING:** In case of damage, a new turbo charger must be installed in accordance with the relevant Maintenance Manual and the damaged one has to be sent to a ROTAX[®] distributor. Only the manufacturer of the turbo charger is permitted to repair the turbo charger.

3.2) Removal of the cable bowden assy.

- Remove the cable bowden assy. as per the current Maintenance Manual.
- Check the wastegate lever for free movement.

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3.3) Re-establishment of free motion of the wastegate

- Spray the wastegate bearing (1) with penetrating oil as for instance MoS₂ or equivalent.
 - Actuate wastegate lever several times at repeated spraying, until free movement is reached.
 - If free motion can not be achieved remove the exhaust system as per the relevant Maintenance Manual and spray the inside of the wastegate bearing (2) with oil.
 - If these actions are without effect, the turbo charger has to be repaired.
- ▲ **WARNING:** In case of damage, a new turbo charger must be installed in accordance with the relevant Maintenance Manual and the damaged one has to be sent to a ROTAX® distributor. Only the manufacturer of the turbo charger is permitted to repair the turbo charger.
- Re-install the exhaust system as per the relevant Maintenance Manual.

3.4) Re-installation of the cable bowden assy.

- Refit the cable bowden assy. in accordance with the relevant Maintenance Manual.

3.5) Adjusting of the cable bowden assy. and checking of the wastegate

- Adjust the cable bowden assy. according to the relevant Maintenance Manual.
- Check the wastegate as per the relevant Maintenance Manual.
- Reconnect the minus pole of the aircraft battery.

3.6) Test run

Start engine. Conduct test run including ignition check and leakage test in accordance with the current Maintenance Manual of the respective engine type.

3.7) Summary

These instructions (section 3) have to be conducted in accordance with the compliance (section 1.5).

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

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4) Appendix

The following drawings should convey additional information:

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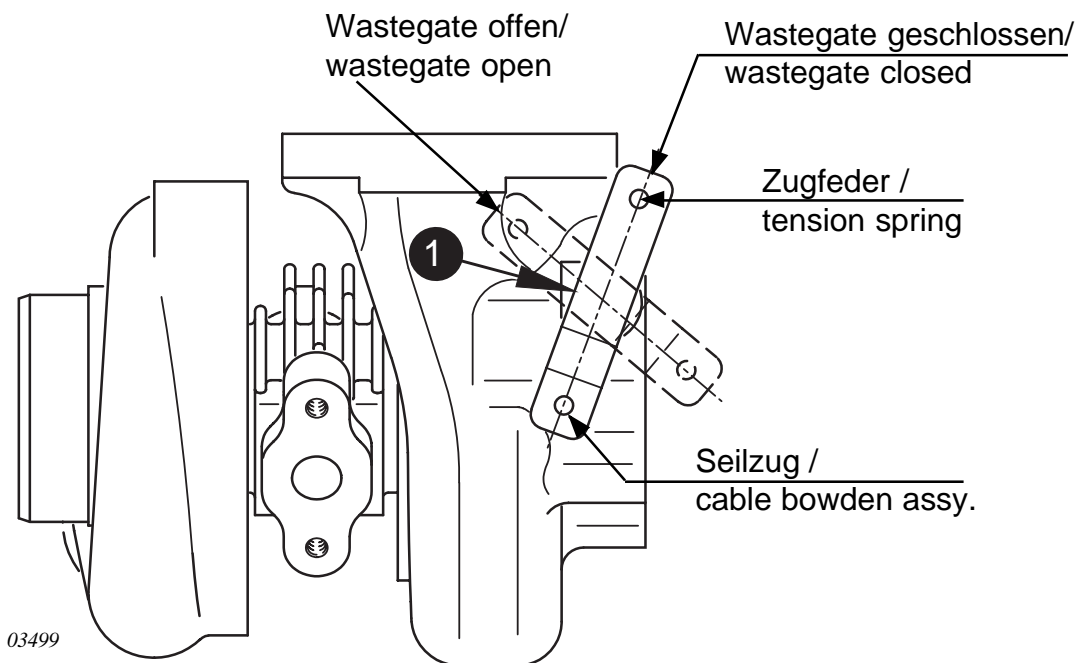
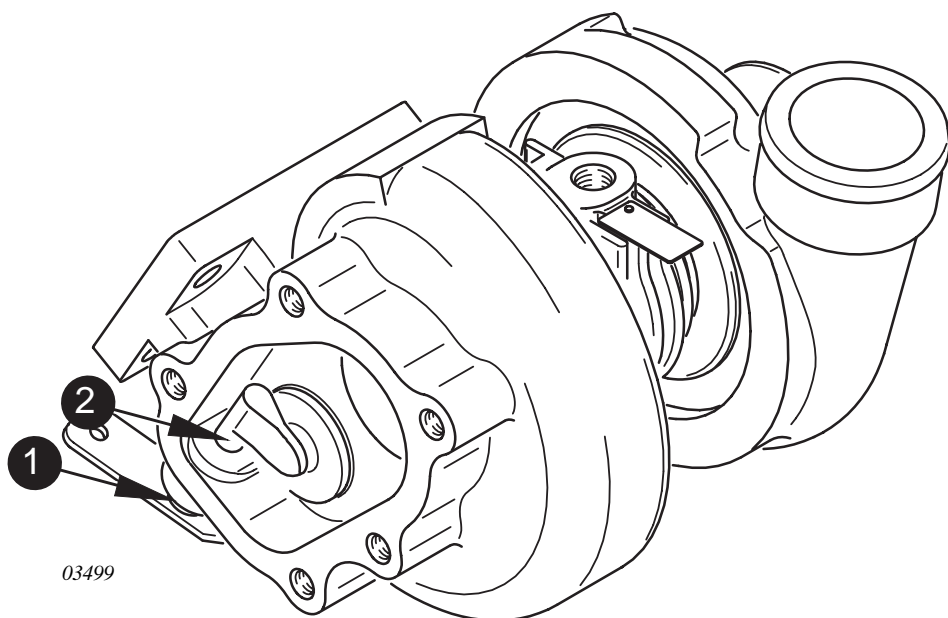
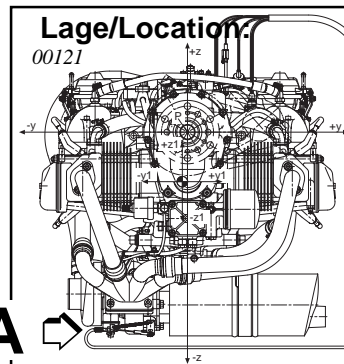


Bild / Fig. 1

View: **Turbo charger**

Fig.: **1**