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WOW! ATFS

Flushing and oil change equipment for automatic transmissions in private cars

OPERATING INSTRUCTIONS

Keep for further use

Formal information regarding the operating instructions

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Manufacturer's address

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1 BASIC DATA

1.1 Identification data for your equipment - Nameplate

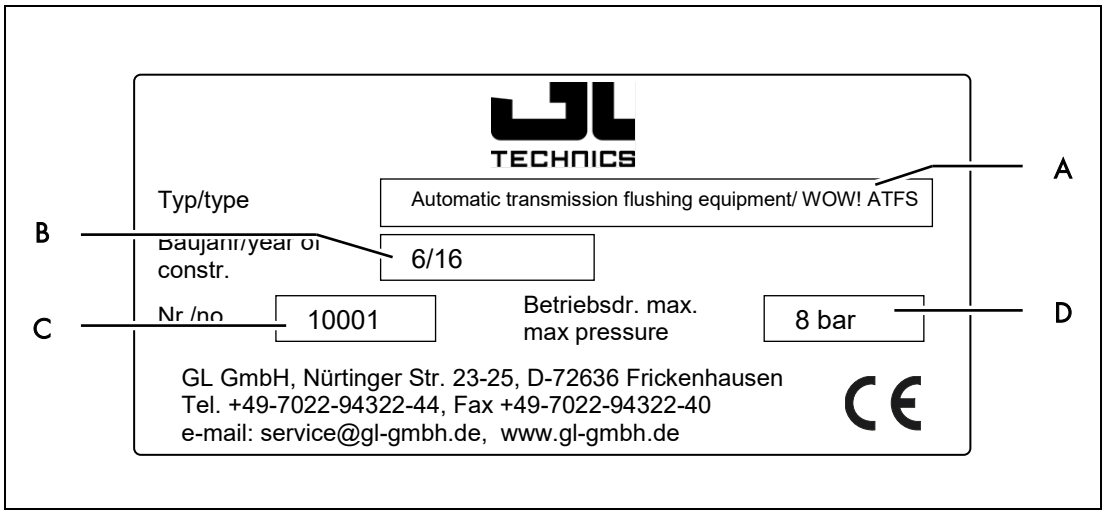


Fig. 1 Example of a nameplate

Item	Name	Item	Name
A	Type statement	C	Serial number
B	Year of construction	D	Maximum pressure

1.2 Technical specification

Feature	Data
Length × depth × height appr.	700 × 600 × 1200 mm
Unladen weight appr.	78 kg
Waste oil tank volume	20 l
Fresh oil tank volume	20 l
Diaphragm pump output	10 l/min
Bypass hose length, appr.	1500 mm
Connection hose length, appr.	2500 mm
Adapter length, appr.	200 mm
Air sound emission - Emission sound pressure level	<70 dB(A)

Compressed air connection

Caution!

Oily compressed air will damage the equipment.

The flushing and oil change equipment for automatic transmissions in private cars must be supplied with oil-free compressed air only

Feature	Data
Connection (type)	Series 21
Minimum pressure	4 bar
Maximum pressure	8 bar
Consumption appr.	130 Nl/min

1.3 Environmental conditions for transport, operation and storage

Feature	Data
Transport temperature	-5°C ... +50°C
Relative humidity during transport	Max. 80% RH
Operating and storage temperature	+10°C ... +50°C
Relative humidity during operation and storage	Max. 80% RH

2 SAFETY

2.1 Obey the notes in the operating instructions

- A basic prerequisite for safe handling and fault-free operation of the equipment is familiarity with the basic safety notes.
- These operating instructions include safety notes and additional information to operate the equipment safely.
- These operating instructions, in particular the safety notes, are to be obeyed by all those who work with the equipment.
- In addition, the applicable rules and regulations for accident prevention for the operating site in question are to be obeyed.

2.2 Operator's obligation

The operator is required to allow only those persons to work on the equipment who

- are familiar with the basic regulations governing safety at work and accident prevention and have been instructed in handling the equipment,
- and who are at least 18 years old,
- have read the safety section and the safety notes in these operating instructions, or have been briefed on their content, understood it and confirmed this by their signature.

2.3 Staff obligation

All those who are tasked with working on the equipment are required before starting work

- to obey the basic regulations governing safety at work and accident prevention,
- read the safety section and the safety notes in these operating instructions or be briefed on their content and confirm by their signature that they have understood the safety section and the safety notes.

GL Werkstattechnik GmbH is available for questions.

2.4 Explanation of the symbols and notes

Symbol	Corresponding signal word	Meaning
	**Danger!**	Imminent danger for the life and health of persons. **Failure to obey these notes will result in severe damage to health, extending to potentially fatal injuries.**
	**Beware!**	Potential danger for the life and health of persons. **Failure to obey these notes may result in severe damage to health, extending to potentially fatal injuries.**
	**Caution!**	Potentially hazardous situation. **Failure to obey these notes may result in minor injuries or damage to property.**
	Tips and information	This information will simplify the handling of the machine for you and assist both with operation, servicing and cleaning, and avoid damage to the machine.

Additional symbols:

	Use safety shoes!		Use safety goggles!
	Use safety gloves!		

2.5 General safety notes

Beware!

ATF oil can lead to problems such as burns or rashes if it comes into contact with your eyes. If ingested, can lead to nausea and diarrhoea. If it is breathed in, irritation is possible. Repeated contact can lead to brittle or cracked skin.

Wear safety goggles to minimise the risk of injury from spray.

Do not eat, drink, smoke or sniffle while working.

Ensure you keep your skin clean and look after it.

Wear suitable safety gloves to minimise the risk of injury from skin contact.

Observe the safety data sheet.

Beware!

Falling objects can lead to foot injuries.

Oil on the floor can lead to a risk of slipping.

Wear safety shoes with slip-resistant soles, to minimise the risk of injury.

Remove oil leaks immediately.

Caution!

The flushing and oil change equipment for automatic transmissions in private cars can be damaged by pumping fluids other than ATF oil.

3 INTRODUCTION

To avoid damage and dangers, you must read these operating instructions attentively and always obey their contents.

3.1 Intended use

The flushing and oil change equipment for automatic transmissions in private cars is to be used for flushing and changing their ATF oil. To do this, adapters (with the customer) are inserted into the oil circuit of an automatic transmission.

Intended use also includes

- obeying all the notes from these operating instructions and
- complying with cleaning and maintenance tasks.

3.2 Reasonably predictable incorrect use

Uses, other than those listed in section 3.1, are forbidden. In particular, this includes pumping other oils or fluids.
GL GmbH Werkstattechnik is not liable for damage caused by incorrect use. The user/operator alone bears the risk for this.

3.3 Safety/Accident prevention

The flushing and oil change equipment for automatic transmissions in private cars must be operated only by trained persons. Unauthorised persons are forbidden to operate it.

3.4 Warranty and liability

In principle, our “General Terms and Conditions of Sales and Deliveries". These will have been available to the operator since signing the contract. Warranty and liability claims for physical injury and damage to property are inadmissible if they are attributable to one or more of the following causes:

- Use for unintended purposes.
- Incorrect assembly, commissioning, operating and maintenance of the equipment.
- Operating the equipment with defective safety devices or incorrectly fitted or unserviceable safety and protective devices.
- Failure to observe the notes in the operating instructions relating to transport, storage, start-up, operation and servicing.
- Independent changes, conversions or manipulation of the equipment.
- Failure to monitor parts that are subject to wear, e.g. hoses.
- Improperly executed repairs.
- Disasters caused by the effect of foreign bodies and *force majeure*.

We cannot assume customer service requirements and the costs for returns that arise through failure to observe the listed points. Accordingly, contact us before a return.

3.5 Obey the operating instructions

- A basic prerequisite for safe handling and fault-free operation of the equipment is familiarity with the basic safety notes.
- The operating instructions are to be obeyed by all those who work on this equipment.
- In addition to the safety notes in the operating instructions, the applicable regulations for the operating site governing safety at work and accident prevention must be obeyed.

3.6 Danger while handling the equipment

Danger!

The flushing and oil change equipment for automatic transmissions in private cars may be operated only for its intended purpose and in a condition that is perfect from the safety engineering angle.

Faults that can impair safety are to be rectified immediately.

The flushing and oil change equipment for automatic transmissions in private cars is designed and built in accordance with the state of the art and the recognised safety engineering rules. However, if it is used incorrectly, risks for the life and limb of the user can arise or property be damaged. Consequently:

- To guarantee stability, the equipment must be used only on a level and load-bearing foundation.
- For safe handling with ATF oil, you must obey the general safety notes on your personal protection equipment and the safety data sheet.
- Before each start-up, check the hoses for cracks and correctly engaged couplings, so that no uncontrolled oil leaks occur.

3.7 Organisational measures

- The operating instructions are to be kept ready to hand at the operating site at all times.
- In addition to the operating instructions, the generally applicable statutory and other legally binding rules on accident prevention and environmental protection are to be obeyed and taught!
- That staff are working in full awareness of safety and the risks, and in accordance with the operating instructions, is to be checked regularly!
- If necessary or demanded by regulations, use personal protective equipment!
- Obey all safety and hazard notes, as well as the brief instructions on the equipment itself!
- Keep all safety and hazard notes on the equipment in a legible state!
- Do not make any changes, attachments and conversions to the flushing and oil change equipment for automatic transmissions in private cars without the manufacturer's approval!
- Spare parts must comply with the technical requirements specified by the manufacturer. This is guaranteed only for original spare parts.
- Observe the maintenance intervals given in the operating instructions!
- If there are operational malfunctions, stop the equipment immediately and secure it against further use! Have malfunctions rectified immediately!

3.8 Servicing, malfunction rectification, disposal

- You must comply with the servicing and cleaning activities prescribed in the operating instructions, including information on replacement parts!
- If screwed unions have been slackened during maintenance work, retighten them.
- Ensure that you dispose of operating materials and consumables, as well as replacement parts, in an environmentally friendly manner!
- Before beginning maintenance work, isolate the equipment from the compressed air supply.

4 EQUIPMENT OVERVIEW

Information!

4 valve levers control the various functions of the equipment. The figure shows the default setting and the main function - "Flush transmission" - with all four red levers pointing upwards.

Information!

The numbering of the various components of the equipment is consistent throughout the whole of the operating instructions and consequently not consistently inside a single diagram.

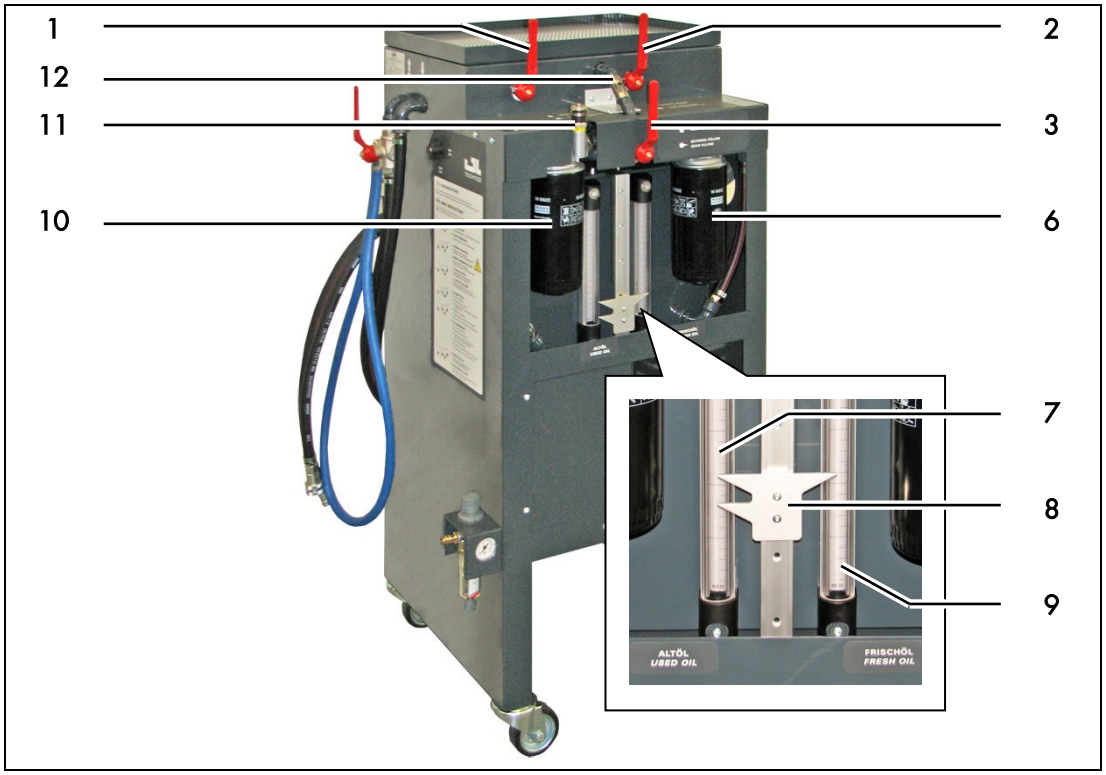


Fig. 2 Operating side overview

Item	Name	Item	Name
1	Valve lever 1 "Suck off transmission oil"	8	adjustable pointer
2	Valve lever 2 "Drain waste oil tank"	9	Fresh oil tank content sightglass
3	Valve lever 3 "Fill transmission"	10	"Waste oil" replacement filter
6	"Fresh oil" replacement filter	19	Servicing indicator
7	Waste oil tank content sightglass	12	Flow sightglass

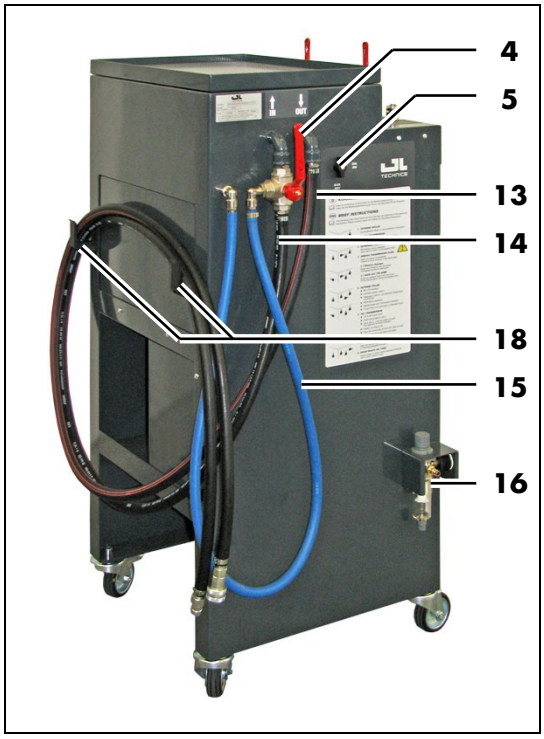


Fig. 3 Connection side overview

Item	Name
4	Valve lever 4 "Suck off sump"
5	On/Off switch
13	OUT connection hose
14	IN connection hose
15	Bypass hose
16	Pressure regulator with manometer and water separator
18	Hose mounting

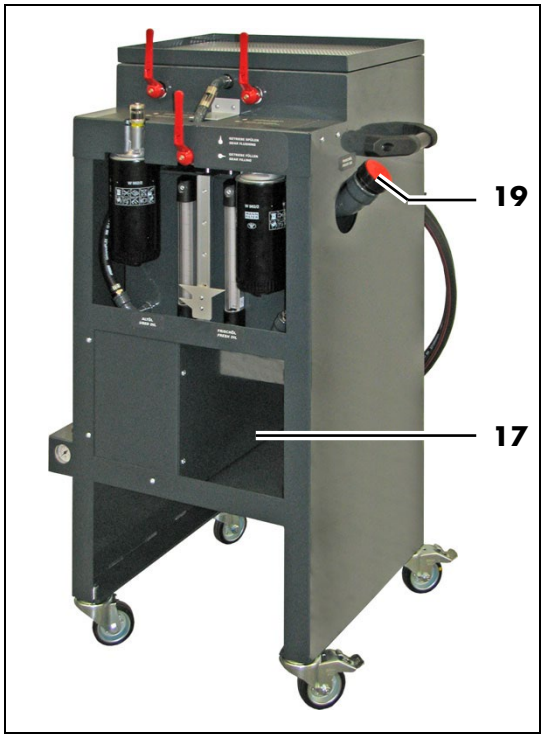


Fig. 4 Tank pipe

Item	Name
17	Storage shelf
19	Fresh oil tank pipe (orange)

5 TRANSPORT

5.1 Safety notes

Caution!

The flushing and oil change equipment for automatic transmissions in private cars can drop during transport and injure you.

Move the equipment only on smooth and level surfaces.

Do not move it over channels, shafts or hoses lying on the floor.

Secure the equipment against rolling away with the parking brakes after movement.

5.2 Carry out the transport

Handling sequence

1 Use your personal protective equipment, i.e. safety shoes.
2 Ensure that the equipment connections are separated and the connection hoses are in the hose mounting.
3 Take the parking brakes off and move the equipment to the operating site. The operating site must have a horizontal surface, as otherwise the tank content sightglasses can give an incorrect indication.
4 Secure the equipment with the parking brakes.

6 START-UP

- **Read and obey the general safety notes covering dangers caused by ATF oil in section 2.5.**

6.1 Delivery

The flushing and oil change equipment for automatic transmissions in private cars is delivered fully assembled. No assembly work is needed.

6.2 Connect the hydraulic hoses and the compressed air

Information!

The flushing and oil change equipment for automatic transmissions in private cars is looped into the automatic transmission oil circuit.

To do this, the oil circuit at the automatic transmission must be opened and connected with adapters. The adapters are **not** included with the equipment ex works.

Handling sequence

1 Use your personal protective equipment, i.e. safety shoes, safety gloves, protective clothing and safety goggles.
2 Observe the prescribed oil temperature.
3 Take an oil sample if necessary.
4 Isolate the oil circuit at the isolation point provided on the automatic transmission.
5 Connect the customer's adapters at the isolation points. **At the same time, observe the oil circuit flow direction.** The incoming oil must flow from the automatic transmission via the In connection hose (with plug) into the flushing and oil change equipment for automatic transmissions for private cars. The return flow to the automatic transmission is achieved via the OUT connection hose (with coupling).
6 Connect the equipment connection hoses with the adapters.
7 Ensure that the connection hoses do not have any kinks or choke points which can obstruct the oil flow.
8 Ensure that the On/Off switch on the equipment is at "Off".
9 Connect the compressed air.

7 CONTROL AND OPERATION

Caution!

While operating the flushing and oil change equipment for automatic transmissions in private cars, obey all the notes from the "Safety" section of these operating instructions and obey the applicable accident prevention regulations in question.

Read and obey the general safety notes covering dangers caused by ATF oil in section 2.5.

- The flushing and oil change equipment for automatic transmissions in private cars must be operated only by trained persons.

No set working position for the operator of the equipment is provided.
With each step of the task, however, settings are made at the valve levers and the sightglasses observed as necessary.

Please contact the manufacturer for further information about the equipment.

7.1 Flushing the transmission

The equipment must be inserted into the automatic transmission oil circuit and connected as in section 6.2.

Handling sequence

1 Apply the parking brake on the private car or, in all-wheel drive vehicles, lock all wheels with the brake clamp.
2 Set all 4 valve levers on the flushing and oil change equipment for automatic transmissions in private cars in the "Flush transmission" position (vertical).
3 Switch the On/Off switch on the equipment to "On".
4 With the car engine running, put it into each drive setting for at least one minute.
5 Now flush the transmission in the "D" drive setting for at least 5 minutes. At the same time, observe the oil circuit temperature.

7.2 Suck off the transmission oil

This stage follows on directly from the preceding "Flush transmission" stage.
The setting of the 4 valve levers starts from the "Flush transmission" default setting. The car engine is running and is in the "D" drive setting. The flushing and oil change equipment for automatic transmissions in private cars is switched on.

Handling sequence

1 Place valve lever 1 into the "Suck off transmission oil" position.
2 Keep an eye on the flow sightglass at all times.
3 Switch the car engine off **immediately** if oil is no longer flowing in the flow sightglass.
4 Switch the On/Off switch on the equipment to "Off".

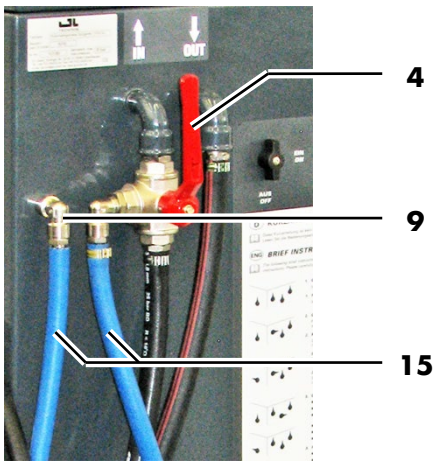


Fig. 5 Bypass hose on the venting nipple

Item	Name
4	Valve lever 4 "Suck off sump"
9	Venting nipple
15	Bypass hose

5 Place valve lever 4 into the "Suck off sump" position.
6 Remove the sump on the automatic transmission.
7 Pull the bypass hose (15) off the venting nipple (9).
8 Switch the On/Off switch on the equipment to "On" and, with the bypass hose, suck off any oil remaining in the automatic transmission sump.
9 Switch the On/Off switch on the equipment to "Off".

7.3 Filling the transmission

The equipment must be inserted into the automatic transmission oil circuit and connected as in section 6.2.
The setting of the 4 valve levers starts from the "Flush transmission" default setting.

Information!

The level in the old and fresh oil can be detected correctly only if the valve lever is set to "Flush transmission". This steadies the oil flow.

Handling sequence

1 Isolate the connection at the tank pipe for fresh oil and unscrew this tank pipe.
2 Insert the adjustable pointer. The lower arrow must indicate the waste oil level.
3 Fill the fresh oil tank with fresh oil up to the height of the pointer.
4 Screw the tank pipe back on and remake the connection.
5 Place valve lever 3 into the "Fill transmission" position.
6 Switch the On/Off switch on the equipment to "On".
7 Fill the automatic transmission at least 80% with fresh oil.
8 Flush the transmission with the engine running in all drive settings as described in section 7.1.
9 Suck as much oil off as will cause the waste oil level to reach the upper arrow of the adjustable pointer. The procedure is described in section 7.2.
10 Flush the transmission with the engine running in all drive settings as described in section 7.1.
11 Turn the car engine off.
12 Place valve lever 3 into the "Fill transmission" position. This pumps the remaining volume of fresh oil from the fresh oil tank into the automatic transmission. Wait until oil is no longer flowing in the flow sightglass.
13 Switch valve lever 4 to "Suck off sump" and the remaining valve levers to "Flush transmission". This feeds volumes of oil from the equipment lines and filters into the automatic transmission.
14 Wait until oil is no longer flowing in the flow sightglass.

Continued on the next page.

15 Switch the On/Off switch on the equipment to “Off” and uncouple the equipment.
16 Remove the customer’s adapters from the automatic transmission and remake the oil circuit at the automatic transmission.
17 Check the oil level as instructed by the manufacturer.

7.4 Drain the waste oil tank

Handling sequence

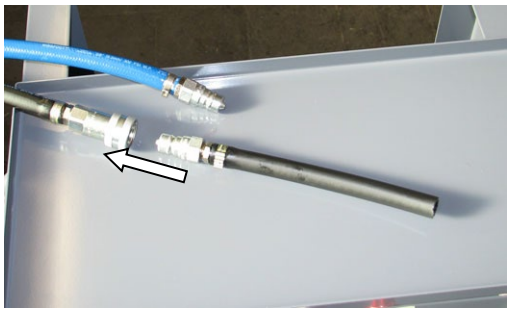


Fig. 6 Coupling the adapter

1 Couple the adapter with the black OUT connection hose.
2 Feed the adapter into the central waste oil disposal unit or the corresponding waste oil tank in the workshop.
3 Set valve lever 2 to the “Drain waste oil tank” position and the remaining valve levers to “Flush transmission”.
4 Switch the On/Off switch on the equipment to “On”.
5 Wait until the waste oil tank on the equipment is drained completely.
6 Switch the On/Off switch on the equipment to “Off”.
7 Uncouple the adapter and place it in the storage container.

8 MALFUNCTIONS/CAUSE/CORRECTION

Beware!

Only activities that you can carry out personally are described. With any other malfunctions, you must send the flushing and oil change equipment for automatic transmissions in private cars to the manufacturer for repair.

Information!

If the equipment does not work perfectly, this may be for various reasons. Please check the possible causes of error as described below. If you are unable to define the cause, contact the manufacturer.

Malfunction	Possible cause	Correction
Oil pump in the equipment is not working	Pressure in the compressed air supply too low.	• Check the pressure at the manometer. • Ensure that the equipment is supplied with the necessary air input pressure and volume. • Ensure that there are no kinks in the connections lines.
Oil flow while flushing the transmission too low	"Waste oil" filter is clogged. Look at the servicing indicator.	• Change the filter, see section 9.

9 SERVICING, CLEANING AND REPAIR

- **Read and obey the general safety notes covering dangers caused by ATF oil in section 2.5.**

9.1 Repair

Beware!

You must not carry out any repairs other than the work described in this section.

- **Send the flushing and oil change equipment for automatic transmissions in private cars to the manufacturer for repair.**

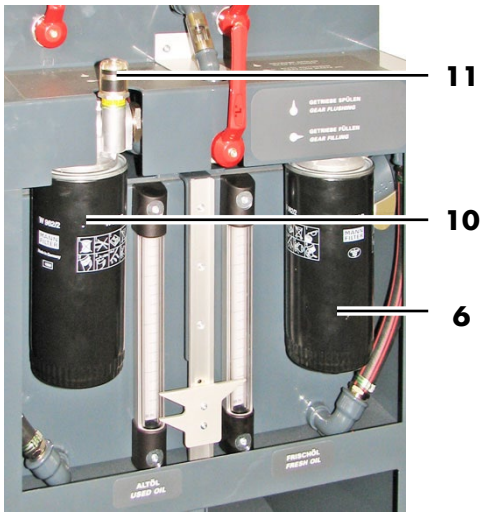
9.2 Safety notes

- Have servicing and repair work carried out only by persons observing these operating instructions.
- Carry out servicing and repair work only if the equipment is isolated from the compressed air supply and the automatic transmission oil circuit.
- If screwed unions have been slackened during maintenance work, retighten them.
- Dispose of waste oil and the filter in accordance with statutory regulations.

9.3 Servicing work - overview

Interval	Servicing work
As required	• Change filter

9.4 Filter replacement description



Item	Name
6	"Fresh oil" replacement filter
10	"Waste oil" replacement filter
11	Servicing indicator

Fig. 7 Replacing the filter

The "waste oil" filter (10) is fitted with a servicing indicator (11). As soon as the red marking is visible, this filter must be replaced.
The "Fresh oil" filter (6) does not have a servicing indicator. A replacement filter here is scarcely ever necessary.

Handling sequence

1 Switch the equipment off and isolate it from all connections.
2 Keep cleaning cloths at hand to catch any leaking oil.
3 Unscrew the filter with a suitable oil filter wrench. At the same time, take care not to damage the adjoining sight glasses.
4 Dispose of the used filter in accordance with statutory regulations.
5 Screw a new filter with seal handtight into the equipment.

10 DISPOSAL

- **Read and obey the general safety notes covering dangers caused by ATF oil in section 2.5.**

10.1 General

Be aware of environmental friendliness, health risks, disposal regulations and your local options for disposal according to the regulations.

Information!

Dispose of waste oil in accordance with the applicable regulations.

10.2 Requirements of the staff at work

Staff instructed to dispose of waste must be adequately qualified and authorised for this task. They must be familiar with the regulations applicable regionally and nationally, e.g. the German Waste Treatment Code.

10.3 Carrying out the disposal

Handling sequence

1 Ensure that the waste oil tank, fresh oil tank and equipment lines are completely empty.
2 Isolate the equipment from the compressed air supply.
3 Remove the hoses from the equipment.
4 Dispose of assemblies contaminated with ATF oil in accordance with the applicable regulations.
5 Separate metals, non-metals, composite materials and consumables by sort and dispose of them in an environmentally friendly manner.

11 EU COMPLIANCE STATEMENT

EU compliance statement s defined in EC Machinery Directive 2006/42, Appendix II, no. 1, para. A

Flushing and oil change equipment for automatic transmissions in private cars

Type: WOW! ATFS

Serial number: (see maker's plate)

is developed, designed and produced in compliance with the abovementioned directive, under the sole responsibility of:
GL GmbH Werkstattechnik
Nürtinger Straße 23-25
D-72636 Frickenhausen

This compliance statement relates only to the state in which the flushing and oil change equipment for automatic transmissions in private cars was marketed. Parts fitted downstream and interventions undertaken downstream by the end user remain uncovered.

The following harmonised standard was applied:

- EN 12100:2010

The authorised person for compiling the technical documents is GL Werkstatt GmbH; see address above.

Frickenhausen, 1.10.2011 Holger Henzler, Dipl.-Wirt.Ing. [equates to MBA] (FH) CEO

12 SPARE PARTS

Name	Order no.
Replacement filter (items 6 and 10)	090.000.713
Servicing indicator (item 11)	090.000.714

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