Hydraulic system

⚠ Caution

Repair work on hydraulic elements shall only performed by appropriately trained personnel or by the after sales service of BOMAG.

Please note

i Note

Cleanliness is of utmost importance. Dirt and other contaminations must strictly be kept out of the system.

- Connections and screw fittings, filler neck covers and their immediate surrounding areas must be cleaned before removal.
- Before loosening hoses, pipe lines etc. relieve all pressure from the system.
- During repair work keep all openings closed with clean plastic plugs and caps.
- Never run pumps, motors and engines without oil or hydraulic oil.
- When cleaning hydraulic components take care not to damage any fine machine surfaces.
- Chemical and rubber soluble cleansing agents may only be used to clean metal parts. Do not let such substances come in contact with rubber parts.
- Rinse of cleaned parts thoroughly, dry them with compressed air and apply anti-corrosion oil immediately. Do not install parts that show traces of corrosion.
- Avoid the formation of rust on fine machined caused by hand sweat.
- Use new O-rings or seal rings for reassembly.
- Use only hydraulic oil as sliding agent when reassembling. Do not use any grease!
- Use only the specified pressure gauges. Risk of damaging the pressure gauges under too high pressure.
- Check the hydraulic oil level before and after the work.
- Fill in only clean oil as specified in the maintenance instructions.
- Check the hydraulic system for leaks, if necessary find and rectify the cause.
- Before taking new hydraulic components into operation fill these with hydraulic oil as specified in the operating and maintenance instructions.
- After changing a hydraulic component thoroughly flush, refill and bleed the complete hydraulic system.
- Perform measurements at operating temperature of the hydraulic oil (approx. 40 ¯C).
- After changing a component perform a high and charge pressure test, if necessary check the speed of the exciter shaft.
- The operating pressure of the exciter shaft to a great extent depends on the base under the vibrating drum. On hard ground place the drums on a suitable base and check the drum pressure. Do not activate the vibration on a hard, concreted base, danger of bearing damage.
- After the completion of all tests perform a test run and then check all connections and fittings for leaks with the engine still stopped and the hydraulic system depressurized.

Before commissioning

- Fill the housings of hydraulic pumps and motors with hydraulic oil. Use only hydraulic oils according to the specification in the maintenance instructions.
- After changing a component flush the hydraulic system as described in the flushing instructions.

Taking into operation

- Bleed the hydraulic circuits.
- Start up the hydraulic system without load.
- Check the hydraulic oil level in the tank, if necessary top up with hydraulic oil as specified in the operating and maintenance instructions or drain oil off into a suitable container.

After taking into operation

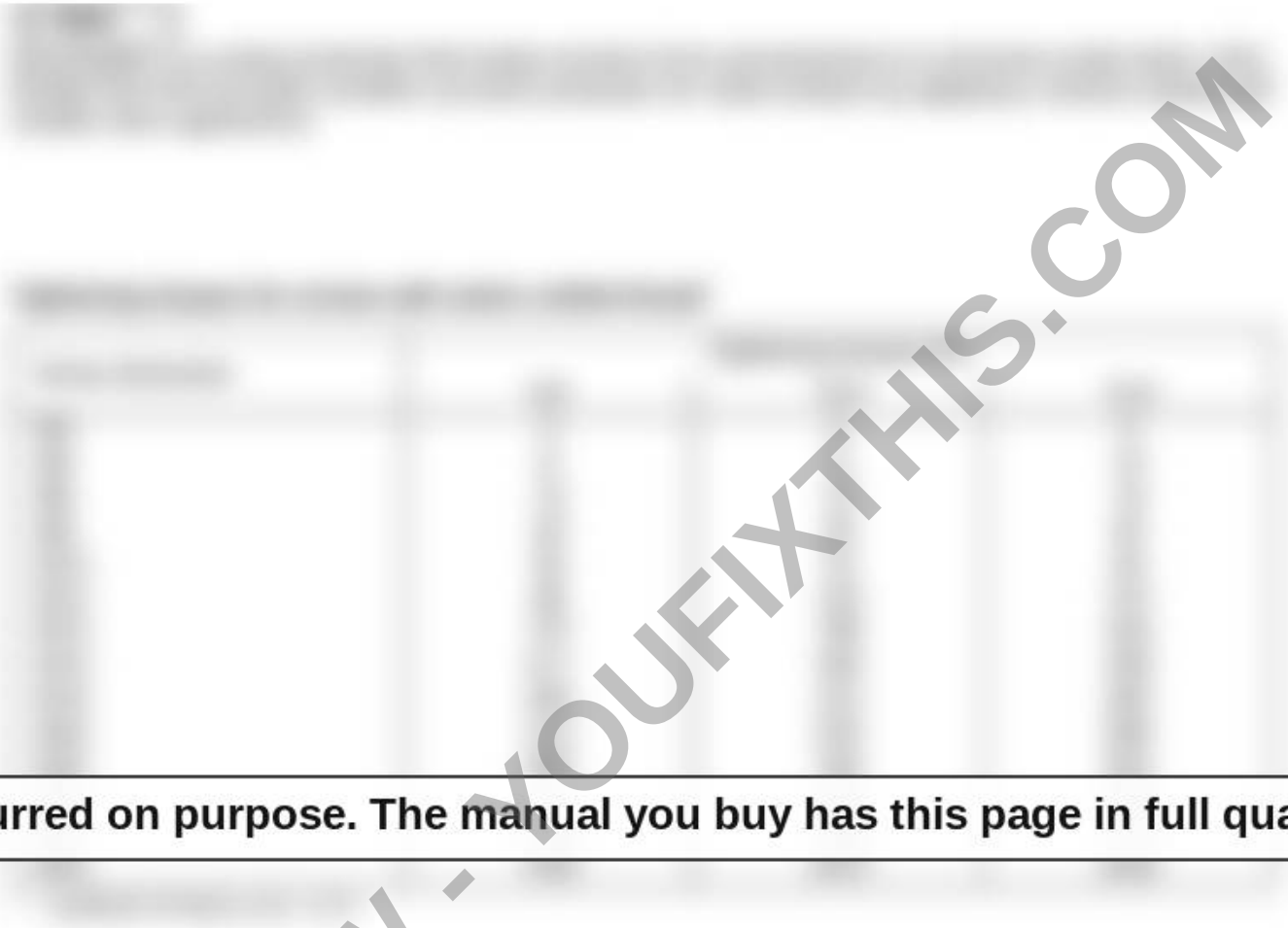
- Check fittings and flanges for leaks.
- After each repair check all adjustment data, system pressures, rotational speeds and nominal values in the hydraulic system, adjust if necessary.
- Do not adjust pressure relief valves and control valves to values above their specified values.

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The values specified in the table apply for screws:

- black oiled
- with surface protection A4C
- with surface protection DACROMET

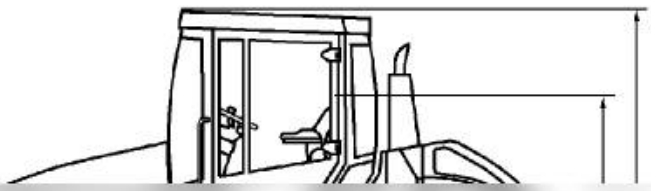


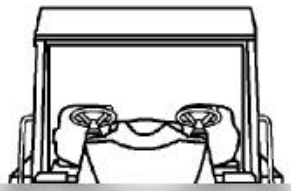


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4.5 Maintenance table

No.	Maintenance work	Comment	every 10 operating hours, daily	every 250 oper. hours	every 500 oper. hours	every 1000 oper. hours	every 2000 oper. hours	every 3000 oper. hours	every 6000 oper. hours	as required
5.6	Check the engine oil level	Dipstick mark	X							
5.7	Check the fuel level	Instrument cluster	X							
5.8	Check the coolant level		X							
5.9	Check the hydraulic oil level	Inspection glass	X							
5.10	Check the water level	Instrument cluster	X							
5.11	Check/adjust the scrapers		X							
5.12	Multi-disc brake, function test		X							
5.13	Drain the air pressure vessel		X							
5.14	Clean the cooling fins on engine and hydraulic oil cooler			X						
5.15	Check the oil level in the drive gear/ wheel hub	see foot note		X						
5.16	Change engine oil and oil filter cartridge*	min. 1x per year see foot note			X					
5.17	Check, clean the water separator	when the "water in fuel" warning light lights up			X					
5.18	Check the anti-freeze concentration and the condition of the coolant				X					
5.19	Drain the fuel tank sludge				X					
5.20	Battery service, checking the main battery switch	pole grease			X					
5.21	Check, replace the refrigerant compressor V-belt				X					
5.22	Service the air conditioning				X					
5.23	Clean the circulation air filter for the heating				X					
5.24	Check hydraulic, pneumatic hoses and electric cables	min. 1x per year			X					
5.25	Change the fuel filter, bleed the fuel system					X				

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20.3 Wiring diagram 538 100 02

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20.1 Hydraulic diagram 538 110 00

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Error code SERDIA	Component / Location	Description (Error location)	Defined for DCR	Defined for DMV	ID	Blink code	SPN	FMI	Self-curing[1]
11	Air filter condition	Pressure loss above target range with system reaction	●	●	AirFltSysReac	1-3-6	107	0, 11	●
12	Accelerator pedal	Cable break or short circuit, signal implausible compared to signal of idle sensor (analog pedal)	●	●	APP1	2-2-6	91	2, 3, 4, 11	
14	Accelerator pedal	Cable break or short circuit, bad PWM signal range or frequency (digital pedal)	●	●	APPPwm	2-2-2	91	2, 8	●
15	Accelerator pedal	Bad PWM pulse-width repetition rate (digital pedal)	●	●	APPPwmPer	2-2-2	91	8, 11	●
16	ECU internal error	Ambient pressure sensor defective	●	●	APSCD	2-9-2	108	2, 3, 4, 11	●
17	Air heater relay	Cable break or short circuit	●	●	ArHt1	2-6-3	729	3, 4, 5, 11	●
18	Air heater magnetic valve	Cable break or short circuit	●	●	ArHt2	2-6-3	730	3, 4, 5, 11	●
19	Air heater relay	Cable break or wrong connection	●	●	ArHtCD_NoLd	2-6-3	676	4, 11	
20	Air heater relay	Inoperable during shut-off	●	●	ArHtCD_RlyErr	2-6-3	676	2, 5, 11	
22	Battery	Voltage below target range	●	●	BattCD	3-1-8	168	0, 1, 11	●
23	Battery voltage	Above target range with system reaction	●	●	BattCDSysReac	3-1-8	168	2, 11	●
24	Begin of injection period	Outside target range or missing (cylinder 1)		●	BIPCyl1	5-3-1	523561	2	●
25	Begin of injection period	Outside target range or missing (cylinder 2)		●	BIPCyl2	5-3-2	523562	2	●
26	Begin of injection period	Outside target range or missing (cylinder 3)		●	BIPCyl3	5-3-3	523563	2	●
27	Begin of injection period	Outside target range or missing (cylinder 4)		●	BIPCyl4	5-3-4	523564	2	●
28	Begin of injection period	Outside target range or missing (cylinder 5)		●	BIPCyl5	5-3-5	523565	2	●
29	Begin of injection period	Outside target range or missing (cylinder 6)		●	BIPCyl6	5-3-6	523566	2	●
30	Begin of injection period	Outside target range or missing (cylinder 7)		●	BIPCyl7	5-3-7	523567	2	●
31	Begin of injection period	Outside target range or missing (cylinder 8)		●	BIPCyl8	5-3-8	523568	2	●
32	Charge air pressure sensor	Cable break or short circuit	●	●	BPSCD	2-2-3	102	2, 3, 4	●
33	Charge air pressure	Outside target range with system reaction	●	●	BPSCDSysReac	2-2-3	102	2, 11	●
37	Coolant level	Outside target range with system reaction	●	●	CLSCDSysReac	2-3-5	111	1, 11	
38	Single cylinder	Misfire detected (cylinder 1)	●	●	CmbChbMisfire1	2-4-1	1323	11, 12	
39	Single cylinder	Misfire detected (cylinder 2)	●	●	CmbChbMisfire2	2-4-1	1324	11, 12	
40	Single cylinder	Misfire detected (cylinder 3)	●	●	CmbChbMisfire3	2-4-1	1325	11, 12	
41	Single cylinder	Misfire detected (cylinder 4)	●	●	CmbChbMisfire4	2-4-1	1326	11, 12	
42	Single cylinder	Misfire detected (cylinder 5)	●	●	CmbChbMisfire5	2-4-1	1327	11, 12	
43	Single cylinder	Misfire detected (cylinder 6)	●	●	CmbChbMisfire6	2-4-1	1328	11, 12	
44	Single cylinder	Misfire detected (cylinder 7)		●	CmbChbMisfire7	2-4-1	1450	11, 12	
45	Single cylinder	Misfire detected (cylinder 8)		●	CmbChbMisfire8	2-4-1	1451	11, 12	
46	Multiple cylinders	Misfire detected	●	●	CmbChbMisfireMul	2-4-1	1322	11, 12	
47	Misfire	Misfire detected with system reaction	●		CmbChbSysReac	2-4-1	1346	0, 11	

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Important notes

These safety regulations must be read and applied by every person involved in the repair /maintenance of this machine. The applicable accident prevention instructions and the safety regulations in the operating and maintenance instructions must be additionally observed.

Repair work shall only performed by appropriately trained personnel or by the after sales service of BOMAG.

Workshop equipment and facilities as well as the use and waste disposal of fuels and lubricants, cleaning agents and solvent as well as gases and chemicals are subject to legal regulations, which are intended to provide a minimum on safety. It is obviously your own responsibility to know and adhere to these regulations.

This manual contains headers like "Note", "Attention", "Danger" and "Environment", which must be strictly complied with in order to inform about and avoid dangers to persons, property and the environment.

i Note

Paragraphs marked like this contain technical information for the optimal economical use of the machine.

⚠ Caution

Paragraphs marked like this highlight possible dangers for machines or parts of the machine.

⚠ Danger

Paragraphs marked like this highlight possible dangers for persons.

Environment

Paragraphs marked like this point out practices for safe and environmental disposal of fuels and lubricants as well as replacement parts.

Observe the regulations for the protection of the environment.

General

- For repair and maintenance work move the machine on a firm base and shut it down.
- Always secure the machine against unintended rolling.
- Secure the engine reliably against unintentional starting.
- Mark a defective machine and a machine under repair by attaching a clearly visible warning label to the dashboard.
- Block the articulated joint with the articulation lock.
- Use protective clothes like hard hat, safety boots and gloves.
- Keep unauthorized persons away from the machine during repair work.
- Tools, lifting gear, lifting tackle, supports and other auxiliary equipment must be fully functional and in safe condition.
- Use only safe and approved lifting gear of sufficient load bearing capacity to remove and install parts or components from and to the machine.
- Do not use easily inflammable or harmful substances, such as gasoline or paint thinners for cleaning.
- Do not smoke or use open fire and avoid sparks when cleaning or repairing a tank.
- When performing welding work strictly comply with the respective welding instructions.

Transport work with cranes and lifting tackle

i Note

Cranes must only be operated by instructed persons who had been trained in handling cranes.

- Follow the operating instructions of the manufacturer when working with cranes.
- Follow the operating instructions of the operator when working with cranes.
- Always comply with the applicable accident prevention instructions when working with cranes and lifting tackle.

Precautions and codes of conduct for welding work

Welding work must only be carried out by properly trained personnel.

⚠ Danger

Electric shock!

Sparks, fire hazard, burning of skin!

Infrared or ultraviolet radiation (arc), flashing of eyes!

Health hazard caused by welding work on highly alloyed work pieces, metal coatings, paint coatings, plastic coatings, oil containing dirt deposits, grease or solvent residues, etc.!

- Check welding equipment and cables for damage before use (also the validity of inspection stickers).
- Ensure good conductivity between ground cable and workpiece, avoid joints and bearings.

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No.	Maintenance work	Comment	every 10 operating hours, daily	every 250 oper. hours	every 500 oper. hours	every 1000 oper. hours	every 2000 oper. hours	every 3000 oper. hours	every 6000 oper. hours	as required
5.45	Change the fresh air filter in the cabin									X
5.46	Change the tires									X
5.47	Check bolted connections for tight fit									X
5.48	Temporary taking out of service									X

* oil change after 250 and 500 operating hours, then every 500 operating hours
** Running-in instructions: oil change after 250, 500 and 1000 operating hours, then every 1000 operating hours
*** Also after repairs in the hydraulic system.

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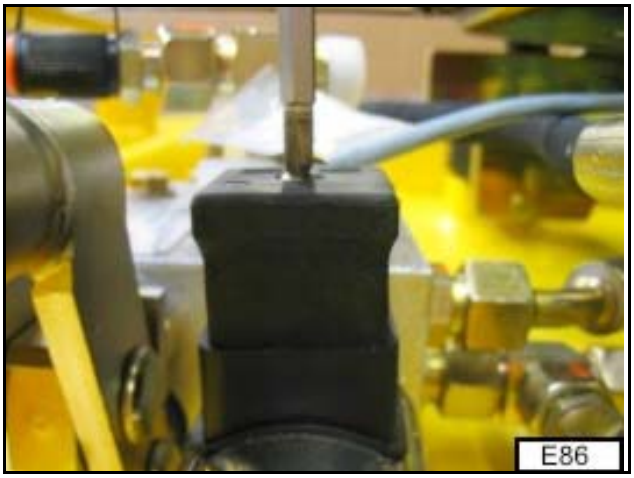


Fig. 17

- Fasten the screw with a suitable screwdriver.



Fig. 18

- Press the plug firmly on again.

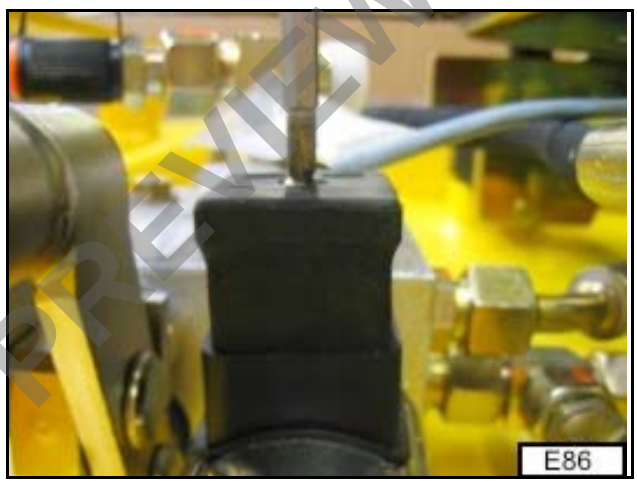


Fig. 19

- Retighten the screw.



Fig. 20

⚠ Caution

There should be no gap between plug and solenoid coil!



Fig. 21 Correctly installed plug without gap

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3. Description of function

The following sequences were realized in the UPM2 Software for realization of sprinkling cycles.

3.1. Total overview of sprinkling cycle

In order to realize a switching interval for the emulsion sprinkling system, the input (PIN 13) and the output (PIN 6), as well as the relay of the module are used. The emulsion sprinkling system is activated by the ground signal on input PIN13. If an additional ground signal (bridge) is applied to input (PIN 2), the interval time is changed to the following values:

	Impulse time	Pause time
With ground bridge on PIN 2	6 seconds	6 seconds
Without ground bridge on PIN 2	6 seconds	12 seconds

As long as the emulsion sprinkling system is ACTIVE (ground signal on PIN 13), output PIN 6 (LED 5) and relay (LED 6) are cyclically set in intervals for 6 (6) seconds to ON or 12 (6) seconds to OFF.
During an OFF-pause the emulsion sprinkling system can be triggered by switching input PIN13 short-term to Active LOW, the ON-phase at the output will start immediately from the beginning for 6 (6) seconds. Triggering is not possible during an ON-phase.
If the emulsion sprinkling system is switched off during an ON-phase, the ON-phase will continue to the end (6 seconds). An ON-phase cannot be interrupted (or only by switching off the module).

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p = Operating hour meter.
Counts the operating hours while the generator is rotating.

RPM-meter*

Terminal "W" on the generator delivers a pulsating direct voltage, which can be utilized to determine the rotary speed of the engine.

11.17System faults indicated by flashing code

Engine protection function of the electric engine controller EMR3

Depending on the design of the monitoring function the EMR3in certain fault situations is able to protect the engine against damages by simply monitoring the compliance with important limit values during operation and by checking the correct function of system components. Depending on the severity of the fault the engine may continue its operation with certain restrictions, with the fault warning light permanently on, or the fault warning light will be flashing to indicate a severe system fault. In this case the engine should be shut down, as soon as this is possible without risk.

Depending on the engine configuration the flashing fault lamp can have the following meaning:

- Shut-down request for the operator
- Attention: Loss of warranty if disregarded!
- Automatic engine shut-down after a short pre-warning time, possibly in connection with a restarting prevention.
- Forced engine operation at low idle speed to cool the engine, possible in connection with automatic shut-down.
- Start prevention.

Indication of system fault

The diagnostic button provides the possibility to read out existing faults in form of flashing codes. The diagnostics button and the fault lamp are located on the operatorsstandofthemachine.'

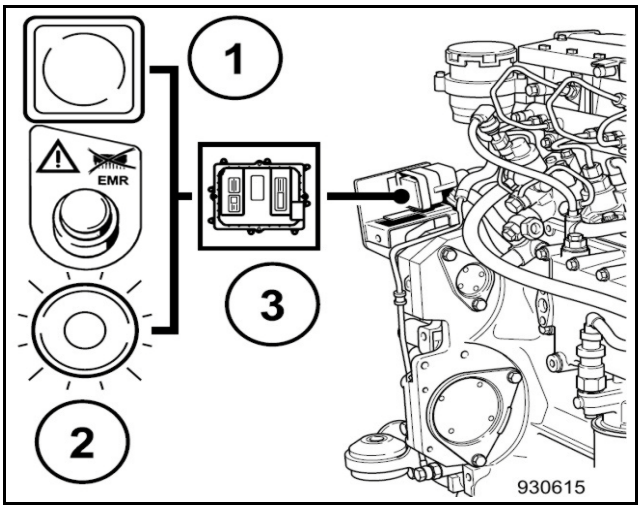


Fig. 2

1 Diagnostics button, S118

2 Fault lamp, H04

3 EMR3 control unit

* Option

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DTC-List
Diagnosis- and Errorcodes

referrenced ECU-Software
P490_: 220, 310, 501
P491_: 220, 310, 400, 501
P492_: 213
P513_: 214, 300

154 / 523351 / InjVlvBnk1B

Error description INJECTOR BANK A
Injector cylinder bank 1: the current drain measured by ECU is underneath the target range

Error codes
DEUTZ-Errorcode: 154
BlinkCode (short-long-short): 1 - 5 - 1
SPN: 523351
possible FMI:
13: out of calibrated range
13: out of calibrated range
5: current to low or broken wire
13: out of calibrated range

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break (cylinder bank 1), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, cylinder shut off
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

155 / 523352 / InjVlvBnk2A

Error description INJECTOR BANK B
Injector cylinder bank 2: the current drain measured by ECU is above the target range

Error codes
DEUTZ-Errorcode: 155
BlinkCode (short-long-short): 1 - 5 - 2
SPN: 523352
possible FMI:
3: Voltage to high or short circuit to +Ubatt
4: Voltage to low or short circuit to -Ubatt
13: out of calibrated range
12. Errormode not identifiable

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Short circuit (cylinder bank 2), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, cylinder shut off
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

156 / 523353 / InjVlvBnk2B

Error description INJECTOR BANK B
Injector cylinder bank 2: the current drain measured by ECU is underneath the target range

Error codes
DEUTZ-Errorcode: 156
BlinkCode (short-long-short): 1 - 5 - 2
SPN: 523353
possible FMI:
13: out of calibrated range
13: out of calibrated range
5: current to low or broken wire
13: out of calibrated range

Errordetection
Errorlamp shows permanent light. Entry in errormemory.

Possible reason for error
Cable break (cylinder bank 2), injector defective, connection cable demaged

Take actions for error repair
Check cabling, check injectors and if necessary replace them, check connection cable and if necessary repair or replace it

other error properties
System reaction: Warning, cylinder shut off
Behaviour error lamp: permanent light
Selfhealing: yes
Signal Priority: 4
Measurement @ errortime: actual value

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Magnetic switch

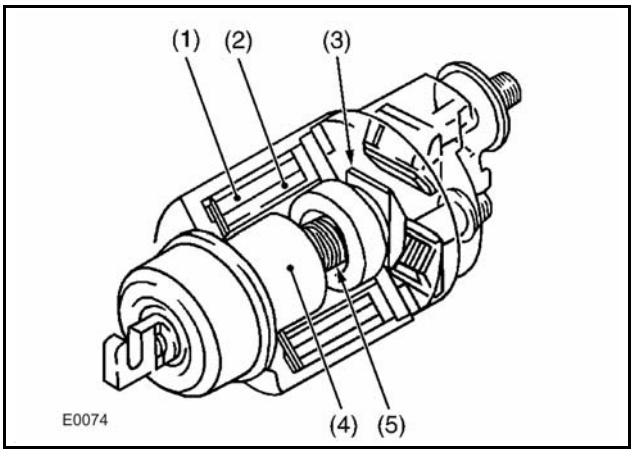


Fig. 11 Direct acting electric motor

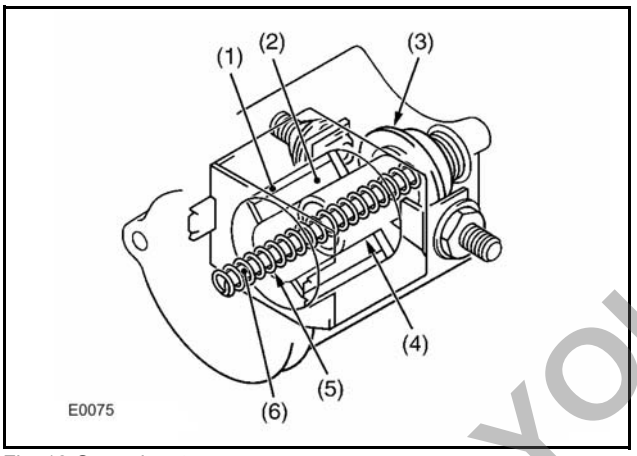


Fig. 12 Geared motor

Armature (4), contact plate (3) and armature guide (6) form a closed unit. When the ignition switch is turned to "START", the armature is picked up and causes the pinion of the clutch to disengage.

This causes the pinion and the ring gear to mesh, while the contact plate establishes a connection between the contacts, which enable the main current to flow into the armature. Once the ignition switch is opened, the resetting spring (5) will pull the armature back to initial position.

1 Holding winding
2 Pick-up winding
3 Contact plate
4 Armature
5 Resetting spring
6 Armature guide

Freewheeling clutch

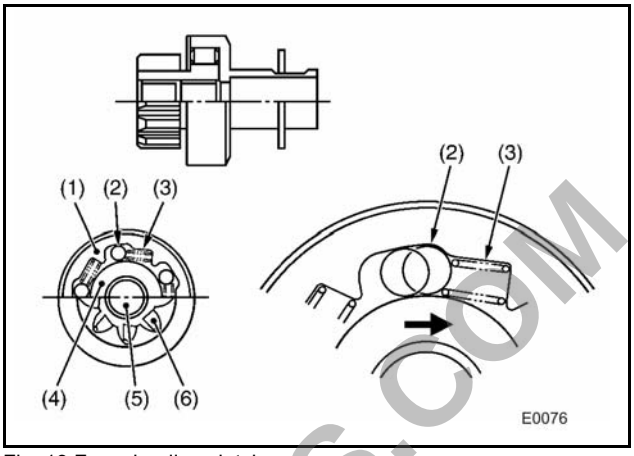


Fig. 13 Freewheeling clutch

The freewheeling clutch is designed in such a way, that the flow of force is automatically interrupted if the pinion (5) of the clutch rotates faster than the freewheeling ring (1) at higher engine speeds.

This makes sure that the armature will only drive the ring gear, but can never be driven by the engine.

1 Freewheeling ring
2 Roller
3 Roller spring
4 Splined shaft
5 Pinion
6 Pinion

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Membrane and master brake cylinder

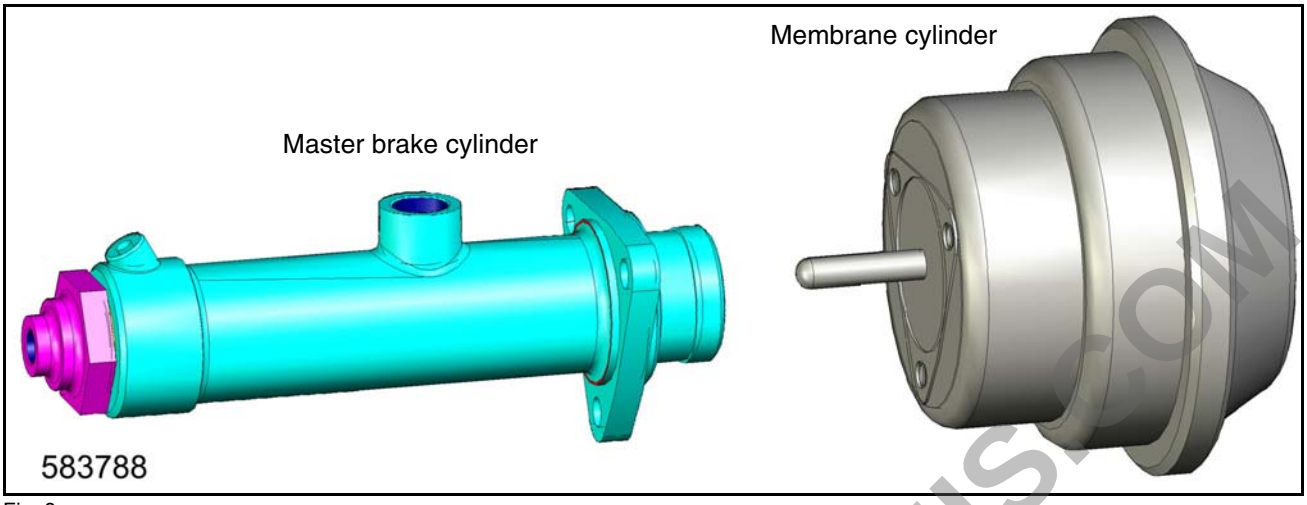


Fig. 3

in combined pneumatic/hydraulic brake systems brake booster (membrane cylinders) are used to amplify the pedal force generated by the driver

The membrane cylinder is pneumatically controlled via a pneumatic brake pedal and applies pressure to the piston of the master brake cylinder, so that this cylinder can apply hydraulic pressure to the brake pistons in the travel gears and thus compress the multiple brake discs.

Inching valve

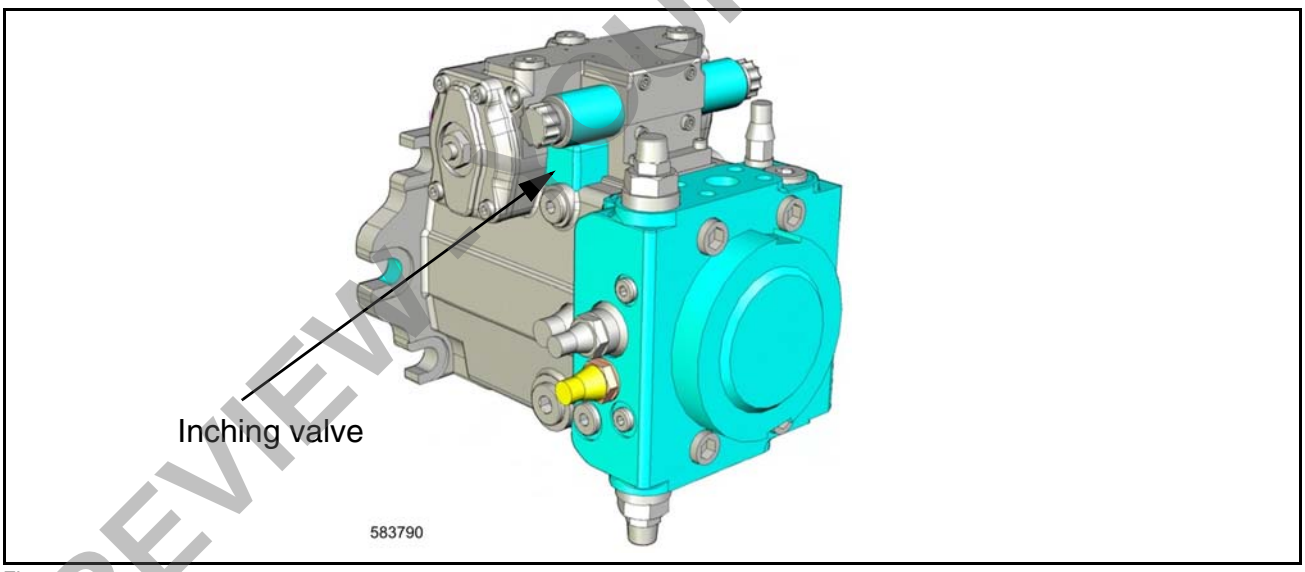


Fig. 4

The brake pressure is fed into the inching valve of the travel pump in order to reduce brake disc wear. If the driver gently kicks down the brake pedal (< 20 bar), the hydrostatic drive is solely braked via the inching function. When applying high braking pressure (> 20 bar), both the hydraulic system and the service brake will work simultaneously. Increasing pressure in the brake system causes the travel pump to swash back towards neutral.

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Removing the main filter element

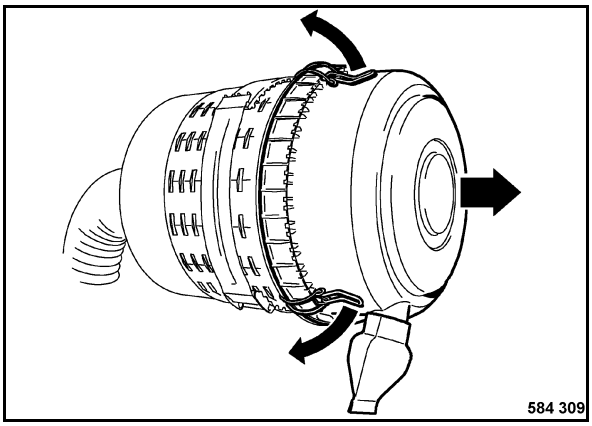


Fig. 32

- Loosen both locking hooks (Fig. 32) on the housing cover and take the cover off.

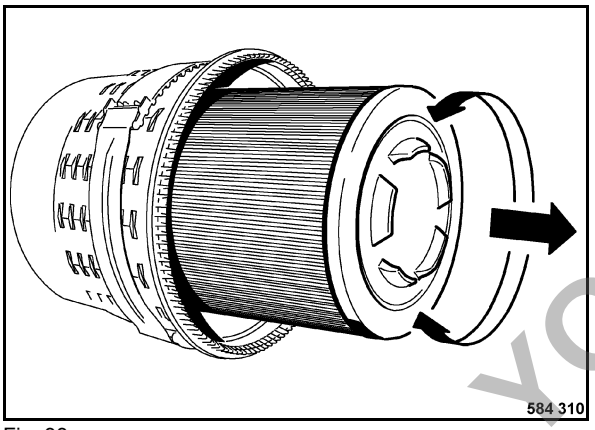


Fig. 33

- Pull out the main filter element (Fig. 33) with light turning movements.

Cleaning the main filter element

⚠ Caution

Replace the safety cartridge if the main filter element is defective!

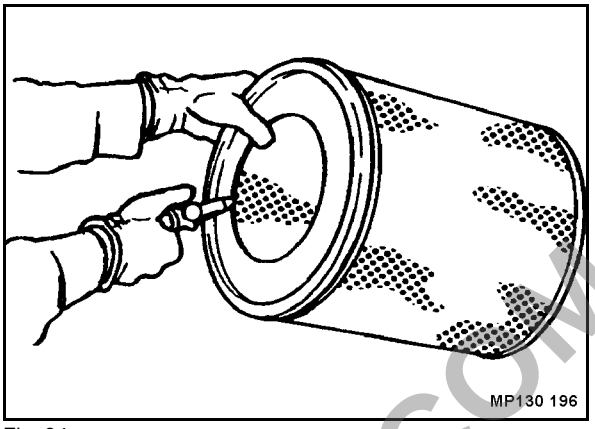


Fig. 34

- Blow the filter cartridge out from inside to outside with dry compressed air (max. 5 bar) (Fig. 34), until all dust has been removed.

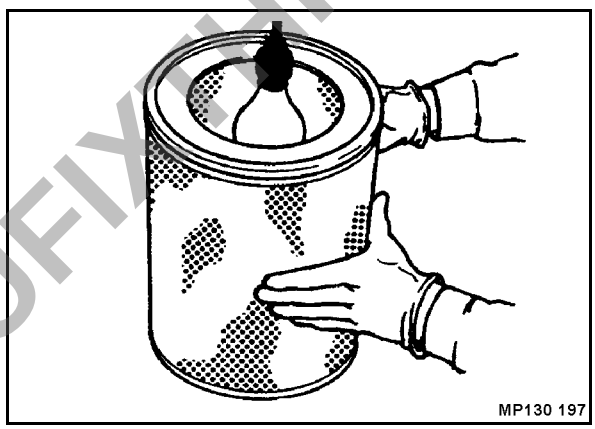


Fig. 35

- Examine the filter cartridge with a torch for cracks and holes in the paper bellows (Fig. 35).

⚠ Caution

Do not continue to run the machine with a damaged main filter element. If in doubt use a new main filter element.

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16.17Trouble shooting, refrigerant circuit diagram

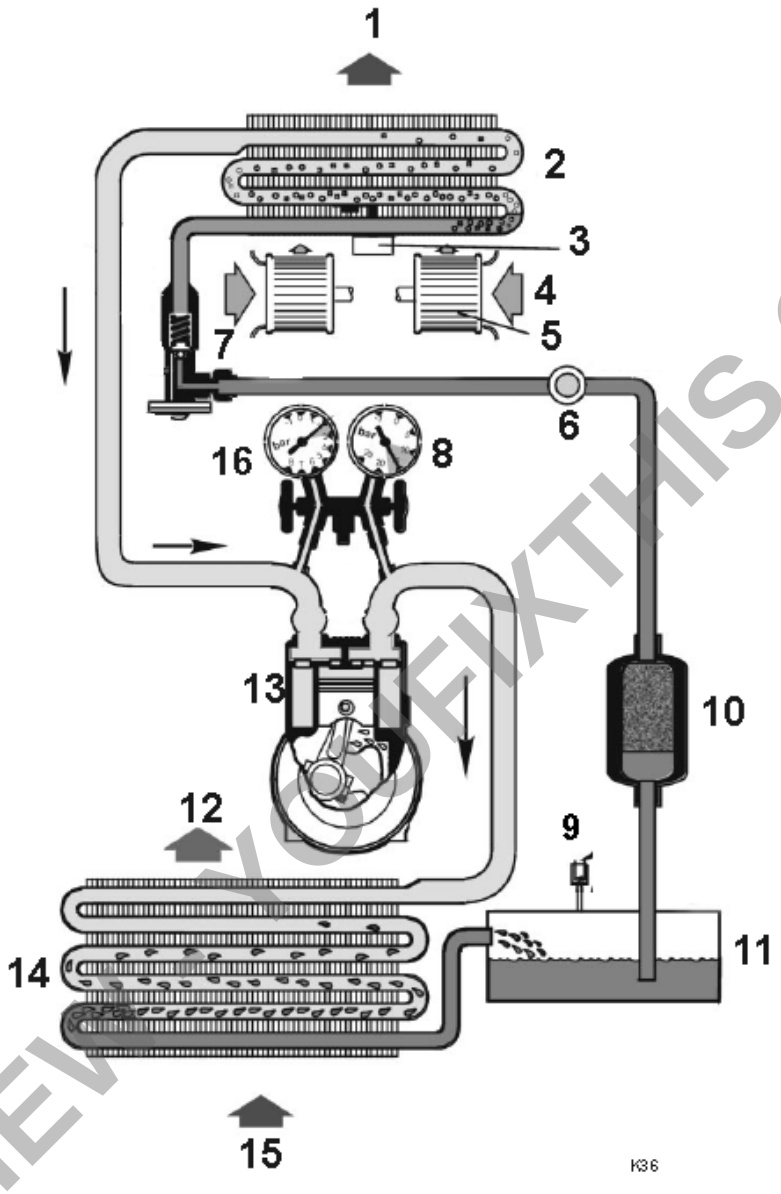


Fig. 1 Refrigerant circuit diagram

1 Cold air
2 Evaporator
3 Thermostat
4 Warm air
5 Fan
6 Inspection glass
7 Expansion valve
8 Pressure gauge, high pressure
9 Pressure switch with high and low pressure contacts
10 Dryer
11 Fluid container
12 Hot air
13 Compressor
14 Condenser
15 Cooling air
16 Pressure gauge, low pressure

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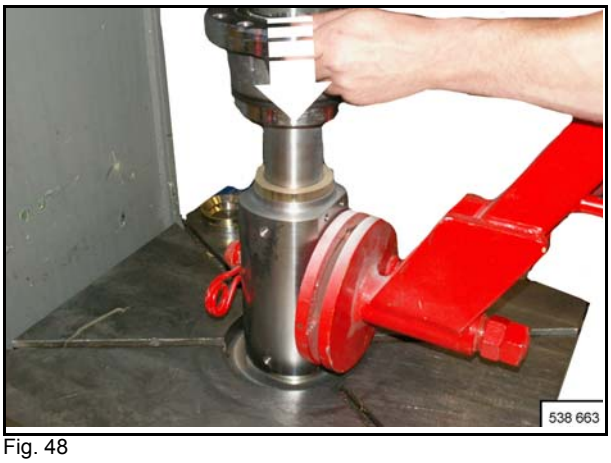


Fig. 48

64. Press the wheel bearing in until it bottoms (Fig. 48).

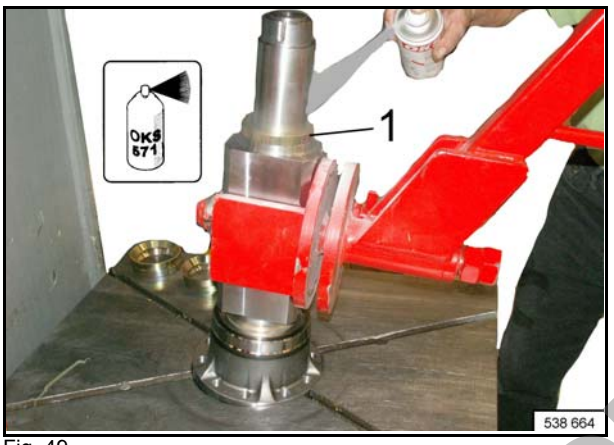
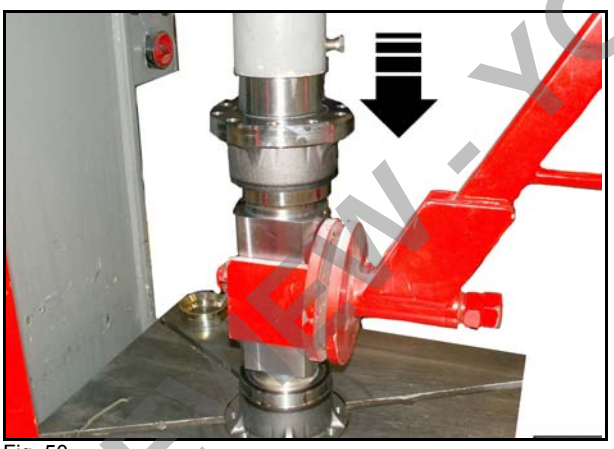


Fig. 49

65. Turn the bearing shaft by 180° (Fig. 49).
66. Assemble spacer (1).
67. Spray the bearing mounting surfaces with sliding agent OKS 571 .


Fig. 50

68. Press the wheel bearing in until it bottoms (Fig. 50).

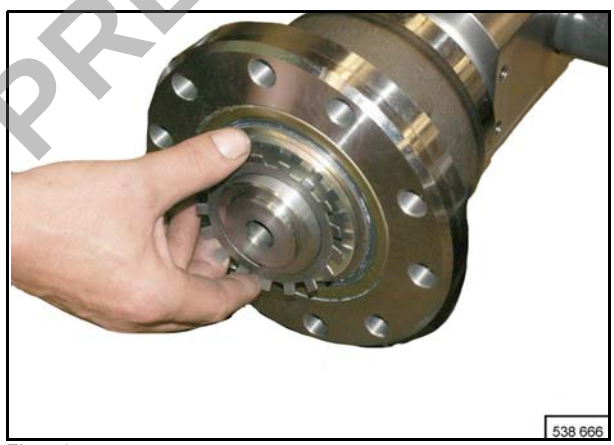


Fig. 51

69. Attach shim and locking plate (Fig. 51).

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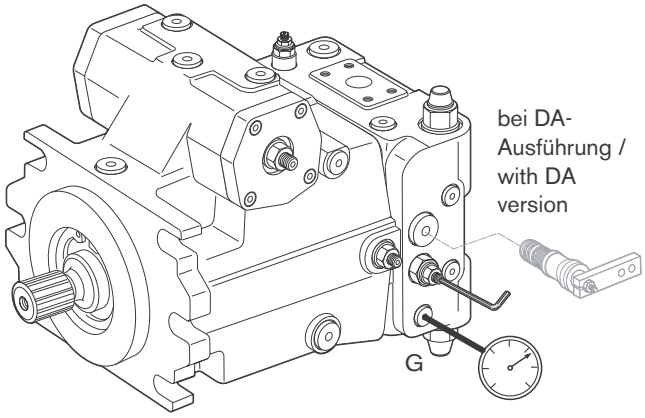
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5.1 Niederdruck (Speisedruck) überprüfen

Dieser Abschnitt erklärt, wie Sie ND-Ventile überprüfen.

Um den Niederdruck zu überprüfen:

1 Schließen Sie wie gezeigt ein Manometer an Anschluss G an.



2 Überprüfen Sie den Niederdruck (G).

Hinweis

Die genauen Einstelldaten entnehmen Sie dem Technischen Datenblatt RD 92 003 und Ihrer Spezifikation.

5.1 Checking Low Pressure (Charge Pressure)

This section describes how to check the low pressure valves.

To check the low pressure:

1 Connect a manometer to connection G as displayed.

2 Check the low pressure (G):

Note

Refer to the catalog sheet RE 92 003 and your specification for the detailed setting data.

5.2 Hochdruck überprüfen

Die Begrenzung des Hochdrucks erfolgt über die Druckabschneidung. Zusätzlich ist ein Hochdruckbegrenzungsventil (Sicherheitsventil) überlagert. Der Druckwert der Druckabschneidung liegt ca. 10 % unter dem Wert des Hochdruckbegrenzungsventils.

Es kann also nur der Druckwert der Druckabschneidung überprüft werden.

Hinweis

Die genauen Einstelldaten entnehmen Sie Ihrer Spezifikation.

5.2 Checking the High Pressure

The limitation of the operating pressure is performed by a high pressure relief valve. Additionally, a high pressure relief valve (safety valve) is in superposition. The pressure value of the pressure cut-off is 10 % below that of the high pressure relief valve.

Therefore, only the pressure value of the pressure cut-off can be measured.

Note

Refer to your specification for the detailed setting data.

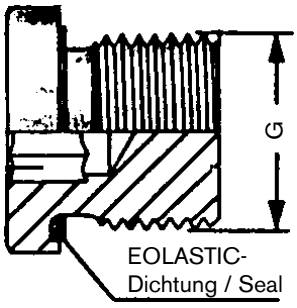
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Montageanweisung für Anziehdrehmomente
Assembly guidelines for tightening torques

2. **Verschlußschrauben** mit Innensechskant und Profildichtring (nach N 02.009).

2. **Plugs** with internal hexagon and profile seal ring (to N 02.009).



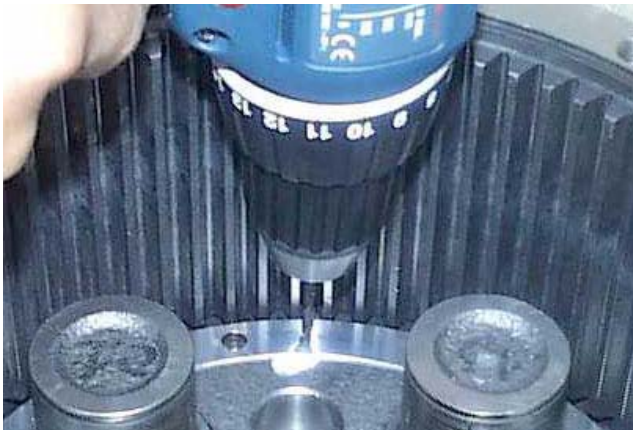
Gewinde / Thread	Anziehdrehmoment / Tightening torque M_A in Nm	Gewinde / Thread	Anziehdrehmoment Tightening torque M_A in Nm
M8 x 1	5	G 1/8 A	10
M10 x 1	10	G 1/4 A	30
M12 x 1,5	20	G 3/8 A	35
M14 x 1,5	30	G 1/2 A	60
M16 x 1,5	35	G 3/4 A	90
M18 x 1,5	40	G 1 A	140
M20 x 1,5	50	G 1 1/4 A	240
M22 x 1,5	60	G 1 1/2 A	300
M26 x 1,5	70		
M27 x 2	90		
M30 x 1,5	100		
M33 x 2	140		
M42 x 2	240		
M48 x 2	300		

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4.7. Fasi di smontaggio gruppo riduttore

4.7. Gearbox kit disassembly method



27. Servendosi di un trapano eliminare le cianfrinature presenti sulla ghiera (B7).

By using a drill remove the calkings on the ring nut (B7).



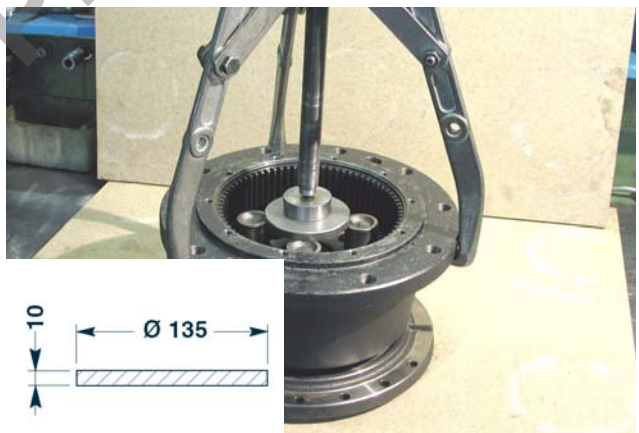
28. Posizionare il moltiplicatore di coppia (ATZ.09.003.1) sulla ghiera (B7). Servendosi del moltiplicatore di coppia svitare la ghiera (B7).

Place the torque multiplier (ATZ.09.003.1) on the ring nut (B7). By using the torque multiplier loosen the ring nut (B7).



29. Rimuovere la ghiera (B7).

Take out the ring nut (B7).



30. Servendosi di una pressa e di un tampone metallico, sfilare il mozzo flangiato (B3) dal corpo riduttore (B6).

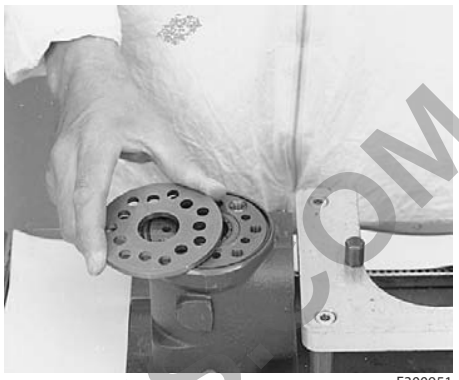
By using a press and a metal stopper, remove the flanged hub (B3) from the gearbox housing (B6).

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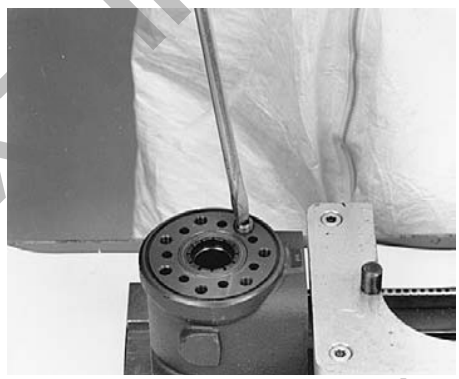
Dismantling

Remove distributor plate.



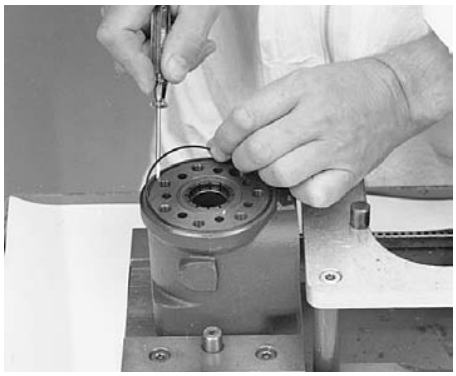
F300951

Screw out the threaded bush over the check valve.



F300953

Remove O-ring

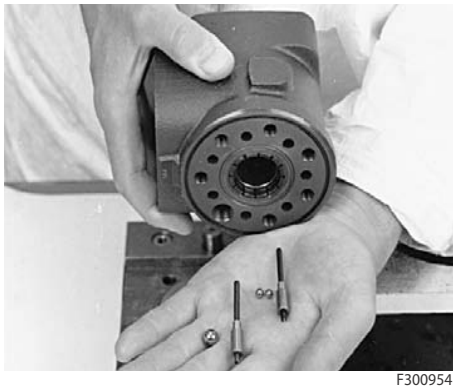


F300952

OSPB, OSPB LS, OSPBX LS:
Shake out the check valve ball (ø8 mm)

OSPC LS, OSPC LSR:
Shake out the check valve ball and suction valve pins and balls.

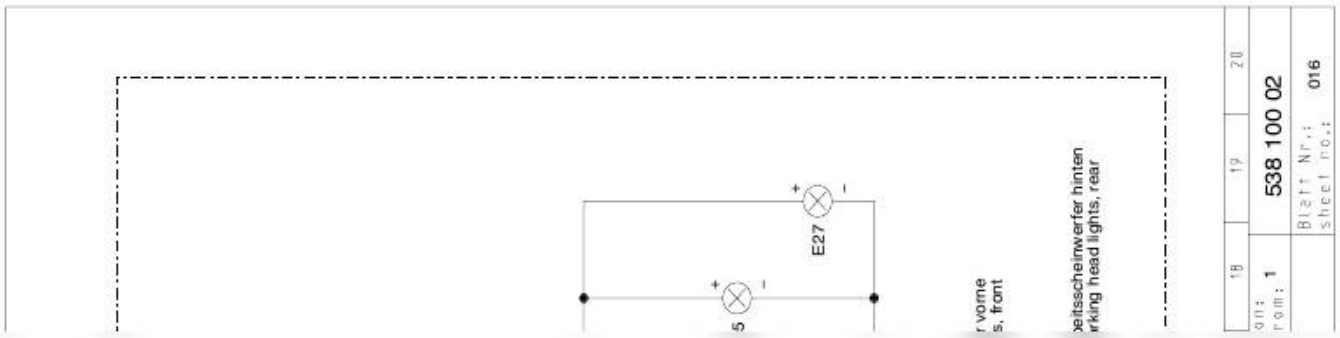
On some pins in the OSPC there are two springs (see page 4, pos. 38). Replace this pins prior to the reassembly!



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