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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 5000 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 hydraulic oil level	Inspection glass	X							
5.9	Check the coolant level	Inspection glass	X							
5.10	Check the water level	Instrument cluster	X							
5.11	Check, clean radiator, fuel cooler and hydraulic oil cooler			X						
5.12	Check oil level in exciter shaft tube			X						
5.13	Change engine oil and oil filter*	see foot note			X					
5.14	Check the anti-freeze concentration and the condition of the coolant				X					
5.15	Service the air conditioning				X					
5.16	Clean the circulation air filter for the heating				X					
5.17	Battery service, checking the main battery switch	pole grease			X					
5.18	Replace the fuel filter cartridge					X				
5.19	Change the fuel pre-filter cartridge					X				
5.20	Change the oil in drum drive gear**	see foot note				X				
5.21	Check, tension, grease the steering chains					X				
5.22	Check the engine mounts					X				
5.23	Service the V-belt					X				
5.24	Service the V-belt for the refrigerant compressor					X				
5.25	Check, adjust the valve clearance***	see foot note				X				

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Fig. 2

With the boost fuel suppression switch S182 (Fig. 2) the boost fuel quantity can be switched over to summer or winter operation.

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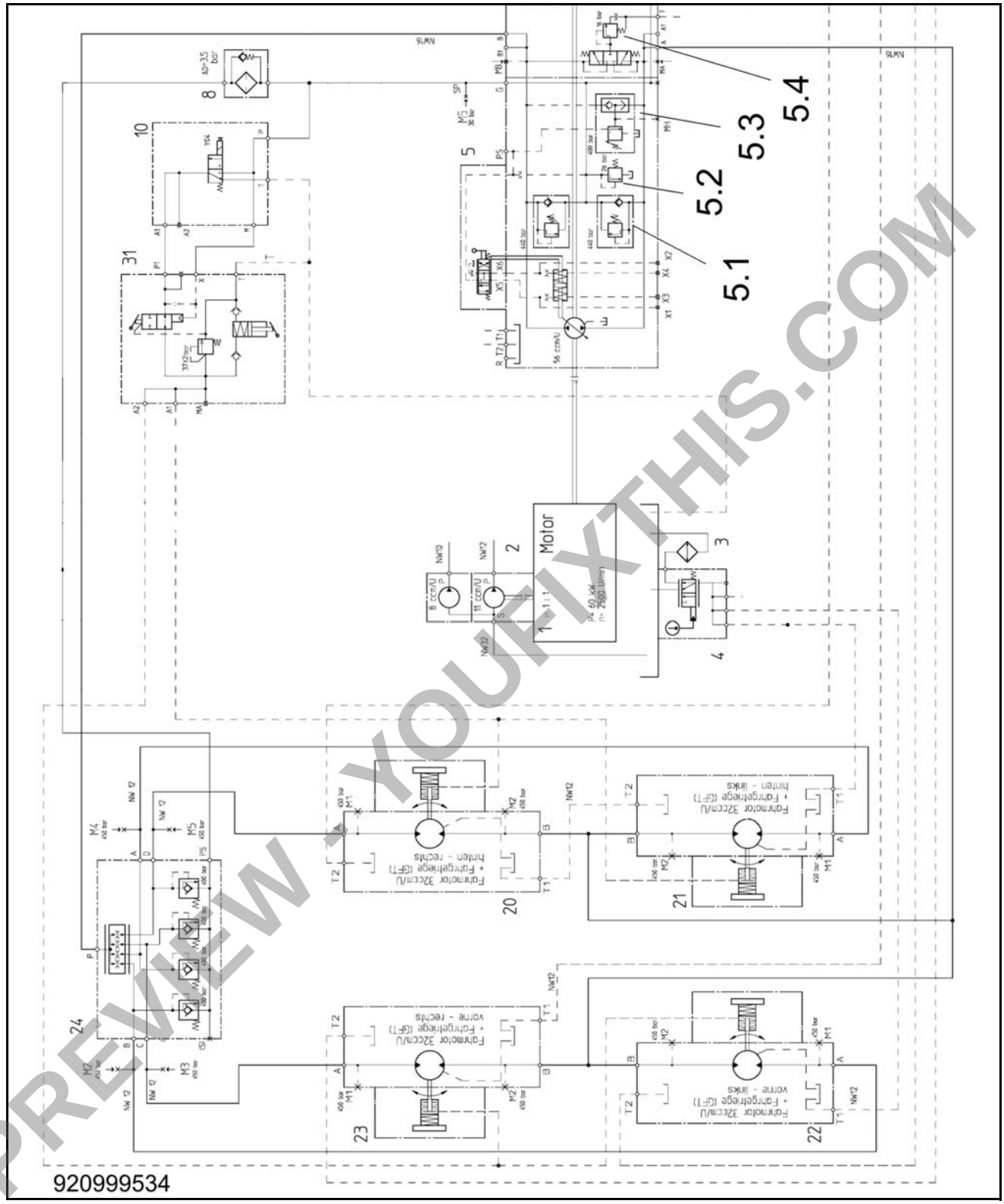


Fig. 1 Detail from hydraulic diagram

1	Diesel engine	10	Brake valve
2	Steering/charge pump	20	Travel gear with motor, rear right
5	Travel pump	21	Travel gear with motor, rear left
5.1	High pressure relief valves	22	Travel gear with motor, front left
5.2	Charge pressure relief valve	23	Travel gear with motor, front right
5.3	Pressure cut-off	34	Flow divider
5.4	Flushing valve	31	Brake releasing valve
8	Pressure filter		

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16.3 Removing and installing the drum

Removing the drum

i Note

The procedures for the removal of front and rear drums are identical. The following instructions describe the removal of the front drum, however, the work steps apply also for the removal of the rear drum.

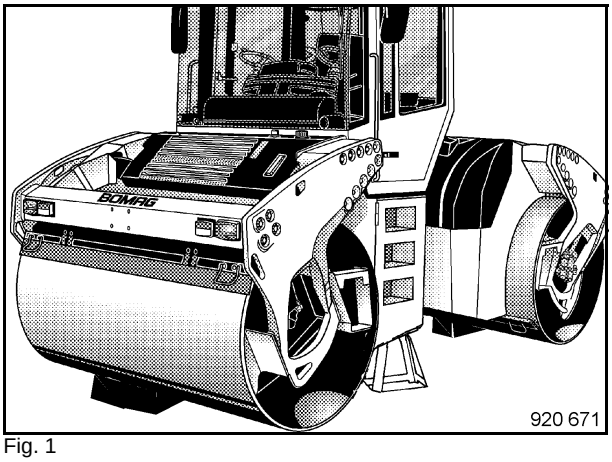


Fig. 1

1. Jack the appropriate side of the machine up (Fig. 1), until the rubber buffers on the drive disc are relieved.

⚠ Danger

Danger of accident!

Block front and rear drums with wedges against rolling!

Do not work in the articulation area of the roller while the engine is running.

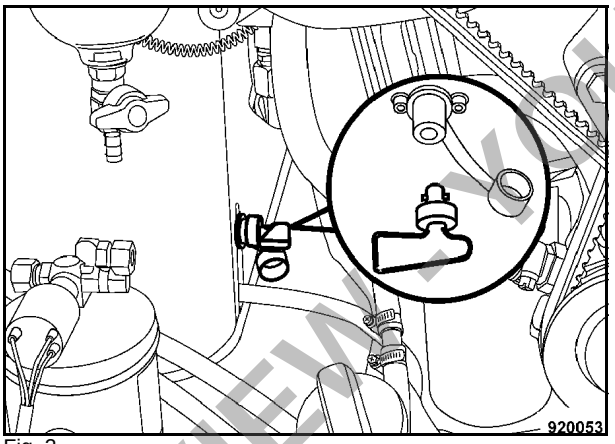


Fig. 2

2. Disconnect the main battery switch (Fig. 2).

⚠ Caution

Do not start the engine during repair work!

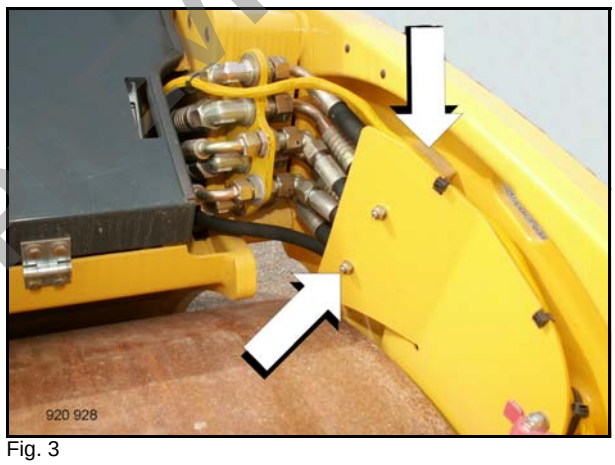


Fig. 3

3. Remove the guard plate (Fig. 3).
4. Remove the hose clamp.

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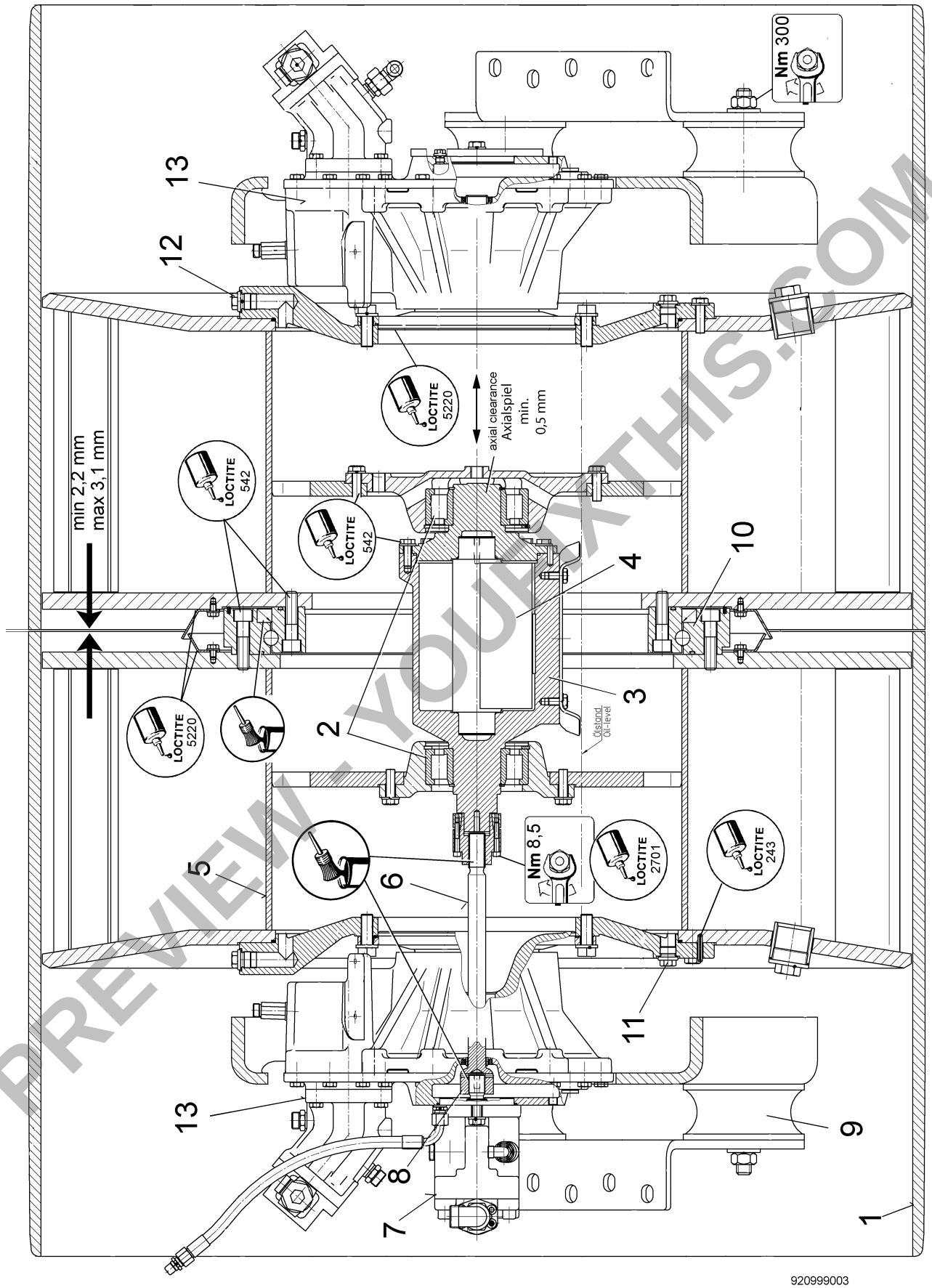


Fig. 1

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The machine drives with the travel lever in "NEUTRAL"

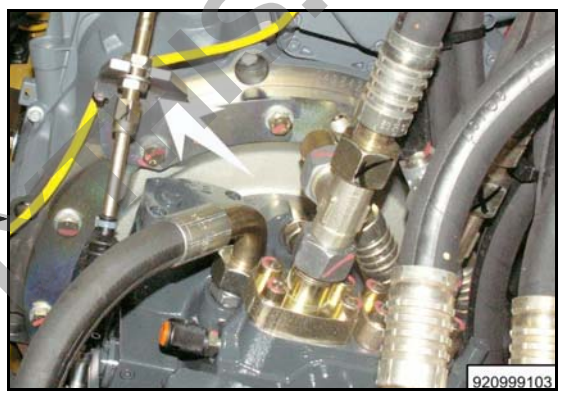


Checking the neutral position:

- Shift the travel lever to “neutral”
- Disconnect the travel cable from the pump
- check whether the bore in the ball socket is in line with the bore in the control lever

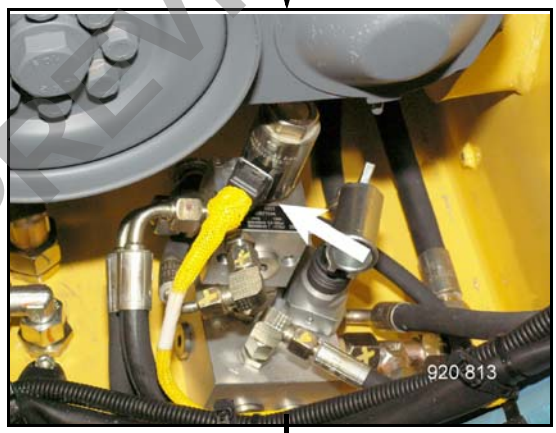
Adjustment OK?

no



- Adjust the travel cable on the counter bracket so that the screw on the pump control lever can be assembled without tension
- Adjust the travel cable accurately on the clevis

yes



Check the mechanical neutral position:

- Pull the plug off the solenoid valve to close the brake.

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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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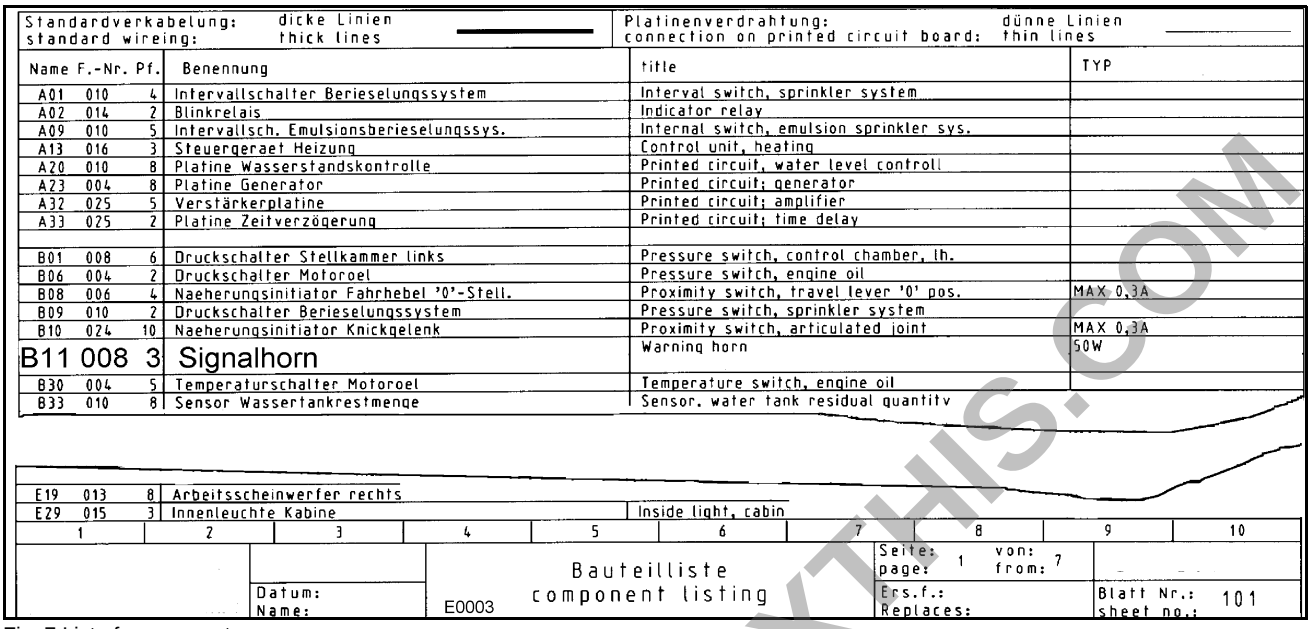
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List of components (Fig. 7)

Here you find all components used in alphabetical order, related to the name of the component (A01, A02....).



Standardverkabelung: standard wireing: dicke Linien thick lines				Platinenverdrahtung: connection on printed circuit board: dünne Linien thin lines	
Name	F.-Nr.	Pf.	Benennung	title	TYP
A01	010	4	Intervallschalter Berieselungssystem	Interval switch, sprinkler system	
A02	014	2	Blinkrelais	Indicator relay	
A09	010	5	Intervallsch. Emulsionsberieselungssys.	Internal switch, emulsion sprinkler sys.	
A13	016	3	Steuergeraet Heizung	Control unit, heating	
A20	010	8	Platine Wasserstandskontrolle	Printed circuit, water level controll	
A23	004	8	Platine Generator	Printed circuit; generator	
A32	025	5	Verstärkerplatine	Printed circuit; amplifier	
A33	025	2	Platine Zeitverzögerung	Printed circuit; time delay	
B01	008	6	Druckschalter Stellkammer links	Pressure switch, control chamber, lh.	
B06	004	2	Druckschalter Motoroel	Pressure switch, engine oil	
B08	006	4	Naeherungsinitiator Fahrhebel '0'-Stell.	Proximity switch, travel lever '0' pos.	MAX 0,3A
B09	010	2	Druckschalter Berieselungssystem	Pressure switch, sprinkler system	
B10	024	10	Naeherungsinitiator Knickgelenk	Proximity switch, articulated joint	MAX 0,3A
B11	008	3	Signalhorn	Warning horn	50W
B30	004	5	Temperaturschalter Motoroel	Temperature switch, engine oil	
B33	010	8	Sensor Wassertankrestmenge	Sensor, water tank residual quantity	
E19	013	8	Arbeitsscheinwerfer rechts		
E29	015	3	Innenleuchte Kabine	Inside light, cabin	

1	2	3	4	5	6	7	8	9	10

Datum: Name: | E0003 Bauteilliste component listing | Seite: page: 1 von: from: 7 | Ers.f.: Replaces: | Blatt Nr.: sheet no.: 101

Fig. 7 List of components

Component cross references

Example:

The warning horn "B 11" is located on page no. 8 in current path 3.

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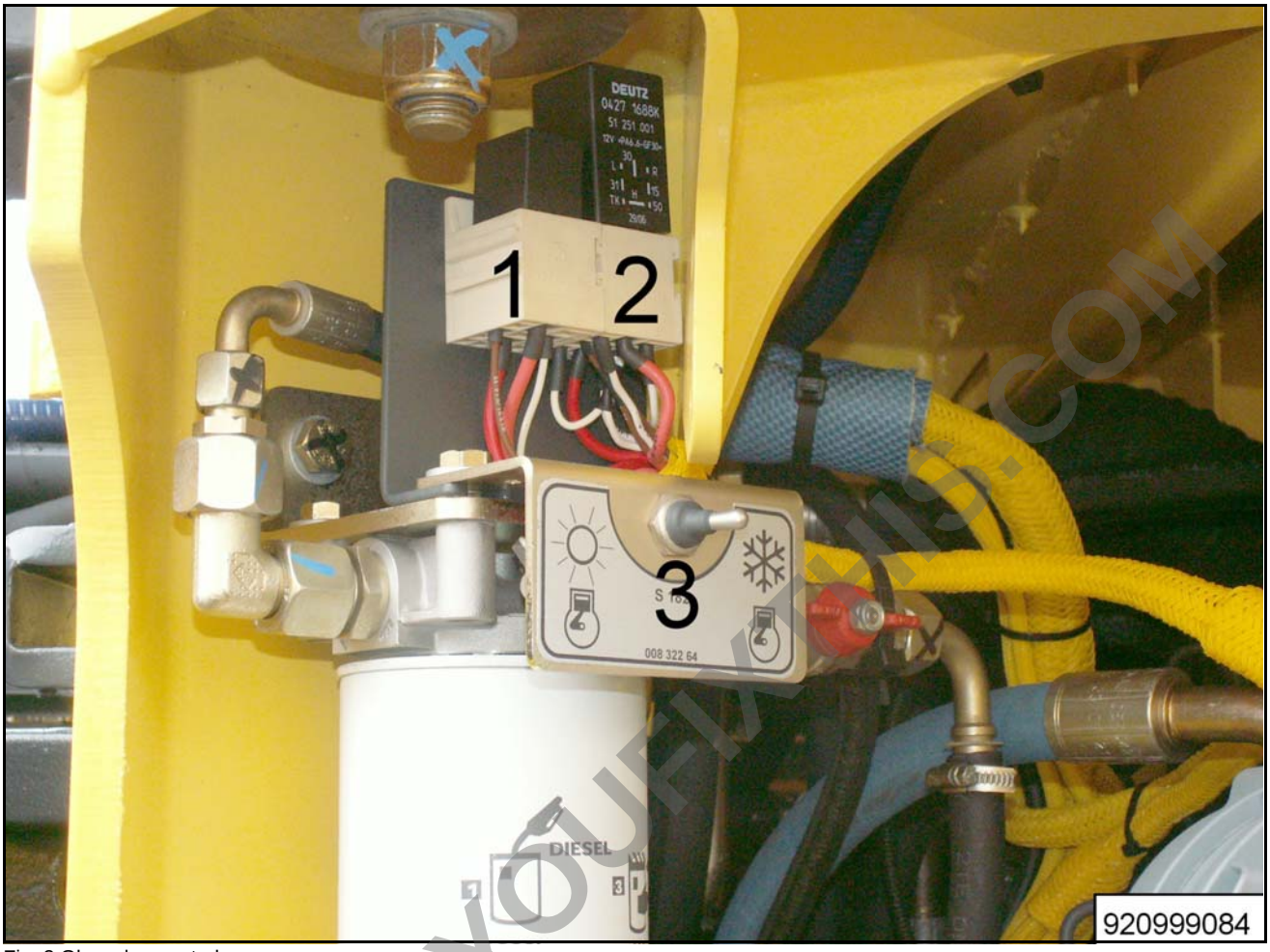


Fig. 2 Glow plug control

Pos.	Designation in circuit diagram	Designation	Technical dada
1	K14	Preheating relay	12 Volt
2	A13	Heating control unit	12 Volt
3	S182	Switch for boost fuel suppression	12 Volt

Above 0°C the control unit 2 (Fig. 2) is without function.

The control unit is able to control the glowing time for the glow plug optimally.

Here we talk about a function range from minus 30°C to plus 10^{+5} °C, so that post-heating for improving the white smoke characteristic at temperatures above 0 °C is also possible

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Signals

Analog signals

Process states are continuous (analog) when they can be mapped by means of a real number, e.g. temperature = 65.5 °C. The sensor converts a continuous process status into an analog signal. If the control unit needs the numerical value of the analog signal, an analog-digital conversion is required.

Analog signals are needed to control, display or monitor limit values. Checking the limit values of physical quantities leads to the binary information: limit value reached/not reached.

Binary signals

Process states are bivalent (binary) if they have only 2 possible states of truth, such as e.g. button pressed/ not pressed, object present/not present. The two states of truth are mapped by means of defined states of an information carrier, e.g. 'not pressed' equals 0 V, 'pressed' equals 24 V. These states are described with {0,1} or {false, true}

CAN-bus, Controller Area Network

created by Bosch at the end of the eighties for automobile applications.

Development objectives:

Real-time critical, robust and low price communication of control units, such as transmission and engine control, but also less time critical applications in the field of convenience electronics, such as air conditioning.

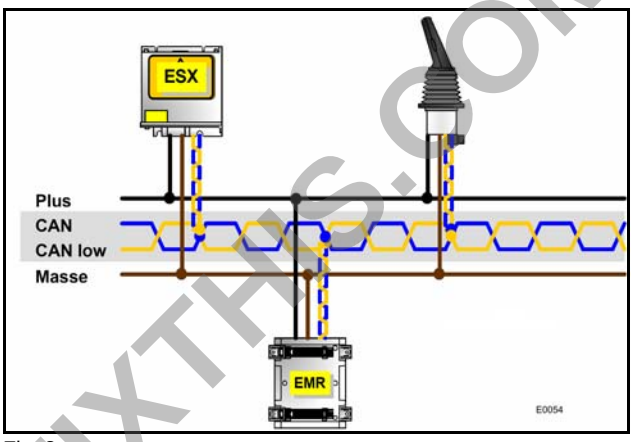


Fig. 3

Why CAN?

- Networking of control units for the realization of complex functions.
- Reduction of the extend of wiring and plug connections.
- Better diagnostic possibilities (central diagnostics socket).

Characteristics of CAN

It is a kind of serial data transmission. The individual bits are transmitted one after the other, only 2 lines are required.

CAN lines are twisted together 30 to 40 times per metre. Electromagnetic interferences therefore always occur simultaneously in both lines, the software is thus able to filter out interfering signals more easily.

Wire (+) = cable colour blue

Wire (-) = cable colour yellow

Measuring on the CAN

Signals transmitted through the bus line can generally not be measured with simple measuring instruments. Testing is therefore quite complicated for the user. Correct connection of lines can only be checked by means of a continuity test. BOMAG display modules are connected to the BUS to give engineers and user the possibility to detect faults or to receive information from the BUS.

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ESX terminal	Signal description	Nominal values (voltage / current)
X88:36	***Pivot steered rollers:*** Input **travel pump forward** Digital input active high ***Articulated rollers:*** Input **travel lever NOT in neutral** Digital input active high	***Pivot steered rollers:*** PWM signal 0..100% duty cyle ***Articulated rollers:*** Travel lever NOT in neutral ☞ 12 V Travel lever in neutral: ☞approx.2 V
X88:37	Input **D+ generator** Digital input active high	Engine running / engine being started ☞12 V Engine stopped ☞ 0 V
X88:38	Input **vibration 2 On** Digital input a*ctive high* only for pivot steered rollers	Vibration on: ☞ > 6 V Vibration off: ☞approx.0 V
X88:39	Input **vibration high amplitude** Digital input active high This input is set in addition to input 15 or 38, in order to recognized high amplitude on machines with circular exciter.	High ampl. active: ☞ > 6 V Low ampl. active: ☞approx.0 V
X88:40		
X88:41		
X88:42		
X88:43		
X88:44		
X88:45		
X88:46	Output **valve 1 front** PWM digital output (max. 4 A)	permissible current range: approx. 0..1.5 A
X88:47	Output **valve 2 front** PWM digital output (max. 4 A)	permissible current range: approx. 0..1.5 A
X88:48		

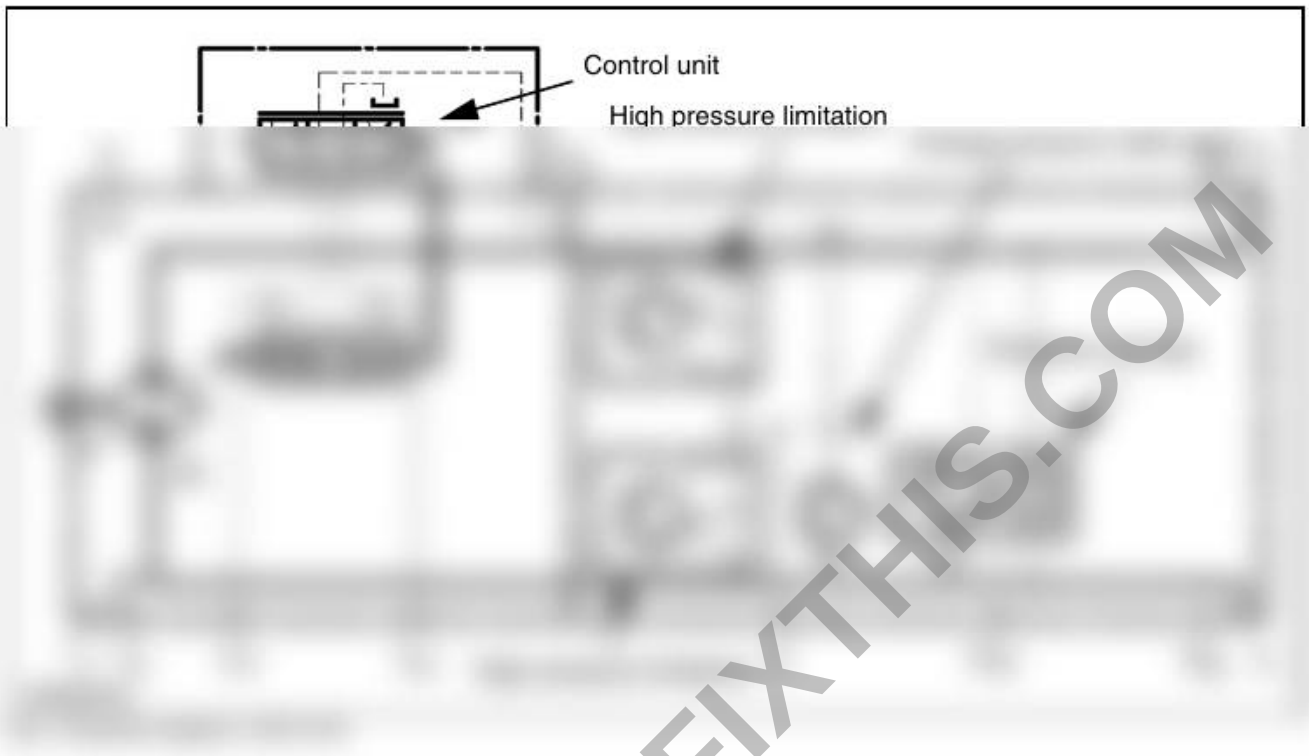
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Hydraulic diagram



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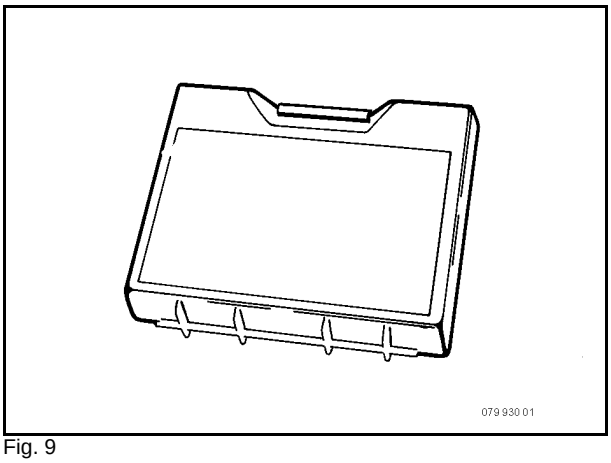


Fig. 9

9. Hydraulic test case, small

BOMAG part-no.: 079 930 01

i Note

2X 60 bar pressure gauge

2X 600 bar pressure gauges

4 pressure test hoses

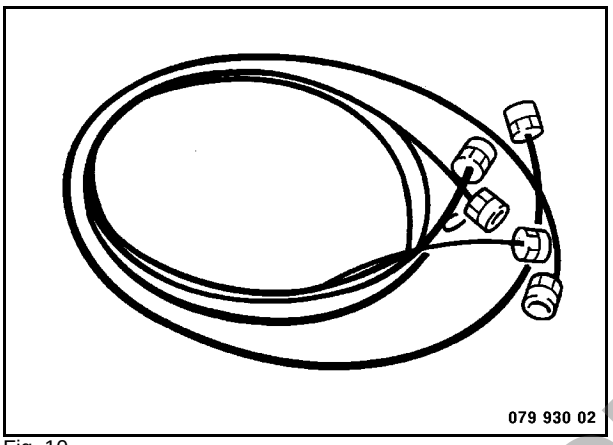


Fig. 10

10. Pressure test hoses

1000 mm BOMAG part-no.: 079 930 02

2500 mm BOMAG part-no.: 079 930 03

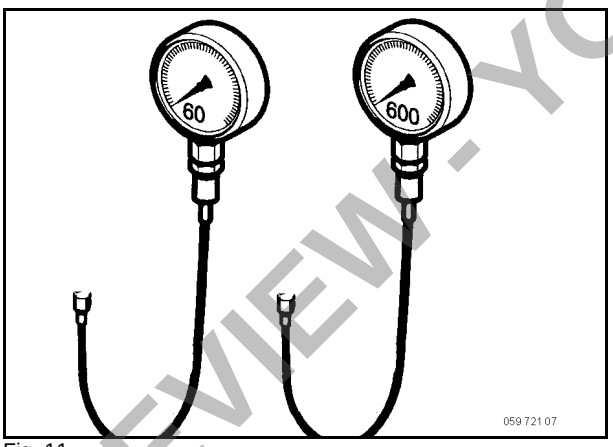


Fig. 11

11. Pressure gauge

60 bar BOMAG part-no.: 059 721 07

600 bar BOMAG part-no.: 059 721 04

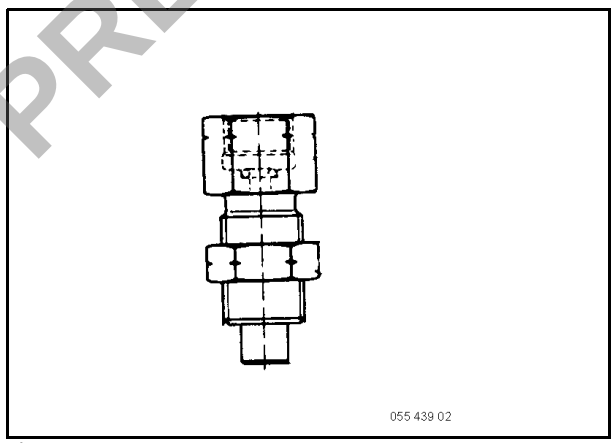


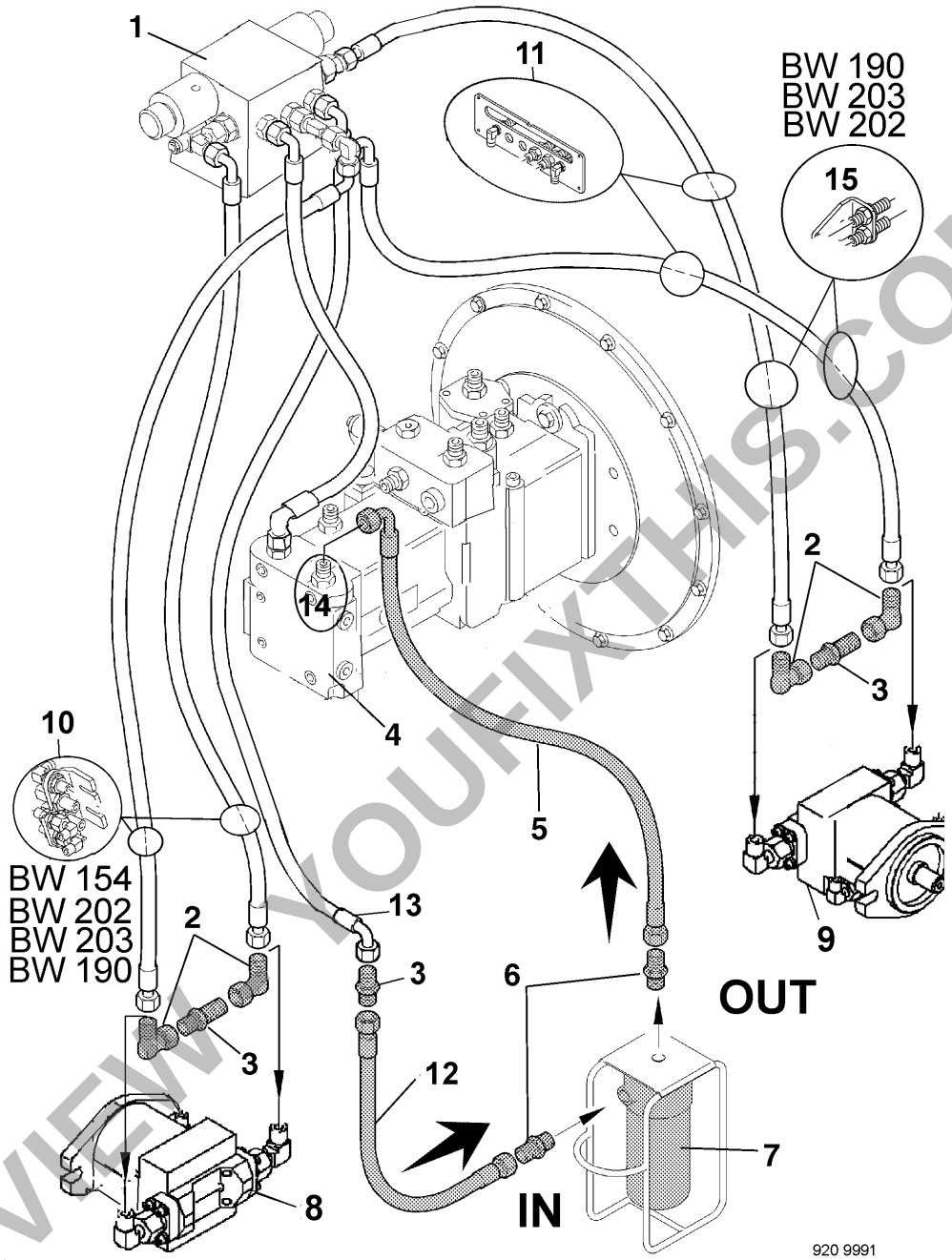
Fig. 12

12. Adapter for pressure test hose

BOMAG part-no.: 055 439 02

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1 Vibration shut-off valve
2 Elbow union (tool)
3 Bulkhead fitting (tool)
4 Vibration pump
5 Flushing hose 25S - 20S (tool)
6 Screw socket R1 - 25S (tool)
7 Flushing filter with filter element 1µ (tool)
8 Front vibration motor
9 Rear vibration motor
10 Bulkhead bushing, front left
11 Bulkhead bushing, front frame rear
12 Flushing hose 25S - 20S (tool)
13 High pressure hose, vibration pump to vibration shut-off valve
14 High pressure port B, low frequency
15 Bulkhead bushing rear right

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liquid container has absorbed approx. 8 gr. of water, the refrigerant circuit transports possibly existing water in form of droplets. This water flows to the nozzle of the expansion valve and turns to ice. The air conditioning system stops cooling. Water destroys the air conditioning system, because under high pressures and temperatures and in connection with other contaminants it forms acids.

Inflammability:

Refrigerant is not inflammable. On the contrary, it has fire inhibiting or fire extinguishing properties. Refrigerant is decomposed by flames or glowing surfaces. Ultraviolet light also cracks refrigerant (caused by electric welding). This results in toxic fission products, these must not be inhaled. However, irritation of the mucous membranes is an early and in-time warning.

Filling factor:

In a container there must be a steam space above the liquid space. The liquid expands with increasing temperature. The steam filled space becomes smaller. From a certain time on the container will be filled with just liquid. After this only a minor temperature increase is enough to generate very high pressures in the container, because the liquid would like to expand, but there is no more room. The related forces are high enough to cause the container to burst. In order to avoid overfilling of a container the pressure gas directive clearly specifies how many kilograms of refrigerant may be filled into the container per litre volume. Multiplied with the internal volume this "filling factor" determines the permissible filling capacity For refrigerants used in motor vehicles it is 1.15 kg/l.

Environmental aspects

The contribution of R134a to the greenhouse effect is by factor 10 smaller than the contribution of R12.

Since approx. 1992 the air conditioning systems for newly produced construction equipment were successively converted to refrigerant R134a. This refrigerant does not contain any chlorine and is thus harmless for the ozone layer. Until approx. 1992 air conditioning systems were filled with refrigerant R12. Due to its chlorine atoms this CFC has a high ozone decomposition potential and also a potential to amplify the greenhouse effect. Conversion programs for existing old systems with the ozone damaging R12 are in effect. For reasons of protecting the environment refrigerant must not be discharged into the atmosphere.

13.3 Compressor oil / refrigeration oil

The compressor oil lubricates the movable parts in the compressor, seals e.g. the gap between piston and cylinder inside the compressor to prevent refrigerant loss and prevents other seals in the system from drying up.

Part of the compressor oil dissolves in the refrigerant until saturation is reached, so that a gas mixture of refrigerant, water steam, compressor oil and contrast agent circulates through the system.

Compressor oil (the oil quantity should be 10 % of the refrigerant weight) mixes with the refrigerant and circulates permanently through the system.

In connection with R134a- air conditioning systems special synthetic compressor oils, e.g. polyalkylene glycol (PAG) oils, are used. This is necessary, because e.g. mineral oil does not mix with R134a. Apart from this, the materials in the R134a air conditioning system may be attacked when the mixture is flowing through the refrigerant circuit under high pressure and at high temperatures or if the lubrication film in the compressor tears off. The use of non-permitted oils can cause damage to the air conditioning system, you should therefore only used the approved oils.

Properties of compressor oil / refrigeration oil:

The most important properties are high solvency in connection with refrigerants, good lubrication characteristics, that they are free of acids and their low water content. For this purpose only certain oils can be used. PAG-oils suitable for use with refrigerant R134a are highly hygroscopic and will not mix with other oil. As a protection against the invasion of moisture drums must immediately be closed again after they had been opened. Compressor oil ages under the effect of moisture and acids, becomes dark, viscous and aggressive against metals.

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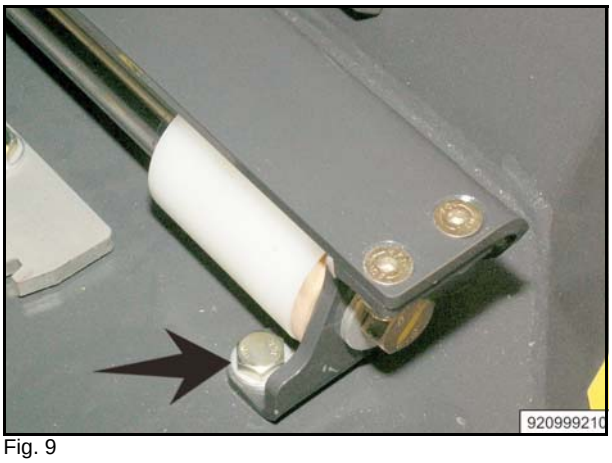


Fig. 9

11. Disassemble the retaining angles on both sides (Fig. 9).



Fig. 10

12. Lift up the rubber mat and disassemble the floor plates on both sides (Fig. 10).

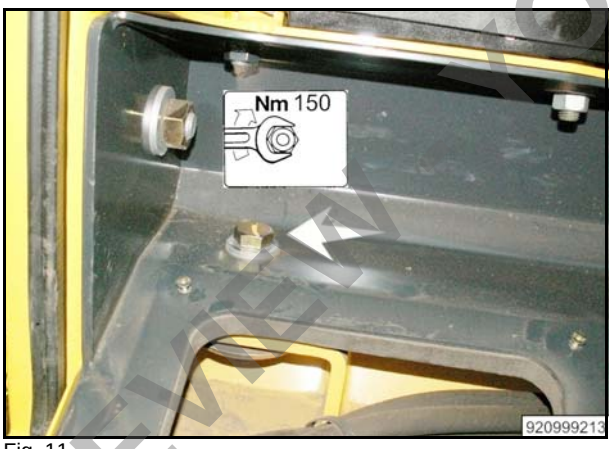


Fig. 11

13. Loosen the front screw fastenings of the driver's stand on both sides (Fig. 11).

i Note

The screw connections on the right side of the machine must only be loosened if the wiring loom is to be changed.

⚠ Danger

Only loosen the screw fastenings, still leave the nuts a few turns on the screws.

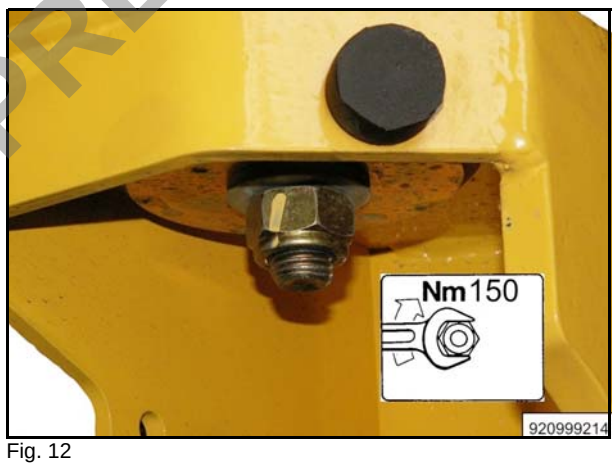


Fig. 12

14. Loosen the rear screw fastenings of the driver's stand on both sides (Fig. 12).

i Note

The screw connections on the right side of the machine must only be loosened if the wiring loom is to be changed.

⚠ Danger

Only loosen the screw fastenings, still leave the nuts a few turns on the screws.

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Fig. 48

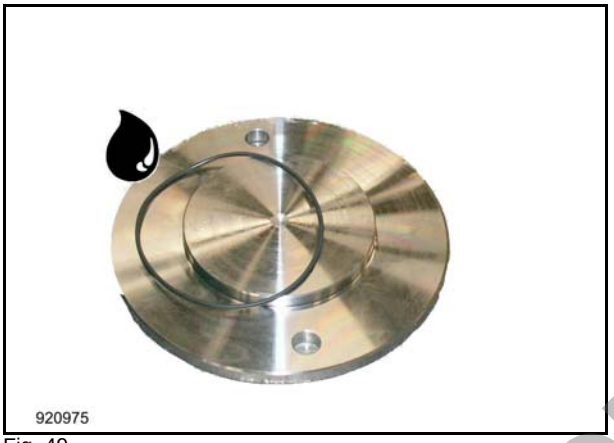


Fig. 49

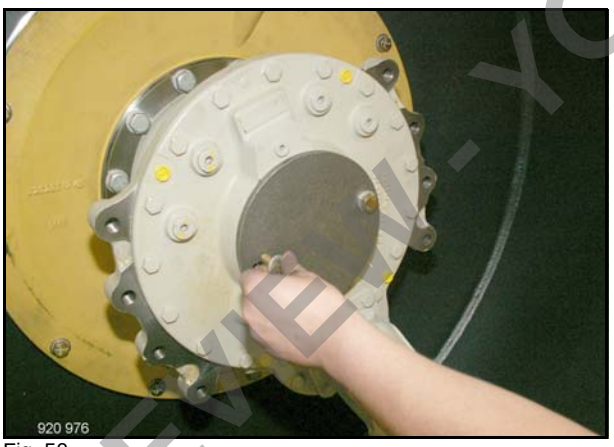


Fig. 50



Fig. 51

61. Tighten the fastening screws for both travel gears (Fig. 48).

i Note

Release the brake to ease assembly work (see Fig. 51)

Screw the test fittings into the brake releasing ports on the drum drive motors. Releasing the brakes requires a pressure of approx. 20 bar.

⚠ Caution

Generate a pressure of max. 40 bar.

62. Fit the travel gear cover with a new O-ring and apply a thin coat of oil (Fig. 49).

63. Install the cover with screws and washers (opposite vibration motor side) (Fig. 50).

Assembling both drive discs

64. Screw two guide bolts into both travel gears (Fig. 51).

i Note

Release the parking brake to ease assembly work.

Screw the test fittings into the brake releasing ports on the drum drive motors. Releasing the brakes requires a pressure of approx. 20 bar.

⚠ Caution

Generate a pressure of max. 40 bar.

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1.3 Wichtige Unterlagen

Bevor Sie mit den in dieser Anleitung beschriebenen Arbeiten anfangen, stellen Sie sicher, dass Sie folgende Unterlagen griffbereit haben:

- **Auftragsbestätigung**

  Die Auftragsbestätigung enthält die voreingestellten technischen Daten. Die Axialkolbenmaschine darf nur unter den in der Auftragsbestätigung angegebenen Werten und Bedingungen betrieben werden.
- **Einbauzeichnung**

  Die Einbauzeichnung der Axialkolbenmaschine enthält die Außenabmessungen, sämtliche Anschlüsse und den Schaltplan.
- **Technisches Datenblatt**

  Das technische Datenblatt RD 92 003 enthält u.a. die zulässigen technischen Daten für die Axialkolbenmaschine.
- **Gesamtschaltplan der Maschine bzw. Anlage**

  Der Hydraulikschaltplan und der elektrische Schaltplan der Maschine bzw. Anlage enthalten die Informationen zu den hydraulischen bzw. elektrischen Anschlüssen. Diese Daten brauchen Sie, um mit der Axialkolbenmaschine als Teil der Maschine bzw. Anlage zu arbeiten. Die Unterlagen erhalten Sie vom Maschinen- bzw. Anlagenhersteller.
- **RD 90 300-B: Allgemeine Betriebsanleitung für Axialkolbenmaschinen**

  Die allgemeine Betriebsanleitung unterstützt Sie bei Installation, Inbetriebnahme und Betrieb von Rexroth-Axialkolbenmaschinen.
- **Produktspezifische Betriebsanleitung**

  Die produktspezifische Betriebsanleitung enthält spezielle, für die Axialkolbenmaschine gültige Informationen. Informieren Sie sich bei Rexroth, ob es zu Ihrer Axialkolbenmaschine eine produktspezifische Betriebsanleitung gibt.

Folgende Rexroth-Druckschriften geben Ihnen weitere Informationen zu Installation und Betrieb der Axialkolbenmaschine:

- **RD 90 220: Druckflüssigkeiten auf Mineralölbasis**

  Beschreibt die Anforderungen an eine Druckflüssigkeit auf Mineralölbasis für den Betrieb mit Rexroth-Axialkolbenmaschinen und unterstützt Sie bei der Wahl einer Druckflüssigkeit für Ihre Anlage.
- **RD 90 221: Umweltfreundliche Druckflüssigkeiten HEES, HEPG, HETG für Axialkolbenmaschinen**

  Beschreibt die Anforderungen an eine umweltfreundliche Druckflüssigkeit für den Betrieb mit Rexroth-Axialkolbenmaschinen und unterstützt Sie bei der Wahl einer Druckflüssigkeit für Ihre Anlage.
- **RD 90 223: Axialkolbenmaschinen für den Betrieb mit HF-Druckflüssigkeiten**

  Enthält zusätzliche Informationen zum Einsatz von Rexroth-Axialkolbenmaschinen mit HF-Druckflüssigkeiten.
- **RD 90 300-03-B: Hinweise zum Einsatz von hydraulischen Antrieben bei tiefen Temperaturen**

  Enthält zusätzliche Informationen zum Einsatz von Rexroth-Axialkolbenmaschinen bei tiefen Temperaturen.

1.3 Important Documents

Before you start any of the procedures described in this manual, make sure you have the following documents:

- **Confirmation of order**

  The confirmation of order contains the values set during the commissioning by Rexroth. Before you can recommission the axial piston unit after a repair, you have to restore the values originally set by Rexroth.
- **Installation drawing**

  The installation drawing of the axial piston unit contains the sizes of all connections.
- **Technical data sheet**

  The technical data sheet RE 92 003 contains the maximum allowed performance data.
- **Hydraulic diagram / Wiring diagram**

  The hydraulic diagram and the wiring diagram of the unit or system contain the information related to the respective machine.You need this data to work with the axial piston as part of the machine or system. You can get this information from the unit or system manufacturer.
- **RE 90 300-B: General Manual for Axial Piston Units**

  The general manual supports you during the installation, initiation, and operation of Rexroth axial piston units.
- **Product Specific Manual**

  The product-specific manual contains information specially designed for the axial piston unit. Get in touch with Rexroth to find out if there is any product-specific information on your specific axial piston unit.

The following Rexroth publications provide additional information to the installation and operation of axial piston units:

- **RE 90 220: Mineral-oil Based Pressure Fluids**

  This publication describes the requirements on a hydraulic fluid for operation in an axial piston unit and supports you in the selection of a hydraulic fluid for your installation.
- **RE 90 221: Environmentally Acceptable Hydraulic Fluids HEES, HEPG, HETG for Axial Piston Units**

  Describes the demands on environmentally compatible, readily biodegradeable hydraulic fluids HEPG, HEES that can be used in Rexroth axial piston units and supports you by the choice of a hydraulic fluid for your system.
- **RE 90 223: Axial Piston Units for Use with HF Fluids**

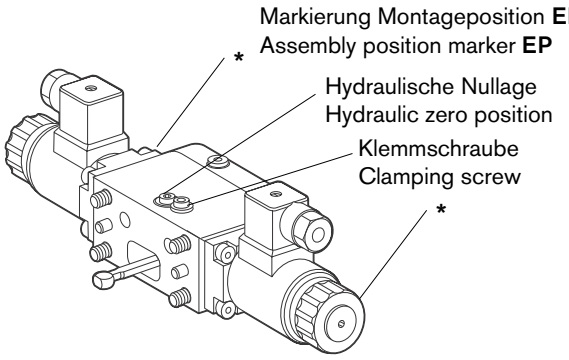
  Provides additional information for the use of Rexroth axial piston units with HF hydraulic fluids.
- **RE 90 300-03-B: Instructions on the Use of Hydrostatic Drives at Low Temperatures**

  Provides additional information for the use of Rexroth axial piston units for low temperatures.

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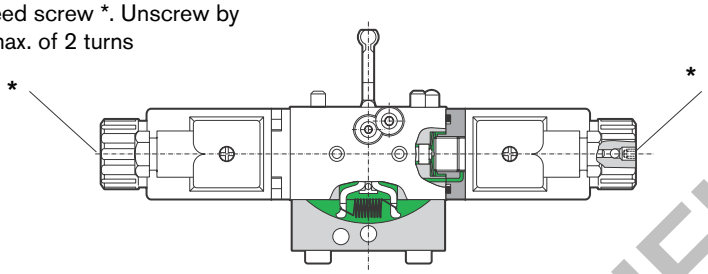
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Ansteuergeräte
Control units

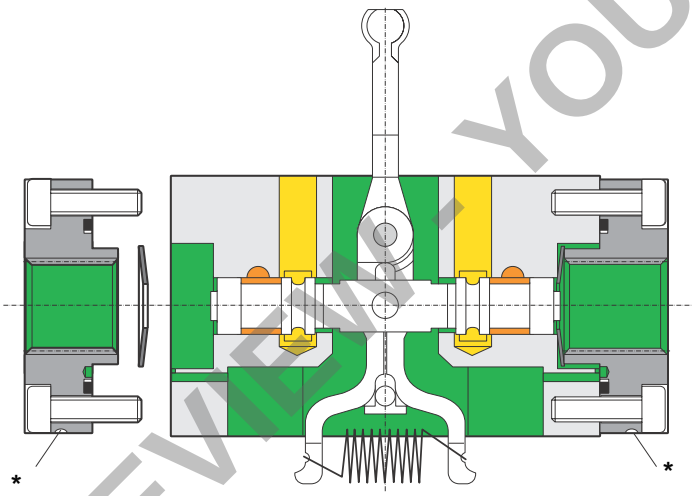


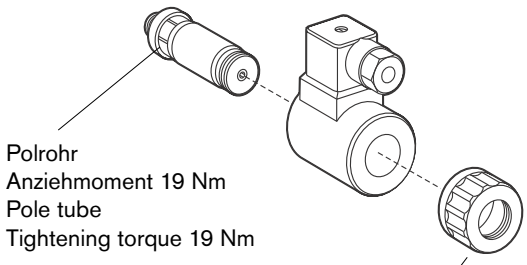
Die neuen Proportionalmagnete müssen bei der Inbetriebnahme entlüftet werden. Wird die Luft nicht aus dem Ankerraum entfernt, kann es zum Schwingen der Ansteuerung kommen.
Zum Entlüften ist am Ende des Magneten, im Messingteil, ein kleiner Gewindestift M4, SW 2 vorhanden. Dieser Gewindestift ist max. 2 Umdrehungen herauszudrehen und nach dem Entlüften mit 1 Nm wieder festzuziehen.
Bei der Ausführung mit Nothand mit Federrückzug muß zum Entlüften die Kunststoffmutter mit Gummibalg entfernt und nach dem Entlüften mit 5+1 Nm wieder angeschraubt werden.

Entlüftungsschraube * max. 2 Umdrehungen herausdrehen.
Bleed screw *. Unscrew by a max. of 2 turns



The new proportional solenoids must be bled during commissioning. If the air is not removed from the armature chamber oscillations at the control can occur. For bleeding purposes there is, on the end of the solenoid, in the brass component a small set screw M4, 2A/F. This can be unscrewed by a maximum of 2 turns and then after completion of the bleeding tightened to a maximum of 2 Nm.
For the version with hand override and spring return the plastic nut with rubber coating has to be removed for bleeding. After bleeding it has to be replaced and tightened with 5+1 Nm.

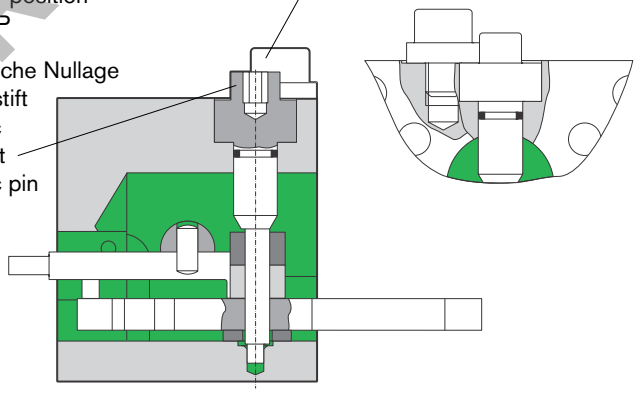




*
Markierung Montageposition **EP**
Assembly position marker EP

Klemmschraube 6,1 Nm
Clamping screw 6,1 Nm

Hydraulische Nullage
Exzenterstift
Hydraulic zero point
Eccentric pin



Anziehmoment 5+1 Nm
Steckschlüssel SW 26
Tightening torque 5+1 Nm
26 A/F socket spanner

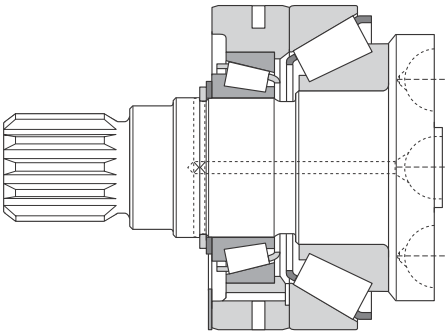
⚠ Beim Lösen der Klemmschraube
Exzenterstift - Hydraulische Nullage festhalten.

⚠ When loosening the clamping screw
Hold the eccentric pin - hydraulic zero point

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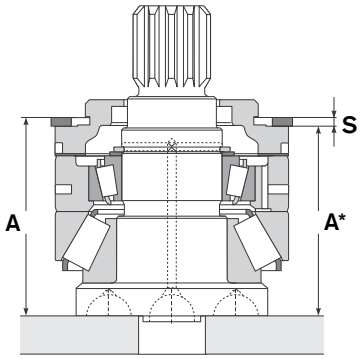
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Triebwerk einbauen
Installing rotary group



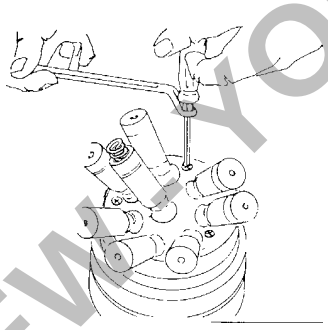
Triebwelle mit Lager vormontiert verwenden.

Use a pre-assembled drive shaft with bearings.



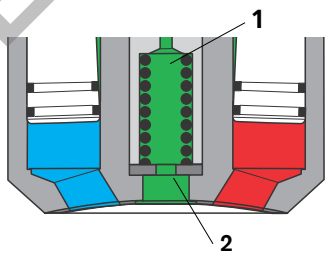
Abstimmung Pos. A / Adjustment item A

A = A* + S
S = Nennmaß - Sicherungsring /Safety ring



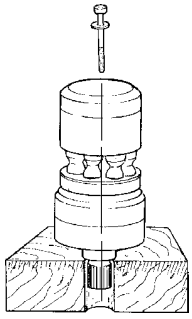
⚠ Rückzugplatte mit Kolben und Mittelzapfen einsetzen.
Schrauben mit Precote-Beschichtung verwenden.

⚠ Fit retaining plate complete with pistons and centre pin.
Uses screws with a Precote coating.



⚠ Druckfeder (1) und Abstimmscheibe (2) einbauen.

⚠ Fit the compression spring (1) and shim(2).



⚠ Zylinder in Neutralposition befestigen.

⚠ Fix the cylinder in the neutral position.

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Installation Instruction for Lip Seal

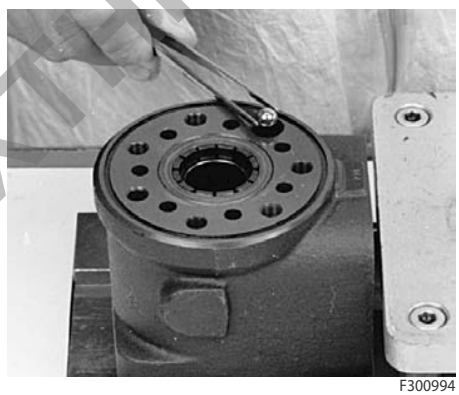
Installation Instructions for Lip Seal

The spool set will push out the assembly tool guide. The o-ring and kin-ring/roto Glyd are now in position.



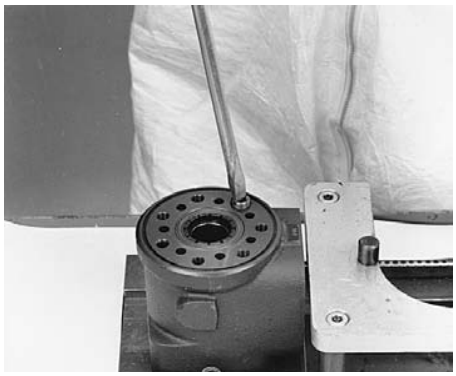
F300993

Turn the stearing unit until the bore is vertical again. Put the check valve ball into the hole indicated by the arrow.



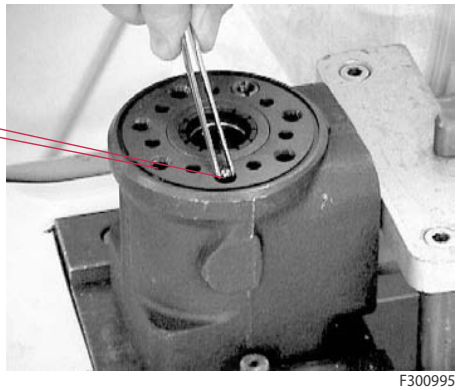
F300994

Screw the threaded bush lightly into the check valve bore. The top of the bush must lie just below the surface of the housing.



F300953

Place a ball in the two holes indicated by the arrows



F300995

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