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1.2 Engine faults

Faults	Possible cause	Remedy
Engine does not start	Fuel tank empty	Fill the fuel tank
	Fuel filter clogged, in winter caused by paraffin separation	Change the filter, use winter fuel
	Fuel lines leaking	Check all line connections for leaks and tighten the fittings
	Neutral start switch on travel lever defective or travel lever does not contact.	Change, move to correct position
	Battery discharged or not connected	Tighten the pole clamps on the battery, check line connections
Engine starts poorly and operates irregularly with poor power	Battery power too low	Have the battery examined
	Battery clamps loose or oxidized, causing the starter to turn too slow	Clean the terminal clamps, tighten them and cover them with acid-free grease
	Especially in winter: use of too viscous engine oil	Use engine oil suitable for the ambient temperatures
	Fuel supply restricted, fuel system clogged by paraffin separation in winter	Change the fuel filter. Check all line connections for leaks and tighten the fittings. Use winter grade fuel under cold conditions
	The specified valve clearance is not correct	Adjust the valve clearance
	Injection valves or plug-in injection pumps defective	Have examined by a specialist
	Dry air filter element dirty	Clean, change if necessary
	Excessive play in throttle cable	Adjust the throttle cable, change if necessary

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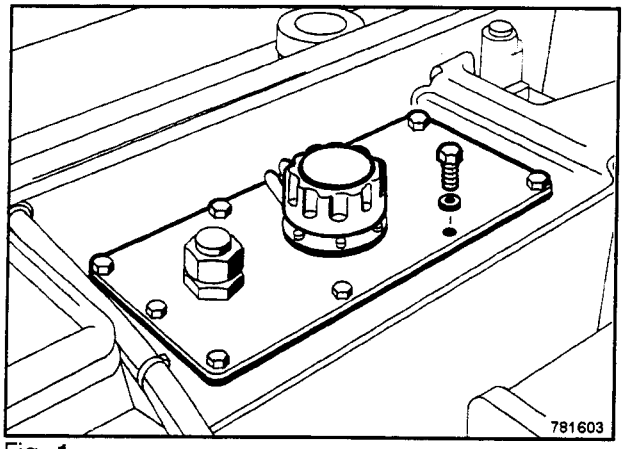


Fig. 1

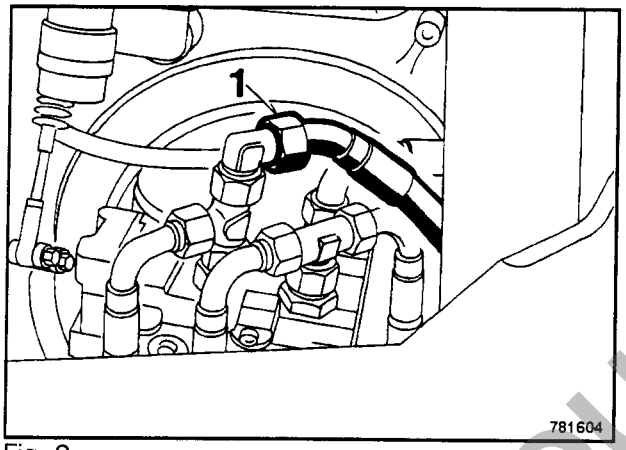


Fig. 2

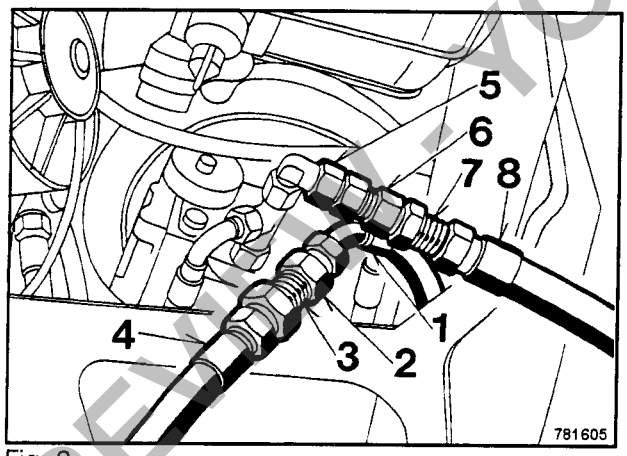


Fig. 3

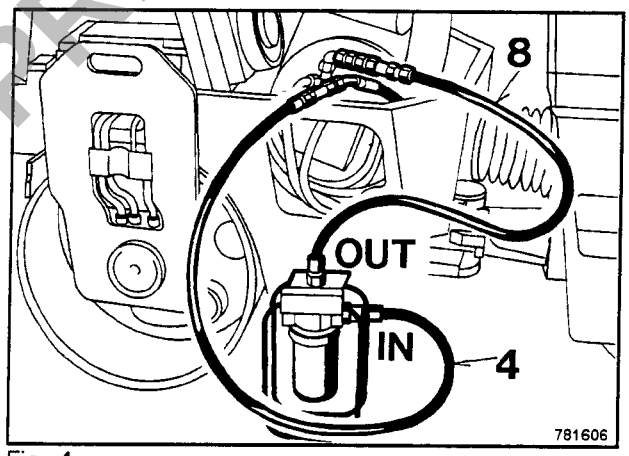


Fig. 4

3.04 Flushing the travel circuit

Cleaning the hydraulic oil tank

1. Unscrew the fastening screws 1 (Fig. 1), remove the cover from the hydraulic oil tank and pump the hydraulic oil with the filling and filtering unit into a clean container or into the oil bag.

Caution

Catch the hydraulic oil and dispose of environmentally!

2. Clean the inside of the hydraulic oil tank thoroughly.

Caution

Before the installation of the flushing filter check all hoses and connections for cleanliness and clean them if necessary.

Filter installation to flush the front drum drive system

1. Disconnect the high pressure hose 1 (Fig. 2) from the travel pump.

2. Connect the flushing hose 8 (Fig. 3) with the double end union (7), the reducing fitting (6) and the pipe connection (5) to the travel pump.

3. Connect the flushing hose (4) with the double end union (3) and the reducing fitting (2) to the disconnected high pressure hose (1).

4. Connect the flushing hose 4 (Fig. 4) to the flushing filter inlet "IN"

5. Connect the flushing hose (8) to the flushing filter outlet "OUT".

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3.02 Flushing schematic, front travel system



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Torques for bolts with metric unified threads

Dimension of bolt	Torques Nm* (ft-lb)		
	8.8	10.9	12.9
M4	3 (2)	5 (3)	5 (4)

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1.01 Foreword

1.02 Safety regulations

1.03 General notes for repairs

1.04 Tightening torques

1.05 Connecting plan

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These safety regulations must be read and applied by every person involved in the repair of the machine. All applicable accident prevention instructions and the safety regulations in the operation and maintenance manual must also be observed.

Repairs must only be carried out by trained personnel or the BOMAG After Sales Service respectively.

Note

These repair instructions contain headers such as "Note", "Attention", "Danger" which must be strictly followed.

Note

This "Note" on repairs must be strictly followed.

Caution

This note "Attention" refers to repair procedures which must be strictly followed to avoid damge to the machine and other property.

Danger

This note "Danger" refers to repair procedures which must be strictly followed to avoid danger to life.

General

- Park the machine on firm and level ground to carry out repairs.
- Secure the machine against unintended rolling.
- Secure the engine reliably against unintended starting.
- Mark a defective machine by hanging a warning tag on the steering wheel.
- Secure the articulated joint by means of the articulated joint lock.
- Wear your protective outfit such as hard hat and safety boots.
- Keep unauthorized persons away from the machine while repair work is under progress.
- Tools, lifting devices, lifting tackle, supports and other devices must be reliable and safe to operate.
- Use only secure lifting devices of sufficient capacity for removing and installing components.
- Take care when using cleasing agents. Petrol or other easily inflammable substances must never be used for cleaning purposes.
- Cleaning and repairing the fuel tank is very dangerous. When cleaning or repairing a tank do not smoke in the vicinity of the tank and avoid sparks and any kind of fire.
- Always observe the welding instructions when carrying out welding work.

Special safety notes

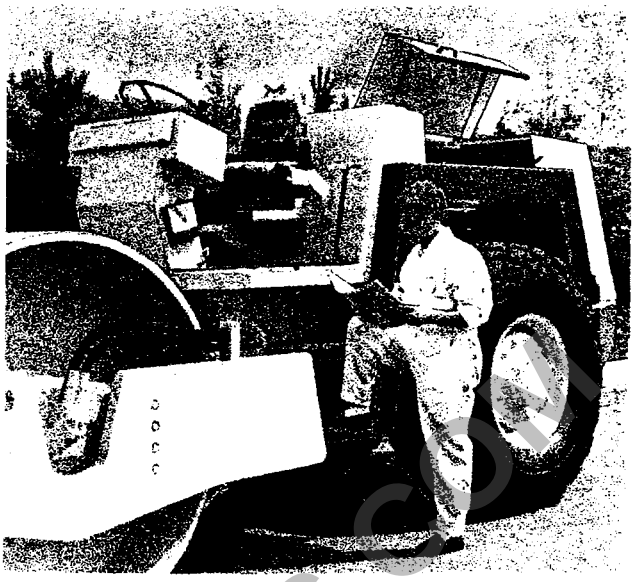
- Use only genuine BOMAG spare parts.
- Genuine parts and accessories are especially designed for the machine.
- We wish to make expressly clear that we have not tested or authorized any genuine parts or special equipment not supplied by us. The installation or use of such products can therefore have an adverse effect on specified design characteristics and/or passive driving safety. The manufacturer expressly excludes any liability for damage resulting from the use of non-genuine parts or accessories.
- Do not make any conversions or changes to the machine, since this may impair the safety.
- Keep away from the machine's articulation area if tests need to be carried out while the engine is running. Danger of accident!
- Do not clean the machine while the engine is running.
- Do not come in contact with rotating parts of the engine. Danger of accident!
- Exhaust gases are extremely dangerous. Ensure an adequate supply of fresh air when starting the engine in closed rooms.
- Fill in fuel when the engine is stopped! Ensure cleanliness! Do not spill any fuel!
- Store used filters in a special container and dispose of environmentally.
- During maintenance work collect all oils and fuels and dispose of environmentally.
- Do not fill the tank in closed rooms.
- There is a danger of scalding when working with hot oil.
- Do not heat up oil over 160 °C, as otherwise the oil or oil vapour may ignite.
- Wipe off any spilled fuel and oils.
- Do not smoke when refuelig or checking the acid level in the battery.
- Never check the acid level in the battery and the fuel level with a naked flame.
- Dispose of used batteries environmentally.

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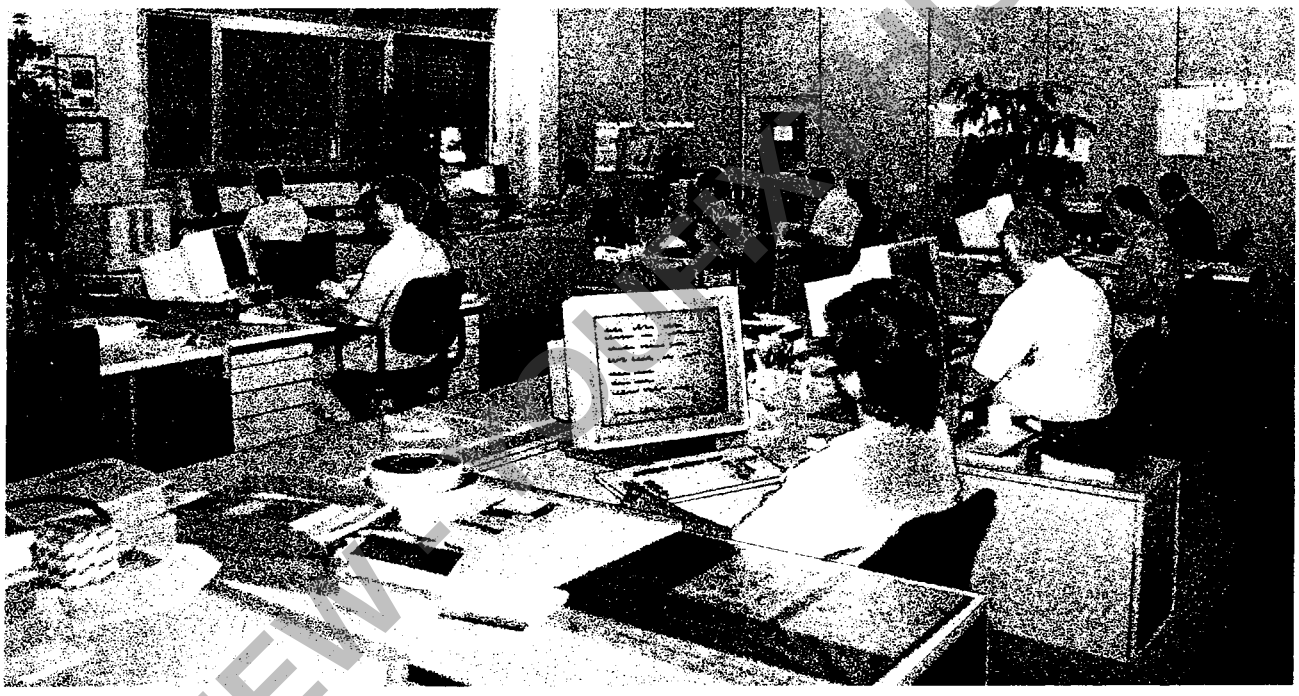
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Practical information - for the user!

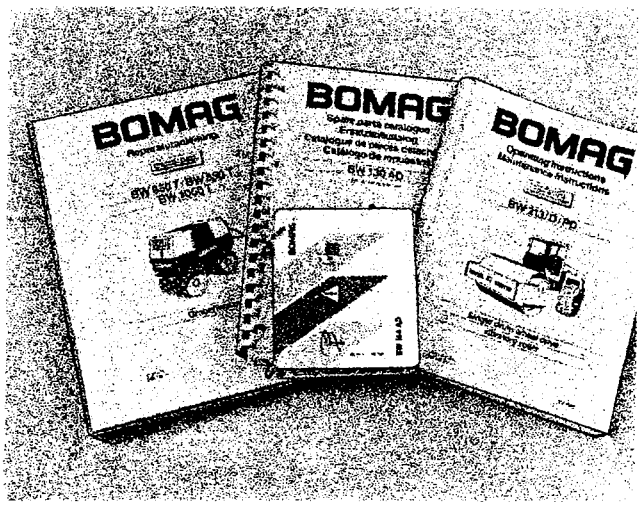
Efficient operation of your machine is ensured by using the operating, maintenance, repair and spare parts manuals.



Thought out by specialists . . .



. . . electronically processed . . .



All in all, advanced technical documentation that makes a good product even better.

an advantage for the user.

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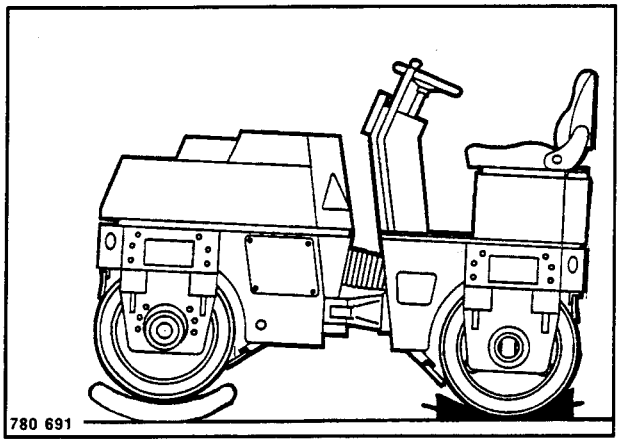


Fig. 1

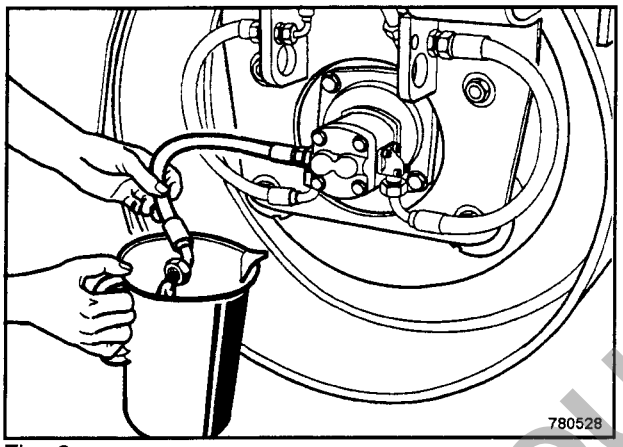


Fig. 2

2.07 Checking the leakage rate of the vibration motors

Caution

This measurement should be performed at operating temperature of the hydraulic oil (ca. 40 °C).

1. Drive the both drums on an elastic base (rubber tires), apply the parking brake (drive lever to 0-position (Fig. 1).
2. Disconnect the leakage hose (Fig. 2), install a measuring hose and hold it into a suitable container.
3. Start the engine and run it at max. speed.
4. Switch the vibration on and measure the running out leakage oil during one minute.

Caution

With this measurement it is only possible to measure the external leakage.

Internal leakages from the high to the low pressure side cannot be measured.

Nominal value:
max. 0,5 l/min

Analysis of test:
Change the vibration motor if the permissible leakage rate is exceeded.

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How to proceed in case of a fault

i Note

In case of a fault in the electric system, always check the potentials 31, 15/54 and 30 on the monitoring board first. If these connections are faulty, the monitoring board will not be able to work correctly.

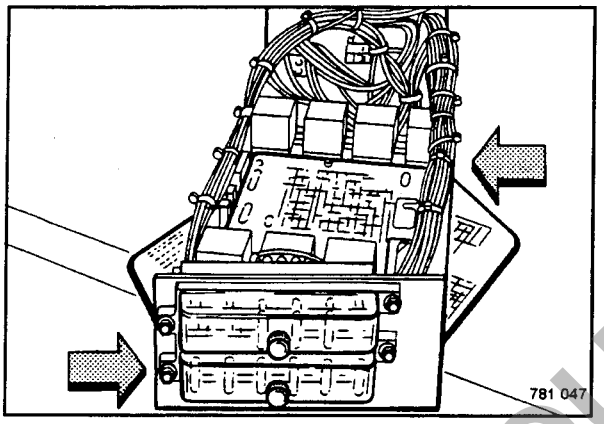


Fig. 2

- Fold the decals (Fig. 2) out.

Checking the potentials

- Switch the ignition on.
- Watch the polarity diode 7 (Fig. 1).

⚠Caution

The polarity diode (7, red) must not light. If this light emitting diode lights, there is a polarity fault on the monitoring board (plus mixed up with minus).

Correct the polarity fault if necessary.

- Check the potential 31 (earth) on terminal X3:3 10 (Fig. 1).
- Check the potential 15/54 (8 Fig. 1) with the LEDs (green) X6:2, X6:3, X6:4, X1:9, X1:8, X1:4, X12:8 and X12:9. The light emitting diodes must light.

i Note

If the light emitting diodes do not light, check potential 30 (9 Fig. 1) from the battery via the fuse (F01) to the ignition switch (S00).

Exemplary trouble shooting in case of a fault in the vibration system

- Check the potentials as described before.

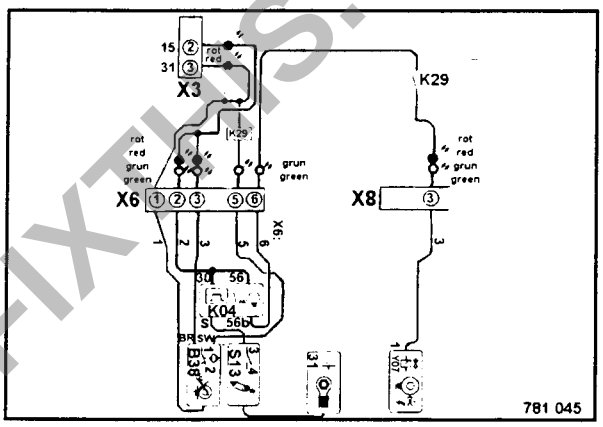


Fig. 3

The potential 15/45 is applied to the proximity switch for the vibation lock (B38/BR).

i Note

In case of a short circuit in the plug cable between terminal X6:3 and the proximity switch for the vibration lock (B38/BR) or in the proximity switch, the LED (red) X6:3 will light up.

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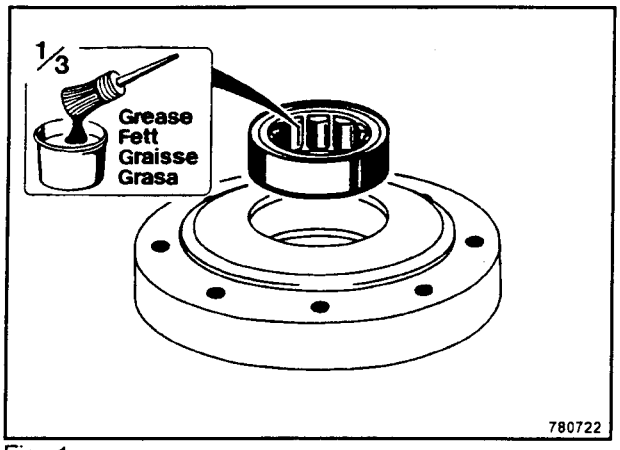


Fig. 1

4.05 Assembling the drum

Assembling the cover

1. Press the new bearing (Fig. 1) in until it bottoms and fill it to 1/3 with lithium saponified high pressure grease.

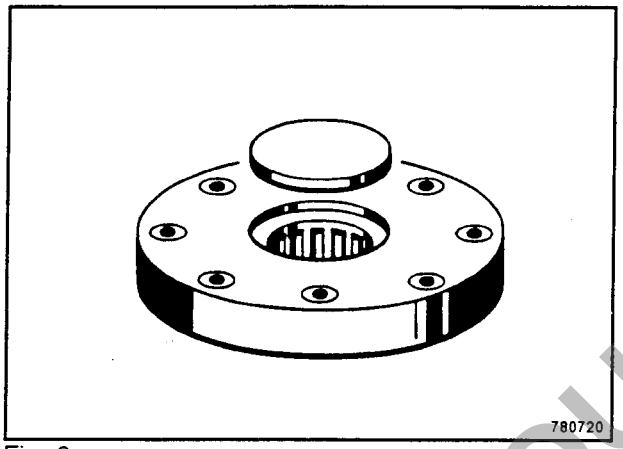


Fig. 2

2. Install the end cap.

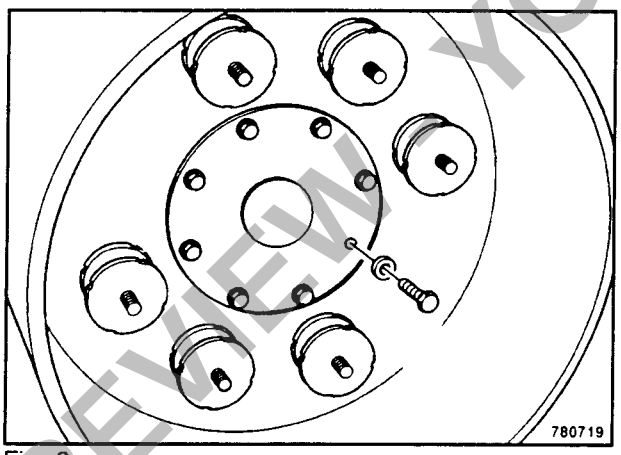


Fig. 3

3. Assemble the cover.

Assembling the vibrator shaft

1. Install the Nilos rings 2 (Fig. 4) from both sides to the vibrator shaft.

Danger

Use protective gloves.

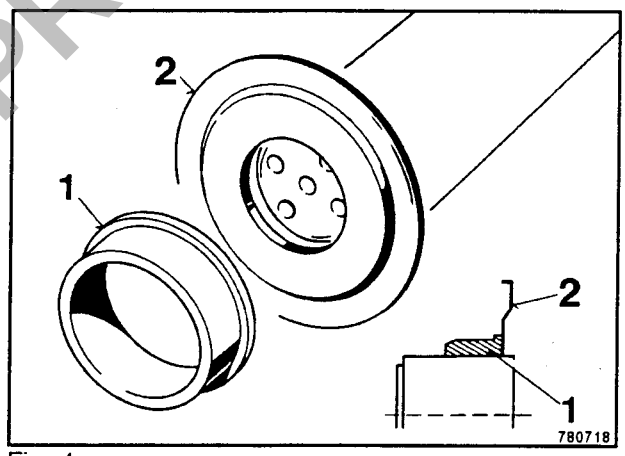


Fig. 4

2. Heat the inner bearing races (1) up to approx. 80 °C and slide them onto the vibrator shaft from both sides.

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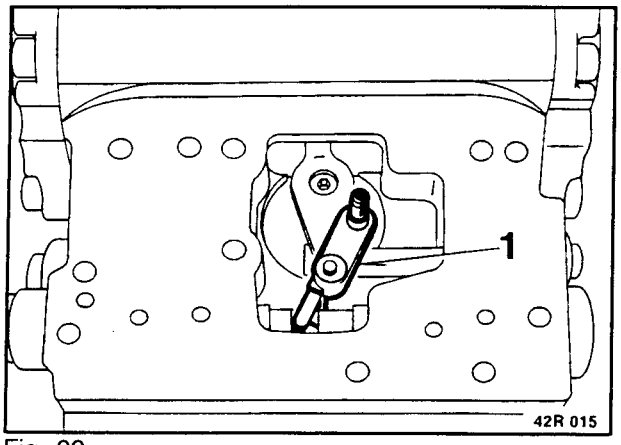


Fig. 29

11. Insert the control lever 1 (Fig. 29) so that the fork rests in the groove in the control piston.

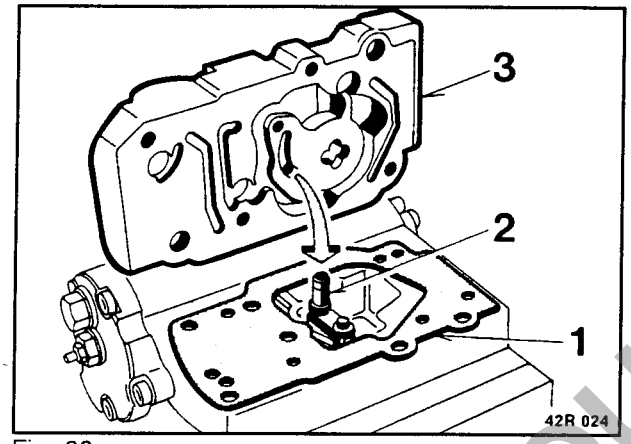


Fig. 30

12. Fit the new gasket 1 (Fig. 30).

13. Install the servo control (3) and make sure that the control lever (2) engages in the kidney groove of the control plate. Tighten the screws evenly.

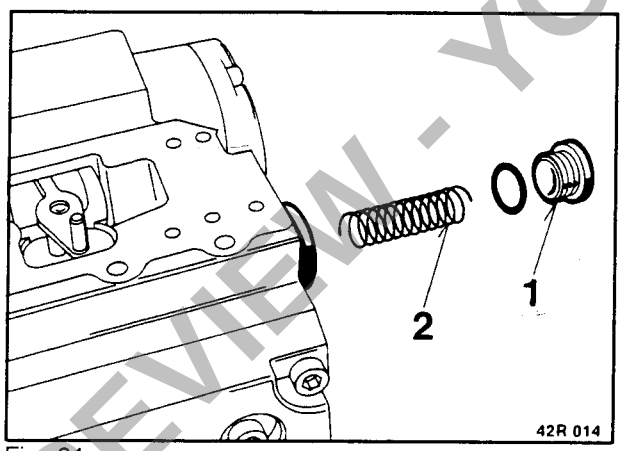


Fig. 31

14. Insert the spring 2 (Fig. 31) and screw the plug (1) back in with a new O-ring.

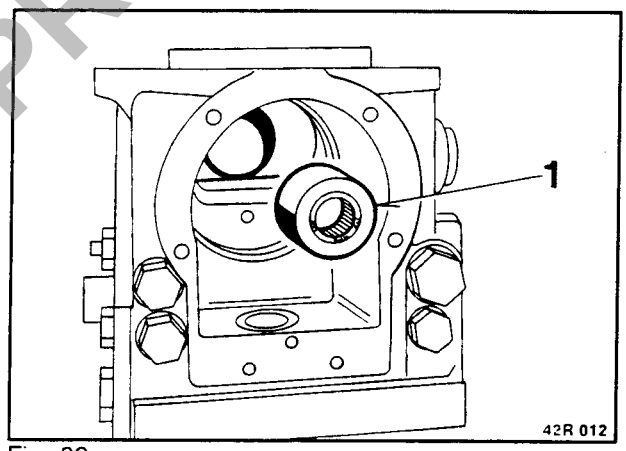


Fig. 32

15. Fit the needle bearing 1 (Fig. 32) into the servo cylider.

Caution

The inscription on the needle bearing must face the inside of the housing.

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