Maintenance table

Maintenance work	Remark	Running-in inspect. (50 op. hours)	10 oper. hours	50 oper. hours	250 oper. hours	500 oper. hours	1000 oper. hours	2000 oper. hours	as required
Change the engine oil filter		X							
Change the engine oil		X							
Check, adjust the valve clearance		X							
Tighten all bolted connections on air intake, exhaust, oil sump and engine mounts		X							
Tighten all bolted connections on the machine		X							
Tighten the wheel studs		X							
Change the oil in the axle		X							
Change the oil in the planetary drives		X							
Change the oil in the axle reduction gear		X							
Change the oil in the vibrator housings drives	see note	X				X	X		
Check the engine oil level	Dipstick mark		X	X	X	X	X	X	
Check the water separator			X	X	X	X	X	X	
Check the fuel level	approx. 250 l		X	X	X	X	X	X	
Check the hydraulic oil level	Inspection glass		X	X	X	X	X	X	
Check the coolant level			X	X	X	X	X	X	
Check the V-belt, tighten, replace if necessary					X	X	X	X	
Check the dust separator on the oil bath air filter			X	X	X	X	X	X	X
Check the tire pressure	1.1 bar			X	X	X	X	X	
Adjust the scrapers				X	X	X	X	X	

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Checking and adjusting the valve clearance

Excessive or insufficient valve clearance can cause failure of the engine as a result of mechanical and thermal overloads. The valve clearance must therefore be checked and, if necessary, adjusted at the intervals specified in the operating and maintenance instructions.

Note:

The valve clearance is measured between the valve stem and the rocker arm. The correct valve clearance on a cold or warm engine is as follows:

Intake valve: = 0,2 mm

Exhaust valve = 0.45 mm

- Remove the valve cover.
- Turn the crankshaft, until both valves on cylinder 6 are overlapping (exhaust valve not yet completely closed, intake valve starts to open).
- Check and adjust the valve clearance on both valves of cylinder 1.

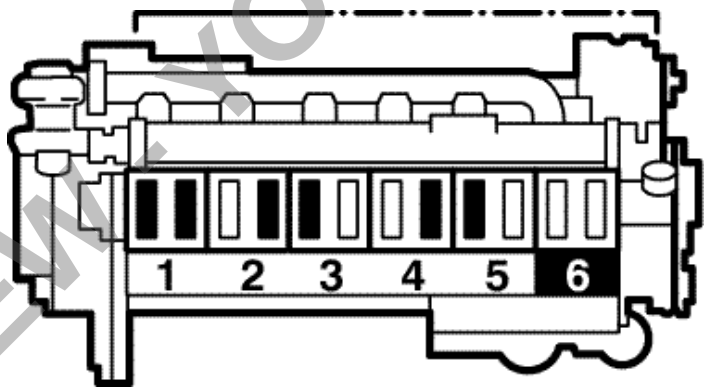


Fig. 4: Crankshaft position 1

Note:

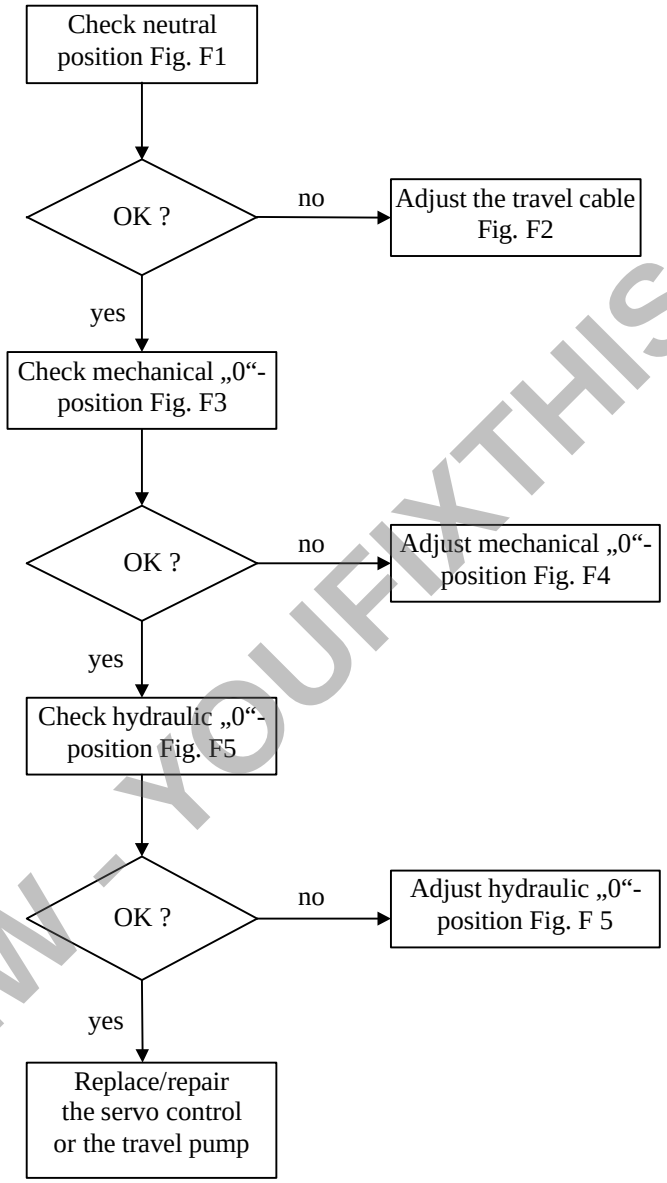
A feeler gauge (1) of appropriate thickness must fit through the gap between valve (3) and rocker arm (2) with only little resistance.

If the gap is too narrow or too wide for the feeler gauge, the valve needs to be adjusted.

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The machine moves with the travel lever in "NEUTRAL"



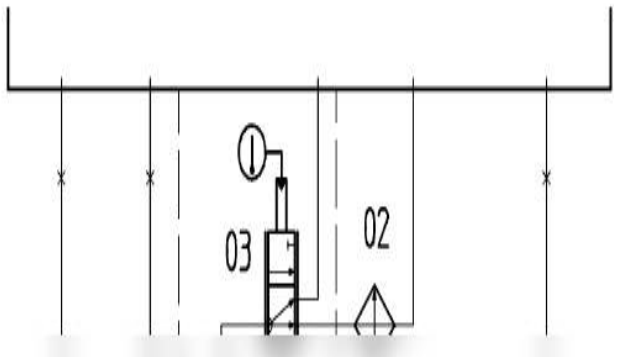
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Pos.	Benennung	Description
01	Verbrennungsmotor n=2200 1/min	Engine
02	Ölkühler	Oil cooler
03	Öltemperaturregler	Oiltemperature regulator
04	Anschlußblock	Connecting block
05	Lenkzylinder	Steering cylinder
06	Lenkeinheit	Steering unit
07	Filter	Filter
08	Bremsventil	Brake valve
09	Lenk-Speisepumpe Vg = 16 ccm	Steering-Charge pump
10	Fahrpumpe Vg = 71 ccm	Travel pump
11	Vibrationspumpe Vg = 45 ccm	Vibration pump

alle Drücke gemessen bei einer Öltemperatur von ca.50°C
Verbrennungsmotor im hohen Leerlauf n=2300 1/min
all pressures measured by an oiltemperature of ca.50°C
Engine at high idling speed n=2300 1/min

Pos.	Beschreibung	Description
MA	Speisepumpe 25±1 bar	Charge pump 25±1 bar
MB	Lenkdruck bei Volleinschlag 225±15 bar	Steering pressure at max. steering angle225±15 bar
MC	Fahrdruck auf Block rückwärts 425±15 bar	Travel pressure blocked backward 425±15 bar
MD	Fahrdruck auf Block vorwärts 425±15 bar	Travel pressure blocked forward 425±15 bar
ME	Vibrationsanlaufdruck hohe Amplitude 365±35 bar	Vibration pressure high amplitude 365±35 bar
MF	Vibrationsanlaufdruck niedrige Amplitude 365±35 bar	Vibration pressure low amplitude 365±35 bar



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BOMAG GMBH BOPPARD

Gez.: 18.05.2000
Name: Wemer
Gepr.: 18.05.2000
Name: Seis

Bauteilliste
component listing

Name	Bl.	Pf.	Benennung	title	TYP
A02	006	12	Blinkrelais	Indicator relay	
A06	004	2	Elektronik Frequenzanzeige vorne	Electronic system, frequency meter, fr.	
A08	007	18	Elektronik Omegameter	Electronic system, Omegameter	
A12	009	17	Radio	Radio	
A16	004	13	Elektronik Tachograph	Electronic system, tachograph	
A33	007	7	Zentralplatine Kopplung Verdichtungskomponenten	Connection dircuit board, compac. components	
A35	007	14	Versorgungsplatine	Suppling circuit board	
A44	007	5	Zusatzelektronik	Additional control unit	
A51	004	15	Platine Frequenzanzeige	Circuit board,frequenzy meter	
B06	002	8	Druckschalter Motoroel	Pressure switch, engine oil	
B11	002	13	Signalhorn	Warning horn	MAX. 5A
B11	002	14	Signalhorn	Warning horn	MAX.5A
B13	003	2	Naeherungsinitiator Fahrhebel links	Proximity switch, travel lever, lh.	
B14	003	4	Naeherungsinitiator Fahrhebel rechts	Proximity switch, travel lever, rh.	
B16	004	2	Aufnehmer Vibrationsfrequenz vorne	Transducer, vibration frequency, front	
B29	005	14	Raumthermostat	Room thermostat	
B51	009	17	Lautsprecher Radio	Speaker radio	
B51	009	18	Lautsprecher Radio	Speaker radio	
B53	002	8	Temperaturgeber Kuehlmittel	Temperature switch, collant	
B54	002	16	Temperaturgeber Starthilfe	Temperature switch, starting assistance	
B60	007	2	Aufnehmer Achsgeschwindigkeit	Sensor, axle speed	
B62	007	9	Beschleunigungsaufnehmer	Acceleration sensor	
B62	007	9	Beschleunigungsaufnehmer	Acceleration sensor	
B62	007	18	Beschleunigungsaufnehmer	Acceleration sensor	
B75	005	14	Kuehlmitteldruck	coolant pressure	
E04	008	13	Beleuchtung Geschwindigkeitsanzeige	Illumination, speedometer	
E05	008	12	Beleuchtung Frequenzanzeige vorne	Illumination, frequency gauge, front	
E07	007	17	Beleuchtung Omegameter	Illumination, Omegameter	
E07	008	12	Beleuchtung Omegameter	Illumination, Omegameter	
E08	006	17	Blinkleuchte vorne links	Indicator, front, lh.	MAX. 1,75A
E09	006	18	Blinkleuchte hinten links	Indicator, rear, lh.	MAX. 1,75A
E10	006	18	Blinkleuchte vorne rechts	Indicator, front, rh.	MAX. 1,75A
E11	006	19	Blinkleuchte hinten rechts	Indicator, rear, rh.	MAX. 1,75A
E12	006	4	Parkleuchte links	Parking light, lh.	MAX. 0,42A
E13	006	4	Schlussleuchte links	Tail light, lh.	MAX. 0,42A
E14	006	5	Parkleuchte rechts	Parking light, rh.	MAX. 0,42A
E15	006	5	Schlussleuchte rechts	Tail light, rh.	MAX. 0,42A
E16	006	9	Scheinwerfer links	Head light, lh.	MAX. 4,6A
E17	006	9	Scheinwerfer rechts	Head light, rh.	MAX. 4,6A
E23	005	6	Arbeitsscheinwerfer vorne links	Working head light, front, lh.	4,6A
E23	009	16	Arbeitsscheinwerfer vorne links	Working head light, front, lh.	4,6A
E25	005	8	Arbeitsscheinwerfer vorne rechts	Working head light, front, rh.	4,6A
E25	009	17	Arbeitsscheinwerfer vorne rechts	Working head light, front, rh.	4,6A
E27	005	4	Arbeitsscheinwerfer hinten links	Working head light, rear, lh.	4,6A
E27	009	15	Arbeitsscheinwerfer hinten links	Working head light, rear, lh.	4,6A
E28	005	5	Arbeitsscheinwerfer hinten rechts	Working head light, rear, rh.	4,6A
E28	009	16	Arbeitsscheinwerfer hinten rechts	Working head light, rear, rh.	4,6A
E29	009	7	Innenleuchte Kabine	Inside light, cabin	1,3A
E32	009	20	Kennleuchte	Warning light	5A
E41	006	2	Umrissleuchte vorne links	Contour illumination front, lh.	MAX. 0,42A
E42	006	3	Umrissleuchte hinten links	Contour illumination rear, lh.	MAX. 0,42A
E43	006	6	Umrissleuchte vorne rechts	Contour illumination front, rh.	MAX. 0,42A
E44	006	6	Umrissleuchte hinten rechts	Contour illumination rear, rh.	MAX. 0,42A
F00	002	3	Hauptsicherung Batterie	Fuse, main, battery	125A
F02	009	19	Ersatzsicherung	Fuse, spare	10A
F03	003	16	Sicherung Vibration	Fuse, vibration	30A
F05	002	2	Sicherung Steckdose	Fuse, socket	30A
F07	006	12	Sicherung Warnblinker	Fuse, hazard light	15A
F08	006	12	Sicherung Blinker u. Arbeitsscheinw.	Fuse, indicators a. work. head light	15A
F09	006	4	Sicherung Park− u. Schlussl. links	Fuse, parking and tail light, lh.	15A
F10	006	5	Sicherung Park− u. Schlussl. rechts	Fuse, parking and tail light, rh.	15A
F11	006	9	Sicherung Scheinwerfer links	Fuse, head light, lh.	15A
F13	002	17	Sicherung Startschalter	Fuse, starter switch	30A
F17	009	17	Sicherung Radio	Fuse, radio	10A
F19	005	6	Sicherung Arbeitsscheinw. vorne li.	Fuse, working head light, front, lh.	30A
F22	005	4	Sicherung Arbeitsscheinwerfer hinten	Fuse, working head lights, rear	30A
F24	002	5	Sicherung Ueberwachungsmodul	Fuse, monitoring module	30A
F25	003	2	Sicherung Magnetv. Fahren u. Bremse	Fuse, sol. valve, travel and brake	30A
F31	009	13	Sicherung Kabinenluefter	Fuse, cabin ventilator	15A
F38	007	2	Sicherung Terrameter	Fuse, terrameter	20A
F42	009	7	Sicherung Kabineninnenleuchte	Fuse, inside light cab	10A
F43	009	8	Sicherung Wischermotor hinten	Fuse, wipermotor rear	10A
F44	009	11	Sicherung Wischermotor vorn	Fuse, wipermotor front	10A
G01	002	3	Batterie	Battery	
G02	002	4	Generator	Generator	
H05	006	13	Meldeleuchte Blinker	Indicator light, indicators	
H06	006	13	Meldeleuchte Warnblinker	Indicator light, hazard light	
H07	005	18	Warnsummer Betriebsstoerung	Warning buzzer, breakdown	
H08	002	5	Meldeleuchte Ladekontrolle	Indicator light, charge control	
H09	002	8	Meldeleuchte Oeldruck Motor	Indicator light, engine oil pressure	
H14	003	6	Warnsummer Rueckwaertsfahrt	Back−up alarm buzzer	MAX. 0,12A
H28	002	8	Meldeleuchte Kuehlmitteltemperatur	Indicator light, engine coolant temp.	
H56	008	10	Meldeleuchte "Weiter"	Indicator light, "continue"	
H57	008	10	Meldeleuchte "Fertig"	Indicator light, "ready"	
K04	003	16	Schrittrelais Vibration	Toggle relay, vibration	
K05	003	7	Relais Startstrom	Relay, starting current	BOSCHW
K06	005	2	Relais Scheinwerfer hinten	Relay, head lights, rear	BOSCHW
K09	002	6	Relais Klimageraet	Relay, air conditioning	BOSCHW
K11	002	17	Relais Klemme 30 auf 15	Relay, terminal 30 to 15	BOSCHW
K13	002	10	Relais Signalhorn	Relay, warning horn	BOSCHW
K16	006	8	Relais Scheinwerfer vorne	Relay, head lights, front	BOSCHW
K26	003	4	Relais Rueckfahrwarneinrichtung	Relay, back up alarm	BOSCHW
K32	009	2	Relais Kabine	Relay, cabin	BOSCHW

Ers.f.:
Replaces:

Seite: 1 von: 4
page: from:

Blatt Nr.: 582 700 69
sheet no.:

101

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Table of contents

Foreword	**A 1**
Documentation	A 2
General	A 3
List of components	**B 1**
Position of test ports and connections	B 2
Technical data	B 3
Maintenance	C1
Maintenance table	C2
PERKINS Diesel engine	**D 1**
Service side	D 2
Starter side	D 3
Lubrication oil circuit	D 4
Adjusting the valve clearance	C 5
Injection pump	D 7
Travel system	**E 1**
Travel pump	E 3
Control	E 6
Charge pressure relief valve	E 8
High pressure relief valves	E 9
Pressure override	E 11
Drum drive motor (Poclain)	E 13
Travel motor (axle) up to S/N 101 580 37 1080	E 17
Travel motor (axle) from S/N 101 580 37 1081	E 19
Trouble shooting travel system	Etr 1

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Foreword

Reliable construction equipment is of greatest advantage for all parties involved:

- for the customer/user it is a basis for an exact calculation of utilization periods and the completion of projects as scheduled.
- in the rental business it means that the equipment can be reliably used and planned without having to stock a large number of stand-by machines.
- for the manufacturer it means that customers are satisfied, provides him with a good image and gives him a feeling of confidence.

It is BOMAG's philosophy to design and produce the machines with highest possible reliability. This aspect of simple and easy maintenance was one of the key issues when developing and designing the machine:

- the location of components in the machine eases maintenance work,
- the high quality standard of BOMAG is the basis for the considerable extension of the service and maintenance intervals.
- the After Sales Service of BOMAG, including excellent operating and maintenance instruction manuals, high quality training courses and on-site machine demonstrations helps the customer to maintain their machines in good condition over a long period of time.

Permanent training of BOMAG's own service personnel as well as the service personnel of BOMAG Profit Centres and dealers is therefore a general prerequisite for BOMAG's excellent world-wide service.

This program of permanent training is only possible with appropriate and up-to-date training material for trainers as well as persons attending the training courses.

This training manual has not only been written as a support for the professional work of the trainer, but also for the trainees attending these training courses.

The different levels of product training demand, that the training performed by BOMAG, its Profit Centres or its dealers reflects the high quality of the training conducted at the Training Centre at BOMAG in Boppard. For this reason we invested a lot of time in the preparation of these materials .

The structure of this training manual enables us to change or up-date individual chapters in case of alterations to the machine.

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The travel pump is flanged to the flywheel side of the diesel engine. It is directly driven by the engine with constant speed.

The charge pump is part of the vibration pump. Since the vibration system on this machine also works with a closed hydraulic circuit, the required quantity of charge oil is much higher. For this reason a second charge pump is needed.

The steering pump driven by the auxiliary drive of the diesel engine has the additional function of a charge pump for the closed circuit. The return flow from the steering valve flows through a fine filter and enters the travel pump through the charge ports.

Besides the function of supplying the closed hydraulic circuits with cool and filtered oil as compensation for the leakage and flushing quantities, the oil from the charge circuit is also needed to accomplish the following machine functions:

- to control the variable displacement pumps for travel and vibration drive,
- for speed range selection of the axle drive motor,
- to release the hydraulically operated multi-disc brakes.

On this machine range both drum as well as rear axle are driven by hydraulic motors.

All safety and control elements needed for the operation in a closed hydraulic circuit are integrated in the travel pump. These are:

- High pressure relief valves (475 bar) with integrated boost check valves
- Charge pressure relief valve (min. 25 bar)
- Pressure override (425 bar)
- Servo control

The axial piston motor for the rear axle drive is fitted with an additional flushing valve for the closed circuit.

The travel motors for drum and rear wheel drive are hydraulically connected in parallel mode.

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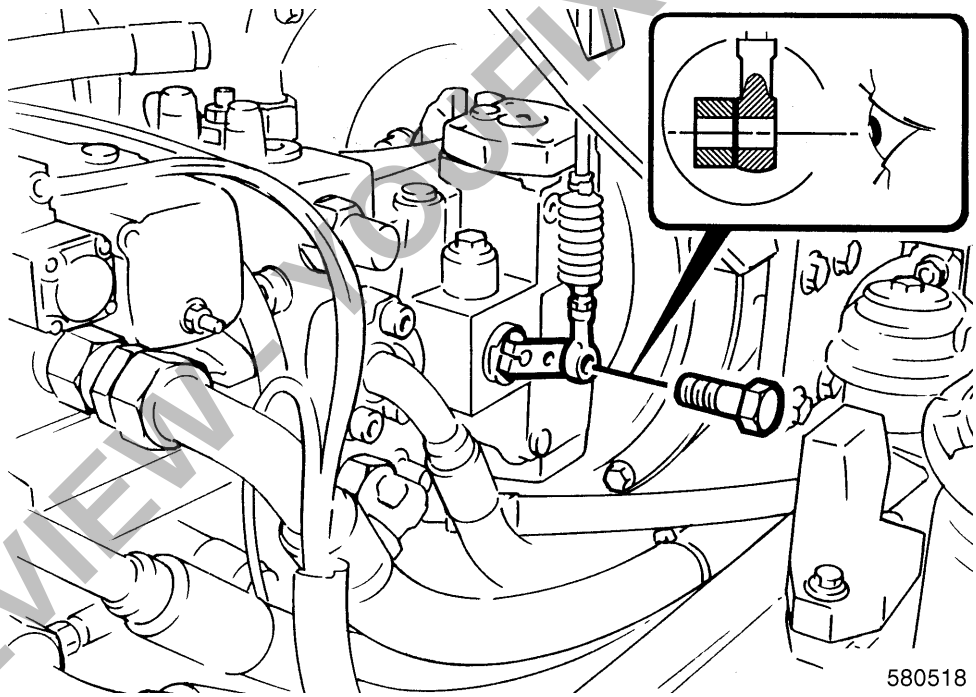
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Fig. F1:
Checking the neutral position

With the travel lever in neutral position the machine must not move, even when the engine is running. In this condition the travel pump is centred in neutral position and both sides of the closed circuit have identical pressure (charge pressure).

If the machine moves in this condition on flat ground you should perform trouble shooting by applying the following steps.

- Shift the travel lever to ”Neutral” position
- Disconnect the travel cable from the pump
- Start the engine (if the machine is free of faults the machine will now stop)
- Check, whether bores in ball socket and pump control lever are in line



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Vibration motor

The vibration motor is a swash plate operated axial piston motor with fixed displacement. The motor is designed for rotation two both directions and can therefore be pressurized from both sides.

The pressurized hydraulic oil supplied by the vibration pump flows through the kidney shaped control slots in the valve plate to the cylinder block with the working pistons. The pressurized hydraulic oil forces the working pistons to perform a stroking movement. Due to the swash plate design the axial movement of the pistons is converted to a radial movement of the cylinder block. The output transfers this rotation via an elastic Bowex coupling to the exciter shaft with the bolted on eccentric weights.

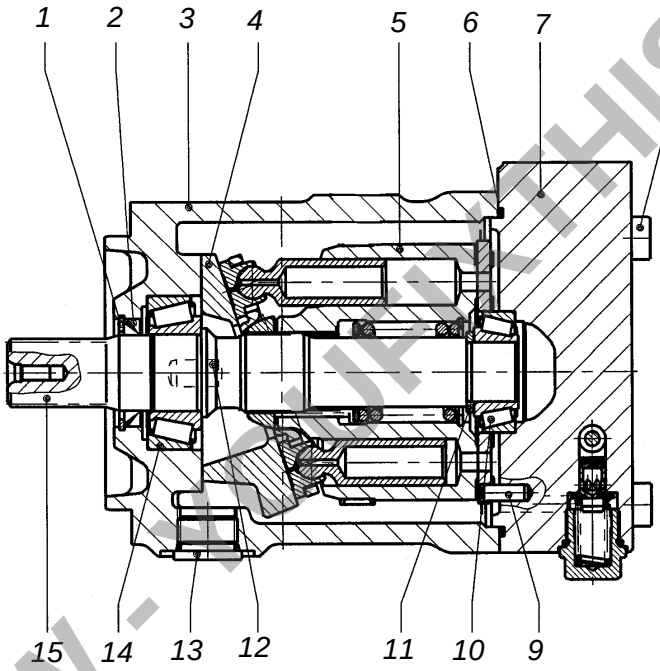


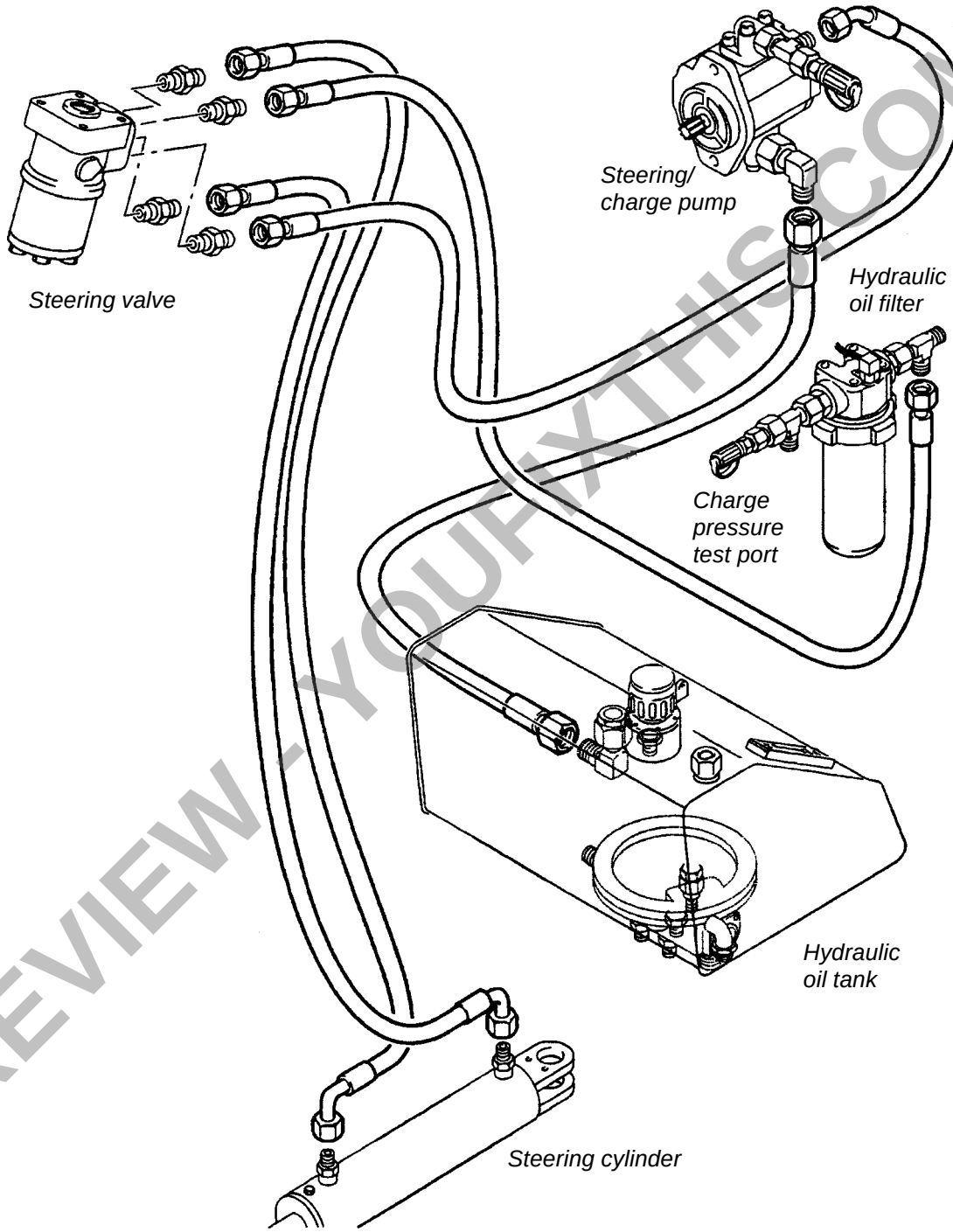
Fig. 7 Vibration motor

1	*Circlip*	*9*	*Locating pin*
2	*Radial seal*	*10*	*Taper roller bearing*
3	*Housing*	*11*	*Spacer ring*
4	*Swash plate*	*12*	*Dowel pin*
5	*Cylinder block*	*13*	*Plug*
6	*Radial seal*	*14*	*Taper roller bearing*
7	*End cover with flushing valve*	*15*	*Output shaft*
8	*Fastening screw*		

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Steering (routing of hoses)



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Fig. 6 Steering (routing of hoses)

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