

Service Training and Workshop Handbook

C 66 D

CL 66 D

CD 66

CL 66

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TECHNICAL DATA - BLADE EQUIPPED COMPACTORS ONLY

DIMENSIONS

Overall length, blade resting on ground	6 840 mm
Width over compactor rollers	3 200 mm
Height to top of cab	3 420 mm

WEIGHTS

Operating weights with cab:

Without ballast	22 700 kg
With ballast	26 000 kg

SPEEDS (at 5% rolling resistance)

	<u>Forward</u>	<u>Reverse</u>
1st gear	0 - 5.0 km/h	0 - 5.1 km/h
2nd gear	0 - 10.5 km/h	0 - 10.8 km/h
3rd gear	0 - 22.6 km/h	0 - 23.0 km/h

ENGINE

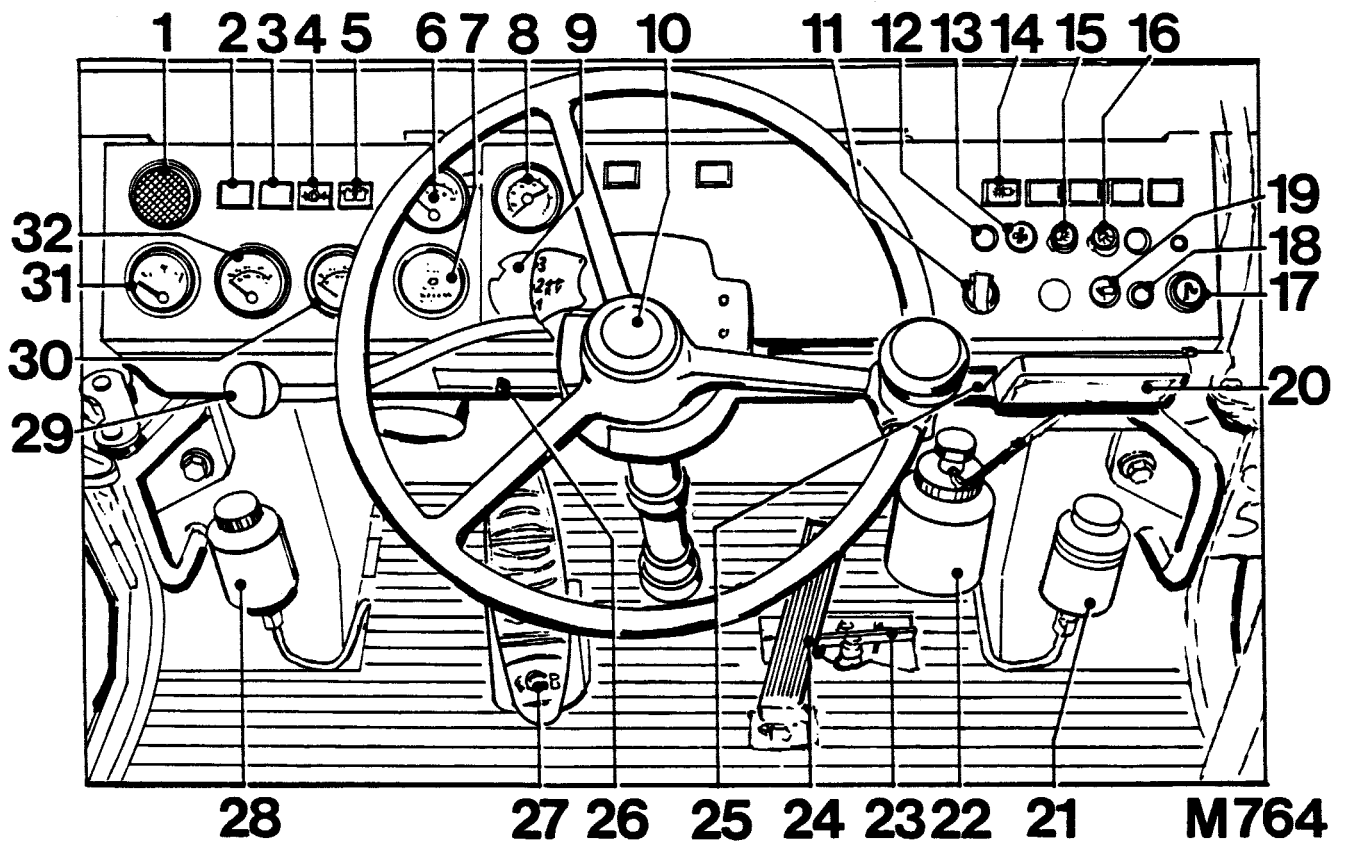
Type	D 963 A 1 with exhaust-gas turbocharger	
Output rating to DIN 700 20	157 KW (213 PS)	
Bore	128 mm	
Compression pressure	27 - 33 bar, minimum 24 bar	
Valve tip clearances, engine hot or cold	Inlet 0.30 mm	
	Exhaust 0.30 mm	
Firing order	1 - 5 - 3 - 6 - 2 - 4	
Commencement of injection	28° before TDC	
Lubricating oil pressure	Low idle speed 0.5 bar min. }	} engine hot
	Rated speed 2.5 bar min. }	
Piston cooling nozzles	Opening pressure 2.0 bar	
Cooling system	Dual-circuit water circulation with a double-spiral centrifugal pump and two thermostats	
Coolant	A mixture of water, anti-freeze and corrosion inhibitor	
Radiator pressure valve	Opens at 0.6 bar	
Cooling fan	Suction-type fan	
Air intake system	Dry air cleaner with main and safety filter elements, a HD cyclone separator with exhaust ejector	

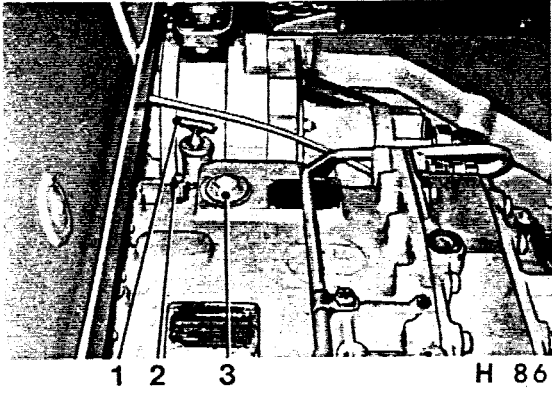
POWERSHIFT TRANSMISSION

Make/Type	ZF Hydromedia-transmission/3 PW 45 H1
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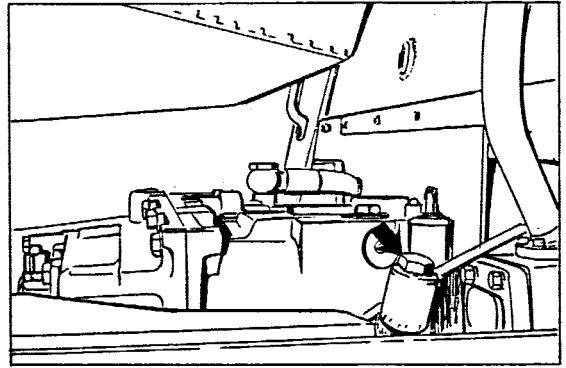
FRONT and REAR AXLES

Make/Type	ZF/Type AP - 17R with self-locking differential
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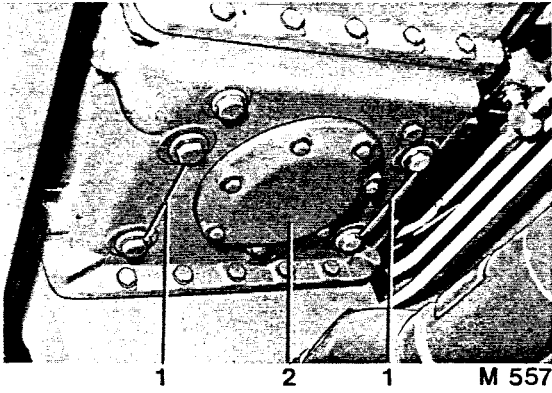




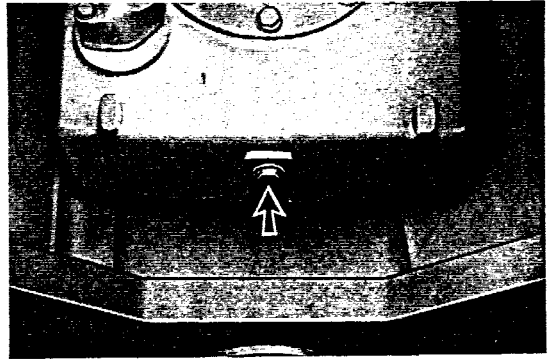
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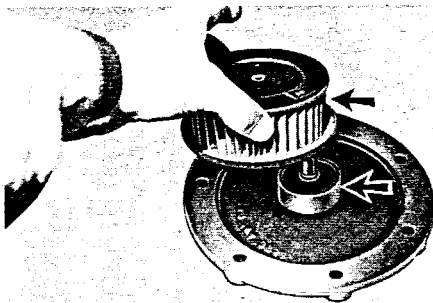
M 686



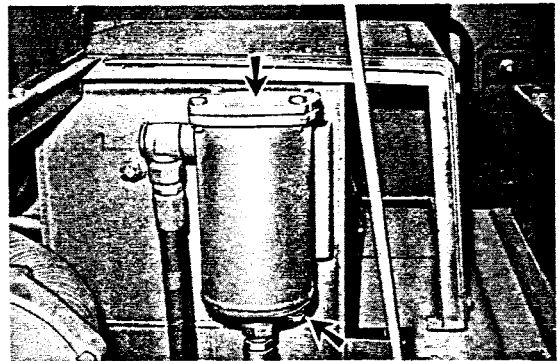
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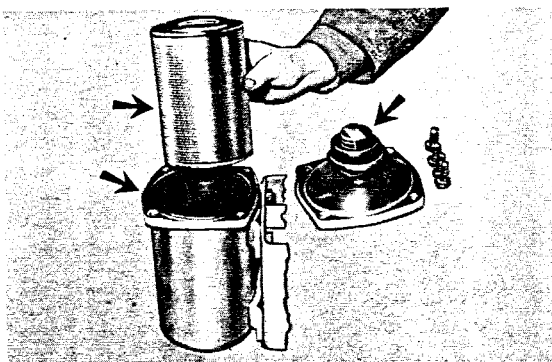
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H 88

TEST CERTIFICATE

CL 66 D / Bucket

Serial No.:

Engine No.:

Owner:

Engine output and rpm

Nominal

Actual

1	Rated output (kW/HP)	157 / 213	
2	Low idle speed	750 - 850	
3	High idle speed	2250 - 2410	
4	Stall torque speed against converter	2050 + 50	
5	Stall torque speed against hydraulics p = 180 bar	2250 + 50	
6	Stall torque speed against converter and hydraulics	1700 + 70	

Operating temperatures in °C

Nominal

Actual

7	Coolant	80	
8	Converter oil	90	
9	Hydraulic oil	60 - 70	

Operating pressures in bar at engine high idle speed

Nominal

Actual

10	Loader hydraulics (max.)	180 + 5	
11	Switch pump cut-out pressure	140 + 5	
12	Servo control pressure	27 + 1	
	at engine low idle speed > 24		
	with engine stopped and loader frame raised	15 - 37	
13	Steering system pressure	180 + $\frac{20}{10}$	
14	Pressure at converter pressure holding valve	3.6 - 7.0	
15	Transmission lube. (cooling) oil pressure	1.5 - 3.6	
16	Transmission gearshift pressure	15 + 2	
17	Air pressure regulator load - unload pressures	6.2 - 7.35	

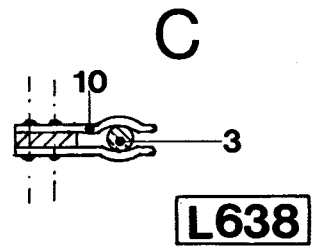
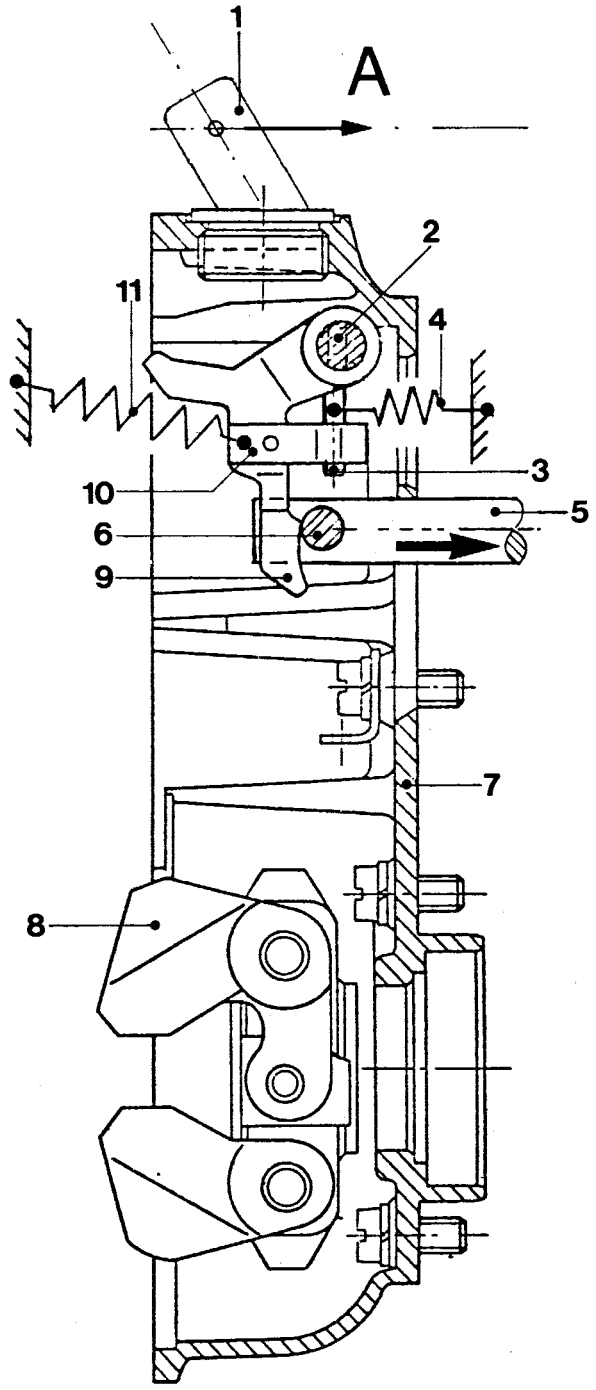
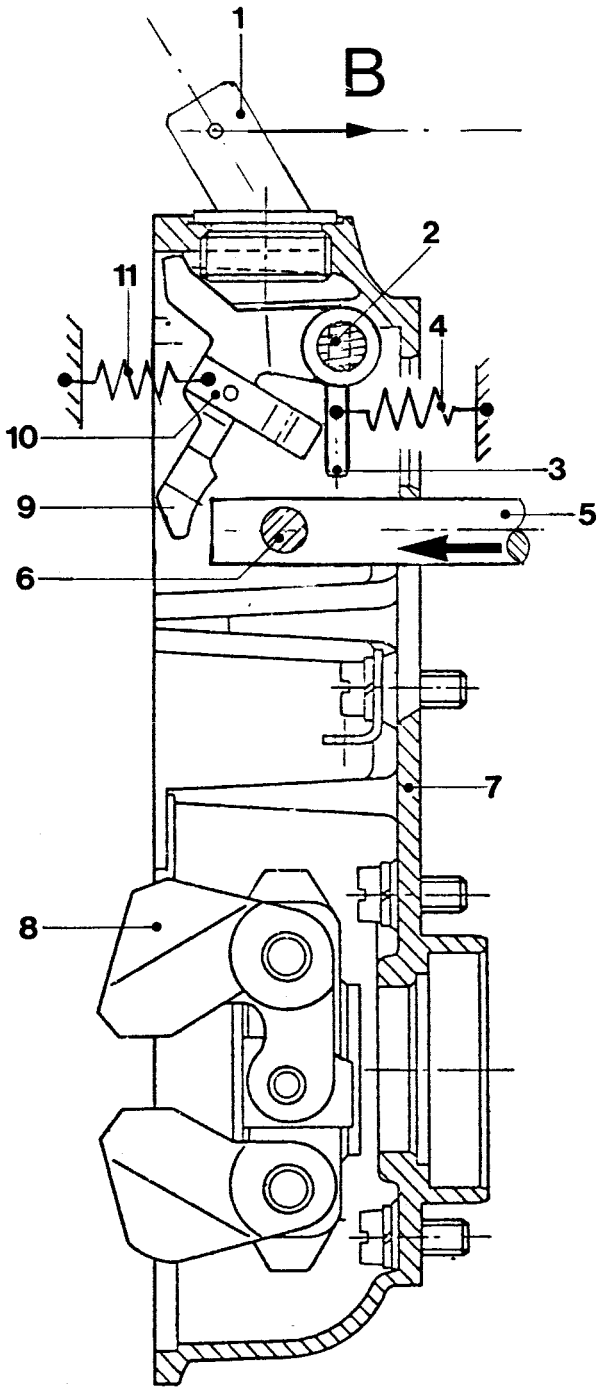
Work cycle times in seconds

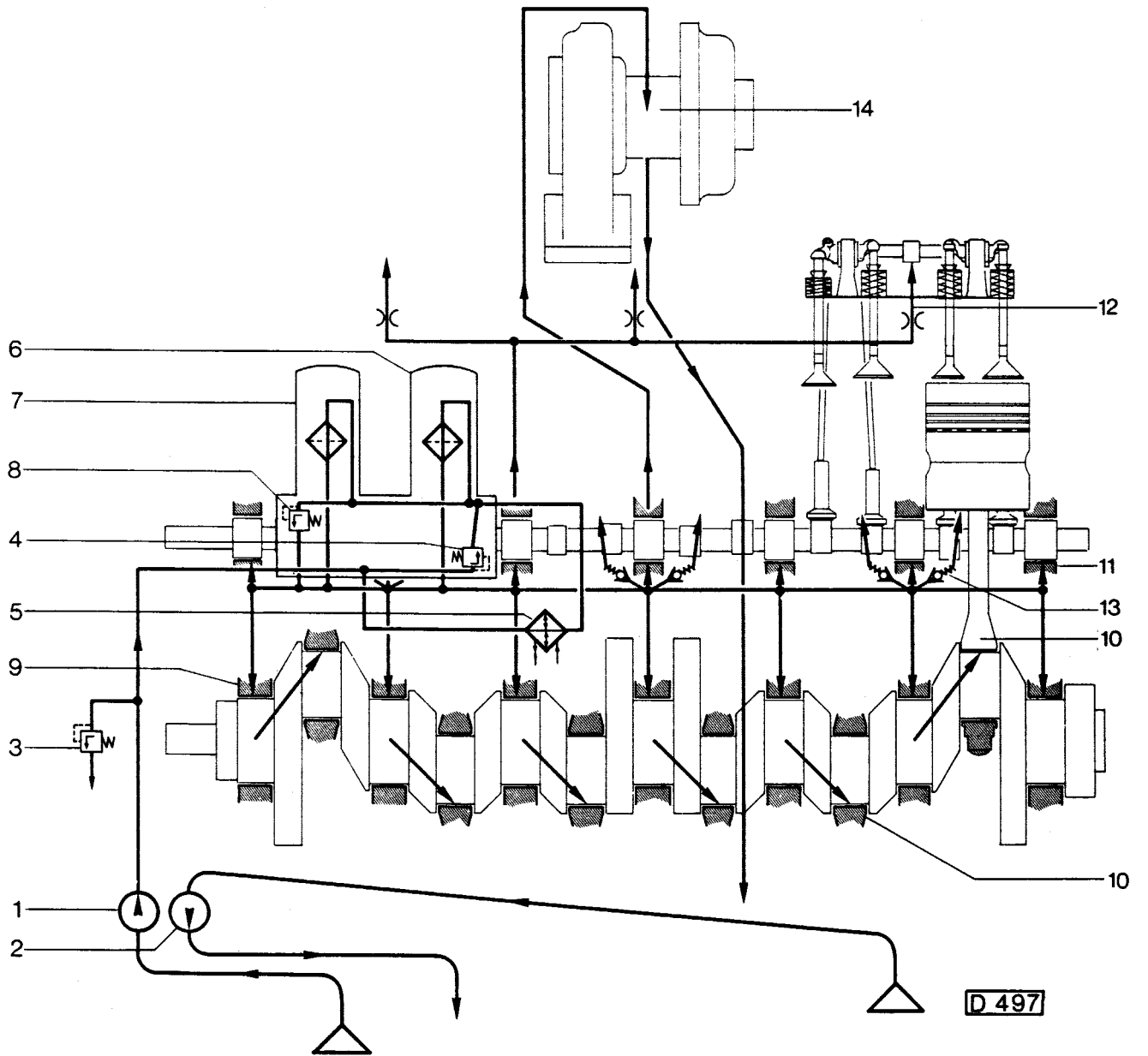
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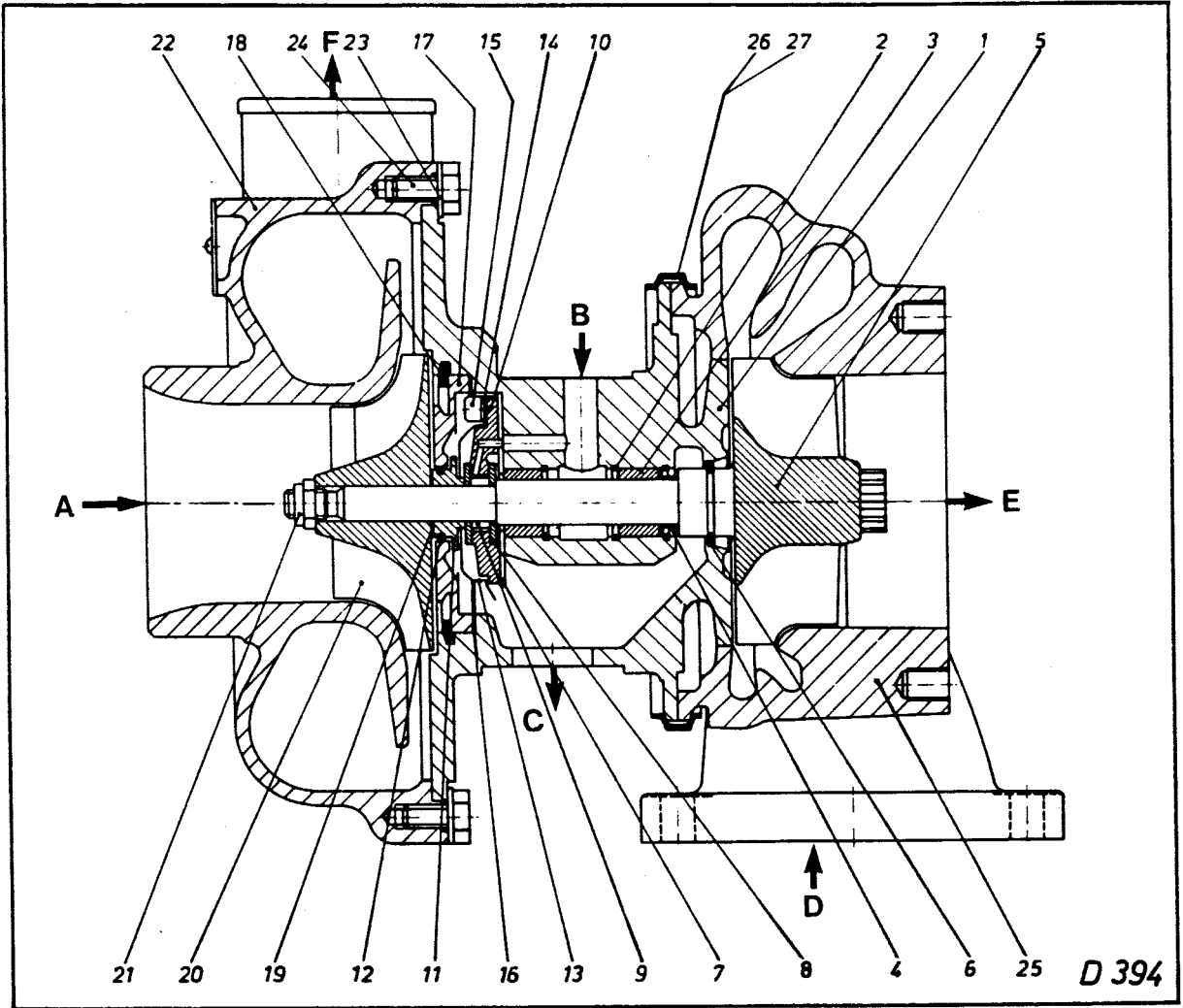
Actual

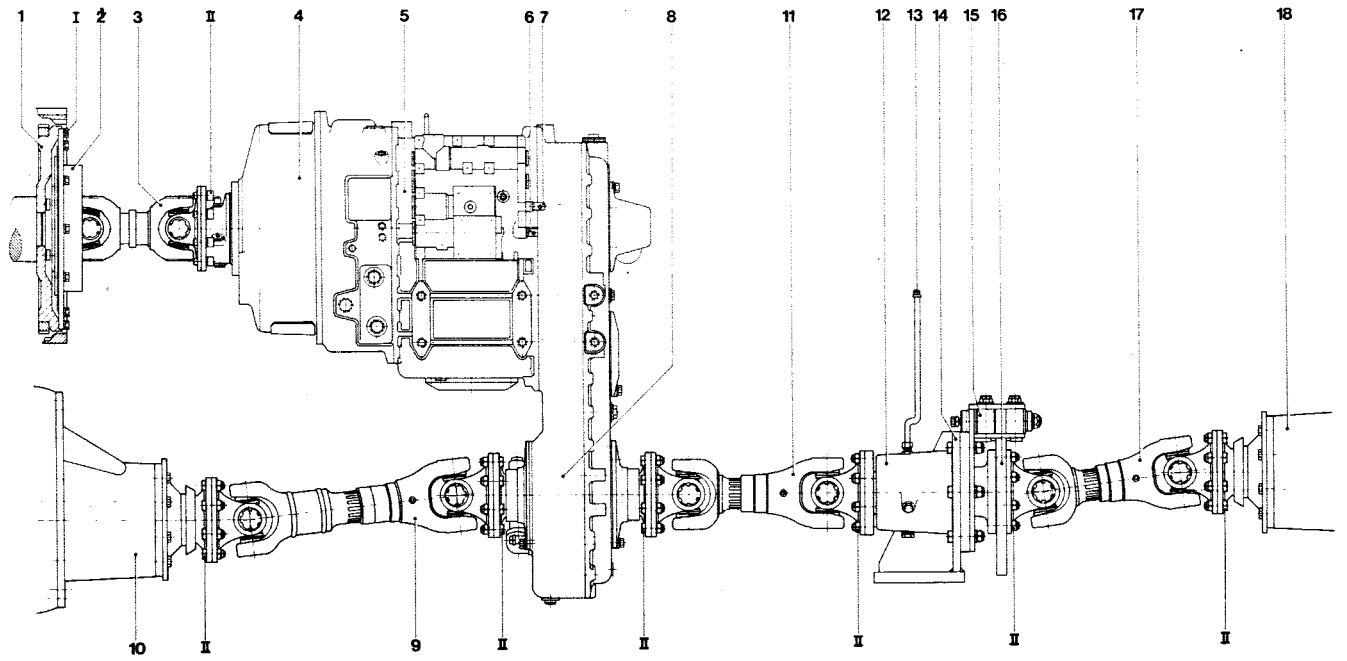
18	Loader frame raise with an empty bucket (max.)	6.8	
19	Loader frame raise with a 5 Mp bucket load (max.)	7.0	
20	Bucket dump, total rod stroke, bucket at max. height	1.5 - 1.7	
21	Bucket rollback, from ground to bucket stop (max.)	1.7	
22	Lower empty bucket to ground	3.0 - 3.6	
23	Lower empty bucket in float position	3.5	
24	Steering time full lock to full lock at engine max. speed	3.3	
	Steering time full lock to full lock at 1500 rpm	3.6	

All pressures and timings to be measured/adjusted with the machine at normal operating temperature.









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LOADER and STEERING HYDRAULIC SYSTEM

STEERING PUMP and SWITCH PUMP (TANDEM PUMP)

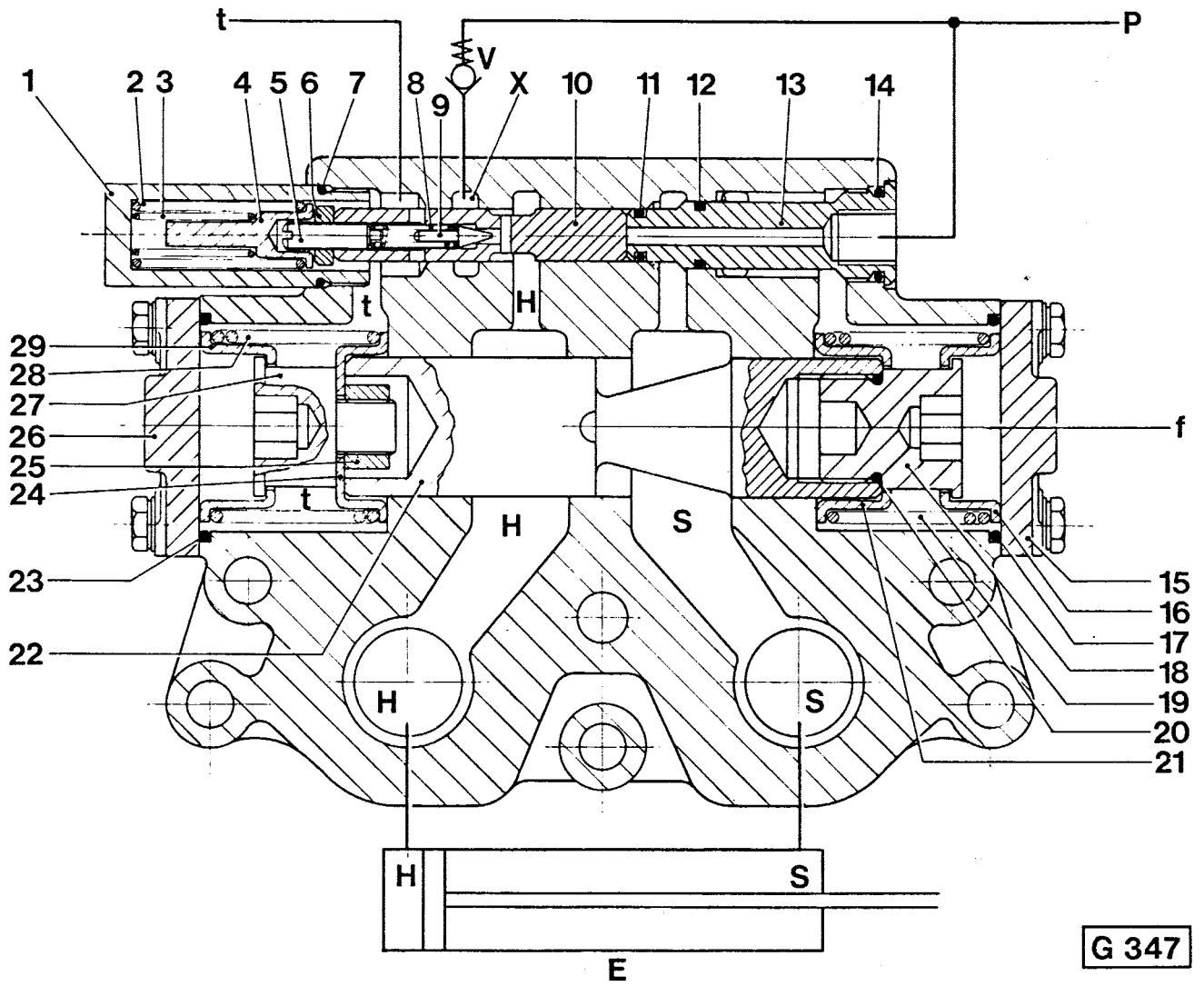
Fig. G 310

The illustration shows a cross section of a twin-section pump commonly known as a tandem pump. This tandem pump is mounted on the transmission and is driven dependent on engine speed.

The inner section (transmission side) of the tandem pump is the switch pump and the outer section is the steering pump.

- 1 Drive shaft
- 2 Cover
- 3 Body
- 6 Wear plates
- 7 Seals
- 8 Back-up rings
- 9 Seal
- 10 Needle roller bearings
- 11 Oil seals (radial seals)
- 15 Pump gear (driver)
- 15 Pump gear (driven)
- 17 Dowels

Note: The drive shaft of the outer pump is coupled to the drive shaft of the inner pump by a coupling or sleeve constituting a single drive shaft driving both pumps.



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LOADER HYDRAULICS

HYDRAULIC CYLINDERS

Fig. F 758

- 1 Cylinder tube
- 2 Wrapped bush
- 3 Spacer ring
- 4 Grease nipples
- 5 Piston securing nut
- 6 Piston seal
- 7 Piston
- 8 Guide bands
- 9 Split bush
- 10 O-ring
- 11 Combined guide bush and cap nut
- 12 Piston rod seal
- 13 Spiral back-up ring
- 14 O-ring
- 15 Lockwasher
- 16 Wiper seal
- 18 Piston rod
- 19 Wrapped bush
- 20 Spacer ring

Recommended Torque Tensions

Lift and bucket cylinders:

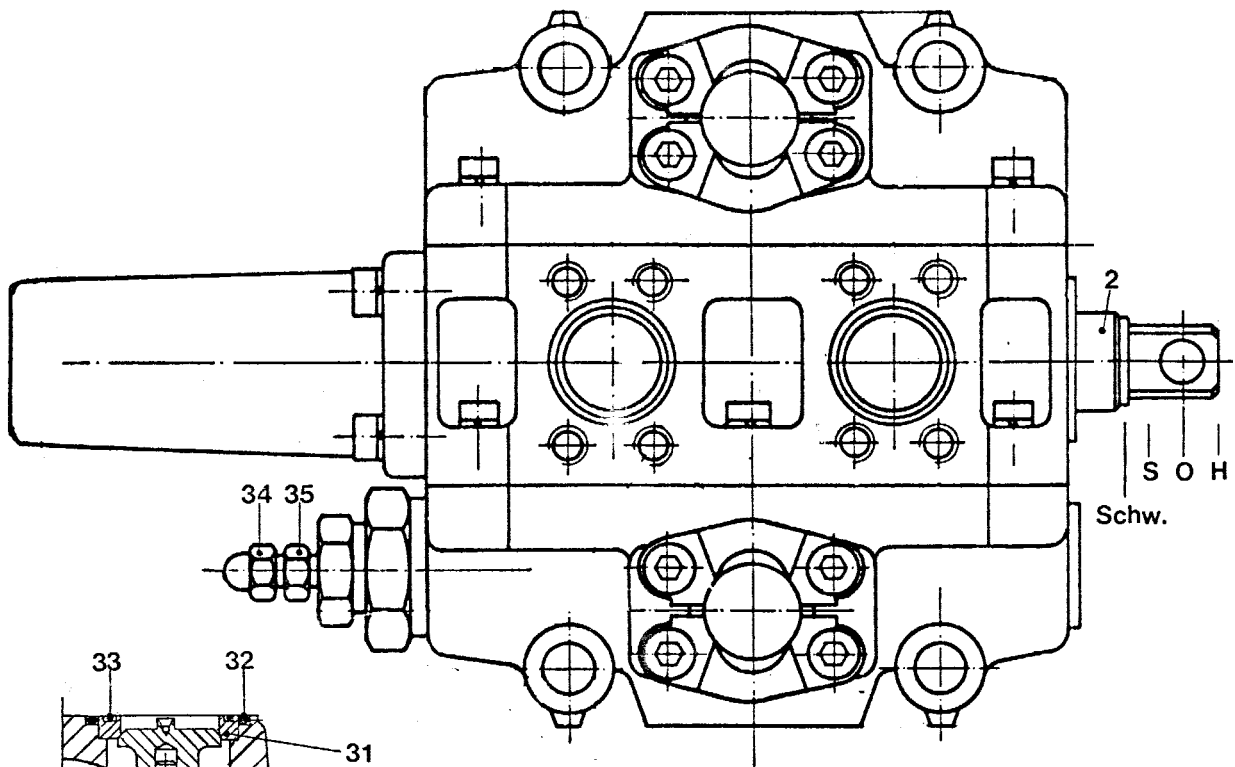
- | | |
|---------------------------|----------------|
| 5 Piston securing nut | 1700 - 1900 Nm |
| 11 Guide bush and cap nut | 1200 - 1400 Nm |

Steering cylinders:

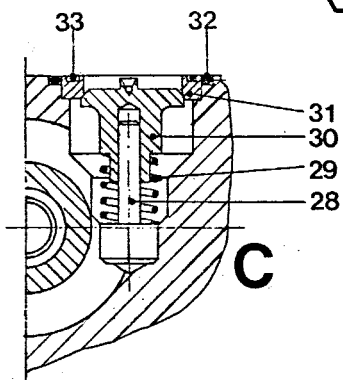
- | | |
|---------------------------|--------------|
| 5 Piston securing nut | 760 - 840 Nm |
| 11 Guide bush and cap nut | 180 - 230 Nm |

Repair Notes

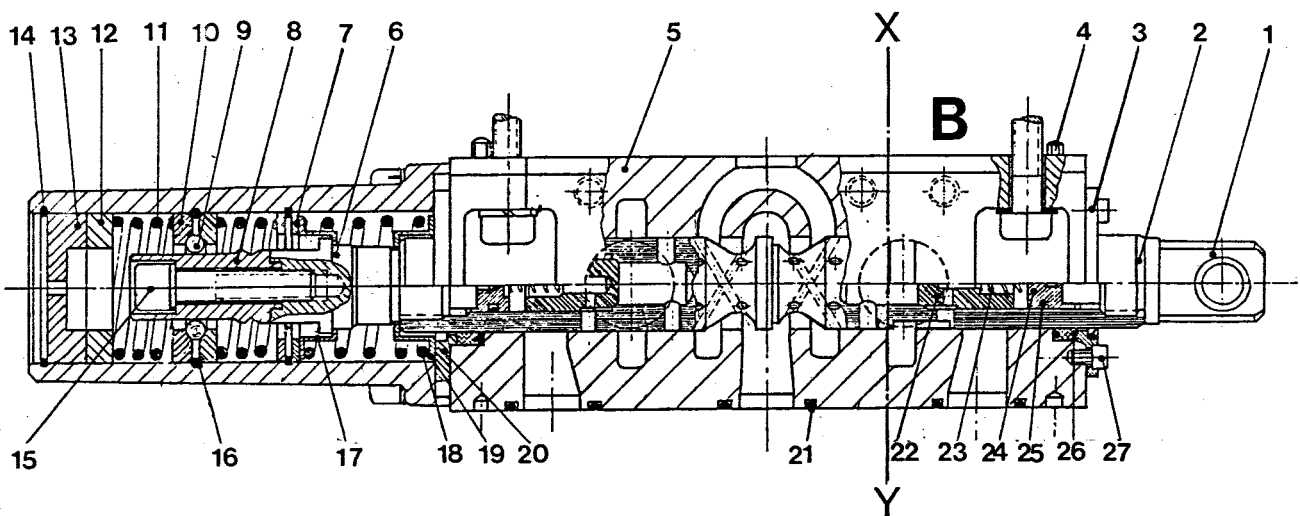
- a) A special spanner, part number 3090 600 M91, is available for removing and replacing the guide bush and cap nut (11) on steering cylinders which can also be used even when the cylinder is installed.
- b) Apply two beads of Loctite along the entire length of the piston rod screw threads before fitting and tightening the piston securing nut (5).



A

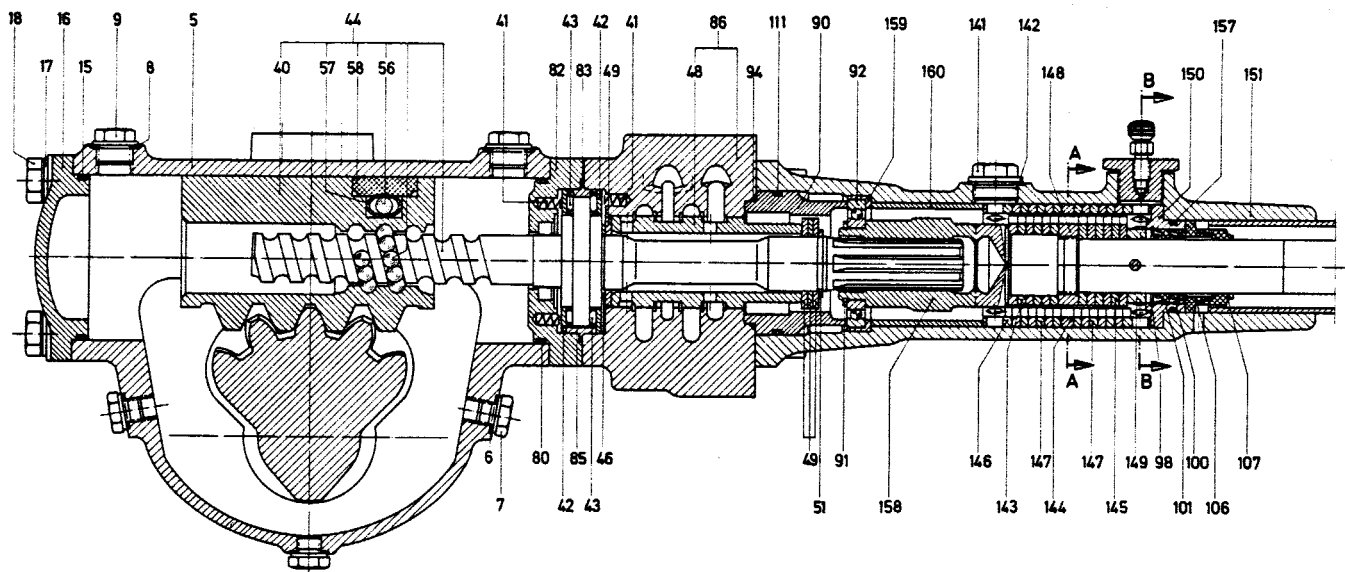


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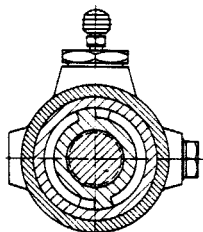


B

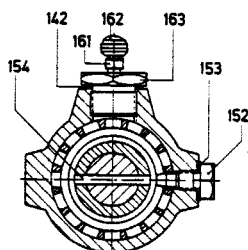
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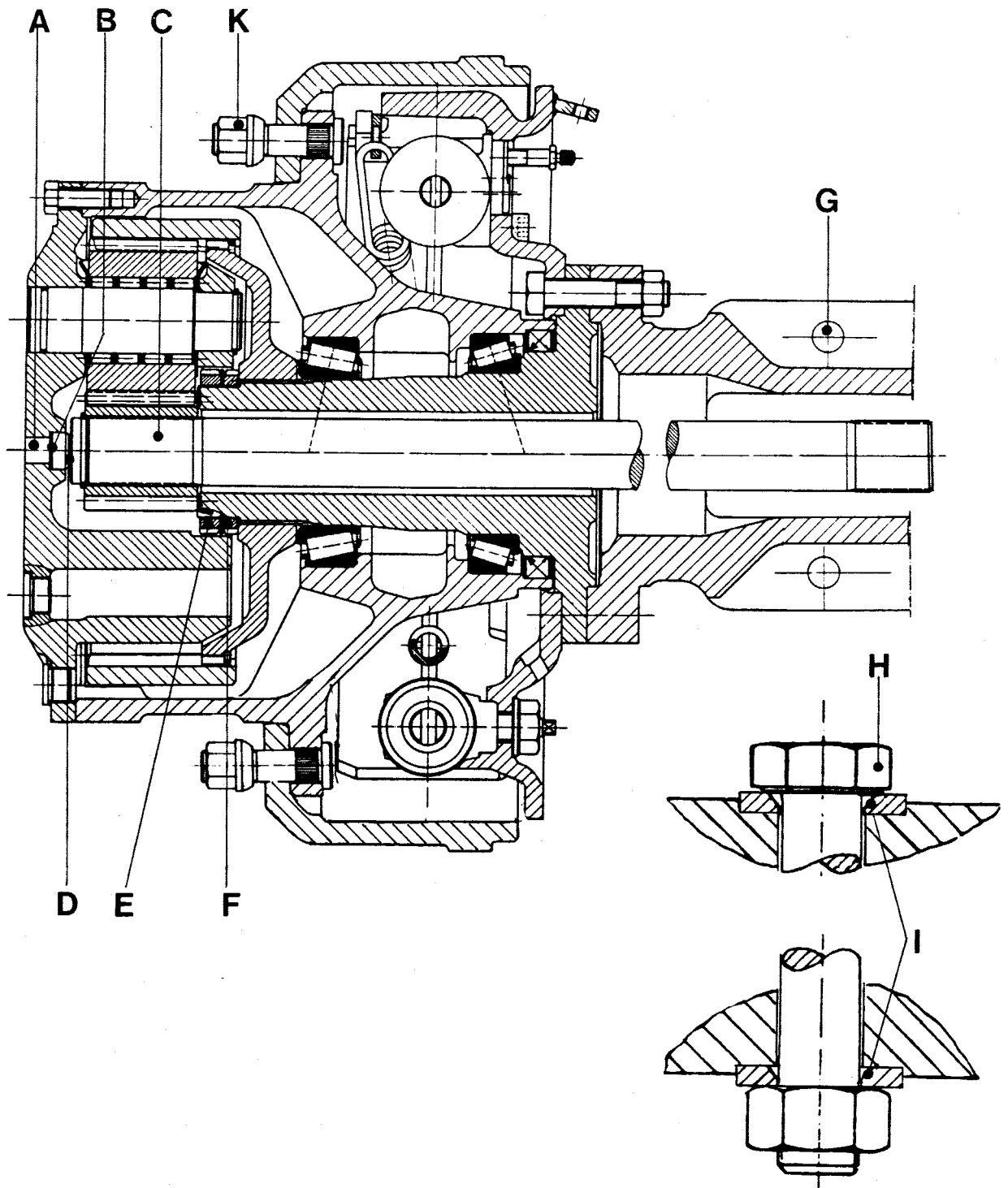
Schnitt A-A



Schnitt B-B



M310



N 360

B R A K E S Y S T E M

ROUTINE INSPECTION and MAINTENANCE WORK

- Fig. A 760 Pull chain for opening the air receiver drain valve
- Fig. M 551 The brake fluid levels must be 10 to 20 mm below the top edges of the fluid compensating containers and the breather holes in the fluid compensating container caps must not be obstructed.
- Fig. B 158 Tyre inflation coupling. Note that the storage pressure in the air receiver must be below 6.2 bar before tyre inflation is possible.
- Fig. M 559 Shows one of the air-bleed valves which are provided on the two master cylinders.
- Fig. M 758 Shows the air-bleed valves which are provided in the brake hydraulic lines to the front axle brakes. They are accessible after removing the access cover on the front of the front frame.
- Fig. M 759 Shows the protection covers (1 and 2) which must be removed to gain access to the air-bleed valves in the brake hydraulic lines to the rear axle brakes.

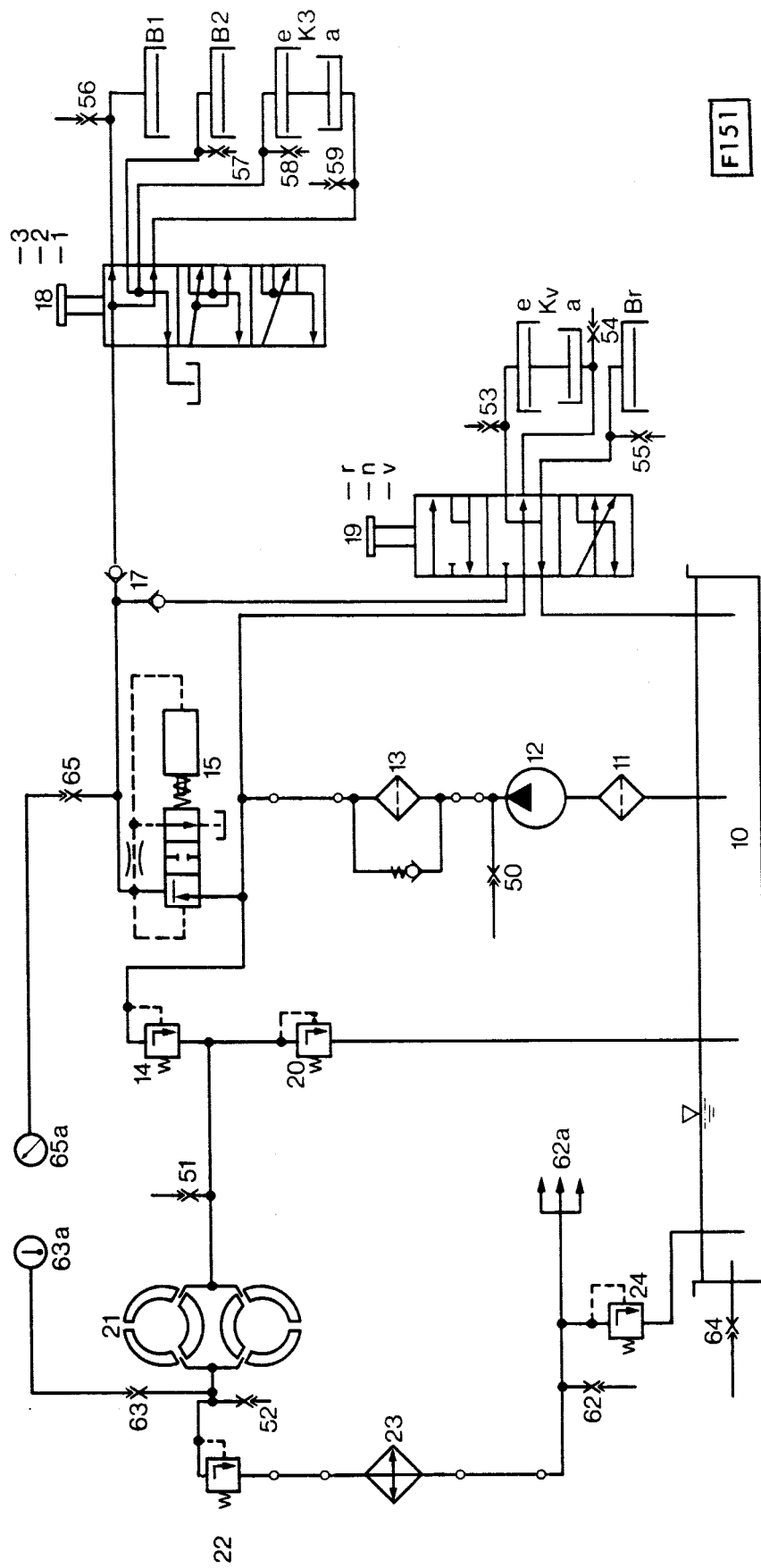
Changing the brake fluid:

To change the brake fluid, open all air-bleed valves and, by sharply depressing and slowly releasing the brake pedal, pump the old fluid out of the system. Close all air-bleed valves, fill the system with fresh brake fluid. Alternately open all air-bleed valves, beginning with the bleed valves on the master cylinders followed by the bleed valves on the front axle and then the bleed valves on the rear axle, and bleed the complete system of air.

ELECTRICAL SYSTEM

ELECTRICAL SYMBOLS (ACCORDING TO DIN STANDARD)

	Wiring		Electro-mechanical actuator with one effective winding
	Non-detachable connection		As above, but with two effective windings acting in same direction
	Detachable connection (terminal)		As above, but two effective windings acting in opposed directions
	Wires passing, but not connected		Ground (earth)
	Wires connected (soldered or screwed)		Fuse
	Concentrated wiring - random sequence at both ends		Capacitor
	As above, but uniform sequence at both ends		Inductive winding
	Disconnecting point		Winding, general
	Plug and socket connector		Winding, general
	Plug connector		Winding with tapping-off points
	Socket connector		Winding with core of magnetic material
	Easily separated connections using plugs or screws		Battery containing several cells
	Normally open contacts		Resistor, general
	Normally closed contacts		Resistor with sliding contact
	Two-way make-before-break contacts		Potentiometer
	Toggle, or push/pull switch (closed by pushing)		Lamp, indicator/warning lamp
	Toggle, or push/pull switch (opened by pushing)		Indicating instrument (gauge)
	Toggle, or push/pull switch (closed by pulling)		Voltmeter, ammeter, Ohmmeter
	Toggle, or push/pull switch (opened by pulling)		An enclosure for a component containing several elect. parts
	Non-locking switch, toggle or pressure switch (normally open)		Permanent magnet
	Non-locking switch, toggle or pressure switch (normally closed)		Semiconductor diode Rectifier Dry rectifier
	Relay		



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