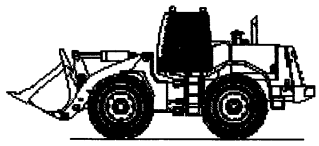
NEW HOLLAND CONSTRUCTION LW 90

SERVICE MANUAL



75131004
March, 1999

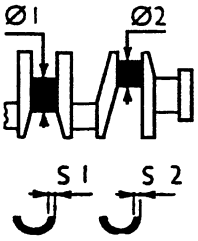
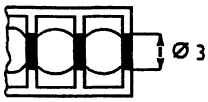
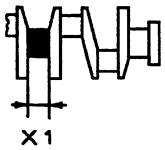
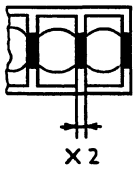
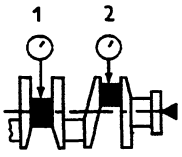
Reprinted

NEW HOLLAND

FLUIDS AND CAPACITY TABLE

Component to be filled	Fluid	Capacity (lts)	Fluids and lubriants Ambra	International Specification
Engine	Oil	9.9	AMBRA - Super Gold 500	CCMCD5, QFH 586 EN
Cooling system	Radiator fluid	22	AMBRA - Agriflu	NH 900 A
Transmission	Oil	17	AMBRA - Super Gold 10W-30	CCMCD4 - NH 324 G
Hydraulic and brake syst.	Hydraulic and brake oils	50	AMBRA - Hi Tech 46	ISO VG46, DIN 51524 Part 1 and 2, QFH583/HD
Axles	Front axle oil	12	AMBRA TX Fluid	SAE 80W-90, QFH584 TR
	Rear axle oil	19		
Lubrication of pivot points	Grease		AMBRA - MG2	QFH585GR

NUTS (ZNT)					SCREWS (ZNT / DEIDR)		
Strength grade: 10 (R 80)					Strength grade: 10.9 (R 100)		
Diameter and pitch mm	normal daNm	low type daNm	with polyamide ring		Diameter and pitch mm	normal ZNT daNm	self-locking ZNT daNm
			normal daNm	low type daNm			
M6 x 1	1.3	1.2	-	-	M6 x 1	1.3	-
M8 x 1.25	3.2	2.6	3.9	3.2	M8 x 1.25	1.3	3.5
M10 x 1.25	7.2	5.2	8.2	6.2	M10 x 1.25	7.1	7.9
M10 x 1.5	6.5	5	7.7	6	M10 x 1.5	6.5	7
M12 x 1.25	13	8.7	14.5	10.2	M12 x 1.25	12.7	13.9
M12 x 1.75	11	8.1	12.9	9.6	M12 x 1.75	11	12
M14 x 1.5	19.5	13	21.6	15	M14 x 1.5	20	22
M14 x 2	18	12.5	20	14.6	M14 x 2	18	19
M16 x 1.5	30	17	34	20	M16 x 1.5	30	33
M 16 x 2	-	-	-	-	M16 x 2	-	-
M18 x 1.5	45	25	50	29	M18 x 1.5	45	48
M18 x 2.5	-	-	-	-	M18 x 2.5	-	-
M20 x 1.5	60	30.5	64.5	35	M20 x 1.5	60	65
M20 x 2.5	-	-	-	-	M20 x 2.5	-	-
M22 x 1.5	80	41	-	-	M22 x 1.5	80	90
M22 x 2.5	-	-	-	-	M22 x 2.5	-	-
M24 x 2	100	47	108	52.5	M24 x 2	100	110
M24 x 3	-	-	-	-	M24 x 3	-	-
M27 x 2	95	40.1	-	-	M27 x 2	100	-
M30 x 2	130	49.4	-	-	M30 x 2	140	-
M33 x 2	170	-	-	-	M33 x 2	190	-
M36 x 3	220	-	-	-	M36 x 3	240	-

CYLINDER ASSEMBLY AND CRANKING ELEMENTS			mm
	Main journals	Ø 1	79.791 ÷ 79.810
	Crankpins	Ø 2	63.725 ÷ 63.744
	Main journal saddle bearings	S 1	2.169 ÷ 2.178
	Connecting rod saddle bearings	S 2	1.805 ÷ 1.815
	Main bearings	Ø 3	84.200 ÷ 84.230
	Saddle bearings to main journals clearance		0.034 ÷ 0.101
	Main journal saddle bearings		0.254 ÷ 0.508
	Thrust bearing journal length	X 1	32.0 ÷ 32.1
	Thrust bearing journal width	X 2	25.010 ÷ 25.060
	Thrust liners	X 3	3.378 ÷ 3.429
	Crankshaft thrust liner clearance		0.082 ÷ 0.334
	Thrust liners		0.127 - 0.254 - 0.508
	Alignment	1	≤ 0.10
		= 2	± 0.25
	Out-of-round	⬭ 1-2	0.008
	Taper	⟩ 1-2	0.012

1.9.1 GENERAL DESCRIPTION

The engine cooling system is water type with forced circulation through a pump. The water pump draws the cooling water from the radiator and sends it to cool the various parts of the engine.
If the cooling water temperature is lower than the thermostat opening temperature, the thermostat remains closed and water recirculates inside the engine and does not flow into the radiator.

When the cooling water temperature equals the thermostat opening temperature, water flows through the radiator to be cooled down before entering the water pump.
The cooling water temperature is continuously sensed by a sensor located in the thermostat housing and shown by the "engine water temperature gauge" in the cab instrument panel.

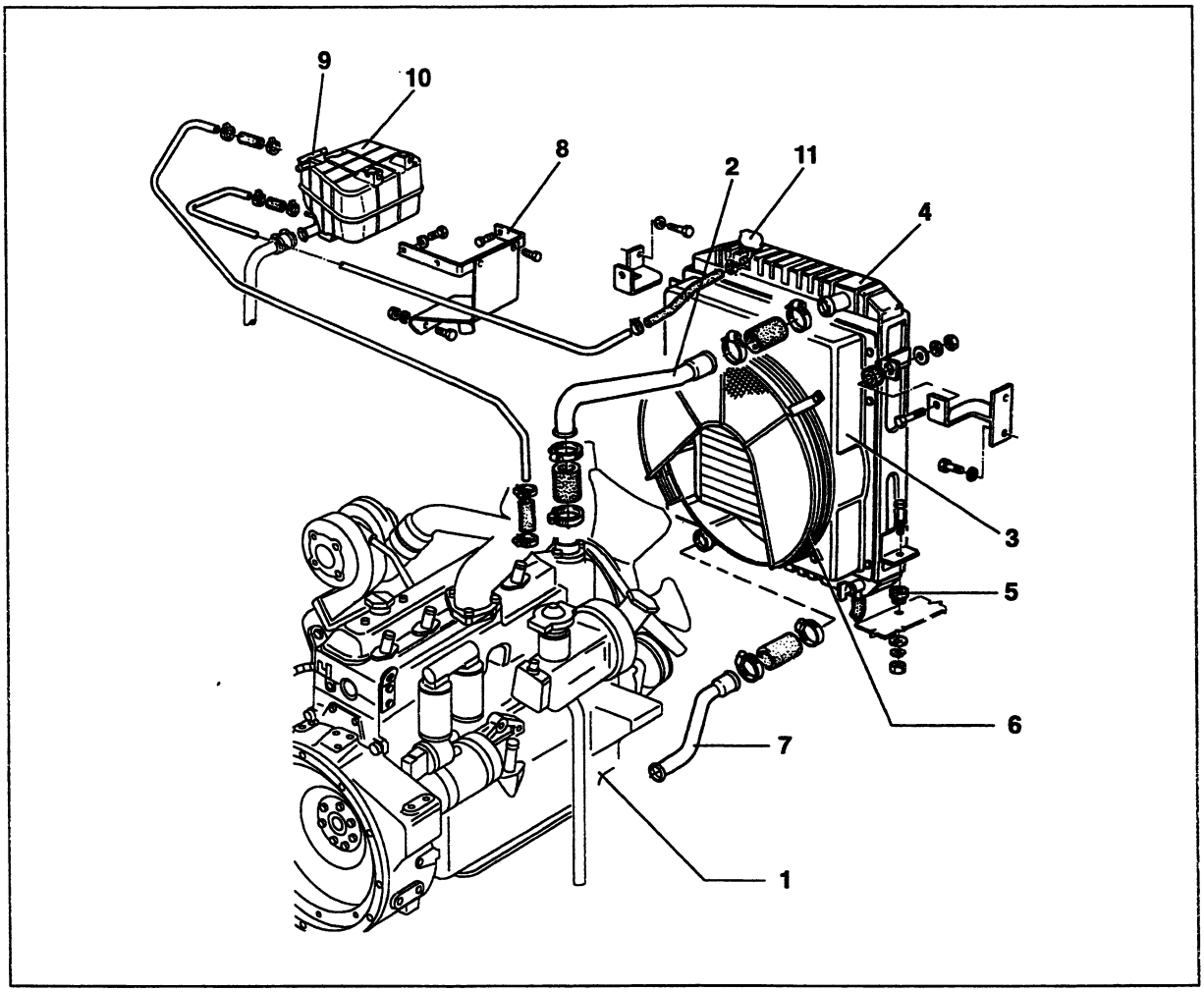


Fig. 1-7 Engine cooling system components

1. ENGINE
2. WATER PIPE TO THE RADIATOR
3. SHROUD
4. RADIATOR
5. RUBBER PAD
6. FAN GUARD
7. WATER RETURN TO THE ENGINE
8. HEADER TANK BRACKET
9. TANK PLUG
10. HEADER TANK
11. RADIATOR PLUG

1.12.7 THROTTLE CONTROL LINKAGE

Engine speed is controlled by means of the throttle pedal.
When you press the throttle pedal to suit engine speed to working conditions, the cable is operated which controls the fuel injection pump control lever.

Adjust the linkage as to have the fuel injection pump lever at end of travel and touching the stop screw when the pedal (**1**) is in contact with the screw (**10**).

ATTENTION: The stop screw on the pump is factory-sealed. Do not change the stop screw adjustment.

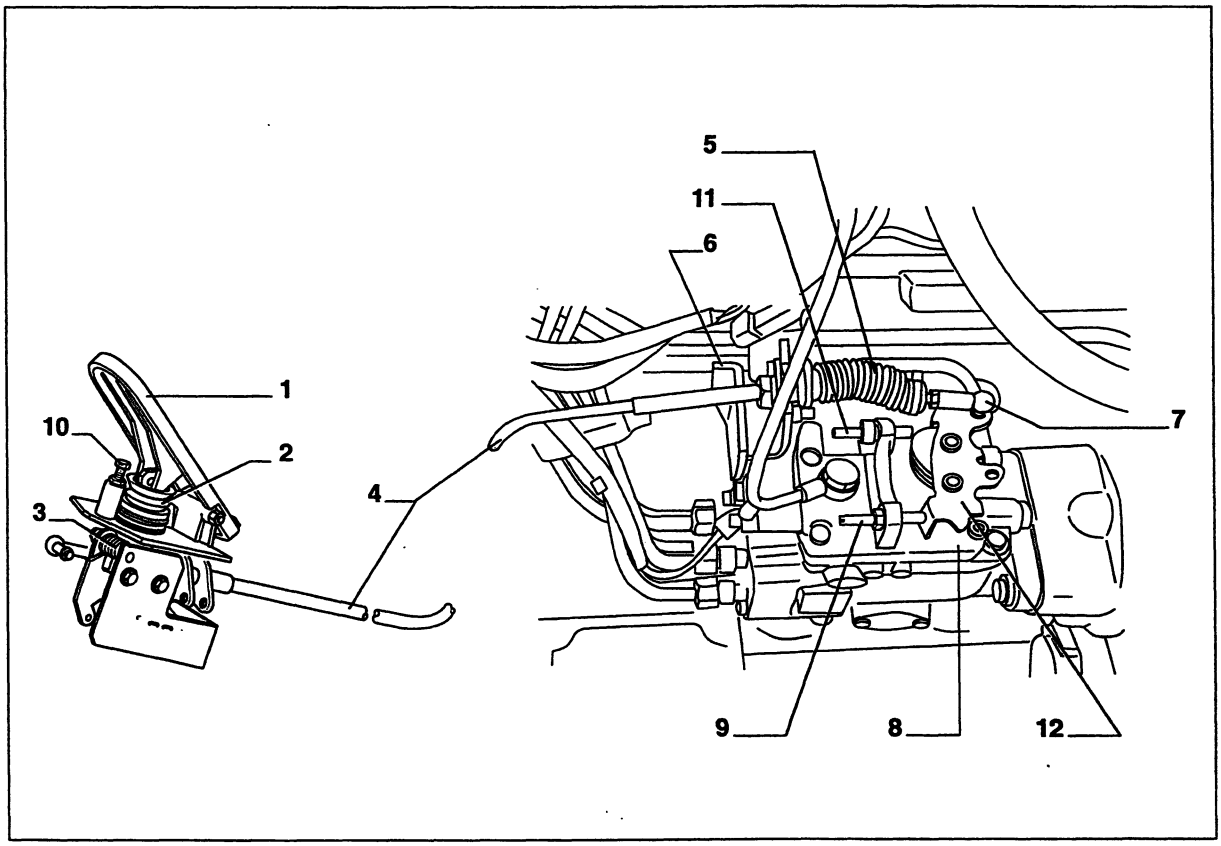


Fig. 1-15 Throttle control system

Note - In the figure: fuel injection pump for models W110, W130.

1. THROTTLE PEDAL
2. RUBBER BOOT
3. SPRING
4. CONTROL CABLE
5. RUBBER BOOT
6. CABLE RETAINING BRACKET
7. LEVER ARTICULATED JOINT
8. FUEL INJECTION PUMP
9. IDLE ADJUST SCREW
10. PEDAL TRAVEL ADJUST SCREW
11. PUMP CONTROL LEVER TRAVEL ADJUST SCREW
12. PUMP CONTROL LEVER.

2.3 TORQUE CONVERTOR

The torque convertor unit is composed of a convertor, a hydraulic pump control unit and a turbine shaft. The convertor is composed of a pump and a turbine, mounted one in front of the other, with a stator in between, and it is placed inside the convertor housing in oil bath.

The hydraulic pump control unit activates the charge pump and the main pump through the control gear installed on the hub of the convertor pump.

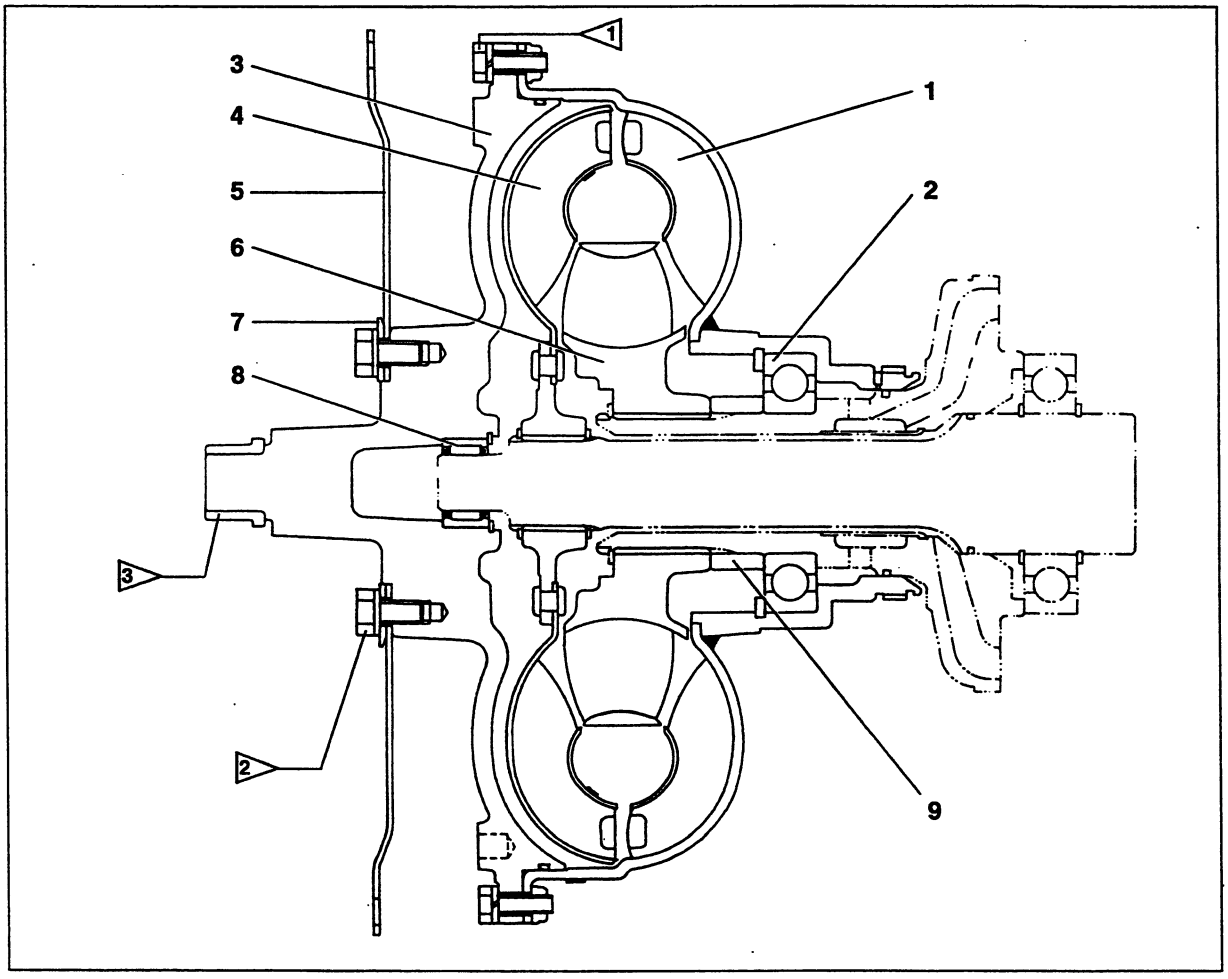


Fig. 2-5 Convertor assembly

Note - 1 — 2.0 daNm (14 ft-lbs)

2 — 6.2 daNm (45 ft-lbs)

Threads: LOCTITE 262

3 — Mobile surfaces: molybdenum-base grease

1. CONVERTOR PUMP
2. BALL BEARING
3. FRONT COVER
4. TURBINE
5. COUPLING
6. STATOR
7. WASHER
8. NEEDLE BEARING
9. SPACER

OPERATION

The feathering valve controls the time needed to increase oil pressure up to the clutch engagement value, that is it changes the pressure increase curve according to the speed ratios allowing to shift more smoothly.

The operation of the feathering valve is shown in the diagram by means of points **A - E**. The action of the solenoid valves and manual spool (emergency travel spool) is also shown in the following pages.

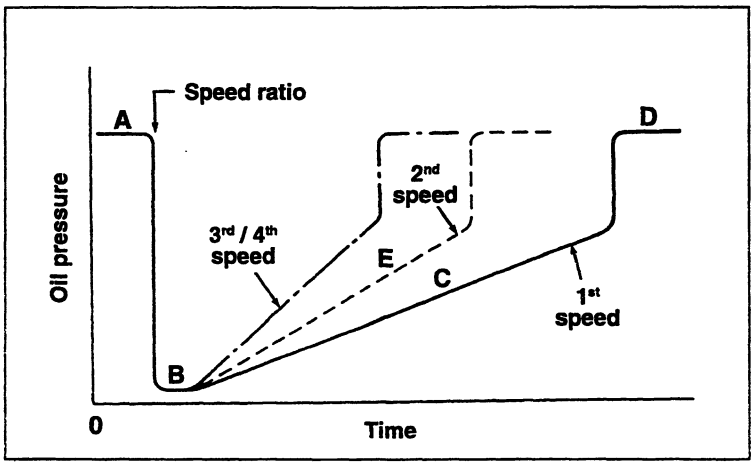


Fig. 2-17 Clutch engagement oil pressure variation curves

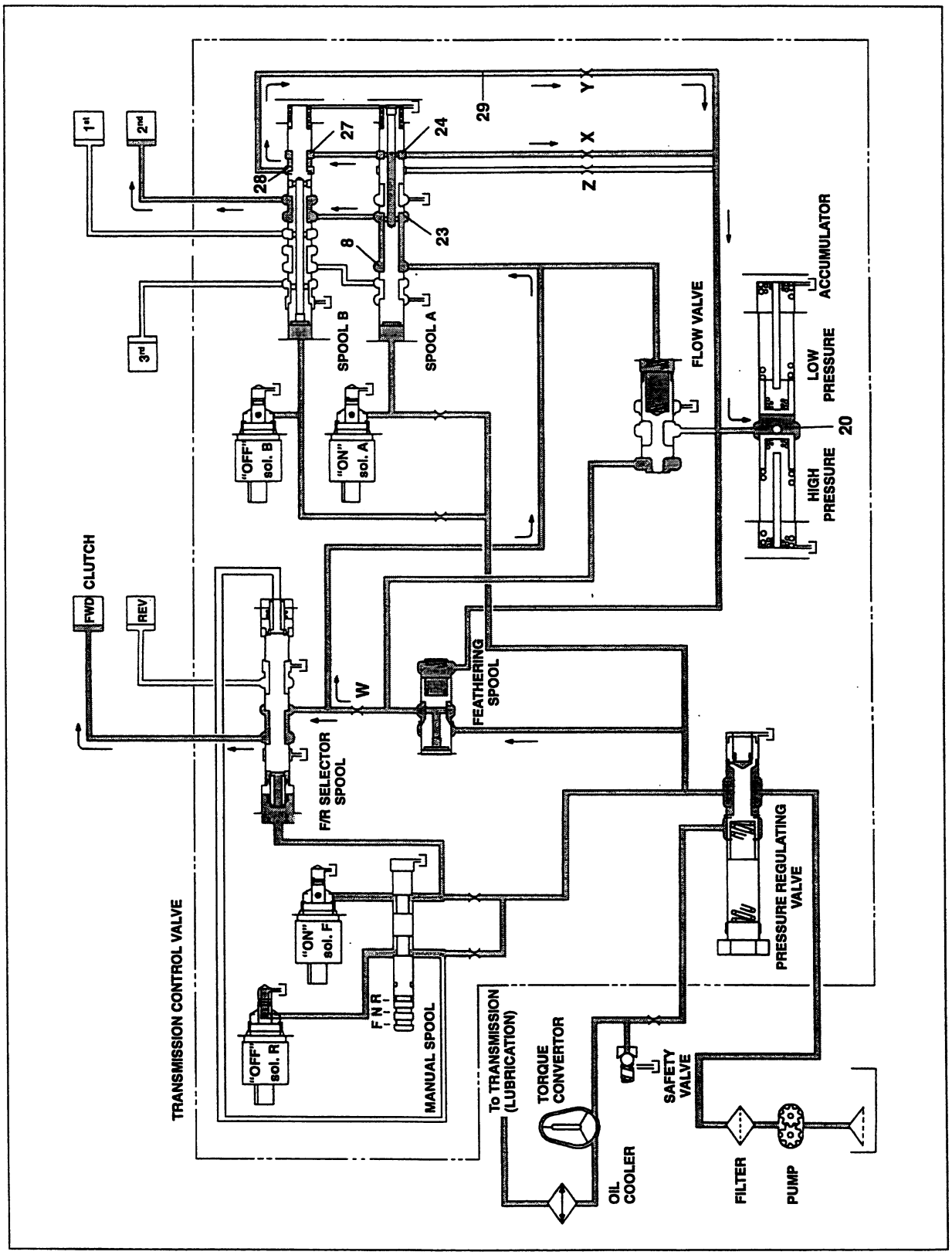


Fig. 2-22 Clutch engagement (2nd speed forward)

3) Remove the snap ring and slide out the hub disc from the shaft.
Remove the end plate , six discs and seven plates.

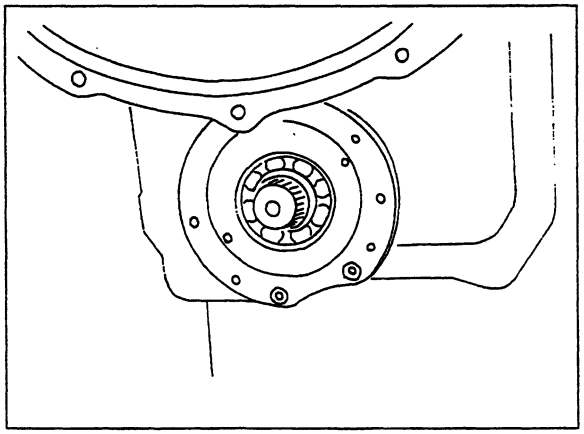


Fig. 2-41

5. Using a suitable cable wound around the torque convertor housing, hoist the transmission a little and place it with the convertor housing pointing upward.

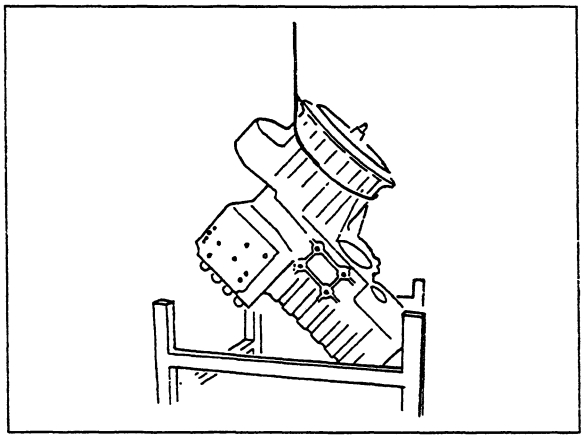


Fig. 2-42

6. Tie a cable to the torque convertor housing flange. Remove the 21 hex head retaining bolts (12 bolts from the convertor and 9 from the transmission side) and two Allen screws. Separate the convertor housing from the transmission, using two puller bolts.

Torque convertor: 130 kg.

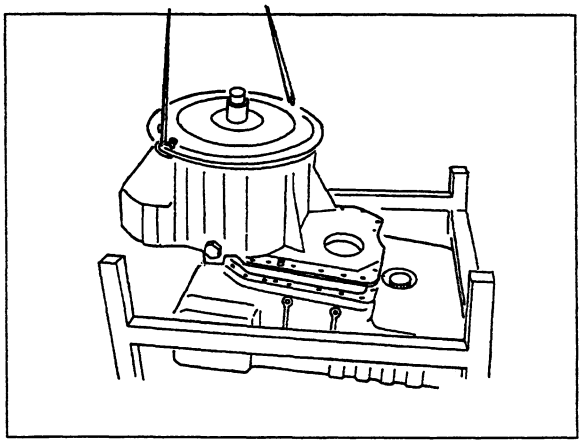


Fig. 2-43

b) Removing and Disassembling Convertor Wheels

1. Remove the eight bolts securing the input plate and remove the plate.

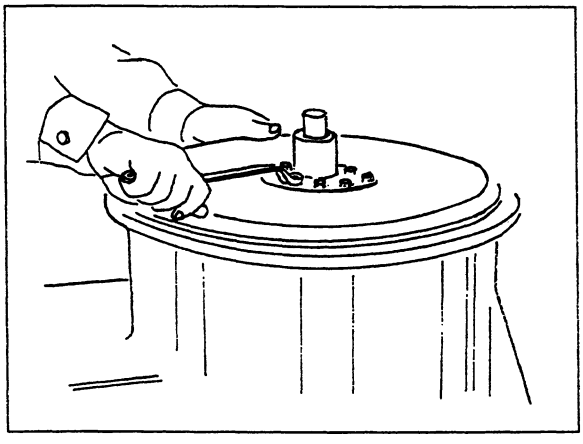


Fig. 2-44

10. Remove the clutch piston. Remove the rubber seal rings from the piston outer diameter and the shaft.
Note: The bleed valve is press-fit into the clutch piston. Do not remove it if it is not defective.

11. Disassemble the forward clutch at the opposite side using the same procedure as above.

b) Disassembling the 1st and 3rd clutch shaft
Disassemble the clutch shaft referring to "(a) Disassembling the forward/reverse clutch shaft."

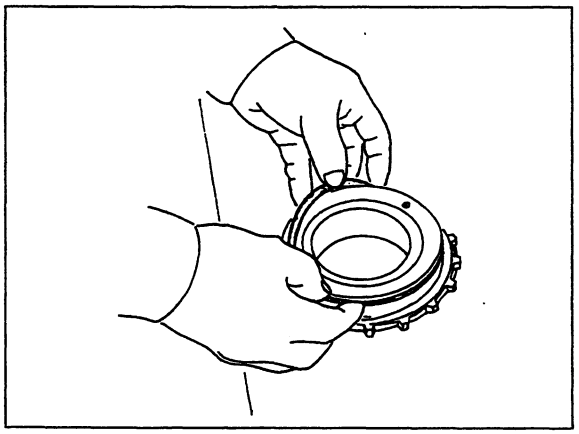


Fig. 2-81

c) Disassembling the 2nd clutch shaft
Remove the snap ring from the front gear and remove the gear.

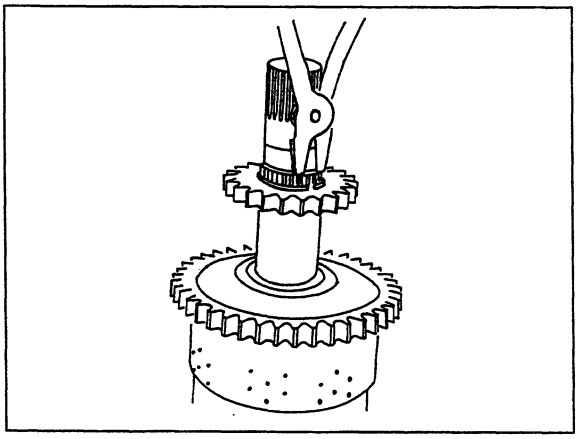


Fig. 2-82

2.6.1.5 Disassembling the control valve

a) Disassembling the control valve (upper)

1. Remove the bolts securing the 6-bolt cover and remove the cover. If it is stuck, remove by tapping with a soft mallet.

Warning:
Do not loosen the bolts abruptly because many strong springs are installed in the cover. Otherwise, a serious accident might result. Loosen the two center bolts gradually until spring force is fully relieved.

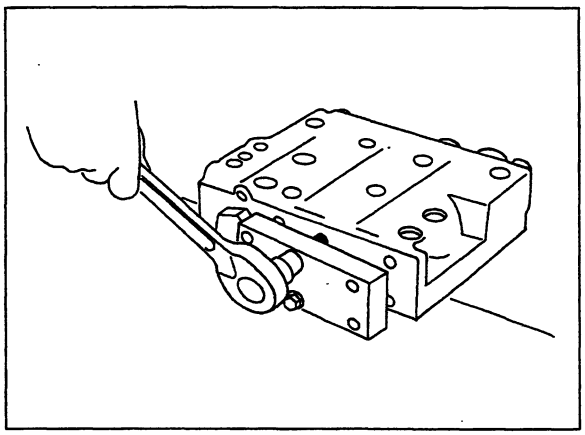


Fig. 2-83

2. Remove the rod (1), inner spring (2), outer spring (3), center spring (4) and load piston (5) from the spool seat.
Remove the flow sensing spool (6) and spring (7) from the center hole.
Remove the plug (8) and remove the regulator spring (9).

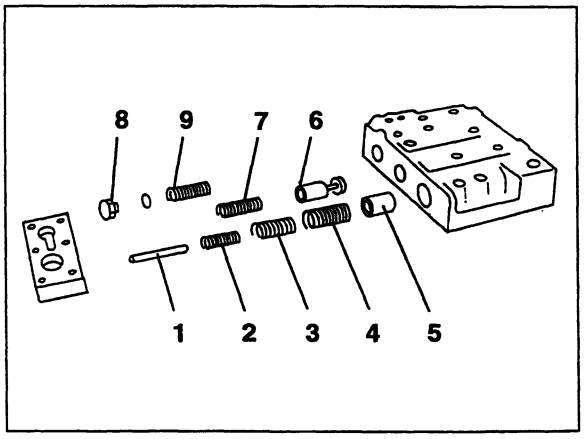


Fig. 2-84

2.6.2.4 Reassembling the parking brake

1. Install the (large and small) D-rings in the outer diameter of the brake piston, and insert the brake piston into the piston housing.
   Apply grease to the D-rings and bore sliding areas.

2. Install the O-ring on the piston housing in the area which mates with the cover.

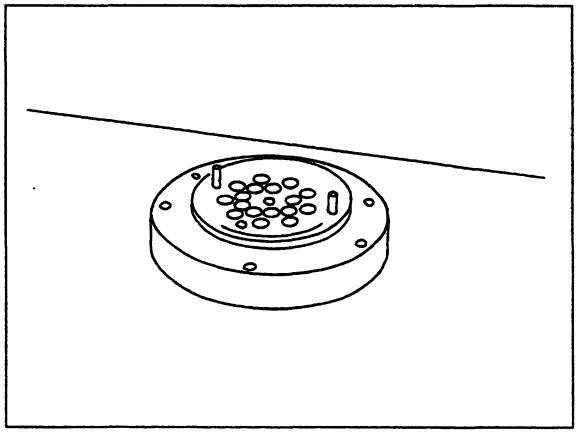


Fig. 2-119

3. Insert the 18 springs in the piston holes.

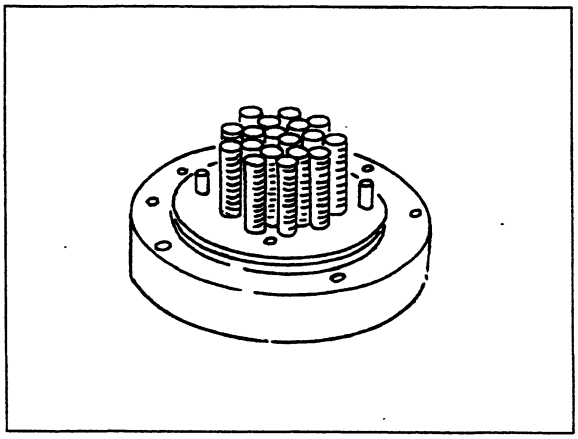


Fig. 2-120

4. Install the cover to the piston housing, making sure to match marks made before disassembly, and tighten the two bolts alternately.
   Make sure to align the springs and 18 holes.

   Tightening torque: 5.1 kgm.

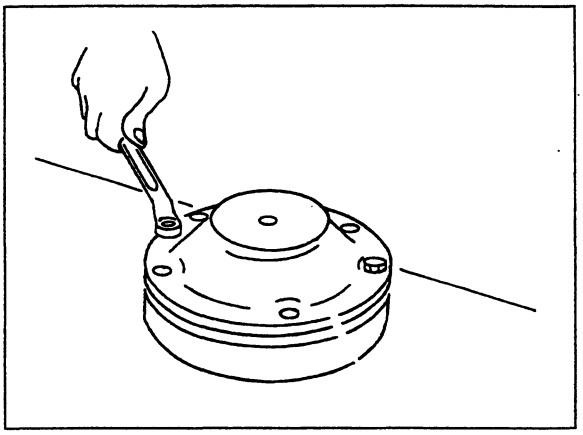


Fig. 2-121

Item		Standard value (mm)	Wear limit (mm)	Remarks
Load piston H spring	Free height	109.9	105.5	Inner
	Setting load kg	15.69	14.1	
	Setting height	85	–	
	Free height	109.9	105.5	Center
	Setting load kg	23.23	20.9	
	Setting height	85	–	
	Free height	84.9	81.5	Outer
	Setting load kg	28.16	25.3	
	Setting height	60	–	
F/R selector spool spring	Free height	39	37.4	
	Setting load kg	8.74	7.6	
	Setting height	25.5	–	
Spool A spring Spool B spring	Free height	43	41.3	
	Setting load kg	6.84	6.2	
	Setting height	32.5	–	
Restrictor diameter	Main (W)	5.5	–	
	1°/2° (X)	1.0	–	
	2° (Y)	1.2	–	
	3°/4° (Z)	1.6	–	
	Solenoid valve	0.8	–	

(3) Transmission

Item		Standard value (mm)	Wear limit (mm)	Remarks
Cover I.D. in the seal ring control valve sliding area (fwd/rev, 1st/3rd, 2nd)		40.13 - 40.16	40.20	
Clutch shaft seal ring	Width (radial direction)	1.95 - 2.05	1.7	
	Thickness (radial direction)	1.95 - 2.05	1.9	
Clutch shaft seal ring groove width		2.10 - 2.15	2.3	
Clutch plate thickness		1.54 - 1.66	1.4	
Clutch disc thickness		2.32 - 2.47	2.1	
Return spring	Free height	42	40.3	
	Setting load kg	73.6	66.2	
	Setting height	30.5	–	

2.9.2 DIFFERENTIAL ASSEMBLY

The differential and reduction gears are mounted in a single assembly.
Power from the drive shafts reaches the differential gears through the drive pinion/crown wheel matched set. It is then transmitted to the final drives through the right and left gears. The power rpm reduction is obtained by means of the drive pinion/crown wheel matched set.

Differential operation

When the loader moves on a straight line, the crown wheel, differential casing and side gears rotate all together. Planetary gears in the differential casing do not rotate. The left and right side gears transmit power to the wheels at the same speed, through the axle-shafts. When the loader turns, the left and right wheels turn at different speeds and the planetary gears in the differential casing rotate around their axis proportionally with the speed difference between the left and right side gears.

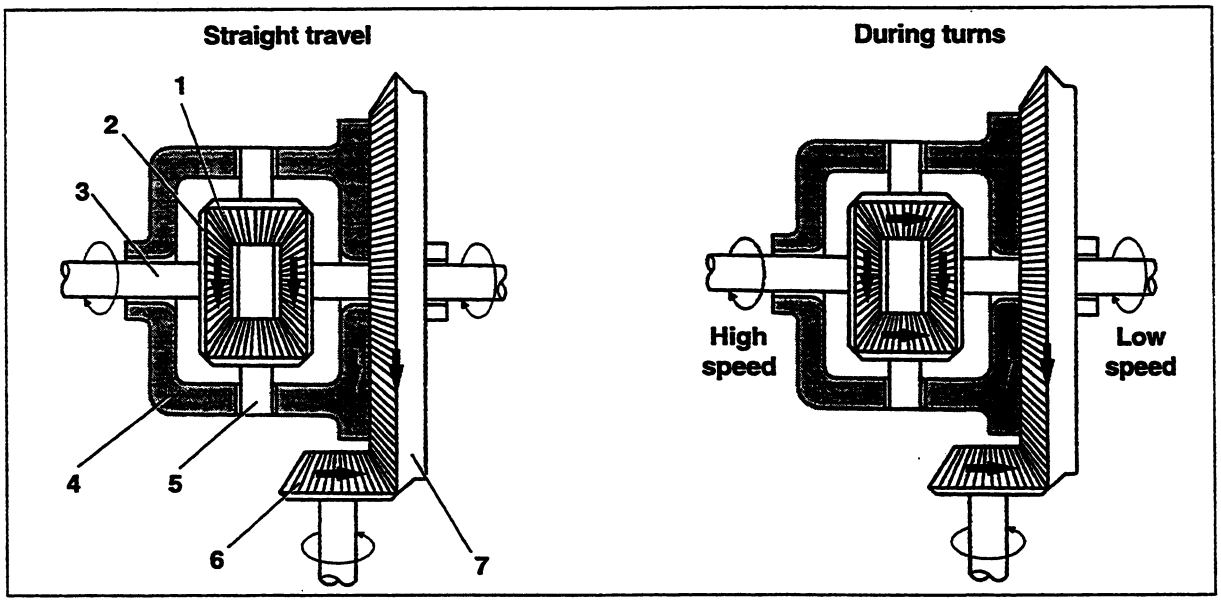


Fig. 2-149 Differential operation

1. PLANETARY GEAR
2. SIDE GEAR
3. AXLE-SHAFT
4. DIFFERENTIAL CASING
5. SPIDER
6. DRIVE PINION (BEVEL GEARSET)
7. CROWN WHEEL (BEVEL GEARSET)

Limited slip differential (with torque proportion)

Wheel loaders oftenwork on rough grounds, sand or marshes. Under such critical operating conditions, the tyres of a loader fitted with a common differential assembly may slip on the ground negatively affecting loader performance. In addition, tyres would be prematurely worn out. To overcome this problem, some models are equipped with torque proportion limited slip differential units.
Torque proportion differential units are almost identical to the common differentials, only their planetary gears have an odd number of teeth with a special profile. When the tyres are almost slipping on soft ground, the planetary gears keep sending power to both side gears without rotating around their own axis as long as the ground adherence difference for the right and left tyres reaches a specific value. This prevents tyres from slipping.

6. Install two of the mouting bolts previously removed into thebearing cage jacking holes and tighten. Remove the bearing cage and drive pinion a holding the bolts.

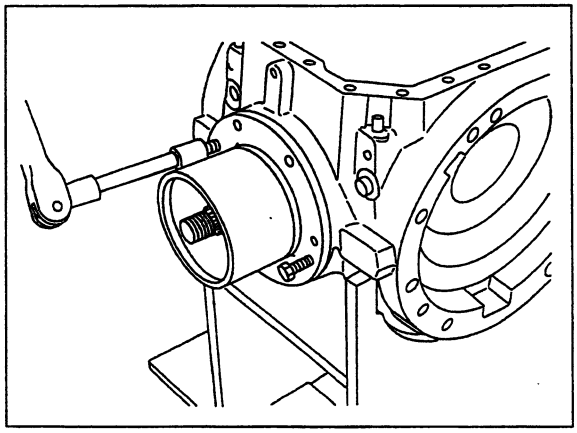


Fig. 2-177

7. Remove any shim from the bearing cage.

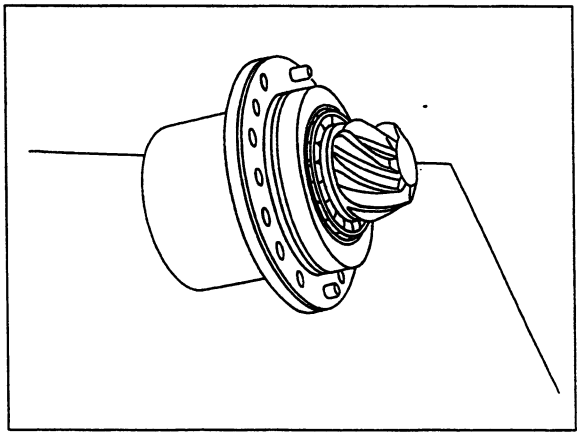


Fig. 2-178

f) Disassembling the drive pinion.

1. Remove the drive pinion from the bearing cage using a press.
Slide out the spacer from the pinion shaft.

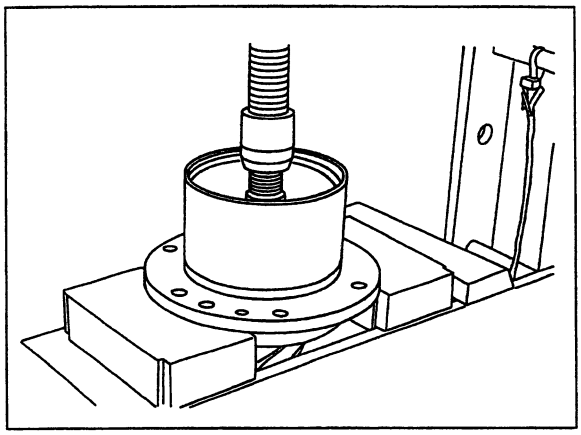


Fig. 2-179

2. Remove the oil seal and bearing cone from the bearing cage. To remove the oil seal, break it with a screwdriver.
Remove the O-ring from the outer diameter of the bearing cage.

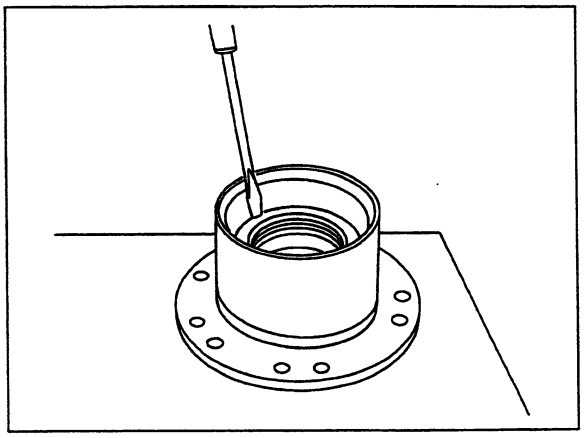


Fig. 2-180

3. After positioning, remove the bolts which were temporarily installed to the bearing cage, apply LOCTITE 262 to the threaded area of each bolt and retighten to the specified torque.

9 kgm

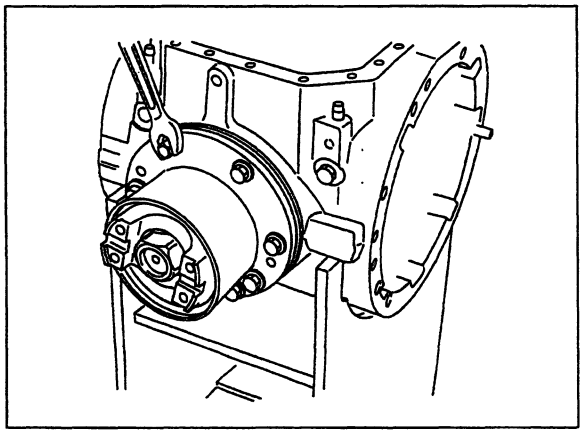


Fig. 2-217

4. Remove the bolt temporarily installed to the bearing retainer, apply LOCTITE 262 to the threaded area of each bolt and retighten to the specified torque.

5 kgm

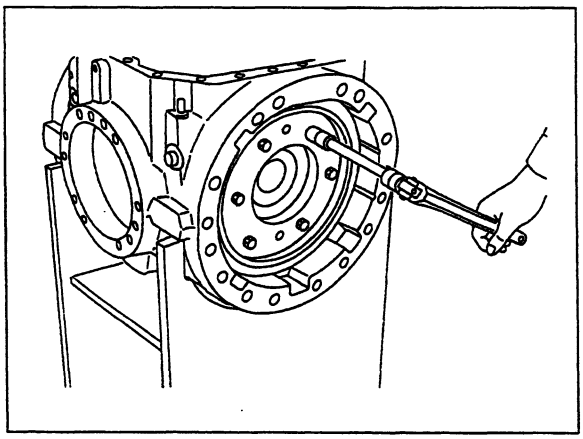


Fig. 2-218

e) Adjusting crown wheel backlash

1. Place a dial gauge on the tooth profile outer edge of crown wheel.
2. Lock the drive pinion and turn the crown wheel back and forth to measure the backlash, which should be 0.20 to 0.28 mm.

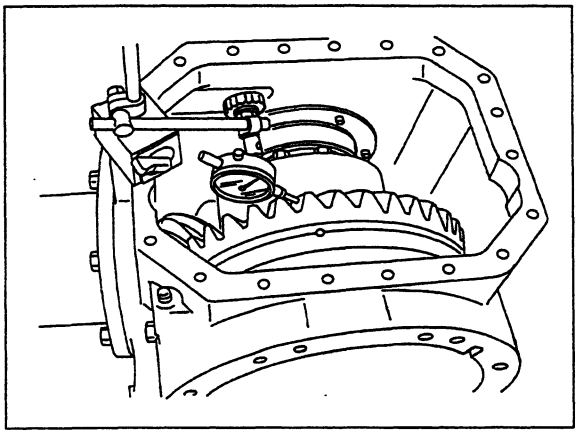


Fig. 2-219

3. Adjust the backlash by adding or removing a number of shims from the differential bearing retainers.
   If the backlash is too large, move some shims from the crown wheel side to the opposite side. Do not change the total shim thickness.
   If the backlash is too small, adjust it following opposite procedure as above.

Adjust the number of shims within the range of 0.55 to 1.55 mm (on both sides)

Fig. 2-220

6. Apply LOCTITE 509 to the differential cover mounting area.
   Note that LOCTITE should be applied to the inside of the row of bolt holes.
7. Install the cover on the differential and tighten the mounting bolts.

   Number of bolts: 20 3 kgm

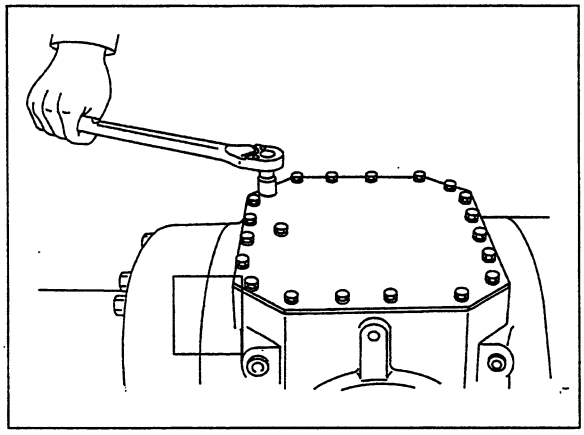


Fig. 2-257

3.1 GENERAL DESCRIPTION

The brake system consists in (refer to Fig. 3-1):

- A two-stage gear charge pump (**11**), bolted to the convertor cover plate;
- A filter (**10**) at pump outlet;
- A brake pedal valve (**5**) controlling simultaneously front and rear brakes (**1** and **2**, respectively), which are located inside the drive axles;
- Two accumulators (**8** and **9**) which during normal operation stabilises system pressure and, in case of emergency, with the engine stopped, allow to positively apply the brakes for several times;
- Oil in the system is same as the attachment hydraulic oil; it is taken from the hydraulic reservoir (**S**) through a filter fitted with a by-pass valve.

The parking brake consists in:

- A recharge pump, gear type;
- A three-way diverter valve (**14**) which controls engagement and disengagement of the parking brake (**17**);
- A hydraulic ram (**16**) composed of springs and a hydraulic cylinder to counter-act them. Spring force is used to lock the parking brake discs (**17**) when pressure oil in the cylinder is dumped by means of the diverter/control valve. When fed with pressure oil (by means of the diverter/control valve), the cylinder overcomes spring action and consequently the brake is released;
- An accumulator (**13**) which during normal operation stabilises system pressure and, with the engine stopped, allows to release the parking brake several times.

3.6 PARKING BRAKE

Parking brake manual disengagement (in case of emergency)

WARNING

If it is not possible to release the parking brake by means of the control knob following pump failure or for any other reason, disengage it manually through the parking brake release screw.

WARNING

Disengage the parking brake manually only if it is absolutely necessary. Namely, this should be done only when towing a failed loader to traffic-free areas. If the loader is on an incline, check that the wheels are securely blocked with wedges or stones prior to releasing the parking brake.

3.6.1 MANUAL RELEASE PROCEDURE

1. Remove the manual release bolt and nut (**1**) from the parking brake cover on the transmission housing.
2. Remove the plug (**2**) from the middle of the cover.
3. Insert the bolt (**1**) into the plug hole and screw it into the threaded hole at the centre of the brake piston (**3**), as shown in Fig. 3-10.
4. Screw the release bolt fully in to retract the brake piston (**3**) and release the brake disc.

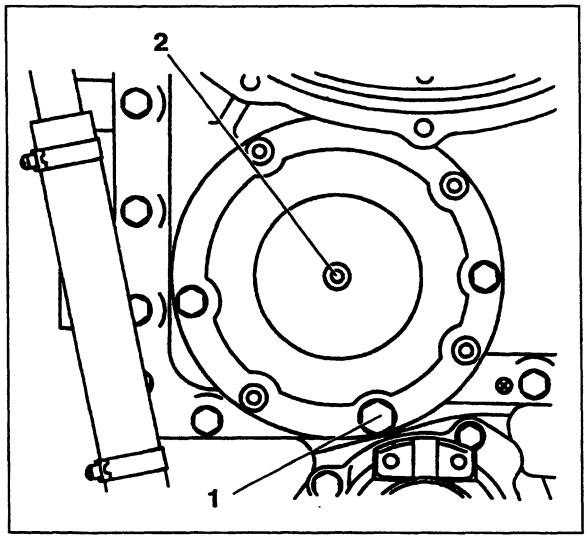


Fig. 3-9

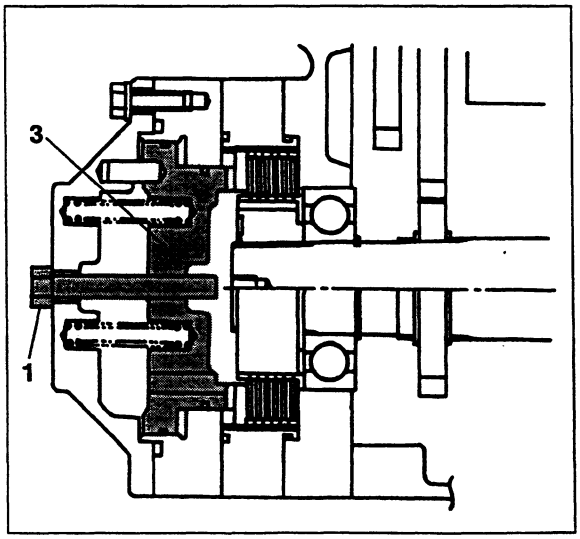


Fig. 3-10

3.9.5 ACCUMULATOR PRE-CHARGE RESET INSTRUCTIONS

Using tool no. **75298472** (**D**, Fig. 3-20) screwed to the accumulator connection (see 3.9.4. before) proceed as follows.

Loosen the plug and screw in the hose from a nitrogen bottle complete with safety valve (**V**).

WARNING - DANGER

Use only nitrogen to recharge accumulators. Never use oxygen or other gases for any reason whatever as explosion hazard may result.

Slowly open the nitrogen bottle tap and check refilling pressure as it increases on the pressure gauge (**M**).

IMPORTANT - Refilling pressure should be 10% at least higher than rated pressure considering that pressure inside the accumulator decreases when the compressed gas cools down.

Close the nitrogen bottle tap.
Wait five minutes.
Check on the pressure gauge (**M**) that inflating pressure is 45 bars. Repeat the operation if lower.
If pressure is higher, proceed as follows:

- Slowly turn the handwheel (**D2**) to let the nitrogen out and close.
- Check on the pressure gauge (**M**) that pressure is as required. If not, repeat the operation.
- Turn the handwheel (**D1**) to screw in the accumulator screw (**2**).
- Remove tool (**D**).
- Tighten the screw (**2**) to a torque of 1.1 daNm.
- Check accumulator sealing using soapy water.
- Screw on protection cover (**1**).

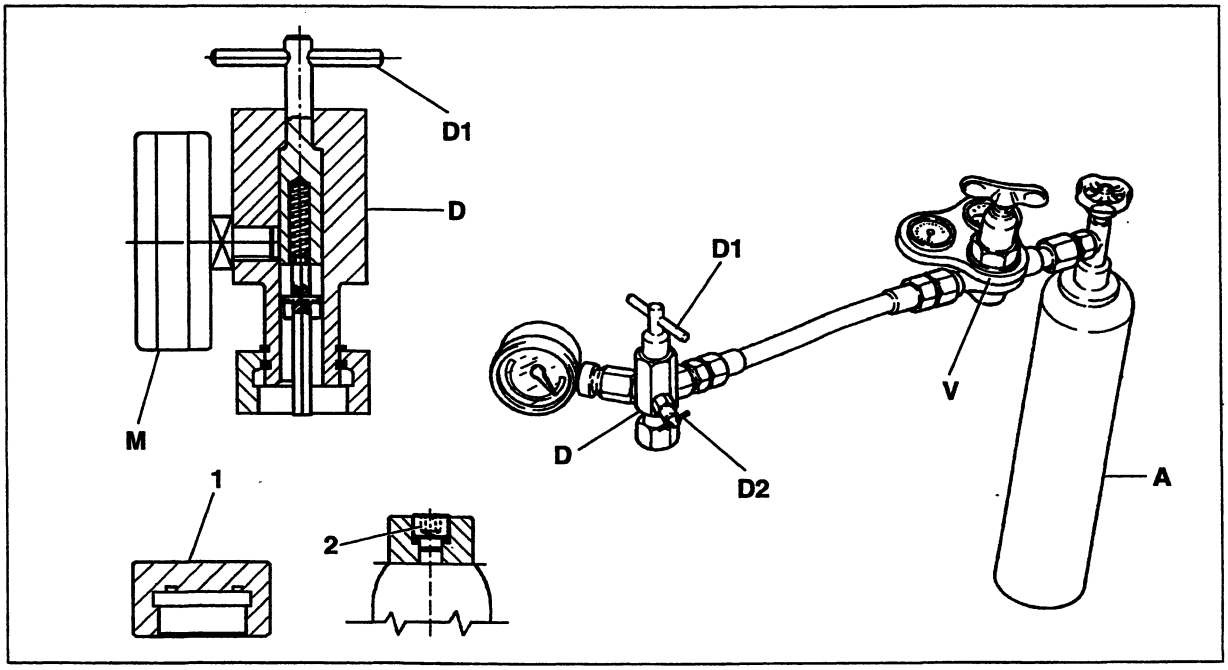


Fig. 3-20 Accumulator recharge device

D. Accumulator pre-charge test tool - **D1.** Plug control handwheel (2) - **D2.** Discharge tap - **A.** Nitrogen bottle - **M.** Pressure gauge - **V.** Safety valve - **1.** Protection cover - **2.** Threaded plug.

4.3 STEERING VALVE (ORBITROL)

The orbitrol consists of the control valve and the rotor set. The control valve is a rotary valve which changes the alignment of oil passages by its rotation, thus actuating the steering cylinders. The rotor set is located under the control valve.

Usually it acts as an hydraulic motor performing metering functions. In case of emergency, it is used as a manual pump acting as a manual steering unit (without hydraulic power).

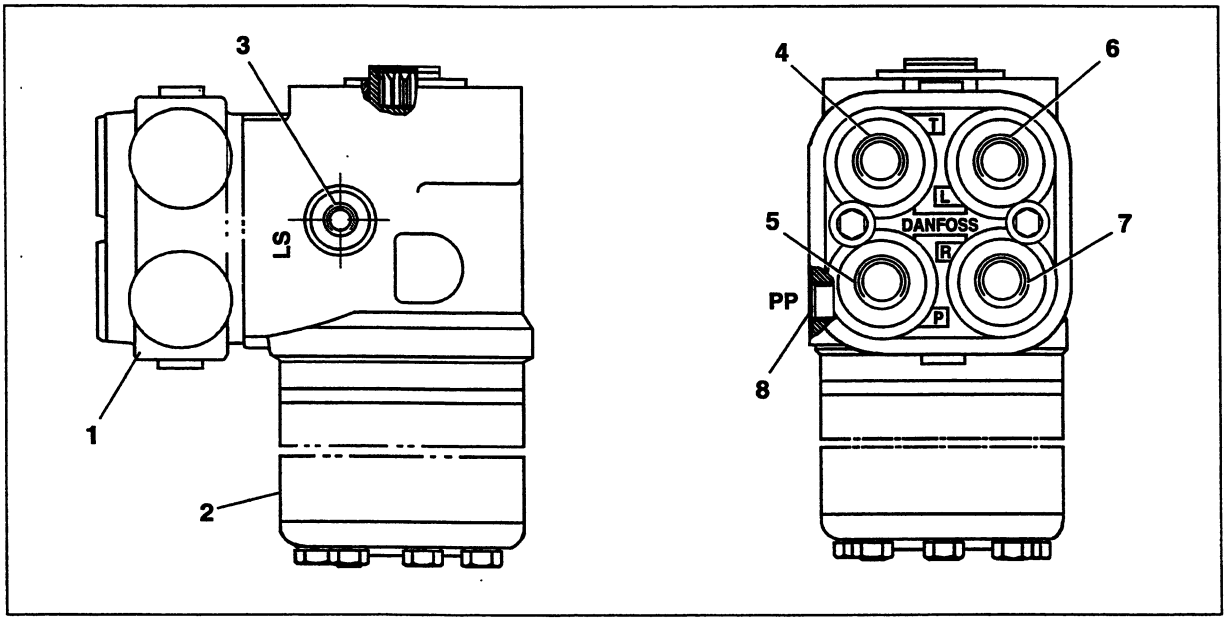


Fig. 4-5 Steering valve

1. Valves block - **2.** Steering valve - **3.** To main and secondary priority valve (unit with emergency steering unit) - **4.** To reservoir - **5.** From pump - **6.** To left steering cylinder - **7.** To right steering cylinder - **8.** To main and secondary priority valve (unit with emergency steering unit).

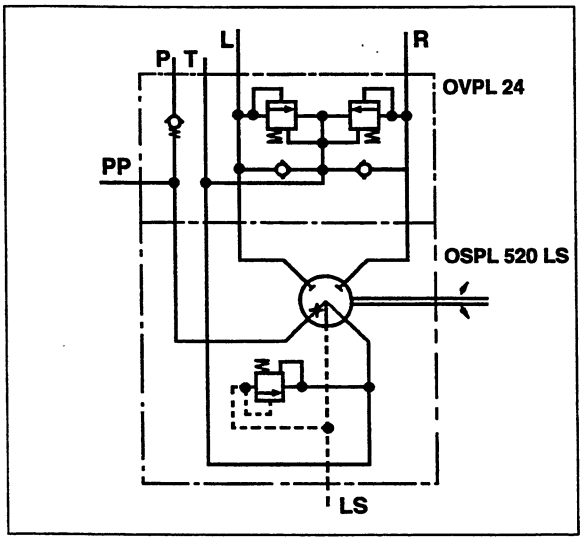


Fig. 4-6 Hydraulic diagram

curing screw and extract the pin.

- remove the cylinder assembly.

Disassembly and reassembly

Loosen front sleeve (**1**) and pull-out rod (**8**) complete with piston (**12**).

Remove the screw locking the piston and loosen it.

If the ball joint shows an excessive play, replace it as follows:

- remove snap rings (**16**);
- using a punch or a press, extract bush (**15**) from its seat, taking care that the outer side of the bush only is pushed.

Check that the rod is free from imperfections, such as dents, burrs, or wear.
Check, using a ruler or by positioning it on a flat surface, that the rod is not bent.
Inspect the inside of the cylinder, to verify if scratches or wear require its replacement.
Replace all damaged parts.

Reassemble the cylinders, reversing the disassembly procedures, considering the following items:

- lubricate adequately the components;
- install new seals, ensuring a proper installation and correct position;
- tighten the piston to torque ◁2▷;
- tighten screw (**13**) to torque ◁3▷ and stake;
- tighten front sleeve (**1**) to torque ◁1▷.

Installation

Install the cylinder on the machine, reversing the removal procedure.

Check that after starting the engine and after several movements of the steering, the cylinder rod does not show oil leakages.

Handle all components with great attention. Do not place hands and fingers between components. Wear glasses, gloves and safety shoes.

5.2.4 BOOM KICKOUT (optional)

The boom kickout device stops the booms at a preset height during the lifting phase. With the control lever in RAISE position, the boom kickout device automatically returns the control lever into neutral when the booms are raised to a preset height, thus stopping the lifting operation of the booms.

Operation

1. When the booms are raised to a preset height, the level plate fitted to the boom leaves the sensing surface of the proximity switch (thus opening the electric circuit).
2. The proximity switch is connected to the solenoid detent coil of the control valve boom section. The solenoid detent is thus released to let the control lever return to neutral, stopping the lifting operation of the booms.

Note - The control valve of loaders equipped with the boom kickout device differs from that of the standard loaders.

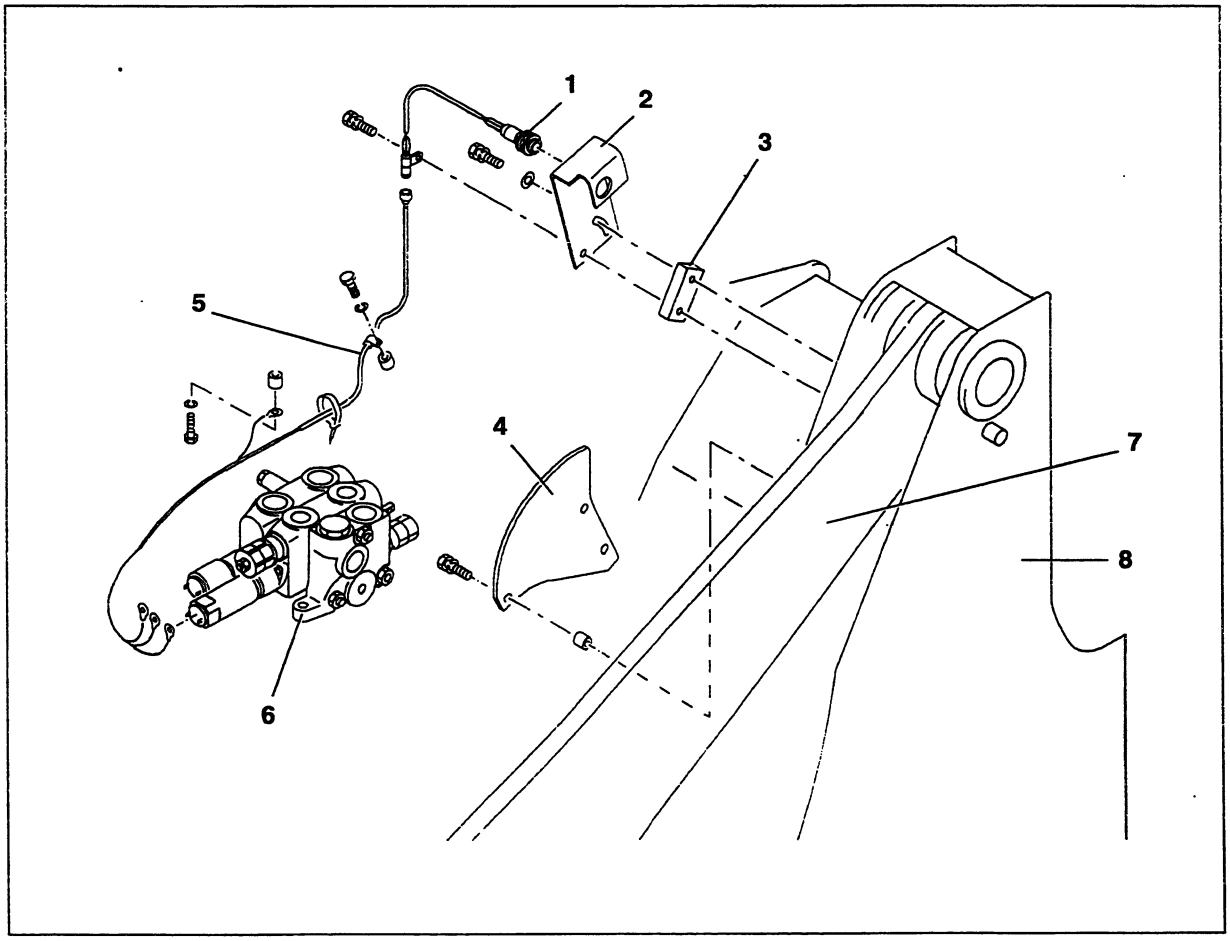


Fig. 5-6 Boom kickout device

1. PROXIMITY SWITCH
2. BRACKET
3. TAPPED PLATE
4. LEVEL PLATE
5. WIRING
6. CONTROL VALVE
7. BOOM
8. FRONT FRAME

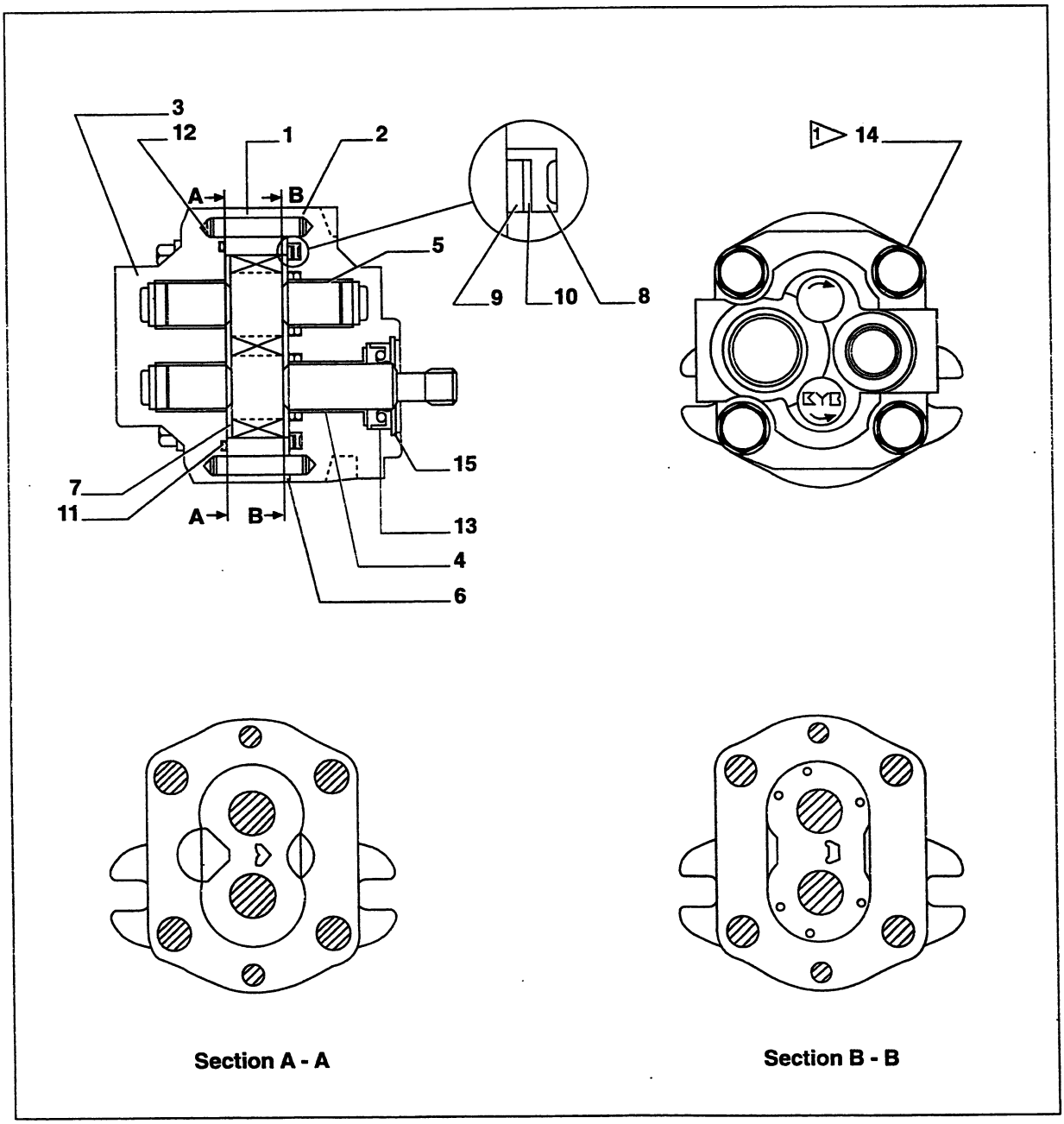


Fig. 6-5 Brake pump sections

Note - 1 3.4 to 3.9 daNm

1. INTERMEDIATE PLATE
2. MOUNT PLATE
3. COVER PLATE
4. DRIVE GEAR SHAFT
5. DRIVEN GEAR SHAFT
6. PLATE
7. PLATE
8. GASKET
9. GASKET
10. GASKET
11. O-RING SEAL
12. LOCATING DOWEL
13. GASKET
14. BOLT
15. CIRCLIP

(b) Bucket roll out

1. When the control lever is moved to the "Roll out" position, the bucket control spool moves in the direction shown by the arrow.
2. The neutral passage is closed by the spool and pressure oil opens the check valve allowing oil to reach port (A_2) and enter the bucket cylinder rod end.
3. Oil coming out of the bucket cylinder rear end is dumped into the hydraulic oil reservoir through the port (B_2) and low pressure passage.

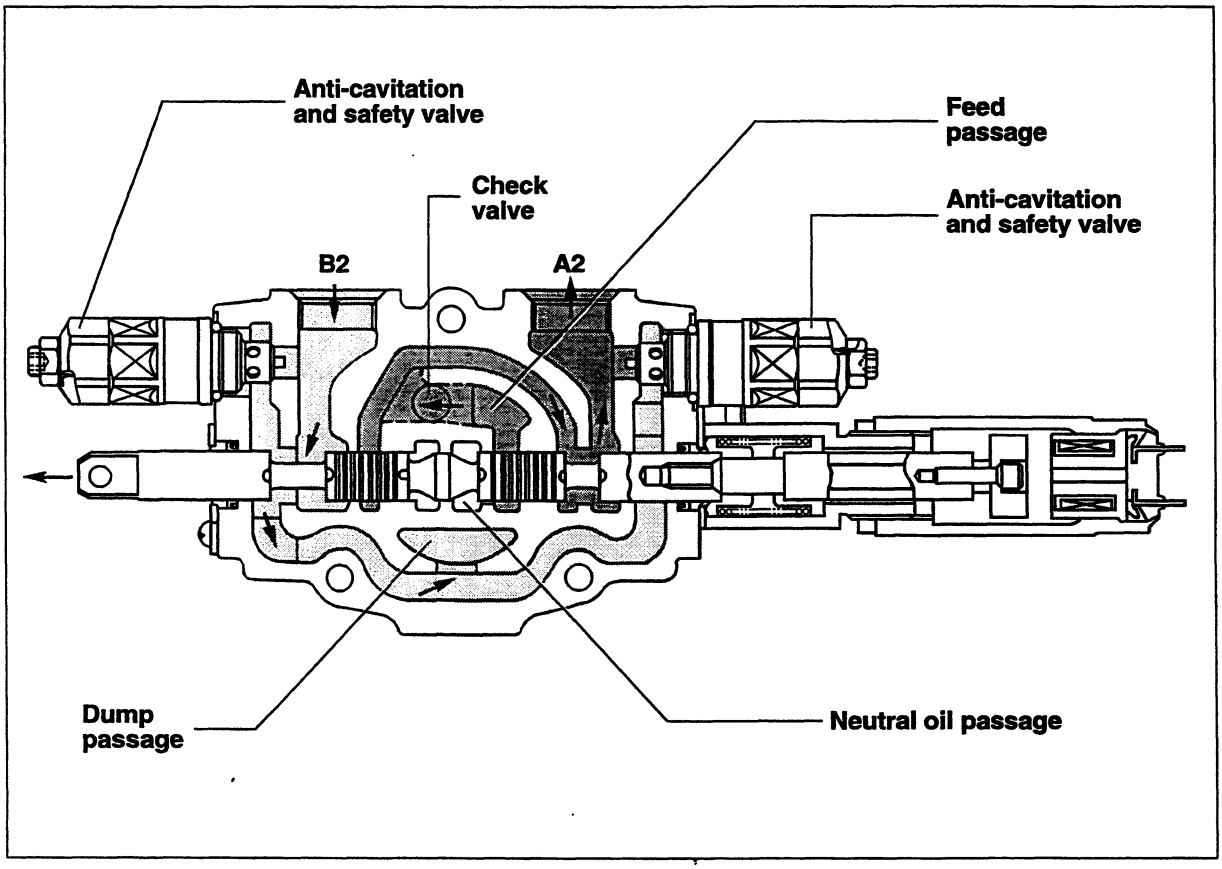


Fig. 6-17 Bucket section during roll out (mechanical control)

DELIVERY OIL (from the pump)

DUMP OIL (low pressure)

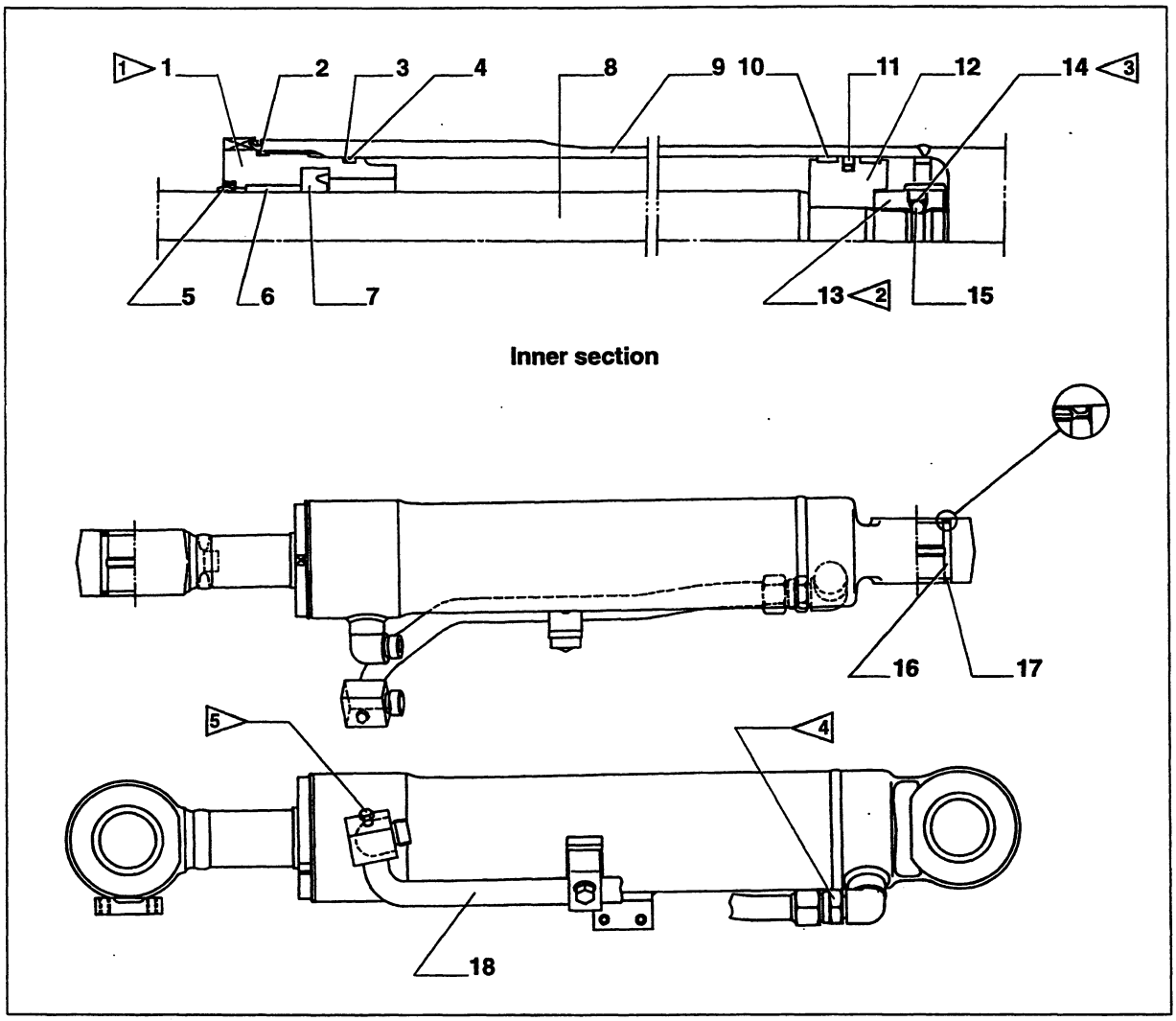


Fig. 6-32 Bucket cylinder

Notes - 1> 83 daNm (610 ft-lbs) Threads: Three Bond 1901

2> 245 daNm (1810 ft-lbs)

3> 3.1 daNm (23.2 ft-lbs) (Stalk in two places after tightening)

4> 12 daNm (86.8 ft-lbs)

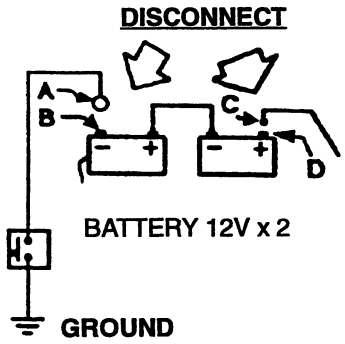
5> Pressure port (PT1/8)

1. CYLINDER BOTTOM
2. O-RING SEAL
3. BACK-UP RING
4. O-RING SEAL
5. MUD SCRAPER
6. BUSH
7. SEAL
8. ROD
9. CYLINDER
10. SLIDING RING
11. O-RING SEAL
12. PISTON
13. NUT
14. STOP SCREW
15. STEEL BALL
16. PIVOT PIN BUSH
17. MUD SCRAPER
18. HOSE

⚠ SAFETY RULES

⚠ **WARNING:** When working on the electrical system, always wear safety glasses and remove rings, wrist watches or any other metal jewellery.

⚠ **WARNING:** Prior to any maintenance or repair of electrical components, disconnect the GROUNDING CABLE "**A**" from the negative post "**B**" of the battery. DISCONNECT CABLE "**C**" FROM POSITIVE POST "**D**".



⚠ **WARNING:** NEVER PLACE METAL OBJECTS on the battery to avoid short-circuits.

⚠ **WARNING:** BATTERY GASES ARE FLAMMABLE.
Never get near batteries with open flames or sparks. During recharging, the generation of gases is higher.

⚠ **WARNING:** BATTERY GASES ARE DANGEROUS if contacting the skin or other materials.

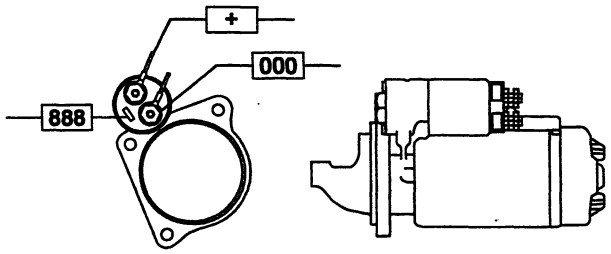
7.7 COMPONENTS ON MACHINE

1 – STARTER MOTOR

WIRES

+	To battery
888	To starter solenoid switch
000	Ground

LOCATION - Left rear side of engine under fuel filters

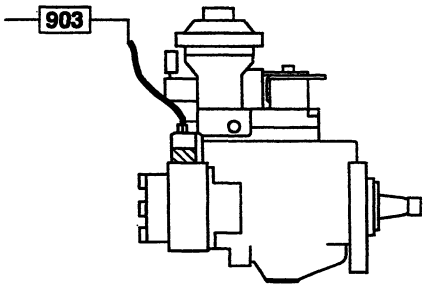


2 – ENGINE STOP SOLENOID

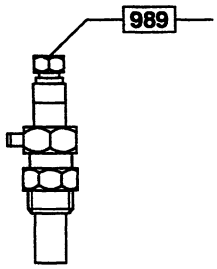
WIRES

903 To starter switch (7)

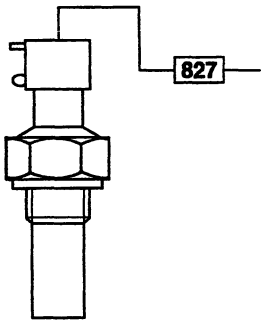
LOCATION - On injection pump



3 – STARTER HEATER



4 – THERMOSTAT FOR STARTER HEATER



5 – FUEL SOLENOID VALVE

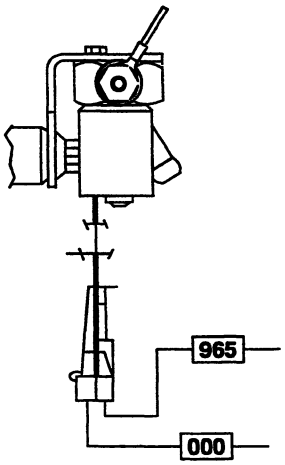
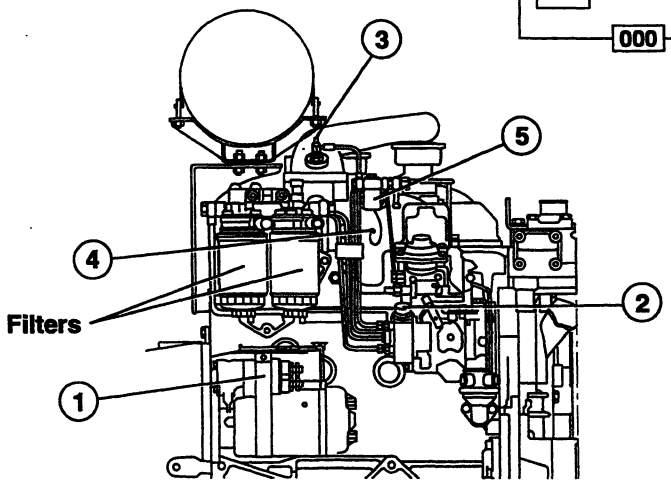


Illustration of components on engine

1. Starter motor
2. Engine stop solenoid valve
3. Heater starter
4. Thermostat for starter heater
5. Fuel solenoid valve



8.1 GENERAL DESCRIPTION

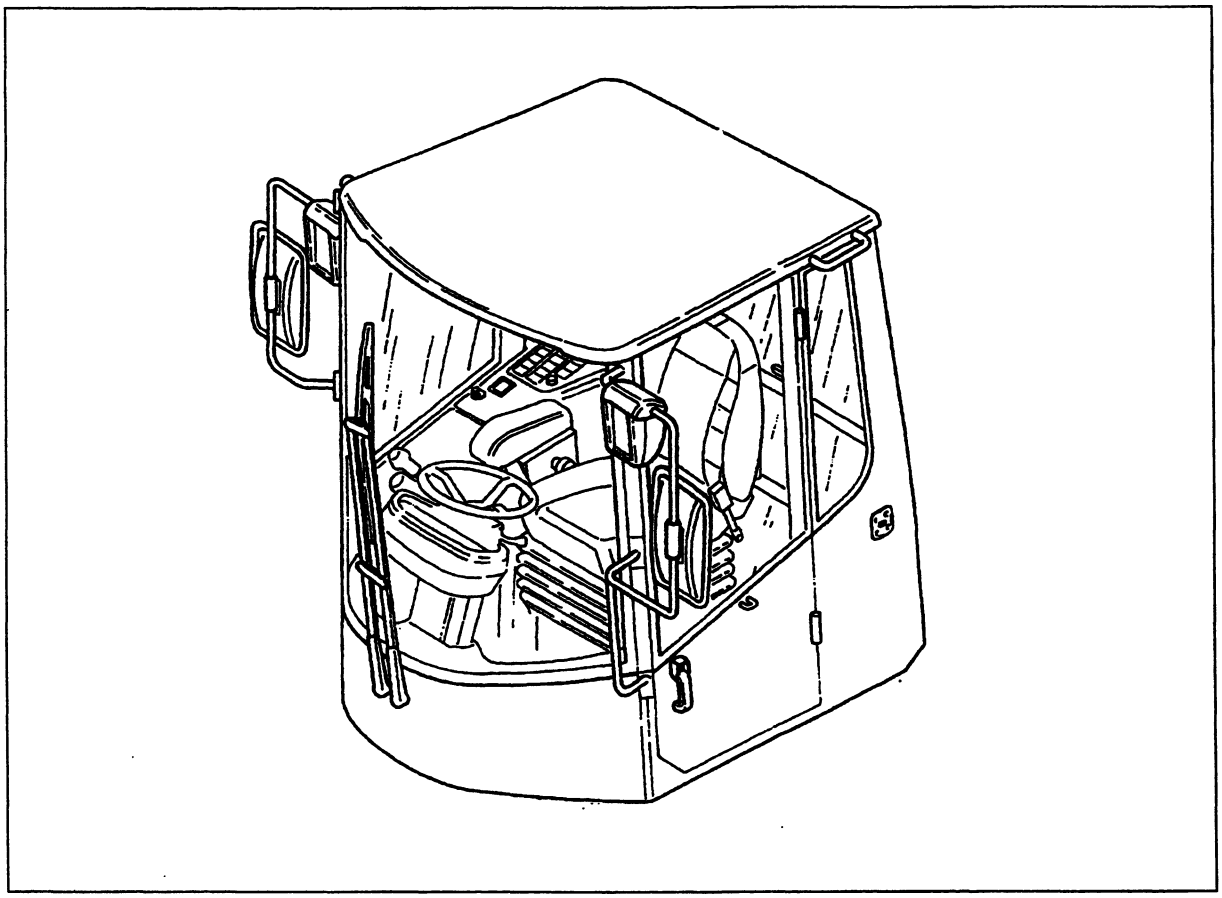


Fig. 8-1

The cab is a tested protection structure against roll-over hazard (**ROPS**).
The cab is complete with the driver's seat, steering column, controls and instruments to drive and operate the machine.
Other standard features are the heating system, demister, front and rear windscreen washer-wipers, ceiling light, clock/thermometer, loud-speakers, safety glasses, rear-view mirrors, sun visor, and emergency exit.
Access inside the cab is through the left-hand door. The right-hand door is used to gain access to the heater/air conditioning system compartment. Doors can be locked wide open and are fitted with a key lock.
The main components such as the hydraulic reservoir, hydraulic pump and control valve, steering control valves and cylinders, and drive shafts can be removed or repaired without disassembling the cab.

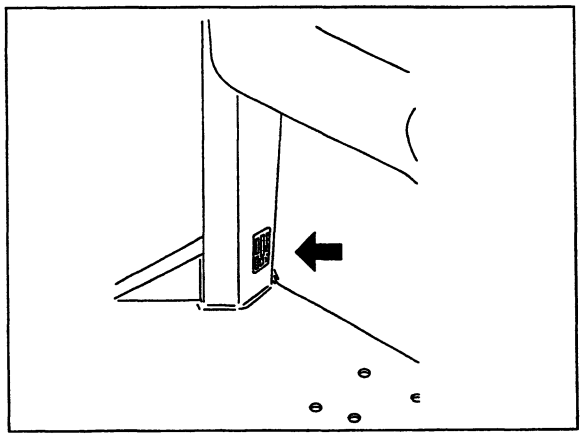


Fig. 8-2

The cab serial number is etched on a plate located on the inner side of the cab left-hand post.