

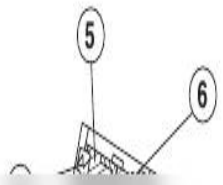
Copyright © N

PREVIEW: YOUFIXTHIS.COM

Blurred on purpose. The manual you buy has this page in full quality.

Download full manual at youfixthis.com

DOZER HYDRAULIC SYSTEM DIAGRAM



Blurred on purpose. The manual you buy has this page in full quality.

PREVIEW - YOUFIXTHIS.COM

Copyright © New Holland

Download full manual at youfixthis.com

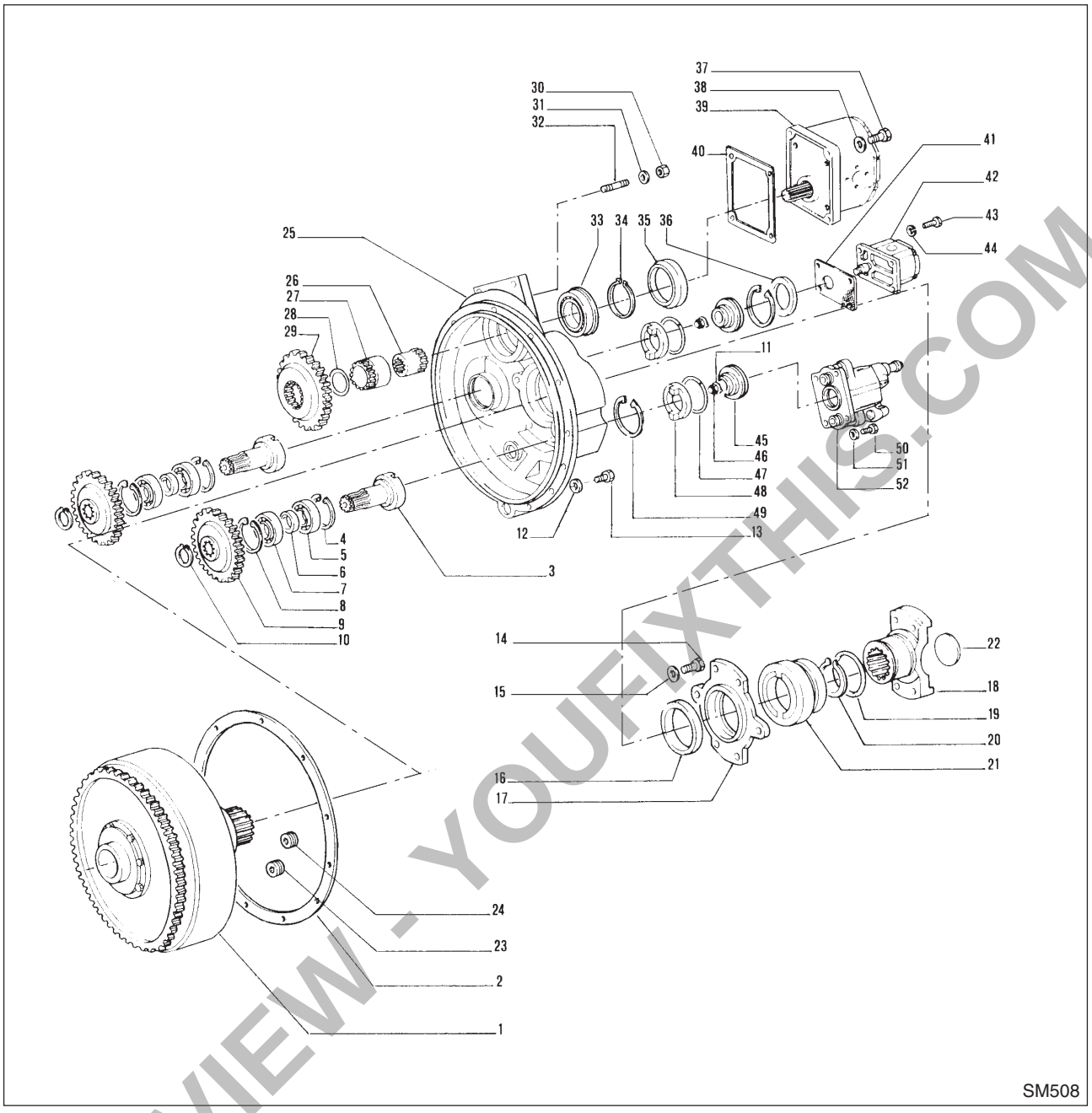


Fig. 2-5 Disassembly (assembly) converter group

1. Torque converter - **2.** Distancing rings - **4.** Split ring 66.2 x 2 - **5.** Bearing - **6.** Distancing ring - **7.** Bearing - **8.** Split ring 66.2 x 2 - **9.** Converter/transmission control pump gear - **10.** Split ring - **11.** Safety washer - **12.** Washer 10.5 x 21 - **13.** Fixing screws converter cover M10 x 1.25 x 20 - **14.** Screws - **15.** Washer - **16.** Seal - **17.** Converter shaft support - **18.** Sleeve - **19.** O- ring seal 5.33 x 75.56 - **20.** Slit ring - **21.** Sleeve - **22.** Plug 70 x 2.5 - **23.** Plug M22 x 1.5 x 13 - **25.** Cover converter - **26.** Inner sleeve - **27.** Outer sleeve - **28.** Split ring - **29.** Control pump gear - **30.** Nut M10 x 1.25 x 8 - **31.** Washer 10.5 x 21 - **32.** Stud M10 x 40 - **33.** Pump bearing - **34.** Slit ring - **35.** Ring - **36.** Split ring - **37.** Fixing screws - **38.** Washer - **39.** Hydraulic pump - **40.** Seal - **41.** Seal - **42.** Hydraulic pump transmission/converter - **43.** Fixing screws transmission/converter pump M6 x 1 x 35 - **44.** Washer - **45.** Transmission/converter pump sleeve - **46.** Fixing nut sleeve to pump shaft - **47.** Split ring - **48.** Drawing ring - **49.** Split ring 75 - **50.** Screws 10 x 1.25 x 35 - 51 Washer - **52.** Transmission/converter pump.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Material index No. (f)	Strenght class and type of material					
	FIAT	**UNI**	**DIN**	**SAE**	**BSI**	**BNA**
0	R 40	D - 4S - 4A		1	A	42
1	R 50	5S - 6S		3	P	56
2	R 80	8G		5	T	80
3	R 100	100	10K	8	V	100
4	Ottone	Ottone	Messing	Brass	Brass	Laiton
5	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium	Aluminium
6	Rame	Rame	Kupfer	Copper	Copper	Cuivre
7	Free for other metals					

WARNING

- Lubricate screws and nuts with engine oil up to 24 mm diameter; for larger diameters use tallow.
- Tolerance on tightening torques is ± 5%.
- Strength classes R80, R100, R120, must be considered as follows:

10.9 supersedes R 100
12.9 " R 120
} screws

10 supersedes R 80
12 supersedes R 100
} nuts

CDT = cadmium plated;
FOSF = phosphate plated;
ZNT = zinc plated.

TIGHTENING TORQUE TABLES

If the tightening torque of screws and nuts is not specifically indicated in the single sections, refer to the tables of the following page:

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

2.2 TROUBLESHOOTING

CONVERTER AND GEARBOX

Important – *It is assumed that the oil level has been checked and that the filters on the gearbox (fitted on the lower front) and on the delivery (fitted on the left of the chassis under the front footboard) are perfectly clean. To check the oil level proceed as follows:*
- *Run the engine for a few minutes.*
- *Stop the engine and wait a couple of minutes for the oil to return to the transmission.*
- *Withdraw the rod and read the level. If the level is low add oil to the maximum level notch.*

1. Machine is sluggish in all gears

1.1 Check the main pressure gauge for the Data Monitor.
Values should be 12.5 ÷ 13.5 bar with inversion in neutral and 14 ÷ 15 bar with gears engaged. If the values are lower check the delivery of the heat exchanger using a flowmeter between the converter outlet and the exchanger - transmission oil inlet. The test should be carried out with the engine at maximum revs and with a forward or reverse gear engaged. For maximum safety the check should be repeated in all gears. The delivery must be 130 litres per minute.

1.1.1 If the delivery is considerably below the values indicated disassemble the converter and transmission pumps because they are worn.

1.1.2 If the delivery of the pumps is correct check the main pressure regulating valve (**7**, fig 2-1) situated on the upper part of thedistributor. The shutter should be free and the spring should be intact.

1.1.3 Check the regulating valve of the forward and the reverse gears (**29**, fig. 2-1). The two springs on each valve should be intact and the larger piston should not show damage. Check that the lips of the seal collars of the regulating gears are not damaged or dirty. Check the calibrated nozzles situated inside the plugs above the regulators (**2**, fig. 66).

1.2 Check the engine/transmission/converter performance at main engine speeds. Values must be within the limits shown in the Technical Data table shown at the end of the Manual.

Should any faults be found proceed as follows:

1.2.1 Engine speed low: check whether on operating the accelerator lever the lever on the injection pump moves its full stroke. If not calibrate it. If this is not sufficient calibrate the limit of the lever on the injection pump until the maximum speed is obtained.

1.2.2 Engine speed, converter stall high: check the converter outlet pressure: it must be at least 2.2 bar with the gears in neutral and 3.0 bar at converter stall. If this pressure is low check the total delivery of the converter pump and the gears inserting a flowmeter between the converter outlet and the transmission oil exchanger inlet. The test must be carried out with the engine at maximum revs and with a forward or reverse gear engaged. For maximum safety the check should be repeated in all gears. The delivery must be 130 litres per minute. If the delivery is considerably below the values indicated disassemble the converter and transmission pumps because they are worn.
If the pumps are working correctly disassemble the converter because it is losing a considerable quantity of oil due to loosening of screws, wear or broken rotating choke rings.

2. The machine does not move when one of the three gears (forward or reverse) is selected.
When a gear is selected the cardan shaft turns without the machine moving, or moving very slowly. This indicates clutch slip.

2.1 Check the pressure on the gear in question. Place a manometer on the grip (of the five grips on the upper part of the gearbox) which corresponds to the gear in question. (see fig. 2-83).

The following conditions may be noted:

2.1.1 When the gear is selected the pressure on the corresponding grip is correct. In this case the clutch is damaged and it is necessary to open the transmission.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Copyright © New Holland

	Overall lenght (bare tractor)	mm	4 490
	Overall lenght (with semi-U blade)	mm	5855
	Overall lenght (with angledozer blade)	mm	5 800

PREVIEW - YOUFIXTHIS.COM

Blurred on purpose. The manual you buy has this page in full quality.

Download full manual at youfixthis.com

COOLANT AND LUBRICANTS

ITEM	Q.TY (Liter)	FIAT PRODUCT	REFILL (International classification)	VISCOSITY	AMBIENT TEMPERATURE (C°)
COOLING SYSTEM	65	AGRIFLU	AGRIFLU mixed with 50% of water freezing protection down to – 35 °C	–	–
FUEL TANK	495	–	Diesel fuel ASTM N.2-D grade TT of reputate quality and brand	–	–
ENGINE	19	AMBRA SUPER GOLD	API CF4 MIL - L - 2104 E	SAE 15W-40 or SAE 10W-30	–15 °C ÷ +40 °C –25 °C ÷ +20 °C
BEVEL GEAR STEERING CLUTCHES BRAKES	82	AMBRA SUPER GOLD	API CF4 MIL - L - 2104 E	SAE 15W-40 or SAE 10W-30	–15 °C ÷ +40 °C –20 °C ÷ +20 °C
CONVERTER AND TRANSMISSION	67	HYDROPOWER	ATF Type A SUFFIX A	SAE 10W	–20 °C ÷ +40 °C
HYDRAULIC SYSTEM ANGLEDOZER VERSION (mechanical)	130	HI-TECH 46	DIN 51524/2	ISO VG 46	–20 °C ÷ +40 °C
FINAL DRIVES (each)	82	HYPOIDE 90	API GL5 MIL - L - 2105 D	SAE 80W90	–20 °C ÷ +40 °C
TRACK IDLERS AND ROLLERS	9	AMBRA SUPER GOLD	API CF4 MIL - L - 2104 E	SAE 15W-40 or SAE 10W-30	–15 °C ÷ +40 °C –25 °C ÷ +20 °C
GREASE FITTINGS	–	MG2	N.L.G.I. 2	–	–
CAB TILTING SYSTEM	0.5	HYDROPOWER	ATF Type A SUFFIX A	SAE 10W	–20 °C ÷ +40 °C

NOTE: The quantities of oil indicated are those required for first supply.
If fuel sulphur content is over 0.5% change engine oil as follows:

% sulphur	Periodic change
0.5 to 1.0%	Half normal interval
Over 1.0%	Quarter normal interval

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

2.3.2 DISASSEMBLY CONVERTER

WARNING

Lift and handle all heavy parts with a lifting device of proper capacity. Ensure that parts are supported by proper slings and hooks. Use lifting eyes if provided. Ensure that no-one is standing near the load to be lifted.

WARNING

Handle pieces with care. Do not place your hands or fingers between the parts. Wear homologated safety clothing such as glasses, gloves and boots.

WARNING

Use the correct tools to align the holes. DO NOT USE YOUR HANDS OR FINGERS.

Before dissembling the converter fix the housing to a universal trestle (**25**, fig. 2-5) and using the lifting chain **380002020** remove the converter.
Mark the housing (**5**) and the impeller (**15**, fig. 2-6) for reassembly.
Separate the two parts aver removing the centring cover (**3**, fig. 2-6) using, if necessary, the correct threaded holes on the impeller (**15**).
Remove the stator with care, it is in light alloy. If necessary heat the stator with an electro-heater before removing it.

2.3.3 CHECKING THE PARTS

WARNING

Do not use petrol, solvents or other inflammable fluids for cleaning the parts. Use non-flammable, non-toxic, homologated, commercial solvents.

Clean the parts and check that:

- the bearings move without sticking and that there is no radial play.
- the internal channelling of the stator in correspondence with the relative hub is not worn or misshapen (there must be no radial play when the parts meet).
- the bearing seats are not scratched or damaged, this may indicate that the bearings are loose in their seats.

Note – *Replace all the split rings and the choke rings.*

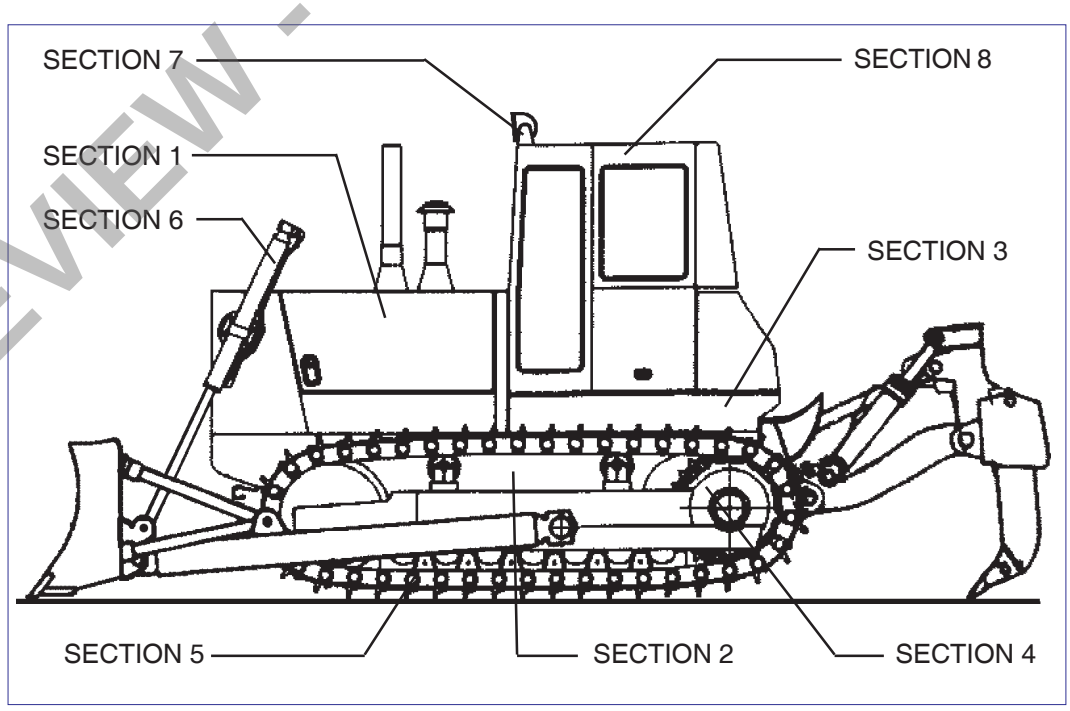
Apply FIAT Z2 grease to the seal seat on the part (**17**, fig. 2-5) and on the area of contact between the seal (**16**) and the sleeve (**21**).
Clean the surfaces to be joined (**17** and **25**, fig. 2-5) and apply “Loctite 518” sealant.
Clean the surfaces to be joined (**2** and **25**) and the surface of the engine flywheel, then apply “Loctite 518” sealant.
Before reassembly, grease the housing joint between the converter shaft and the sleeve (**18**, fig. 2-3).

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

SUMMARY

GENERALITIES	SECTION 0
ENGINE	SECTION 1
TRANSMISSION-TORQUE CONVERTER	SECTION 2
STEERING CLUTCHES - BRAKES	SECTION 3
FINAL DRIVES	SECTION 4
UNDERCARRIAGE	SECTION 5
DOZER EQUIPMENT HYDRAULIC SYSTEM	SECTION 6
ELECTRICAL SYSTEM	SECTION7
AIR CONDITIONING UNIT	SECTION 8



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

⚠ WARNING

Study this Manual before starting, operating, maintaining, fuelling or servicing the machine.
Read and heed all safety rules before any intervention.

SAFETY RULES

- Do not allow unauthorised personnel to operate service or maintain this machine.

- Do not wear rings, wrist watches, jewellery, loose or hanging apparels, such as ties, torn clothing, scarves, unbuttoned or unzipped jackets that can catch on moving parts. Wear proper safety equipment as recommended for the job. Examples: hard hat, heavy gloves, ear protection, safety glasses or goggles, reflector vests, respirator. Consult your employer for specific safety equipment requirements.

- Keep operator's compartment, stepping points, grab-rails and handles clear of foreign objects, oil, grease, mud or snow accumulation to minimize the danger of slipping or stumbling.
  Clean mud or grease from shoes before attempting to mount or operate the machine.

- Do not jump on or off the machine. Keep two hands and one foot, or two feet and one hand in contact with step grab rails and handles at all times.

- Do not use controls or hoses as hand holds when climbing on or off machine. Hoses and controls are movable and do not provide a solid support. Controls also may be inadvertently moved causing accidental machine or equipment movement.

- Never attempt to operate the machine or its tools from any position other than seated in the operator's seat.

- Keep head, body, limbs, hands and feet inside operator's compartment at all times to reduce exposure to hazards outside the operator's compartment.

- Be careful of slippery conditions on stepping points, hand rails, and on the ground. Wear safety boots or shoes that have a high slip resistant sole material.

- Do not leave the machine until it is completely stopped.

- Check the seat safety belt at least twice a year. If there are signs of wear or fraying or other signs of weakness that could lead to failure, replace it.

STARTING

- NEVER START OR OPERATE AN UNSAFE MACHINE. Before operating a machine, always ensure that any unsafe condition has been satisfactorily remedied.

- Check brakes, steering and attachment controls before moving. Advise the proper maintenance authority of any malfunctioning part or system.

- Be sure all protective guards or panels are in place, and all safety devices provided are in place and in good operating conditions.

- Be sure exposed personnel in the area of operation are clear of the machine before moving it or its attachments. WALK COMPLETELY AROUND the machine before mounting. Sound horn. Obey flag man, safety signals and signs.

- Before starting machine, check, adjust and lock the operator's seat for maximum comfort and control of the machine.

- Fasten your seat belt (when provided).

- Obey all flag signals and signs.

- Due to the presence on the machine of flammable fluids, never check or fill fuel reservoirs or batteries near open flames, smoking materials or sparks.

- REMEMBER THAT STARTING FLUID IS FLAMMABLE. Follow recommendations printed on containers and in the Operation and Maintenance Manual.

- DO NOT PUNCTURE OR BURN CONTAINERS.

- Containers must be stored in fresh, well ventilated places, out of reach of unauthorised persons. Follow strictly the instructions provided by the Manufacturer.

- Never use these preducts near open flames, smoking materials or sparks.

OPERATION

- Do not run the engine of this machine in closed areas without proper ventilation to remove deadly exhaust gases.

- Roll Over Protective Structures are required on loaders, dozers, graders, excavators. NEVER OPERATE machines without ROPS.

- Make sure the Operator's compartment is free of foreign objects, especially if not firmly secured. Never use the machine to transport objects, unless proper securing points are provided.

- Check monitoring instruments at start-up and frequently during operation if the brake pressure gauge sugnals a pressure lower than the minimum operation value, stop immediately the machine.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

1.2 SERIES "C" ENGINE DATA

Generalities

Bore:	114 mm
Stroke:	135 mm
Total displacement:	8 268 cm^3
Max. power rated speed	2200 min^{-1}
Net power at flywheel (SAE J1349)	177 kW
Maximum torque	114.6 daNm (at 1400 rpm)
Engine idle rated speed and various stalls:	
Low idle	920 ± 100 rpm
Max. idle	2150 ± 50 rpm
Equipment stall	2080 ± 70 rpm
Torque converter stall	1780 ± 100 rpm
Total stall (equipment plus torque converter)	1510 ± 100 rpm
Compression ratio	17.3 : 1
Firing order:	1-5-3-6-2-4
Valve clearance	
Intake:	0.30 mm
Exhaust:	0.61 mm
Engine rotation (seen from front side of engine):	Clockwise
Intake	Turbocharged
Engine weight (with standard accessories)	
Dry:	603 ÷ 612 kg
Filled (with engine fluids)	635 ÷ 658 kg

Lubrication system

Oil pressure	
At low idle (minimum allowed)	0.69 bar (69 kPa)
At nominal rpm (minimum allowed)	2 bar (207 kPa)
Pressure differential for oil filter by-pass valve opening	1.68 bar (172 kPa)
Oil flow at rated speed (minus the flow through the pressure relief)	106.8 litres/min
Oil temperature at rated speed	99 to 126 °C
Oil temperature thermostat	
Fully open (oil flowing through heat exchanger	116 °C
Closed (part of the oil by-passes the heat exchanger)	104 °C
Oil sump capacity (all engines) (high - low)	18.9 a 15.1 litres
Total capacity of system	23.8 litres

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

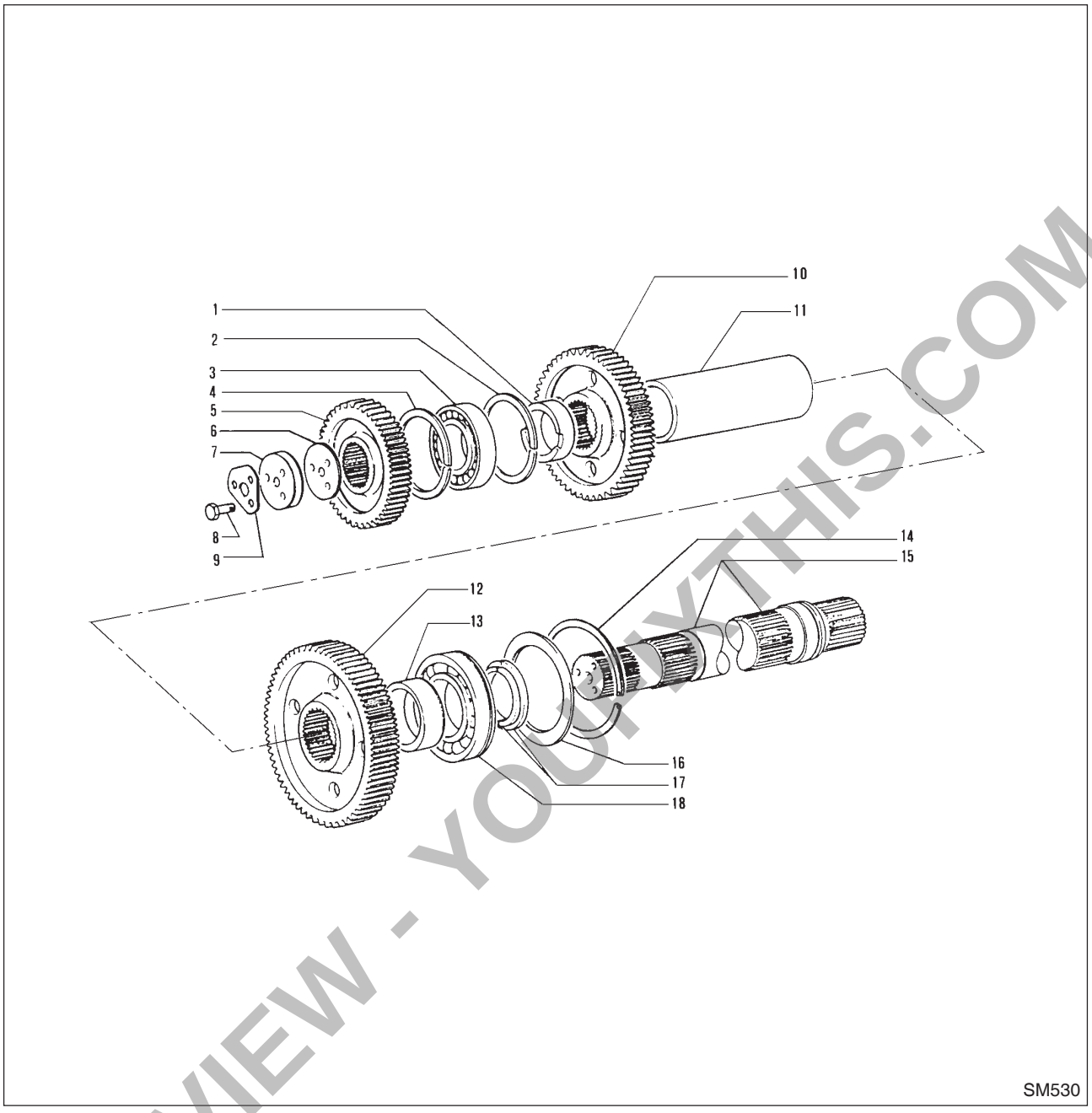


Fig. 2-27 Transmission output shaft

1. Distancing ring - **2.** Split ring - **3.** Shaft support bearing - **4.** Split ring - **5.** Third speed driven gear - **6.** Distancing ring - **7.** Gear retaining disc - **8.** TE M 14 x 1.5 x 45 screws tightening torque 13 daNm - **9.** Safety plate - **10.** Second speed driven gear - **11.** Distancing ring - **12.** First speed driven gear - **13.** Distancing ring - **14.** Split ring - **15.** Transmission output shaft - **16.** Shoulder ring - **17.** Half rings for bearings - **18.** Bearing.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

	FUNCTION	SYMBOL	SPECIFICATIONS	REFERENCE	TIGHTENING TORQUE
TRANSMISSION	Fixing gear selector oil delivery manifold (**A-I**) to transmission housing	C_2	SCREW TE M12x1.25x35	Fig. 2-11	**9.5 ÷ 10.5 daNm**
	Fixing transmission to gearbox	C_3	SCREW TE M16x1.5x60	Fig. 2-11	**9.5 ÷ 21 daNm**
	Fixing 3rd speed driven gear retaining disc	C_4	SCREW TE M14x1.5x45	Fig. 2-11	**13 daNm**
	Fixing drive shaft front bearing choke ring	C_5	SCREW TE M12x1.25x20	Fig. 2-11	**5.7 ÷ 6.3 daNm**
	Fixing front cover to gearbox	C_6	SCREW TE M12x1.25x100	Fig. 2-11	**11.5 ÷ 12.5 daNm**
	Fixing oil suction manifold to gearbox	C_7	SCREW TE M12x1.25x30	Fig. 2-11	**13 daNm**
	Fixing seal-bearing cover to input shaft	C_8	SCREW TE M12x1.25x30	Fig. 2-11	**5.7 ÷ 6.3 daNm**
	Fixing clutch oil delivery manifold to gearbox	C_9	SCREW TE M12x1.25x35	Fig. 2-11	**9.5 ÷ 10.5 daNm**
	Fixing cover to gearbox	C_{10}	SCREW TE M12x1.25x65	Fig. 2-11	**11.5 ÷ 12.5 daNm**
TRANSMISSION DISTRIBUTOR	Fixing gear selector unit to lower body	C_1	SCREW TE M8x1.25x60	Fig. 2-60	**2.4 ÷ 2.6 daNm**
	Fixing speed regulating valve body to upper body distributor	C_2	SCREW TE M8x1.25x50	Fig. 2-60	**2.7 ÷ 2.9 daNm**
	Fixing spacer and lower body distributor	C_3	SCREW TE M10x1.25x140	Fig. 2-60	**4.8 ÷ 5.2 daNm**
	Fixing spring cover to lower body	C_4	SCREW TE M8x1.25x20	Fig. 2-60	**1.8 ÷ 2 daNm**
	Fixing gear selector to lower body	C_5	SCREW TE M8x1.25x40	Fig. 2-60	**2.4 ÷ 2.6 daNm**
CONTROL LEVER	Locking threaded washer plunger control	**1**	THREADED SLEEVE	Fig. 2-73	**3 daNm**
	Control lever connection with plungers	**2**	THREADED WASHER	Fig. 2-73	**3 daNm**

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

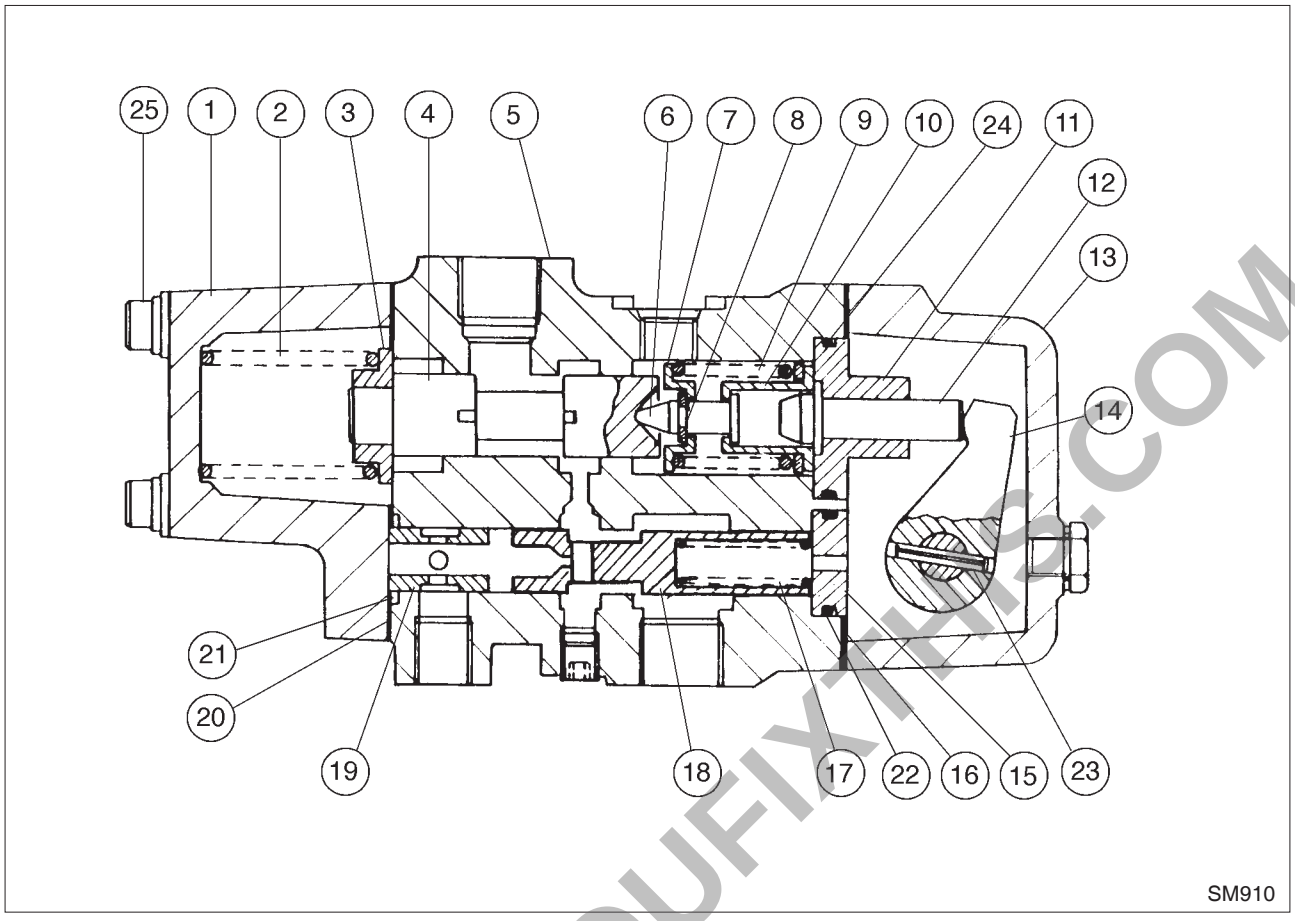


Fig. 3-39 Section of brakes control valve

1. Cover - **2.** Spring - **3.** Cup - **4.** Spool - **5.** Body assembly - **6.** Shoe - **7.** Inner cup - **8.** Washer - **9.** Spring - **10.** Outer cup - **11.** Guide - **12.** Pusher pin - **13.** Cover - **14.** Cam - **15.** Washer - **16.** Seal - **17.** Plunger spring - **18.** Plunger - **19.** Spacer - **20.** Seal - **21.** O-Ring 2.62 x 18.72 - **22.** O-Ring 2.62 x 20.29 - **23.** Spring pin 5 x 24 - **24.** O-Ring 2.62 x 34.59 - **25.** Screw securing cover M8 x 75.

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Part number	Description	References
	Tools for pulling the sprocket (cont.ed)	
380002040	Adapter plates (**A**)	Fig. 4-4
380002041	Nuts, securing adapter plates (**B**)	Fig. 4-4
	Tools for press-fitting the sprocket (to be used with press **380001019**)	Fig. 4-17
380002038	Double stroke hand pump (**C**) (to be used with press **380001019**)	Fig. 4-17
380002039	Threaded adapter (**E**)	Fig. 4-17
380002052	Pushing bell (**A**)	Fig. 4-17
	Tools for the disassembly of sprocket shaft intermediate bearing (to be used with press **380001019**)	Fig. 4-13
380002038	Double stroke hand pump (to be used with press **380001019**)	Fig. 4-13
380002039	Threaded adapter (**A**)	Fig. 4-13
380002052	Strut (**B**)	Fig. 4-13
380002054	Pushing bell (**C**)	Fig. 4-13

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

DIAGRAM OF HYDRAULIC SYSTEM

A. Rapid release valve in rapid blade lowering phase
Fa. Intake filter
Fr. Return filter
M. Equipment distributor
N. Blade raising cylinder
P. Equipment hydraulic pump
Q. Cross section piston limit valve
R. Ripper control cylinder
S. Hydraulic oil tank
1. Limit valve seat
2. Limit valve
3. Shutter spring
4. Rapid release valve shutter
5. Piston
6. Ball valve

Blade cross section

B. Safety and anti-cavitation valve
C. Blade lowering intake
D. Blade raising intake
G. Spring
H. Exhaust pipe
I. Central passage
J. Choke valve
K. Feed pipe
L. Rod

Ripper cross section

B. Safety valve
C. Ripper lowering intake
D. Ripper raising intake
G. Spring
H. Exhaust pipe
I. Central passage
J. Choke valve
K. Feed pipe
L. Rod

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

6 – ENGINE STARTING SOLENOID SWITCH

WIRE

723 Position “30” to diverter box **40**
805 Position “G” to E.D.M. control module **69** (position “6”)
868 Position “85” to starting safety switch **93** (position “87”)
888 Position “G” to starter motor **4**
000 Position “86” to ground

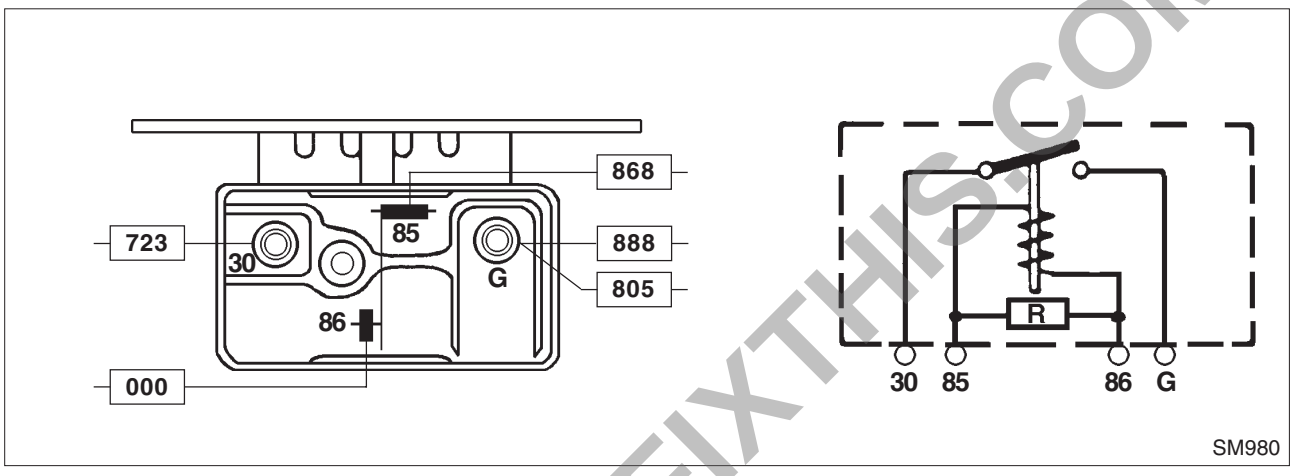


Fig. 7-11

LOCATION - In electrical compartment, under cab left door

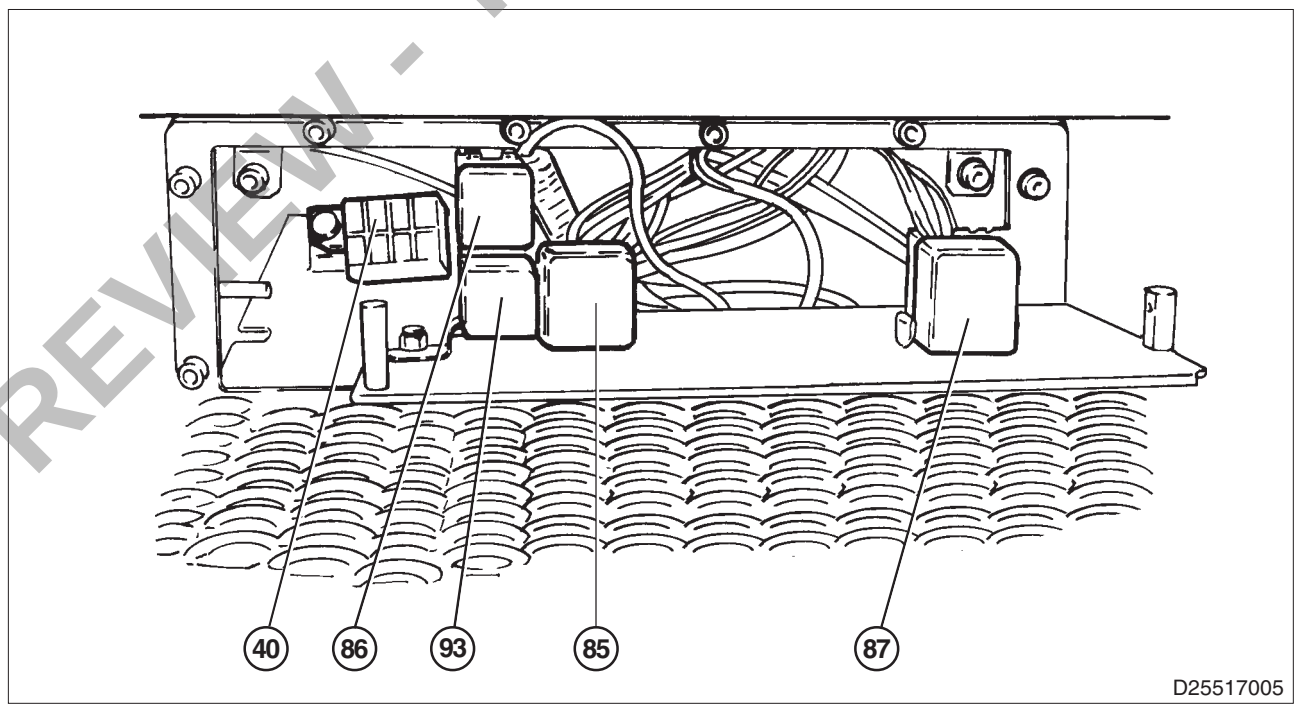


Fig. 7-12

PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 18 of 337 pages

The full manual includes:

- All 337 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

New Holland D255, D255 Crawler Dozer, D255 Dozer Workshop Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual