JX1080U, JX1090U, JX1100U REPAIR MANUAL COMPLETE CONTENTS

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The following pages are the collation of the contents pages from each section and chapter of the JX1080U, JX1090U, JX1100U Repair manual. Complete Repair part # 87054727.

The sections used through out all Case IH product Repair manuals may not be used for each product. Each Repair manual will be made up of one or several books. Each book will be labeled as to which sections are in the overall Repair manual and which sections are in each book.

The sections listed above are the sections utilized for the JX1080U, JX1090U, JX1100U Tractors.

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FILLING AND TOPPING-UP OPERATIONS

COMPONENT TO BE FILLED OR TOPPED UP	QUANTITY US gal. (liters)	RECOMMENDED CASE IH PRODUCTS	CASE IH SPECIFICATION	INTERNATIONAL SPECIFICATION
Cooling system: without cab: . . . . . with cab:	3.69 (14) 4.22 (16)	Water and **AKCELA PREMIUM ANTI-FREEZE** 50% + 50%	MS 1710	-
Windscreen washer reservoir	0.52 (2)	Water and liquid Detergent	-	-
Fuel tank - JX1070U, JX1080U . . . . (on request) . . . . . . - JX1090U, JX1100U (expansion tank)	27.73 (105) 33.55 (127) 33.55 (127) 10.56 (40)	Decanted, filtered diesel fuel	-	-
Engine sump: without filter: . . . . . with filter:	2.35 (8.9) 2.50 (9.5)	**AKCELA No 1 ENGINE OIL**	MS 1121 (SAE 15W-40) NH 1121 (SAE 10W-30)	API CH-4 ACEA E5 SAE 15W-40 API CH-4 SAE 10W-30
Brake control circuit without front brakes	0.10 (0.4)	**AKCELA LHM FLUID** oil	-	ISO 7308
Hydrostatic steering circuit	0.52 (2.0)	**AKCELA NEXPLORE** oil	MAT 3525	API GL4 ISO 32/46 SAE 10W-30
Front axle: axle housing: models JX1080U, JX1090U and JX1100U . . . final drives (each): models JX1080U, JX1090U and JX1100U . . .	 1.84 (7.0) 0.33 (1.25)			
Rear axle (bevel drive, final drives and brakes), transmission, hydraulic lift, power take-off and hydrostatic steering: models JX1080U, JX1090U and JX1100U . . .	14.52 (55)			
Front wheel hubs	-	**AKCELA MULTI-PURPOSE GREASE 251H EP**	-	NLGI 2
Grease fittings	-			

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SPECIFICATIONS

	4 Cylinders
Engine, type:	
– model JX1080U – Naturally Aspirated	F4CE0404C*D681
– model JX1090U – Turbocharged	F4CE0454E*D681
– model JX1100U – Turbocharged	F4CE0454D*D681
Cycle	diesel, 4–stroke
Fuel injection	direct
Number of cylinders in line	4
Piston diameter (bore)	
– model JX1080U – JX1090U – JX1100U	4.0944 in. (104 mm)
Piston stroke	5.1968 in. (132 mm)
Total displacement:	
– model JX1080U – JX1090U – JX1100U	273.67 in^3. (4.5L)
Compression ratio for Models JX1080U – JX1090U – JX1100U	17.5:1
Maximum power:	
– model JX1080U – F4CE0404C*D681	60 kW (80 HP)
– model JX1090U – F4CE0454E*D681	67 kW (90 HP)
– model JX1100U – F4CE0454D*D681	73.5 kW (98 HP)
Rated speed	2500 rev/min
Maximum Torque @ 1400 rev/min	
– Maximum torque: model JX1080U – F4CE0404C*D681	320 Nm (236 lb.-ft.)
– Maximum torque: model JX1090U – F4CE0454E*D681	350 Nm (258 lb.-ft.)
– Maximum torque: model JX1100U – F4CE0454D*D681	370 Nm (272 lb.-ft.)
Number of main bearings	5
Sump	structural, cast iron

(continued)

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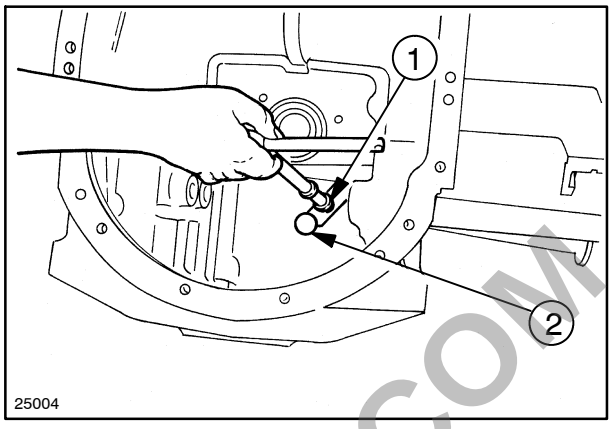
TROUBLESHOOTING

Problems	Possible Causes	Solutions
Clutch slips	1. Worn disks (1, fig.1) on pressure plates and flywheel.	Check and compare the data given on the pages indicated, replace any parts which are worn up to or over the limit and adjust levers and clutch control linkage.
	2. Oil or grease contaminating the disk friction material.	Replace the disks, identify and eliminate the source of lubricant inside the clutch housing and thoroughly clean the friction surfaces.
Fierce clutch	1. Partial seizure of the external control linkage.	Check rod pivots and lubricate.
	2. Clutch disk (1) deformed.	Replace the disk and adjust the clutch control lever.
	3. Clutch disk (1) with spring drive damaged or with hub rivets loose.	Replace disk.
	4. Oil or grease contaminating the friction lining of disk (1).	Replace the disks, identify and eliminate the source of lubricant inside the clutch housing and thoroughly clean the friction surfaces.
Clutch sticks and drags	1. Clutch disks (1) deformed.	Replace and adjust disks.
	2. Seizure of external control linkage.	Check, replace faulty parts and lubricate.
	3. Controls incorrectly adjusted.	Adjust the controls (see page 7).
Clutch noisy when engaged and/or disengaged	1. Thrust bearing worn.	Replace Bearing
	2. Clutch disk (1) with spring drive faulty.	Replace disk.
Clutch pedal too stiff	1. Partial seizure of the external control linkage.	Check rod pivots and lubricate.
	2. Partial seizure of pedal pivot.	Check pivot and lubricate.

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14. Straighten out the notching, remove the bolt (1) retaining the reverser driven shaft pin locking plate (2) and the intermediate gear pin. Remove the parts from the rear of the casing.



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Assembly

To assemble the reverser proceed as follows:

CAUTION

Always use appropriate tools to align fixing holes. NEVER USE FINGERS OR HANDS.

1. Respect the tightening torques prescribed on page 3.
2. Install the intermediate gear pin, complete with all parts, and the reverse driven gear pin and secure with the plate and bolt.
3. Install the sliding sleeve forks on the clutch levers and secure with the bolts.
4. Install the sliding sleeve support cover and secure with the nuts.
5. Assemble the sliding sleeves unit on the support and secure to the fork with the clips.
6. Working from the rear of the clutch-reverser casing, install the reverser driving shaft and secure to the casing with the support bearing circlip.
7. Install the reverser driving gear and bearings on the driving shaft.
8. Install the reverser driven gear and bearings on the driven shaft.
9. Assemble the synchronizer unit (control forks, rods, thrust washers and bearing) and insert the relative circlip.
10. Install the poppet ball, spring and bolt with sealing compound.
11. Position the internal lever, insert the drive lever and secure with the relative circlip.
12. Detach the clutch-reverser casing from stand **380000301**.

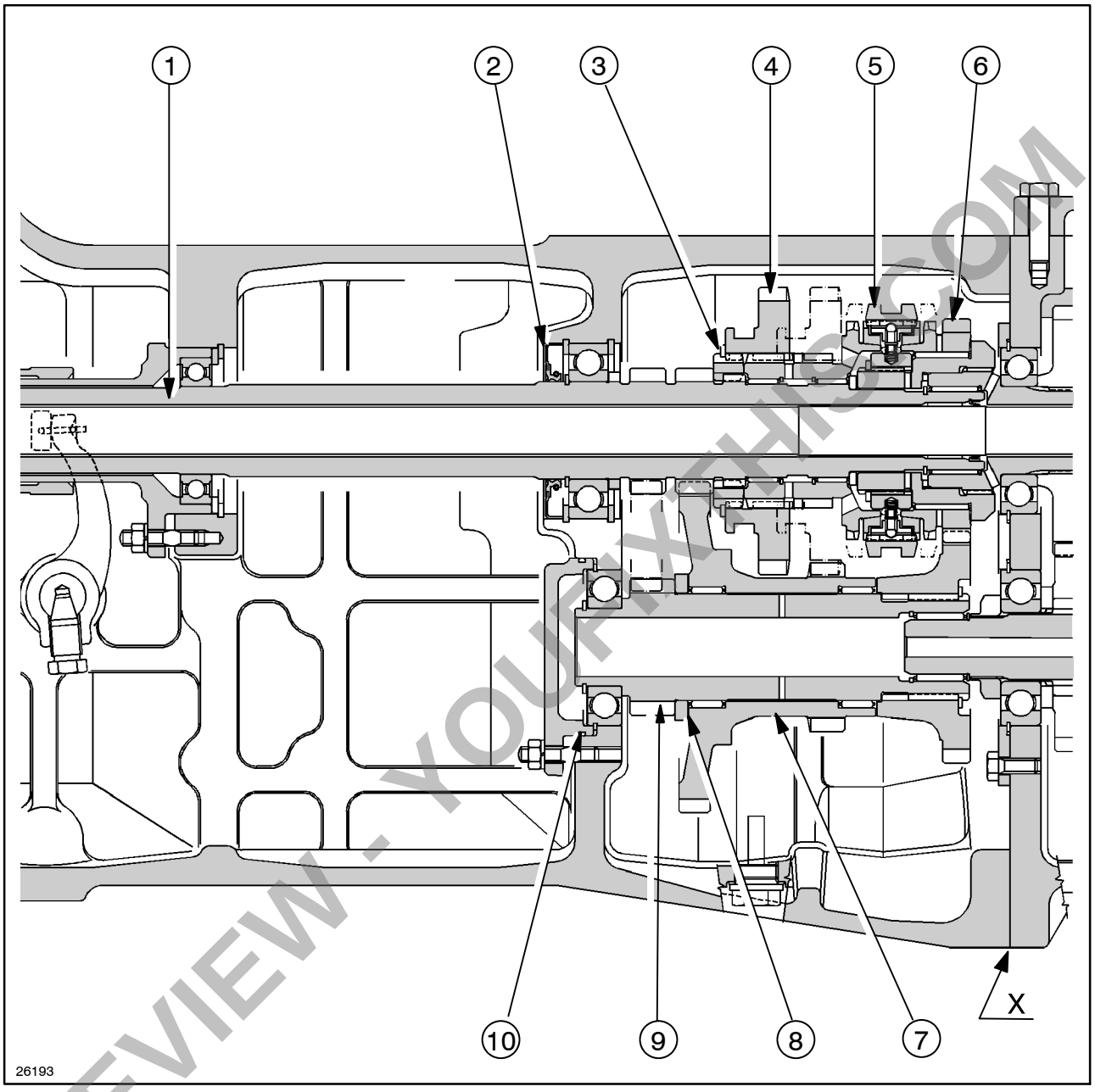
Installation

1. Install the clutch casing. Refer to Section 18.
2. Install the cab (where removed) and/or platform as described in Section 90.

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SECTIONAL VIEWS



4

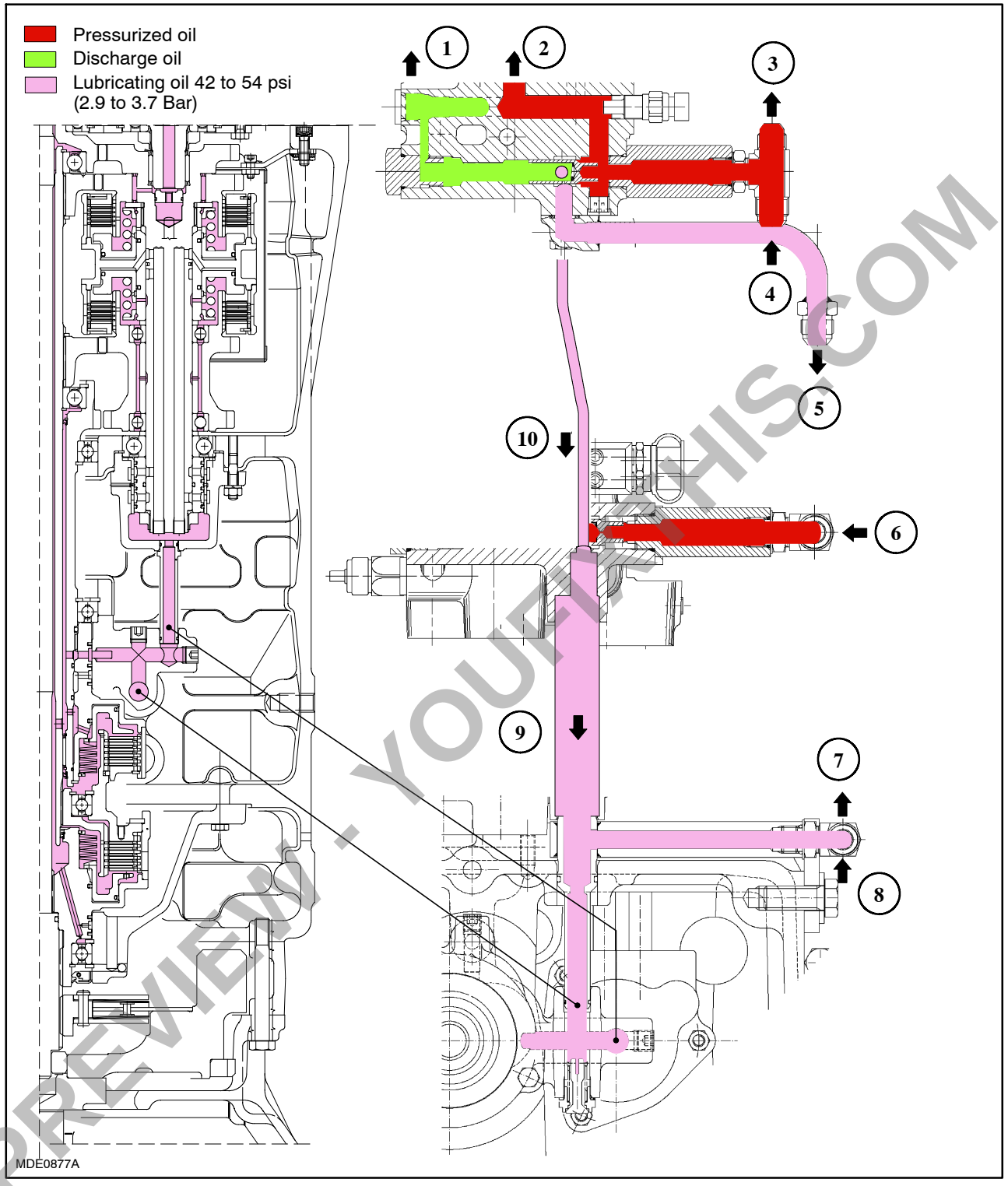
Longitudinal Cross-section View of Reverser-Creeper

1. Reverser and creeper shaft.
2. Seal.
3. Retaining circlip.
4. Creeper gear unit.
5. Reverser-creeper synchronizer.
6. Reverser-driven shaft gear unit.
7. Creeper unit driven gear.
8. Thrust washer.
9. Reverser driven shaft.
10. Seal.

NOTE: *On assembly apply a bead of sealing compound to the surfaces* ***X****.*

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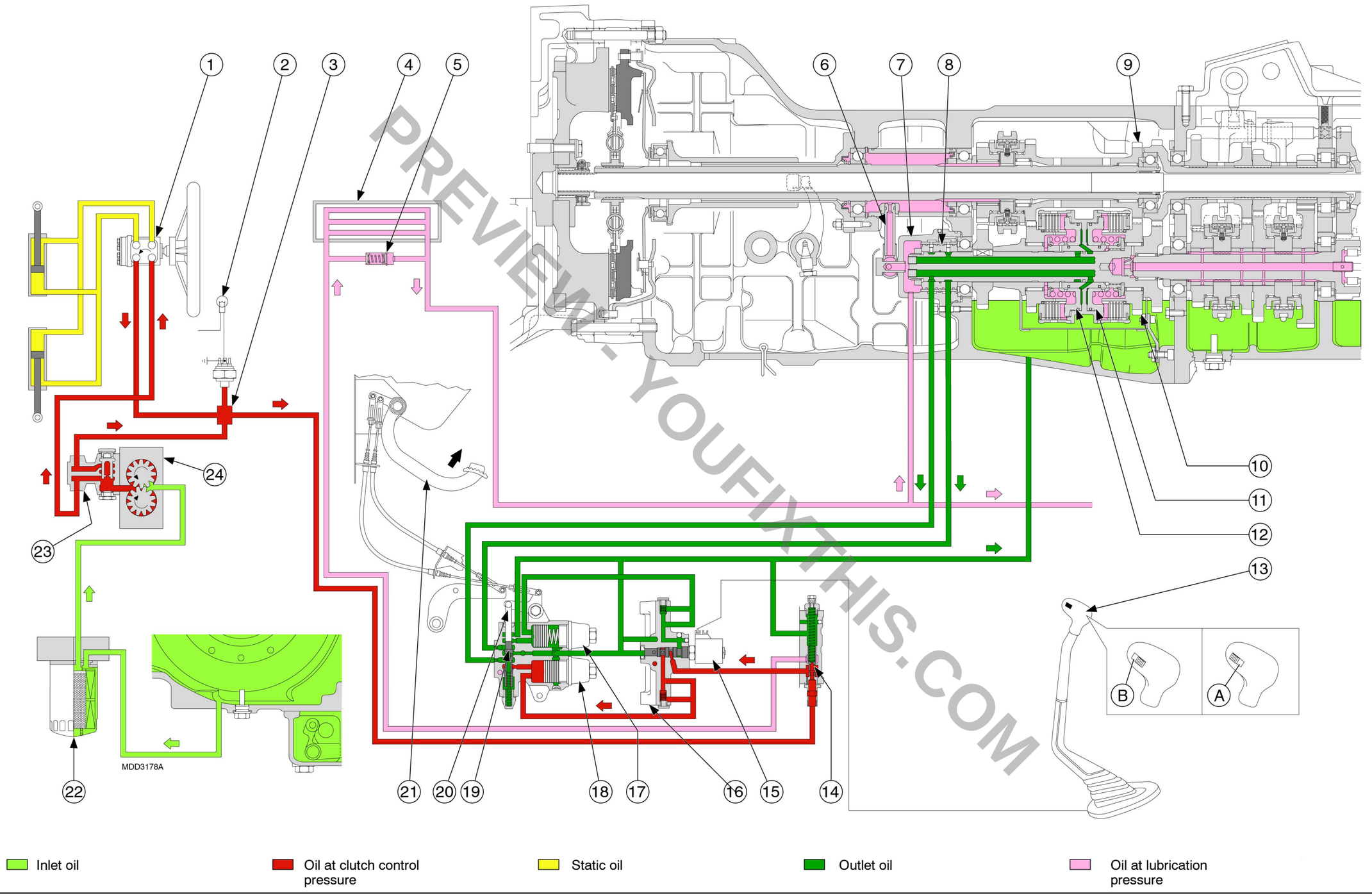
10

Power Shuttle Transmission with Two-Speed Powershift - Lubrication Circuit

1. Discharge oil
2. Oil to solenoid valves
3. Oil to the differential lock, MFD, power take-off and PTO brake
4. Pressurized oil from the pump
5. Hot oil to the oil cooler
6. Pressurized oil from the pump
7. Power take-off lubrication
8. Cold oil from the oil cooler
9. Cold oil to lubrication
10. Cold oil to the by-pass valve

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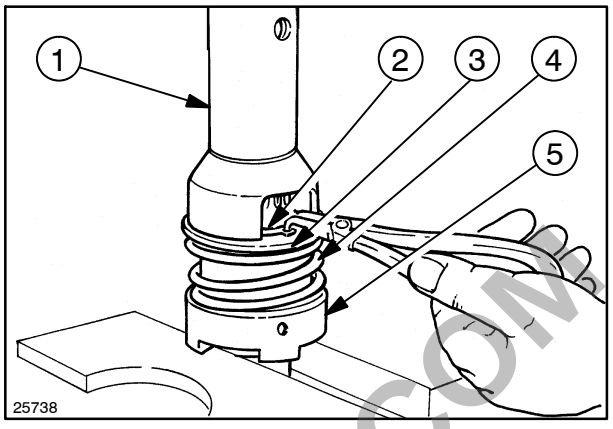
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12. Rotate the driven shaft through 180°, position on the press as indicated in the drawing and, after having fitted an adapter 50107 (1) on the shaft, operate the press to compress the spring (4). Remove the snap ring (2), plate (3), spring (4) and mobile toothed coupling (5).



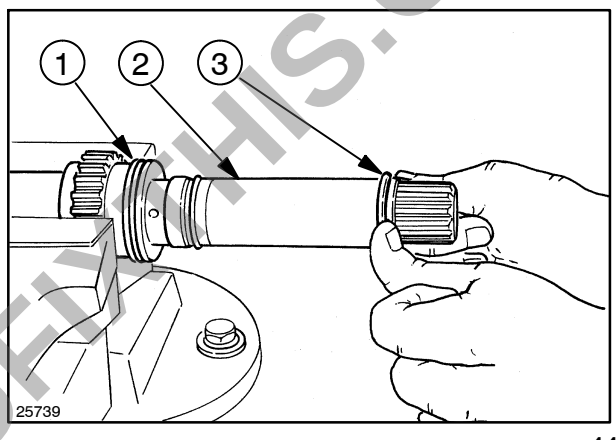
43

Assembly

To reassemble the drive gear components, follow the disassembly operations described in reverse order.

CAUTION

Always use appropriate tools to align fixing holes. NEVER USE FINGERS OR HANDS.



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1. Check all parts and replace if worn.
2. Check the seals and replace, if necessary.
3. To position the O-rings (26 and 27, fig.3) on the driven shaft, use the special tools: 380000280 (2) for seal (3) and tool 380000279 for seal (1).
4. Lubricate all parts.
5. Tighten the retaining bolts to the torque value indicated on page 3.

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SECTION 25 - MFD AXLE

Chapter 1 - Front Mechanical Axle

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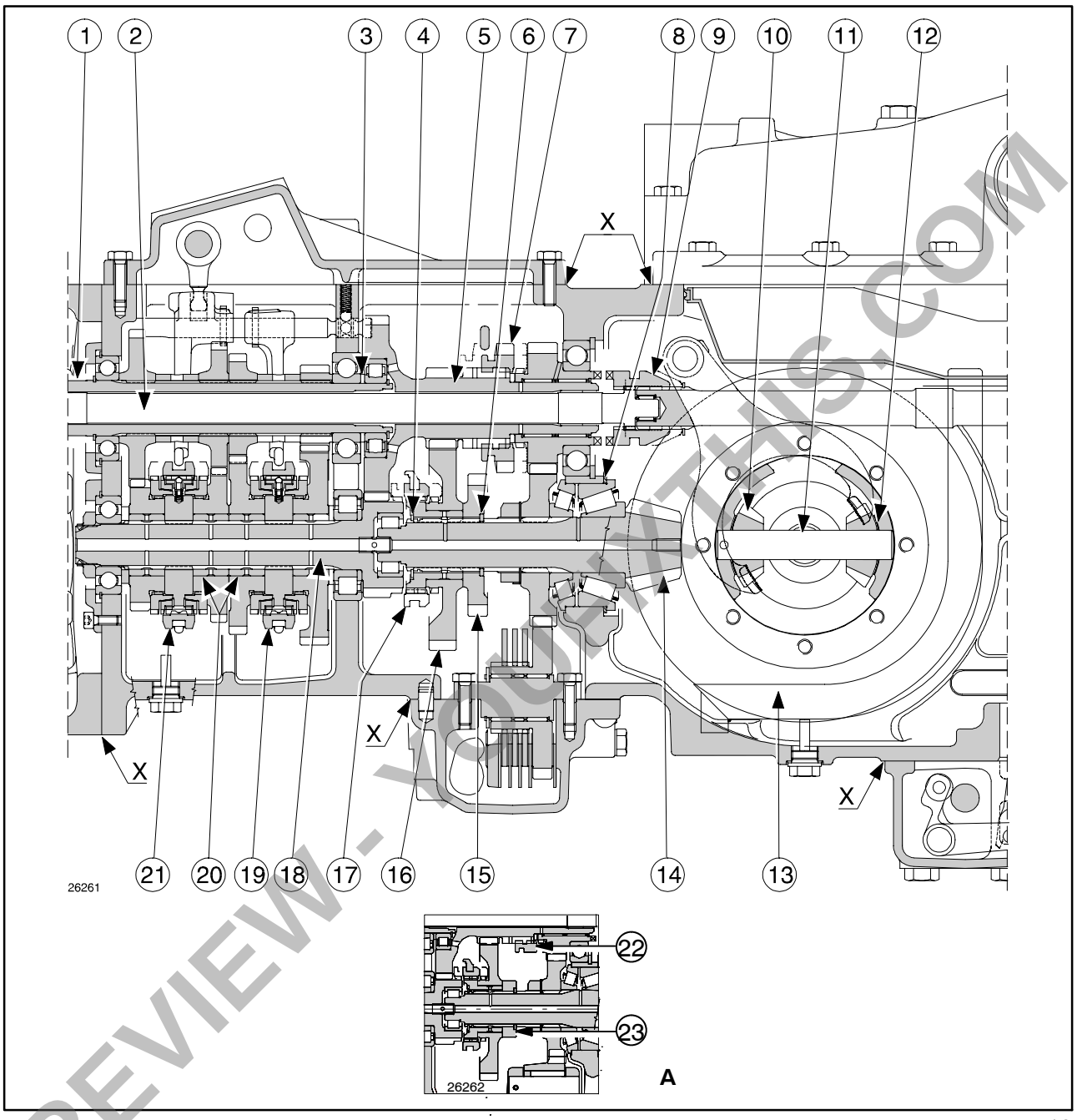
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DESCRIPTION AND OPERATION

CROSS-SECTIONAL VIEWS



10

Gearbox

A. Detail of reduction unit for tractors with reverser.
1. Gearbox driving shaft.
2. PTO control shaft.
3. Adjustment shim for driving shaft clearance.
4. Circlip.
5. Reduction unit driving shaft.
6. Stop half rings.
7. Mid and reverse gear engagement/disengagement.
8. Pinion adjustment spacer.
9. PTO engagement sleeve.
10. Planetary gear.
11. Pin.
12. Shim ring.
13. Ring Gear.
14. Pinion shaft.
15. Reverse driven gear.
16. Low gear driven gear.
17. Low and high gear engagement sleeve.
18. Gearbox driven shaft.
19. 1st and 2nd gear engagement synchronizer.
20. Gearbox driven gear support bushings.
21. 3rd and 4th gear engagement synchronizer.
22. Mid gear engagement sleeve.
23. Spacer.

NOTE: *During assembly apply sealing compound on surfaces marked with an* ***X*** *as shown in fig. 88.*

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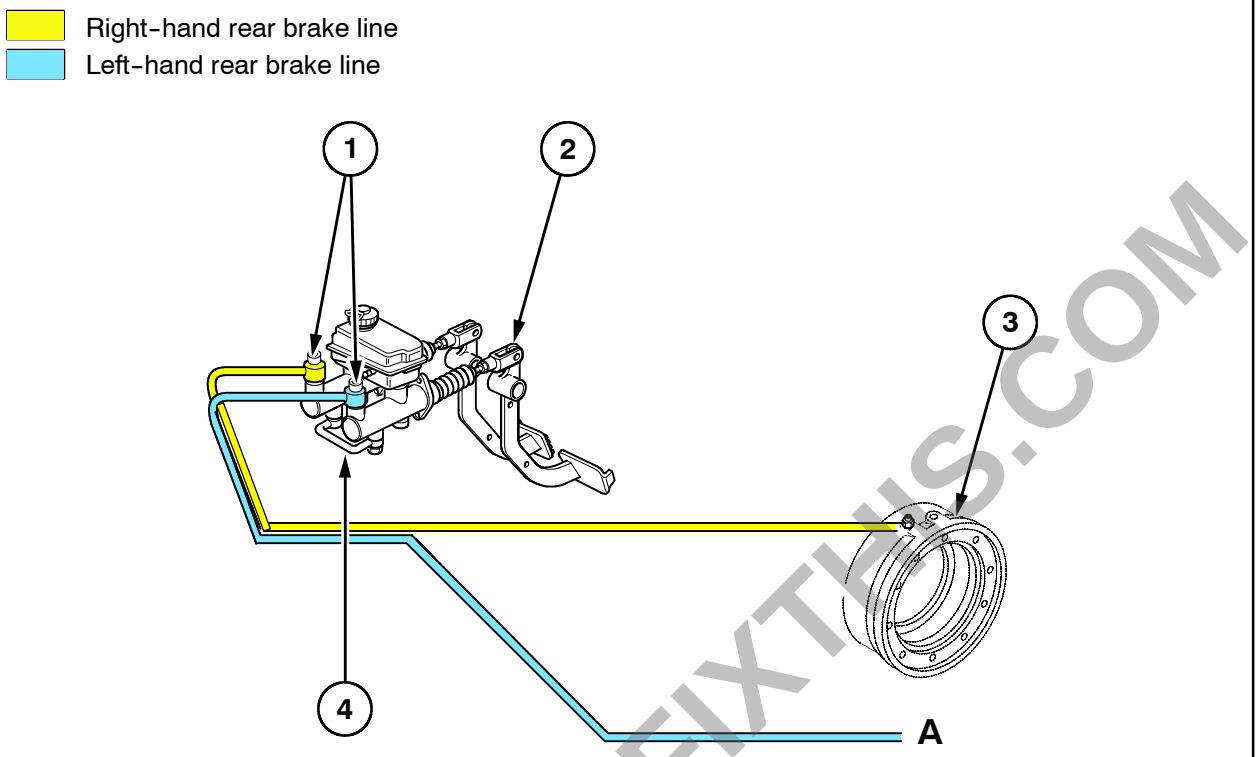
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SPECIFICATIONS

540/1000 rpm PTO		
Type		independent in relation to tractor speed
Engagement and Control		electro-hydraulic by means of knob
Direction of rotation (from tractor rear)		clockwise
Speed Selection		Activated, by means of an internal mechanical device, replacing the grooved shaft (see page 10)
Engine speed with PTO at 540 rpm	rev/min	2200
Engine speed with PTO at 1000 rpm	rev/min	2381
PTO revolution speed with engine at max. power of 2500 rpm:		
- 540 rpm PTO	rev/min	614
- 1000 rpm PTO	rev/min	1050
PTO revolution speed (1000 rpm) synchronized with gear-box (18.64 mph (30 km/h) model)	wheel revs	8.9
PTO revolution speed (1000 rpm) synchronized with gear-box (18.64 mph (30 km/h) model)	wheel revs	15.2
Diameter of shaft at grooved terminal (540 rpm)		1-3/8″ (6 grooves)
Diameter of shaft at grooved terminal (1000 rpm)		1-3/8″ (21 grooves)

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4

Hydraulic diagram of brakes

A. To the left-hand rear brake.
1. Pressure switches.
2. Hydraulic brakes.
3. Right-hand rear brake.
4. Pressure balancing pipe.

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PUMP SPECIFICATIONS

HIGH PRESSURE SYSTEM LIFT PUMP FOR JX1080U, JX1090U AND JX1100U WITH 2WD AND MECHANICAL SHUTTLE TRANSMISSIONS

Filter	
Type	paper cartridge
Location	fixed to the pump housing on suction side
Pump	
Type	gear type with oil suction from transmission casing
Location	Flanged on the rear left-hand side of the engine
Construction	Bosch
Actuation	by means of the engine gears
Direction of rotation (as seen from drive side)	left
Engine speed to pump speed ratio	1 : 1.080
Maximum speed of pump rotation (with engine at maximum power equivalent to 2500 rpm) rpm	2700
Rated output dm^3/turn	0.01950
Corresponding rated output for new pump dm^3/min (l/min)	48
Corresponding rated output for pump with 300 hours of work dm^3/min (l/min)	43
Bench output at 1500 rpm and a pressure of 2175 psi (150 bar):	
- for new pump dm^3/min (l/min)	24.8
- for pump with 300 hours of work dm^3/min (l/min)	22.3
- test oil temperature °F (°C)	131 to 149 (55 to 65)
- test oil viscosity	16 CST

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SPECIFICATIONS

Hitch System

Type		Lever controlled position/draft with combined control
Operation		Two independent levers
Setting speed of lift reaction		Automatic, by means of hydraulic device integral to control valve
FAST RAISE/LOWER CONTROL		Allows fast lifting/lowering operations using push buttons, without using the draft control position levers
Single-acting cylinder:		
- Rated diameter and stroke	in. (mm)	4.3307 x 5.0393 (110 x 128)
- Capacity	cm^3	1216
Pressure relief valve setting	psi (bar)	2756 to 2828 (190 to 195)
Cylinder safety valve setting	psi (bar)	3046 to 3118 (210 to 215)
Lift piston diameter	in. (mm)	4.3299 to 4.3307 (109.980 to 110.0000)
Internal diameter of cylinder liner	in. (mm)	4.3321 to 4.3335 (110.036 to 110.071)
Clearance between piston and liner	in. (mm)	0.0014 to 0.0035 (0.036 to 0.091)
Diameter of lift arms shaft in correspondence with bushings:		
- Right-hand side	in. (mm)	2.1653 to 2.2035 (55.000 to 55.970) ([1])
- Left-hand side	in. (mm)	2.4673 to 2.4685 (62.670 to 62.700) ([1])
Internal diameter of bushings installed on lift body:		
- Right-hand side	in. (mm)	2.1692 to 2.1725 (55.100 to 55.184) ([1])
- Left-hand side	in. (mm)	2.4724 to 2.4757 (62.800 to 62.884) ([1])
Clearance between lift arm shaft and bushings	in. (mm)	0.0039 to 0.0084 (0.100 to 0.214)
Interference between bushings and relative seats	in. (mm)	0.0025 to 0.0072 (0.065 to 0.185)
Axial clearance of shaft complete with lift arms	in. (mm)	0.0078 to 0.0551 (0.2 to 1.4)

([1]) Value after obtaining interference fit without grinding operations.

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SECTION 35 – HYDRAULIC SYSTEMS

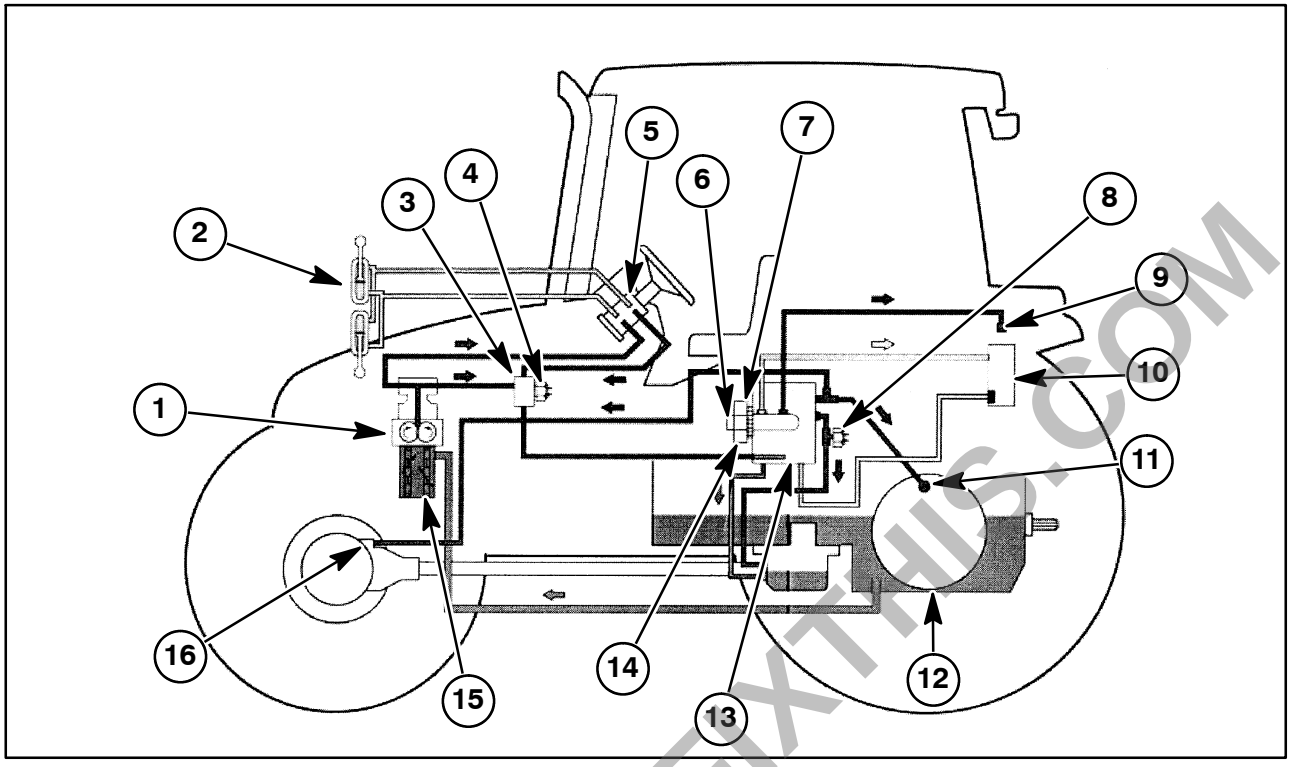
Chapter 3 – Mid-Mount Auxiliary Control Valves

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5

1. Steering Circuit Pump
2. Steering Cylinder(s)
3. Anti-cavitation Device
4. Low Pressure Switch (Normally closed)
5. Steering Motor and Relief Valve
6. PTO Solenoid (Energized – on)
7. Differential Lock Solenoid
8. MFD Control Switch (Disengage – open)
9. PTO Brake
10. Electro-Hydraulic PTO Clutch
11. Rear Differential Lock
12. Rear Axle Casing (Reservoir)
13. Services Control Valve (Low-pressure)
14. MFD Solenoid (Energized – off)
15. Filter Assembly
16. Front Differential Lock

12x12 and 20x12 Synchronized Shuttle Transmission with Electro-Hydraulic MFD, Differential Lock, and Hydraulic PTO

The engine timing gear drives the steering pump (1), located on the left-hand side of the engine, forward of the high-pressure (lift) hydraulic pump. The steering pump draws oil from the rear axle casing (12) via tubing routed along the right side of the transmission, and through a micron filter assembly (15). A flow control valve within the pump controls the flow of oil as it exits the delivery side of the pump and flows to the steering motor (5), and anti-cavitation device (3). A relief valve installed in the steering motor operates at 165-170 bar (2393-2466 psi) for MFD, and 140-145 bar (2031-2103 psi) for 2WD to protect the circuit from over-load conditions. A check valve, also installed in the steering motor ensures the flow of oil in one direction only. A switch (4) (where installed) on the anti-cavitation device monitors oil pressure.

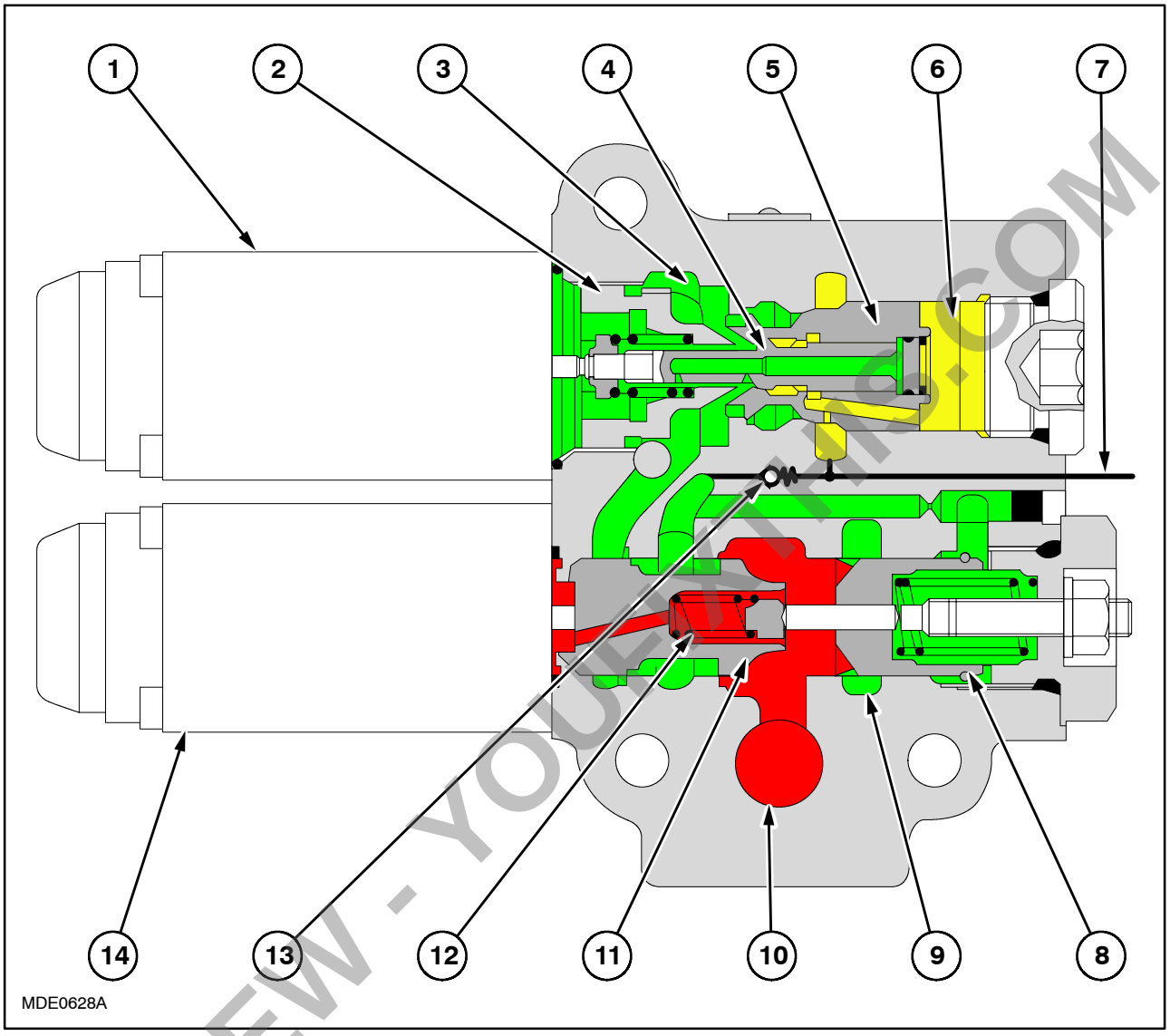
Motion transmits to the steering motor, when turning the steering wheel. This action causes the steering motor to direct oil to the appropriate port of the steering cylinder(s) (2). Oil exhausts from the steering cylinder back to the steering motor, where the metering valve directs the oil through tubing to the anti-cavitation device. It is combined with remaining unused oil from the pump. In the services control valve (13), the differential-lock solenoid (7), MFD solenoid (14), MFD control switch (8), and the PTO solenoid (6) directs the oil to the appropriate component, or back to the reservoir depending on requirement.

An open-center type circuit, the low-pressure/steering and lubrication circuit provides continuous oil flow with the engine operating.

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ELECTRONIC DRAFT CONTROL OIL FLOW



5

Electronic draft control functional diagram. Neutral phase

1. Lowering solenoid valve.
2. Lowering valve fixed seat.
3. Discharge chamber.
4. Lowering valve actuator.
5. Lowering valve.
6. Lowering valve chamber.
7. To lifting cylinder.
8. Pressure compensating valve.
9. Excess pressure discharge chamber.
10. Oil from pump.
11. Lifting valve.
12. Valve calibration spring (11).
13. Non-return valve.
14. Lifting solenoid valve.

Oil at static rest.

Pressurized oil.

Discharge oil.

Neutral Phase

The oil from pump (10) meets the closed lifting valve (11), therefore the full pump delivery will be discharged in chamber (9). The lowering valve (5) is closed and the lifting cylinder oil remains trapped between the valve and the check valve (13), maintaining the implement in the desired position.

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Differential Lock Engagement Pressure (Power Shuttle Transmission)

1. Place a suitable container under the Services Control Valve to catch residual oil when installing test equipment.
2. Connect a 0–40 bar (0–600 psi) gauge with adapter 380001854 to the Differential Lock fitting (1) in the Services Control Valve.

NOTE: *Tool Kit 380000240 contains the required pressure gauge for this operation.*

⚠ CAUTION ⚠

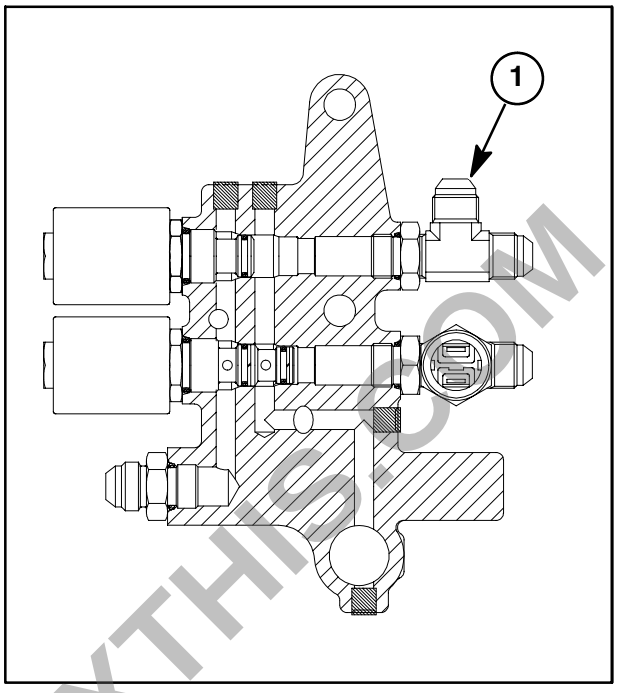
Ensure all connections are tight before starting the engine.

3. Start the engine and warm the oil to a temperature of 50° C (122° F).
4. Engage the Differential Lock. The gauge should read 15.7 to 16.7 bar (228 to 242 psi).

If pressure is not within specifications, suspect a faulty pressure regulator valve (6, figure 4), located in the Power Shuttle Control Valve.

5. Remove test equipment.

NOTE: *For more information on the differential lock system, refer to Sections 25, 27 and 35.*



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Services Control Valve on Models with Power Shuttle Transmission

Differential Lock Engagement Pressure (Mechanical Shuttle Transmission)

1. Place a suitable container under the Services Control Valve to catch residual oil when installing test equipment.
2. Connect a 0–40 bar (0–600 psi) gauge with adapter 380001854 to the Differential Lock fitting (1) in the Services Control Valve.

NOTE: *Tool Kit 380000240 contains the required pressure gauge for this operation.*

⚠ CAUTION ⚠

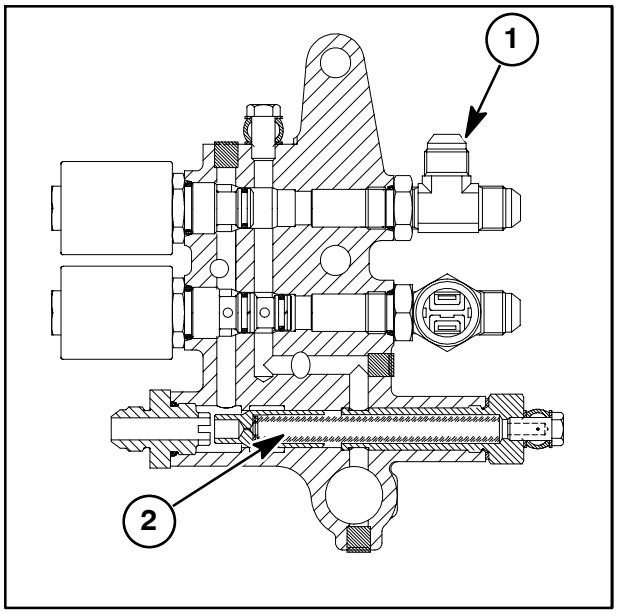
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4. Engage the Differential Lock. The gauge should read 15.7 to 16.7 bar (228 to 242 psi).

If pressure is not within specifications, suspect a faulty pressure regulator valve (2).

5. Remove test equipment.

NOTE: *For more information on the differential lock system, refer to Sections 25, 27 and 35.*



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Services Control Valve on Models with Mechanical Shuttle Transmission

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TROUBLESHOOTING

Problems	Possible Causes	Solutions
Oil leaking from the hydrostatic steering unit: a. Control side. b. Cover side.	1. Seal faulty.	Replace the seal and relative antiextrusion ring using tool **380000281** or **380000305**.
	2. Bolts insufficiently tightened.	Tighten the bolts to the prescribed torque 30 Nm (22 ft-lbs.).
	3. Sealing washers or O-rings faulty.	Renew the washers and seals.
Steering wheel excessively stiff.	1. Hydraulic pump faulty.	Repair the pump.
	2. Non-return valve held open by foreign bodies or due to absence of ball.	Eliminate foreign bodies and clean filter; place a new ball in the seat (if missing).
	3. Pressure relief valve incorrectly set.	Calibrate the valve correctly.
	4. Pressure relief valve jammed or held open by foreign bodies.	Eliminate foreign bodies and clean filter.
	5. Steering column has become stiff on its bushing due to rusting, seizing, etc.	Eliminate the causes.
Excessive steering wheel play.	1. Excessive play between the steering column and the coupling with the rotating valve.	Replace the worn parts.
	2. Excessive play in the coupling between the shaft and the trim pin.	Replace the worn parts.
	3. Excessive play in the splined coupling between the shaft and the rotor.	Replace the worn parts.
	4. Combination of excessive play as described in the previous points.	Replace the excessively worn parts.
	5. Leaf springs damaged or fatigued.	Renew the springs.
The steering wheel turns normally, but the steering is: a. Slow.	1. Inadequate control cylinder seal.	Replace the seal.
	2. Cylinder rod broken.	Replace the damaged part.
b. Null.	3. Rotor control shaft or pin broken.	Replace the damaged part.
With the engine stopped, the steering wheel can be turned without turning the wheels.	1. Excessive wear between rotor and fixed ring.	Replace the worn parts.
	2. Non-return valve damaged.	Replace the control valve.

(continued)

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TIGHTENING TORQUES (CONT.)

PARTS TO BE TIGHTENED	Thread	Tightening torque	
		Nm	ft-lbs
Front Axle Bolt retaining axle support to engine	M 18 x 1.5	353	260
Stub head locknut for steering transverse tie-rod	M 16 x 1.5	102 to 123.5	75-91
Locknut for steering transverse tie-rod	M 20 x 1	176	130
Axle articulation pin retaining bolt (C_1, fig. 3)	M 10 x 1.25	49	36
Nut (C_2) securing leading wheel to hub	M 18 x 1.5	314	232
Nut (C_3) for bearing adjustment	M 20 x 1.5	(*)	(*)
Nut (C_4) for pin securing end of axle	M 20 x 1.5	186 to 257.7	137-190
Nut (C_5) for stub axles left and right-hand lever retaining bolt	M 14 x 1.5	186 to 206	137-152
Nut (C_6) securing cylinder to fulcrum pin	M 18 x 1.5	186 to 206	137-152

(*) See operation 7, page 9

SPECIAL TOOLS

WARNING

The operations described in this section can only be carried out with the **ESSENTIAL** tools indicated by an **(X)**. To work safely and efficiently and obtain the best results, it is also necessary to use the recommended specific tools listed below and certain other tools, which are to be made according to the drawings included in this manual.

List of specific tools required for the various operations described in this Section.

380000237 Wheel lifting hook.

TROUBLESHOOTING

Problems	Possible Causes	Solutions
Abnormal tire wear.	1. Incorrect tire pressure.	Inflate the tires to the correct pressure, referring to the recommended pressures in the Use and Maintenance handbook, and the pressures indicated by the tire manufacturers.
	2. Incorrect front wheel toe-in.	Correct the toe-in.
Poor stability of tractor.	1. Incorrect tire pressure.	Inflate the tires correctly as detailed above.

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SPECIFICATIONS

SANDEN SD 7H15 Compressor	
Number of cylinders	7
Total displacement cm^3	155
Maximum rotation speed rpm	6000
Weight kg	6.5
Quantity of lubricating oil cm^3	185
Type of lubricating oil (code)	PAG SP20

Air conditioning system	Gas HFC134a
Quantity of HFC-134a refrigerant lbs. (gr)	3.5273 (1600)
System delivery side pressure psi (bar)	232.07 to 348.10 (16 to 24)
System suction side pressure psi (bar)	7.25 to 43.51 (0.5 to 3)
Pressure switch setting (high pressure) psi (bar)	362.61 (25)
Pressure switch setting (low pressure) psi (bar)	29 (2)
Temperature of refrigerant fluid at compressor outlet °F (°C)	140 to 248 (60 to 120)
Temperature of refrigerant fluid at condenser outlet °F (°C)	104 to 140 (40 to 60)
Temperature of refrigerant fluid at evaporator outlet °F (°C)	32 to 59 (0 to 15)
Maximum capacity of electric centrifugal fan I. II, III speed m^3/min	3.5 to 8.5

Variations In Working Temperatures Of The Cab Air Conditioning System

External ambient temperature	68 °F (20 °C)	80.6 °F (27 °C)	82.4 °F (28 °C)	95 °F (35 °C)	96.8 °F (36 °C)	109.4 °F (43 °C)
Temperature of air at vent outlets (inside cab)	39.2 to 46.4 °F (4 to 8 °C)		42.8 to 53.6 °F (6 to 12 °C)		53.6 to 68 °C (12 to 20 °C)	

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SPECIFICATIONS

CHARACTERISTICS	TYPE OF ALTERNATOR
	BOSCH
Polarity	Grounded negative
Nominal voltage (V)	14
Max rotation speed (rpm)	12,000
Maximum output (A)	120
Regulator controlled voltage (V)	13.6 to 14
Rotor field winding resistance (Ω)	2.6 ± 5%
Stator field winding resistance (Ω)	0.061

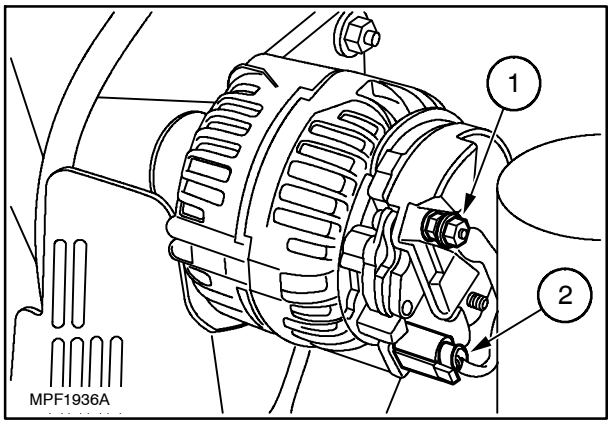
TIGHTENING TORQUES

	Nm	ft.-lbs.
Alternator fastening bolts	5,5	4
Pulley retaining nut	70	52
Rectifier attaching screws	4,0	3
Brush box and regulator screws	2,7	2
Terminal nuts	2,7	2

DESCRIPTION AND OPERATION

A Bosch 120 A external cooling fan alternator is fitted on all models. Stator winding is ventilated with an air conducting diaphragm in the support on the rectifier bridge side and peripheral openings in the support on the control side. The alternator, installed on the left-hand side of the engine, is operated by a pulley and a V-type driving belt. Alternators are fitted with a built-in regulator.

1. Battery connection (B+ terminal)
2. Alternator charge indicator connection (D+ terminal)

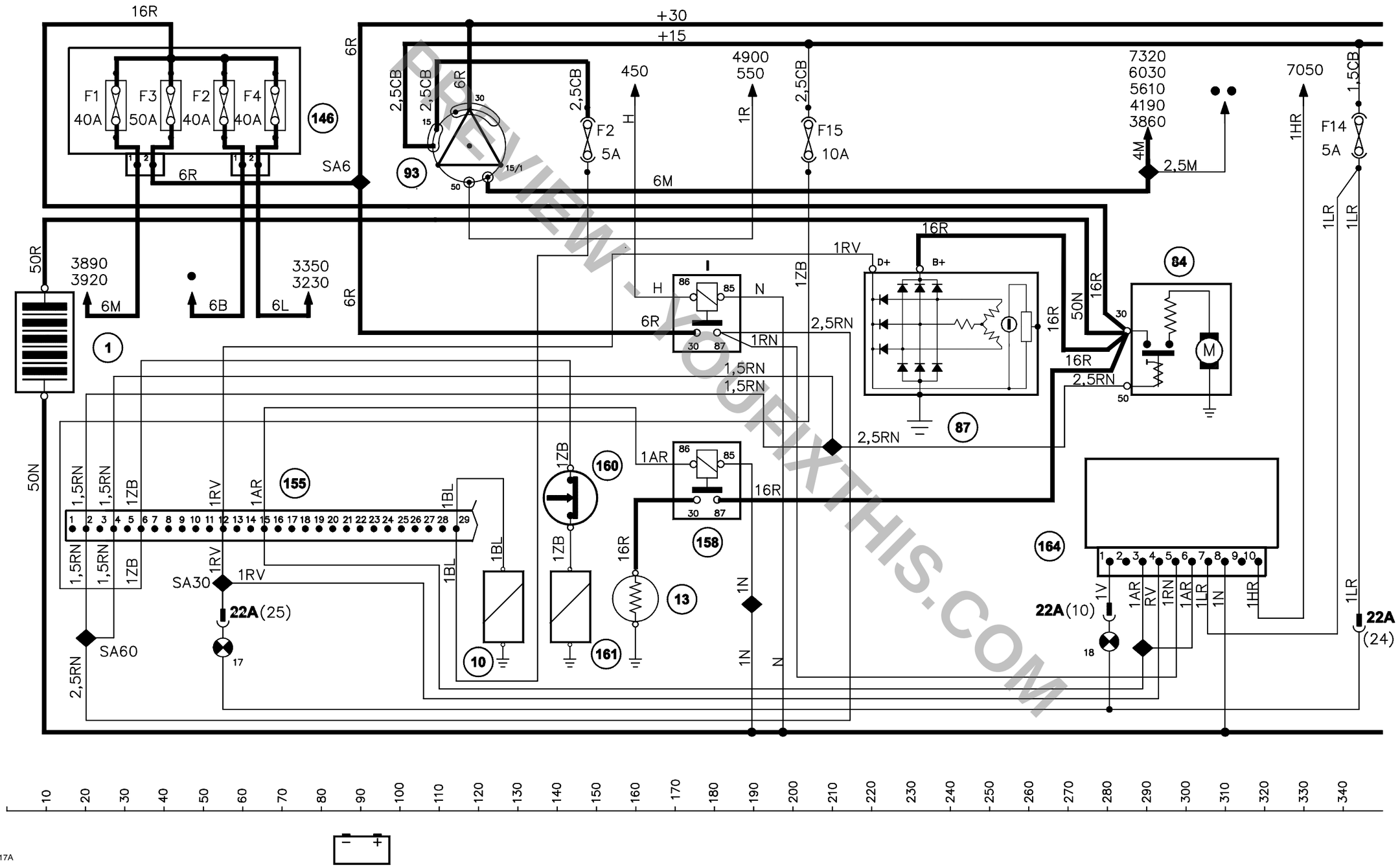


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STARTING AND RECHARGING CIRCUIT - DIAGRAM A



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OVERHAUL

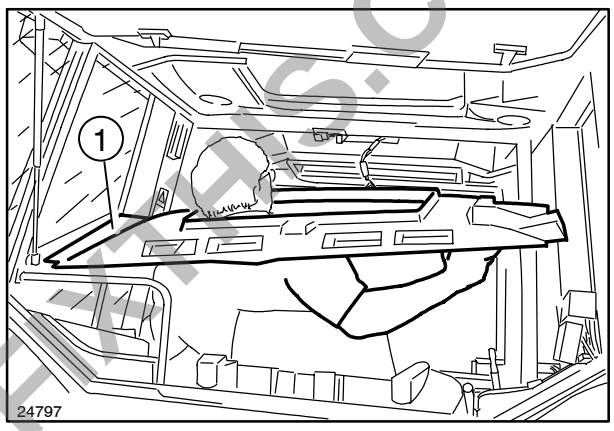
Op. 55 518 52
FRONT WIPER MOTOR

Removal

WARNING

Handle all parts carefully.
Do not put your hands or fingers between parts.
Wear the prescribed safety clothing, including goggles, gloves and safety footwear.

1. Detach **THE CAB CEILING TRIM** from the framework, carrying out the sequences described in operation **90 160 60.**



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2. Working from the outside of the cab, unhook the hood, unscrew the retaining screws and the windscreen wiper blade.

3. Unscrew the two retaining nuts and the windscreen wiper motor.

Installation

Install the wiper motor as follows:

WARNING

Always use appropriate tools to align fixing holes. NEVER USE FINGERS OR HANDS.

1. Refit the motor unit and secure it with the two nuts.
2. Fit the wiper blade back on.
3. Fit the **CAB CEILING TRIM** back onto the framework, carrying out the sequences described in operation **90 160 60.**

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