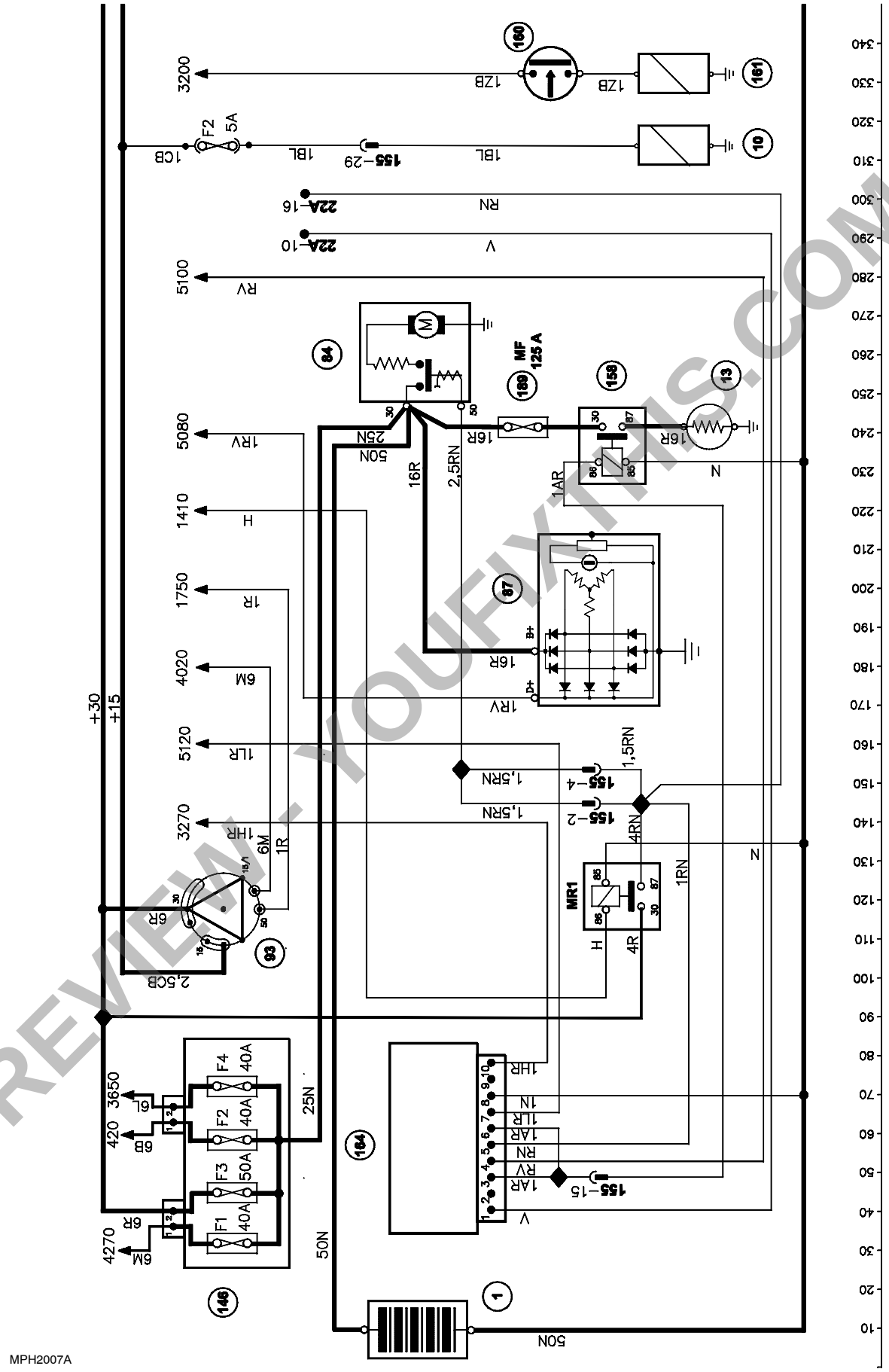
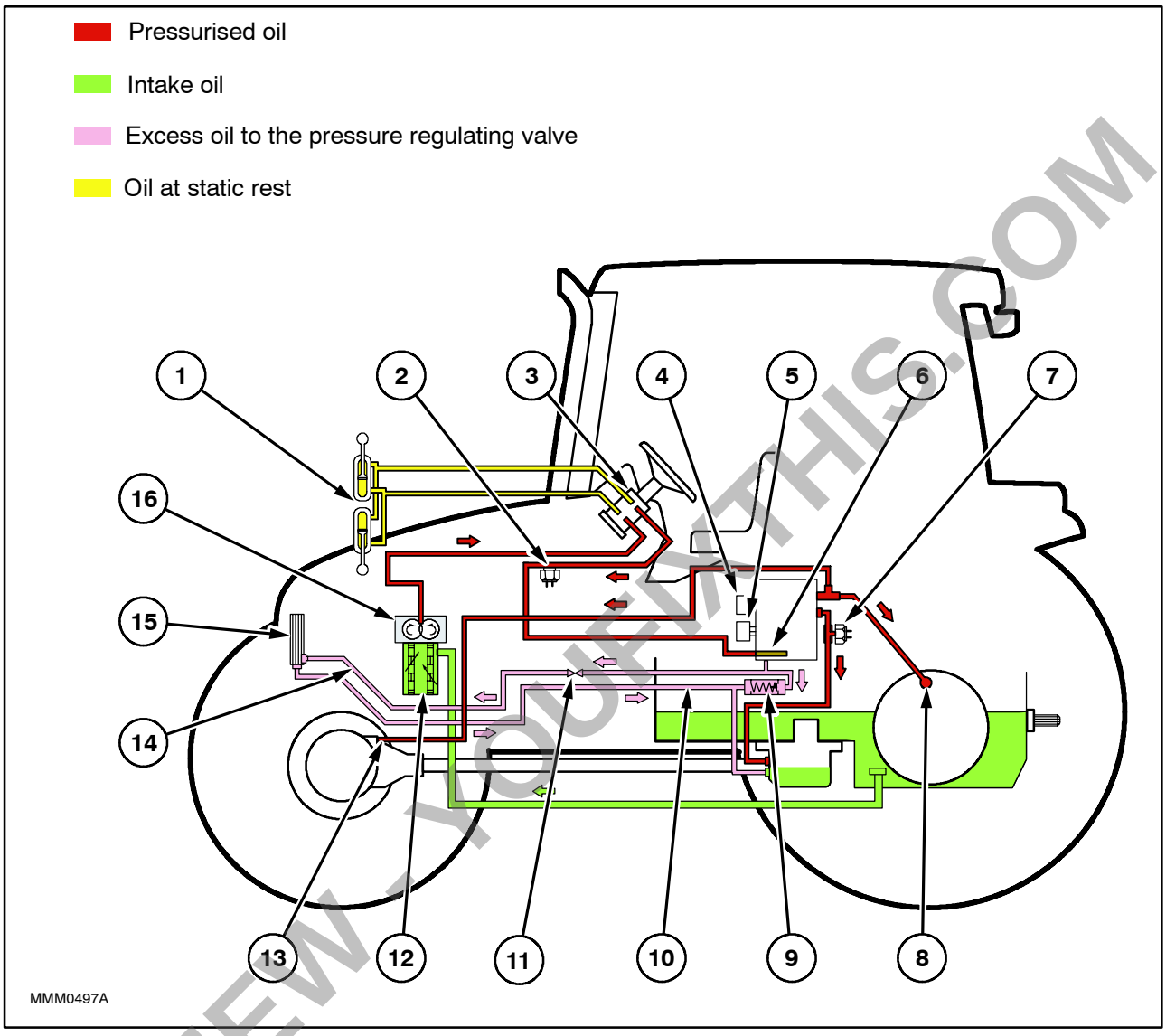


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FITTING COOLER WITH MECHANICAL TRANSMISSION AND MECHANICAL POWER TAKE-OFF

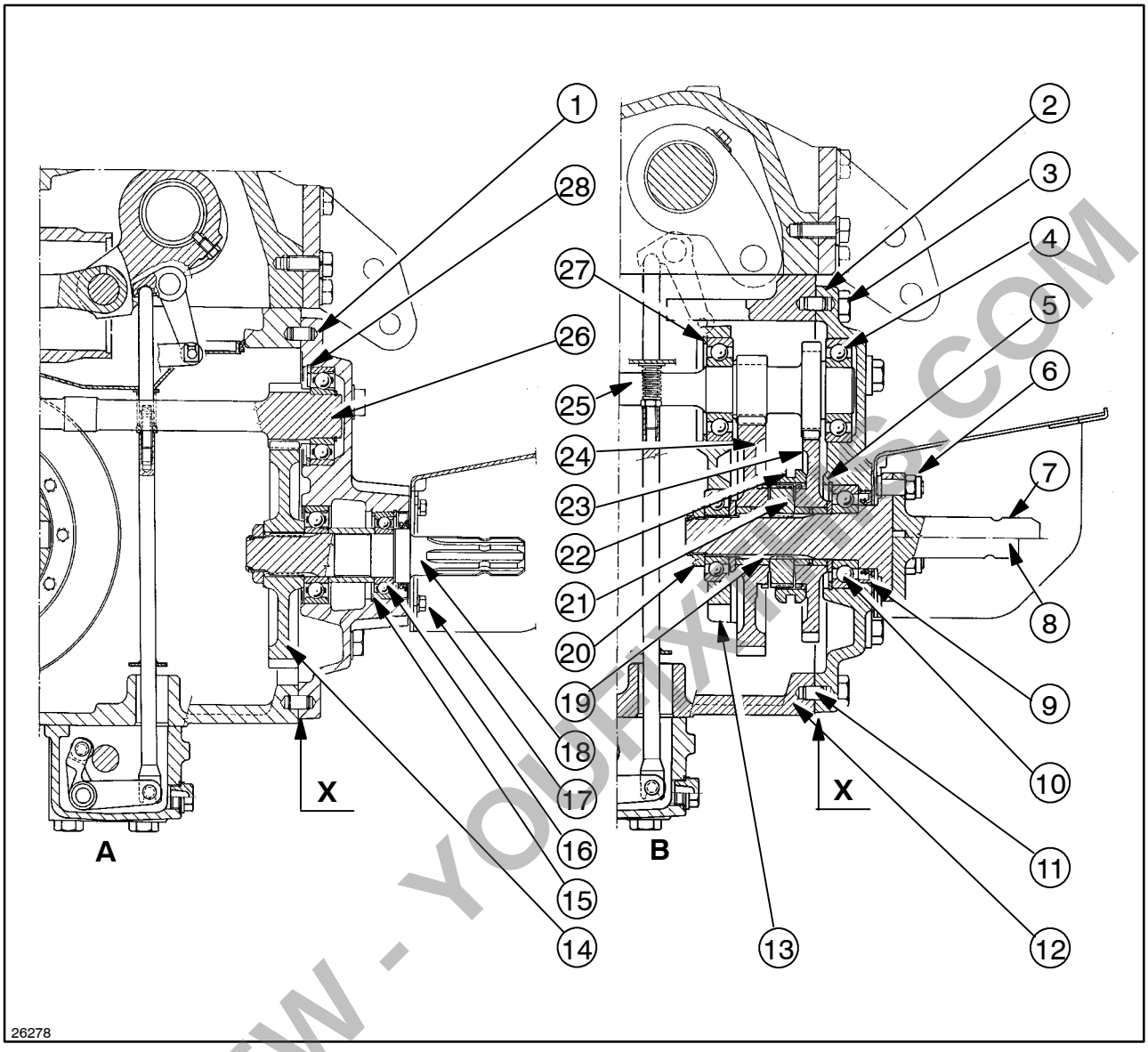


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General hydraulic system

1. Power steering cylinders.
2. Gearbox oil pressure switch on services control valve supply line (oil discharge from the power steering).
3. Power steering control valve (orbitrol).
4. Differential lock solenoid valve.
5. 4WD disengagement solenoid valve.
6. Services pressure regulating valve.
7. 4WD pressure switch warning light.
8. Rear differential lock.
9. By-pass valve protecting the cooler.
10. Return line from cooler.
11. Restrictor.
12. Suction filter.
13. Front differential lock.
14. Delivery line to cooler.
15. Cooler.
16. Low pressure pump.

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3

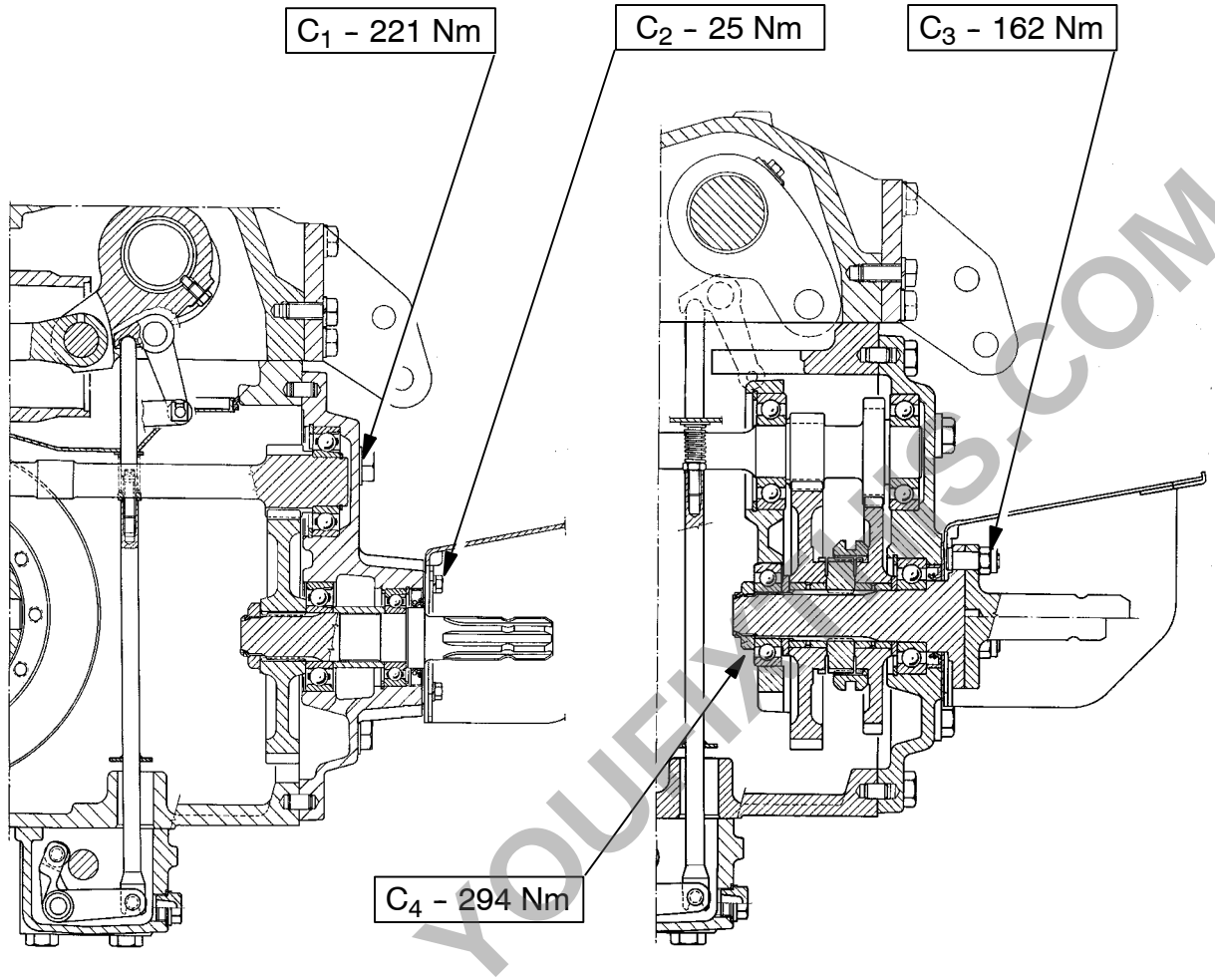
Longitudinal sectional diagrams of 540 rpm and 540/750 rpm PTO

A. Sectional diagram of 540 rpm PTO.
B. Sectional diagram of 540/750 rpm twin speed PTO.
1. 540 rpm PTO casing.
2. 540/750 rpm PTO cover.
3. PTO unit retaining bolt.
4. Drive shaft bearings.
5. Circlip.
6. Self locking nut for securing grooved terminal.
7. 540 rpm grooved terminal.
8. 750 rpm grooved terminal.
9. Seal.
10. Driven shaft bearings.
11. Cover centering pin.
12. Rear transmission casing.
13. Rear bearing support.
14. Driven gear.
15. Circlip.
16. Circlip.
17. PTO guard retaining bolts.
18. 540 rpm PTO driven shaft.
19. Driven gears support bushings.
20. Driven shaft lock nut.
21. Fixed gear.
22. Coupling sleeve.
23. Driven gear for 750 rpm speed.
24. Driven gear for 540 rpm speed.
25. Double driving gear.
26. Driving gear
27. Circlip.
28. Circlip.

NOTE: *On assembly, apply the type of sealing compound noted on page 1, Sect. 00 on surface* ***X*** *following the diagram in fig. 24*.

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TIGHTENING TORQUES



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TIGHTENING TORQUES

PARTS TO BE TIGHTENED	Thread	Tightening torque	
		Nm	kgm
Bearing support retaining bolts (PTO 540/750 and 540/1000 rpm)	M 12 x 1.25	98	10
PTO casing retaining bolts (C_1, figs. 1 and 2)	M 16 x 1.5	221	22,5
PTO guard retaining bolts (C_2, figs. 1 and 2)	M 8 x 1.25	25	2,6
Self locking nuts for securing grooved terminal (C_3, fig. 2) for 540/750 rpm PTO and (C_3, fig. 1) for 540/750/1000 rpm PTO	M 12 x 1.25	162	16,5
Nut locking driven gear shaft:			
(C_4, fig. 2) for 540 rpm and 540/750 rpm PTO	M 32 x 1.5	294	30
(C_4, fig. 1) for 540/750/1000 rpm PTO	M 28 x 1.5	294	30

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TRANSMISSION FAULT CODE LISTING

Fault code	Description of Fault
2011	Clutch pedal potentiometer signal too low
2012	Clutch pedal potentiometer signal too high
2013	DUAL COMMAND (2 SPEED POWER SHIFT) push−buttons pressed at the same time
2014	Voltage from the gear neutral position switch is high
2015	Voltage from the gear neutral position switch is low
2016	Voltage from the range position switch (R1) is high
2017	Voltage from the range position switch (R1) is low
2018	Voltage from the range position switch (R2) is high
2019	Voltage from the range position switch (R2) is low
2021	Transmission harness disconnected
2022	Clutch A solenoid valve short circuit
2023	Clutch B solenoid valve short circuit
2024	All the clutches must be calibrated
2025	Engine speed (rpm) high
2026	Clutch D not calibrated
2027	Clutch C not calibrated
2028	Clutch B not calibrated
2029	Clutch A not calibrated
2031	Clutch C solenoid valve short circuit
2032	Clutch D solenoid valve short circuit
2033	Pressure on clutch A would not decrease
2034	Wheel speed too low
2035	Wheel speed too high
2036	Engine speed (rpm) low
2037	Clutch disconnect switch open circuit
2038	Clutch B solenoid valve short to + 12 volts
2039	Clutch B solenoid valve open circuit or short to ground
2040	Inconsistent gear lever status switches.
2041	Clutch A solenoid valve open circuit or short to ground
2042	Clutch A solenoid valve short to + 12 volts
2043	Pressure on clutch B would not decrease
2047	Clutch disconnect switch set too high
2048	Clutch disconnect switch set too low
2049	Wheel speed sensor too high
2051	Oil temperature sensor open circuit

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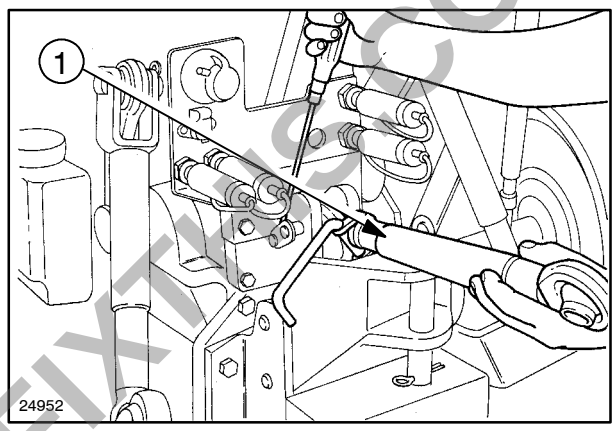
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OP. 31 112 20
PTO HOUSING R.I.

DANGER

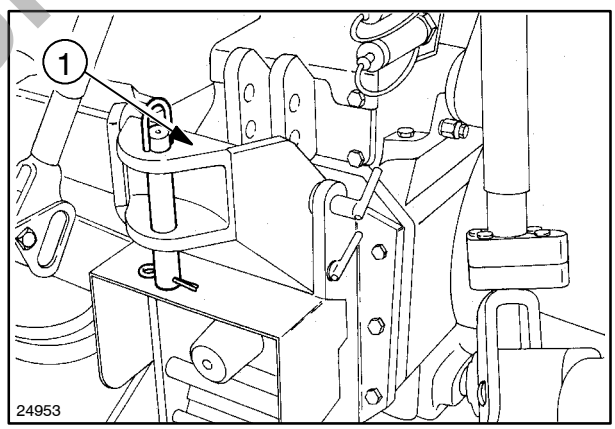
Lift and handle all heavy parts using suitable lifting equipment.
Make sure that assemblies or parts are supported by means of suitable slings and hooks. Ensure that no-one is in the vicinity of the load to be lifted.

1. Disconnect the battery negative cable.
2. Detach the three-point linkage (1).



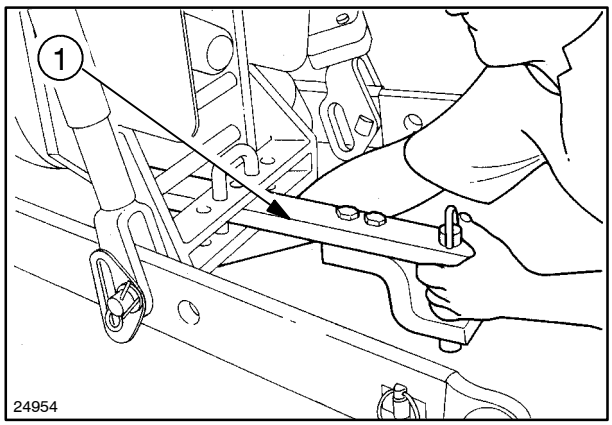
14

3. Detach the tow bar hook (1).



15

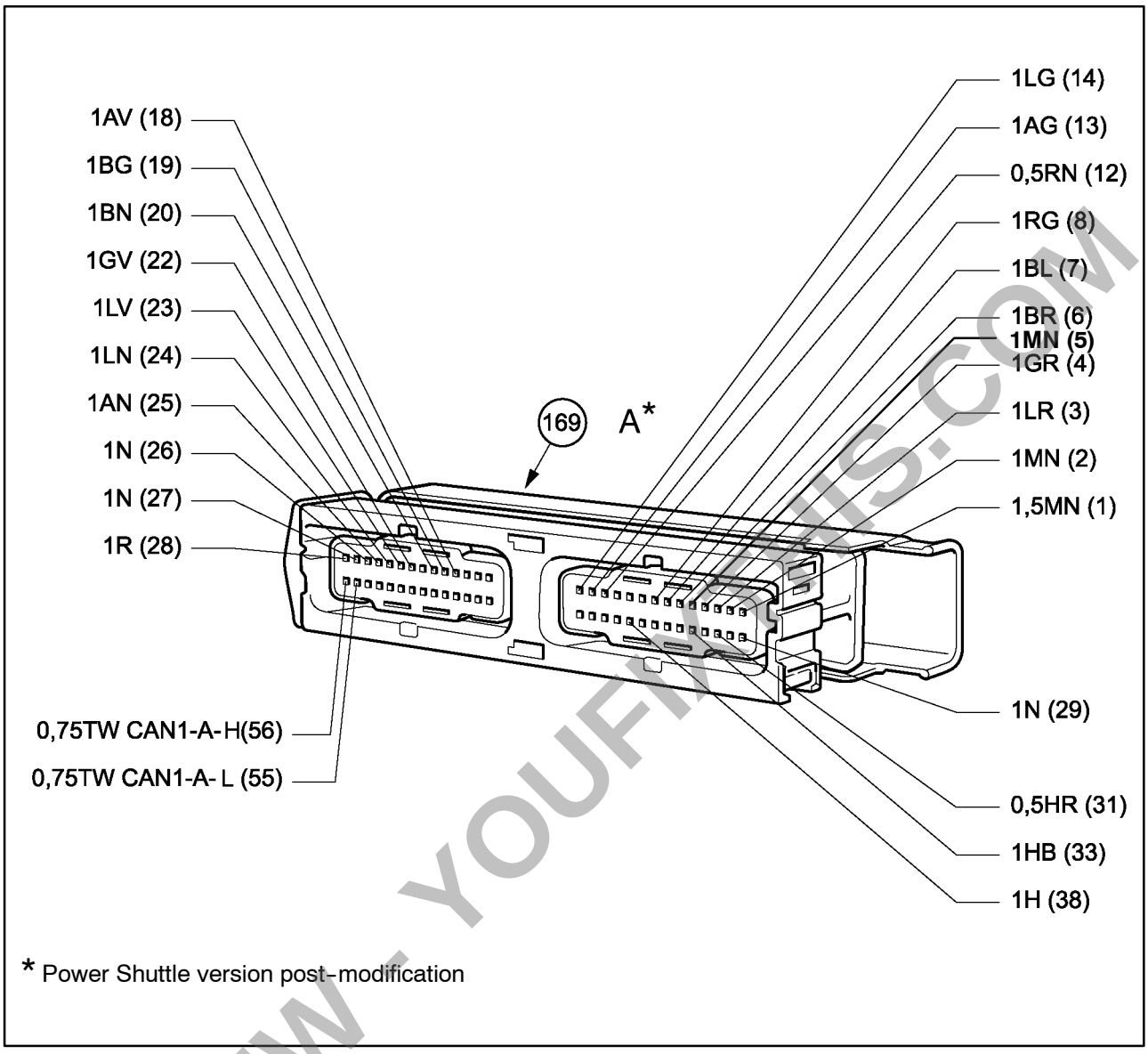
4. Remove the tow bar (1).



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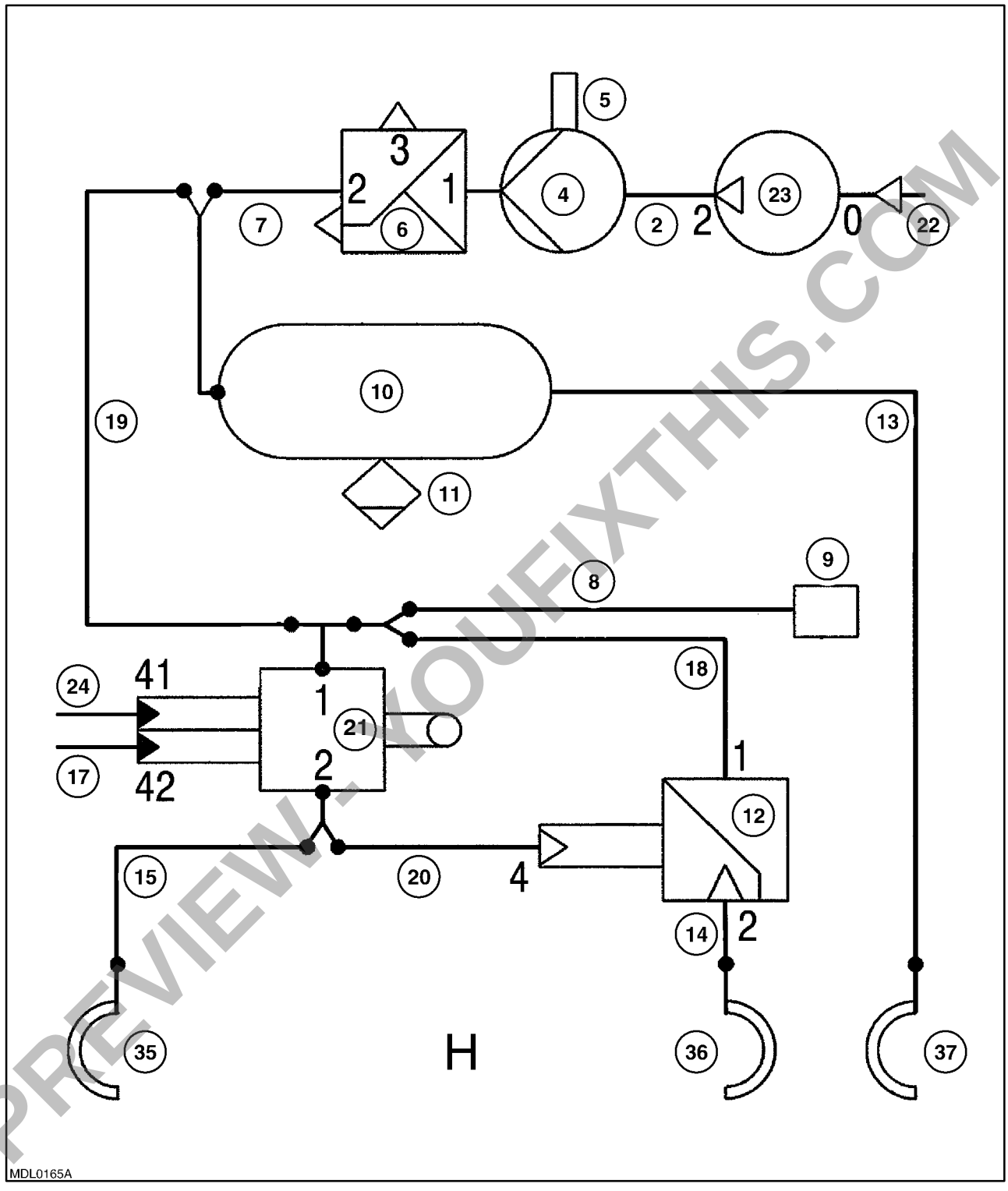


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DIAGRAM OF AIR BRAKE COMPONENTS



3

NOTE: *For the key see page 6.*

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TROUBLESHOOTING

Description	Causes	Corrective action
Instrument cluster light illuminates when system is running.	1. System pressure below 65.25/50.75 psi (4.5/3.5 bar).	1. Compressor drive belt broken. 2. Check system for leaks. 3. Unload valve failed, stuck open. 4. Compressor fault. 5. Reservoir drain tap faulty.
	2. Pressure switch or relayed wiring faulty.	1. Disconnect wiring to switch. Check it is not shorted neither to ground nor to + 12 Volt. 2. Using a tester, switched onto ohmmeter, check that the resistance values mirror the values in the table on page 11.
Trailer brakes not functioning (system air pressure okay).	1. Air in the braking system.	1. Bleed the brakes.
	2. Dual-line control valve.	1. Disconnect the supply line from the control valve. Operate the brakes, if oil is expelled, the lines are okay. If no oil is expelled, remove and inspect the control valve.
	3. Dual Line Control Valve faulty.	1. Repair/replace as required.
Delay in trailer brake operation.	1. Air in the braking system.	2. Bleed the brakes.
System pressure too high, exceeds 120.35 psi (8.3 bar)	1. Faulty unload valve.	1. Remove valve clean/replace.

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MECHANICAL POWER TAKE-OFF DATA

		JX1070U	JX1080U JX1090U JX1100U
540 rev/min power take-off			
Type (two functions)		1. independent with respect to tractor speed or: 2. synchronized to gearbox	
Engagement and Control		mechanical, by means of hand lever located on the LH and RH side of the driving position see page 11 and 12	
Direction of rotation (from tractor rear)		clockwise	
Engine speed with PTO at 540 rpm	rpm	2200	
PTO revolution speed with engine at max. power (2500 rpm)	rpm	614	
PTO revolution speed synchronized with gearbox (18.64 mph (30 km/h) model)	revs/ wheel rev	8.2	8.9
PTO revolution speed synchronized with gearbox (4WD 24.85 mph (40 km/h) model)	revs/ wheel rev	6.73	7.25
Diameter of driven shaft at bearings	in (mm)	1.9660 to 1.9685 (49.938 to 50.000)	
Diameter of driven shaft at grooved terminal		$1^3/_8$" (6 grooves)	
PTO 540/750 rpm (on request for all models)			
Type		same as 540 rpm PTO	
Engagement and Control		same as 540 rpm PTO	
Direction of rotation (from tractor rear)		same as 540 rpm PTO	
Speed Selection		by means of hand lever located on the rear RH side of the driver's seat	
Engine speed with PTO at 540 rpm	rpm	2200	
Engine speed with PTO at 750 rpm	rpm	2382	
PTO revolution speed with engine at max. power of 2500 rpm:			
- PTO 540 rpm	rpm	614	
- for 750 rpm PTO	rpm	787	
PTO revolution speed (540 rpm) synchronized with gearbox 18.64 and 24.85 mph (30 and 40 km/h) models	revs/ wheel rev	see 540 rpm PTO	
750 rpm, gearbox synchronized, PTO revolution speed (18.64 mph (30 km/h) model)	revs/ wheel rev	10.51	11.4

(continued)

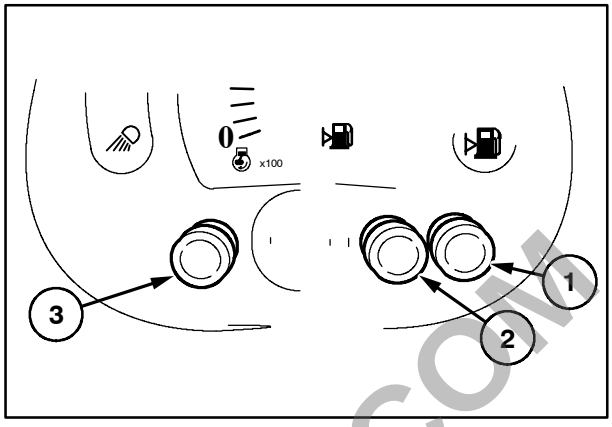
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H8 MENU TRANSMISSION DELETION OF DATA SAVED IN MEMORY

Access the PA HH MENU as described on page 2 and proceed as follows.

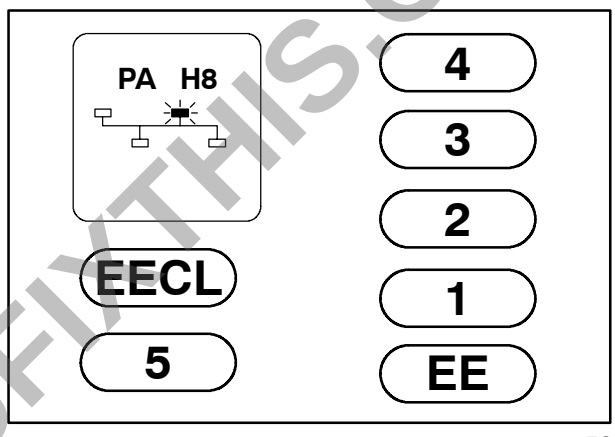
- Select the H8 MENU with buttons (1) and (2), press key (3) to access the above-mentioned H8 MENU.



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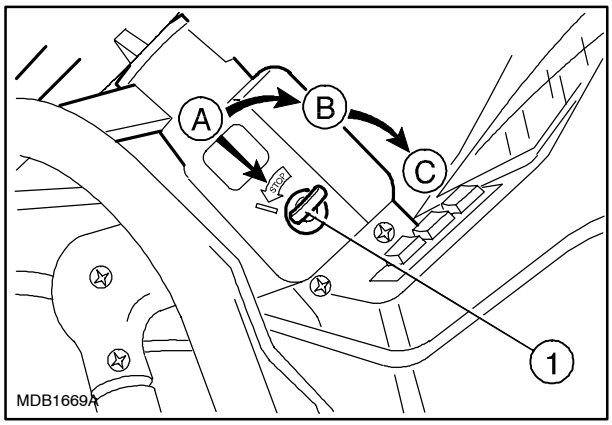
- The central display will show EECL.
- To delete the memory you need to keep the button (1, fig. 58) pressed down until the procedure is completed, that is when the display shows EE.

NOTE: *In these conditions the transmission, four-wheel drive, differential lock and power take-off memories will be deleted.*



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- Turn the switch (1) to A (OFF).

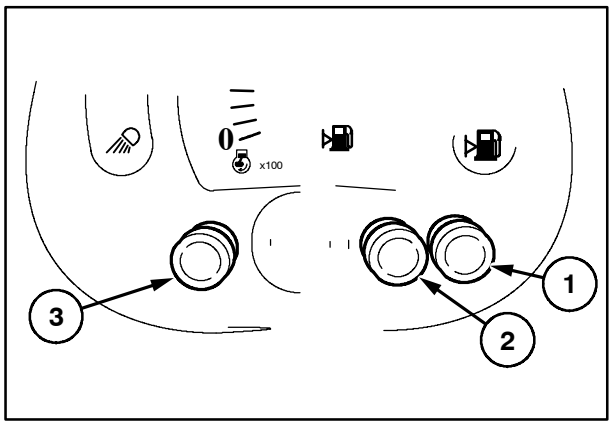


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H9 MENU TRANSMISSION VOLTMETER

Access the PA HH MENU as described on page 2 and proceed as follows.

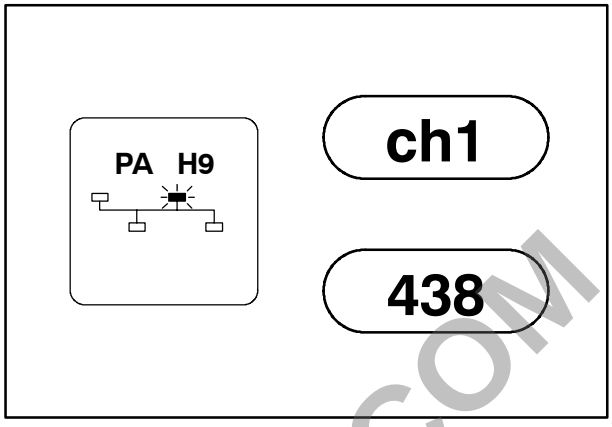
- Select the H9 MENU with buttons (1) and (2), press key (3) to access the above-mentioned H9 MENU.



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- It is possible to select the various channels by pressing buttons (1, fig. 61) and (2, fig. 61).
- The central display will show the selected channel followed by the relevant measurement.
- Press button (3, fig. 61) to go back to HH MENU.



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ch	Description	Typical Value
1	Clutch pedal	~ 85 (pressed) ~ 430 (released)
2	Transmission oil temperature	~ 450 (at 30 °C)
7	Clutch A	~ 450 (clutch pedal released and Shuttle lever engaged)
8	Clutch B	~ 450 (clutch pedal released and Shuttle lever engaged)
9	Forward switch	~ 650 (Shuttle lever on forward) ~ 270 (Shuttle lever in neutral)
10	Reverse switch	~ 650 (Shuttle lever in reverse) ~ 270 (Shuttle lever in neutral)
11	Wheel speed sensor	~ 1300 (at 5 km/h)
12	Clutch D	~ 450 (LO and Shuttle lever engaged)
13	Clutch C	~ 450 (HI and Shuttle lever engaged)
16	Gear lever switch (G)	~ 270 (gear engaged) ~ 650 (gearbox in neutral
17	Range lever switch (R1)	~ 270 (range gear in neutral and II) ~ 650 (range I and III engaged)
18	Range lever switch (R2)	~ 270 (range gear in neutral and I) ~ 650 (range II and III engaged)
19	12 VF	~ 840 (engine running)
20	12 VD	~ 840 (engine running, clutch pedal released and Shuttle lever engaged)
21	5 Volts sensor supply	~ 670
22	8 Volts sensor supply	~ 850
23	Four-wheel drive solenoid valve	~ 830 (four-wheel drive disengaged)
24	Differential lock solenoid valve	~ 950 (differential lock engaged)
25	Power take-off solenoid valve	~ 950 (power take-off engaged)
26	Power supply fuse of pressure switch for clutches A and B (F3 - 10A)	~ 267

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