SERVICE MANUAL

TL60E / TL75E / TL85E / TL95E

Tractor



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Contents

INTRODUCTION

Engine 10

[10.001] Engine and crankcase 10.1

[10.106] Valve drive and gears 10.2

[10.216] Fuel tanks 10.3

[10.218] Fuel injection system 10.4

[10.254] Intake and exhaust manifolds and muffler 10.5

[10.400] Engine cooling system 10.6

Clutch 18

[18.110] Clutch and components 18.1

Transmission 21

[21.114] Mechanical transmission 21.1

[21.160] Creeper 21.2

[21.162] Reverser 21.3

Four-Wheel Drive (4WD) system 23

[23.202] Electro-hydraulic control 23.1

[23.304] Four-Wheel Drive (4WD) gearbox 23.2

[23.314] Drive shaft 23.3

Front axle system 25

[25.100] Powered front axle 25.1

[25.102] Front bevel gear set and differential 25.2

[25.108] Final drive hub, steering knuckles, and shafts 25.3

[25.400] Non-powered front axle 25.4

Rear axle system 27

[27.100] Powered rear axle 27.1

[27.106] Rear bevel gear set and differential 27.2

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[27.120] Planetary and final drives 27.3

Power Take-Off (PTO) 31

[31.104] Rear electro-hydraulic control 31.1

[31.110] One-speed rear Power Take-Off (PTO) 31.2

[31.114] Two-speed rear Power Take-Off (PTO) 31.3

[31.116] Three-speed rear Power Take-Off (PTO) 31.4

Brakes and controls 33

[33.202] Hydraulic service brakes 33.1

[33.110] Parking brake or parking lock 33.2

Hydraulic systems 35

[35.000] Hydraulic systems 35.1

[35.104] Fixed displacement pump 35.2

[35.322] Regulated/Low pressure system 35.3

[35.204] Remote control valves 35.4

[35.114] Three-point hitch control valve 35.5

Hitches, drawbars, and implement couplings 37

[37.110] Rear three-point hitch 37.1

Steering 41

[41.200] Hydraulic control components 41.1

[41.206] Pump 41.2

[41.216] Cylinders 41.3

Wheels 44

[44.511] Front wheels 44.1

[44.520] Rear wheels 44.2

Cab climate control 50

[50.104] Ventilation 50.1

[50.200] Air conditioning 50.2

Electrical systems 55

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[55.541] Cab Front-Wheel Drive (FWD) controls 55.1
[55.100] Harnesses and connectors 55.2
[55.201] Engine starting system 55.3
[55.301] Alternator 55.4
[55.302] Battery 55.5
[55.011] Fuel tank system 55.6
[55.014] Engine intake and exhaust system 55.7
[55.012] Engine cooling system 55.8
[55.013] Engine oil system 55.9
[55.031] Parking brake electrical system 55.10
Platform, cab, bodywork, and decals 90
[90.150] Cab 90.1
[90.110] Operator platform less cab 90.2
[90.114] Operator protections 90.3
[90.124] Pneumatically-adjusted operator seat 90.4
[90.100] Engine hood and panels 90.5
[90.102] Engine shields, hood latches, and trims 90.6

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Hydraulic service brakes - Troubleshooting

Sem cabine, eixo dianteiro sem força motriz [ZDC112458 -]	
Sem cabine, tração nas quatro rodas (4WD) [ZDC112458 -]	
Com cabine, transmissão 12x4 [ZDC112458 -]	
Com cabine, tração nas quatro rodas (4WD)	
Sem cabine, tração nas quatro rodas (4WD) [ZDC112458 -]	
Com cabine, tração nas quatro rodas (4WD) [ZDC112458 -]	
Sem cabine, tração nas quatro rodas (4WD) [ZDC112458 -]	
Com cabine, tração nas quatro rodas (4WD) [ZDC112458 -]	---

Problem	Possible Cause	Correction
The brakes remain locked when the pedals are released	Master cylinder pistons blocked	Release the cylinder and replace the master cylinders if necessary
	Master cylinder jammed	Replace the master cylinders
The pedal moves too much	Air in the brake circuit	Bleed the cylinders
	Master cylinders worn	Replace the cylinders
	Leaks from the control valves	Eliminate the causes of the leaks
Difficulty activating the brake pedals	Corresponding master cylinder jammed	Replace the cylinder
	Brake control tubes blocked or bent	Clean or replace the control tubes
Braking ineffective	Wear to the friction material in the brake discs	Replace the brake discs
	Master cylinders worn	Replace the master cylinders
	Air in the brake circuit	Bleed the air from the brake circuit
	Leaks from the control tubes	Eliminate the causes of the leaks
	Master cylinder seals worn or broken	Replace the master cylinders
Uneven braking	Wrong tire pressure	Calibrate tire pressure
	Master cylinders worn	Replace the brake control master cylinders
	Brake connection tube blocked or bent	Clean or replace the tube
	Brake control tubes blocked or bent	Clean or replace the control tubes
	Sealants in one of the control pistons worn or damaged	Replace the master cylinders
	Friction material in one of the brake discs worn	Replace the disc
The brakes are noisy	Wear to the friction material in the brake disks.	Replace the brake disks.

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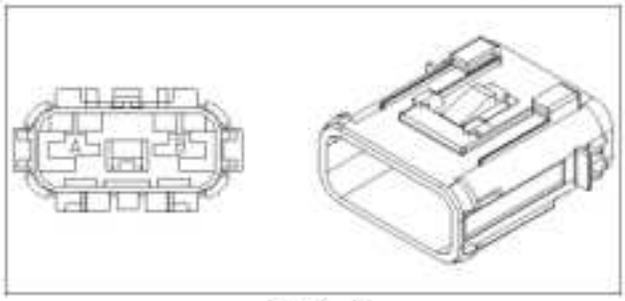
Steering angle (TL85E and TL95E models with AFWD)

Steering angles	Length (L)	
	mm	in
25 °	63 mm	2,48 in
30 °	53 mm	2,08 in
35 °	42 mm	1,65 in
40 °	32 mm	1,25 in
45 °	21 mm	0,82 in
50 °	11 mm	0,43 in
55 °	0 mm	0 in

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CONNECTOR X-027 - Maxifuse Holder 1

CONNECTOR X-027 - Maxifuse Holder 1			
PIN NUMBER	**WIRE NUMBER**	**CIRCUIT REFERENCE**	**ELECTRICAL SCHEMATIC FRAME**
1	CB-155G (GN)	SP-155G X-027 Maxifuse Holder 1	**Wire harnesses - Electrical schema Main wire harness of the header – Switches – Sheet 04 (55.100)**
2	CB-155 (GN)	X-027 Maxifuse Holder 1 SP-155	**Wire harnesses - Electrical schema – Main wire harness of the header – Relay and fuse compartment – Sheet 01 (55.100)**



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CONNECTOR X-028 - Transmission system connection

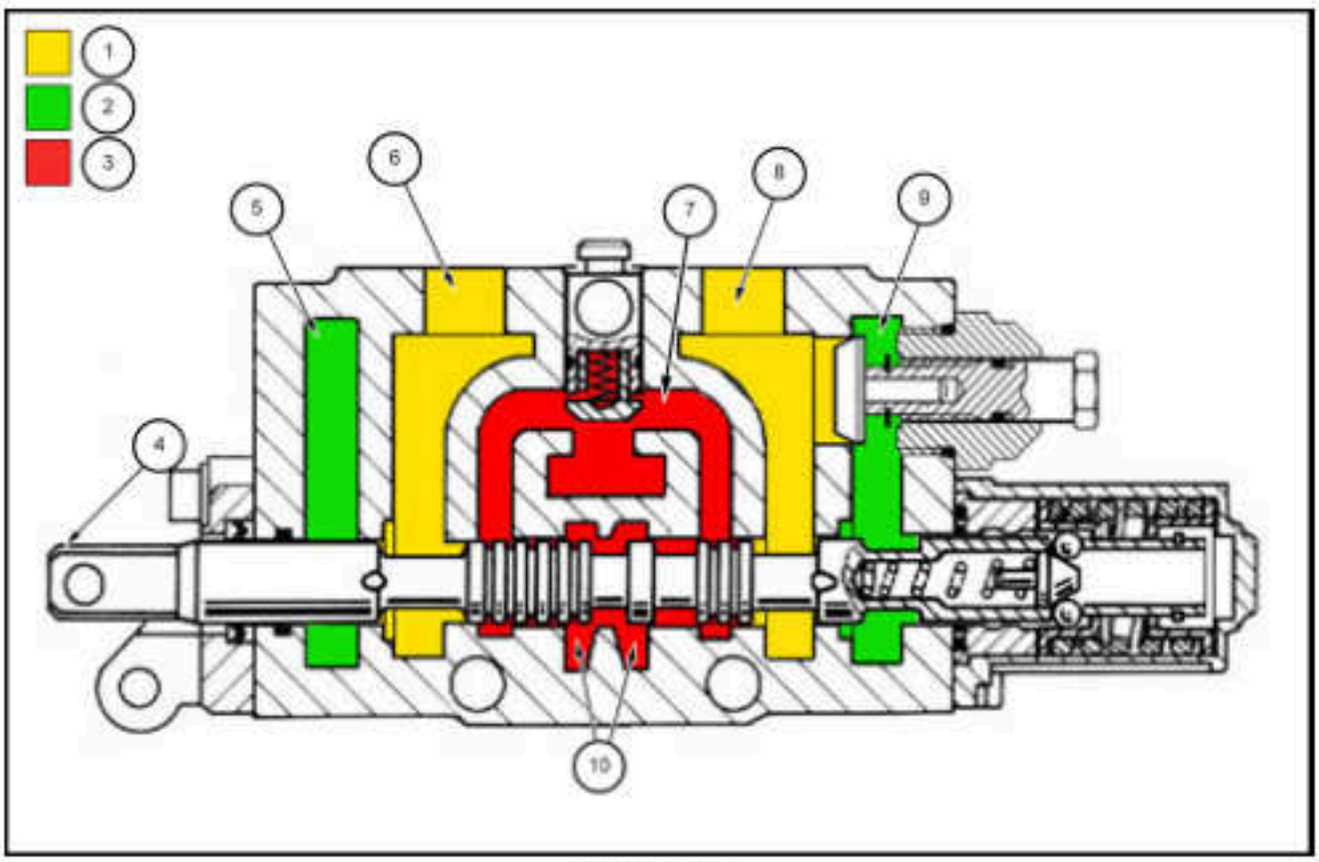
CONNECTOR X-028 - Transmission system connection			
PIN NUMBER	**WIRE NUMBER**	**CIRCUIT REFERENCE**	**ELECTRICAL SCHEMATIC FRAME**
1	-	-	**Wire harnesses - Electrical schema – Transmission components – Sheet 10 (55.100)**
2	CB-1000 (WH)	X-028 Transmission system connection K-001 IGNITION RELAY (I)	**Wire harnesses - Electrical schema – Sheet 05 (55.100)**
3	CB-350C (BL)	SP-050A X-028 Transmission system connection	**Wire harnesses - Electrical schema – Sheet 05 (55.100)**
4	CB-349C (BL)	SP-049A X-028 Transmission system connection	**Wire harnesses - Electrical schema – Sheet 05 (55.100)**
5	CB-1013C (RD)	SP-1013F X-028 Transmission system connection	**Wire harnesses - Electrical schema Main wire harness of the header – Splices – Sheet 03 (55.100)**
6	CB-1014E (RD)	SP-1024A X-028 Transmission system connection	**Wire harnesses - Electrical schema Main wire harness of the header – Splices – Sheet 03 (55.100)**
7	CB-810F (RD)	SP-810 X-028 Transmission system connection	**Wire harnesses - Electrical schema Main wire harness of the header – Splices – Sheet 03 (55.100)**
8	CB-3025 (YE)	K-007 4WD (VII) X-028 Transmission system connection	**Wire harnesses - Electrical schema – Main wire harness – Relay and fuse compartment – Sheet 02 (55.100)**
9	CB-2042 (OR)	X-028 Transmission system connection SP-2042C	**Wire harnesses - Electrical schema – Main wire harness – Relay and fuse compartment – Sheet 02 (55.100)**
10	-	-	
11	-	-	
12	CB-1000E (WH)	X-066 Safety Starter Switch X-028 Transmission system connection	**Wire harnesses - Electrical schema – Sheet 05 (55.100)**

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Remote control valve - Dynamic description

Sem cabine, eixo dianteiro sem força motriz [ZDC112458 -]	
Sem cabine, tração nas quatro rodas (4WD) [ZDC112458 -]	
Com cabine, transmissão 12x4 [ZDC112458 -]	
Com cabine, tração nas quatro rodas (4WD)	
TL75E LA	
Sem cabine, tração nas quatro rodas (4WD) [ZDC112458 -]	
Com cabine, tração nas quatro rodas (4WD) [ZDC112458 -]	
TL85E LA	
Sem cabine, tração nas quatro rodas (4WD) [ZDC112458 -]	
Com cabine, tração nas quatro rodas (4WD) [ZDC112458 -]	
TL95E LA	
Com cabine, tração nas quatro rodas (4WD) [ZDC112458 -]	
TL60E LA	

Remote control valve operational phase to engage the dual action cylinder with rod detent and floating position



CUL13TP00695AA 1

Neutral

(1). Static oil

(2). Oil being discharged

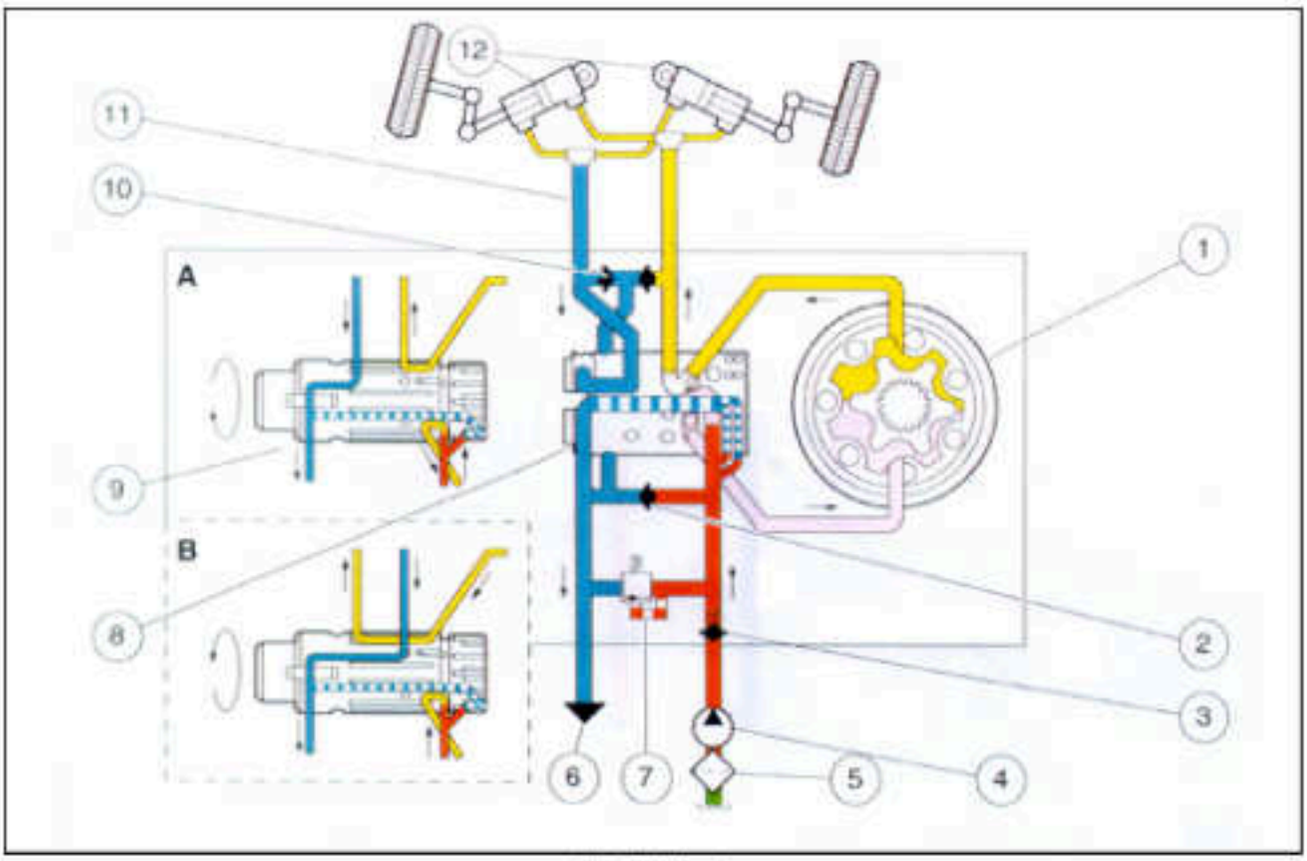
(3). Pressure Oil

When the control rod **(4)** is in the central position, the galleries **(6)** and **(8)** are not linked to the galleries **(5)**, **(7)** and **(9)**, such that the oil becomes static.

In this situation, the full flow of oil from the hydraulic pump runs through gallery M to the other parts of the remote control (open center system) and, where unused, follows on to feed the hydraulic lift control valve. **(10)**

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Schematic diagram of the steering operation - Steering activated:



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Suction oil
Supplying the steering motor
Return oil
Pressurised oil (up to **170 bar**)
Measured oil to the steering piston

Turning to the right

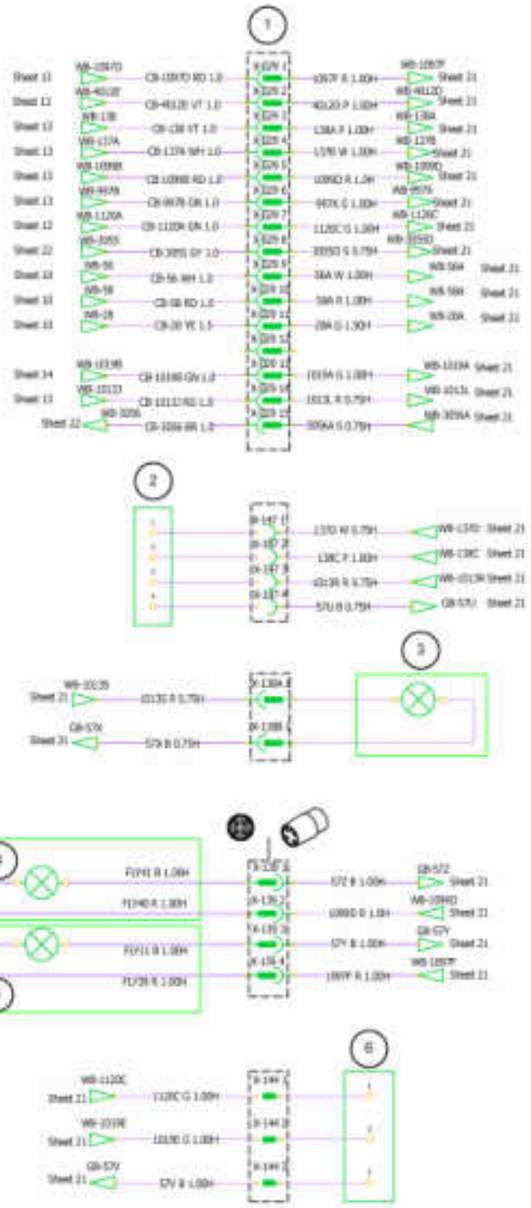
Reference	Component	Reference	Component
(1)	Metering valve	**(7)**	Pressure retention valve
(2)	Test valve	**(8)**	Control valve liner
(3)	Check valve	**(9)**	Control valve coil
(4)	Pump	**(10)**	Not available
(5)	Filter	**(11)**	Not available
(6)	Return via cooling and lubrication	**(12)**	Steering cylinders

By turning the wheel to the right, the movement of the control valve spool aligns a series of grooves in the sleeve. While turning to the right, the oil flows through the liner along a groove in the valve spool and into a passage in the steering motor housing and led to a measuring unit, as shown in the figure above.

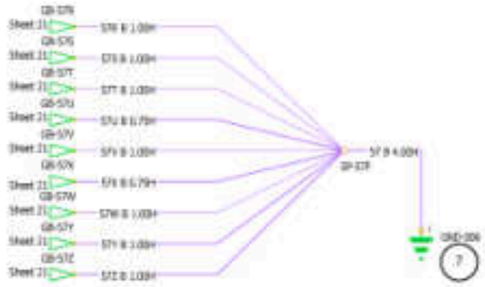
The measuring unit is activated by the rotor drive shaft and sends the oil along another series of passages in the spool and the liner, and into the steering cylinder. The return oil from the other end of the cylinder is sent through the spool and the valve sleeve to a return passage in the housing.

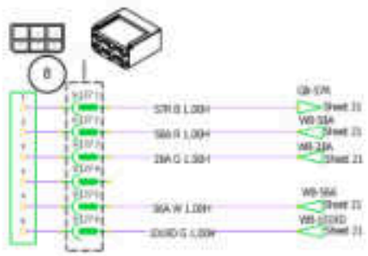
When turning the steering wheel to the left, the oil flows along the sleeve in a manner similar to that described when turning to the right.

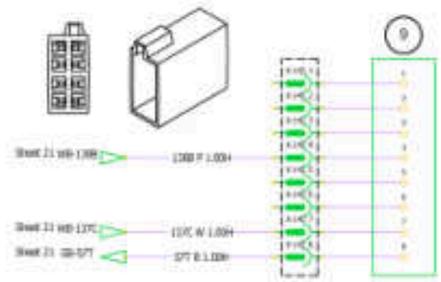
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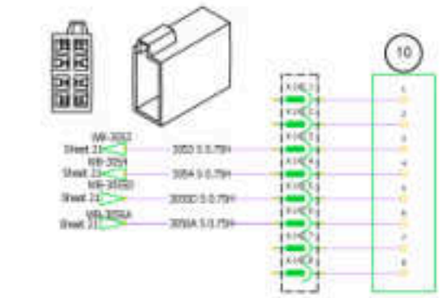




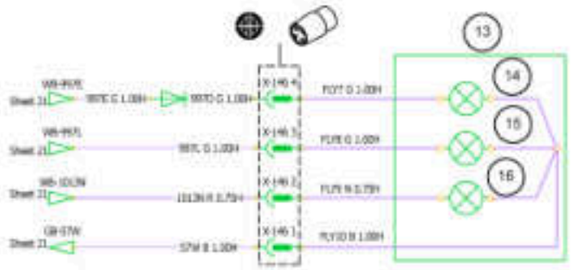












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