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Tractor identification and technical specifications

2-2 Weights and measurements

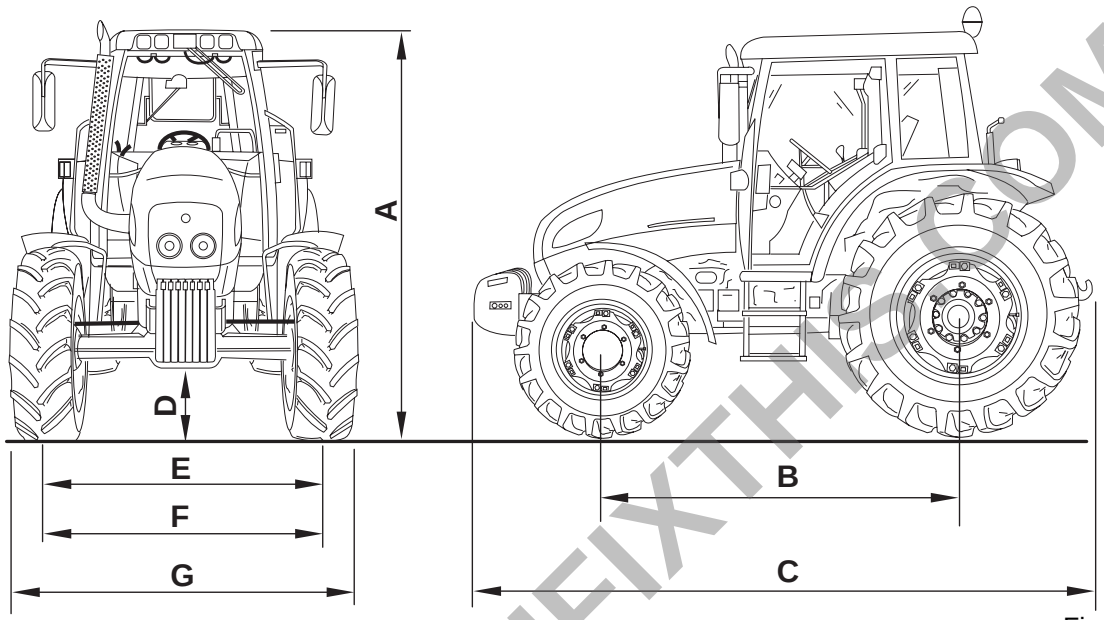


Fig.3-1

GENERAL SPECIFICATIONS	90	100	110
	4WD	4WD	4WD
With tyres:			
- Front	13,6 R24	14,9 R24	14,9 R24
- Rear	16,9 R34	18,4 R34	18,4 R38
WEIGHTS			
In running order, without ballast, with cab ..... Kg	4260	4280	4690
In running order, with front and rear ballast with cab ..... Kg	4920	4960	5350

DIMENSIONS	90	100	110
	4WD	4WD	4WD
A - Cab height from ground ..... mm	2720	2770	2870
Cab height from rear wheel center ..... mm	1975	2000	2050
B - Wheelbase ..... mm	2426	2449	2759
C - Maximum length			
- without front ballast ..... mm	4160	4160	4160
D - Ground clearance ..... mm	450	475	525
E - Front track (see tab.) ..... mm	1738	1937	1937
F - Carreggiate post. (vedi le tab.) ..... mm	1692	1720	1720
G - Maximum width on road ..... mm	2062	2062	2062

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Tractor identification and technical specifications

2-3 Engine specifications

ENGINE	90	100	110
Type	Perkins iniezione diretta		
Model	1004-40 T	1004-40 T	1006-60
Fuelling	Turbo	Turbo	Natural
Number of cylinders	4	4	6
Bore mm	100	100	100
Stroke mm	127	127	127
Swept volume cc.	3990	3990	5985
Compression ratio	17.25:1	17.25:1	17.25:1
Power (DIN 70020) HP/kW	88/65	97/71.5	105/77
Max. speed under load RPM	2200	2200	2200
Max. speed with no load RPM	2354	2354	2354
Max. torque (DIN 70020) Nm	362.5	402.5	395
Max. torque speed RPM	1400	1400	1400
Idling rate RPM	800	800	800
VALVE GEAR			
Type	Overhead valves controlled by tappets		
Tappet gap with engine cold:			
- Intake (mm)	0.20	0.30	0.30
- Exhaust (mm)	0.45	0.45	0.45
FUEL SYSTEM			
Fuel pump	membrane type	membrane type	membrane type
Injection pump	Lsx rotary	Lsx rotary	Lsx rotary
Filter on injection pump delivery	Cvx	Cvx	Cvx
Injection order	1-3-4-2	1-3-4-2	1-5-3-6-2-4
Injectors	Perkins	Perkins	Perkins
Injector pressure setting (bar)	294	294	294
Cold starting device	Termostarter		
Air filter	Dry, with two elements removable for maintenance		

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Pre-delivery inspection and maintenance

4-3 Routine maintenance guide

ROUTINE MAINTENANCE GUIDE PERFORM the following operations		EVERY					AS indicated
ASS'Y	DESCRIPTION	Daily or as required (4)	100 HOURS	250 HOURS	500 HOURS	1000 (1) HOURS	Servicing points (Fig. 9-1)
LUBRICATION	General lubrication	○					21
	Lubricate three-point hitch		○				22
	Lubricate front axle		○				23
	Clutch thrust bearing		○				24
ENGINE	Check engine oil level	○					1
	Change engine oil			▭			25
	Change engine oil filter			▭			26
	Check valve clearance				□		30
FUEL SYSTEM	Clean fuel filter bowls	△					2
	Change fuel filter cartridges				▭		31
	Check injector settings					□	32
	Dry air filter: clean drain valve	△					3
	Dry air filter: clean or change cartridge	△					4
	Drain sludge from fuel tank					△	33
COOLING SYSTEM	Check coolant level in radiator	○					5
	Clean radiator fins	△					6
	Wash out cooling circuit					△	34
TRANSMISSION - BRAKES HYDRAULIC CIRCUIT AND STEERING SYSTEM	Check oil levels in gearbox, steering and power lift circuits, rear final drives, front axle and front final drives	○					7-8-9
	Change oil in gearbox (2), steering and power lift circuits rear final drives, front axle and front final drives					▭	27
	Change transmission oil filters on intake (3) of steering and power lift circuits			▭			27
	Change oil filter on delivery (3) of steering circuit			▭			28
	Change Deltafive oil filter			▭			29
	Clean transmission oil radiator	△					6
	Check free brake travel	▽					10
	Check oil level in brake and clutch circuits	○					11-12

REFERENCE MARKS FOR THE OPERATIONS

○ Inspection, filling, lubrication.
▭ Replacement.
△ Cleaning or washing.
▽ Adjustment.
□ Operations that must be carried out by the Dealer.

NOTES

(1) Operation to be carried out once a year.

(2) Initially after the first 500 hours service and then every 1000 hours.

(3) **ATTENTION:** Change the filters on the pump intake and on the delivery side of the steering system after the first 50 hours to safeguard the circuit itself. Following this, replace the filter every 250 hours.

(4) **ATTENTION:** Use your own discretion and experience when deciding on the actual intervals for variable interval service and maintenance operations. Always remember however, that it is better to perform them too often than not often enough.

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Sect. 7 - Bolt driving torques

MATERIAL	8.8		10.9		12.9	
BOLT	**Z**	**B**	**Z**	**B**	**Z**	**B**
M 8 x 1	25	27	36	38	43	46
M 8 (1.25)	23	25	33	35	40	42
M 10 x 1.25	50	55	70	75	85	90
M 10 (1.5)	46	50	66	70	80	85
M 12 x 1.25	90	97	127	135	143	155
M 12 (1.75)	82	86	115	120	138	145
M 14 x 1.5	142	153	200	215	240	260
M 14 (2)	130	140	182	195	220	235
M 16 x 1.5	215	230	300	320	360	390
M 16 (2)	200	215	280	300	340	360
M 18 x 1.5	310	330	435	470	520	560
M 18 (2.5)	270	295	385	415	460	495
M 20 x 1.5	430	460	610	660	720	770
M 20 (2.5)	390	415	550	585	660	705
3/8" -24 UNF	44	47	62	67	75	80
3/8" -16 UNC	40	43	56	60	68	72
1/2" -20 UNF	105	112	147	157	175	190
1/2" -13 UNC	95	102	135	145	160	173
9/16" -18 UNF	150	160	210	225	250	270
9/16" -12 UNC	135	145	190	205	230	245
5/8" -18 UNF	205	215	285	305	345	365
5/8" -11 UNC	185	200	260	280	315	335
3/4" -16 UNF	355	380	500	535	600	645
3/4" -10 UNC	325	345	455	490	550	585

Torque value in Nm ***Z = galvanized bolt*** ***B = burnished bolt***

TORQUING TOLERANCES

Critical assembly	**+5% / -5%**
Important assembly	**+5% / -15%**
Secondary assembly	**+5% / -30%**

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Sect.1 - general description

1-1 Drawing of assembly (Powerfive version)

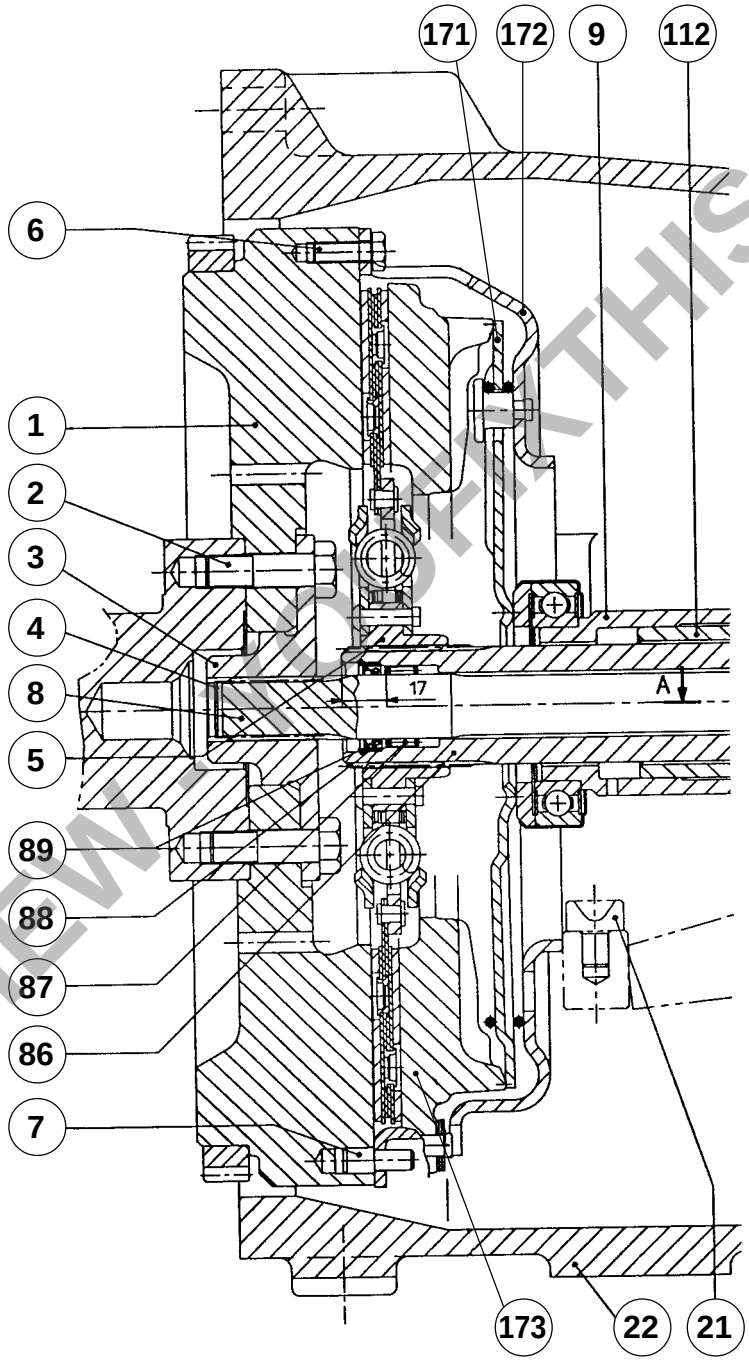


Fig.1-3

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General description

1-4 Power train diagram

Mechanical transmission of Mythos 110 - POWERFIVE version

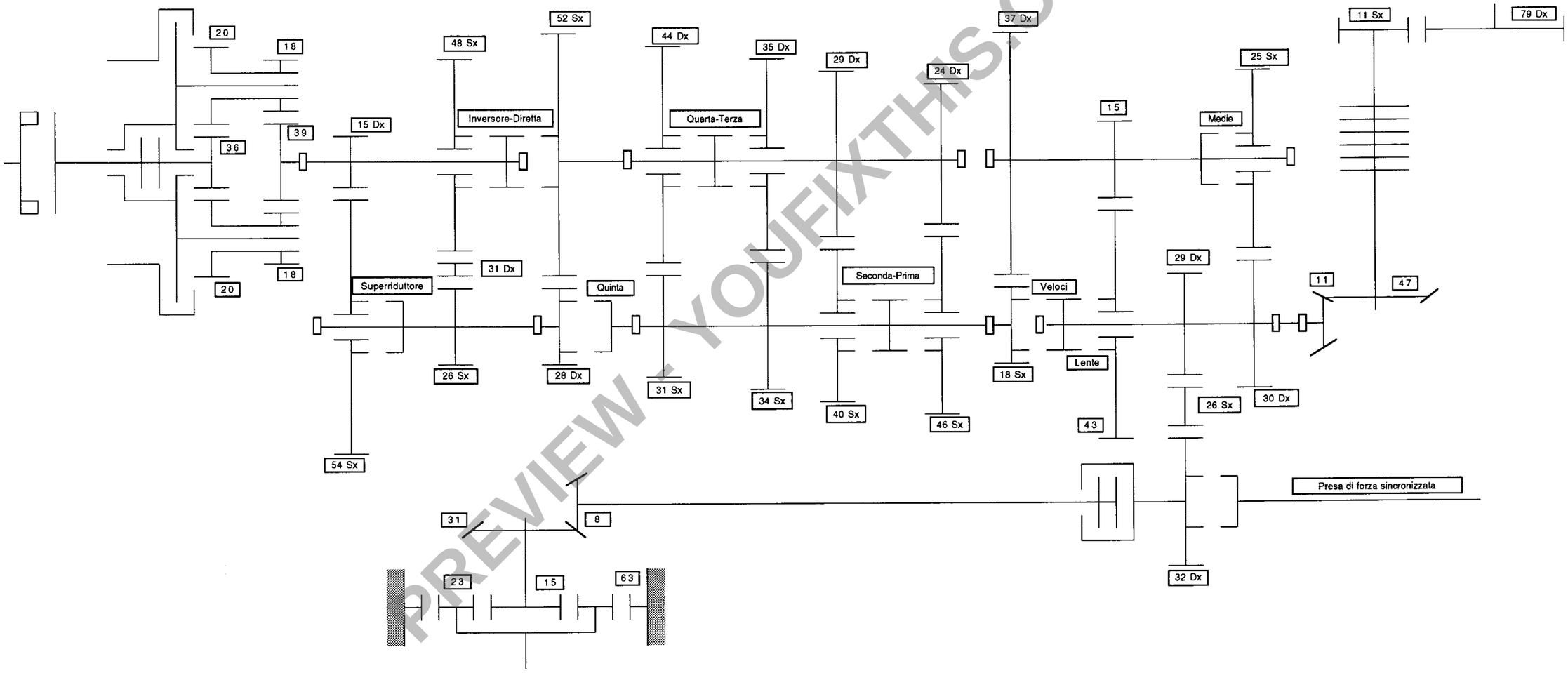


Fig.7-4

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Gearbox-axle assembly (Powerfive version)

A3 - Demounting instructions

1 - HOW TO SPLIT THE GEARBOX-AXLE ASSEM BLY FROM THE TRACTOR

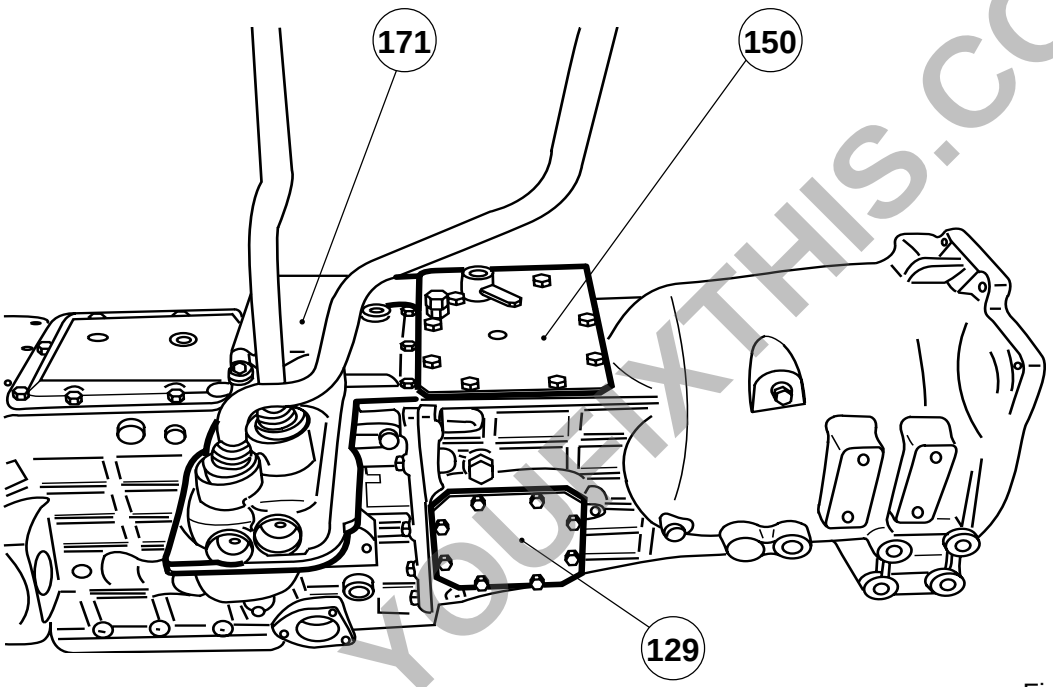


Fig.13-4

Split the engine from the axle and then remove the covers (129/150/171 Fig.13-4).

After having taken out the spring pins that fix the 5th speed gear rod guide (116 Fig.14-4) and the fork (115 Fig.14-4) that engages it, remove it from the gearbox -axle compartment.

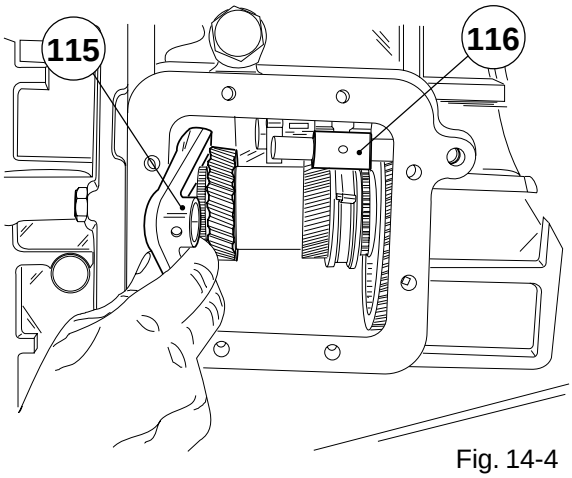
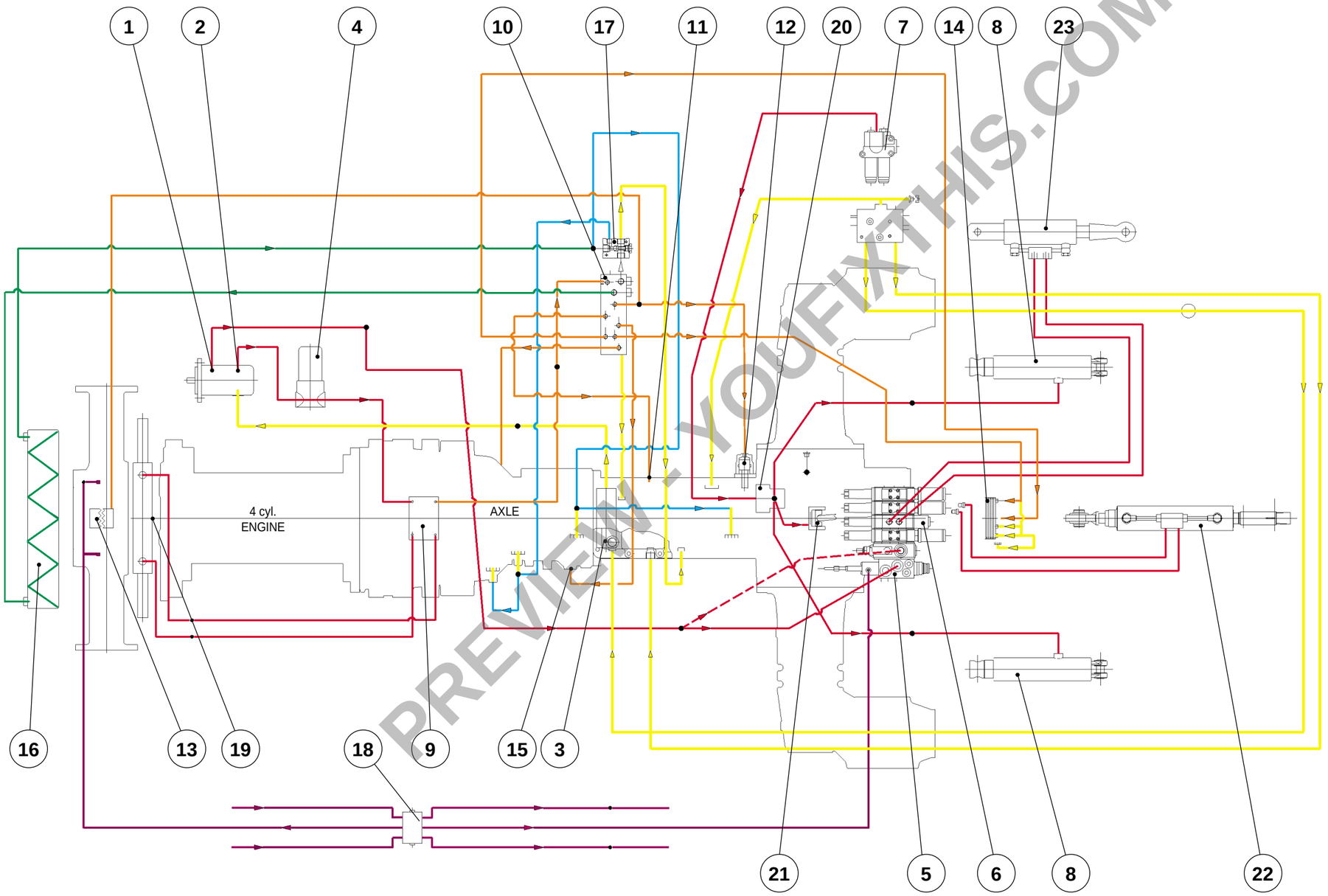


Fig. 14-4

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Sect. 1 - General description

1-1 General hydraulic circuit



1 - High pressure pump
2 - Low pressure pump
3 - Intake filter with 60 micron cartridge
4 - Oil filter on delivery
5 - Hydraulic valve for trailer brake
6 - Auxiliary control valve unit
7 - Electro-control valve for the power lift
8 - Supplementary lifting cylinders
9 - Power steering system
10 - Hydraulic power pack
11 - 4WD clutch (Spring-on)
12 - Rear differential lock
13 - Front differential lock
14 - PTO hydraulic clutch
15 - Creeper clutch
16 - Transmission oil cooling radiator
17 - Lubricating circuit calibrating valve
18 - Brake circuit on-off valve
19 - Steering cylinder
20 - Electronic power lift cover
21 - Internal cylinder of electronic power lift
22 - Upper hydraulic link
23 - Vertical hydraulic rod

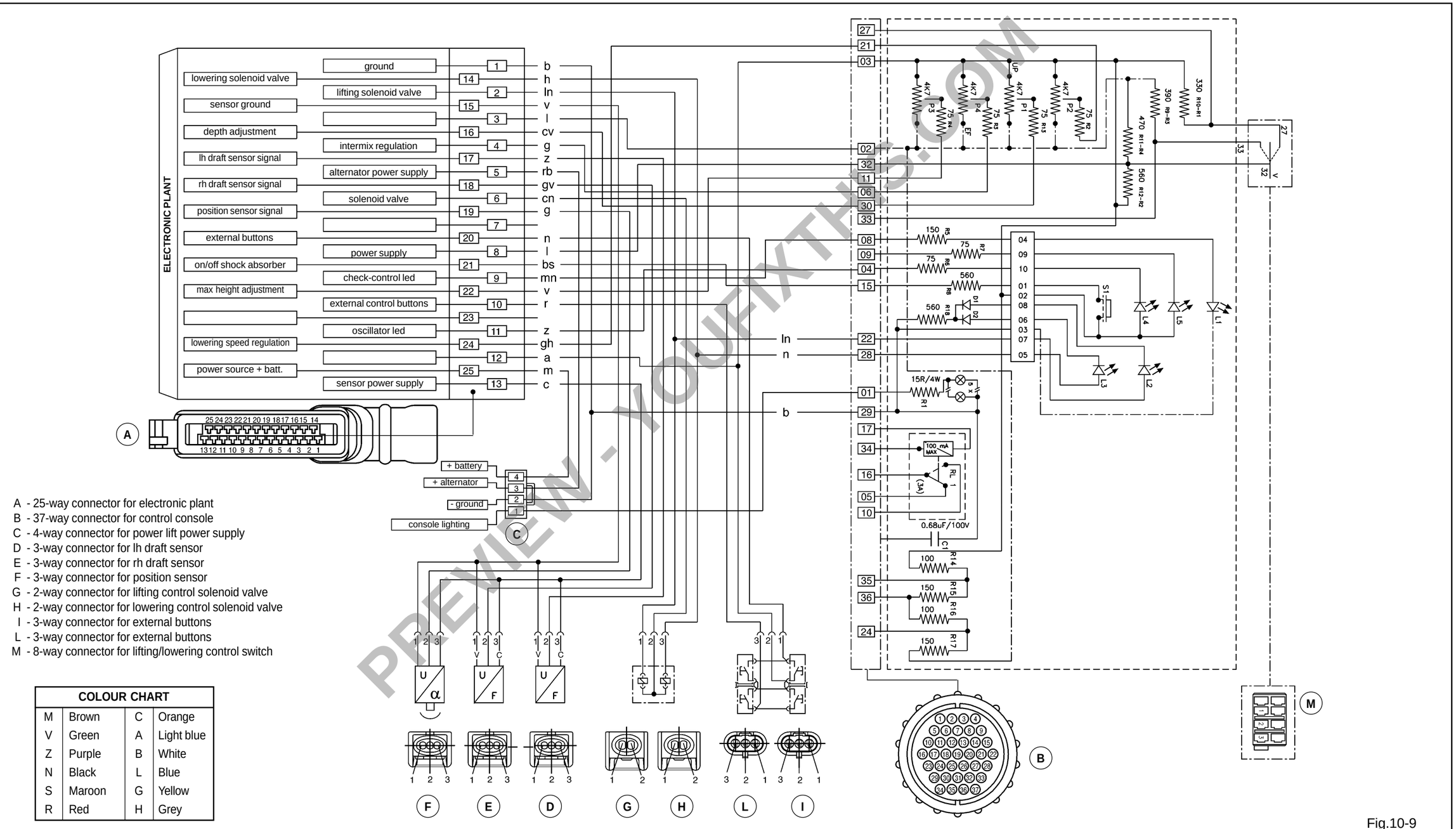
high pressure
low pressure
discharge/intake
cooling
lubricating
brakes

Fig.1-7

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Electrical system

4-2 Wiring diagram



A - 25-way connector for electronic plant
B - 37-way connector for control console
C - 4-way connector for power lift power supply
D - 3-way connector for lh draft sensor
E - 3-way connector for rh draft sensor
F - 3-way connector for position sensor
G - 2-way connector for lifting control solenoid valve
H - 2-way connector for lowering control solenoid valve
I - 3-way connector for external buttons
L - 3-way connector for external buttons
M - 8-way connector for lifting/lowering control switch

COLOUR CHART			
M	Brown	C	Orange
V	Green	A	Light blue
Z	Purple	B	White
N	Black	L	Blue
S	Maroon	G	Yellow
R	Red	H	Grey

Fig.10-9

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Check-control and troubleshooting

INCORRECT MANOEUVRE CODES

ALARM CODE	INCORRECT MANOEUVRE	CORRECT MANOEUVRE
24	An attempt has been made to engage the reverse gear when the tractor is driving forwards at over 8 kph	Decelerate below 8 kph and the operation will take place automatically
25	Reverse shuttle lever moved incorrectly or too slowly	Move the reverse shuttle lever to the neutral position and repeat the operation
26	Reverse shuttle moved with the clutch pedal partially depressed	Repeat the operation with the clutch pedal fully depressed
27	Declutch button pressed with the clutch pedal not free or partially depressed	Repeat the operation with the clutch pedal fully depressed
28	An attempt has been made to engage the forward gear when the tractor is moving in reverse at over 8 kph	Decelerate below 8 kpg and the operation will take place automatically
30	The clutch pedal has been released with the Reverse/Underdrive/Overdrive engaged indicator light off (the respective synchromesh is not engaged)	Repeat the operation, releasing the clutch pedal with the Reverse/Underdrive/ Overdrive engaged indicator light on.

NOTE: *the buzzer will operate until the incorrect manoeuvre has ceased.*

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Check-control and troubleshooting

FAULT CODES

ALARM CODE	FAULT LOCATION	FAULT
11	Faulty Hall sensors	One or both of the Hall sensors fail to operate or their wires are broken
15	Faulty clutch pedal limit switch	The switch does not operate or its wires are broken
17/18	Faulty reverse shuttle lever contacts	The reverse shuttle lever does not operate or its wires are broken
19	Faulty gearshift lever knob buttons	The gearshift lever knob (Declutch/Underdrive/Overdrive buttons) does not operate or its wires are broken
20	Electrical faults in the solenoid valve and/or the Reverse drive synchromesh switch	The Reverse drive synchromesh fails to engage
21	Electrical faults in the solenoid valve and/or the Underdrive synchromesh switch	The Underdrive synchromesh fails to engage
22	Electrical faults in the solenoid valve and/or the Overdrive synrhcomesh switch	The Overdrive synrhcomesh fails to engage
29	Electrical faults in the solenoid valves that control the Modes or Direct clutch assemblies	The hydraulic clutch in question fails to engage completely

NOTE: *the check control and fault repair procedures start with the more probable breakage points through to the least probable ones.*

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Guide to the "calibration" module

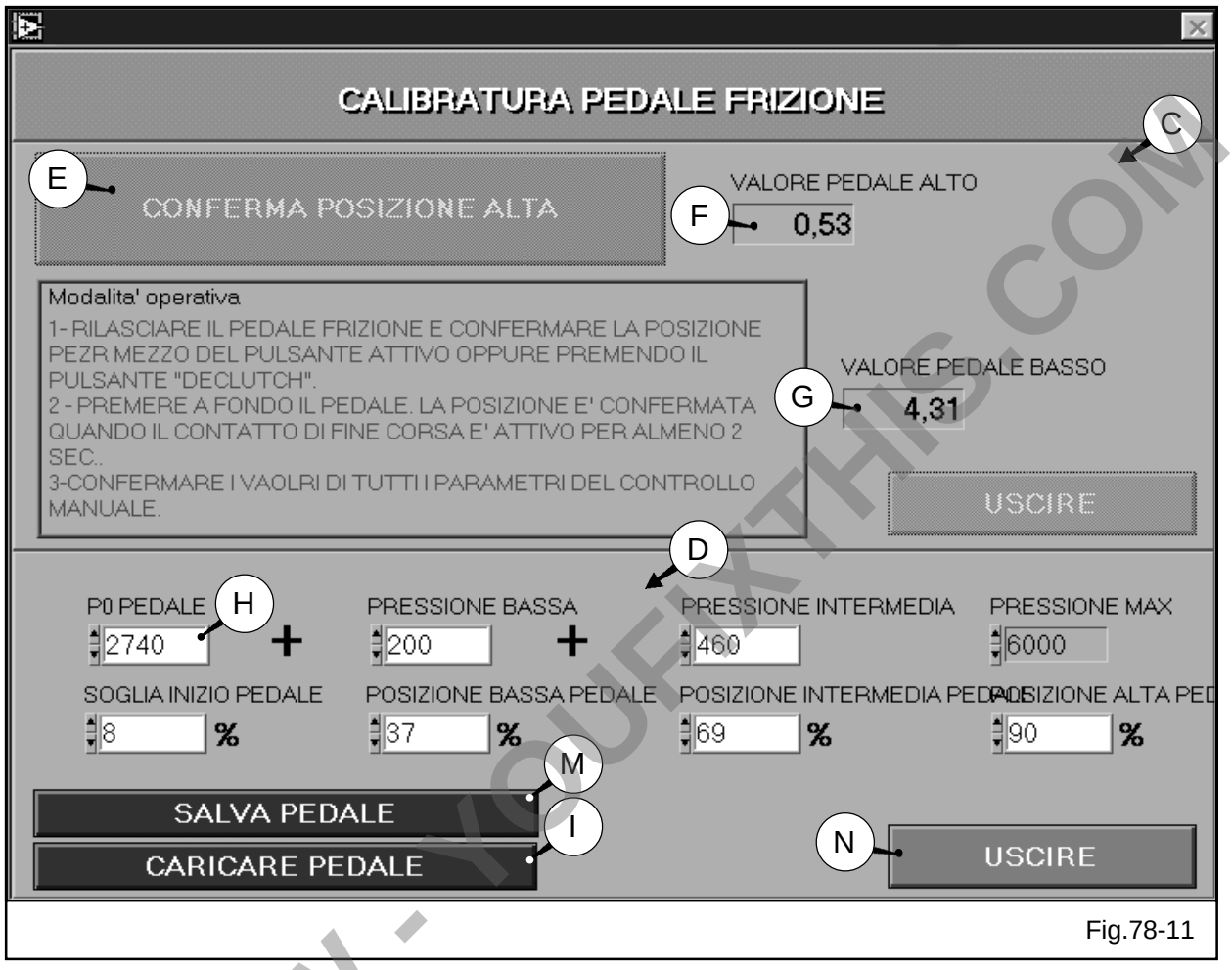


Fig.78-11

The window of Fig.78-11 is divided into two main parts:
- the top part, marked with the letter (C Fig.78-11), contains the data fields that give the values corresponding to the position (up and down) of the clutch pedal;
- the bottom part, marked with the letter (D Fig.78-11), contains the data fields with the specific pedal calibration parameters.

Proceed in the following way to calibrate:
- click on key (E Fig.78-11) or press the declutch key on the gearshift lever in order to establish the pedal up position. The corresponding value will appear in the respective data field(F Fig.78-11);
- keep the clutch pedal fully depressed until the corresponding value appears in the respective data field (G Fig.78-11), this in order to establish the down position.

LandTools will now automatically create the manual piloting law of the tractor beginning with the **pedal P0** value given in the respective data field (H Fig.78-11).

All the values calculated by the program and given in their respective data fields (D Fig.78-11) at the bottom part of the window. Click on key (I Fig.78-11) to load these values into the electronic plant.

Key (M Fig.78-11) allows you to save the pedal regulating parameters in a file. It is, however, strongly inadvisable to do this as the pedal regulating data are already optimized in a dedicated LandTools file.

Click on key (N Fig.78-11) to quit the window of Fig.78-11 without having loaded the new parameters.

Thus regulated, the pedal could release too low or too high, making it problematical to calibrate the **P0** owing to the difficulty in identifying the exact moment in which the wheels start to move. To avoid this, enter a respectively lower or higher value in relation to the one automatically proposed by the program by hand into the data field (H Fig.78-11).

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CHAP.1

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Driving torques

DESCRIPTION	Thread	DRIVING TORQUES	
		Nm	Kgfm
Flywheel and relative housing			
Bolts fixing flywheel to drive shaft	1/2 UNF	105	10.7
Bolts fixing cast iron flywheel housing to engine block	M10	44	4.5
8.8 block stamping	M12	75	7.6
10.9 block stamping	M10	63	6.4
10.9 block stamping	M12	115	11.7
Bolts fixing aluminium flywheel housing to engine block	M10	70	7.1
Intake system			
Nuts for turbocompressor on manifold	M10	44	4.5
Electrical equipment			
CAV AC5RA and AC5RS	5/8 UNF	55	5.6
A127 thin nut, and Motorola pulley, 22 mm across flats	M17	60	6.1
A127 tall nut, and Motorola pulley, 24 mm across flats	M17	80	8.2
Bosch 55°	M14	45	4.5
Bosch 55°	M16	50	5.1
Heater opening on intake manifold	M22	60	6.1
Starter motor nut/bolt	3/8 UNF	30	3.0
Auxiliary equipment			
Compressor control gear nut on compressor drive shaft	5/8 UNF	120	12.0
Nut (30 across flats) of compressor gears	M20	130	13.0
Flanged bolt between bracket and intermediate gear hub	M10	60	6.0
Flanged bolt of bracket and valve gear housing	M8	35	3.5

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Ponte motore-cambio (versione Deltafive)

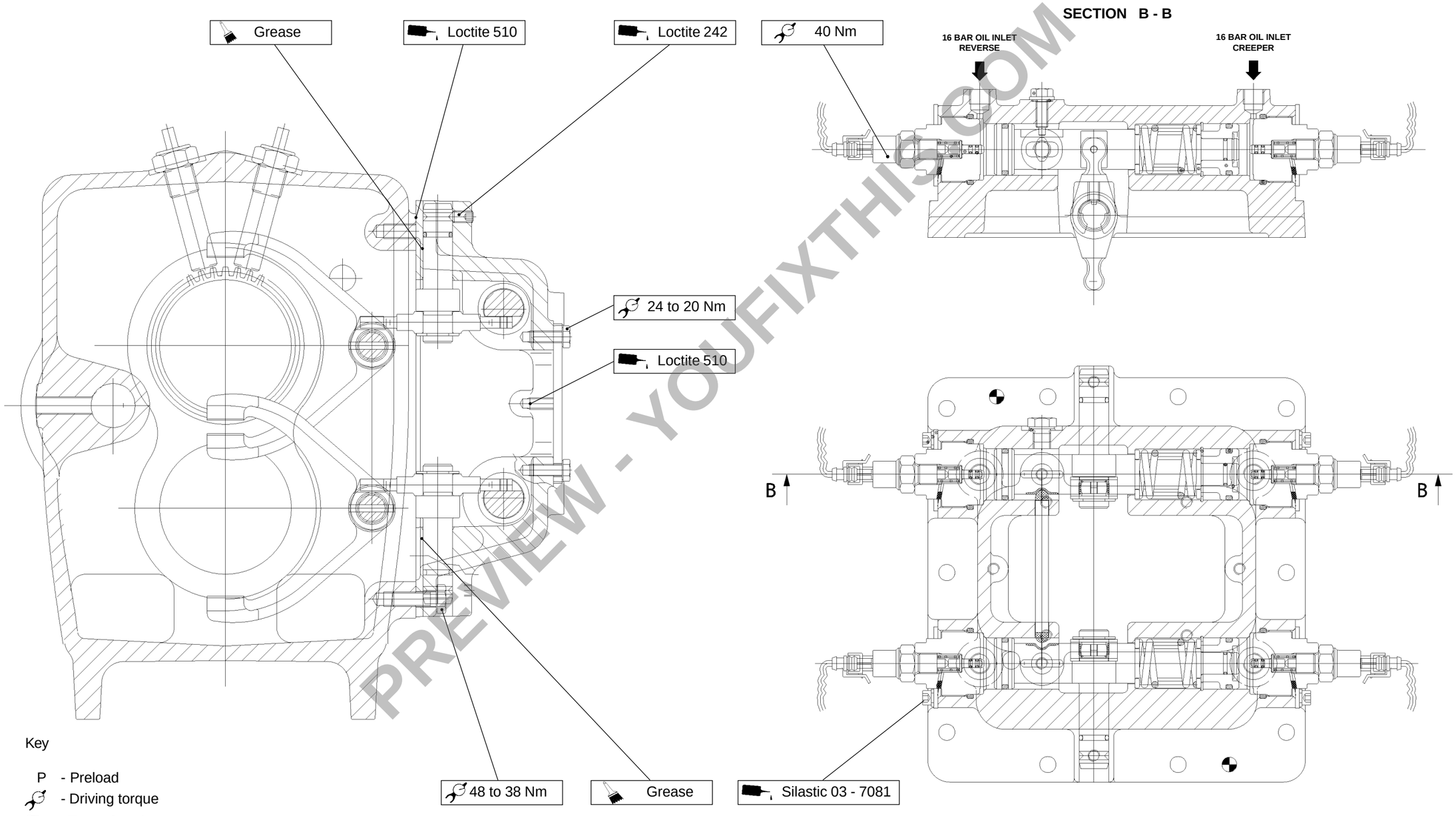


Fig.34a-4

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Sect.2 - Technical specifications

2-1 Main technical specifications

Manufacturer	Landini
Type of axle	In spheroidal cast iron, swinging in the center around two supports
Type of reductions	8/31 central pinion and ring gear
Engagement	Electrohydraulic by means of hydraulic clutch Spring-on - pressure off type
Ratio between front and rear axle (Mythos 90) **(Mythos 100)** **(Mythos 110)**	1.3807 1.3838 1.3801
Max. steering angle	55°
Max. axle swing	10-12°
Steering radius without brakes	5200 mm

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CHAP. 7

Main components of the low pressure circuit

INDEX

Sect.4 Main components of the low pressure circuit

C -Sx hydraulic power pack (Powerfive version)

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Notes

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Electrical system

Types of connector

The two main connectors in the wiring of the electronic power lift are described below.

ELECTRONIC PLANT CONNECTOR (A Fig.11/12-9)

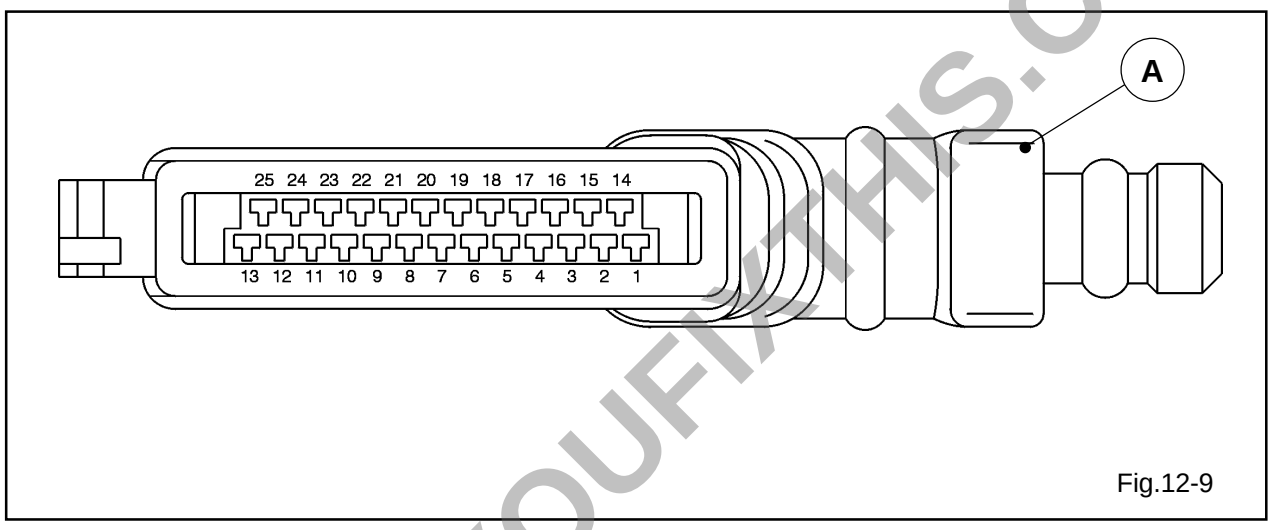


Fig.12-9

The connector (A) is the 25-way type. When connected to the electronic plant of the system, it links the plant itself with the remaining electrical/electronic components that form the power lift circuit. Terminals 7 and 23 of connector (A) are not used by the circuit in "Mythos" tractors.

CONTROL CONSOLE CONNECTOR
(B Fig.11/12a-9)

Connector (B) is the 37-way type. When connected to the control console it links the electronic plant of the system with the controls on the console itself. When he uses these controls, the operator transmits the signals required to operate the power lift to the plant. The terminals used by the circuit installed in "Mythos" tractors are those shown in Fig.12a-9.

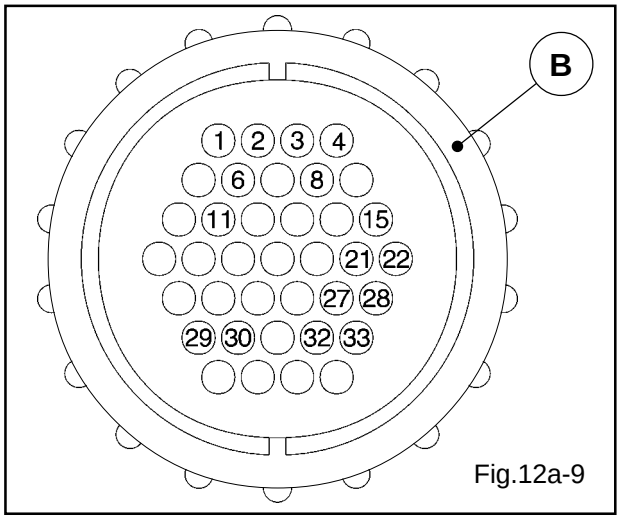


Fig.12a-9

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Front line (tractors with 4-cylinder engines)

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ECC internal cab line (Powerfive tractor version)

IGNITION SWITCH (E52)

Terminal	Wire colour	To connector or component	Terminal
1	R	E6-E8	-
1	R	E6-E8	-
2	R-R	fuses F1-F2-F3 F4-F5-F6-F7	-
2	R-R	RL3-E53 MRL3-MRL4 fuses F'4-F'5-F'6-F'7-F'8	86-1-85-85
3	N	fuse F'14	-
4	V	fuse F'16-E65	2

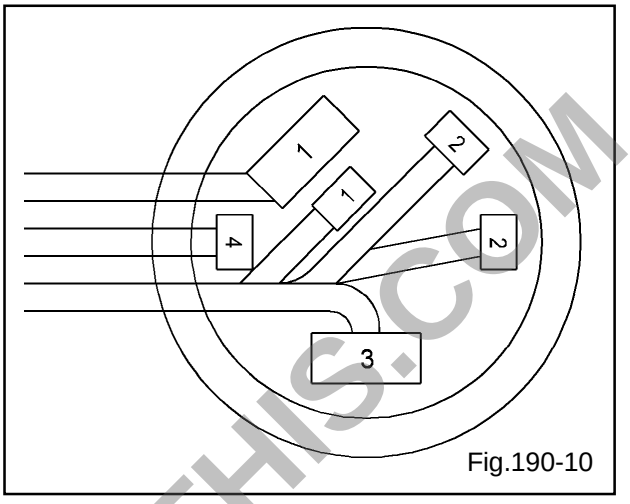


Fig.190-10

CONNECTOR (E53) FOR EMERGENCY SWITCH

Terminal	Wire colour	To connector or component	Terminal
1	R	RL3-E52 MRL3-MRL4 fuses F'4-F'5-F'6-F'7-F'8	86-2-85-85
2	LR	fuse F'15	-
3	L	E7-RL3-fuse F14	B-30
4	not used	-	-
5	GN	JC(3+3+3)	6
7	not used	-	-
8	HG	JC(9)	1
10	B	E2 (ground)	-
17	GH	E48	4
18	VB	E48	3

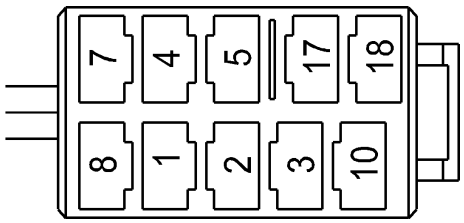


Fig.191-10

CONNECTOR (E54) FOR BLINKER SWITCH

Terminal	Wire colour	To connector or component	Terminal
1	not used	-	-
2	HV	fuse F11	-
3	RV	fuse F'8-E35	1
4	not used	-	-
5	not used	-	-
6	not used	-	-
7	B	E2 (ground)	-
8	HG	JC (9)	2

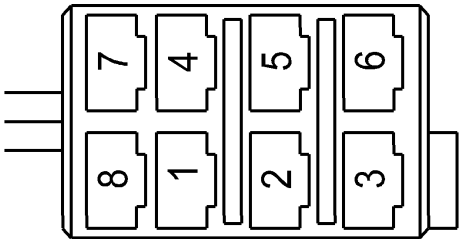


Fig.192-10

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Rear line (Deltafive tractor version)

3L - 4 Connector locations

LH SIDE

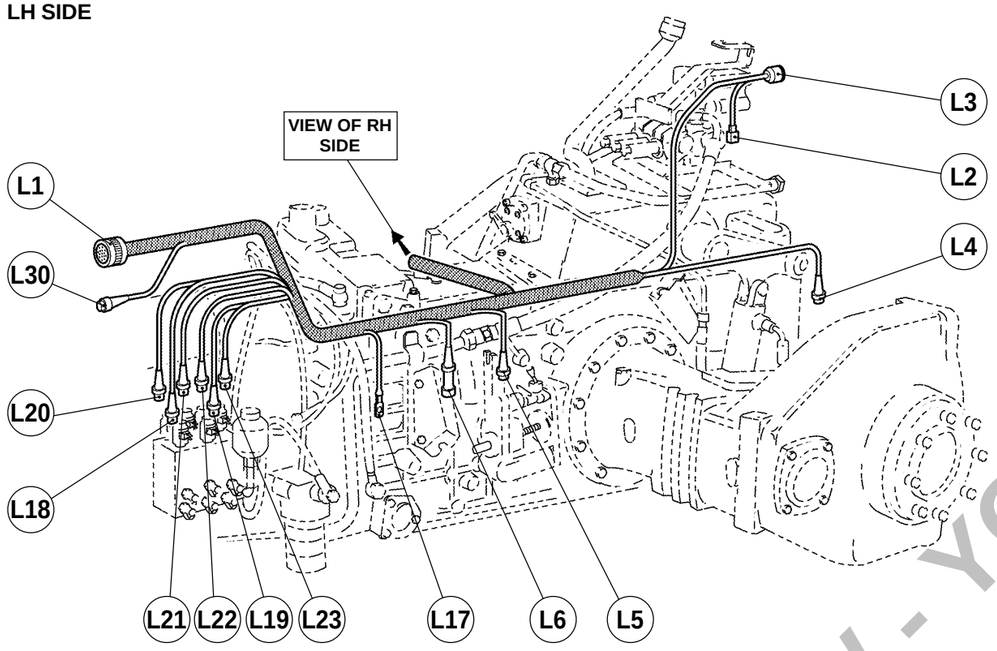


Fig.335-10

L1 - Connector with 47 connection terminals
L2 - Trailer brake sensor
L3 - Trailer power socket
L4 - PTO RPM sensor
L5 - Ground speed sensor
L6 - Range lever
L17 - Ground
L18 - Direct drive solenoid valve
L19 - Options solenoid valve
L20 - Creeper solenoid valve
L21 - Overdrive solenoid valve
L22 - Underdrive solenoid valve
L23 - Reverse drive solenoid valve
L30 - Clutch pedal limit switch

L7 - Not used
L8 - Diff lock solenoid valve
L9 - 4WD solenoid valve
L10 - PTO solenoid valve
L11 - Deltafive speed sensor (gearbox)
L12 - Deltafive speed sensor (gearbox)
L13 - Overdrive switch
L14 - Creeper switch
L15 - Front PTO
L16 - For connector (L28)
L24 - Oil temperature sensor
L25 - Underdrive switch
L26 - Engine RPM sensor
L27 - Reverse drive switch
L28 - To fit into connector (L16)
L29 - Low pressure oil pressure sensor (18 bar)

RH SIDE

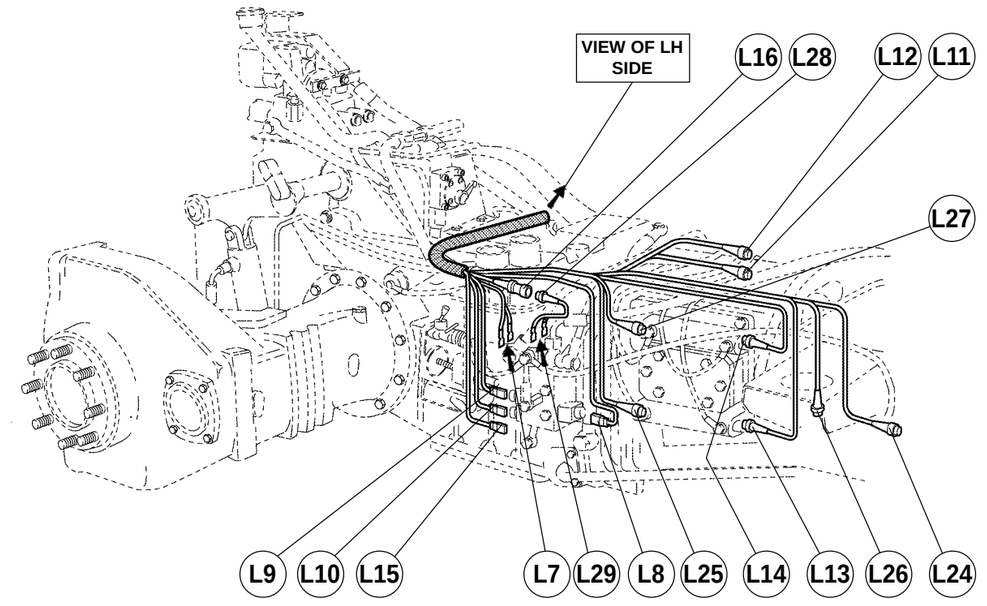


Fig.335a-10

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Check-control and troubleshooting

11 - Faults concerning the Hall sensors

OPERATION SEQUENCE	INSPECTIONS REQUIRED	RESULT OF TEST	REPAIRS TO MAKE
1	Check to make sure that connectors (L5-L11-L12-L26) are connected correctly	**NO**	Connect them correctly
RESULT OF TEST	**YES**		
2	Disconnect the sensor connections and test the continuity of the wiring, checking whether there is an open circuit or short-circuit	**YES**	Locate and repair the broken wire or short-circuit
RESULT OF TEST	**NO**		
3	Demount the faulty sensors		Replace them with new sensors

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Guide to the "functional tests" module



Fig.61-11

The window in Fig.61-11 is divided into two main parts:
1- the central part, marked with the letter (B Fig.61-11), displays the status of the dashboard exactly as it really appears in the cab;
2- the part on the right, marked with the letter (C Fig.61-11), indicates the controls as they are examined.
The purpose of this test is to make sure that certain data displayed on the instrument panel are correct, i.e.:
- direct drive function
- overdrive function
- underdrive function
- reverse function
- creeper function
- 4WD function
- diff lock function
- tractor ground speed
- engine RPM

All this information is monitored by checking to make sure that the data displayed on the computer screen correspond to those on the dashboard.
To conduct the test, move the gearshift lever to the neutral position, the reverse shuttle lever to the neutral position, turn on the tractor engine and comply with the instructions on the following pages.

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