SERVICE MANUAL

T4.75N / T4.85N / T4.95N
T4.105N / T4.65V / T4.75V
T4.85V / T4.95V / T4.105V

Tractor

Part number 47888373
English
July 2016



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Non-powered front axle - General specification

T4.65V With cab [ZDJE10473 -]	ANZ 2WD — APAC 2WD — MEA 2WD — WE 2WD
T4.65V Without cab [ZDJE11549 -]	ANZ 2WD — APAC 2WD — MEA 2WD — WE 2WD
T4.75N With cab [ZDJE10131 -]	ANZ 2WD — APAC 2WD — MEA 2WD — WE 2WD
T4.75N Without cab [ZDJE11495 -]	ANZ 2WD — APAC 2WD — MEA 2WD — WE 2WD
T4.75V With cab [ZDJE10095 -]	ANZ 2WD — APAC 2WD — MEA 2WD — WE 2WD
T4.75V Without cab [ZDJE11310 -]	ANZ 2WD — APAC 2WD — MEA 2WD — WE 2WD
T4.85N With cab [ZDJE09941 -]	ANZ 2WD — APAC 2WD — MEA 2WD — WE 2WD
T4.85N Without cab [ZDJE12418 -]	ANZ 2WD — APAC 2WD — MEA 2WD — WE 2WD
T4.85V With cab [ZDJE11669 -]	ANZ 2WD — APAC 2WD — MEA 2WD — WE 2WD
T4.85V Without cab [ZDJE10317 -]	ANZ 2WD — APAC 2WD — MEA 2WD — WE 2WD
T4.95N With cab [ZDJE10238 -]	ANZ 2WD — APAC 2WD — MEA 2WD — WE 2WD
T4.95N Without cab [ZDJE12231 -]	ANZ 2WD — APAC 2WD — MEA 2WD — WE 2WD
T4.95V With cab [ZDJE11682 -]	ANZ 2WD — APAC 2WD — MEA 2WD — WE 2WD
T4.95V Without cab [ZDJE11554 -]	ANZ 2WD — APAC 2WD — MEA 2WD — WE 2WD

Data

Type	Inverted U−section, telescopic and oscillating at centre
Camber angle	2°, corresponding to approx. **15 mm (0.6 in)** for **16 in** rims
Toe-in	**0 - 5 mm (0.0 - 0.20 in)**
Stub axle articulation	
Diameter of stub axle pin **(7)**, **Steering knuckle and king pin - Sectional view (25.108)** at bushings **(6)**	**37.96 - 38 mm (1.49 - 1.50 in)**
Internal diameter of fitted bushings **(6)**	**38.050 - 38.140 mm (1.498 - 1.502 in)** (*)
Clearance between stub axle pin and bushings	**0.050 - 0.179 mm (0.002 - 0.007 in)**
Axle articulation	
Diameter of axle articulation pin **(1)**, **Steering knuckle and king pin - Sectional view (25.108)** axle articulation	**37.96 - 38 mm (1.49 - 1.50 in)**
Internal diameter of fitted bushings **(2)**	**38.050 - 38.140 mm (1.498 - 1.502 in)** (*)
Clearance between stub axle pin and relative bushings	**0.050 - 0.179 mm (0.002 - 0.007 in)**

(*) Value to be obtained without refacing.

Models	Tyres	Wheel tracks						
		A	B	C	D	E	F	G
For V series models	5.00−15	**856 - 988 mm** (1)	**956 - 1076 mm** (1)	–	–	–	–	–
	6.00−16	**878 - 966 mm** (1)	**978 - 1066 mm** (1)	–	–	–	–	–
	7.00−12	**864 - 976 mm** (1)	**964 - 1076 mm** (1)	–	–	–	–	–
For N series models	6.00−16	**1014 - 1016 mm** (1)	**1116 - 1204 mm** (1)	–	–	–	–	–
	7.00−12	**1002 - 1114 mm** (1)	**1102 - 1214 mm** (1)	–	–	–	–	–

(*) Wheel tracks with the camber facing outwards, to be used only if strictly necessary and only in the field.

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Rear mechanical lift, 2WD - 4x2, mechanical differential lock, with cab
Wiring harnesses - Electrical schematic sheet 22 - Mid mount control valves circuit (55.100.DP-C.20.E.22)

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4812-Proportional valve Y-Axis: Valve MMY-A solenoid open circuit

T4.105N With cab [ZDJE16586 -]	ANZ — APAC — MEA — WE
T4.105V With cab [ZDJE17896 -]	ANZ — APAC — MEA — WE
T4.65V With cab [ZDJE10473 -]	ANZ — APAC — MEA — WE
T4.75N With cab [ZDJE10131 -]	ANZ — APAC — MEA — WE
T4.75V With cab [ZDJE10095 -]	ANZ — APAC — MEA — WE
T4.85N With cab [ZDJE09941 -]	ANZ — APAC — MEA — WE
T4.85V With cab [ZDJE11669 -]	ANZ — APAC — MEA — WE
T4.95N With cab [ZDJE10238 -]	ANZ — APAC — MEA — WE
T4.95V With cab [ZDJE11682 -]	ANZ — APAC — MEA — WE

Control Module : Mid mount control unit

NOTE: *When the cause of the error code has been rectified, clear the error code and test the system for normal operation.*

Possible failure modes:

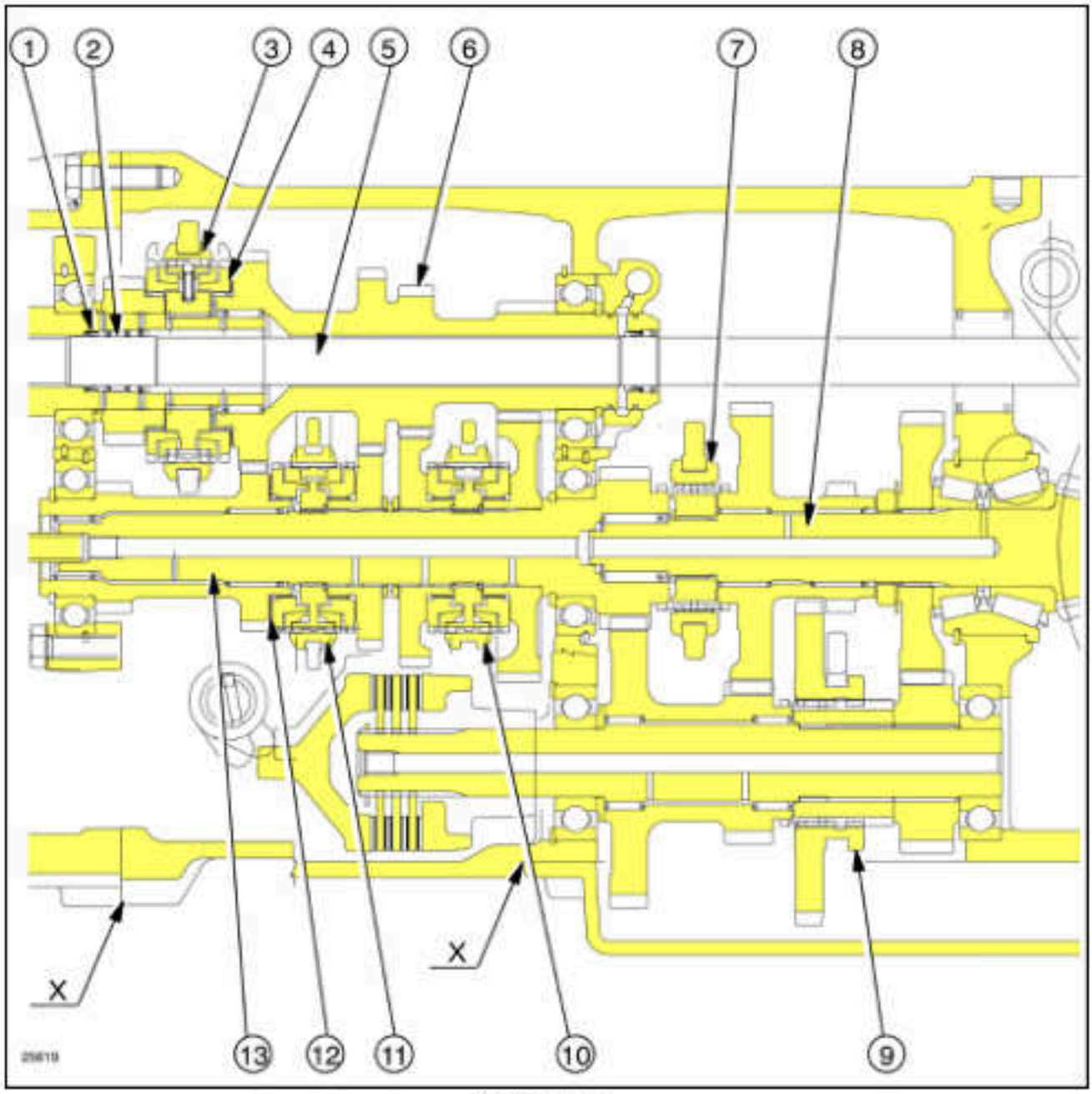
1. Faulty connector
2. Faulty wiring harness
3. Faulty MMY-A solenoid valve
4. Faulty mid mount control unit

Solution:

1. Check the MMY-A solenoid valve connector **SOL−05**, the inline harness connector **C-4006** and the mid mount control unit connector **MOD-4007**.
   A. Ensure the connectors are connected, not damaged, the pins are in the correct position and that the fit is tight. Repair or replace as required.
   B. If the connectors are okay, continue to step **2**
2. Check the solenoid valve.
   A. Disconnect connector **SOL−05**. Measure the resistance between the component side of connector **SOL−05** pin 1 and pin 2. If the resistance value indicated is not between **4.5 Ω** and **5.0 Ω** replace the solenoid.
   B. If the resistance value indicated is between **4.5 Ω** and **5.0 Ω**, continue to step **3**
3. Check for an open circuit.
   A. Disconnect connector **MOD-4007**. Check for an open circuit between:
   MOD-4007 pin 32 (CL) and **SOL−05** pin 1 (CL)
   MOD-4007 pin 24 (CN) and **SOL−05** pin 2 (CN)
   If an open circuit is indicated, repair or replace the harness as required.
   B. If no wiring harness problems are indicated, download the correct version of software. If the error occurs again, replace the mid mount control unit.

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Gears, shaft, and bearings - Sectional view Gearbox and gear range



WLSPVN521C1-08G 1

Longitudinal cross-sectional view of gearbox and gear range

1. Seal.
2. Power take-off shaft support roller bearings.
3. Reverser control synchroniser.
4. Gearbox driving gear clearance adjusting thickness.
5. Power take-off shaft.
6. Gearbox driving gear.
7. Selector sleeve for high or medium-low speeds.
8. Bevel pinion shaft.
9. Selector sleeve for low or medium-high speeds.
10. Synchroniser for 1st and 2nd speed.
11. Synchroniser for 3rd and 4th speed.
12. Gearbox driven shaft gear clearance adjusting thickness.
13. Gearbox driven shaft.

NOTE: *On assembly apply a bead of sealing compound to the surfaces "X" as indicated in* ***Transmission housing - Reseal (21.114)****.*

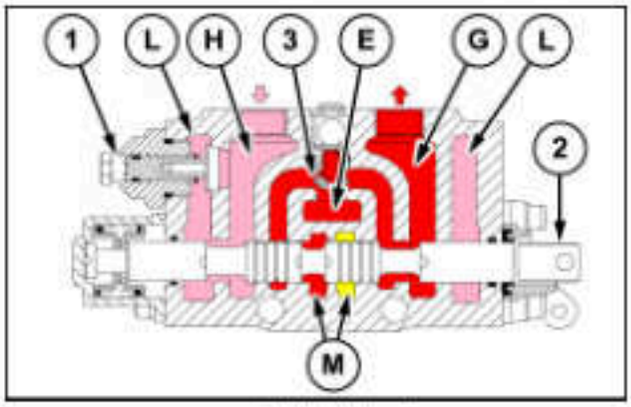
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Remote control valve Open center mechanical remote valve - Dynamic description

Operating stages of auxiliary control valve for operation of a double-acting cylinder (Figs. 1 and 2) and single-acting cylinder (Figs. 3 and 4)

Lifting

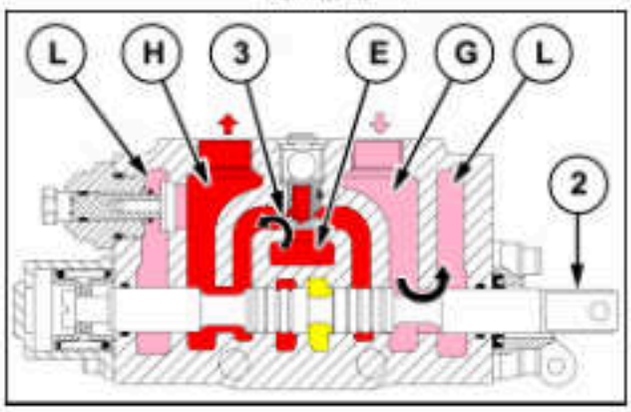
On pulling back the control lever, (located in the cab) the control valve stem **(2)**, (Fig. **1**) shifts to connect the bottom chamber of the cylinder with the delivery line **(E)** by way of the check valve **(3)** and line **(G)** and also to connect the top chamber of the cylinder with the exhaust line **(L)** by way of line **(H)**, intercepting the supply of oil to the lift control valve. Keep the lever pulled back, to extend the cylinder to its full stroke. On releasing the lever it will automatically return to the neutral position under the action of the return spring, and the entire flow from the pump will be conveyed to the lift control valve by way of lines **(M)**.



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Lowering

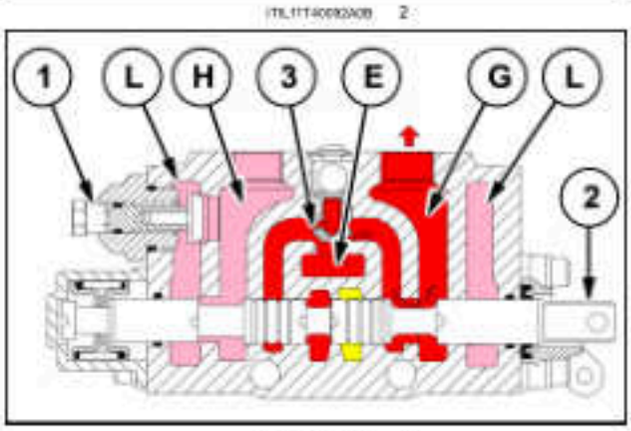
To lower the implement, push the control lever (located in the cab). The control valve spool **(2)** will shift to the position indicated in Fig. **2** thus allowing the oil in the lower cylinder chamber to flow to the exhaust **(L)** through the line **(G)**, while the upper chamber is connected to the delivery line **(E)** through line **(H)** and check valve **(3)**.



ITL11T40092A0B 2

Lifting

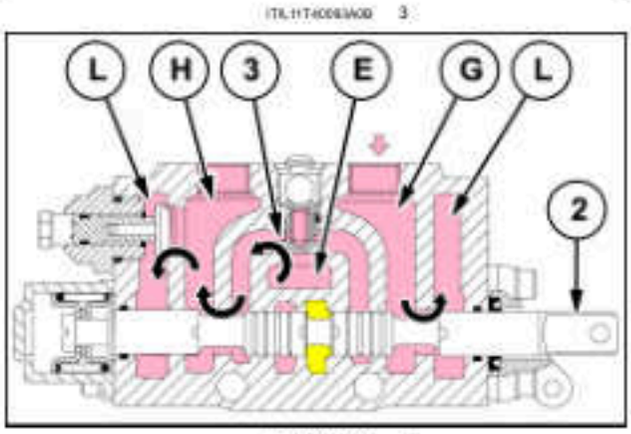
On pulling back the control lever (located in the cab) the control valve stem **(2)**, (Fig. **3**) shifts to connect the cylinder with the delivery line **(E)** by way of the check valve **(3)** and line **(G)**. Line **(H)**, for the control of double-acting cylinders, is not used at this stage as it is permanently connected to the exhaust **(L)** by the open position of the switching valve **(1)**.



ITL11T40093A0B 3

Lowering

On pushing back the control lever (located in the cab) the stem **(2)** will shift to the position indicated in Fig. **4**. The oil contained in the cylinder, pressurized by the weight of the lifted implement, will flow to the exhaust **(L)** by way of line **(G)**, while the entire flow from the pump is also conveyed to the exhaust **(L)** through the check valve **(3)** and line **(H)**.



ITL11T40094A0B 4

Pressurized oil

Oil in suction, delivery or exhaust

Static oil

NOTE: *For operation of a double-acting cylinder, tighten the screw **(1)**. For operation of a single-acting cylinder, loosen the screw.*

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Wiring harnesses - Electrical schematic sheet 32 - Electronic control unit input/output wiring diagram Power-Shuttle/dual command (2 speed Powershift) 32+16 / 44+16 (SB)

T4.105N With cab [ZDJE16886 -]	ANZ Four-Wheel Drive (4WD) - Automatic engagement — ANZ Rear lifter - Electronic control — APAC Four-Wheel Drive (4WD) - Automatic engagement — APAC Rear lifter - Electronic control — MEA Four-Wheel Drive (4WD) - Automatic engagement — MEA Rear lifter - Electronic control — WE Four-Wheel Drive (4WD) - Automatic engagement — WE Rear lifter - Electronic control
T4.105V With cab [ZDJE17896 -]	ANZ Four-Wheel Drive (4WD) - Automatic engagement — ANZ Rear lifter - Electronic control — APAC Four-Wheel Drive (4WD) - Automatic engagement — APAC Rear lifter - Electronic control — MEA Four-Wheel Drive (4WD) - Automatic engagement — MEA Rear lifter - Electronic control — WE Four-Wheel Drive (4WD) - Automatic engagement — WE Rear lifter - Electronic control
T4.65V With cab [ZDJE10473 -]	ANZ Four-Wheel Drive (4WD) - Automatic engagement — ANZ Rear lifter - Electronic control — APAC Four-Wheel Drive (4WD) - Automatic engagement — APAC Rear lifter - Electronic control — MEA Four-Wheel Drive (4WD) - Automatic engagement — MEA Rear lifter - Electronic control — WE Four-Wheel Drive (4WD) - Automatic engagement — WE Rear lifter - Electronic control
T4.75N With cab [ZDJE10131 -]	ANZ Four-Wheel Drive (4WD) - Automatic engagement — ANZ Rear lifter - Electronic control — APAC Four-Wheel Drive (4WD) - Automatic engagement — APAC Rear lifter - Electronic control — MEA Four-Wheel Drive (4WD) - Automatic engagement — MEA Rear lifter - Electronic control — WE Four-Wheel Drive (4WD) - Automatic engagement — WE Rear lifter - Electronic control
T4.75V With cab [ZDJE10095 -]	ANZ Four-Wheel Drive (4WD) - Automatic engagement — ANZ Rear lifter - Electronic control — APAC Four-Wheel Drive (4WD) - Automatic engagement — APAC Rear lifter - Electronic control — MEA Four-Wheel Drive (4WD) - Automatic engagement — MEA Rear lifter - Electronic control — WE Four-Wheel Drive (4WD) - Automatic engagement — WE Rear lifter - Electronic control
T4.85N With cab [ZDJE09941 -]	ANZ Four-Wheel Drive (4WD) - Automatic engagement — ANZ Rear lifter - Electronic control — APAC Four-Wheel Drive (4WD) - Automatic engagement — APAC Rear lifter - Electronic control — MEA Four-Wheel Drive (4WD) - Automatic engagement — MEA Rear lifter - Electronic control — WE Four-Wheel Drive (4WD) - Automatic engagement — WE Rear lifter - Electronic control
T4.85V With cab [ZDJE11669 -]	ANZ Four-Wheel Drive (4WD) - Automatic engagement — ANZ Rear lifter - Electronic control — APAC Four-Wheel Drive (4WD) - Automatic engagement — APAC Rear lifter - Electronic control — MEA Four-Wheel Drive (4WD) - Automatic engagement — MEA Rear lifter - Electronic control — WE Four-Wheel Drive (4WD) - Automatic engagement — WE Rear lifter - Electronic control
T4.95N With cab [ZDJE10238 -]	ANZ Four-Wheel Drive (4WD) - Automatic engagement — ANZ Rear lifter - Electronic control — APAC Four-Wheel Drive (4WD) - Automatic engagement — APAC Rear lifter - Electronic control — MEA Four-Wheel Drive (4WD) - Automatic engagement — MEA Rear lifter - Electronic control — WE Four-Wheel Drive (4WD) - Automatic engagement — WE Rear lifter - Electronic control
T4.95V With cab [ZDJE11682 -]	ANZ Four-Wheel Drive (4WD) - Automatic engagement — ANZ Rear lifter - Electronic control — APAC Four-Wheel Drive (4WD) - Automatic engagement — APAC Rear lifter - Electronic control — MEA Four-Wheel Drive (4WD) - Automatic engagement — MEA Rear lifter - Electronic control — WE Four-Wheel Drive (4WD) - Automatic engagement — WE Rear lifter - Electronic control

Position	Description
(1)	Battery (**BAT−83−A**, **BAT−83−B** and **BAT−83−E**).
(2)	Ignition switch (**SW−19**).
(3)	Starter relay (RLY−13).
(4)	Starter motor (**M−85**).
(5)	Clutch pedal potentiometer (**SEN−153**).
(6)	Shuttle lever (**SW−152**), composed of three switches:
(A)	Common switch-neutral position (starting), forward/reverse position 12VD supply to the two clutches A and B.
(B)	Switch with forward gear diagnostics.
(C)	Switch with reverse gear diagnostics.
(7)	Clutch pedal switch (**SW−151**), view in starting position (pedal pressed and shuttle level on neutral), with pedal released and shuttle lever engaged (not on neutral) it supplies current to the control unit (12VD) that will supply the forward and reverse clutches.
(8)	Supply line to the sensors and potentiometers of **5 V** that the control unit provides directly.

Position	Description
(9)	Control unit supply: 12VD-from clutch pedal switch. 12VF and 12VP-directly from the fuses.
(10)	Forward gear clutch A solenoid (**SOL−146**).
(11)	Reverse gear clutch B solenoid (**SOL−147**).
(12)	Synchronizer movement solenoid in dual command (2 speed power shift) mode (**SOL−138**).
(13)	Synchronizer movement solenoid in shuttle mode (**SOL−139**).
(14)	Discharge solenoid (**SOL−140**).
(15)	Gear lever (**SW−183**) with buttons:
(A)	HI used to select fast speed.
(B)	LO used to select slow speed.
(C)	DUMP used to change gears, within the same range, without pressing the clutch pedal.
(16)	Control unit ground type
(17)	Ground that the control unit supplies to the various sensors (observe the triangular end, on all the sensors where at a pin and marked with this symbol they receive ground straight from the control unit).
(18)	CAN BUS line wires input, inside the control unit there is the terminator (resistance **120 Ω**).
(19)	Parking lock switch (SW–1200).
(20)	Transmission temperature sensor (**SEN−148**).
(21)	Shuttle synchronizer position potentiometer/dual command (2 speed power shift) (**SEN−203**). In the starting phase the control unit moves the synchro (dual command (2-speed power shift)/Power-Shuttle) to the opposite side from where it is at starting. From the movement of the synchronizer, controlled by the potentiometer. This sends a signal to the control unit that understands the power steering pump that supplies the clutch pack oil works properly.
(22)	Range lever position switch (**SW−141**).
(23)	Gear lever position switch (**SW−142**).
(24)	Creeper unit position switch (**SW−143**).

NOTE: *A) The numbers in brackets are the correspondence with the sensors, switches, of the diagram.*
*B) On the control unit the connectors are identified with CN1b and corresponds to connector (**MOD−150**).*

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