SERVICE MANUAL

T4030V / T4040V / T4050V / T4060V

Tier 3

Tractor

T4030V with cab PIN ZCJE01906 - ZDJE09775; T4030V with cab PIN Z8JE04295 - ZCJE10898;
T4030V without cab PIN ZCJE04397 - ZDJE11084; T4030V without cab PIN Z8JE13092 - ZCJE07076;
T4040V with cab PIN ZCJE05523 - ZDJE09978; T4040V with cab PIN Z8JE04453 - ZCJE08151;
T4040V without cab PIN ZCJE12068 - ZDJE09487; T4040V without cab PIN Z8JE04825 - ZCJE06813;
T4050V with cab PIN ZCJE02892 - ZDJE10111; T4050V with cab PIN Z8JE04822 - ZCJE10163;
T4050V without cab PIN ZCJE13869 - ZDJE11531; T4050V without cab PIN Z8JE14721 - ZCJE04768;
T4060V with cab PIN ZCJE12826 - ZDJE06199; T4060V without cab PIN ZCJE09734 - ZDJE10451

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NEW HOLLAND AGRICULTURE

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(*) See content for specific models

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Refer to **Wiring harnesses - Electrical schematic sheet 13 - Diagnostics connection circuit (55.100)** for schematic diagram 13

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Battery - General specification

Technical data

Characteristics	Type of battery	
	Type 1	Type 2
Voltage	**12 V**	**12 V**
Cold start amperage	800 C.C.A	730 C.C.A
Capacity	**100 A·h**	**88 A·h**
Number of elements	6	6
Weight	**20 kg (44.11 lb)**	**20 kg (44.11 lb)**
Grounding terminal	Negative	Negative

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4807-ON/OFF valve X-Axis: Valve A3/B3 solenoid short to ground

T4030V With cab - Model Year 2012 [ZCJE01906 - ZDJE09775]	NA
T4030V With cab [Z8JE04295 - ZCJE10898]	NA
T4040V With cab - Model Year 2012 [ZCJE05523 - ZDJE09978]	NA
T4040V With cab [Z8JE04453 - ZCJE08151]	NA
T4050V With cab - Model Year 2012 [ZCJE02892 - ZDJE10111]	NA
T4050V With cab [Z8JE04822 - ZCJE10163]	NA
T4060V With cab [ZCJE12826 - ZDJE06199]	NA

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.*

Cause:
The mid mount control module **MOD-4007** has detected a short to ground on the A3/B3 mid mount valve solenoids.

Possible failure modes:

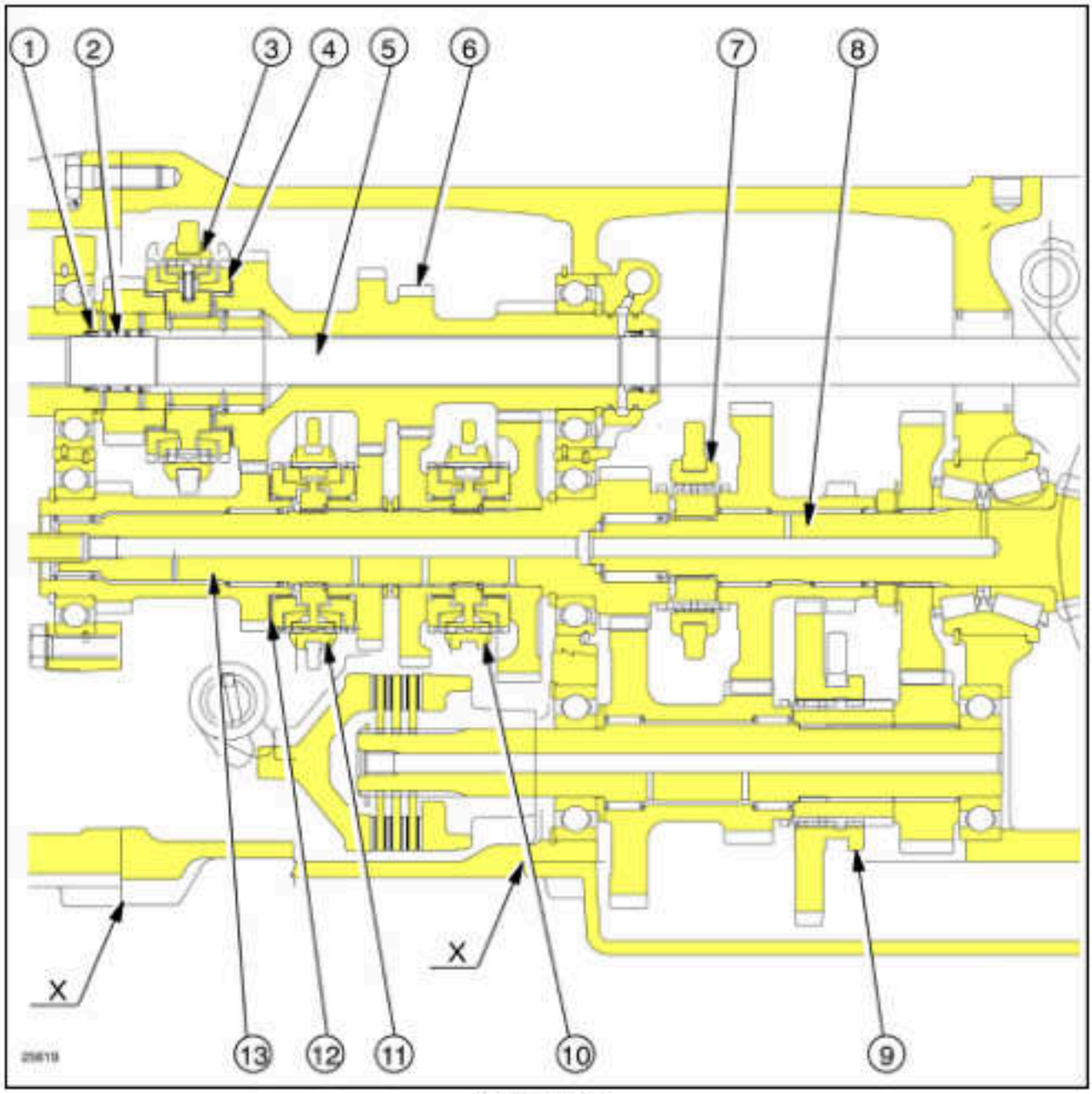
1. Faulty connector
2. Faulty wiring harness
3. Faulty A3 solenoid valve
4. Faulty B3 solenoid valve
5. Faulty mid mount control unit

Solution:

1. Check the A3 solenoid valve connector **SOL−011**, the B3 solenoid valve connector **SOL−012**, 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 valves.
   A. Disconnect connectors **SOL−011** and **SOL−012**. Measure the resistance between the component side of connectors **SOL−011** and **SOL−012** pin 1 and pin 2. If the resistance value indicated is not between **4 Ω** and **4.6 Ω** replace the relevant solenoid.
   B. If the resistance value indicated is between **4 Ω** and **4.6 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 1 (ZB) and **SOL−011** pin 1 (ZB)
   MOD-4007 pin 1 (ZB) and **SOL−012** pin 1 (ZB)
   SOL−011 pin 2 (ZN) and ground
   SOL−012 pin 2 (ZN) and ground
   If an open circuit is indicated, repair or replace the harness as required.
   B. If an open circuit is not indicated, continue to step **4**
4. Check for a short to ground.
   A. Check for a short to ground between:
   SOL−011 pin 1 (ZB) and ground
   SOL−012 pin 1 (ZB) and ground
   If a short to ground is indicated, repair or replace as required.
   B. If a short to ground is not indicated, continue to step **5**

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



WLSPVN621C1-08G 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)****.*

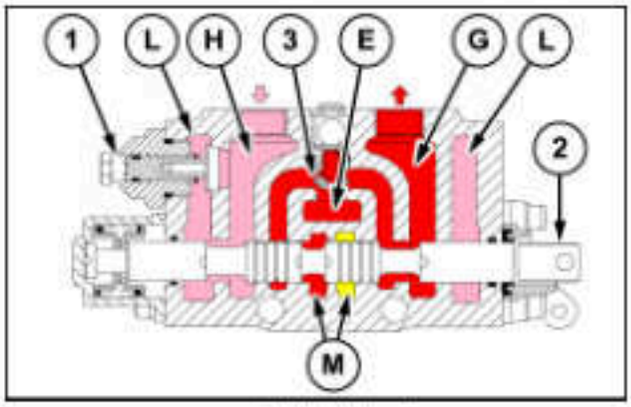
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Remote control valve Open center mechanical remote valve - Dynamic description

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

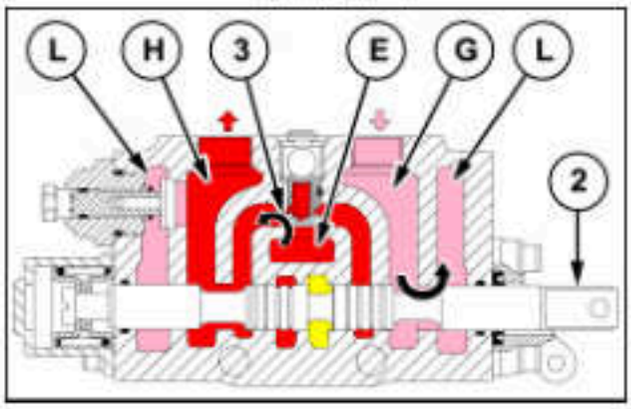
On pulling back the control lever, (located in the cab) the control valve stem **(2)**, (Fig. **1**) shifts to connect the bottom chamber of the cylinder with the delivery line **(E)** by way of the check valve **(3)** and line **(G)** and also to connect the top chamber of the cylinder with the exhaust 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

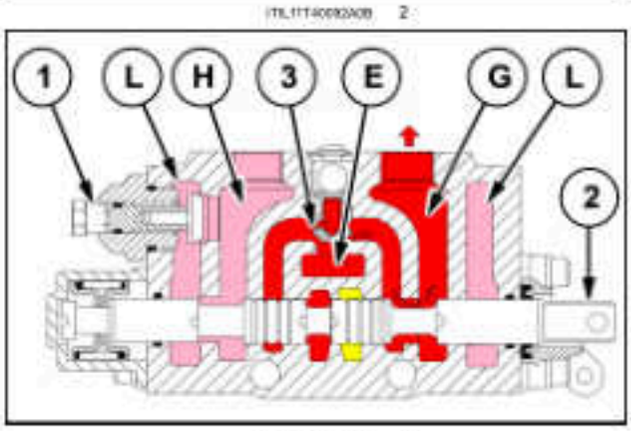
To lower the implement, push the control lever (located in the cab). The control valve spool **(2)** will shift to the position indicated in Fig. **2** thus allowing the oil in the lower cylinder chamber to flow to the exhaust **(L)** through the line **(G)**, while the upper chamber is connected to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



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Lifting

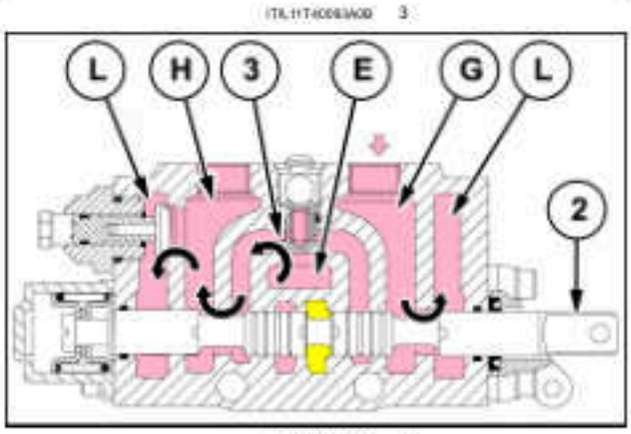
On pulling back the control lever (located in the cab) the control valve stem **(2)**, (Fig. **3**) shifts to connect the cylinder with the delivery line **(E)** by way of the check valve **(3)** and line **(G)**. Line **(H)**, for the control of double-acting cylinders, is not used at this stage as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



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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)**.



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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)

T4030V With cab - Model Year 2012 [ZCJE01906 - ZDJE09775]	NA Four-Wheel Drive (4WD) - Automatic engagement — NA Rear lifter - Electronic control
T4040V With cab - Model Year 2012 [ZCJE05523 - ZDJE09978]	NA Four-Wheel Drive (4WD) - Automatic engagement — NA Rear lifter - Electronic control
T4050V With cab - Model Year 2012 [ZCJE02892 - ZDJE10111]	NA Four-Wheel Drive (4WD) - Automatic engagement — NA Rear lifter - Electronic control
T4060V With cab [ZCJE12826 - ZDJE06199]	NA Four-Wheel Drive (4WD) - Automatic engagement — NA 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.
(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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