# SERVICE MANUAL

## T4030F / T4040F

Tractor

Part number 47888340
English
July 2016

NEW HOLLAND AGRICULTURE

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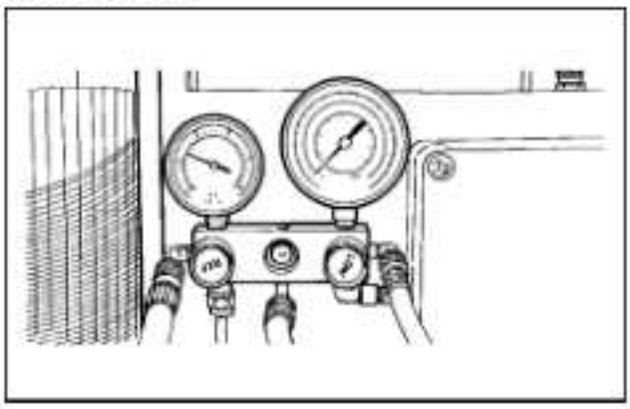
# Air conditioning - Charging

| | |
|---|---|
| T4030F With cab - Model Year 2012 [ZCJD09263 - ZDJD10118] | LA |
| T4030F With cab [Z8JD05996 - ZCJD10540] | LA |
| T4040F With cab - Model Year 2012 [ZCJD10607 - ZDJD10900] | LA |
| T4040F With cab [Z8JD07561 - ZCJD10129] | LA |

## Summary of the air conditioning system charging operations

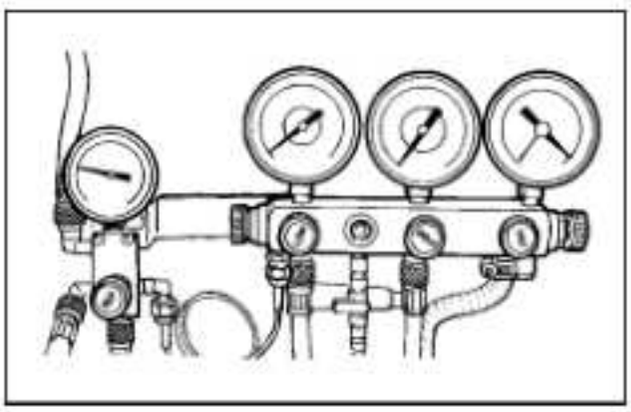
***NOTE:*** *The pressure readings noted below are valid for an ambient temperature of* ***25 °C*** *(****77 °F****).*

Pressure gauge readings on completion of refrigerant recovery and recycling operation.



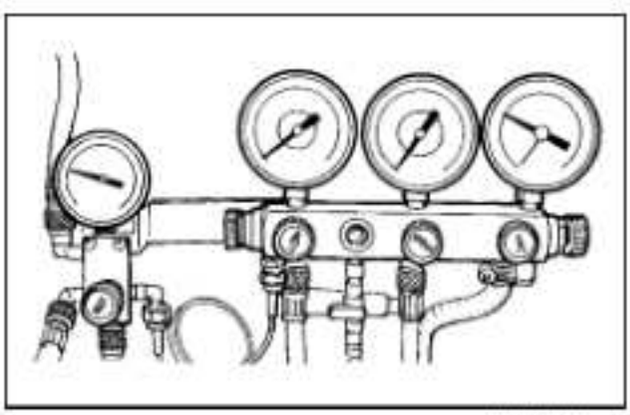
MOLI11P5858AA 1

Pressure gauge readings with cocks **(4)**, **(9)**, **(10)** and **(22)** ( **Air conditioning - Charging (50.200) Figure 2**) open, cylinder **(31)** with **1.1 kg** (**2.43 lb**) of refrigerant, red and blue service pipes connected to tractor system, cocks **(16)** closed and compressor off.



MOLI11P5860AA 2

Pressure gauge readings with cocks **(4)**, **(9)**, **(10)** and **(22)** ( **Air conditioning - Charging (50.200) Figure 2**) open, cylinder **(31)** with **1.1 kg** (**2.43 lb**) of refrigerant, red and blue service pipes connected to tractor system, cocks **(16)** open and compressor on (initial evacuation stage).



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# Wiring harnesses - Electrical schematic sheet 11 - Seven-pin socket and number plate light circuit

| | |
|---|---|
| T4030F Without cab [Z8JD07917 - ZCJD10183] | LA Differential lock - Electro-hydraulic --- LA Four-Wheel Drive (4WD) - Automatic engagement |
| T4040F Without cab [Z8JD05909 - ZCJD10250] | LA Differential lock - Electro-hydraulic --- LA Four-Wheel Drive (4WD) - Automatic engagement |

Refer to **Wiring harnesses - Component localization (55.100)** for component localization

| Component | Description |
|---|---|
| **C−6−A** | Transmission system connection (24 PIN) |
| **C−14** | Seven-pin socket connection |
| **C−14−A** | **ISO** seven-pin socket |
| **C−14−B** | North American seven-pin socket |
| **GND−106** | Four-wheel drive indicator ground |
| **LMP−210** | Number plate light |
| **M−225** | Hydraulic circuit motor |
| **SOL−226** | Second control valve solenoid valve |
| **SOL−227** | Third control valve solenoid valve |
| **C−1000** | Hydraulic adjustment circuit connection |



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# 4816-ON/OFF valve Y-Axis: Valve A2/B2 solenoid open circuit

| | |
|---|---|
| T4030F With cab - Model Year 2012 [ZCJD09263 - ZDJD10118] | LA |
| T4030F With cab [Z8JD05996 - ZCJD10540] | LA |
| T4040F With cab - Model Year 2012 [ZCJD10607 - ZDJD10900] | LA |
| T4040F With cab [Z8JD07561 - ZCJD10129] | LA |

## 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 an open circuit on the A2/B2 mid mount valve solenoids.

**Possible failure modes:**

1. Faulty connector
2. Faulty wiring harness
3. Faulty A2 solenoid valve
4. Faulty B2 solenoid valve
5. Faulty mid mount control unit

**Solution:**

1. Check the A2 solenoid valve connector **SOL−09**, the B2 solenoid valve connector **SOL−010**, 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−09** and **SOL−010**. Measure the resistance between the component side of connectors **SOL−09** and **SOL−010** 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 is between **4 Ω** and **4.6 Ω**, continue to step **3**

3. Check for an open circuit.

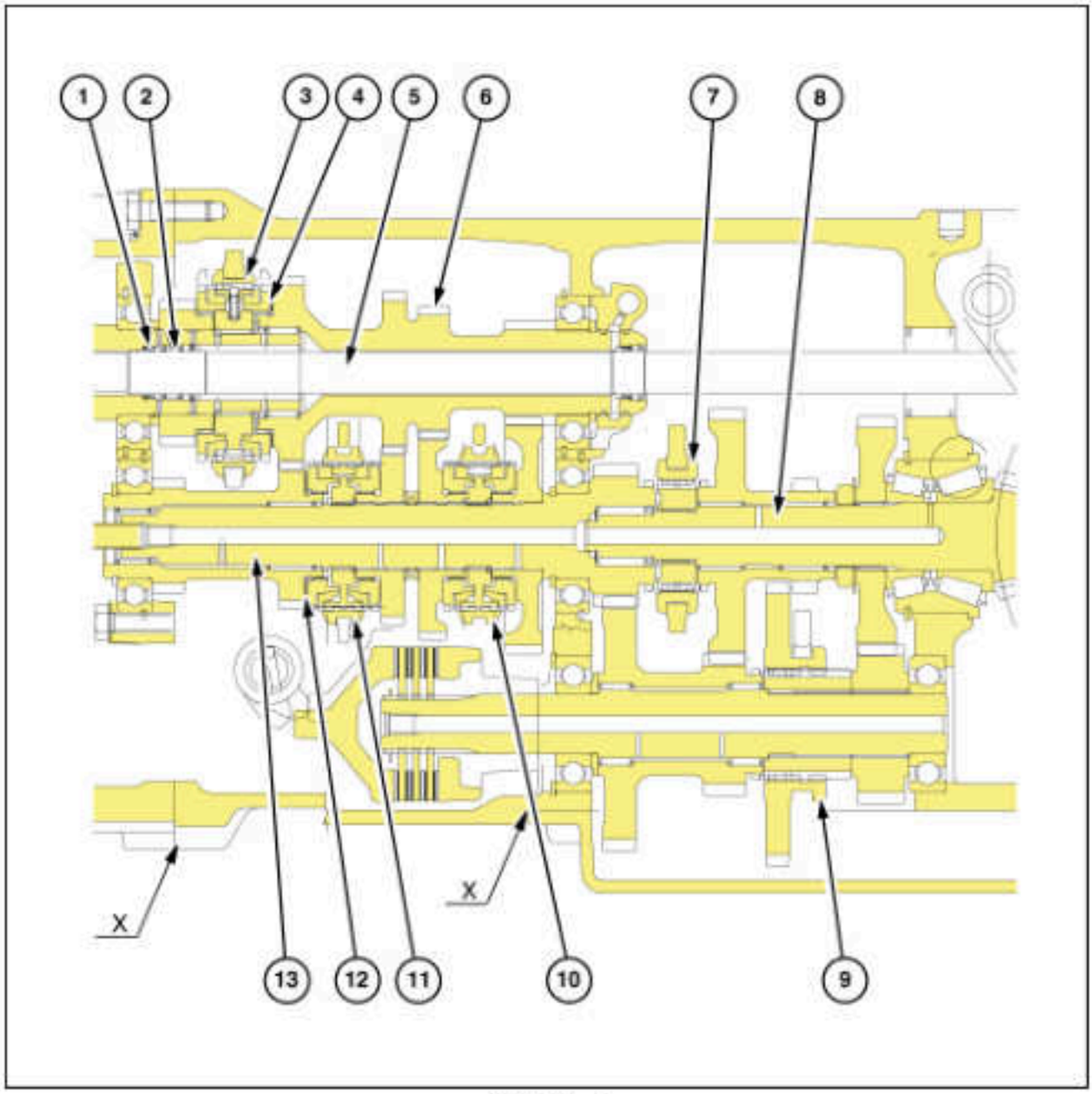
   A. Disconnect connector **MOD–4007**. Check for an open circuit between:
   **MOD–4007** pin 11 (HV) and **SOL−09** pin 1 (HV)
   **MOD–4007** pin 11 (HV) and **SOL−010** pin 1 (HV)
   **SOL−09** pin 2 (HN) and ground
   **SOL−010** pin 2 (HN) and ground
   If an open circuit is detected, repair or replace 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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# Transmission internal parts - Sectional view




MGJ11F995GB 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 on* ***Transmission drive housing - Reseal (21.114)****.*



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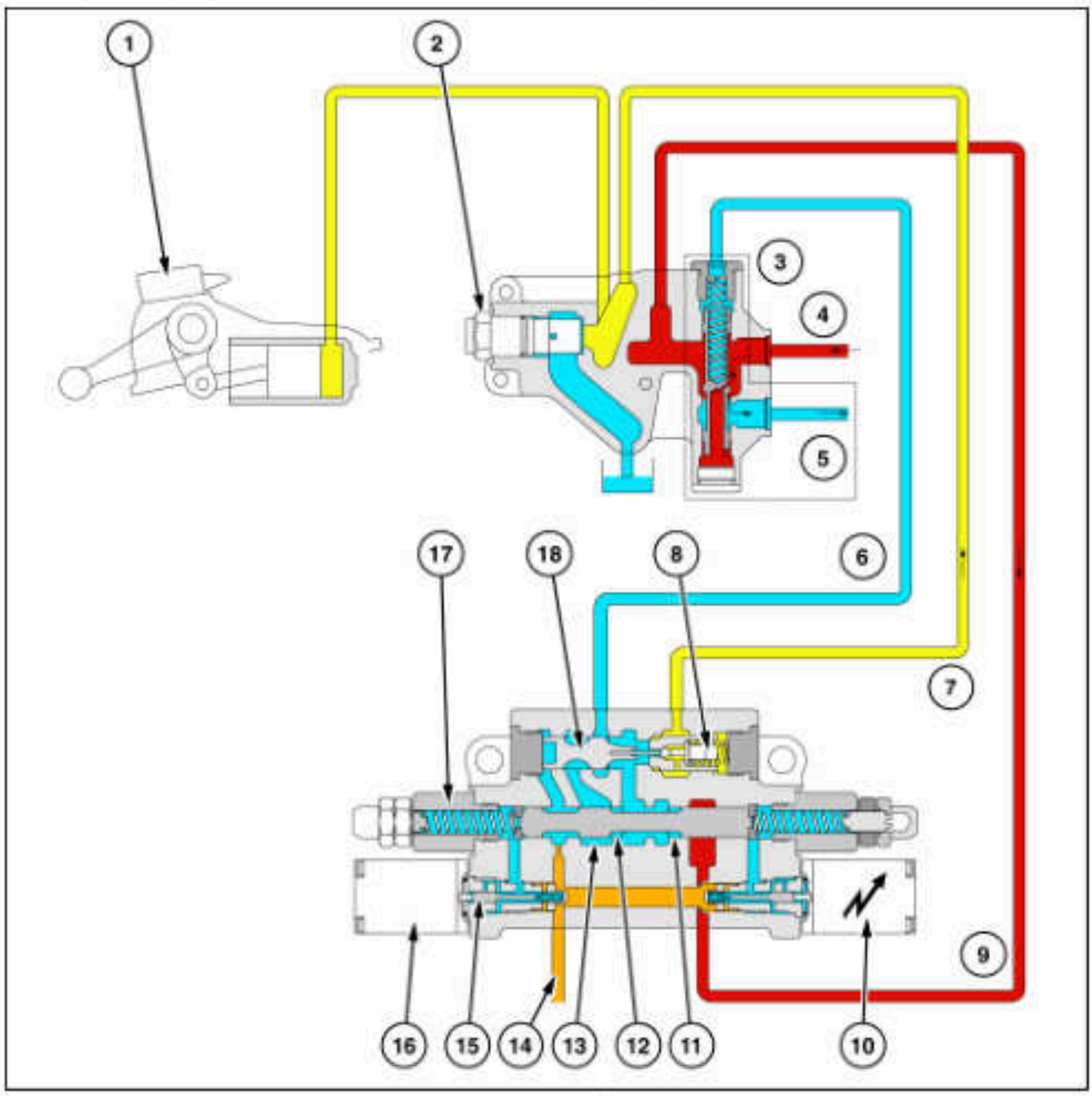
# Main lift system - Dynamic description

## Neutral phase

When in neutral, the electronically controlled hydraulic lift microprocessor does not send lifting or lowering signals to the control solenoid valves, and the elastic force applied, by each spring **(17)** to each end of the control valve block pin, maintains the pin in the central neutral position, preventing the oil from the pump from arriving at the hydraulic lift.

When the control valve block pin is in the neutral position, the right-hand end of the lift valve **(16)** and the pipe ( **(14)**, low pressure circuit) are in communication with the rear transmission casing discharge. Under these conditions, the hydraulic lift non-return valve **(8)** remains closed and the oil in the hydraulic lift cylinder **(1)** is stopped, thereby maintaining the lift arms in a stationary position.

When the hydraulic lift is in the neutral position, the oil delivery flow from the pump flows through the hole on the load maintaining valve **(3)**, overcoming the spring resistance and moving the valve so as to allow communication between the pump delivery oil compartment **(4)** and the discharge **(5)** in the rear transmission casing. Under these conditions, the entire hydraulic pump flow returns to the rear transmission casing.




**Electronic draft control functional diagram. Neutral phase.**



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# Wiring harnesses - Electrical schematic sheet 34 - Electronic control unit input/output wiring diagram ADIC instrument panel (ZA)

| | |
|---|---|
| T4030F With cab [Z8JD05996 - ZCJD10540] | LA Differential lock - Electro-hydraulic --- LA Four-Wheel Drive (4WD) - Automatic engagement --- LA Rear lifter - Electronic control |
| T4040F With cab [Z8JD07561 - ZCJD10129] | LA Differential lock - Electro-hydraulic --- LA Four-Wheel Drive (4WD) - Automatic engagement --- LA Rear lifter - Electronic control |

| Position | Description |
|---|---|
| (1) | Input D+ alternator ( **ALT−84−B**) |
| (2) | Control unit supply |
| (3) | Fuel sediment filter ( **SEN−89**) |
| (4) | Air filter clogging sensor SEN-187, normally open, with a certain pressure it closes and indicates the filter is clogged. |
| (5) | Inputs for direction indicator 1° trailer, 2° trailer, right and left direction indicator SW-87, and emergency switch ( **SW−10−A**). |
| (6) | Operator present switch ( **SW−32**) |
| (7) | Engine speed sensor ( **SEN−176**), reads the speed via a phonic wheel on the crankshaft. |
| (8) | Steering circuit pressure switch ( **SEN−112**), mounted on standard versions, on the Power-shuttle (see point 9 of the **Wiring harnesses - Electrical schematic sheet 30 - Electronic control unit input/output wiring diagram Power-Shuttle 16+16 (SB) (55.100)**) there is a pressure switch on the services control valve (normally closed it opens with pressures above **11 bar**). |
| (9) | Battery cut-out switch ( **SW−30**) |
| (10) | Fuel level sensor ( **SEN−123**) |
| (11) | Engine coolant temperature sensor ( **SEN−93**) |
| (12) | Control unit ground types |
| (13) | 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). |
| (14) | CAN BUS line wires input, inside the control unit there is the terminator (resistance **12 Ω**). |
| (15) | Starting line |
| (16) | Navigation switches in the HH menu (ENTER/HOME ( **SW−162−A**), UP/DOWN ( **SW−161−A**):<br>ENTER - used to enter the selection shown on the display<br>HOME - used to exit a screen without making any changes or to exit the menu<br>DOWN - button for navigating between the options and for setting flasher numbering<br>UP - button for navigating between the options and changing blinking digit to be modified with the down button. |
| (17) | Rear power take-off speed sensor ( **SEN−130**) |
| (18) | Theoretical transmission speed sensor ( **SEN−129**) mounted on two-wheel drive machines and with electrohydraulic four-wheel drive. |
| (19) | Parking brake switch ( **SW−39**) |
| (20) | Trailer brake pressure switch ( **SEN−107**) Italian version, controls the trailer brake indicator light (normally closed it opens with pressures above **10 bar**, pressure sufficient to cancel the trailer mechanical safety brake. |
| (21) | Mechanical power take-off indicator light control switch ( **SW−111**) , mounted on the power take-off clutch lever. |
| (22) | Brake fluid float ( **SEN−86**) |
| (23) | Differential lock warning light switch ( **SW−116**) |
| (24) | Brake pedals not locked indicator switch (Japanese market only) |
| (25) | Full beam headlights indicator light control line ( **SW−97**) |
| (26) | Work lights indicator light control line ( **SW−74−A**) |
| (27) | Parking lights indicator light control line ( **SW−97**) |
| (28) | Grid heater indicator light control line ( **MOD−156**) |
| (29) | Engine oil pressure switch ( **SEN−92**), normally closed, it opens with sufficient pressure for lubrication. |
| (30) | Four-wheel drive engaged indicator ( **SEN−124**), closed with four-wheel drive engaged. |
| (31) | Electrohydraulic front P.T.O. engagement indicator light switch (SW-104) |
| (32) | Diagnostics plug ( **C−28**) |

***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 CN1 and CN2 the related connections are respectively ( **MOD−11−A**) and ( **MOD−11−B**).*



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