SERVICE MANUAL

T4030F / T4040F / T4050F / T4060F

Tractor

Part number 47888339
English
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Contents

INTRODUCTION

Engine 10

[10.001] Engine and crankcase 10.1

Clutch 18

[18.104] Clutch hydraulic release control 18.1

[18.110] Clutch and components 18.2

[18.100] Clutch mechanical release control 18.3

Transmission 21

[21.114] Mechanical transmission 21.1

[21.118] Transmission/Rear drive 21.2

[21.140] Mechanical transmission internal components 21.3

[21.112] Power shuttle transmission 21.4

[21.134] Power shuttle transmission external controls 21.5

[21.154] Power shuttle transmission internal components 21.6

[21.160] Creeper 21.7

[21.162] Reverser 21.8

[21.168] Hi-Lo unit 21.9

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

[25.400] Non-powered front axle 25.2

[25.102] Front bevel gear set and differential 25.3

[25.108] Final drive hub, steering knuckles, and shafts 25.4

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[25.310] Final drives 25.5

Rear axle system 27

[27.100] Powered rear axle 27.1

[27.106] Rear bevel gear set and differential 27.2

[27.120] Planetary and final drives 27.3

[27.126] Spur gear and final drives 27.4

Power Take-Off (PTO) 31

[31.101] Rear mechanical control 31.1

[31.146] Front Power Take-Off (PTO) 31.2

Brakes and controls 33

[33.202] Hydraulic service brakes 33.1

[33.110] Parking brake or parking lock 33.2

[33.220] Trailer brake hydraulic control 33.3

Hydraulic systems 35

[35.000] Hydraulic systems 35.1

[35.300] Reservoir, cooler, and filters 35.2

[35.104] Fixed displacement pump 35.3

[35.204] Remote control valves 35.4

[35.600] High flow hydraulics 35.5

[35.100] Main lift system 35.6

[35.114] Three-point hitch control valve 35.7

[35.116] Three-point hitch cylinder 35.8

[35.160] Front hitch controls and lines 35.9

[35.410] Header or attachment height system 35.10

Hitches, drawbars, and implement couplings 37

[37.110] Rear three-point hitch 37.1

[37.162] Front hitch 37.2

Steering 41

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[41.101] Steering control 41.1
[41.200] Hydraulic control components 41.2
Wheels 44
[44.511] Front wheels 44.1
Cab climate control 50
[50.100] Heating 50.1
[50.104] Ventilation 50.2
[50.200] Air conditioning 50.3
Electrical systems 55
[55.000] Electrical system 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
[55.202] Cold start aid 55.6
[55.640] Electronic modules 55.7
[55.048] Rear Power Take-Off (PTO) control system 55.8
[55.051] Cab Heating, Ventilation, and Air-Conditioning (HVAC) controls 55.9
[55.050] Heating, Ventilation, and Air-Conditioning (HVAC) control system 55.10
[55.523] Cab hitch controls 55.11
[55.130] Rear three-point hitch electronic control system 55.12
[55.518] Wiper and washer system 55.13
[55.404] External lighting 55.14
[55.514] Cab lighting 55.15
[55.511] Light harnesses 55.16
[55.408] Warning indicators, alarms, and instruments 55.17
[55.DTC] FAULT CODES 55.18
Platform, cab, bodywork, and decals 90

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High flow hydraulic pump - General specification

Main specifications of hydraulic pump C 42

Pump	
Type	Gear type with oil suction from rear transmission casing
Location	On RH side of engine
Model	C 42
Construction	NEW HOLLAND
Operating system	Driven by engine shaft
Direction of rotation (as seen from drive side)	Clockwise
Engine speed to pump speed drive ratiio	1:1.08
Maximum speed of rotation (with engine at maximum power **2300 RPM**)	**2484 RPM**
Corresponding rated output	**47.36 l/min**
Rated output at **1000 RPM**	**19.06 l/min**
Diameter of driven and driving gear shafts	**17.400 - 17.418 mm (0.685 - 0.6857 in)**
Internal diameter of seats in supports	**17.450 - 17.475 mm (0.6870 - 0.6880 in)**
Clearance between gear shafts and seats	**0.032 - 0.075 mm (0.0013 - 0.0030 in)**
Maximum clearance due to wear	**0.1 mm (0.0039 in)**
Radial clearance of gears in pump body	**0.020 - 0.064 mm (0.0008 - 0.0025 in)**
Maximum wear on pump body, suction side at position gears	**0.1 mm (0.0039 in)**
Width of gears	**30.800 - 30.815 mm (1.2126 - 1.2132 in)**
Width of supports	**24.490 - 24.510 mm (0.9642 - 0.9650 in)**
Width of pump body for gear seats and supports	**79.935 - 79.960 mm (3.1470 - 3.1480 in)**
Axial clearance of gears complete with supports in pump body (recondition if necessary)	**0.100 - 0.180 mm (0.0039 - 0.0071 in)**

Main specifications of bosch 25 hydraulic pump

Type	Gear type with oil suction from rear transmission casing
Location	On RH side of engine
Model	BOSCH 25
Construction	BOSCH
Operating system	Driven by engine timing
Direction of rotation (as seen from drive side)	Clockwise
Engine speed to pump speed drive ratiio	1:1.08
Maximum speed of rotation (with engine at maximum power **2300 RPM**)	**2484 RPM**
Corresponding rated output	**63.84 l/min**
Rated output at **1000 RPM**	**25.7 l/min**

Filter	
Type	Full-flow, with replaceable paper cartridge
Location	On pump intake

High flow hydraulic pump - Torque

Parts to be tightened	Thread	Tightening torque
Pub control coupling hub locknut	**17/16 in** – 20 UNF	**29 N·m (21.4 lb ft)**

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Refer to **Wiring harnesses - Electrical schematic sheet 08 - External lights and horn circuit (55.100)** for schematic diagram 08.

Refer to **Wiring harnesses - Electrical schematic sheet 09 - Power supplies 1 circuit (55.100)** for schematic diagram 09.

Refer to **Wiring harnesses - Electrical schematic sheet 10 - Power supplies 2 circuit (55.100)** for schematic diagram 10.

Refer to **Wiring harnesses - Electrical schematic sheet 11 - Seven-pin socket and number plate light circuit (55.100)** for schematic diagram 11.

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4809-Motor mode: Enable valve solenoid short to ground

T4030F With cab - Model Year 2012 [ZCJD09263 - ZDJD10118]	ANZ — APAC — MEA — WE
T4030F With cab [Z8JD05996 - ZCJD10540]	ANZ — APAC — MEA — WE
T4040F With cab - Model Year 2012 [ZCJD10607 - ZDJD10900]	ANZ — APAC — MEA — WE
T4040F With cab [Z8JD07561 - ZCJD10129]	ANZ — APAC — MEA — WE
T4050F With cab - Model Year 2012 [ZCJD07769 - ZDJD10461]	ANZ — APAC — MEA — WE
T4050F With cab [Z7JD01006 - ZCJD10886]	ANZ — APAC — MEA — WE
T4060F With cab [ZBJD14608 - ZDJD11085]	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.*

Cause:
The mid mount control module **MOD–4007** has detected a short to ground or open circuit on the motor EN mid mount valve solenoid.

Possible failure modes:

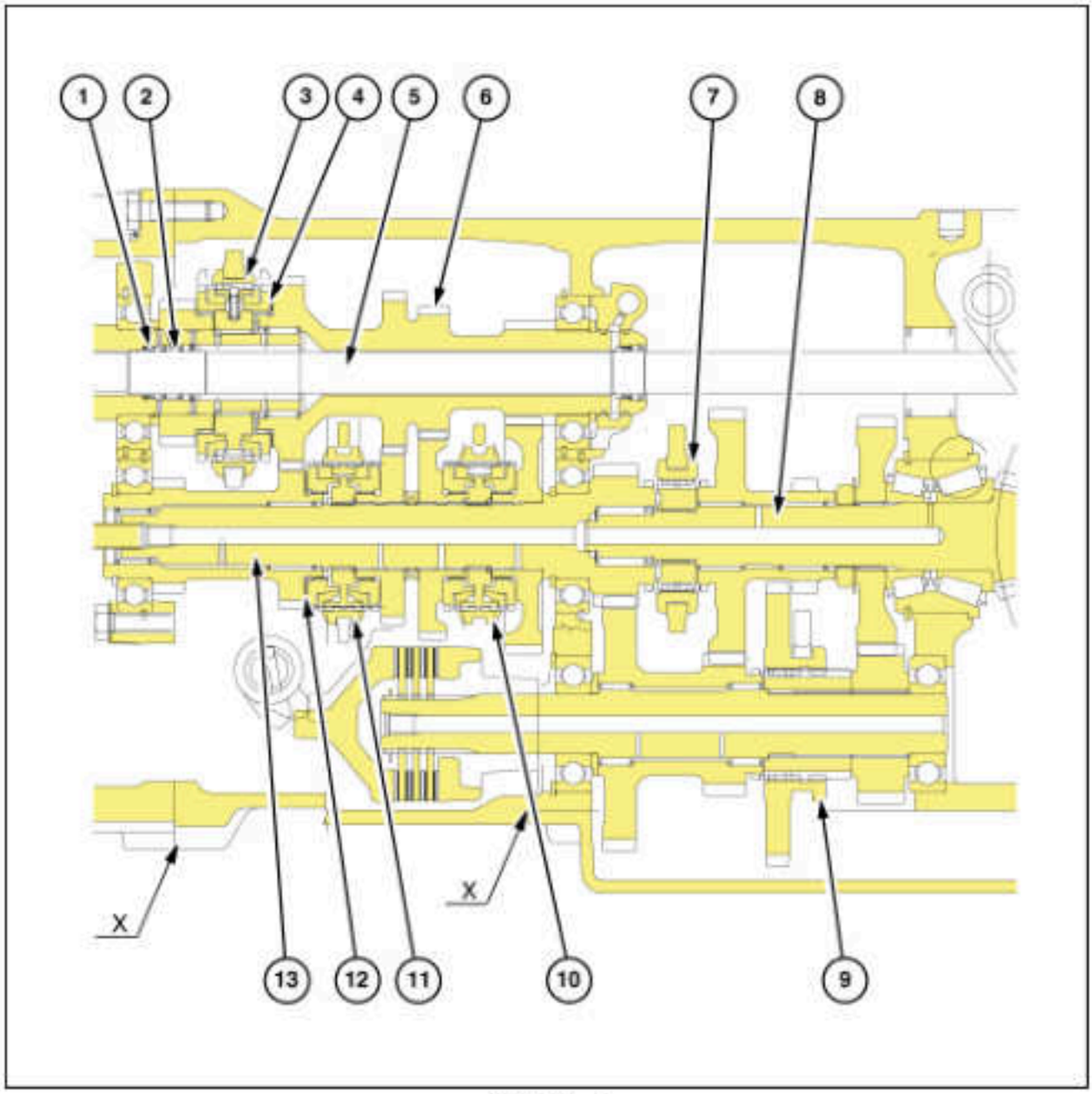
1. Faulty connector
2. Faulty wiring harness
3. Faulty motor EN solenoid valve
4. Faulty mid mount control unit

Solution:

1. Check the motor EN solenoid valve connector **SOL−02**, 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−02**. Measure the resistance between the component side of connector **SOL−02** pin 1 and pin 2. If the resistance value indicated is not between **7 Ω** and **8 Ω** replace the solenoid.
   B. If the resistance is between **7 Ω** and **8 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 21 (V) and **SOL−02** pin 1 (V)
   SOL−02 pin 2 (VN) and ground
   If an open circuit is indicated, repair or replace the harness as required.
   B. If a 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−02** pin 1(V) 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**
5. Check for a short circuit.
   A. Check for a short circuit between **SOL−02** pin 1 (V) and **SOL−02** pin 2 (VN). If a short circuit is indicated, repair or replace as required.

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Transmission internal parts - Sectional view



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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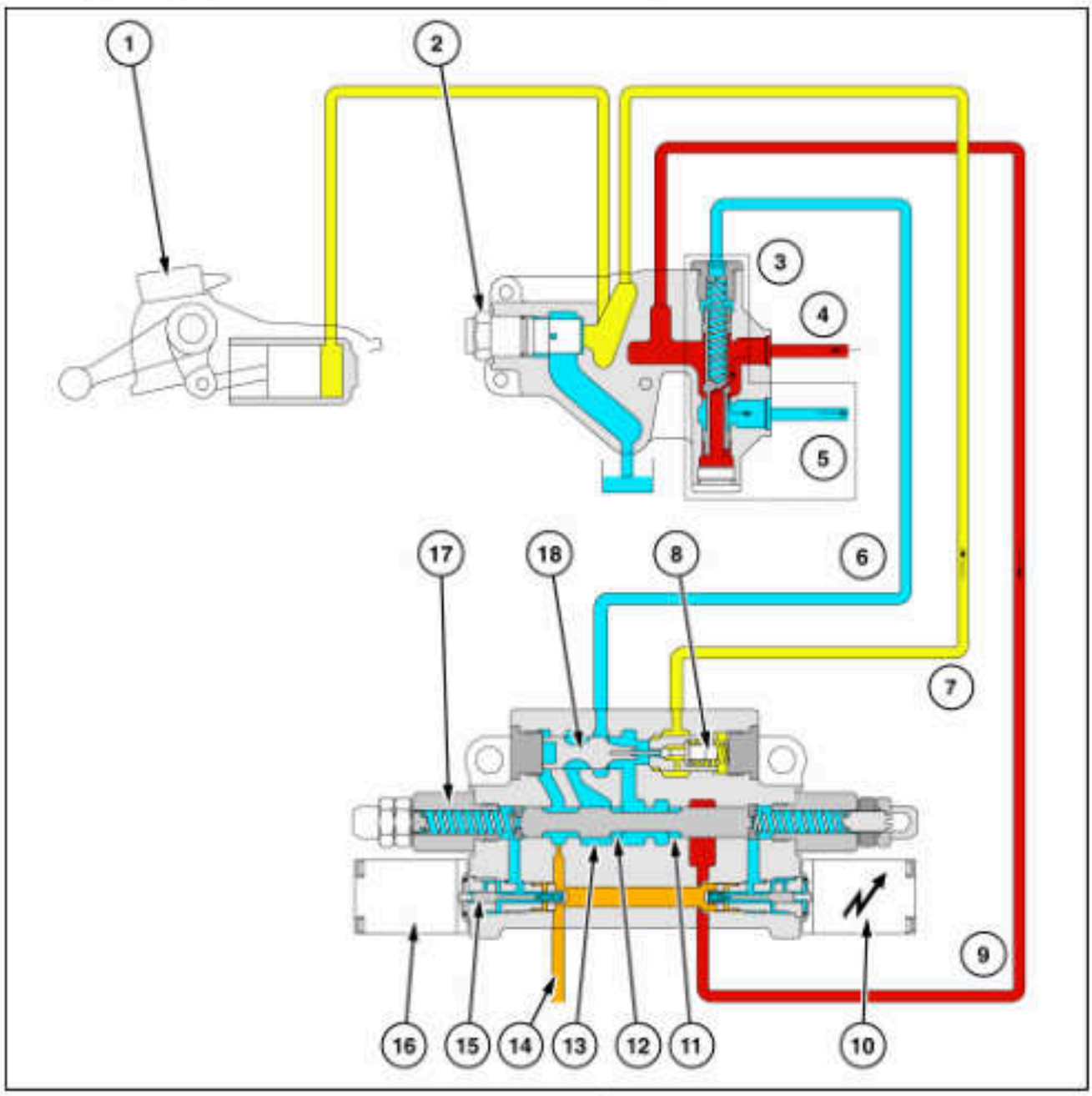
Main lift system - Dynamic description

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]	ANZ Differential lock - Electro-hydraulic — ANZ Four-Wheel Drive (4WD) - Automatic engagement — ANZ Rear lifter - Electronic control — APAC Differential lock - Electro-hydraulic — APAC Four-Wheel Drive (4WD) - Automatic engagement — APAC Rear lifter - Electronic control — MEA Differential lock - Electro-hydraulic — MEA Four-Wheel Drive (4WD) - Automatic engagement — MEA Rear lifter - Electronic control — WE Differential lock - Electro-hydraulic — WE Four-Wheel Drive (4WD) - Automatic engagement — WE Rear lifter - Electronic control
T4040F With cab [Z8JD07561 - ZCJD10129]	ANZ Differential lock - Electro-hydraulic — ANZ Four-Wheel Drive (4WD) - Automatic engagement — ANZ Rear lifter - Electronic control — APAC Differential lock - Electro-hydraulic — APAC Four-Wheel Drive (4WD) - Automatic engagement — APAC Rear lifter - Electronic control — MEA Differential lock - Electro-hydraulic — MEA Four-Wheel Drive (4WD) - Automatic engagement — MEA Rear lifter - Electronic control — WE Differential lock - Electro-hydraulic — WE Four-Wheel Drive (4WD) - Automatic engagement — WE Rear lifter - Electronic control
T4050F With cab [Z7JD01006 - ZCJD10886]	ANZ Differential lock - Electro-hydraulic — ANZ Four-Wheel Drive (4WD) - Automatic engagement — ANZ Rear lifter - Electronic control — APAC Differential lock - Electro-hydraulic — APAC Four-Wheel Drive (4WD) - Automatic engagement — APAC Rear lifter - Electronic control — MEA Differential lock - Electro-hydraulic — MEA Four-Wheel Drive (4WD) - Automatic engagement — MEA Rear lifter - Electronic control — WE Differential lock - Electro-hydraulic — WE Four-Wheel Drive (4WD) - Automatic engagement — WE Rear lifter - Electronic control
T4060F With cab [ZBJD14608 - ZDJD11085]	ANZ Differential lock - Electro-hydraulic — ANZ Four-Wheel Drive (4WD) - Automatic engagement — ANZ Rear lifter - Electronic control — APAC Differential lock - Electro-hydraulic — APAC Four-Wheel Drive (4WD) - Automatic engagement — APAC Rear lifter - Electronic control — MEA Differential lock - Electro-hydraulic — MEA Four-Wheel Drive (4WD) - Automatic engagement — MEA Rear lifter - Electronic control — WE Differential lock - Electro-hydraulic — WE Four-Wheel Drive (4WD) - Automatic engagement — WE 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**): ENTER - used to enter the selection shown on the display HOME - used to exit a screen without making any changes or to exit the menu DOWN - button for navigating between the options and for setting flasher numbering 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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