FARMALL® 75N / FARMALL® 85N / FARMALL® 95N / FARMALL® 105N / FARMALL® 105V

Tier 3

FARMALL® 75N with cab PIN Z8JF19102 - ZCJF10907; FARMALL® 75N with cab PIN ZCJF06107 and above; FARMALL® 75N without cab PIN Z9JF01865 - ZCJF07697; FARMALL® 75N without cab PIN ZCJF07813 and above; FARMALL® 85N with cab PIN Z8JF17086 - ZCJF09425; FARMALL® 85N with cab PIN ZCJF08828 and above; FARMALL® 85N without cab PIN Z9JF01936 - ZCJF10868; FARMALL® 85N without cab PIN ZCJF16077 and above; FARMALL® 95N with cab PIN Z9JF00469 - ZCJF10732; FARMALL® 95N with cab PIN ZCJF13045 and above; FARMALL® 95N without cab PIN Z9JF01090 - ZCJF05141; FARMALL® 95N without cab PIN ZCJF15989 and above FARMALL® 105N with cab PIN ZBJF20417 and above; FARMALL® 105N without cab PIN ZCJF16900 and above; FARMALL® 105V with cab PIN ZBJF20562 and above; FARMALL® 105V without cab PIN ZDJF09419 and above

Tractor

SERVICE MANUAL

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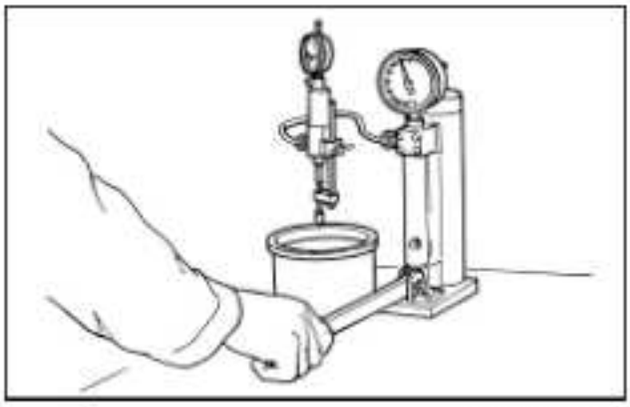
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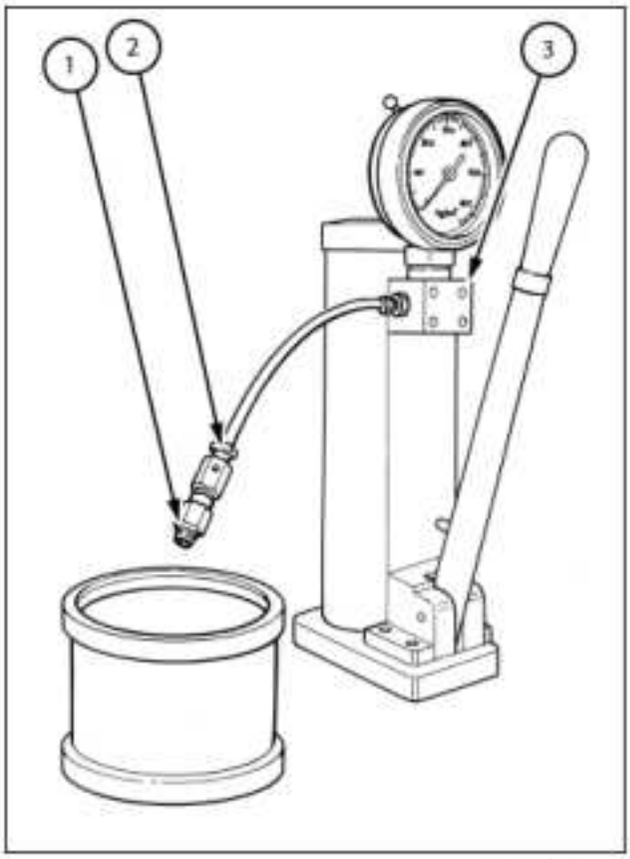
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13. Operate the hand pump until the oil in the system is at an initial pressure of **245 bar** (**3553 psi**) and, using the pressure gauge, check that it takes more than six seconds for the pressure to fall from **196 bar** (**2842 psi**) to a value of **98 bar** (**1421 psi**). If it takes less than this time, replace the control valve block pin. Bear in mind that this part is supplied together with the relevant seat.



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14. Fit the cylinder safety valve **(1)** on the valve union **380000218 (2)** and connect to the hand pump 380000215 **(3)**.
15. Operate the hand pump **(3)** and check that the cylinder safety valve opens at a pressure of **210 - 215 bar** (**3045 - 3117 psi**). If the valve setting does not correspond to the prescribed value, it is best to change it immediately. If necessary it can be adjusted by turning the threaded cap, using wrench **380000230**. Tighten to increase the valve setting value or loosen to reduce the value.



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Refer to **Wiring harnesses - Electrical schematic sheet 01 - Four-wheel drive circuit (55.100)** for schematic diagram 01.

Refer to **Wiring harnesses - Electrical schematic sheet 02 - Brakes, brake lights, differential lock circuit (55.100)** for schematic diagram 02.

Refer to **Wiring harnesses - Electrical schematic sheet 03 - Grid heater, brake fluid level sensor, power socket circuit (55.100)** for schematic diagram 03.

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6032-Voltage from the front shaft speed sensor (VAA) too high

Farmall® 105N With cab [ZBJF20417 -]	NA Four-Wheel Drive (4WD) - Automatic engagement
Farmall® 105N Without cab [ZCJF16900 -]	NA Four-Wheel Drive (4WD) - Automatic engagement
Farmall® 105V With Cab [ZBJF20562 -]	NA Four-Wheel Drive (4WD) - Automatic engagement
Farmall® 105V Without cab [ZDJF09419 -]	NA Four-Wheel Drive (4WD) - Automatic engagement
Farmall® 75N With cab - Model Year 2012 [ZCJF06107 -]	NA Four-Wheel Drive (4WD) - Automatic engagement
Farmall® 75N With cab [Z8JF19102 - ZCJF10907]	NA Four-Wheel Drive (4WD) - Automatic engagement — NA Four-Wheel Drive (4WD) - Manual engagement
Farmall® 75N Without cab [Z9JF01865 - ZCJF07697]	NA Four-Wheel Drive (4WD) - Automatic engagement — NA Four-Wheel Drive (4WD) - Manual engagement
Farmall® 75N Without cab - Model Year 2012 [ZCJF07813 -]	NA Four-Wheel Drive (4WD) - Automatic engagement
Farmall® 85N With cab - Model Year 2012 [ZCJF08828 -]	NA Four-Wheel Drive (4WD) - Automatic engagement
Farmall® 85N With cab [Z8JF17086 - ZCJF09425]	NA Four-Wheel Drive (4WD) - Automatic engagement — NA Four-Wheel Drive (4WD) - Manual engagement
Farmall® 85N Without cab - Model Year 2012 [ZCJF16077 -]	NA Four-Wheel Drive (4WD) - Automatic engagement
Farmall® 85N Without cab [Z9JF01936 - ZCJF10868]	NA Four-Wheel Drive (4WD) - Automatic engagement — NA Four-Wheel Drive (4WD) - Manual engagement
Farmall® 95N With cab - Model Year 2012 [ZCJF13045 -]	NA Four-Wheel Drive (4WD) - Automatic engagement
Farmall® 95N With cab [Z9JF00469 - ZCJF10732]	NA Four-Wheel Drive (4WD) - Automatic engagement — NA Four-Wheel Drive (4WD) - Manual engagement
Farmall® 95N Without cab - Model Year 2012 [ZCJF15989 -]	NA Four-Wheel Drive (4WD) - Automatic engagement
Farmall® 95N Without cab [Z9JF01090 - ZCJF05141]	NA Four-Wheel Drive (4WD) - Automatic engagement — NA Four-Wheel Drive (4WD) - Manual engagement

Control Module : Four-wheel drive control unit

Context:
Automatic four-wheel drive is disabled.

Possible failure modes:

1. Sensor faulty
2. Wiring fault
3. ECU fault

Solution:

1. When the cause of the fault code has been rectified, clear the fault code and test the system for normal operation.

   Check the front shaft speed sensor connector **SEN−128** , the main connector **C−6−A** and the connector of the control unit **MOD−64**.

   A. Ensure that the connectors are connected, not damaged, the pins are in the correct position and that the fit is tight. Repair or replace as necessary.

   B. If the connectors are okay, continue to step **2**.

2. Check for a short circuit to positive.

   A. Disconnect the control unit connector **MOD−64** and that of the front shaft speed **SEN−128**. Turn the ignition key ON and check between:
   MOD−64 pin 22 wire (V) and ground
   If a short to a positive voltage is indicated, repair or replace the wiring harness as required.

   B. If the wiring harness is okay, continue to step **3**.

3. Check for an open circuit.

   A. Measure the continuity between the connectors:
   MOD−64 pin 22 wire (V) and **SEN−128** pin 2 wire (V)
   MOD−64 pin 1 wire (B) and **SEN−128** pin 3 wire (B)
   If an open circuit is indicated, repair or replace the harness as required.

   B. If the wiring harness is okay and the error is repeated, replace the sensor. If the error is repeated, download the latest software release, if this is not enough then remove and remove and replace the control unit.

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FARMALL® 75N / FARMALL® 85N / FARMALL® 95N / FARMALL® 105N / FARMALL® 105V

Tier 3

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Wire Connectors

FARMALL® 75N / FARMALL® 85N / FARMALL® 95N / FARMALL® 105N / FARMALL® 105V

Tier 3

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Farmall® 105N With cab [ZBJF20417 -]	NA Four-Wheel Drive (4WD) - Automatic engagement — NA Rear lifter - Electronic control
Farmall® 105V With Cab [ZBJF20562 -]	NA Four-Wheel Drive (4WD) - Automatic engagement — NA Rear lifter - Electronic control
Farmall® 75N With cab - Model Year 2012 [ZCJF06107 -]	NA Four-Wheel Drive (4WD) - Automatic engagement — NA Rear lifter - Electronic control
Farmall® 85N With cab - Model Year 2012 [ZCJF08828 -]	NA Four-Wheel Drive (4WD) - Automatic engagement — NA Rear lifter - Electronic control
Farmall® 95N With cab - Model Year 2012 [ZCJF13045 -]	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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