SERVICE MANUAL

T4.85 / T4.95 / T4.105 / T4.115
With Hi-Lo Transmission
With Mechanical or Power Shuttle Transmission
Tractor

With Hi-Lo Transmission PIN ZxJT0xxxx and above
With Mechanical or Power Shuttle Transmission PIN ZxJT5xxxx and above

Part number 47840679
English
March 2015
Replaces part number 47561948

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WITH HI-LO TRANSMISSION
WITH MECHANICAL OR POWER SHUTTLE TRANSMISSION
TRACTOR

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SERVICE MANUAL
COMPLETE CONTENTS

COMPLETE SERVICE MANUAL **47840679**

BOOK 1 ..... **47865294**
Engine – 10
Clutch – 18
Transmission – 21
Four-Wheel Drive (4WD) system – 23

BOOK 2 ..... **47865295**
Front axle system – 25
Rear axle system – 27
Power Take-Off (PTO) – 31

BOOK 3 ..... **47865296**
Brakes and controls – 33
Hydraulic systems – 35
Hitches, drawbars, and implement couplings – 37
Steering – 41
Wheels – 44
Cab climate control – 50

BOOK 4 ..... **47865297**
Electrical systems – 55

BOOK 5 ..... **47865298**
Electrical systems – 55

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BOOK 6 ..... **47865299**
Electrical systems – 55

BOOK 7 ..... **47865300**
Electrical systems – 55

BOOK 8 ..... **47865301**
Electrical systems – 55

BOOK 9 ..... **47865302**
Electrical systems – 55
Front loader and bucket – 82
Platform, cab, bodywork, and decals – 90

COMPLETE CONTENTS **47865303**

BINDER SPINE **47865304**

ENGINE SERVICE MANUAL (sold separately) **84496722**

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Wiring harnesses - Electrical schematic sheet 13 TRANSMISSION CONTROL 1 (55.100.DP-C.20.E.13)
Wiring harnesses - Electrical schematic sheet 14 TRANSMISSION CONTROL 2 (55.100.DP-C.20.E.14)

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3417-Short circuit glow plug - cyl 4

Control Module : ECU

Context:
The glow plug control unit (GCU) has detected a short circuit to ground in the glow plug control wire for cylinder number 4.

Solution:

1. Verify that the fault code is still active..

   (1) Use the Electronic Service Tool to clear all fault codes. Prior to clearing fault codes write down all fault codes, number of occurrences, and engine hours at last occurrence.

   (2) To check for active fault codes: Start and operate machine.

   A. The fault is not recorded again. OK to return the machine to service.

   B. A fault code pertaining to the glow plugs is active. Fault code 3417 is recorded again. Continue to Step **2**.
2. Verify that the wiring harness and connectors are free of damage.

   (1) Inspect the connector ECU **X-937**, connector GCU **X-938**, in-line wiring connector **X-941** and glow plug 4 connector **X-958**. All connections should be secure, tight, free of corrosion, abrasion and damage.

   (2) Inspect the harness from the connector GCU **X-938** to the glow plug 4 connector **X-958**. Check that the wiring harness is free of damage, corrosion, abrasion and incorrect attachment.

   A. OK – The connectors are secure and the harness is free of damage. Continue to Step **3**.

   B. NOT OK – The connectors or the harness has damage. Repair or replace the harness or connectors as required. Return to Step **1** to confirm the elimination of the fault.
3. Measure the resistance through the glow plug wire.

   Turn the key switch **(1)** OFF.

   Disconnect **(2)** connector GCU **X-938**. Measure the resistance between the glow plug wire on connector **X-938** pin 6, wire 365 (RD/YE) to chassis ground. The chassis ground connection should be clean and free of paint, oil, and dirt. The resistance should be approximately **1 Ω**. Wiggle the harness during measurement to reveal an intermittent condition.

   A. The resistance is approximately **1 Ω**. Temporarily replace the GCU and retest. Return to Step **1** to confirm the elimination of the fault.

   B. The resistance is less than **0.75 Ω**. Continue to Step **4**.
4. Measure the resistance at the glow plug.

   Turn the key switch **(1)** OFF.

   (2) Disconnect the glow plug 4 connector **X-958**.

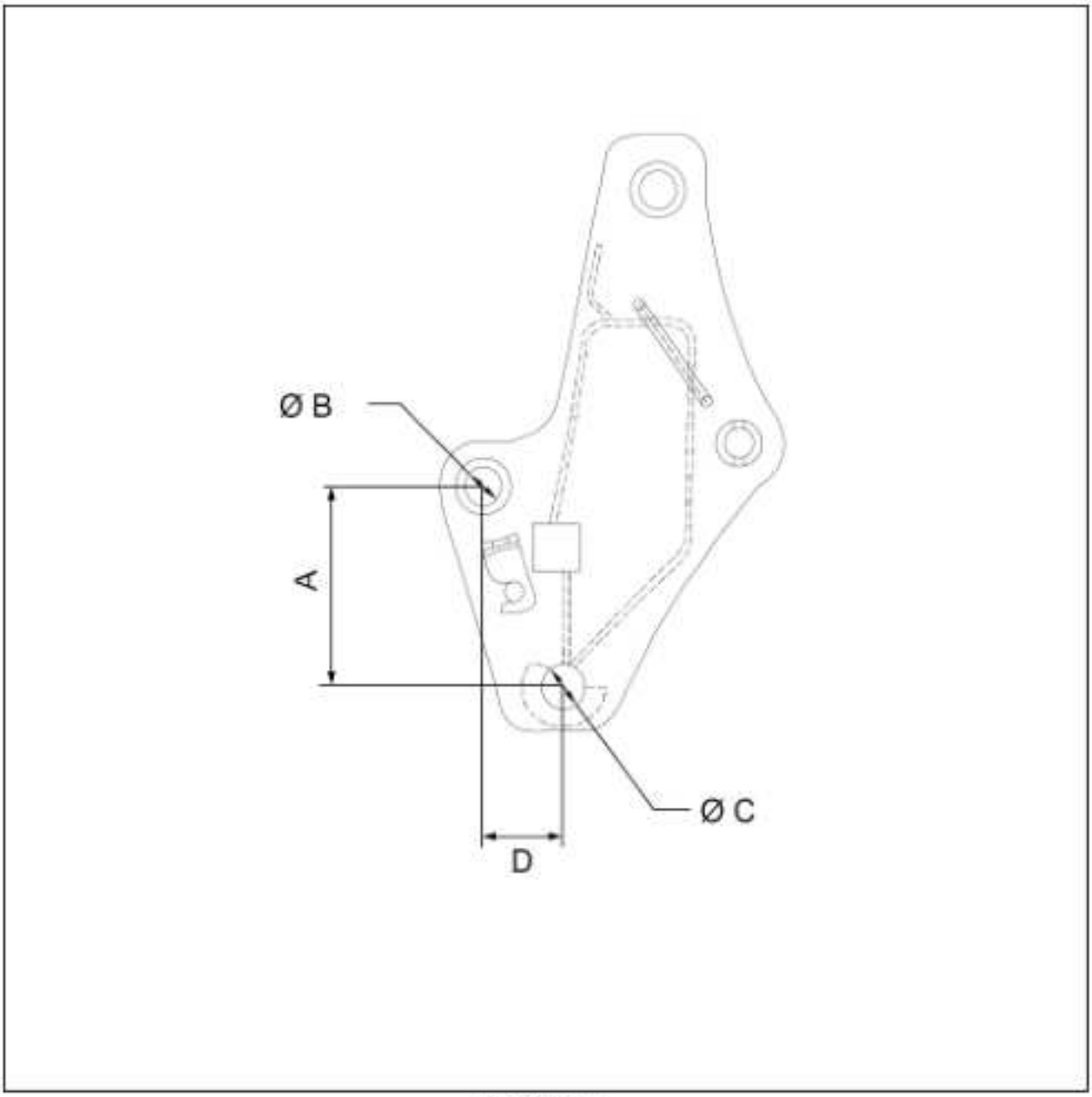
   (3) Measure the resistance between the component side of glow plug 4 connector **X-958** pin 1 and chassis ground. The chassis ground connection should be clean and free of paint, oil, and dirt. The resistance should be approximately **1 Ω**.

   A. The resistance is approximately **1 Ω**. There is a problem in the wiring to the glow plug. Repair or replace as required.. Return to Step **1** to confirm the elimination of the fault.

   B. The resistance is less than **0.75 Ω**. Temporarily replace the glow plug and retest. Return to Step **1** to confirm the elimination of the fault.

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Coupling brackets - Drawing – For NSL (non-self-leveling) systems



MOL14TR00844GA 1

Reference dimensions of the attachment bracket

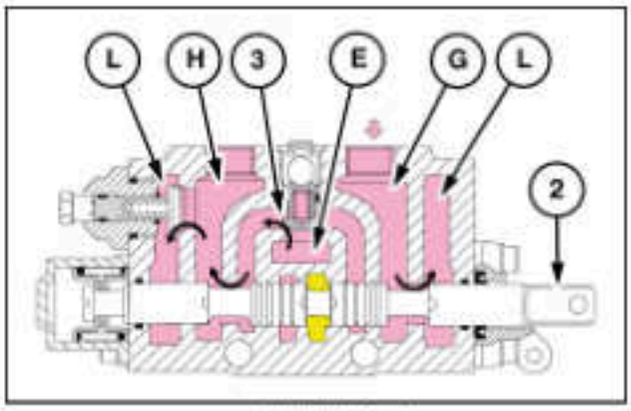
A= **220.00 mm (8.661 in)**
B= **40.00 mm (1.574 in)**
C= **50.00 mm (1.968 in)**
D= **90.00 mm (3.543 in)**

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Lower

To operate the lowering stage, you need to pull the control lever forward and trigger the following actions:

- The control cable moves and shifts the spool **(2)** of the control valve.
- The movement of the spool allows:
  - The oil in the cylinder to flow to the drain **(L)** through line **(G)**
  - The entire flow of oil from the pump to run to the drain **(L)** through check valve **(3)** and line **(H)**.



MDL111U0320AB 4

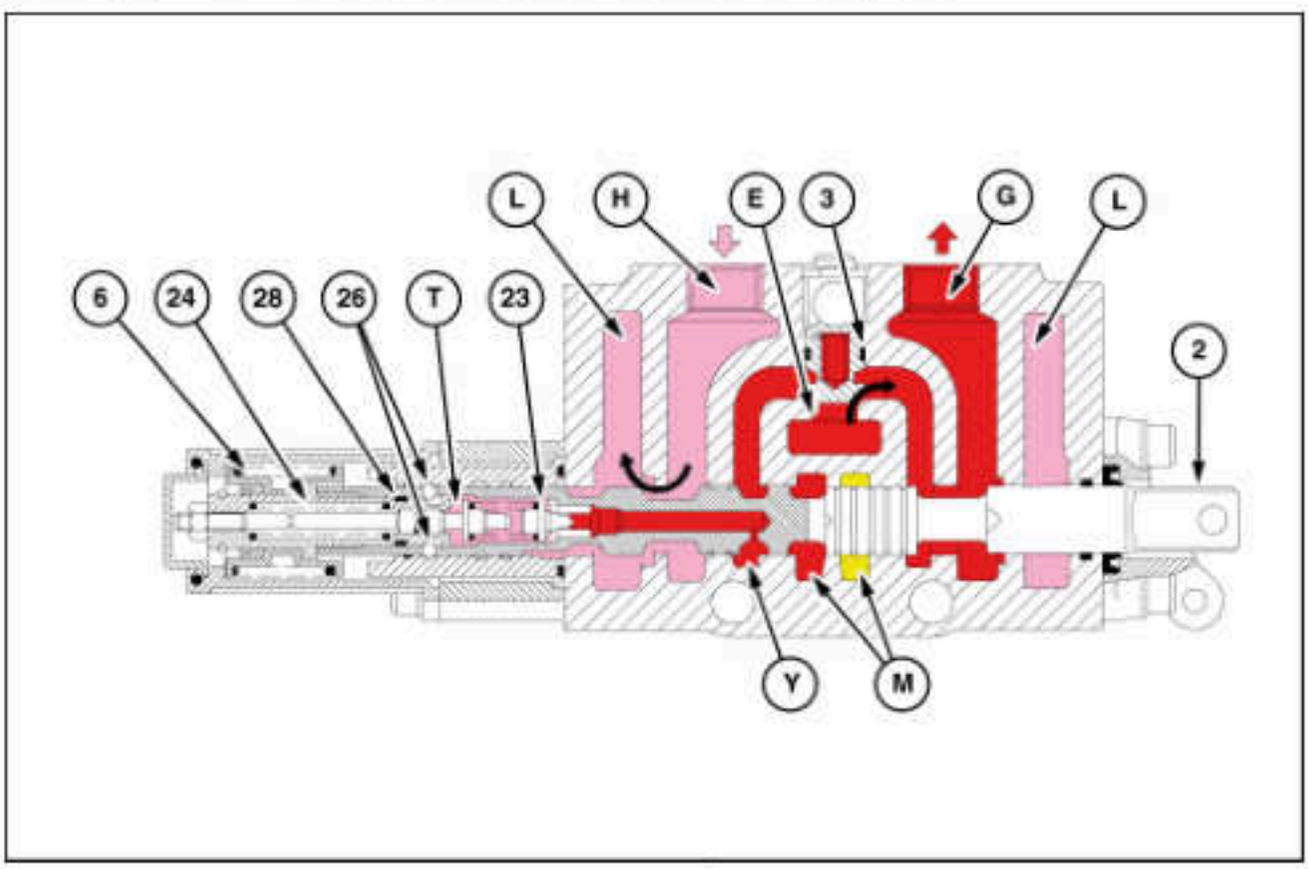
Pressure oil

Oil in suction, delivery or return

Trapped oil

NOTE: *To operate the single-acting cylinder, loosen the switching valve* ***(1)****; see Fig.* ***3****.*

Operating stages of an auxiliary control valve for operation of a single-acting cylinder/double-acting cylinder with automatic detent release and float position



MDL111U0321FB 5

Pressure oil

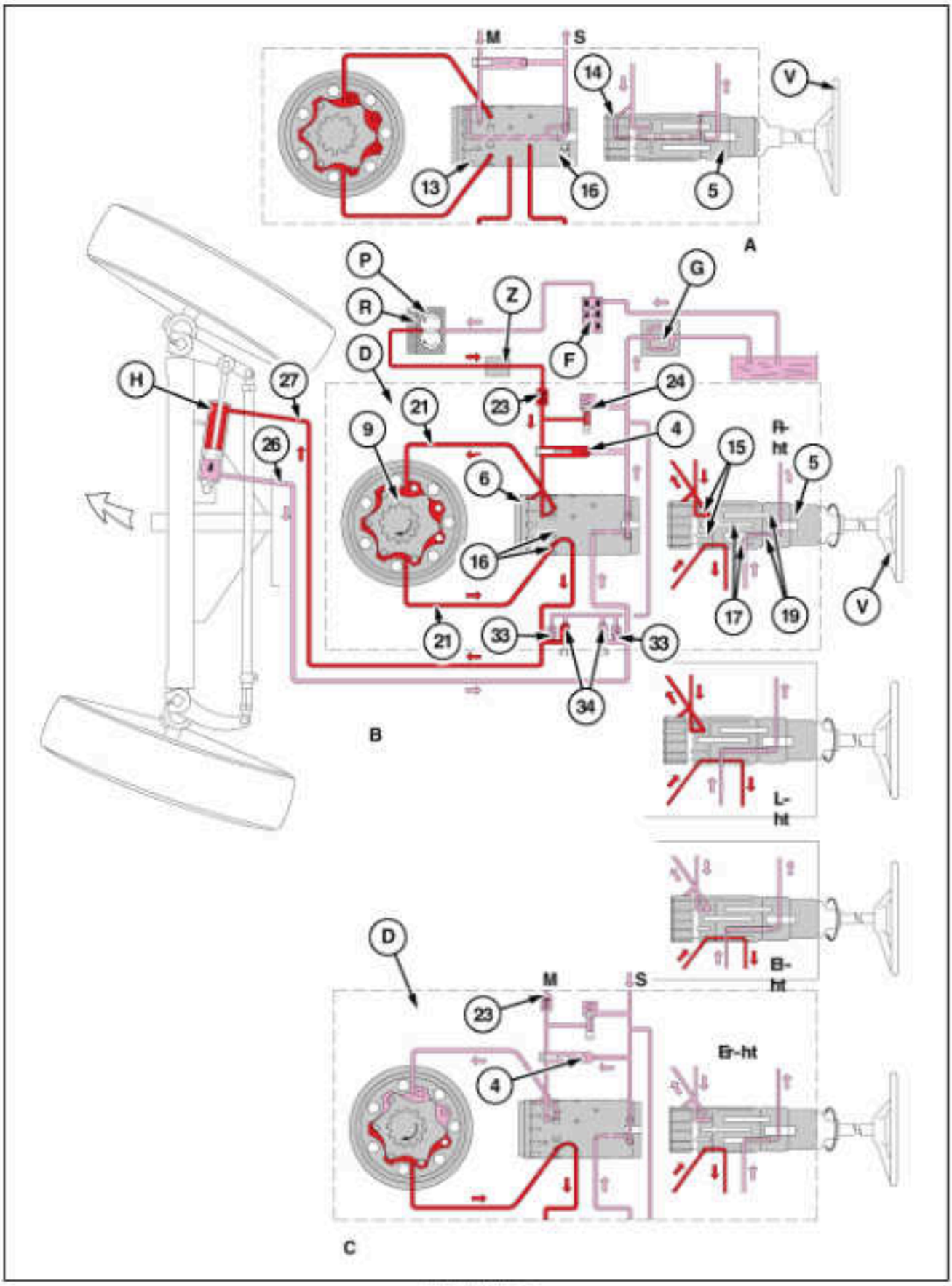
Oil in suction, delivery or return

Trapped oil

Raising

To operate the lifting stage, you need to pull the control lever back and trigger the following actions:

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Wiring harnesses - Electrical schema CCU (Central Control Unit)

T4.105 less cab, with hi-lo transmission [ZxJT0xxxx]
T4.105 with cab, with hi-lo transmission [ZxJT0xxxx]
T4.115 less cab, with hi-lo transmission [ZxJT0xxxx]
T4.115 with cab, with hi-lo transmission [ZxJT0xxxx]
T4.85 less cab, with hi-lo transmission [ZxJT0xxxx]
T4.85 with cab, with hi-lo transmission [ZxJT0xxxx]
T4.95 less cab, with hi-lo transmission [ZxJT0xxxx]
T4.95 with cab, with hi-lo transmission [ZxJT0xxxx]

COMPONENT NAME	SIZE OF THE FUSE	DESCRIPTION
A-011		EDC mouse
A-012		EDC LED panel
A-014		Gear lever
A-015		EDC potentiometers panel
B-003		EDC left-hand draft sensor
B-004		EDC right-hand draft sensor
B-005		Rear PTO speed sensor
B-008		Transmission temperature sensor
B-009		Wheel speed sensor
B-010		Clutch pedal position
F-002	**5 A**	Rear PTO circuit power supply [+ **12 V** 15/54 key]
F-004	**5 A**	CCU memory power supply [+ **12 V** F-061 - **10 A**]
F-009	**5 A**	Speed sensors power supply [+ **12 V** 15/54 key]
F-011	**5 A**	EDC control instruments power supply [+ **12 V** 15/54 key]
F-012	**5 A**	Transmission controls power supply (clutch C & D) [+ **12 V** 15/54 key]
F-035	**7.5 A**	Differential lock and 4WD circuit power supply [+ **12 V** 15/54 key]
F-043	**7.5 A**	Power shuttle lever power supply [+ **12 V** 15/54 key]
F-059	**60 A**	Main engine power supply [+ **12 V** G-001]
J-009		Main diagnostic socket
K-029		Starting relay
M-001		Starter motor
S-003		EDC left-hand fender switch
S-004		EDC right-hand fender switch
S-005		PTO left-hand fender switch
S-006		PTO right-hand fender switch
S-007		Rear PTO switch
S-008		Front PTO switch
S-009		Ground PTO engaged switch
S-010		4WD input switch
S-011		Differential lock switch
S-021		Brake pedal switch left hand
S-022		Brake pedal switch right hand
S-029		Safety pressure switch A
S-030		Safety pressure switch B

COMPONENT NAME	SIZE OF THE FUSE	DESCRIPTION
S-031		Gear 1-2 switch
S-032		Low range switch
S-033		Medium range switch
S-034		Shuttle lever
S-035		Clutch pedal switch
S-036		Power shuttle reactivity switch
S-067		Park Lock engaged switch (mechanical parking block)
S-088		Gear 3–4 switch
S-089		High range switch
S-090		Creeper switch
Y-001		EDC raise solenoid valve
Y-002		EDC work solenoid valve
Y-003		Rear PTO solenoid valve
Y-004		Front PTO solenoid valve
Y-005		Rear differential lock solenoid valve
Y-006		4WD solenoid valve
Y-009		Clutch solenoid "A"
Y-010		Clutch solenoid "B"
Y-011		Clutch solenoid "C"
Y-025		Rear PTO brake solenoid valve

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