FARMALL® 110A
FARMALL® 120A
FARMALL® 130A
FARMALL® 140A
Tier 4B (final)
Tractor

PIN CT00001M and above

SERVICE MANUAL

Part number 47924636
1st edition English
December 2015

CASE IH AGRICULTURE

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Steering knuckle - Disassemble - Heavy duty

Farmall® 110A 110 HP TIER 4B (final) engine, 2WD, and ROPS.	NA Front axle - Non-powered axle
Farmall® 110A 110 HP TIER 4B (final) engine, 2WD, and cab.	NA Front axle - Non-powered axle
Farmall® 110A 110 HP TIER 4B (final) engine, 4WD, and ROPS.	NA Front axle - Non-powered axle
Farmall® 110A 110 HP TIER 4B (final) engine, 4WD, and cab.	NA Front axle - Non-powered axle
Farmall® 120A 119 HP TIER 4B (final) engine, 2WD, and ROPS.	NA Front axle - Non-powered axle
Farmall® 120A 119 HP TIER 4B (final) engine, 2WD, and cab.	NA Front axle - Non-powered axle
Farmall® 120A 119 HP TIER 4B (final) engine, 4WD, and ROPS.	NA Front axle - Non-powered axle
Farmall® 120A 119 HP TIER 4B (final) engine, 4WD, and cab.	NA Front axle - Non-powered axle
Farmall® 130A 130 HP TIER 4B (final) engine, 2WD, and ROPS.	NA Front axle - Non-powered axle
Farmall® 130A 130 HP TIER 4B (final) engine, 2WD, and cab.	NA Front axle - Non-powered axle
Farmall® 130A 130 HP TIER 4B (final) engine, 4WD, and ROPS.	NA Front axle - Non-powered axle
Farmall® 130A 130 HP TIER 4B (final) engine, 4WD, and cab.	NA Front axle - Non-powered axle
Farmall® 140A 139 HP TIER 4B (final) engine, 2WD, and ROPS.	NA Front axle - Non-powered axle
Farmall® 140A 139 HP TIER 4B (final) engine, 2WD, and cab.	NA Front axle - Non-powered axle
Farmall® 140A 139 HP TIER 4B (final) engine, 4WD, and ROPS.	NA Front axle - Non-powered axle
Farmall® 140A 139 HP TIER 4B (final) engine, 4WD, and cab.	NA Front axle - Non-powered axle

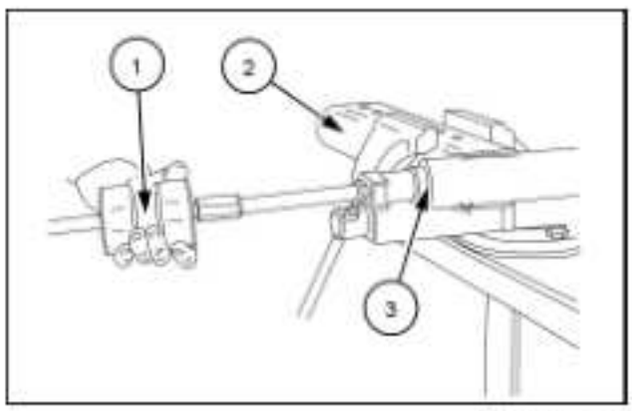
⚠WARNING

Avoid injury!
Handle all parts carefully. Do not place your hands or fingers between parts. Use Personal Protective Equipment (PPE) as indicated in this manual, including protective goggles, gloves, and safety footwear.
Failure to comply could result in death or serious injury.

W0288A

Prior operation:
Steering knuckle - Remove - Heavy duty (25.400)

1. Place the axle end **(2)** in a vice.



NHS 14TR30088AA 1

2. Use a sliding hammer **(1)** to extract the axle bushings **(3)**.

Next operation:
Steering knuckle - Assemble - Heavy duty (25.400)

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Wiring harnesses - Electrical schematic sheet 21 – Cab lamps and radio

Farmall® 110A 110 HP TIER 4B (final) engine, 2WD, and cab.	NA
Farmall® 110A 110 HP TIER 4B (final) engine, 4WD, and cab.	NA
Farmall® 120A 119 HP TIER 4B (final) engine, 2WD, and cab.	NA
Farmall® 120A 119 HP TIER 4B (final) engine, 4WD, and cab.	NA
Farmall® 130A 130 HP TIER 4B (final) engine, 2WD, and cab.	NA
Farmall® 130A 130 HP TIER 4B (final) engine, 4WD, and cab.	NA
Farmall® 140A 139 HP TIER 4B (final) engine, 2WD, and cab.	NA
Farmall® 140A 139 HP TIER 4B (final) engine, 4WD, and cab.	NA

Type	Component	Connector / Link	Description
ECU	**A-157**	**X-158**	Radio
Lamp	**E-005**	**X-190** **X-190A** **X-190B**	Interior lamp
Lamp	**E-140A**	**X-140C** **X-140D**	Left-Hand (LH) front turn lamp
Lamp	**E-141A**	**X-140C** **X-141D**	Right-Hand (RH) front turn lamp
Lamp	**E-170**	**X-170**	Right-Hand (RH) beacon lamp
Lamp	**E-185**	**X-185**	Left-Hand (LH) beacon lamp
Speaker	**H-175**	**X-175** **X-175A**	Right-Hand (RH) speaker
Speaker	**H-181**	**X-181** **X-181A**	Left-Hand (LH) speaker
Switch	**S-186**	**X-186**	Left-Hand (LH) interior lamp switch (door)
Connector	**X-106**	**X-106**	Main harness to roof harness connector

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B. If you do not find damage and the display indicates only normal readings, then erase the fault code and continue operation.

Wiring harnesses - Electrical schematic sheet 13 – Transmission (55.100.DP-C.20.E.13)

Wiring harnesses - Electrical schematic sheet 13 – Transmission (55.100.DP-C.20.E.13)

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Hydraulic systems - Detailed view

High pressure hydraulic pump circuit

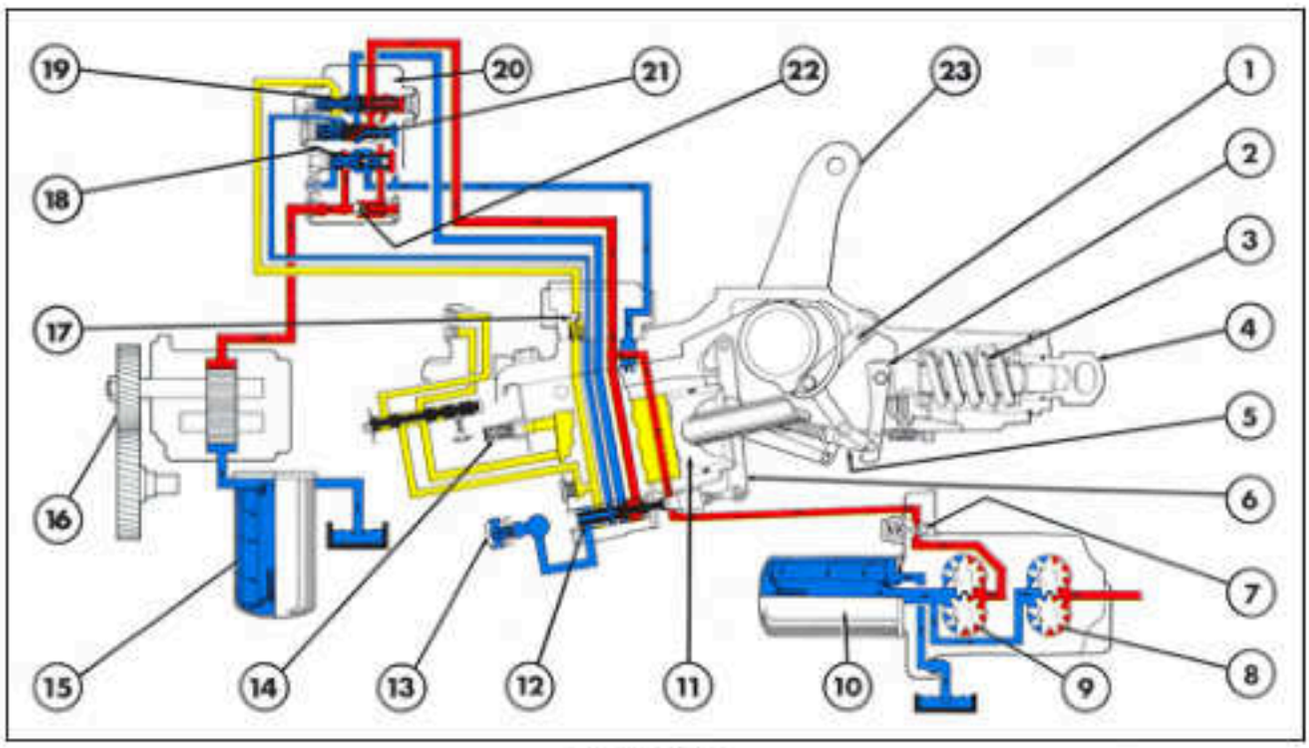
Operating with a maximum pressure of **182 bar** (**2639 psi**), the high-pressure circuit supplies oil for control of the hydraulic lift assembly, remote control valve(s), and auxiliary equipment (where installed).

With more than two remote valves installed on the tractor, it is necessary to supplement the tandem (gear type) transmission mounted pump output, with an engine mounted auxiliary pump.

The front pump within the tandem pump assembly circulates pressurized hydraulic oil to the priority valve group. A relief valve installed in the pump protects the circuit from overload, with an operating pressure of **176 - 182 bar** (**2552 - 2639 psi**).

The oil supply from the tandem pump flows to the priority valve group through internal galleries within the hydraulic top cover, while the supply from the optional auxiliary pump flows to the priority valve group through external tubing.

– Pump pressurized oil – Suction oil / return to deposit – Trapped oil



RDPH10TT500YRAD 1

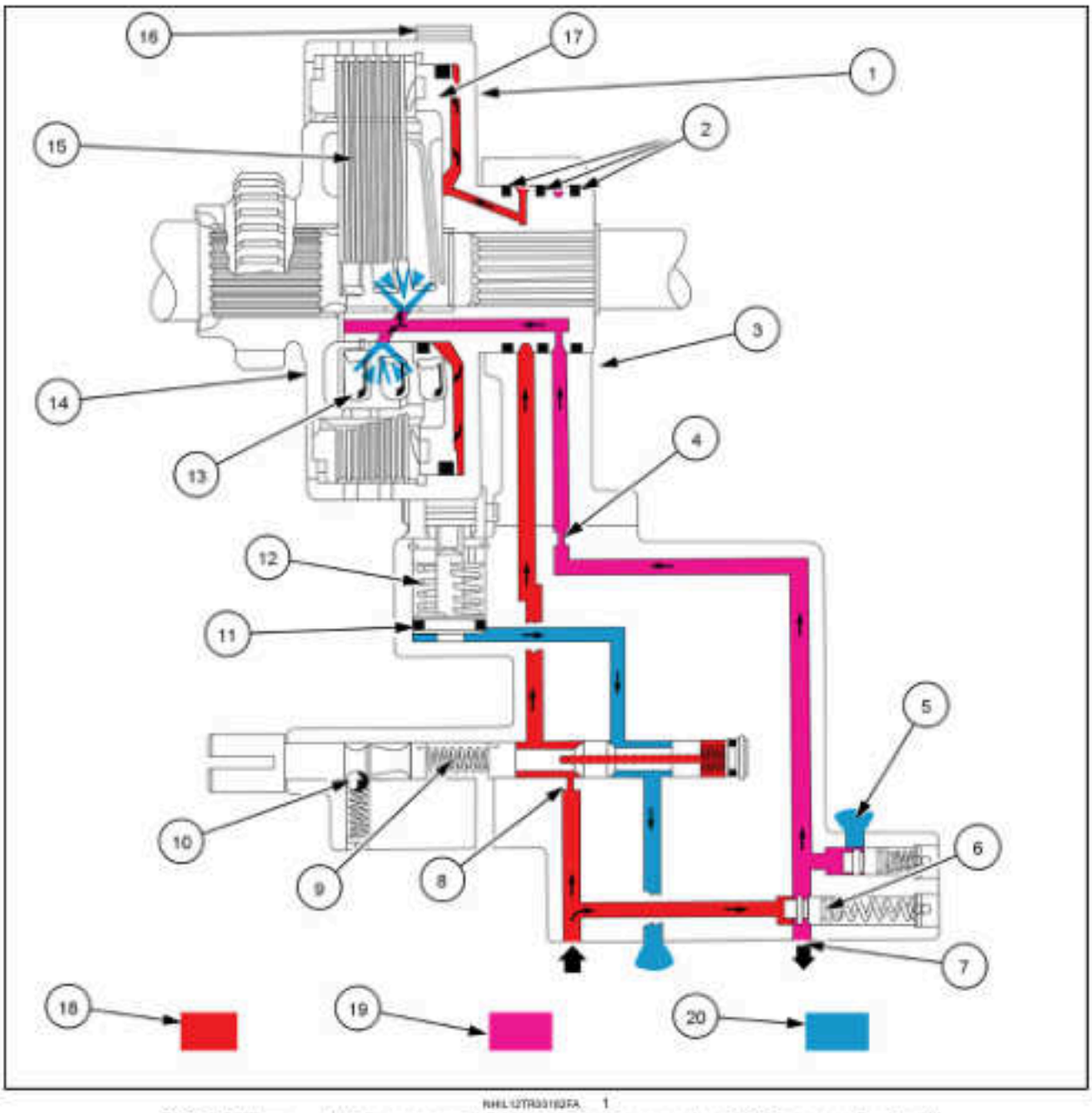
High pressure hydraulic circuit component identification and oil flow

Component identification

(1) Position control brace
(2) Selector brace
(3) Draft control spring
(4) Yoke
(5) Selector rod and roller assembly
(6) Actuator link
(7) Safety valve
(8) Steering Pump to low pressure circuit
(9) Hydraulic pump to high pressure circuit
(10) Pump intake filter
(11) Lifting piston
(12) Control valve
(13) Exhaust valve
(14) Lifting cylinder safety valve
(15) Auxiliary pump intake filter (optional)
(16) Engine-mounted auxiliary hydraulic pump (optional)
(17) Check valve
(18) Combined valve (sequential)
(19) Flow control valve
(20) Priority valve group
(21) Relief valve
(22) Check valve
(23) Lifting arms

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Two-speed rear Power Take-Off (PTO) - Dynamic description - Power Take-Off (PTO) engaged - Mechanical shuttle

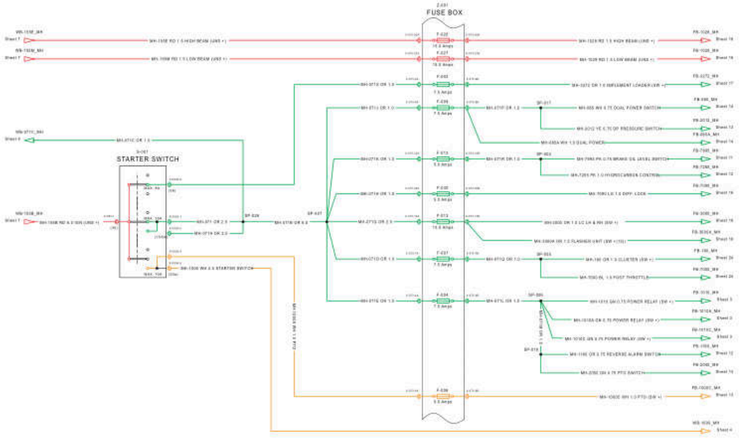


PTO oil flow -- clutch engaged (mechanically operated PTO control valve)

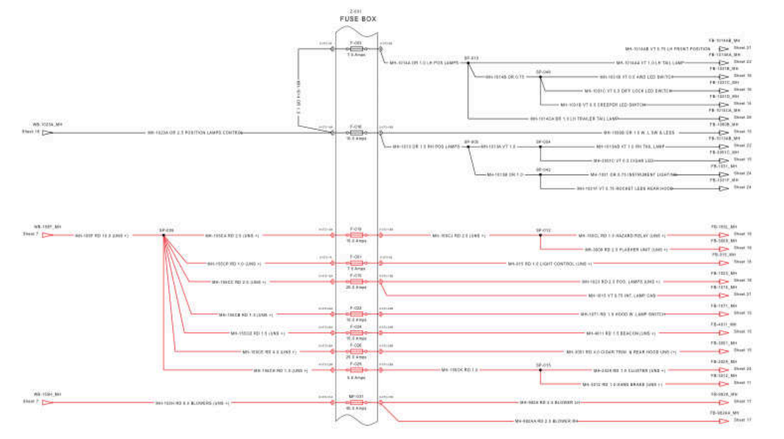
(1) Clutch housing
(2) Sealing rings
(3) Clutch support
(4) Orifice
(5) Oil cooler/lubrication circuit relief valve
(6) Pressure regulating valve
(7) Transfer port to oil cooler
(8) Orifice
(9) Control valve spool
(10) Detent ball and spring
(11) Brake piston
(12) Brake piston return spring
(13) Clutch piston return spring
(14) Clutch hub
(15) Clutch plates
(16) Brake band
(17) Clutch piston
(18) Low pressure circuit oil
(19) Lubrication oil
(20) Return to reservoir oil

Initial movement of the selector lever to the forward (engage position) mechanically moves the control valve spool to the right. The center landed area of the spool blocks an orifice that receives oil supplied by the pump to the brake piston, and opens a return port for the brake and clutch piston oil to exhaust.

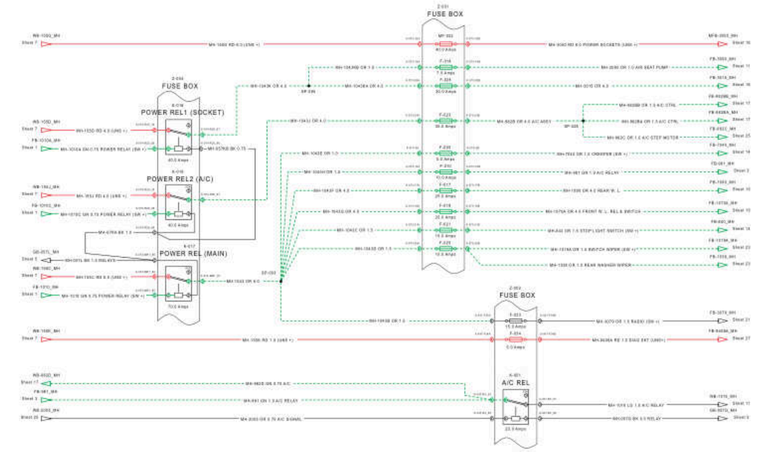
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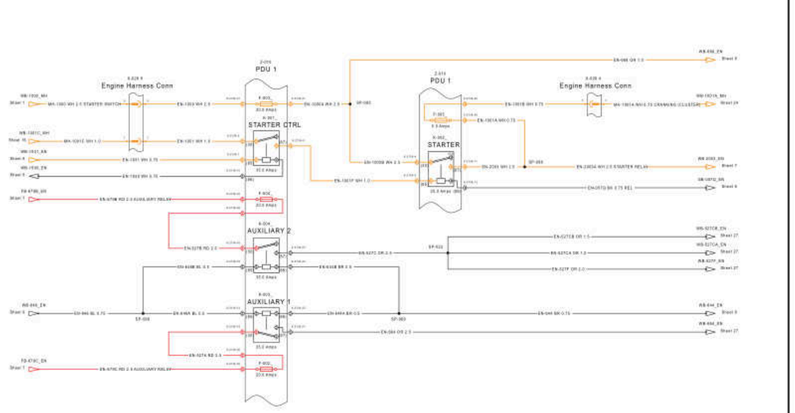
SHEET 1 - POWER DISTRIBUTION - FUSE BOX



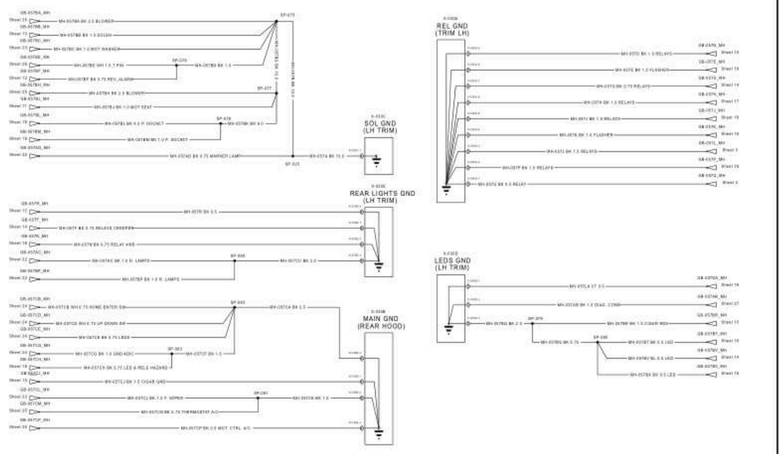
SHEET 2 - POWER DISTRIBUTION - FUSE BOX



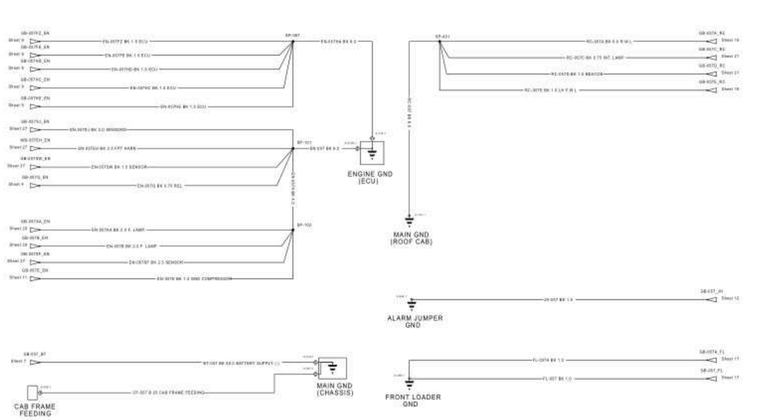
SHEET 3 - POWER DISTRIBUTION - FUSE BOX



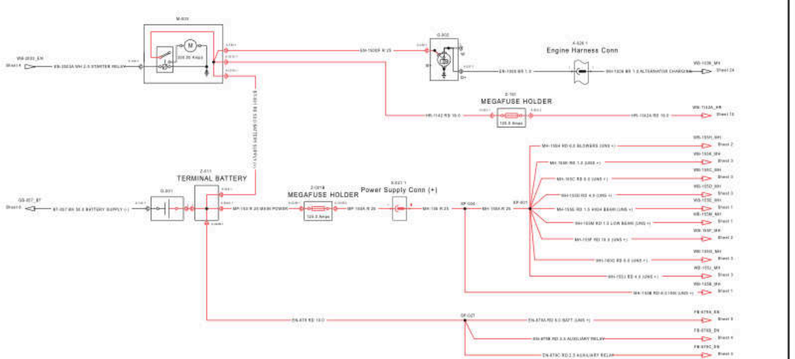
SHEET 4 - POWER DISTRIBUTION



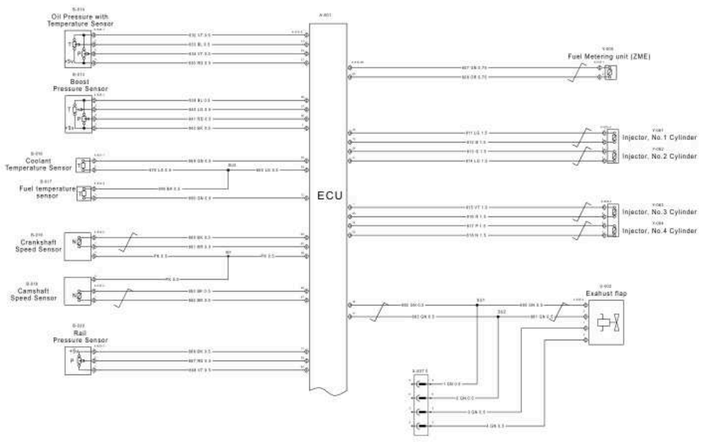
SHEET 5 - POWER DISTRIBUTION - GROUNDING SYSTEM



SHEET 6 - POWER DISTRIBUTION - GROUNDING SYSTEM



SHEET 7 - ENGINE - STARTING / CHARGING



SHEET 8 - ECU 1 - ENGINE CONTROLLER

FARMALL® A SERIES TIER 4B (FINAL) TRACTOR

47815867

ELECTRICAL SCHEMATIC
CAB CONFIGURATIONS
PIN CT00001M AND ABOVE
1ST EDITION, OCTOBER 2015

DESCRIPTION	SHEET
POWER DISTRIBUTION - FUSE BOX	1
POWER DISTRIBUTION - FUSE BOX	2
POWER DISTRIBUTION - FUSE BOX	3
POWER DISTRIBUTION - PDU	4
POWER DISTRIBUTION - GROUNDING SYSTEM	5
POWER DISTRIBUTION - GROUNDING SYSTEM	6
ENGINE - STARTING / CHARGING	7
ECU 1 - ENGINE CONTROLLER	8
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CIRCUIT COLOR INDEX

12V UNSWITCHED POWER
IGNITION KEY ON
STARTING SEQUENCE

COMPONENT LEGEND

Label Prefix	Component Type
A	Electronics
B	Sensors
D	Diodes
E	Lights
F	Fuses
G	Generators
H	Audio
J	Outlets
K	Relays
M	Motors
Q	Circuit Breakers
R	Resistive
S	Switches
W	Splice Blocks
Y	Solenoids

WIRING REFERENCES

Color	Color Code	Function
Black	BK	Ground, Chassis
Blue	BL	Printed Circuit Ground
White	WH	Increasing Actuation
Gray	GY	Decreasing Actuation
Orange	OR	Power After Ignition
Yellow	YE	Signal Wires
Red	RD	Battery Voltage
Violet	VT	Lighting
Pink	PK	Reference Voltage

MF - 435 - YE
WIRE COLOR
CIRCUIT NUMBER
HARNESS CODE

ACTUATORS

HAND, FOOT, TEMPERATURE, LIQUID LEVEL FLOAT, LEVER, PRESSURE

SCHEMATIC SYMBOLS

DIODE, FUSE, TEMPERATURE SENSOR, MOTOR, SOLENOID COIL, RESISTOR, VARIABLE RESISTOR, DIODES WITH ARC GAPPED, TWISTED WIRES, LAMP, N-CABLE DEVICE, SPEED PICKUP, RELAY, HALL EFFECT SENSOR, CONTACTS: + MAINTAINED, ▲ MOMENTARY

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