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CCU 000110.16- Engine Coolant Temperature Signal Moderately High

11

Code caused by: Chassis Control Unit (CCU) detects that the Engine Coolant Temperature Sensor voltage is above normal operating range.

Code Diagnosis

Control Unit Response: Indicator/Alarm

(1) Operational Check

Action:

Perform CCU 065 — Engine Coolant Temperature .

Result:

YES:GO TO 2.

NO: Perform B40 Coolant Temperature Sensor diagnosis. GO TO 2.

(2) Verify Code

Action:

1. Perform Recall, Record, and Clear Codes for this control unit.
2. Start vehicle and warm engine.
3. Check for code return.
4. If problem is intermittent, repeat check until code returns.

Result:

YES: Code does not return. Diagnosis complete.

NO: Code returns.Perform B40 Coolant Temperature Sensor diagnosis.

NO: Operator reports continued problems. Perform EHC—Electrohydraulic Control Unit Test .

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PTR 003509.03- PTR Sensor Supply Voltage High

379

Code caused by: Power Train Reverser (PTR) control unit detects that sensor supply voltage is greater than 5.2 V for longer than 2 seconds.

Code Diagnosis

Control Unit Response: Defaults to Neutral

(1) Operational Check

Action:

Perform PTR 051 — PTR Sensor Supply Voltage .

Result:

YES:GO TO 2.

NO: Perform EHC—Electrohydraulic Control Unit Sensor Power and Ground Test .

(2) Verify Code

Action:

1. Recall, Record, and Clear Codes for this control unit.
2. Turn key switch to RUN position (Engine OFF).
3. Check for code return.
4. If problem is intermittent, repeat check until code returns.

Result:

YES: Code does not return. Diagnosis complete.

NO: Code returns. Perform EHC—Electrohydraulic Control Unit Sensor Power and Ground Test .

NO: Operator reports continued problems, perform EHC—Electrohydraulic Control Unit Test .

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8. Drive vehicle to determine if MFWD is disengaged.

Result:

YES:MFWD is functioning correctly.Diagnosis complete.

NO: Problem is within the MFWD drop gearbox. See repair CTM for repair procedure.

(3) MFWD Clutch Check

Action:

1. Engine OFF and park brake engaged.
2. Remove the MFWD shaft at the MFWD drop gearbox and tie the drive shaft up and out of the way.
3. Mark the output shaft of the MFWD drop box drive shaft coupler in relationship to the drop box housing.
4. Start engine.
5. Engage (pull up) MFWD lever.
6. Drive vehicle forward a short distance.
7. Engine OFF and park brake engaged.
8. Check the mark on the shaft to see if it has rotated.
9. Repeat steps 4—9 to verify.

Result:

YES: Shaft rotated. Problem lies in the front axle.Refer to MFWD axle CTM.

NO: Problem is within the MFWD drop gearbox. See repair CTM for repair procedure.

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Section 230 - FUEL, AIR INTAKE, EXHAUST AND COOLING

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float to move up or down, which causes the resistance of the fuel level sensor to change accordingly. The instrument cluster (fuel gauge) measures the resistance of the fuel level sensor, then moves the pointer on fuel gauge to the corresponding fuel level.

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K26	K26 Mid-Mount SCV Extend (Gray) Relay
S19	S19 Mid-Mount SCV 3rd Function Switch
V06	V06 Mid-Mount SCV Retract (Black) Solenoid Diode
V07	V07 Mid-Mount SCV Extend (Gray) Solenoid Diode
Y03	Y03 Mid-Mount SCV Retract (Black) Solenoid
Y04	Y04 Mid-Mount SCV Extend (Gray) Solenoid

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W320 Engine Harness (T3)

W321 Engine Harness (T0/T1)

W502 Cab Harness

W503 Cab Harness (Clearance and License Plate Lights)

W572 Transmission Harness

W700 Mid-Mount SCV Harness (Cab)

W701 Mid-Mount SCV Harness (OOS)

W902 Front Console Harness

W903 Front Console Harness (Clearance and License Plate Lights)

W920 Roof Harness

W921 Roof Harness (Clearance and License Plate Lights)

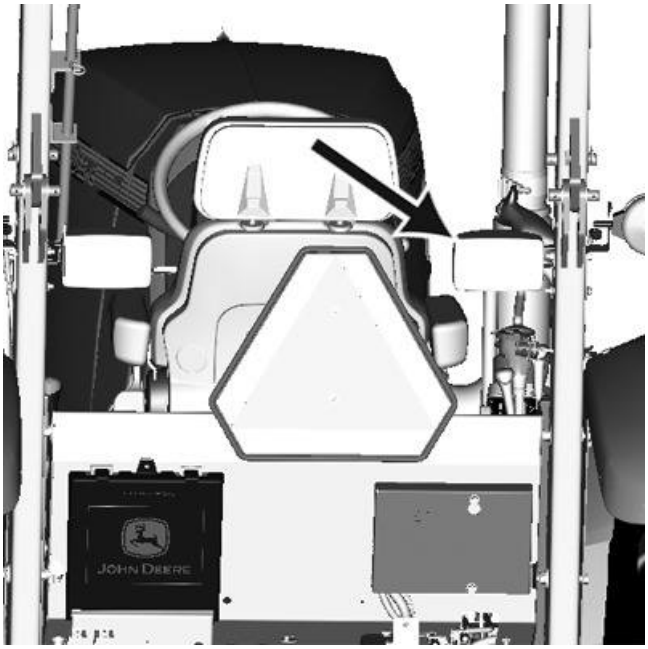
W930 ATU Internal Roof Harness

W931 ATU External Roof Harness

W932 ATU Front Console Harness

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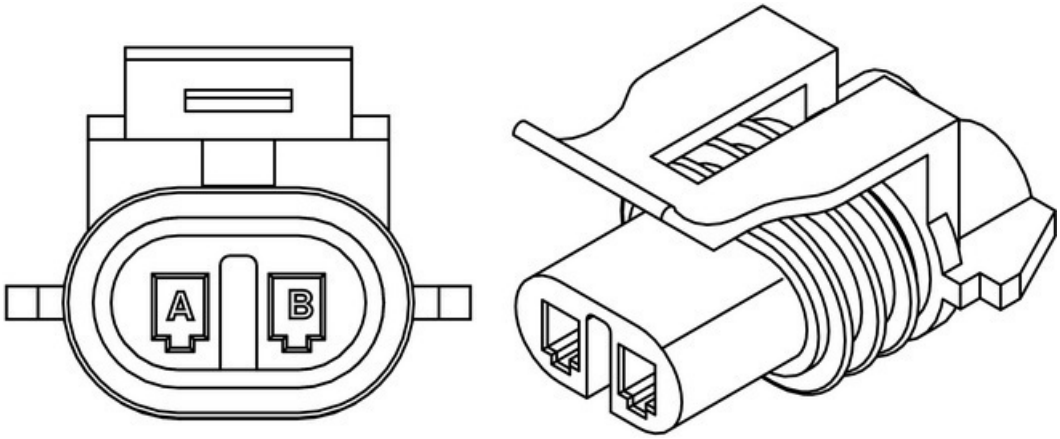


E12 Location

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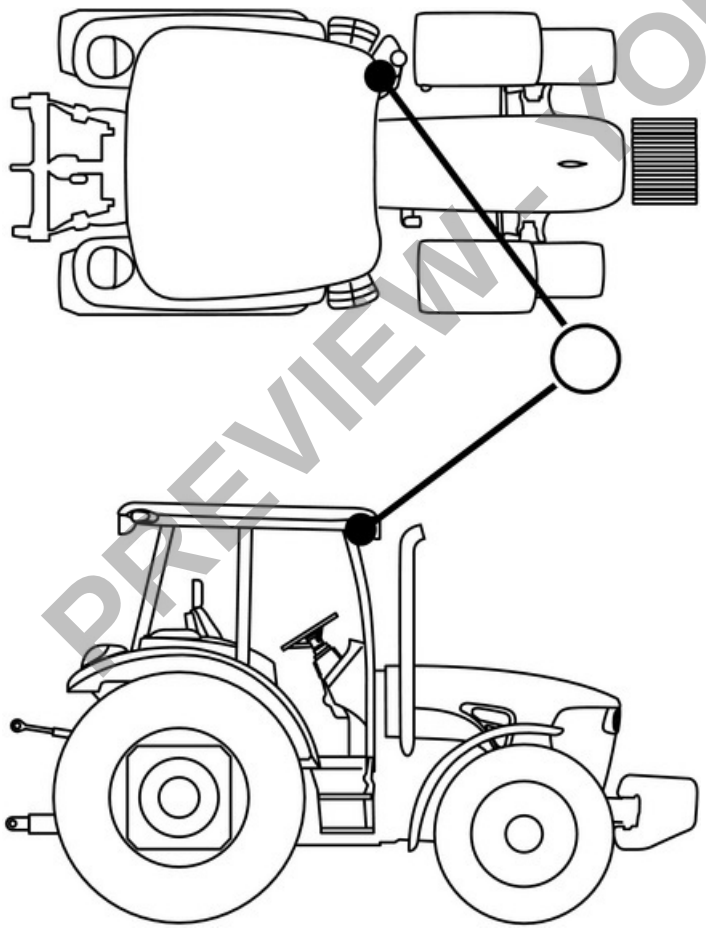
E07_2 Left Front Work Light (Clearance and License Lights, Optional)



E07_2 Connector - 12052641

E07_2 Layout

E07_2 Left Front Work Light (Clearance and License Lights, Optional)			
Schematic Section:	Cab Work Lighting Schematic (with License and Clearance Lights) (SE7B)		
Wiring Harnesses:	W921 Roof Harness (Clearance and License Plate Lights)		
Component Test	Light Test		
Terminal	**Circuit Number**	**Wire Color**	**Circuit Function**
A	1169	White	12 V Input
B	0010	Black	Ground

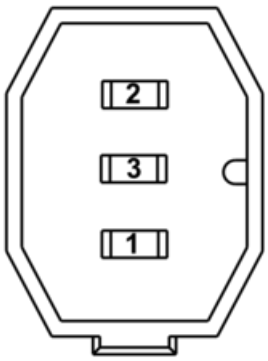


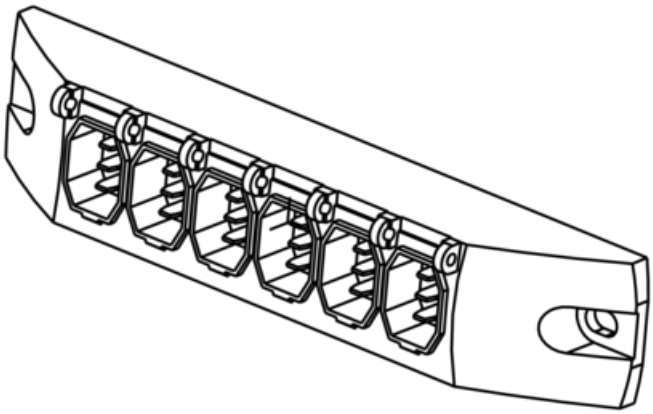
E07_2 Location Overview

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X05 Auxiliary Power Strip (Convenience Outlet with Square Terminals)

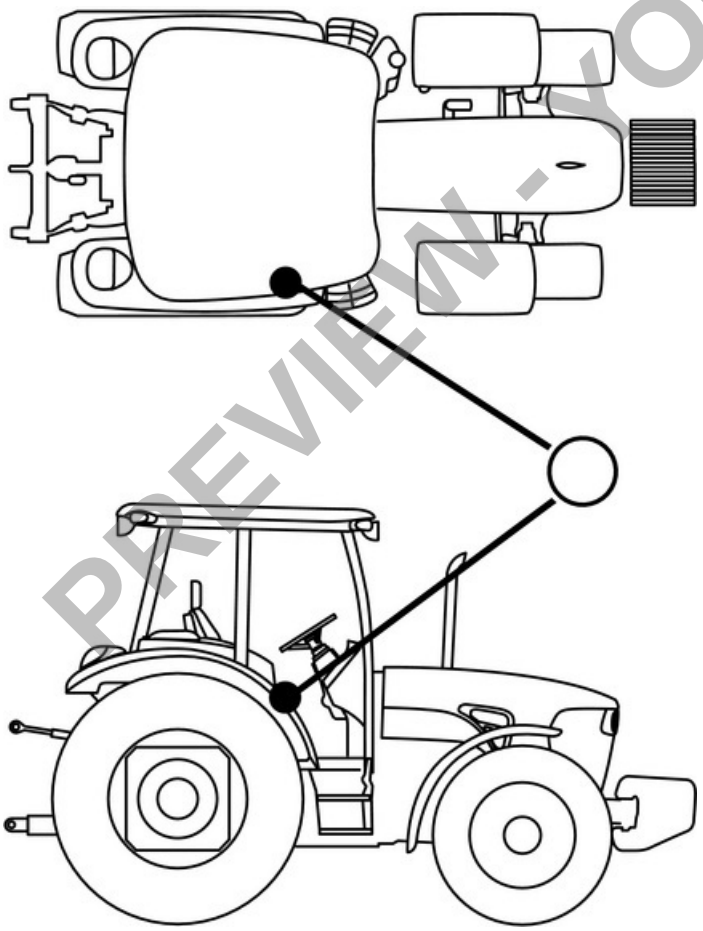




X05 Connector - RE68495

X05 Layout

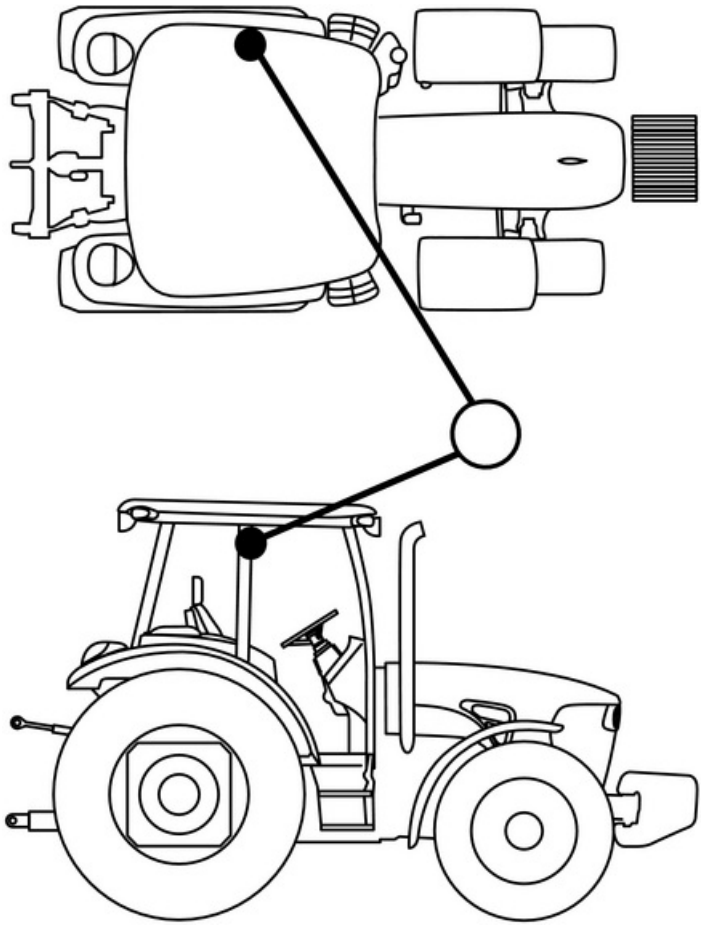
X05 Auxiliary Power Strip (Convenience Outlet with Square Terminals)			
Schematic Section:	Power Outlets Schematic (with Square Terminals) (SE15A)		
Wiring Harnesses:	W502 Cab Harness		
Component Test	Miscellaneous Component Test		
Terminal	**Circuit Number**	**Wire Color**	**Circuit Function**
1 - ACC	2202	Red	12 V Input
2 - GND	0110	Black	Ground
3 - BAT	2262	Red	12 V Input



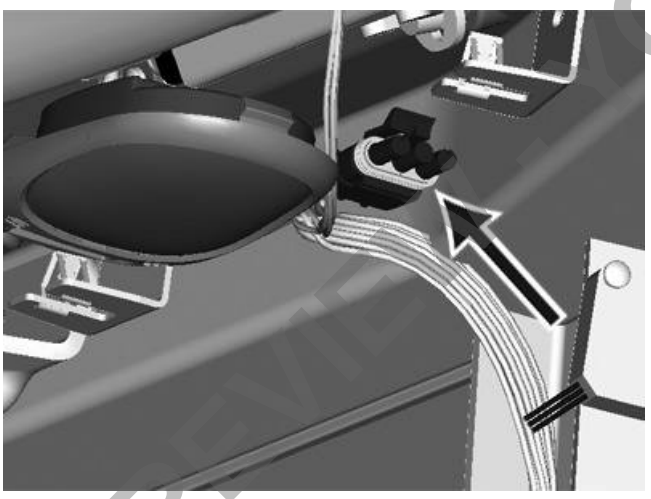
X05 Location Overview

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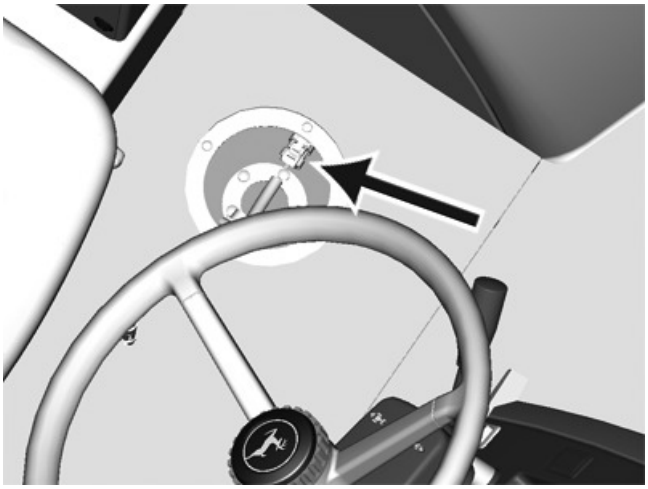
S13 Location Overview



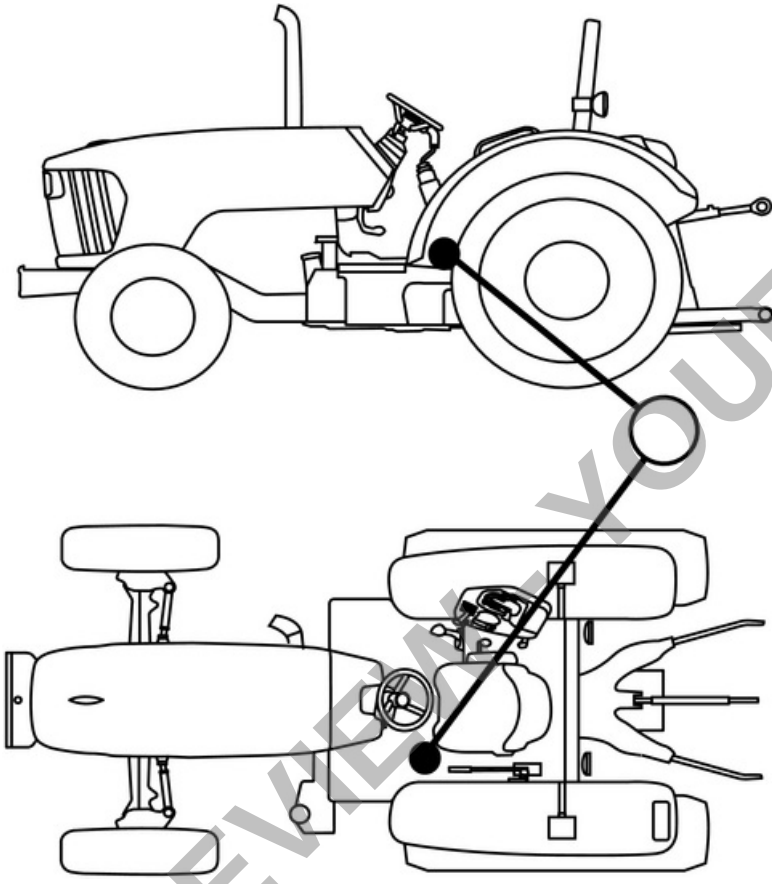
S13 Location

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B01 Location (CAB/ OOS)

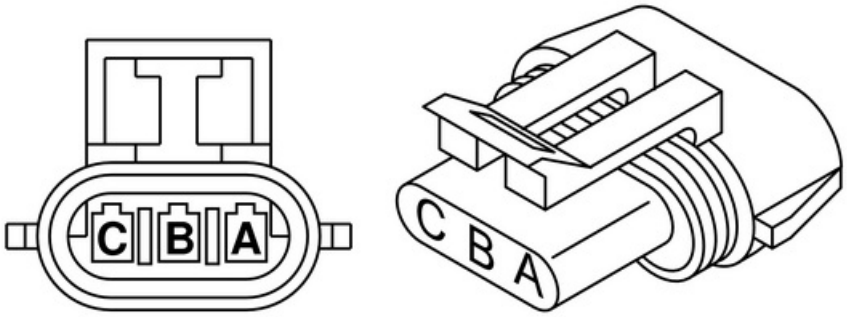


B01 Location Overview (OOS)

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S47 Secondary Brake Switch



S47 Connector - 12110293

S47 Layout

S47 Secondary Brake Switch			
Schematic Section:	Electrohydraulic Control Unit (EHC) Schematic (SE29)		
Wiring Harnesses:	W503 Cab Harness (Clearance and License Plate Lights)		
Component Test	Switch Test		
Terminal	**Circuit Number**	**Wire Color**	**Circuit Function**
A	6502	Red	12 V Input
B	6533	Orange	12 V Output
C	6534	Yellow	12 V Output

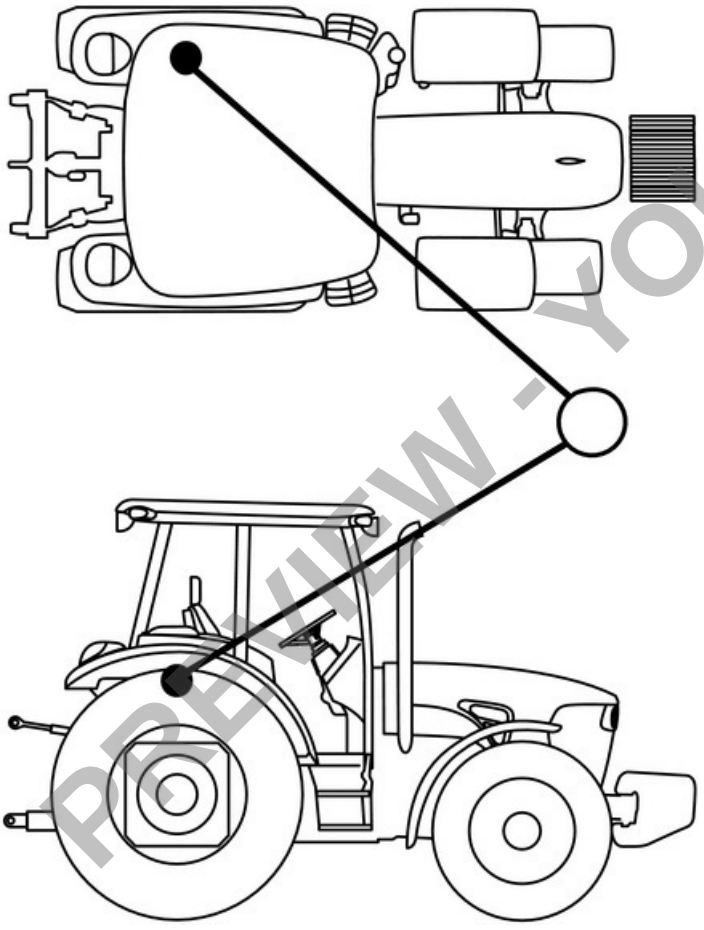
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Load Center Relay Listing (Cab)		
K23 - Right Blower Relay		
Terminal	Circuit Number	Wire Color
30	2217	Purple
85	0010	Black
86	2208	Gray
87	2242	Red
87A	2209	—

Load Center Diode Listing (Cab)

Load Center Diode Listing (Cab)					
V04 - Electrohydraulic System Relay Diode			**V06 - Mid - Mount SCV Solenoid Diode**		
Terminal	Circuit Number	Wire Color	Terminal	Circuit Number	Wire Color
A	5310	Black	A	7705	Green
B	0010	Black	B	0110	Black
V07 - Mid - Mount SCV Solenoid Diode					
Terminal	Circuit Number	Wire Color			
A	7706	Blue			
B	0110	Black			

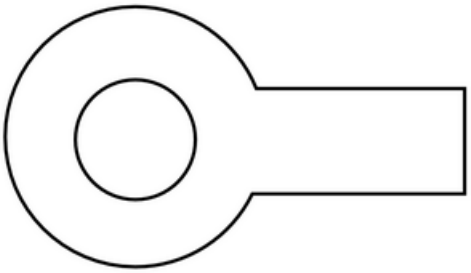


Location Overview

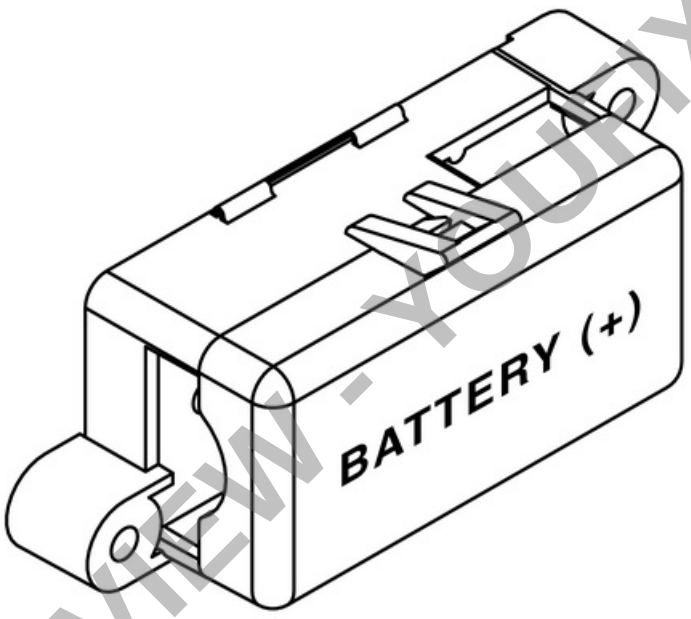
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X16 Left Rear Junction Block to Cab Power Harness



Eyelet



X16 Junction Block - 12041318

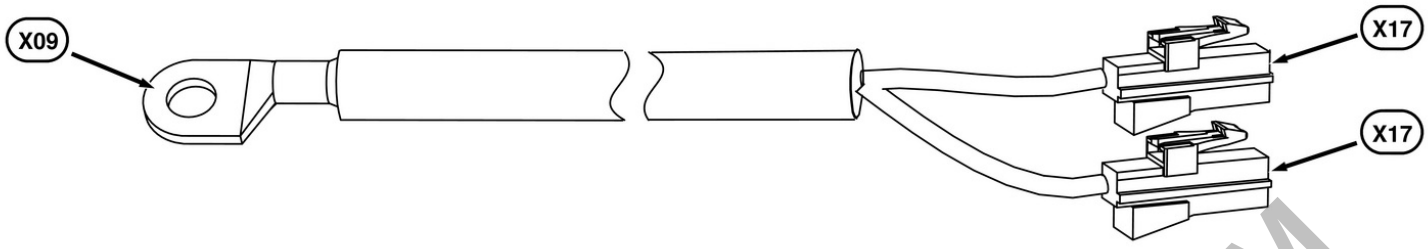
X16 Layout

X16 Left Rear Junction Block to Cab Power Harness		
Wiring Harnesses:	W013 Cab Power Cable W502 Cab Harness W503 Cab Harness (Clearance and License Plate Lights)	
Terminal	**Circuit Number**	**Wire Color**
Eyelet	0002	Red
Eyelet	0002A	Red
Eyelet	0002B	Red
Eyelet	0002C	Red
Eyelet	0002D	Red
Eyelet	0002E	Red

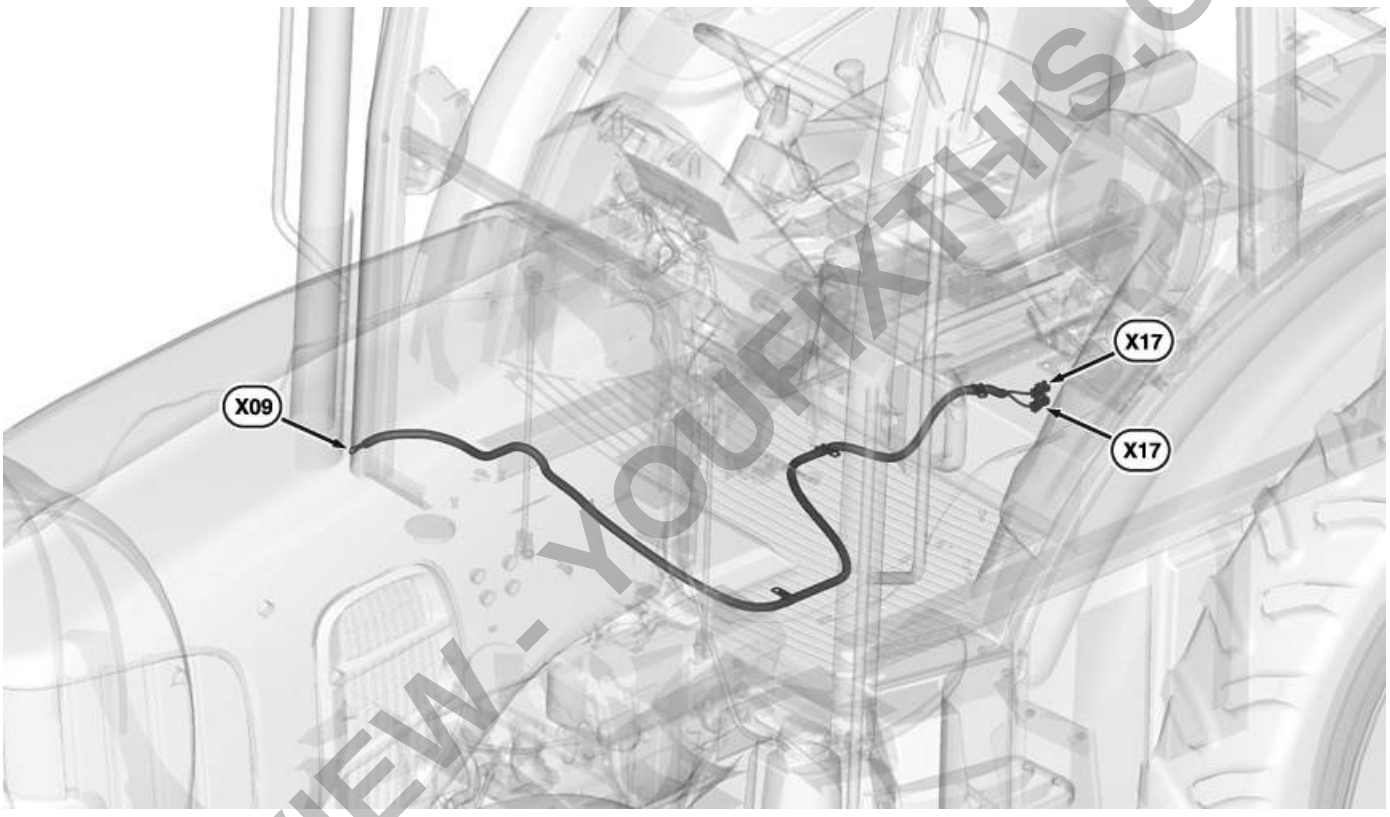
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W014 OOS Power Cable



W014 OOS Power Cable Harness Diagram



W014 OOS Power Cable Harness Routing

LEGEND:

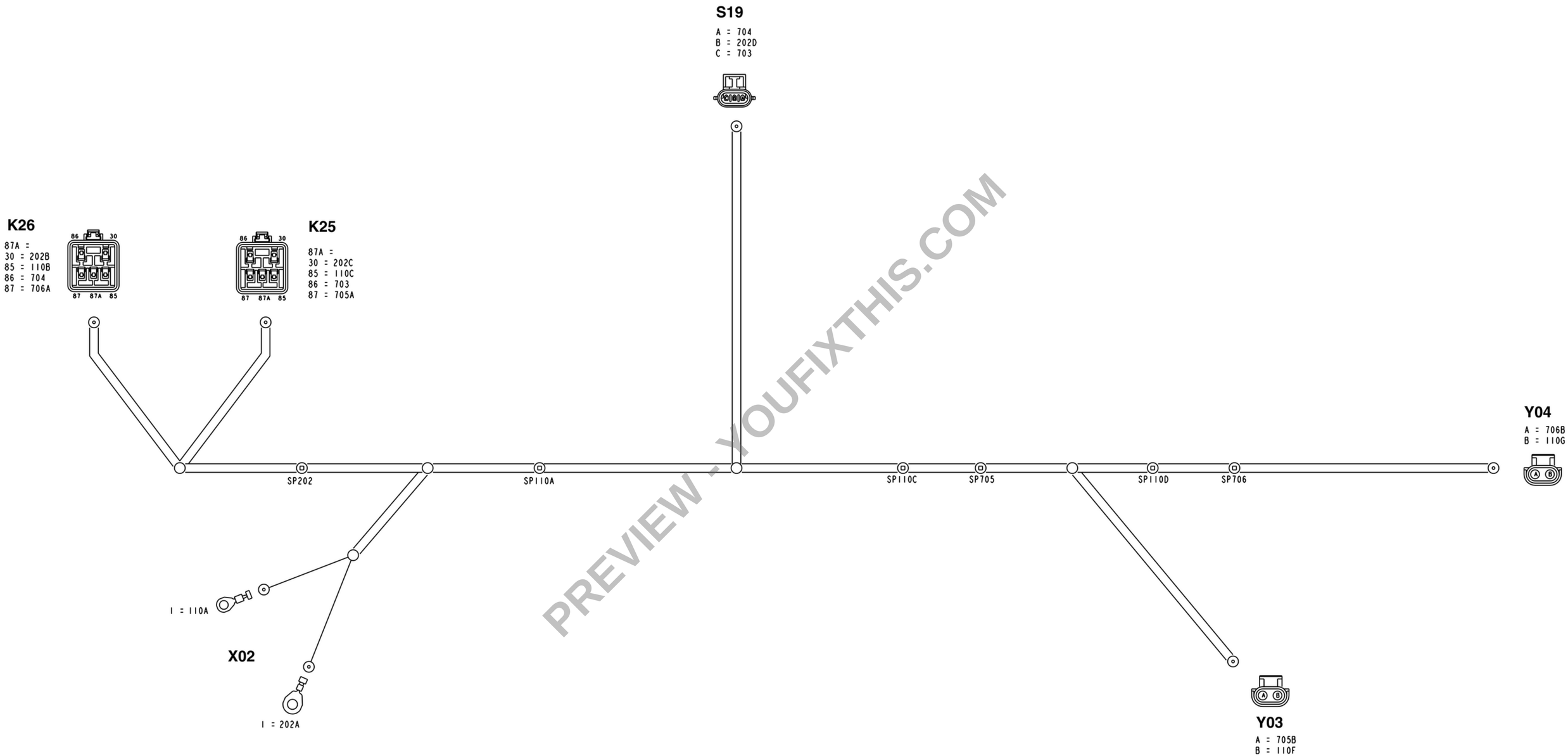
X09	X09 Battery Power Junction Block
X17	X17 OOS Power Cable to OOS Power Harness

For additional harness information see:

- Wire Harness Overview
- How to Use Wire Harness Information

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W701 Mid-Mount SCV Harness Diagram (OOS)

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NO: Problem exists with downstream component. See Electrical Components and Connectors - Summary of References and diagnose suspect components.

(3) Switch Check

Action:

Check for continuity across relevant terminals of the switch in all positions.

Result:

YES:GO TO 4.

NO: Replace switch and confirm repair.Return to diagnosis.

(4) Additional Checks

Action:

If switch has a ground circuit or is case grounded, check for continuity to ground. Check from relevant connector pin or check that component is grounded.

Result:

YES: Return to diagnosis.

NO: Repair or replace as needed and confirm repair.Return to diagnosis.

NO: Problem not found. See Troubleshooting Unresolved Electrical/Electronic Problems to resolve intermittent problems or other issues.

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Group 40AA - Electronic Control Unit Component and Connector Information

Control Unit Connectors and Components

See the following:

A01 Instrument Cluster Control (ICC)

A01X1 ICC Connector 1

A01X2 ICC Connector 2

A01X3 ICC Connector 3

A01X4 ICC Connector 4

A06 Electrohydraulic Control Unit (EHC)

A06X1 EHC Connector 1

A06X2 EHC Connector 2

A06X3 EHC Connector 3

A09 Engine Control Unit (ECU) (4045 Engine)

A09X1 ECU Connector 1 (4045 Engine)

A09X2 ECU Connector 2 (4045 Engine)

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clutch potentiometer channel B.

Result:

YES: To check other PTR Beep Mode supported functions:GO TO 3.

NO: If no “beep” is heard, or address is displayed when a component is operated, access the address for that component to check for proper operation.

(3) Harness / Connection Check

Action:

All other circuits that support the PTR diagnostic “beep” mode do not have controls that can be operated, but are sensing and monitoring circuits that the PTR uses to activate system alert and / or status indicators.

If a certain circuit is creating intermittent problems, the diagnostic “beep” mode at address 002 can be used to check for intermittent malfunctions in harnesses or connectors.

Tugging on or moving connectors and / or harnesses while at address 002 may reveal a poor circuit or connection if the warning signal sounds.

Result:

YES:GO TO next address required or return to diagnosis.

NO: If a beep indicates a harness or connection problem, use a digital multimeter to check harness leads and connector terminals. Repair as needed. GO TO next address required or return to diagnosis.

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Group 20AA - Drive Systems and Transmission Theory of Operation

Drives Systems and Transmission - Theory of Operation

Refer to the following CTMs for relevant system.

Reference 6B/D Series Tractors - 12 Speed Transaxle Repair Component Technical Manual for 12 speed transaxle.

Theory of operation for the MFWD axle can be found in Front-Wheel Drive Axles 725, 730, 733, 740, 745, 750 and 755 (HD) Component Technical Manual

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Steering - Steering Pump Flow Test

Reference

(1) Install Test Equipment

Action:

1. Perform Install Test Equipment 60-4 .
2. Heat hydraulic oil to 38 °C (100 °F). See Hydraulics - Heating Hydraulic Oil .

Result:

YES:GO TO 2.

(2) Steering Pump Flow Check

Action:

1. Open flow meter control valve completely.
2. Start engine and set speed to 1000 rpm.
3. Adjust flow meter to get 15000 kPa (150 bar) (2176 psi) and record flow rate.
4. Increase engine speed to 1500 rpm.
5. Adjust flow meter control valve to maintain 15000 kPa (150 bar) (2176 psi) and record flow.
6. Increase engine speed to 2000 rpm.
7. Adjust flow meter control valve to maintain 15000 kPa (150 bar) (2176 psi) and record flow.
8. Fully open flow meter control valve, reduce engine speed to idle and move SCV levers to NEUTRAL.
9. Compare recorded pump flow to specification.**Steering flow at steering valve.**

Minimum pump flows at 38 °C (100 °F)

Minimum Steering Pump Flows at 38 °C (100 °F)		
1000 rpm	1500 rpm	2000 rpm
13.4 lpm (3.5 gpm)	21.1 lpm (5.6 gpm)	28.7 lpm (7.6 gpm)

10. Heat oil to 65 °C (150 °F) and repeat steps 2-9.
11. Compare recorded pump flow to specification.**Steering flow at steering valve.**

Minimum pump flows at 65 °C (150 °F)

Minimum Steering Pump Flows at 65 °C (150 °F)		
1000 rpm	1500 rpm	2000 rpm
10.6 lpm (2.8 gpm)	18.1 lpm (4.8 gpm)	25.7 lpm (6.8 gpm)

Result:

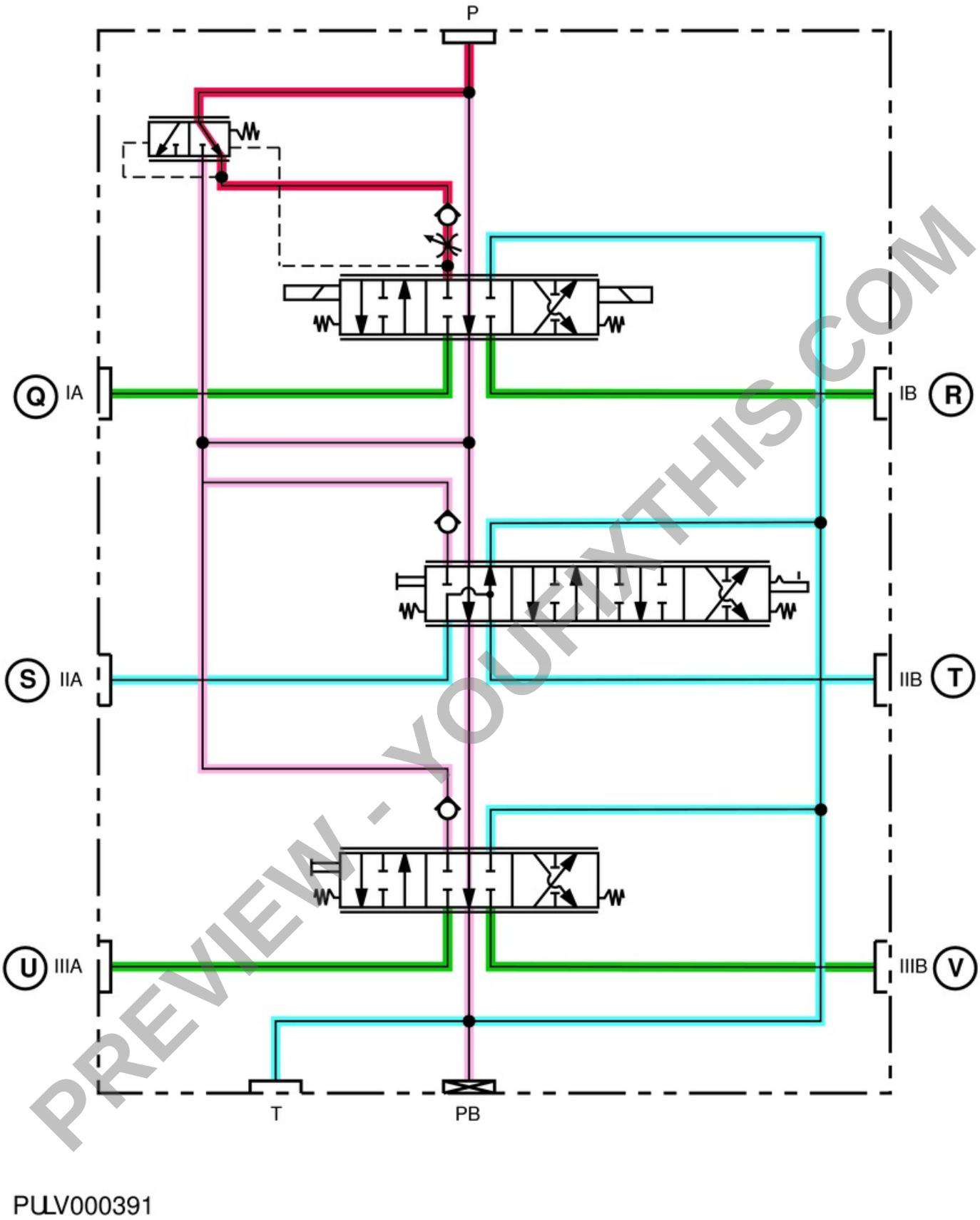
YES: Pump flow within specification.Return to diagnosis.

NO: Pump flow out of specification. Note condition.Return to diagnosis.

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Hydraulics - Triple Mid SCV Float Operation



PULV000391

Triple mid SCV Schematic Float Operation

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Group 05B - General References

Operator Station - Summary of References

05B - General References

Operator Station - Summary of References

Install Test Equipment 90-1

10AA - Calibrations, Preliminary Checks and Operational Checks

Operator Station - HVAC Preliminary Checks

Operator Station - HVAC Operational Checks

20AA - Theory of Operation

Operator Station - Air Conditioning System Operation

Operator Station - Air Conditioning Compressor Operation

Operator Station - Air Conditioning Condenser Operation

Operator Station - Air Conditioning Dual Pressure Switch Operation

Operator Station - Air Conditioning Evaporator Operation

Operator Station - Air Conditioning Expansion Valve Operation

Operator Station - Air Conditioning Receiver/Dryer Operation

Operator Station - Air Conditioning Temperature Control Switch Operation

Operator Station - Air Conditioning ON/OFF Switch and Temperature Control Knob Operation

Operator Station - Heater Temperature Control Knob Operation

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Operator Station - Mechanical Seat Operation

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Operator Station - Schematics

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Operator Station - Component and Connector Information

50AA - Test and Adjustments

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Operator Station - A/C System Static Pressure Test

Operator Station - Temperature Drop Test

Operator Station - Heater Temperature Control Cable Adjustment

Operator Station - A/C Temperature Control Switch Adjustment

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