

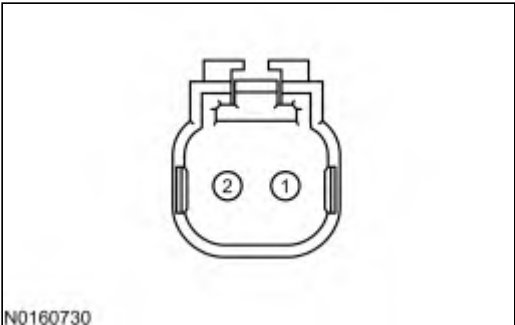
MD: Fuel Pressure Sensor And Fuel Delivery Pressure Switch

Note: Regeneration may occur during normal operation. During regeneration, diagnostic procedures may display biased values. If a regeneration occurs during diagnostic procedures, allow the process to complete before continuing diagnostics.

This pinpoint test is intended to diagnose the following:

- fuel delivery pressure switch (9S599)
- fuel pressure and temperature sensor (9G756)
- harness circuits: FDPS, FLP, GND, SIGRTN and VREF
- PCM (12A650)

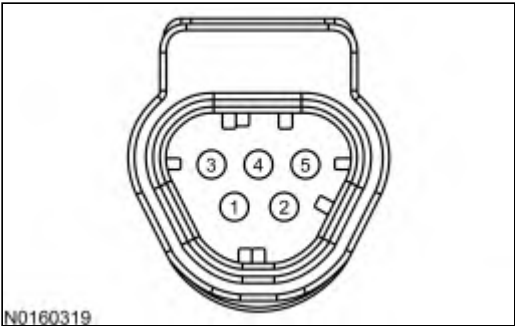
Fuel Delivery Pressure Switch Connector



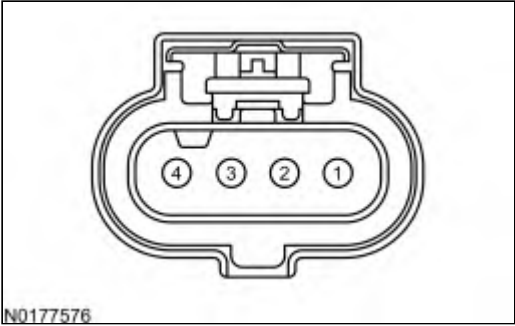
Pin	Circuit
2	GND (Ground)
1	FDPS (Fuel Delivery Pressure Switch)

Fuel Pressure And Temperature Sensor Connector

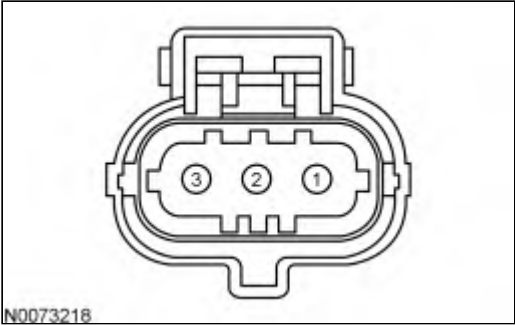
A



B



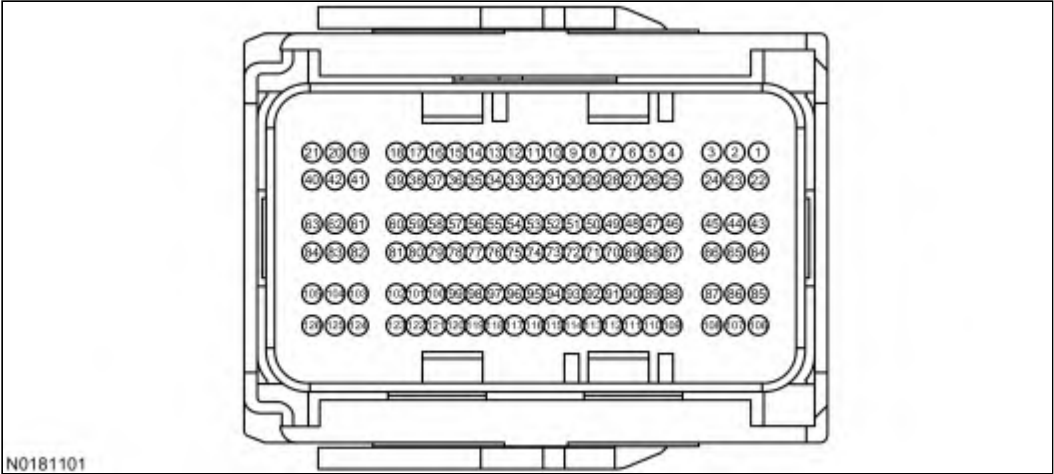
C



Vehicle	Connector	Pin	Circuit
F-650 / F-750	A	2 4 3	FLP SIGRTN VREF
F-150	B	2 3 1	FLP SIGRTN VREF
F-Series Super Duty	B	2 1 3	FLP SIGRTN VREF
Transit Connect	C	2 3 1	FLPT SIGRTN VREF

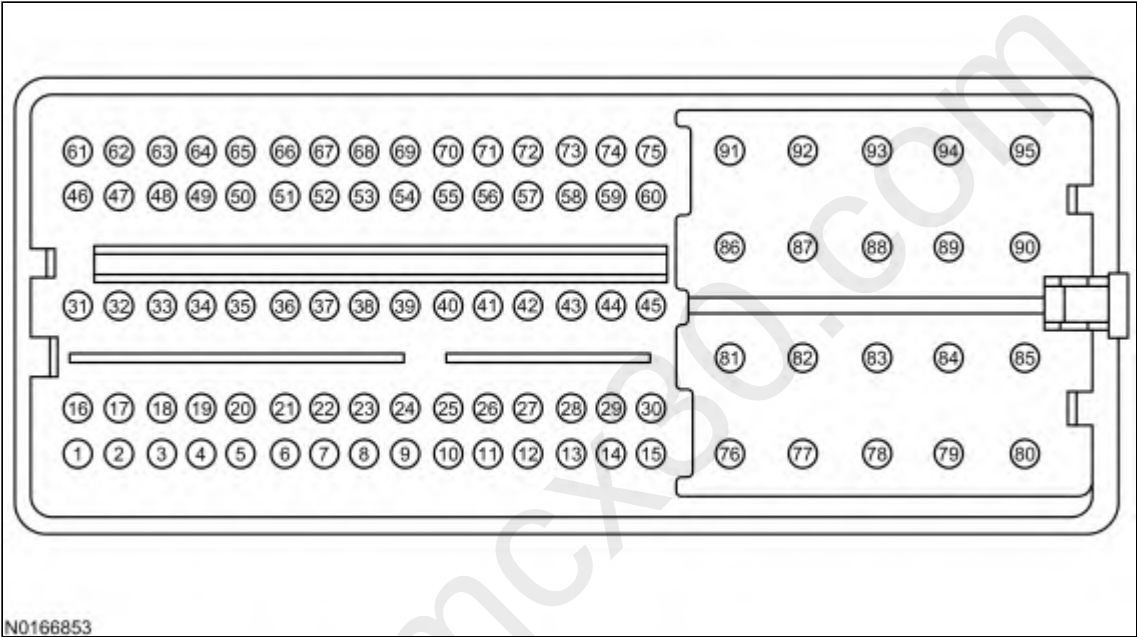
Powertrain Control Module-E (PCM-E) Connector

A



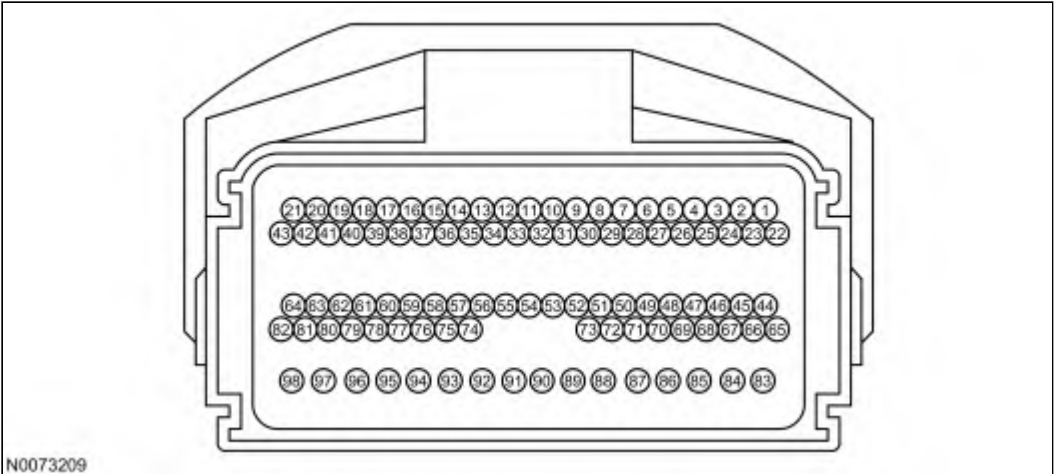
N0181101

B



N0166853

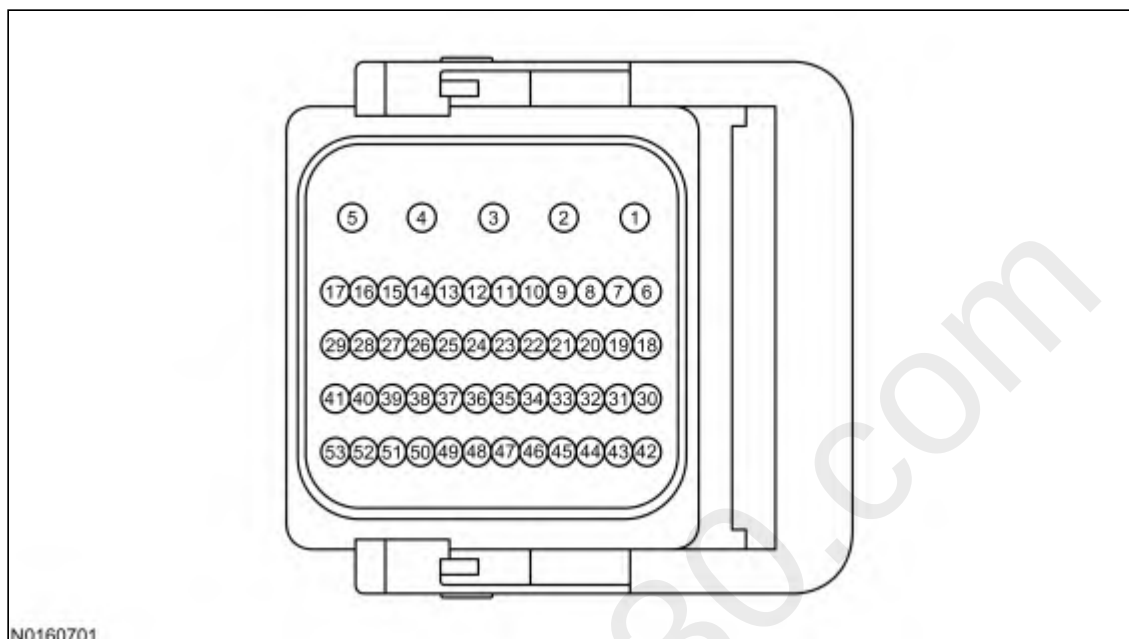
C



N0073209

Vehicle	Connector	Pin	Circuit
F-Series Super Duty	A	117	FLP
Transit Connect	B	53	FLPT
All other vehicles	C	34	FLP

Powertrain Control Module-T (PCM-T) Connector



N0160701

Pin	Circuit
23	FDPS (Fuel Delivery Pressure Switch)

MD1 CHECK FOR DTCS

Are DTCS P008A, P01C4, P01C5, P01C6 or P2539 present?

Yes	For DTC P2539, GO to MD2 . For Transit with DTC P008A, GO to MD3 . For all others, GO to MD9 .
No	RETURN to Section 3, Symptom Charts for further direction.

MD2 CHECK THE FUEL DELIVERY PRESSURE SWITCH FOR CORRECT OPERATION

- Ignition ON, engine OFF.
- Access the PCM and monitor the LP_FUEL_SW (MODE) PID.
- Access the PCM and control the FP (MODE) PID.
- Command the fuel pump ON then OFF.

Does the LP_FUEL_SW PID state change from Low to Not Low?

Yes	GO to MD8 .
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No	GO to MD3 .
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MD3 CHECK THE FUEL DELIVERY PRESSURE SWITCH

- Ignition OFF.
- Fuel Delivery Pressure Switch connector disconnected.
- Measure the resistance between:

(+) Fuel Delivery Pressure Switch Connector, Component Side	(-) Fuel Delivery Pressure Switch Connector, Component Side
FDPS - Pin 1	GND - Pin 2

Is the resistance between 0 Ohm - 5 ohms?

Yes	GO to MD4 .
No	INSTALL a new Fuel Delivery Pressure Switch. REFER to the Workshop Manual Section 303-14, Electronic Engine Controls. Clear the PCM DTCs. REPEAT the self-test.

MD4 CHECK THE GND CIRCUIT

- Measure the resistance between:

(+) Fuel Delivery Pressure Switch Connector, Harness Side	(-)
GND - Pin 2	Ground

Is the resistance less than 5 ohms?

Yes	GO to MD5 .
No	REPAIR the open circuit. Clear the PCM DTCs. REPEAT the self-test.

MD5 CHECK THE FDPS CIRCUIT FOR AN OPEN

- PCM-T connector disconnected.
- Measure the resistance between:

(+) Fuel Delivery Pressure Switch Connector, Harness Side	(-) PCM-T Connector, Harness Side
FDPS - Pin 1	FDPS - Pin 23

Is the resistance less than 5 ohms?

Yes	GO to MD6 .
No	REPAIR the open circuit. Clear the PCM DTCs. REPEAT the self-test.

MD6 CHECK THE FDPS CIRCUIT FOR A SHORT TO GROUND

- Measure the resistance between:

(+) Fuel Delivery Pressure Switch Connector, Harness Side	(-)
FDPS - Pin 1	Ground

Is the resistance greater than 10K ohms?

Yes	GO to MD7 .
No	REPAIR the short circuit. Clear the PCM DTCs. REPEAT the self-test.

MD7 CHECK THE FDPS CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition ON, engine OFF.
- Measure the voltage between:

(+) Fuel Delivery Pressure Switch Connector, Harness Side	(-)
FDPS - Pin 1	Ground

Is any voltage present?

Yes	REPAIR the short circuit. Clear the PCM DTCs. REPEAT the self-test.
No	GO to MD8 .

MD8 INTERMITTENT CHECK

- Ignition OFF.
- Fuel Delivery Pressure Switch connector connected.
- PCM-T connector connected.
- Access the PCM and monitor the LP_FUEL_SW (MODE) PID.
- Access the PCM and control the FP (MODE) PID.
- Command the fuel pump ON.
- While observing the PID, carry out the following:
 - Wiggle all accessible harness from the fuel delivery pressure switch to the PCM and lightly tap on the switch.
 - Wiggle the fuel delivery pressure switch connector.
 - Look for sudden changes in the PID state when the harness and connector are wiggled or when the fuel delivery pressure switch is tapped.

Is a concern present?

Yes	REPAIR as necessary. Clear the PCM DTCs. REPEAT the self-test.
No	For PID state does not change from LOW to NOT LOW, INSTALL a new Fuel Delivery Pressure Switch. REFER to the Workshop Manual Section 303-14, Electronic Engine Controls. Clear the PCM DTCs. REPEAT the self-test. For all others, The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector.

MD9 CHECK THE VREF AND SIGRTN CIRCUITS FOR AN OPEN

- Ignition OFF.
- For Transit Connect,

- Fuel Pressure And Temperature Sensor connector disconnected.
- Ignition ON, engine OFF.
- Measure the voltage between:

(+) Fuel Pressure And Temperature Sensor Connector, Harness Side	(-) Fuel Pressure And Temperature Sensor Connector, Harness Side
VREF	SIGRTN

- For all others,
- Fuel Pressure And Temperature Sensor connector disconnected.
- Ignition ON, engine OFF.
- Measure the voltage between:

(+) Fuel Pressure And Temperature Sensor Connector, Harness Side	(-) Fuel Pressure And Temperature Sensor Connector, Harness Side
VREF	SIGRTN

Is the voltage between 4.5 - 5.5 V?

Yes	GO to MD10 .
No	GO to Pinpoint Test B .

MD10 CHECK THE FLP CIRCUIT FOR AN OPEN

- Ignition OFF.
- PCM-E connector disconnected.
- For Transit Connect,
- Measure the resistance between:

(+) Fuel Pressure And Temperature Sensor Connector, Harness Side	(-) PCM-E Connector, Harness Side
FLPT	FLPT

- For all others,
- Measure the resistance between:

(+) Fuel Pressure And Temperature Sensor Connector, Harness Side	(-) PCM-E Connector, Harness Side
FLP	FLP

Is the resistance less than 5 ohms?

Yes	GO to MD11 .
No	REPAIR the open circuit. Clear the PCM DTCs. REPEAT the self-test.

MD11 CHECK THE FLP CIRCUIT FOR A SHORT TO GROUND OR SIGRTN

- For Transit Connect,

- Measure the resistance between:

(+) Fuel Pressure And Temperature Sensor Connector, Harness Side	(-)
FLPT	Ground

- Measure the resistance between:

(+) Fuel Pressure And Temperature Sensor Connector, Harness Side	(-) Fuel Pressure And Temperature Sensor Connector, Harness Side
FLPT	SIGRTN

- For all others,
- Measure the resistance between:

(+) Fuel Pressure And Temperature Sensor Connector, Harness Side	(-)
FLP	Ground

- Measure the resistance between:

(+) Fuel Pressure And Temperature Sensor Connector, Harness Side	(-) Fuel Pressure And Temperature Sensor Connector, Harness Side
FLP	SIGRTN

Are the resistances greater than 10K ohms?

Yes	GO to MD12 .
No	REPAIR the short circuit. Clear the PCM DTCs. REPEAT the self-test.

MD12 CHECK THE FLP CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition ON, engine OFF.
- For Transit Connect,
- Measure the voltage between:

(+) Fuel Pressure And Temperature Sensor Connector, Harness Side	(-)
FLPT	Ground

- For all others,
- Measure the voltage between:

(+) Fuel Pressure And Temperature Sensor Connector, Harness Side	(-)
FLP	Ground

Is any voltage present?

Yes	REPAIR the short circuit. Clear the PCM DTCs. REPEAT the self-test.
No	GO to MD13 .

MD13 INDUCE A LOW VOLTAGE ON THE FLP CIRCUIT

- Ignition OFF.
- PCM-E connector connected.
- For Transit Connect,
- Connect a 5 amp fused jumper wire between the following:

Point A Fuel Pressure And Temperature Sensor Connector, Harness Side	Point B Fuel Pressure And Temperature Sensor Connector, Harness Side
FLPT	SIGRTN

- Ignition ON, engine OFF.
- For all others,
- Connect a 5 amp fused jumper wire between the following:

Point A Fuel Pressure And Temperature Sensor Connector, Harness Side	Point B Fuel Pressure And Temperature Sensor Connector, Harness Side
FLP	SIGRTN

- Ignition ON, engine OFF.
- Access the PCM and monitor the FLP_V (VOLT) PID.

Is the voltage less than 0.1 V?

Yes	INSTALL a new Fuel Pressure And Temperature sensor. REFER to the Workshop Manual Section 303-14, Electronic Engine Controls. Clear the PCM DTCs. REPEAT the self-test.
No	GO to Pinpoint Test ZZ .

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