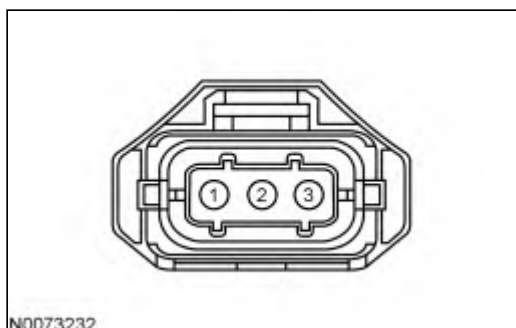


RF: Reductant Pressure Sensor

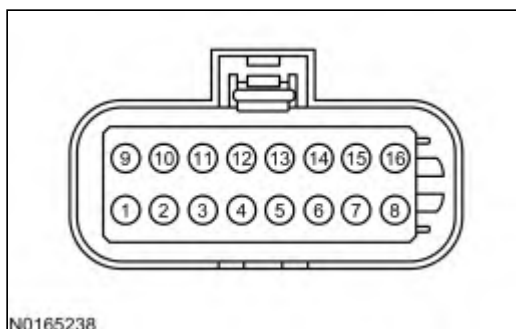
Note: Regeneration may occur during normal operation. During regeneration, diagnostic procedures may display biased values. If a regeneration occurs during diagnostic procedures, allow the process to complete before continuing diagnostics.

This pinpoint test is intended to diagnose the following:

- reductant pressure sensor
- harness circuits: RDP, VREF, and SIGRTN
- reductant dosage control module (5H298)
- PCM (12A650)

Reductant Pressure Sensor Connector

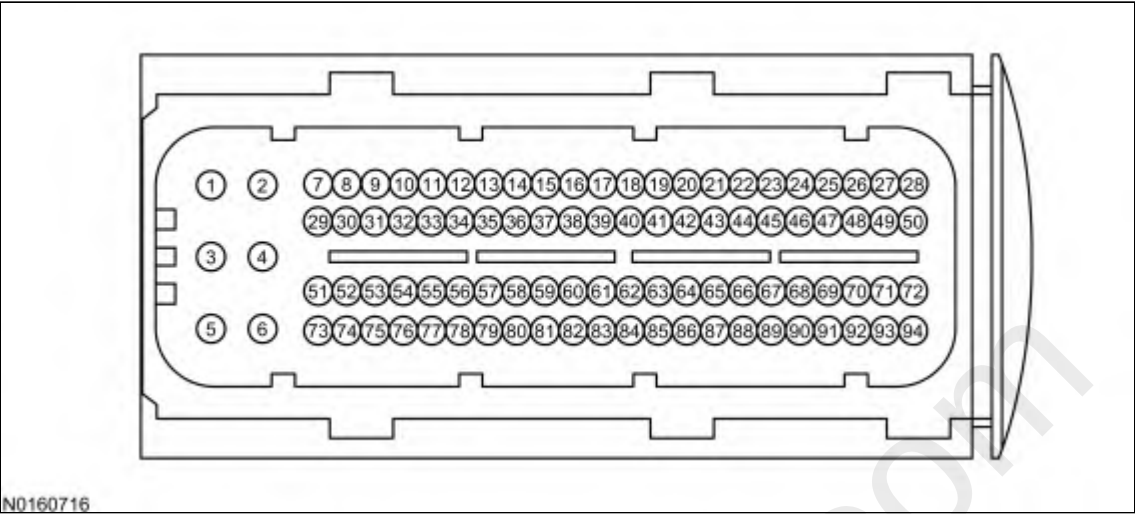
Pin	Circuit
3	SIGRTN (Signal Return)
1	VREF (Reference Voltage)
2	RDP (Reductant Pressure)

Reductant Pump Assembly Connector

Pin	Circuit
3	SIGRTN (Signal Return)
5	VREF (Reference Voltage)

Pin	Circuit
4	RDP (Reductant Pressure)

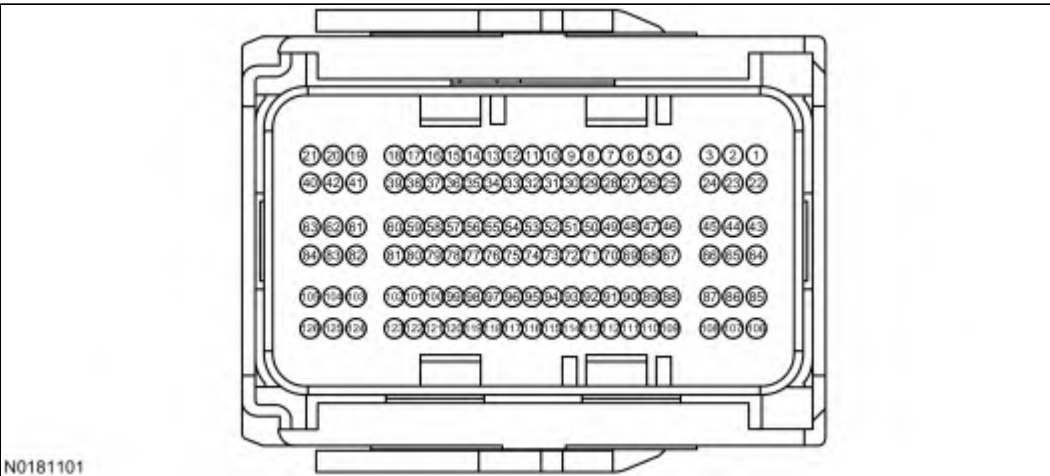
Reductant Dosage Control Module Connector



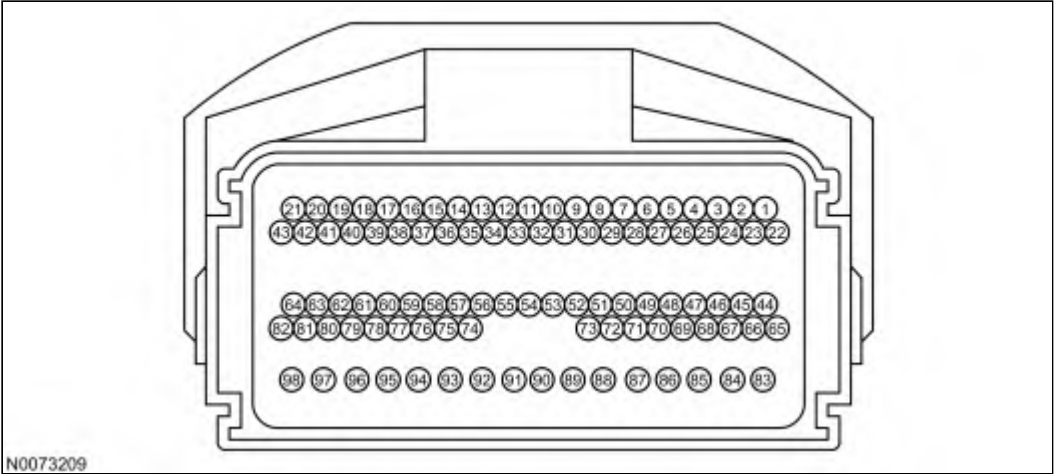
Pin	Circuit
81	SIGRTN (Signal Return)
26	VREF (Reference Voltage)
60	RDP (Reductant Pressure)

Powertrain Control Module-E (PCM-E) Connector

A



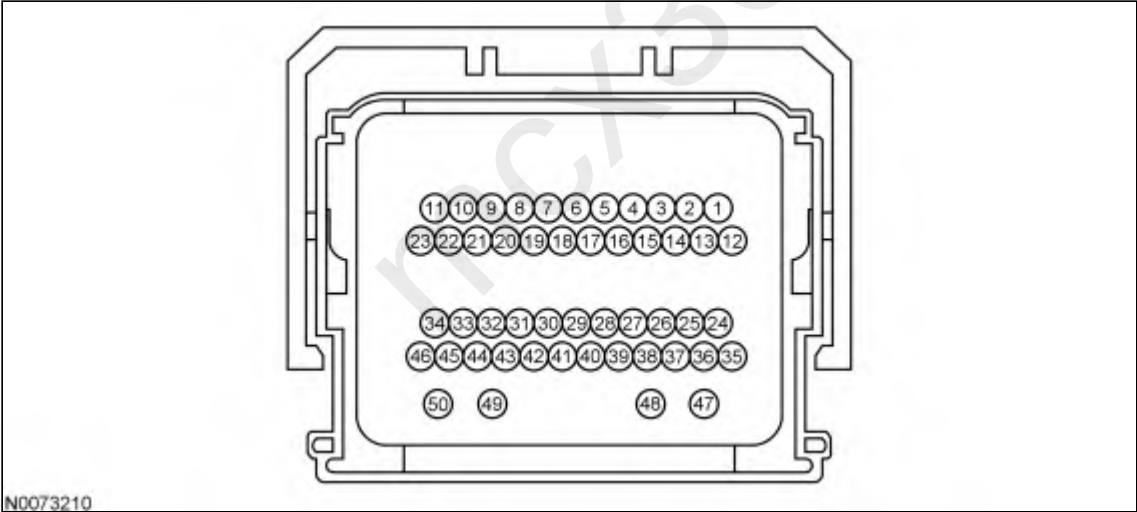
B



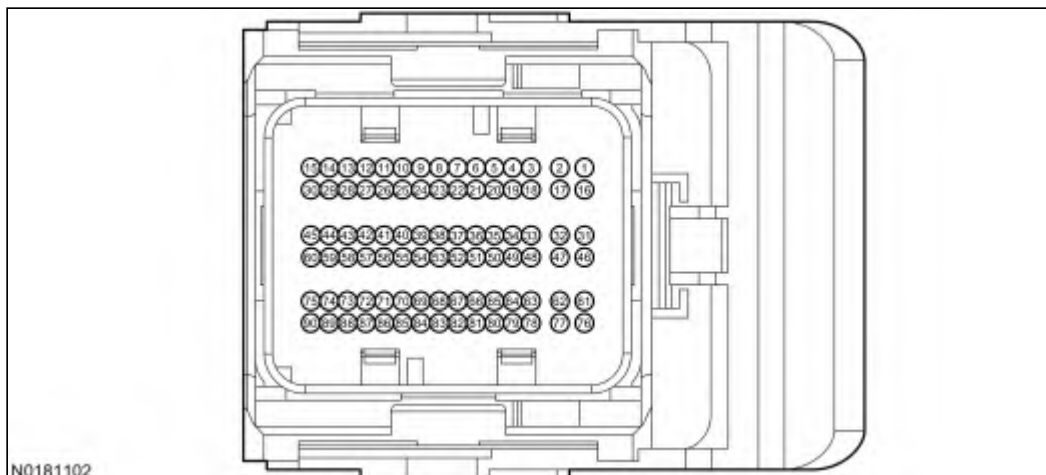
Vehicle	Connector	Pin	Circuit
F-Series Super Duty	A	72	RDP
All other vehicles	B	72	RDP

Powertrain Control Module-T (PCM-T) Connector

A



B



Vehicle	Connector	Pin	Circuit
F-150	A	43	SIGRTN
F-Series Super Duty	B	55	SIGRTN
		68	VREF
		40	RDP
All other vehicles	A	43	SIGRTN
		1	VREF

RF1 PRELIMINARY DIAGNOSIS

Are DTCs P204B, P204C, P204D, or P204E present?

Yes	GO to RF2 .
No	Unable to duplicate the condition. CHECK for a loose connection, and damaged or corroded terminals. WIGGLE the harness attempting to recreate the concern. REPAIR as necessary. RETURN to Section 3, Symptom Charts for further direction.

RF2 CHECK THE REDUCTANT PRESSURE SENSOR OPERATION

- Ignition ON, engine OFF.
- For Transit,
- Access the DCU and monitor the REDUCT_TNK_P (PRESS) PID.
- Record the REDUCT_TNK_P PID value.
- Carry out the SCR Dosing Measurement Test on the scan tool.
- Record the REDUCT_TNK_P PID value.
- For all others,
- Access the PCM and monitor the REDUCT_TNK_P (PRESS) PID.
- Record the REDUCT_TNK_P PID value.
- Carry out the SCR Dosing Measurement Test on the scan tool.
- Record the REDUCT_TNK_P PID value.

Does the REDUCT_TNK_P PID value change from the initial recorded value?

Yes	Unable to duplicate the condition. CHECK for a loose connection, and damaged or corroded terminals. WIGGLE the harness attempting to recreate the concern. REPAIR as necessary. REFER to Section 3, No Diagnostic Trouble Codes (DTCs) Present Symptom Chart Index , if a driveability concern exists.
No	GO to RF3 .

RF3 CHECK THE REDUCTANT PRESSURE SENSOR CIRCUITS FOR AN OPEN

- Ignition OFF.
- For Transit,
- Reductant Pressure Sensor connector disconnected.
- Reductant Dosage Control Module connector disconnected.
- Measure the resistance between:

(+) Reductant Pressure Sensor Connector, Harness Side	(-) Reductant Dosage Control Module Connector, Harness Side
RDP - Pin 2	RDP - Pin 60
VREF - Pin 1	VREF - Pin 26
SIGRTN - Pin 3	SIGRTN - Pin 81

- For F-Series Super Duty,
- Reductant Pump Assembly connector disconnected.
- PCM-T connector disconnected.
- Measure the resistance between:

(+) Reductant Pump Assembly Connector, Harness Side	(-) PCM-T Connector, Harness Side
RDP - Pin 4	RDP
VREF - Pin 5	VREF
SIGRTN - Pin 3	SIGRTN

- For all others,
- Reductant Pump Assembly connector disconnected.
- PCM-E connector disconnected.
- PCM-T connector disconnected.
- Measure the resistance between:

(+) Reductant Pump Assembly Connector, Harness Side	(-) PCM-E Connector, Harness Side
RDP - Pin 4	RDP

- Measure the resistance between:

(+) Reductant Pump Assembly Connector, Harness Side	(-) PCM-T Connector, Harness Side
VREF - Pin 5	VREF
SIGRTN - Pin 3	SIGRTN

Are the resistances less than 5 ohms?

Yes	GO to RF4 .
No	For DTC P204E, REPAIR the open circuit. CARRY OUT the Selective Catalytic Reduction (SCR) System Procedure. REFER to Section 2, Drive Cycles . Clear the RDCM and PCM DTCs. REPEAT the self-test.

For all others, REPAIR the open circuit. Clear the RDCM and PCM DTCs. REPEAT the self-test.

RF4 CHECK THE REDUCTANT PRESSURE SENSOR CIRCUITS FOR A SHORT TO GROUND

- For Transit,
- Measure the resistance between:

(+) Reductant Pressure Sensor Connector, Harness Side	(-)
RDP - Pin 2	Ground
VREF - Pin 1	Ground
SIGRTN - Pin 3	Ground

- For all others,
- Measure the resistance between:

(+) Reductant Pump Assembly Connector, Harness Side	(-)
RDP - Pin 4	Ground
VREF - Pin 5	Ground
SIGRTN - Pin 3	Ground

Are the resistances greater than 10K ohms?

Yes	GO to RF5 .
No	REPAIR the short circuit. Clear the RDCM and PCM DTCs. REPEAT the self-test.

RF5 CHECK THE REDUCTANT PRESSURE SENSOR CIRCUITS FOR A SHORT TO VOLTAGE

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

(+) Reductant Pressure Sensor Connector, Harness Side	(-)
RDP - Pin 2	Ground
VREF - Pin 1	Ground
SIGRTN - Pin 3	Ground

- For all others,
- Measure the voltage between:

(+) Reductant Pump Assembly Connector, Harness Side	(-)
RDP - Pin 4	Ground
VREF - Pin 5	Ground
SIGRTN - Pin 3	Ground

Is any voltage present?

Yes	REPAIR the short circuit. Clear the RDCM and PCM DTCs. REPEAT the self-test.
No	INSTALL a new Reductant Pump assembly. REFER to the Workshop Manual Section 303-08, Engine Emission Control. CARRY OUT the Selective Catalytic Reduction (SCR) System Procedure. REFER to Section 2, Drive Cycles . Clear the RDCM and PCM DTCs. REPEAT the self-test.

© Copyright 2020, Ford Motor Company.

mcx30.com