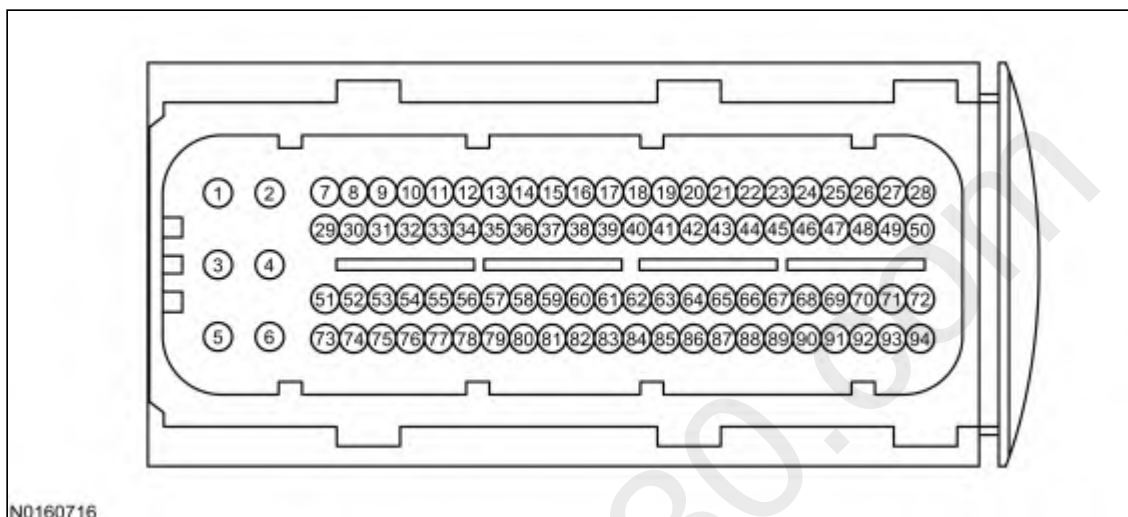


RM: Reductant Dosage Control Module

This pinpoint test is intended to diagnose the following:

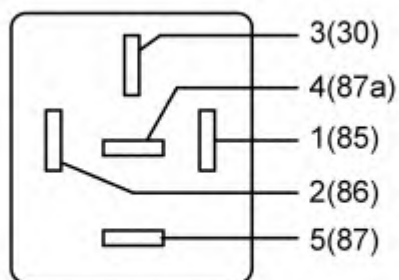
- communication concerns
- harness circuits: B+, PWRGND, RDCMRC and VPWR
- reductant dosage control module (5H298)

Reductant Dosage Control Module Connector



Vehicle	Connector	Pin	Circuit
Transit	A	29, 7 1, 3, 5, 51, 73 28	PWRGND VPWR RDCMRC
Transit Connect	A	1, 3, 5 89	VPWR RDCMRC

Reductant Dosage Control Module Relay Connector



A0077582

Pin	Circuit
5	VPWR (Vehicle Power)
2	RDCMRC (Reductant Dosage Control Module Relay Control)
1, 3	B+ (Battery Positive Voltage)

RM1 PRELIMINARY DIAGNOSIS

Are DTCs P20EA, P20EB, P21CB, P21CC, U0073, U0100 or U0401 present?

Yes	For DTC U0073, GO to RM2 . For DTCs U0100 or U0401, GO to RM3 . For all others, GO to RM5 .
No	RETURN to Section 3, Symptom Charts for further direction.

RM2 CHECK FOR A CONTROL MODULE COMMUNICATION BUS A OFF CONCERN

- Check for any other control module communication DTCs.
- Check for other control module communication related symptoms.

Is a concern present?

Yes	REFER to the Workshop Manual Section 418-00, Module Communications Network, Inspection and Verification to continue diagnosis.
No	GO to RM14 .

RM3 CARRY OUT THE NETWORK TEST

Note: When using Integrated Diagnostic System (IDS), the scan tool attempts to communicate with the PCM first. After establishing communication with the PCM, the scan tool then attempts to communicate with all modules on the vehicle. If an IDS session cannot be established, IDS may state no communication can be established with the PCM:

- Choose No when the scan tool prompts whether or not to retry communication.
- Enter a PCM part number, tear tag or calibration number to identify the vehicle and start a session. The PCM part number and 4-character tear tag are located on the PCM.

- Ignition ON, engine OFF.
- Carry out the network test.

Do all modules indicate pass?

Yes	GO to RM4 .
No	If only the reductant dosage control module indicates fail, GO to RM5 . For network test or all other modules indicates fail, REFER to the Workshop Manual Section 418-00, Module Communications Network, Communication Network Symptom Chart, to continue diagnosis.

RM4 CHECK FOR A PCM CONCERN

- Check for any PCM DTCs.
- Check for any other PCM related symptoms.

Is a concern present?

Yes	DISREGARD the current diagnostic trouble code (DTC) at this time. DIAGNOSE the next DTC. GO to Section 4, Diagnostic Trouble Code (DTC) Charts and Descriptions .
No	GO to RM14 .

RM5 CHECK THE REDUCTANT DOSAGE CONTROL MODULE VPWR CIRCUITS FOR VOLTAGE

- Ignition OFF.
- Reductant Dosage Control Module connector disconnected.
- Connect a 5 amp fused jumper wire between the following:

Point A Reductant Dosage Control Module Connector, Harness Side	Point B
RDCMRC	Ground

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

(+) Reductant Dosage Control Module Connector, Harness Side	(-)
VPWR	Ground

Is the voltage greater than 10.5 V?

Yes	GO to RM6 .
No	GO to RM7 .

RM6 CHECK THE REDUCTANT DOSAGE CONTROL MODULE GROUND CIRCUITS FOR AN OPEN

- Ignition OFF.
- Measure the resistance between:

(+) Reductant Dosage Control Module Connector, Harness Side	(-)
PWRGND	Ground

Is the resistance less than 5 ohms?

Yes	REFER to the Workshop Manual Section 418-00, Module Communications Network, Communication Network Symptom Chart, to continue diagnosis.
No	REPAIR the open circuit. Clear the RDCM and PCM DTCs. REPEAT the self-test.

RM7 CHECK THE REDUCTANT DOSAGE CONTROL MODULE RELAY

- Reductant Dosage Control Module Relay connector disconnected.
- Carry out the reductant dosage control module relay component test. Refer to the Wiring Diagrams Cell 149, Component Testing.

Is a concern present?

Yes	INSTALL a new Reductant Dosage Control Module relay. Clear the RDCM and PCM DTCs. REPEAT the self-test.
No	GO to RM8 .

RM8 CHECK THE VOLTAGE TO THE REDUCTANT DOSAGE CONTROL MODULE RELAY

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

(+) Reductant Dosage Control Module Relay Connector, Harness Side	(-)
B+ - Pin 1, 3	Ground

Is the voltage greater than 10.5 V?

Yes	GO to RM9 .
No	REPAIR the open circuit. Clear the RDCM and PCM DTCs. REPEAT the self-test.

RM9 CHECK THE RDCMRC CIRCUIT FOR AN OPEN

- Ignition OFF.
- Measure the resistance between:

(+) Reductant Dosage Control Module Relay Connector, Harness Side	(-) Reductant Dosage Control Module Connector, Harness Side
RDCMRC - Pin 2	RDCMRC

Is the resistance less than 5 ohms?

Yes	GO to RM10 .
No	REPAIR the open circuit. Clear the RDCM and PCM DTCs. REPEAT the self-test.

RM10 CHECK THE RDCMRC CIRCUIT FOR A SHORT TO GROUND

- Measure the resistance between:

(+) Reductant Dosage Control Module Relay Connector, Harness Side	(-)
RDCMRC - Pin 2	Ground

Is the resistance greater than 10K ohms?

Yes	GO to RM11 .
No	REPAIR the short circuit. Clear the RDCM and PCM DTCs. REPEAT the self-test.

RM11 CHECK THE RDCMRC CIRCUIT FOR A SHORT TO VOLTAGE

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

(+) Reductant Dosage Control Module Relay Connector, Harness Side	(-)
RDCMRC - Pin 2	Ground

Is any voltage present?

Yes	REPAIR the short circuit. Clear the RDCM and PCM DTCs. REPEAT the self-test.
No	GO to RM12 .

RM12 CHECK THE REDUCTANT DOSAGE CONTROL MODULE VPWR CIRCUITS FOR AN OPEN

- Ignition OFF.
- Measure the resistance between:

(+) Reductant Dosage Control Module Relay Connector, Harness Side	(-) Reductant Dosage Control Module Connector, Harness Side
VPWR - Pin 5	VPWR

Is the resistance less than 5 ohms?

Yes	GO to RM13 .
No	REPAIR the open circuit. Clear the RDCM and PCM DTCs. REPEAT the self-test.

RM13 CHECK THE REDUCTANT DOSAGE CONTROL MODULE VPWR CIRCUITS FOR A SHORT TO VOLTAGE

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

(+) Reductant Dosage Control Module Relay Connector, Component Side	(-)
VPWR - Pin 5	Ground

Is any voltage present?

Yes	REPAIR the short circuit. Clear the RDCM and PCM DTCs. REPEAT the self-test.
No	GO to RM14 .

RM14 CHECK FOR CORRECT REDUCTANT DOSAGE CONTROL MODULE OPERATION

- Disconnect the reductant dosage control module connector.
- Visually inspect for:
 - pushed out pins
 - corrosion
- Connect the reductant dosage control module connector and make sure it seats correctly.
- Carry out the DCU self-test.
- Verify the concern is still present.

Is the concern still present?

Yes	For DTC U0100 or U0401, GO to Pinpoint Test ZZ . For all others, INSTALL a new Reductant Dosage Control module. REFER to the Workshop Manual Section 303-14, Electronic Engine Controls.
No	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector.