



Countries:	CANADA, MEXICO, UNITED STATES	Document ID:	IK0800664
Availability:	ISIS, FleetSIS, NotSIR	Revision:	0
Major System:	Electrical	Created:	12/11/2023
Current Language:	English	Last Modified:	12/21/2023
Other Languages:	NONE	Author:	Anthony Tondola
Viewed:	105		

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Coding Information

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Title: LT/RH Aftertreatment PDM F2 Fuse Falling Out or Cracking**Applies To:** LT/RH

CHANGE LOG

Please refer to the change log text box below for recent changes to this article:

12/21/2023 - Initial Article Release

DESCRIPTION

Some vehicles may experience issues with the aftertreatment PDM fuses cracking without a circuit fault, or falling out of the fuse holder. This document will guide the user through the two main failure modes, and the procedure for correcting both.

SYMPTOM(s)

Diagnostic Trouble Code(s) & Dashboard Indicator Light(s):

DTC/Light	Description
SPN 1761 FMI 9	Aftertreatment 1 Diesel Exhaust Fluid Tank Volume: Abnormal Update Rate
SPN 3216 FMI 9	Engine Exhaust 1 NOx 1: Abnormal Update Rate
SPN 3226 FMI 9	Aftertreatment 1 Outlet NOx 1: Abnormal Update Rate
SPN 3516 FMI 9	Aftertreatment 1 Diesel Exhaust Fluid Concentration: Abnormal Update Rate
SPN 5742 FMI 9	Aftertreatment Diesel Particulate Filter Temperature Sensor Module: Abnormal Update Rate
SPN 5743 FMI 9	Aftertreatment 1 SCR Temperature Sensor Module: Abnormal Update Rate
SPN 5835 FMI 9	Aftertreatment 1 Particulate Sensor: Abnormal Update Rate

Customer Observations or Concerns:

- Malfunction Indicator Lamp (MIL)
 - Engine Torque Derate
-

SPECIAL TOOL(s) / SOFTWARE

Tool Description	Tool Number	Comments	Instructions
N/A	N/A		

[Tools Resource Center](#)

SERVICE PARTS INFORMATION

Kit Description	Part Number	Quantity Required	Notes
N/A	N/A		

REPAIR STEP(s)**Fuse Cracking without a Circuit Fault:**

- The aftertreatment PDM F2 fuse can crack internally due to fatigue (Figure 1)
- Fatigue can be caused by excess aftertreatment PDM harness movement directly behind the PDM.
 - This excess movement is caused by the PDM harness being secured incorrectly, which does not allow for harness movement with cab suspension travel.
 - Cab movement causes the harness to twist the PDM terminals, which eventually leads to the fuse cracking internally.

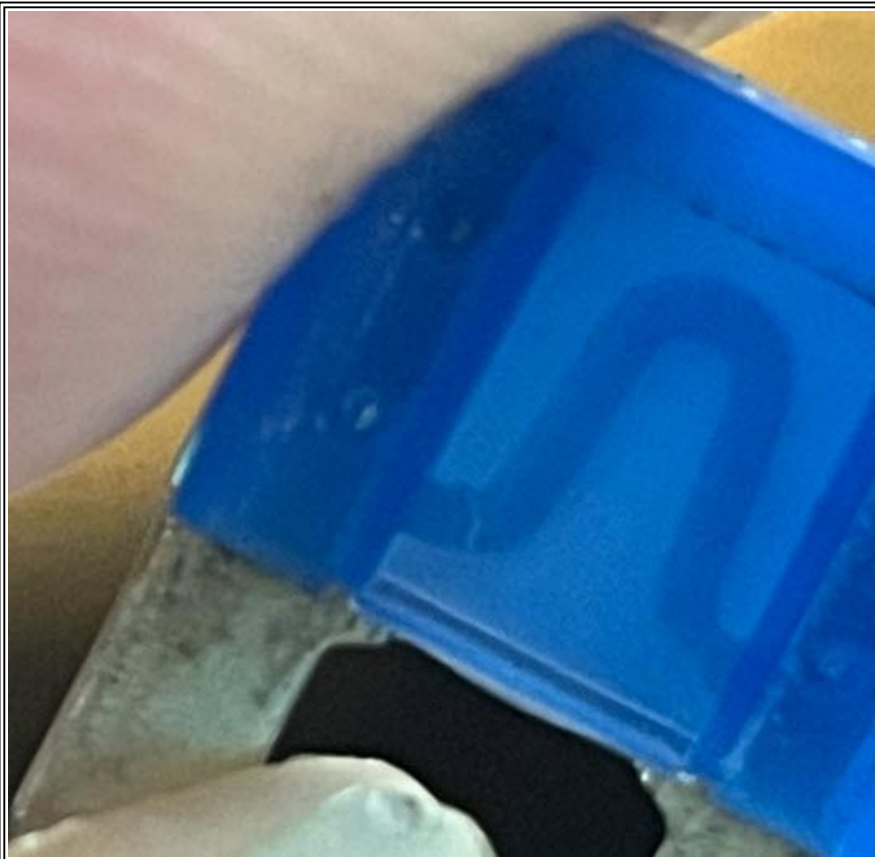


Figure 1: Fuse Cracked without the Typical Signs of a Circuit Fault

1. Cut any tie straps that secure the aftertreatment PDM harness within 10 inches of the back of the PDM. (Figure 2)
2. Install a new tie strap around the main trunk of the harness, while ensuring there is 8-10 inches of unsecured harness from the back of the PDM. (Figure 3)
 - The section of unsecured harness allows for cab suspension travel, without stressing the the AFT PDM fuses and terminals

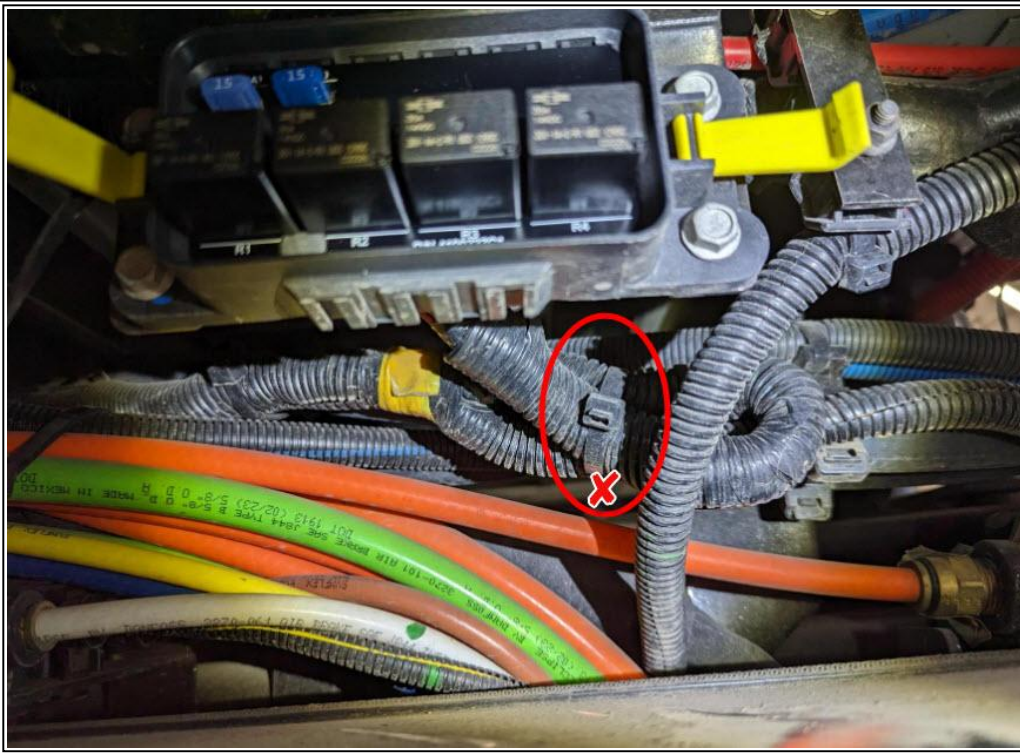


Figure 2: Improper securement of aftertreatment PDM harness

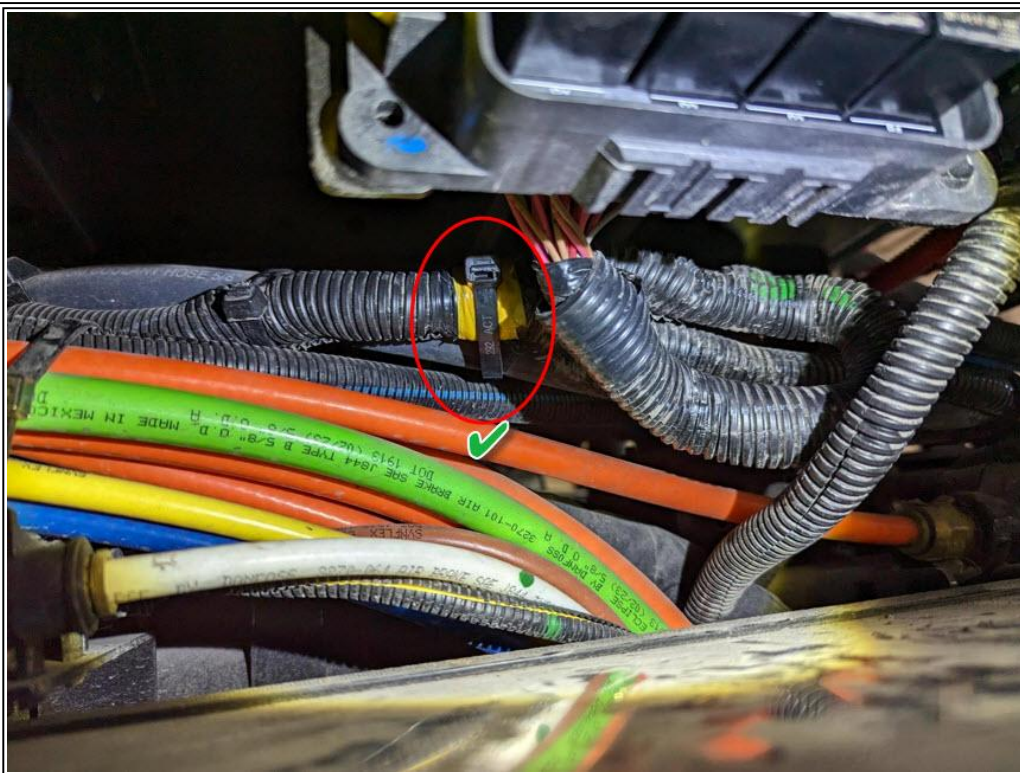


Figure 3: New Harness Securement Location

Fuse Falling Out:

- The fuse falling out is most commonly caused by excess vibrations. (Figure 4)



Figure 4: F2 Aftertreatment Fuse Loose in PDM Cover

- 1.) Verify proper harness routing per repair steps for "Fuse Cracking without a circuit fault."
- 2.) Check for any engine performance issues that would cause excess 3rd order engine vibrations
 - 3rd order engine vibrations cause a "tuning fork" effect through the PDM support bracket, which can shake the fuses out of their terminals
- 3.) Make a foam block that fits inside the PDM cover that will prevent the fuse from falling out. (Figure 5)
 - This foam block needs to apply slight downward pressure on the fuses only, avoiding the relays.



Figure 5: Foam Block Installed in PDM Cover

WARRANTY INFORMATION

Warranty Claim Coding:

Refer to the [Warranty Coding Manual](#) for Group and Noun Codes.

Standard Repair Time(s):

Refer to the [SRT Manual](#) for Repair Times

OTHER RESOURCES

[Master Service Information Site](#)

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Staff ID	Client ID	Comments	Created Date
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