General information

Scope

This manual provides advanced troubleshooting procedures for verifying operation of the PMCI-2 ECU (D365) before replacement. The manual only applies to the MX engine in Model Year 2010, 2011, and 2012 vehicles. A separate manual is available for the MX-13 engine in Model Year 2013 vehicles. Some of these procedures require the use of more advanced but readily available tools such as Breakout Harnesses or an oscilloscope. These tools are very useful for many other diagnostic procedures as well as those presented here and are strongly recommended for each service center. This manual does not cover ECU errors caused by incompatible software components.

When programming fails, the first step in PMCI-2 troubleshooting should always be to verify the software content on the PMCI-2 ECU with the Engine Support Center.

Programming the PMCI-2 ECU using DAVIE 4

Before programming a PMCI-2 ECU make sure that the DAVIE computer is sufficiently charged or is plugged into a wall outlet. Loss of computer power during programming can result in permanent damage to the PMCI-2 ECU.

When is programming of the PMCI-2 ECU necessary?

Programming is rarely required to repair a truck unless a new PMCI-2 ECU installed or a software update is recommended to address specific issues.

The PMCI-2 ECU software status can be identified using the DAVIE tool. To determine if

programming is necessary follow the following steps:

- 1 - Open the DAVIE 4 application and select 'program' under 'vehicle update'
- 2 - Click on the iPane for PMCI-2
- 3 - Check the column 'Installed (ECU)'

Do all Software Variant component groups have seven digit numeric part numbers?

YES	NO
PMCI-2 ECU contains valid software. Reprogramming will not resolve the issue. Contact the Engine Support Center to verify the installed Software Variant Components is correct for the vehicle.	PMCI-2 ECU must be programmed.

Programming failed

Occasionally DAVIE reports that programming has failed even though the status bar reaches 100%. This is an indication that there were some issues with writing the logistical data.

In this situation the software will work but some chart-recorder data might be reset to 0. The programming status can be confirmed by checking whether all Software Variant component groups all have part numbers.

The Engine Support Center can confirm the correct Software Variant Component part numbers based on chassis number. See section 'When is Programming Necessary?'. If any part numbers are missing or contain non-numeric characters, programming has failed. Contact the Engine Support Center to confirm that the file being programmed into the PMCI-2 is correct and not corrupted.

Is the current programming file displayed correctly by DAVIE?

YES	NO
PMCI-2 ECU has failed. Replace the PMCI-2 ECU according to the following job(Replace electronic control unit, engine management system (Elec.system, engine))	PMCI-2 ECU must be re-programmed.

DTCs that indicate PMCI-2 ECU issues

There are DTCs that indicate specific PMCI-2 ECU issues.

When one of the following DTCs is present, the PMCI-2 can likely be restored by programming:

- P1602 – ECU (D365) - Internal error - Application not present
- P1678 – ECU (D365) - Internal error 11
- P1679 – ECU (D365) - Internal error 1
- P1681 – ECU (D365) - Internal error 12

When one of the below listed DTCs is present, the PMCI-2 ECU has an internal hardware failure.

Programming will not revive the PMCI-2 ECU. The PMCI-2 ECU must be replaced if these DTCs are found.

- P0603 – ECU (D365) - Internal error 13
- P1601 – ECU (D365) - Internal error 3
- P1674 – ECU (D365) - Internal error 7
- P1675 – ECU (D365) - Internal error 8
- P1676 – ECU (D365) - Internal error 9
- P1677 – ECU (D365) - Internal error 10

DTCs that cannot be cleared

Certain DTCs cannot be cleared once they are stored in the DTC memory of the PMCI-2 ECU

The presence of these DTCs may indicate driver abuse and can be used to void warranty. These DTCs remain in the PMCI-2 ECU for the life of the vehicle.

An inability to clear these DTCs does not indicate a failed PMCI-2 ECU.

DTCs that cannot be cleared are:

- P0108 – Boost-pressure sensor F802 - ECU pin A51 signal voltage too high.
- P0168 – fuel temperature - too high.

- P0217 – engine cooling system - The temperature is too high.
- P0219 – engine speed – Overspeed.
- P0524 – engine lubrication system - oil pressure is too low.
- P3793 – Emission Aftertreatment System - Diesel Particulate Filter severely damaged.

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