

**NUMBER: 390120008.01****MODEL: Karma****DATE: January 27, 2012****MODEL YEAR: 2012****TITLE: Baseline 613.5 Release****PRIORITY:**

Vehicle in Shop

MARKET REGION:

U.S., Canada, Europe

PURPOSE:

Flash reprogramming allows the ECU software to be updated without replacing the ECU. Flash calibration updates for specific vehicle models/ECUs are released as field-fix procedures described in individual service bulletins.

This bulletin will be used as a reference guide for technicians to update a vehicle to Baseline 613.5 by listing software ID numbers as well as the required flash files necessary to update an ECU. A baseline update may only require that certain ECUs to be updated. Using this guide, the technician can determine what ECUs have updates and those that do not require it.

CHANGES:

Battery Energy Control Module (BECM) – Resolves potential intermittent charging issues caused by noise in the electrical circuit of the charging source. This update will also prevent P262B, U019B, P0D22, and P0C43 DTCs from setting invalid fault codes. With the new software, the HV battery's internal clock will sync itself with the GPS clock every 5 minutes to ensure its accuracy, resolving valid P262B trouble codes being set.

Power Inverter Module – Generator (PIM GEN) – Changes include: Generator speed controller calibration parameter change to reduce engine oscillation issue. Additionally, the software version ID number has been updated.

OVERVIEW:

1. Baseline 613.5 ECU Software Version Identification Chart
2. Preparing the Vehicle for ECU Flash Reprogramming
3. Connecting the Fisker Scan Tool and Updating Diagnostic Data
4. BECM Flash Procedure (Baseline 613.5)
5. PIM GEN Flash Procedure (Baseline 613.5)
6. Post ECU Flash Reprogramming Procedure

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CAMPAIGN

FISKER AUTOMOTIVE, INC.

NUMBER: 390120008.01

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VIN: All vehicles with Baseline 613

[illegible]

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Baseline 613.5 ECU Software Identification Number

ECU	Software Version (BL613.5)
VGM	0350-04-00
VCM	0002-05-02
CIU	05.02.07.00 (Check TPI Screen)
TPI	0031-01-11
DIS	0041-01-33
EPB	0061-00-02
EBCM T1	0070-03-04
EBCM T3	0071-03-08
HCU	0111-04-0A
HCU – EV	0116-00-01
ECM	0121-05-00
BECM (Updated)	0156-00-16
PIM_TM1	0281-06-06
PIM_TM2	0291-06-06
PIM_GEN (Updated)	0301-06-08
APM	0311-01-00

NOTE: The BECM and PIM GEN are the only ECUs updated in Baseline 613.5. If the ECU Software Version IDs on the vehicle match the table above; it is not necessary to flash the other ECUs again.

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Preparing the Vehicle for ECU Flash Reprogramming

NOTE: Battery voltage must be maintained between 12.2 and 16 volts while flashing an ECU.

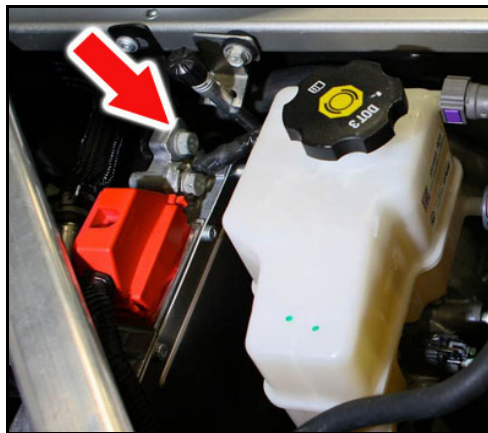
2a. Disconnect the vehicle from the High Voltage wall charger

2b. Verify the vehicle's 12 volt battery is at or above 12.2 volts before proceeding.

– If the low-voltage Battery is not at least 12.2 volts, you must charge battery. Connect the positive lead of the Midtronics MDX series tester (or equivalent) to the B+ positive post at the Power Distribution Center (PDC) with Fisker Special Tool **FST9001 – Battery Charging Terminal Adaptor** (to be used for all electrical system testing and charging). Connect the – Negative lead to the Accessory Power Module (APM) ground terminal.



FST9001 - Battery Charging Terminal Adaptor (red arrow) installed on the B+ post in the PDC.



Negative chassis ground (red arrow) location on Accessory Power Module (APM).

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NOTE: *Battery voltage must be maintained between 12.2 and 16 volts while flashing.*

2c. Before ECU flash reprogramming can be started; the vehicle must be in the ACC – Accessory mode.

– With the vehicle completely off, press the SSB – Start/Stop Button once. The SSB backlighting will turn amber and the DIS will display “ACC.”

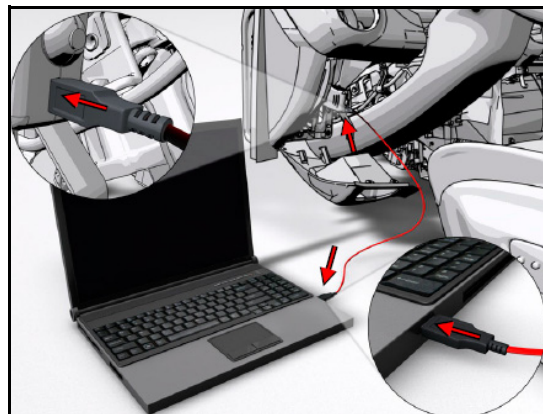
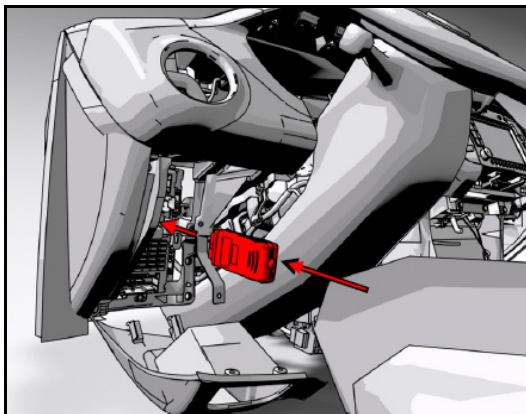
2d. When the ECU is being reprogrammed; the vehicle must be prevented from going into Sleep mode. This can be accomplished simply by turning on the Hazard Warning Lights.

NOTE: *If the vehicle goes into sleep mode while the ECU is being reprogrammed; the reprogramming may be unsuccessful and can potentially damage the ECU.*

Connecting the Fisker Scan Tool and Updating Diagnostic Data

3a. Connect the WDI to the Data Link Connector (DLC) located underneath the Driver's side dash. Then connect the WDI to the Fisker laptop with the provided USB cable.

NOTE: *The laptop will automatically install the drivers needed. Please wait for this to finish before continuing.*



NOTE: *It is highly recommended to use the USB when flash reprogramming the ECU. It is faster and more reliable than using the Bluetooth connection.*

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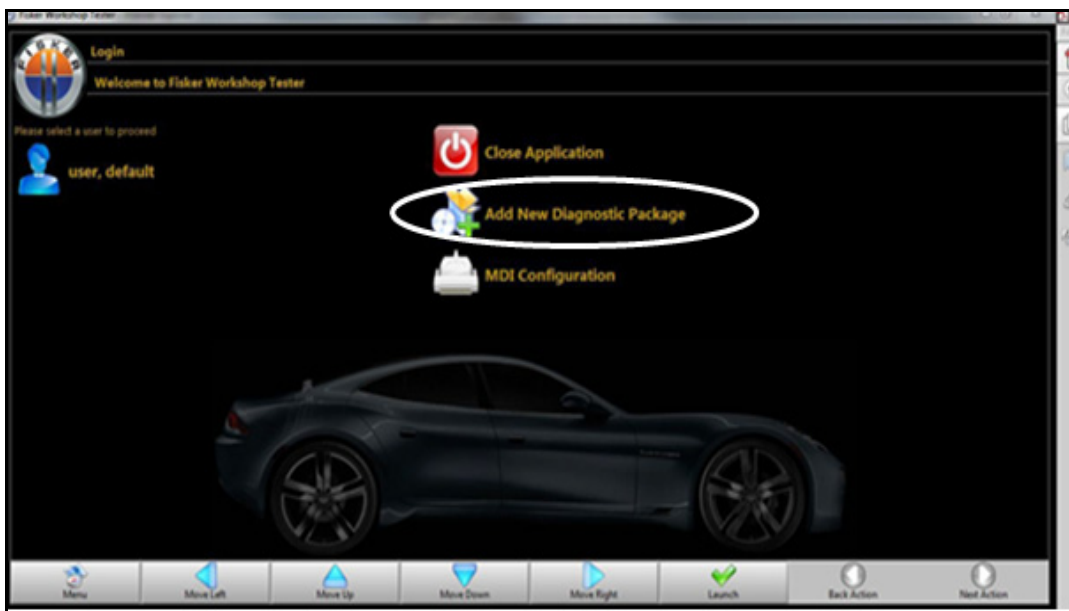
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3b. Before ECU flash reprogramming, ensure your laptop is updated with the latest diagnostic data package/ECU software.

3c. Open the FiskerWT software. Update by clicking the “*Add New Diagnostic Package*” Icon from the main screen.



3d. Press the “*Download ODX*” Button. This will open a window showing the download progress. Please wait until the download is complete before continuing.

3e. Next press the “*Download Descriptors*” button. After the dialog box dismisses, a number of deliverables should be shown on the left side.

3f. Select the descriptor that you want to install and select the “*Download*” button. This will open a window showing the download progress. Please wait until the download is complete before continuing.

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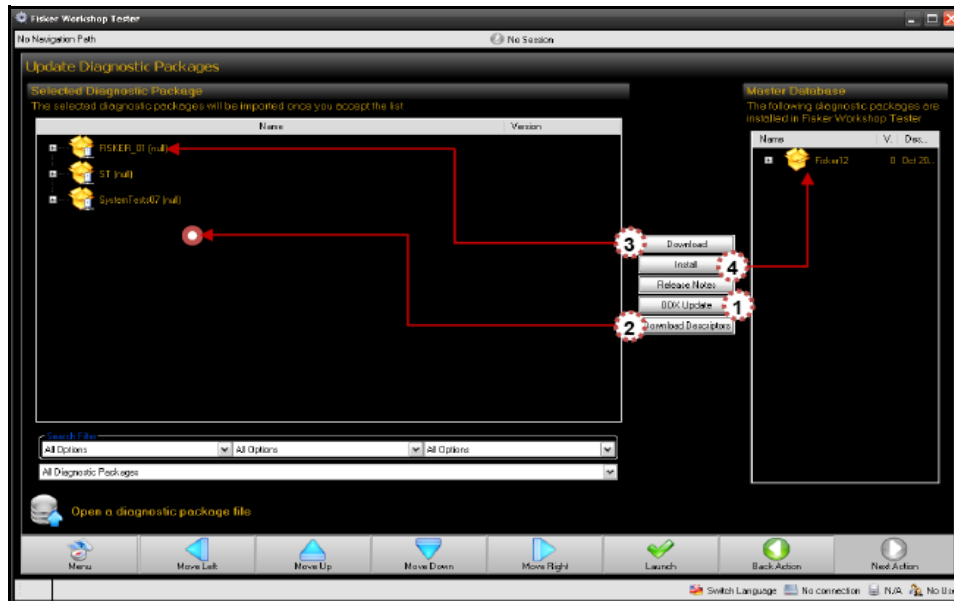
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3g. After the download of the deliverable is complete, select the “Install” button or double click on the deliverable. As a result, the deliverable will be shown on the right hand side, indicating it is installed to the laptop.



NOTE: It is recommended to perform this update procedure constantly as new diagnostic packages will be released frequently. Completing this procedure before using the Fisker scan tool ensures that you have the latest data available.

3h. Select Back Action to return to the main menu once the update is complete.

3i. Select “user, default” to move on to the MDI Configuration screen.

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3j. Select WDI (Connection Type - USB) by clicking on it once. When the gray box turns green, the WDI is ready to use.



NOTE: There may be new firmware to install depending on when you have last connected. By selecting the WDI connected via the USB cable, any new firmware will install automatically. When the installation is complete, the WDI selection menu will refresh automatically.



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3k. With a WDI selected, click on "Next Action" to move to the VIN Entry Screen. Enter the vehicle information to continue.

Battery Energy Control Module Flash Procedure (Baseline 613.5)

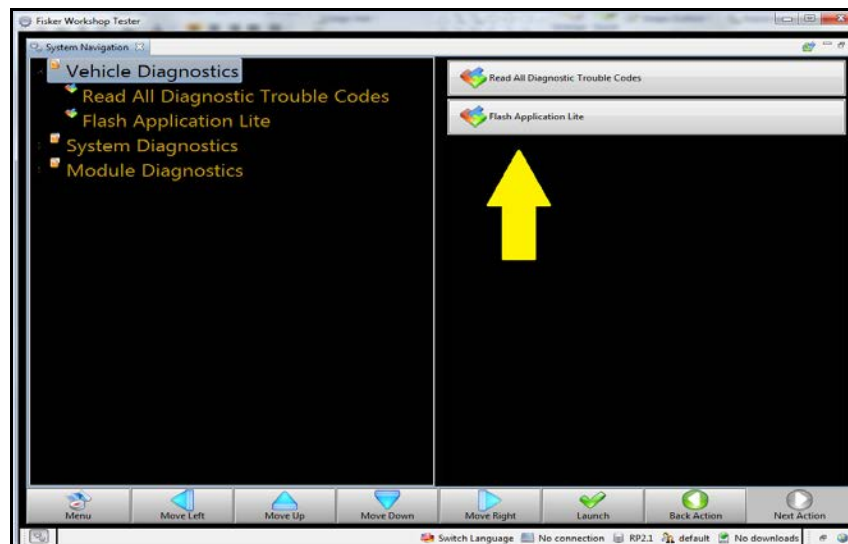


WARNING!

DO NOT ALLOW LAPTOP TO GO INTO SLEEP OR SCREENSAVER MODE DURING THIS PROCESS.

TURN OFF SCREEN SAVER IF NECESSARY AND ENSURE PC STAYS AWAKE. LAPTOP MUST BE PLUGGED INTO AC SOURCE DURING THIS PROCESS.

4a. After opening FiskerWT and entering the vehicle information; select Flash Application Lite in the System Navigation menu under Vehicle Diagnostics.



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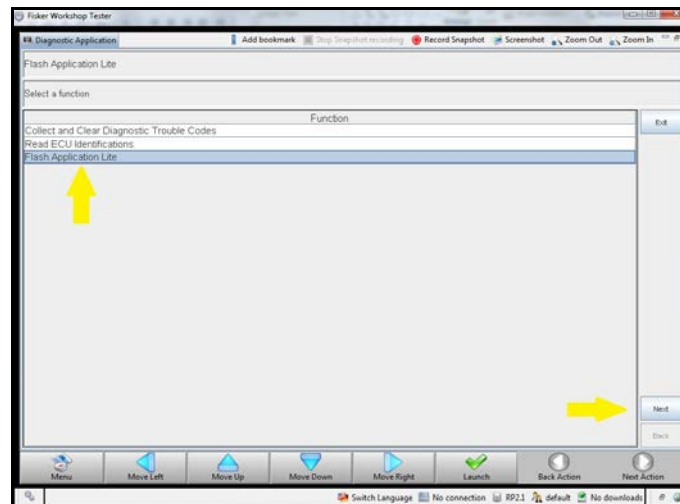
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4b. Click once to highlight "Flash Application Lite." Click on "Next" in the bottom right hand corner of the screen to continue.



NOTE: Not all ECUs will have updates in a baseline release. Consult the latest Baseline Release Guide to find the latest software available for an ECU.

4c. In the next screen select the applicable files in the drop down menu:

ECU	BECM
SBL	BECM_SBL_0154_00_03.zip
APP	BECM_APP_0156_00_16.zip
CAL	BECM_CAL_014F_00_00.dsc.hex



WARNING!

DO NOT DISTURB THE VEHICLE OR INTERRUPT THE CONNECTION BETWEEN THE SCAN TOOL AND THE VEHICLE ONCE FLASHING HAS STARTED.

THE PROGRESS BAR MAY LOOK FROZEN – THIS IS NORMAL. IF THERE IS A PROBLEM YOU WILL BE ALERTED THAT THE FLASH HAS BEEN UNSUCCESSFUL.

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4d. Once the correct files to flash the BECM to Baseline 613.5 have been selected; Press the "Flash" button at the bottom right of the screen to begin.

- The scan tool will now begin to flash the BECM. In the message box, you will be alerted to the status of the flash.

Example: "Prepare vehicle for flash..." and "Starting flash..."

NOTE: *The BECM should take approximately 10-15 minutes to flash.*

4e. When the ECU flash reprogramming has finished; you will be prompted with a message similar to:

*"Flashing of [ECU_SBL_XXXX_00_00.zip, ECU_APP_0350_04_00.zip] **SUCCESS**"*

4f. After the vehicle has been flashed, verify that the BECM ECU Software ID matches the Baseline 613.5 ECU Software ID chart on Page 3.

- If the flashing of the ECU has failed, you will see a message such as:

*"Flashing of [ECU_SBL_XXXX_00_00.zip, ECU_APP_0350_04_00.zip] **FAILURE**"*

If the attempt to flash an ECU is unsuccessful, verify:

- The correct files are selected for the BECM.
- The 12 volt battery is fully charged with a battery maintainer connected.
- The vehicle is in ACC mode.
- The hazard warning lights are turned on to keep the vehicle from falling asleep.

NOTE: *It may take several attempts to successfully flash an ECU.*

4g. When the flash reprogramming has been completed, exit the Flash Application Lite menu.

4h. Before attempting to flash any additional ECUs, power down the vehicle and let it go to sleep.

4i. Power up the vehicle and clear any diagnostics trouble codes (DTC) that may be set. If the DTCs return, diagnose accordingly



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PIM GEN Flash Procedure (Baseline 613.5)

5a. Using the procedure outlined on Page 3 of this document, prepare the vehicle to be flashed.

5b. Connect to the vehicle using the Fisker Workshop Tester and WDI via the USB cable.

5c. After entering the Vehicle's information into the Fisker Workshop Tester and connecting to the vehicle, navigate to the Flash Application Lite screen.

- Select the following from the Flash Application Lite's drop down menus and click on the "Flash" button to begin flashing the PIM GEN ecu.

ECU	PIM GEN
SBL	GEN_SBL_0304_01_00.zip
APP	GEN_APP_0301_06_08.zip
CAL	<choose file>

Flash Application Lite

Please select the ECU and flash files

ECU PIM GEN Exit

SBL GEN_SBL_0304_01_00.zip

APP GEN_APP_0301_06_08.zip

CAL <choose file>

Flash

NOTE: The PIM GEN should take approximately 5 minutes to flash.

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If the attempt to flash an ECU is unsuccessful, verify:

- The correct files are selected for the PIM GEN.
- The 12 volt battery is fully charged with a battery maintainer connected.
- The vehicle is in ACC mode.
- The hazard warning lights are turned on to keep the vehicle from falling asleep.

NOTE: *It may take several attempts to flash and ECU.*

5d. When the flash reprogramming has been completed, exit the Flash Application Lite menu.

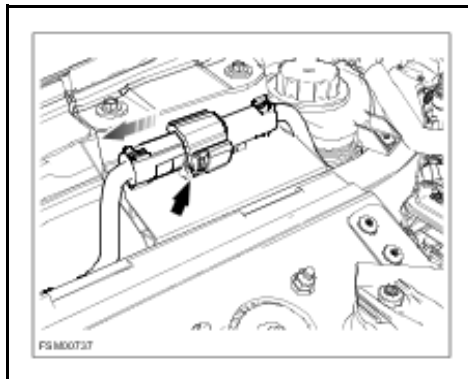
5e. Before attempting to flash any additional ECUs, power down the vehicle and let it go to sleep.

5f. Power up the vehicle and clear any diagnostic trouble codes (DTC) that may be set. If the DTCs return, diagnose accordingly.

Post ECU Flash Reprogramming Procedure

6a. When the flash reprogramming has finished, exit the Flash Application Lite menu.

6b. Power down the vehicle and let it go to sleep. Open the hood and disconnect the 12 volt battery by disconnecting connector C104.



12 Volt Battery Negative Connector C104

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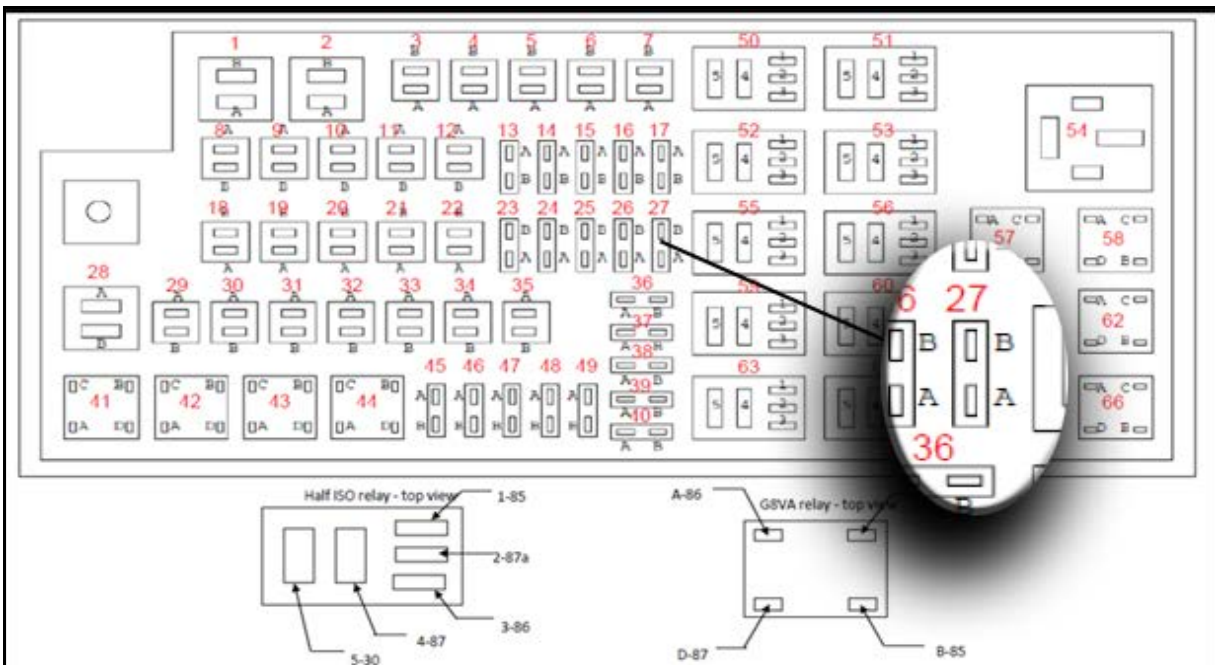
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6c. With the battery disconnected, remove Fuse 27 (25 amp) from the Power Distribution Center. This will disable the Solar Panel from powering the 12 volt battery.

– Let the vehicle sit for 10 minutes to clear the memory cache in the ECUs.

6d. Reconnect the 12 Volt battery via connector C104 and install Fuse 27 (25 amps).



6e. Turn the vehicle back on to ACC mode.

– Use the scan tool to clear any remaining DTC codes.

NOTE: If the MIL light is still illuminated, use the scan tool to read DTC codes and diagnose accordingly.

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PARTS REQUIRED:

PART NUMBER	DESCRIPTION
N/A	

SHOP SUPPLIES:

DESCRIPTION
N/A

SPECIAL TOOLS:

DESCRIPTION
FDT1001 – Diagnostic Scan Tool
FDT1004 – 4 Channel CAN Adapter
FST9001 – Battery Charging Terminal Adaptor
Midtronics MDX Series Tester (or equivalent)

LABOR CODES:

CODE	DESCRIPTION	TIME	DEFECT CODE
16-25-02-07	Campaign 390120008 / Repair	0.4	16-25-02-98

CAUSAL PART:

PART NUMBER	DESCRIPTION
C131118001001	High Voltage Battery

WARRANTY DISPOSITION:

Vehicles with a valid warranty

CONTACT:

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