

EMISSIONS RECALL

AA2N0 PM SENSOR & ENGINE ECU SOFTWARE ENHANCEMENT

Subject:	PM Sensor & Engine ECU Software Enhancement
Date:	7-12-2016
Bulletin No.:	RCB-004-16
Recall No.:	AA2N0
Affected Models:	Certain 17MYCOE Trucks equipped with a J05 engine

IMPORTANT:

Verify the vehicle requires the work to be performed by referencing the vehicle by VIN within the Hino Warranty System (DCS).

OVERVIEW:

The PM sensor of the subject vehicle population does not include the following necessary monitors.

PM sensor tip clogged

PM sensor not in exhaust stream

PM sensor fixed resistance

PM sensor module performance (gain too high)

The following procedure provides direction for reprogramming the PM sensor and ECU software to include the necessary monitors.

SUBJECT VEHICLES:

Certain 2017MY Hino COE trucks (155, 155h, 195 or 195h) equipped with a J05 engine.



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BEFORE YOU BEGIN

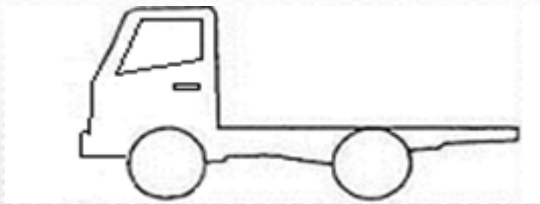
- Read and understand all instructions and procedures before you begin the work.
- Read and follow all **NOTICES** and **WARNINGS** set forth in this publication. These alerts help to avoid damage to components, serious personal injury, or both.
- Park the vehicle on a level and solid surface and apply the parking brake.
- Confirm the engine is stopped, the starter switch is in the off (LOCK) position, and the key is removed.
- Wear safety glasses to prevent eye injuries.
- Place wheel chocks in front of and behind all wheels.
- A battery charger is installed on the vehicle to ensure battery power does not go low during reprogramming.
- The laptop battery state is fully charged or a remote AC power supply is hooked to the laptop to ensure the battery power does not go low during reprogramming.

PARTS

PART NUMBER	DESCRIPTION	QUANTITY
89663-E3R42A	J05ETP Engine Control Unit (ECU) Software	As Required By VIN
89663-E3R52A	J05EUG Engine Control Unit (ECU) Software	As Required By VIN
COE PMS	PM Sensor Software	As Required By VIN

VEHICLE PREPARATION

1. Park the vehicle on a level and solid surface.



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2. Confirm the engine is stopped, the starter switch is in the off (LOCK) position, and the key is removed.



3. Apply the parking brake.



4. Chock all of the wheels.



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PM SENSOR UPDATE WIZARD (PMSUW) PREPARATION

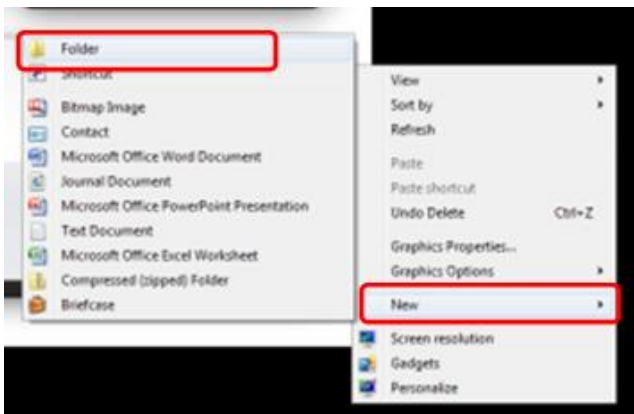
Overview

A special reprogramming application (PMSUW) is required to reprogram the PM sensor. It is necessary to download the reprogramming application, as well as the new software files which are required to update the PM sensor to the latest calibration. The PMSUW reprogramming application needs to be installed on your computer. This may require IT support if access is restricted regarding installation of programs on your computer's hard drive.

PMSUW Installation

If using the PMSUW for the first time, download the "ReproTool.exe" file, the "Conventional_PMS" software file, and the "COE_PMS" software file from the <http://www.Hinonet.net> website. Save the files to the hard drive of your computer.

1. Right click on the desktop and select "New", "Folder".



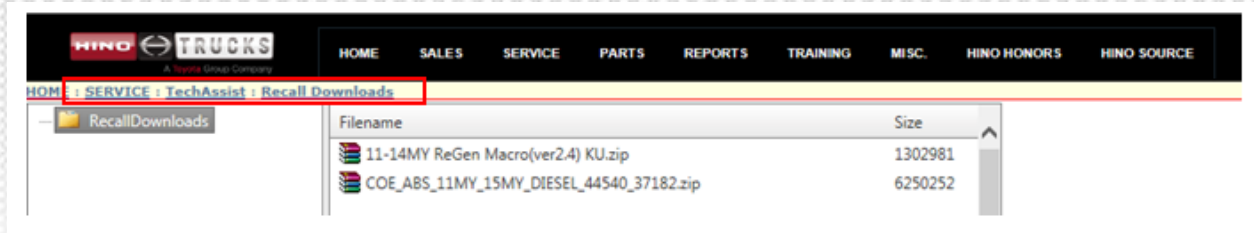
2. Name the folder "Hino PM Sensor Software".



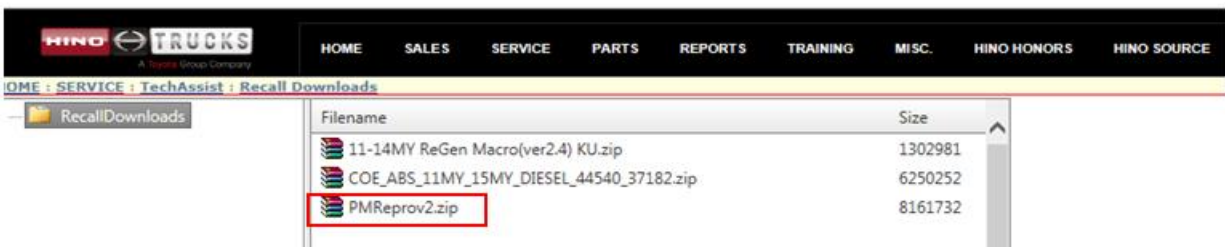
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3. Log into Hinonet, go to the “Service” tab, “Tech Assist” then the “Recall Downloads” tab.

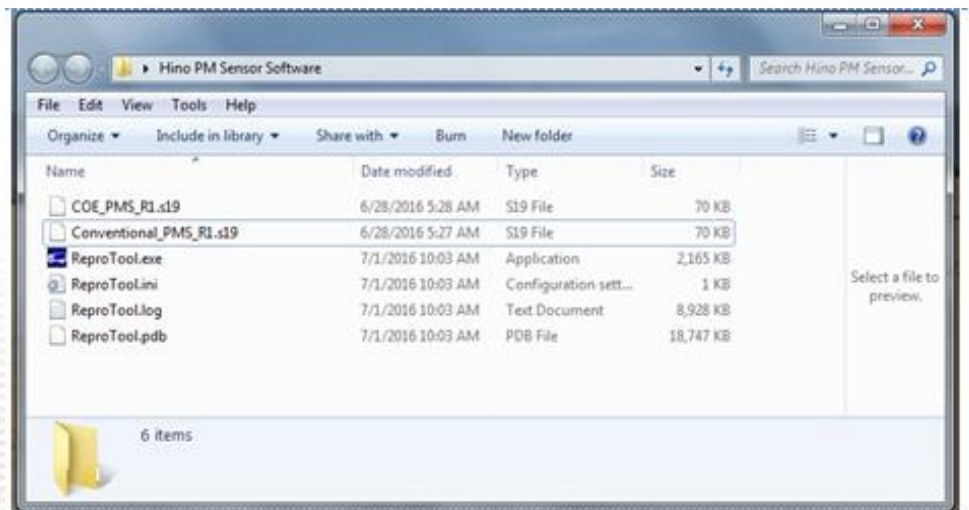


4. Double click the “File name PMReproV2.Zip” Select “Save As” and save it to the “Hino PM Sensor Software” folder on the desktop.



5. Right click on the “File name PMRepro.ZIP” and select “Extract All”.

6. Save the files in the “Hino PM Sensor Software” folder. The PMSUW installation is complete.



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PC PREPARATION

PC Power Management

WARNING: Disable the computer features listed below. Failure to disable these features may severely damage the vehicle's PM sensor.

1. Screen saver
2. Energy saving features
 - a. Monitor
 - b. Hard disks
 - c. System standby



NOTICE: The illustrations depict what you will see on your computer screen with regard to the features which should be disabled. The location on the screen of the features to be disabled will vary, however, based upon the operating software. Consult your IT department as required.

Interface

It is acceptable to use the **DST-I (Software Version 2.0 or later)** or the **NEXIQ USB-Link™ 2** as an interface to perform this reprogramming procedure. If using a DST-i or NEXIQ interface for the first time, a driver needs to be installed in order to use DST-i or NEXIQ USB-Link™ 2 on your computer. The driver for DST-i can be downloaded from the DENSO website and the driver for NEXIQ USB-Link™ 2 from the NEXIQ website. See below.

DENSO home page: <http://www.ds3.denso.co.jp/gnrl/setup/>

NEXIQ home page: <http://nexiq.com/USBLink2Drivers>



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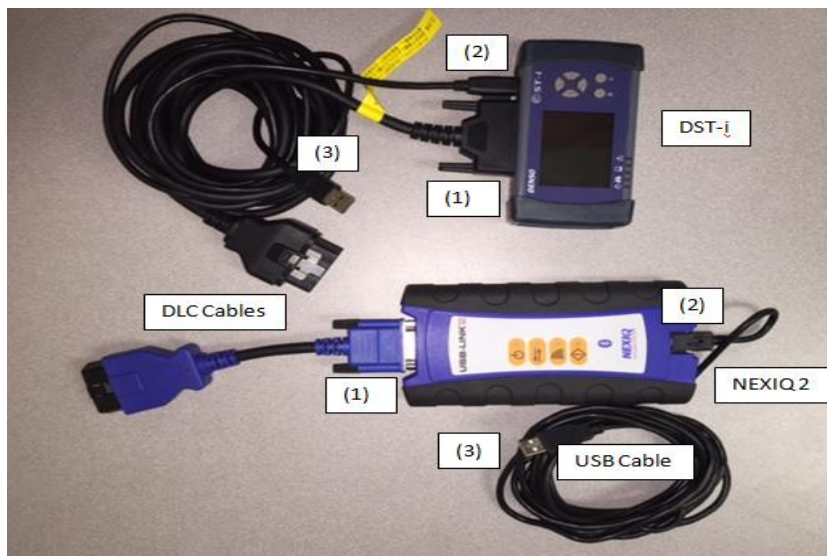
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PM SENSOR REPROGRAM REPAIR PROCEDURE

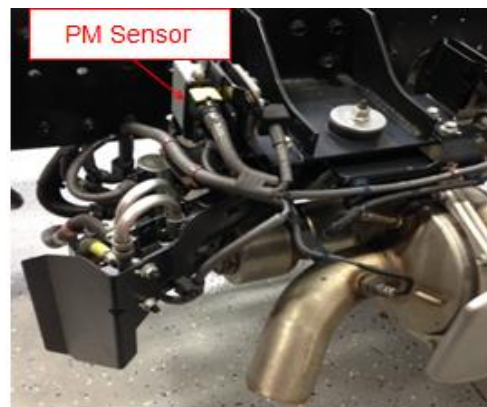
1. It is acceptable to use the DST-i (Software Version 2.0 or later) or the NEXIQ USB-Link™ 2 as an interface to perform this reprogramming procedure. To assemble the interface cable, perform the following steps.

- (1) Connect the DLC (Diagnostic Link Connector) cable to the interface.
- (2) Connect the USB Cable to the interface.
- (3) Connect the USB connector to the USB port on your computer.

NOTICE: DST-i with a software version below 2.0 will not work for this reprogramming procedure. Also, the original “NEXIQ USB-Link” interface will not work for this reprogramming procedure.



2. Locate the PM sensor on the passenger side frame rail, above the tailpipe.



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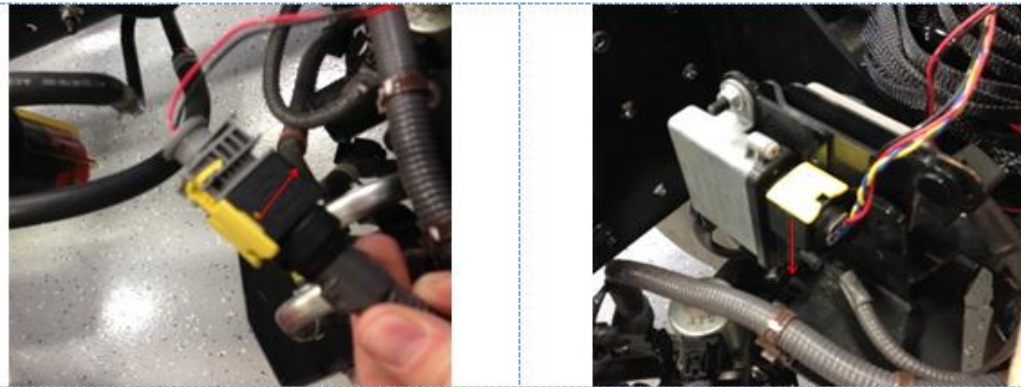
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3. Disconnect the electrical connector to the PM sensor by pulling the yellow locking tab up then pulling the connector out.

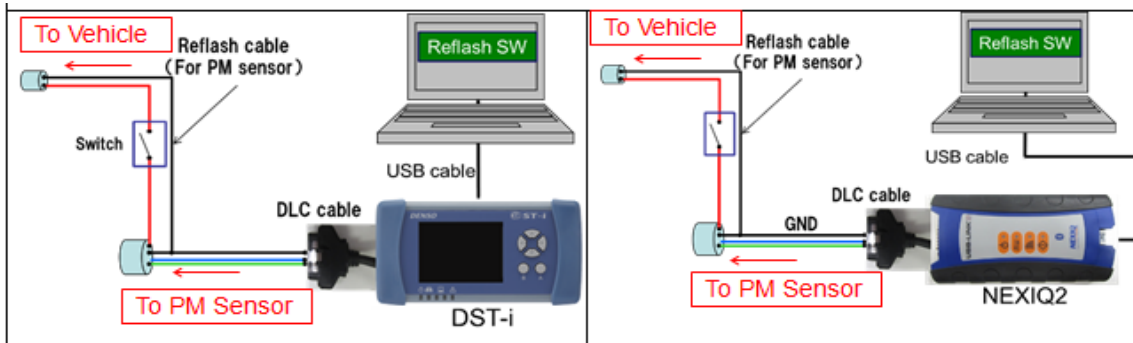
NOTICE: To prevent damage to the PM sensor, make certain the key is removed from the ignition switch prior to disconnecting the PM sensor.



4. Connect the male end of the PM sensor reprogramming harness to the vehicle harness connector. Ensure the yellow locking tab is engaged. Connect the female end of the PM sensor reprogramming harness to the PM sensor. Ensure the yellow locking tab is engaged.



5. Connect the PM sensor reprogramming harness to the interface (NEXIQ USB Link 2 or DST-i).



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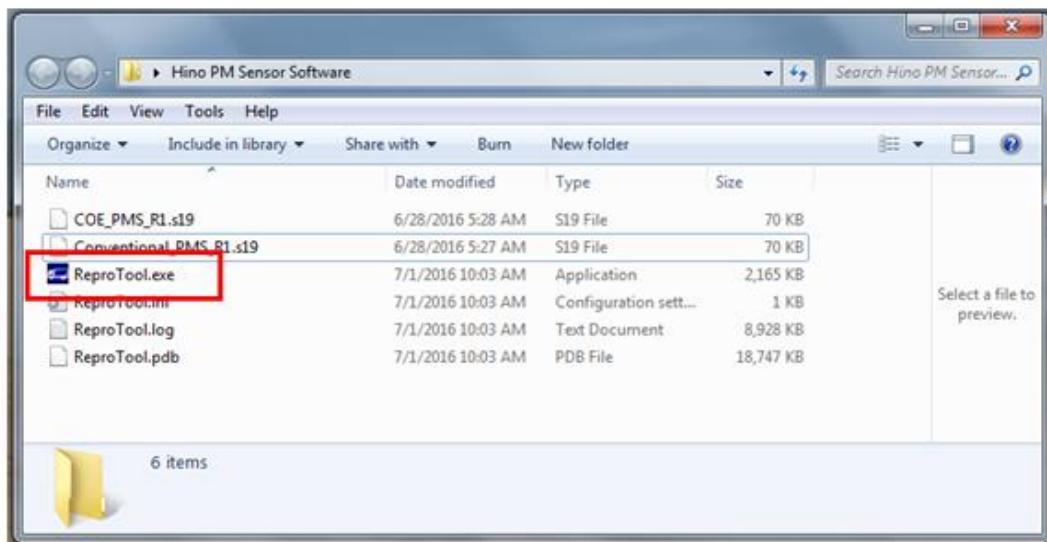
6. Ensure that the power switch on the PM sensor reprogramming harness is set to the “OFF” position.



7. Insert the ignition key into the starter switch and turn the key to the “ON” position.

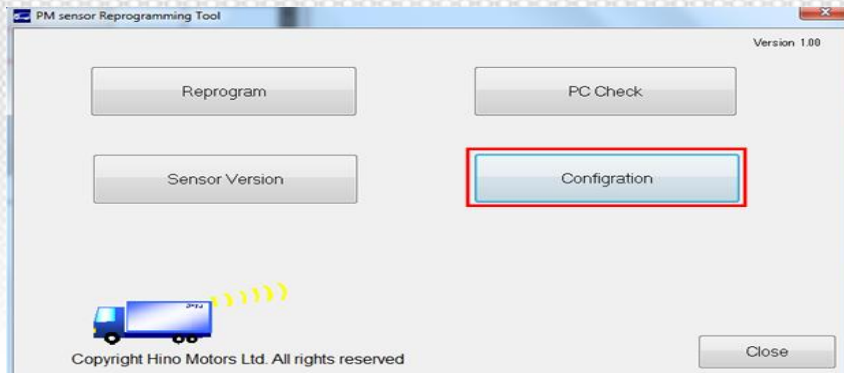


8. Open the “ReproTool.exe” application that was saved to the Hino PM Software Folder on your desktop.

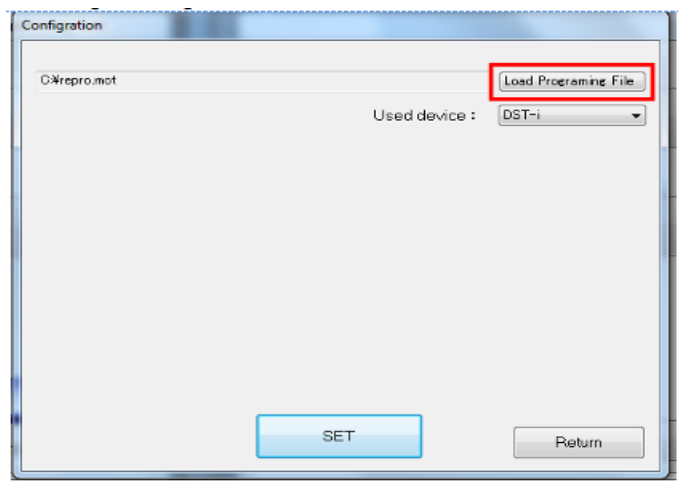


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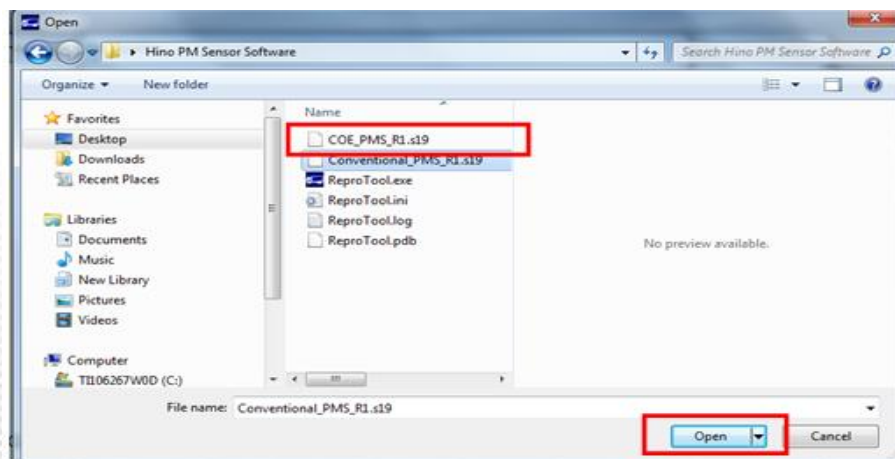
9. Select the “Configuration” icon.



10. Select the “Load Programming File” icon.



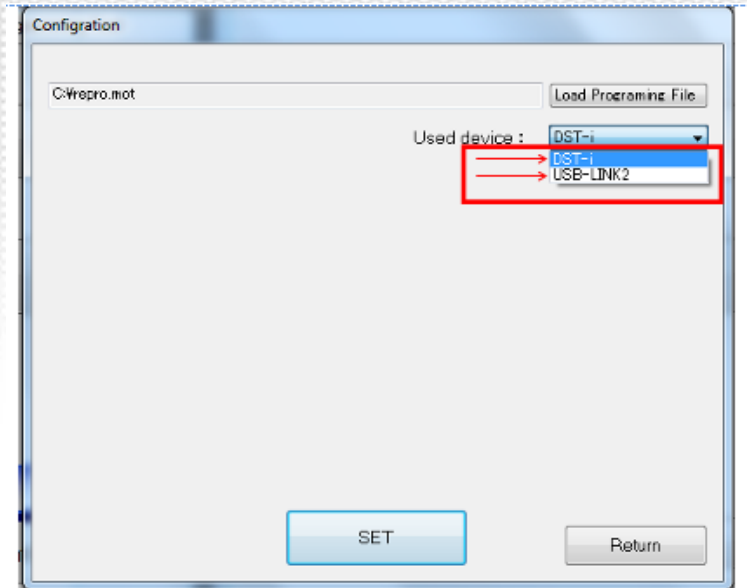
11. From the “Hino PM Sensor Software” folder previously saved to your desktop, select the “COE_PMS_R1.s19” file and then select the “Open” icon.



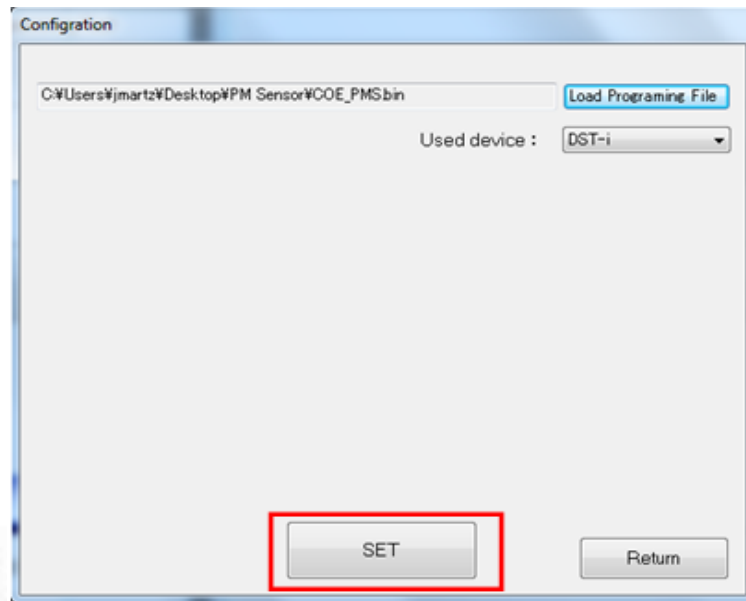
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12. Under “Used Device”, select either DST-i, or USB-Link2 depending on the interface you are using.



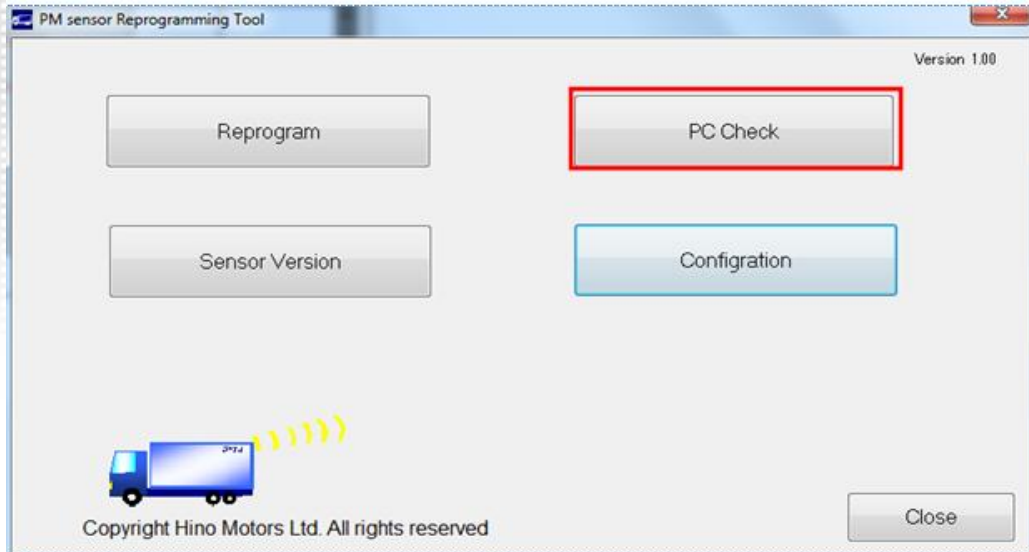
13. Select the “Set” icon.



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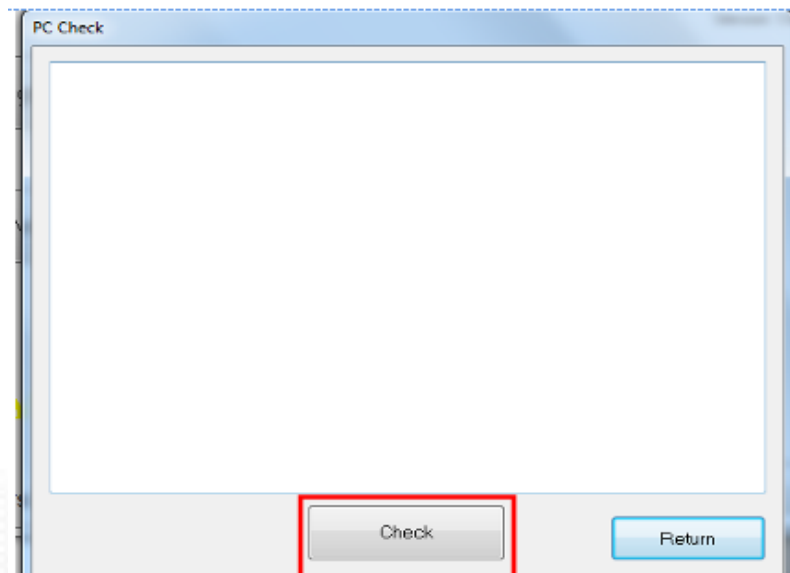
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14. Select the “PC Check” icon.



15. Select the “Check” icon.

NOTICE: Ensure that the driver of the connected interface device (DST-i or NEXIQ USB-Link™ 2) is installed and that the interface device is properly connected.



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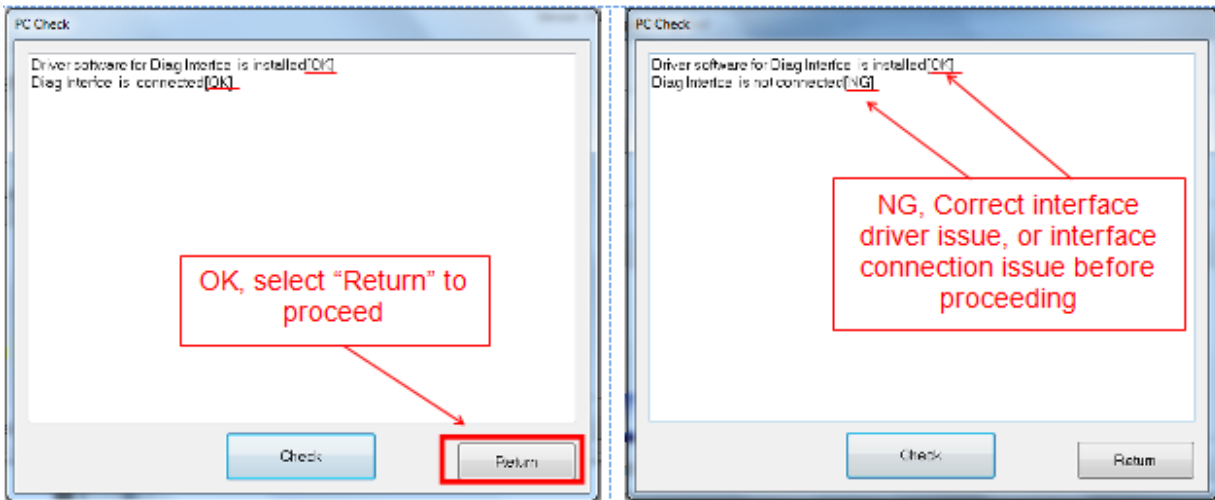
16. The PM sensor can be reprogrammed if “[OK]” is displayed on both top and bottom rows as shown on the left, below. If OK, select the “Return” icon.

“[NG]” will be displayed on the top row if the driver of the interface device is not installed.

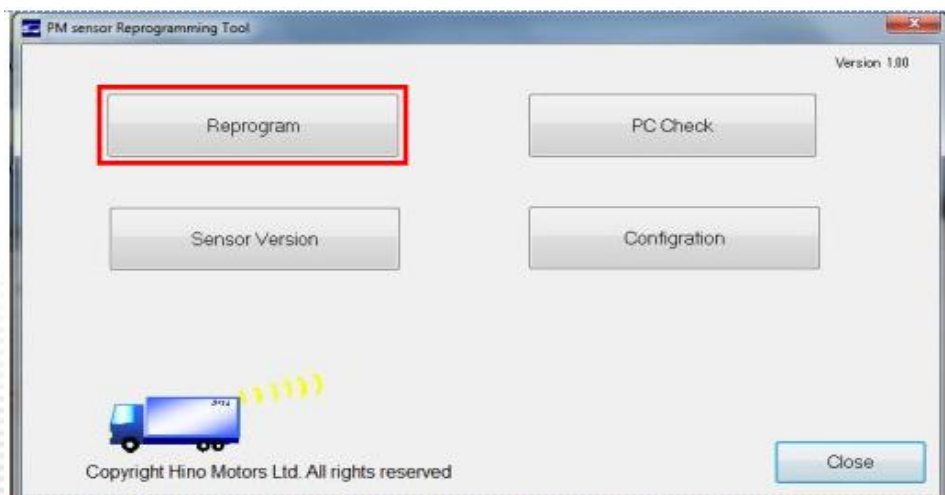
Install the driver as per the manual for the interface and then perform the “PC Check” again.

“[NG]” will be displayed on the bottom row if the interface device is not properly connected.

Ensure that the cables are connected and the interface device is turned on (DST-i has an ON/OFF switch). Ensure that the correct device is selected for “Used device” under “Configuration” (step 7, above). Select the “Return” icon to go back to the main menu.



17. Select the “Reprogram” icon.

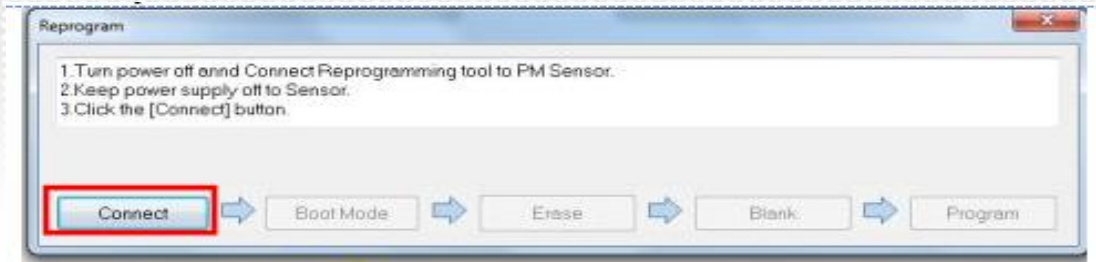


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18. Select the “Connect” icon.

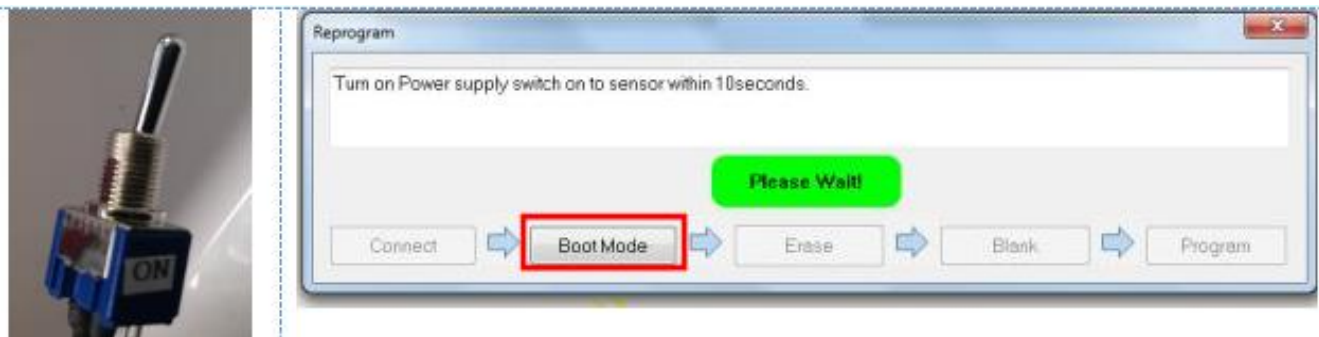
NOTICE: If a connection error is displayed, repeat steps 1-18 and ensure all steps were performed correctly.



19. Once prompted, turn the power switch on the PM sensor reprogramming harness to the “ON” position within 10 seconds after clicking the “Connect” icon. Select the “Boot Mode” icon once it is selectable. Repeat steps 15 through 19 if the “Boot Mode” icon does not become selectable.

NOTICE: The “Please Wait!” warning will remain flashing throughout this procedure.

NOTICE: The “Turn on Power supply switch on to sensor within 10 seconds” message will be displayed throughout this procedure. The power switch is to remain “ON” until step 24, below.



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20. Select the “Erase” icon once it becomes selectable.



21. Select the “Blank” icon once it becomes selectable.



22. Select the “Program” icon once it becomes selectable.

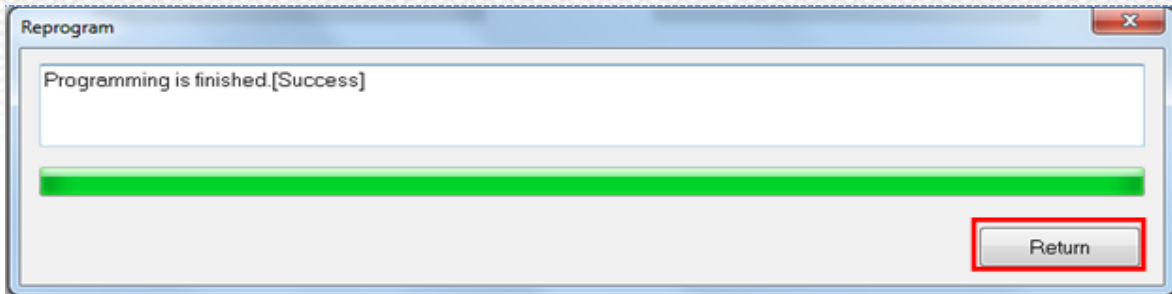


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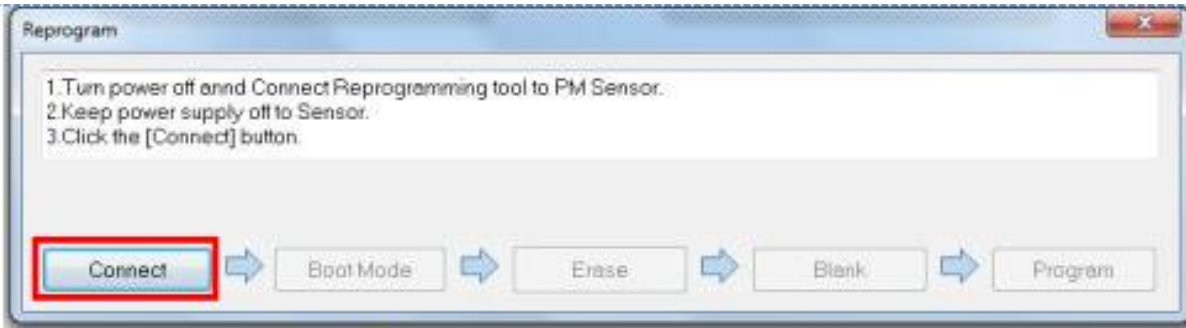
23. Monitor the programming progress bar. If the progress bar reaches 100% and no errors are shown, select the “Return” icon and proceed to step 24, below.

”Writing error [Time out]” will be displayed if the programming fails. Close the window and proceed to step 23a, below.



NOTICE: Skip steps 23a through 23d if programming was successful on step 23, above.

23a. Repeat steps 15 through 17, above. Ensure the PM sensor reprogramming sensor harness switch is set to the “OFF” position before selecting the “Connect” icon. Select the “Connect” icon.



23b. Turn the power switch on the PM sensor reprogramming harness to the “ON” position within 10 seconds after selecting the “Connect” icon as per the instruction on the screen.



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23c. Select the “Forced Connect” icon once it is selectable.



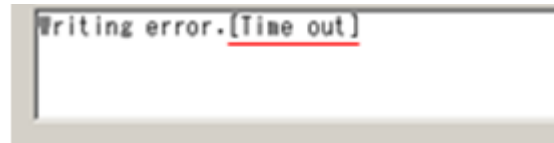
23d. Repeat steps 19 through 23, above.

If programming is now successful, proceed to step 24, below.

If programming fails again, repeat steps 23a through 23d once more. If you receive a “Writing Error, [time out]” after three failed reprogramming attempts, the PM sensor is faulty and will require replacement. After replacing the PM sensor, validate it has the latest software by performing steps 25 through 28, below. If the new sensor is not at the latest software level, repeat this procedure from the beginning to update the software on the replacement PM sensor.



OK: PM Sensor programming was successful



NG: Replace the PM sensor after 3 failed attempts

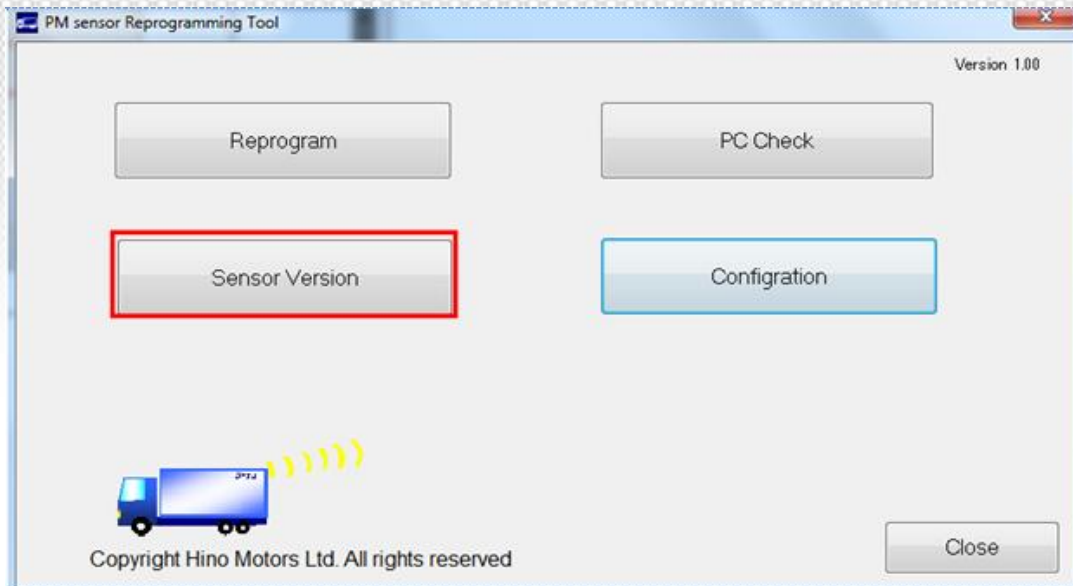
24. Turn the power switch on the PM sensor reprogramming harness to the “OFF” position.



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25. Select the “Sensor Version” icon.



26. Turn the power switch on the PM sensor reprogramming harness to the “ON” position and select the “Version Check” icon.

NOTICE: If a communication failure message is displayed after selecting the “Version Check” icon, repeat steps 24 through 26, to validate the sensor version.

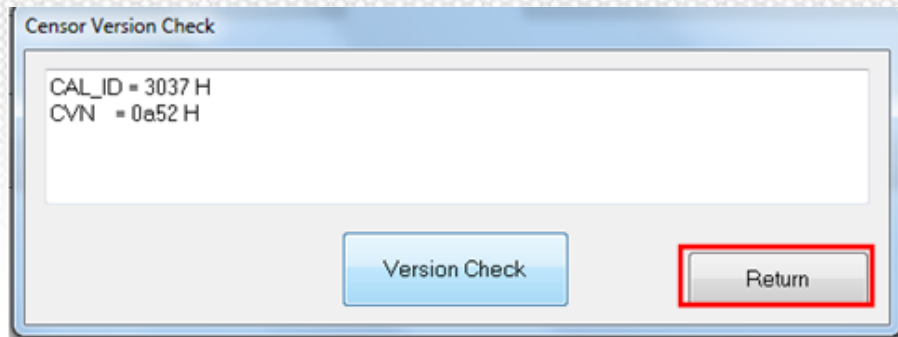


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27. Verify that the PM sensor software version was updated to the correct level. Refer to the image below for the proper CAL_ID and CVN of the updated PM sensor software. If the CAL_ID and CVN match the image shown below, reprogramming was successful. Select the “Return” icon to go back to the main menu and exit the program.

CAL_ID= 3037H
CVN=0a52H

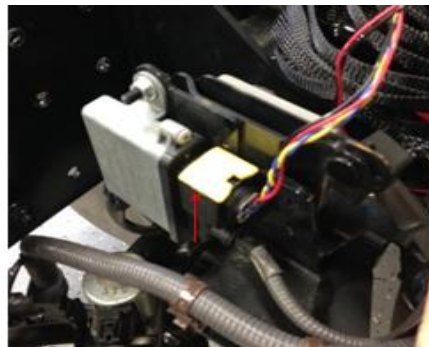


28. Turn the power switch on the PM sensor reprogramming harness to the “OFF” position, and turn the ignition key switch to the “OFF/Lock” position and remove the key from the starter switch.



29. Disconnect the PM sensor reprogramming harness from the vehicle harness connector by releasing the yellow locking tab. Disconnect the PM sensor reprogramming harness from the PM sensor by releasing the yellow locking tab.

NOTICE: To prevent damage to the PM sensor, make certain the key is removed from the ignition switch prior to disconnecting the PM sensor.



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30. Connect the electrical connector to the PM sensor. Ensure the yellow locking tab is pushed down to lock the connector in place.



31. The preferred method to show the recall has been performed is to install a white paint mark on the PM sensor housing as shown in the photograph below.



32. The PM sensor reprogram repair procedure is complete. Proceed to the engine ECU reprogramming procedure.



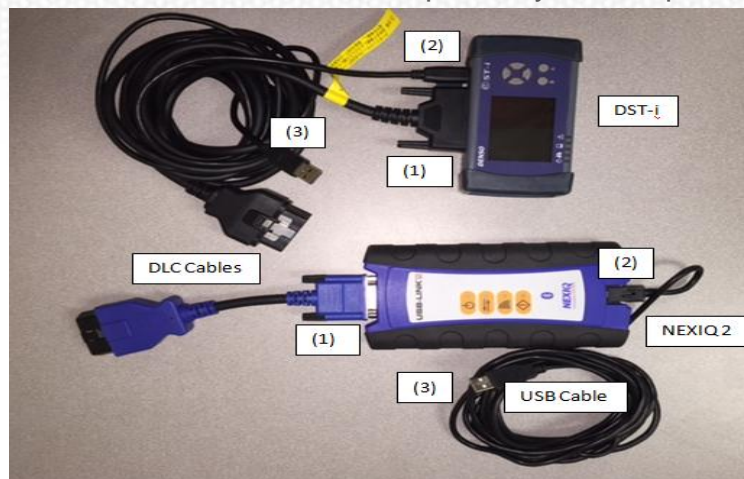
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ENGINE ECU REPROGRAM REPAIR PROCEDURE:

1. It is acceptable to use the DST-i or the NEXIQ USB-Link™ 2 as an interface to perform this reprogramming procedure. To assemble the interface cable, perform the following steps.

- (1) Connect the DLC (Diagnostic Link Connector) to the interface.
- (2) Connect the USB Cable to the interface.
- (3) Connect the USB connector to the USB port on your computer.



2. Connect the DLC cable to the vehicle's DLC connector. The DLC connector is found under the dash on the left side of the steering column.



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WARNING: Disable the computer features listed below. Failure to disable these features may severely damage the vehicle's ECU.

1. Screen saver
2. Energy saving features
 - a. Monitor
 - b. Hard disks
 - c. System standby

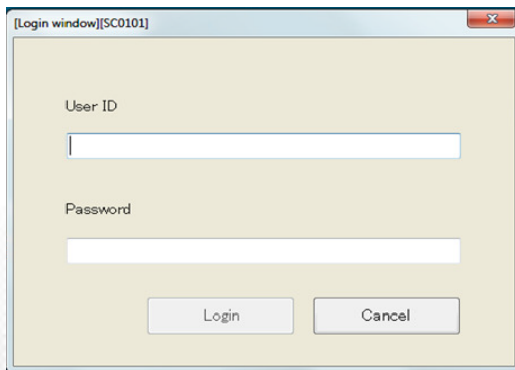


NOTICE: The illustrations above depict what you will see on your computer screen with regard to the features which must be disabled. The location on the screen of the features to be disabled will vary based upon the operating software. Consult your IT department as required.

3. On your computer, locate the “Hino DX2” icon and open it.



4. Hino DX2 will prompt you for a “User ID” and “Password”. Enter your User ID, password and then select the “Login” icon.



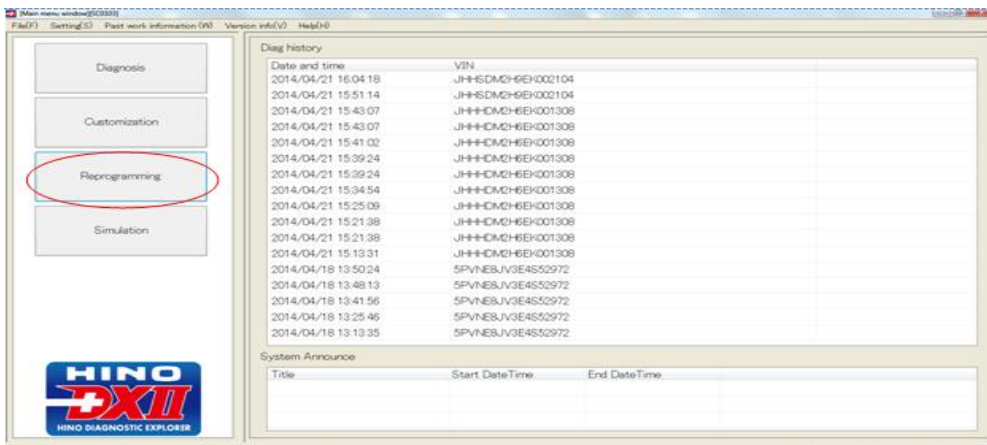
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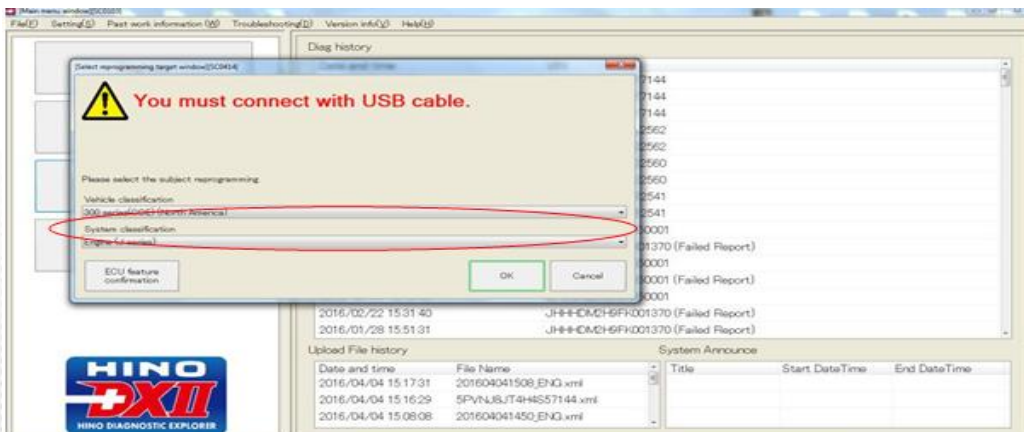
5. Insert the ignition key into the starter switch and turn the key to the “ON” position.



6. Select the “Reprogramming” icon.



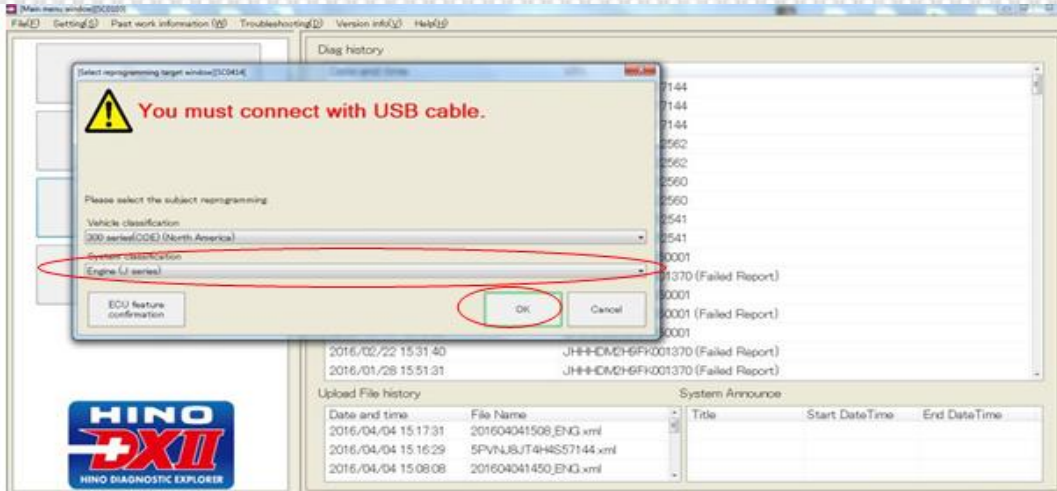
7. Select “300 Series” under the “Vehicle Classification” drop down menu.



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8. Select “Engine J-Series” under the “System Classification” drop down menu and then select the “OK” icon.



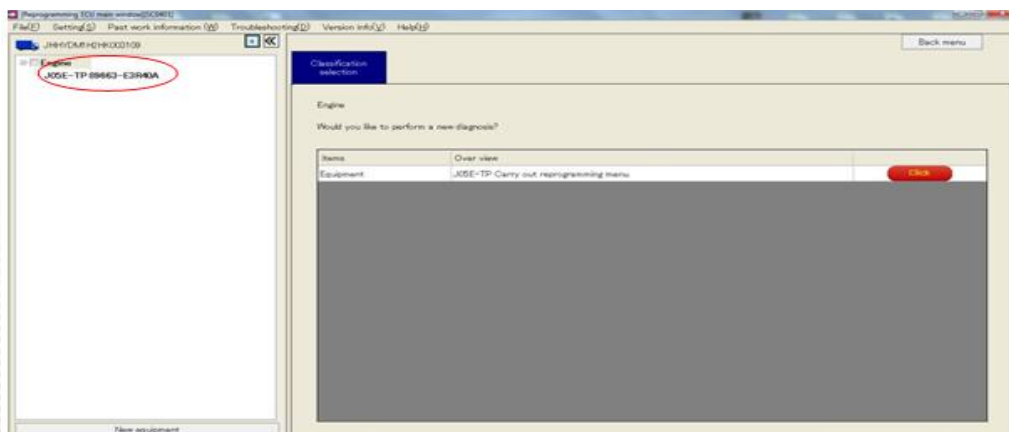
9. Inspect the current ECU software level based on the following table:

J05ETP Engine Control Unit (ECU) Software	89663-E3R42A
J05ETP Engine Control Unit (ECU) Software	89663-E3R52A

Does the current ECU software level match one of the software part numbers above?

Yes - ECU software reprogramming is NOT required, proceed to step 22.

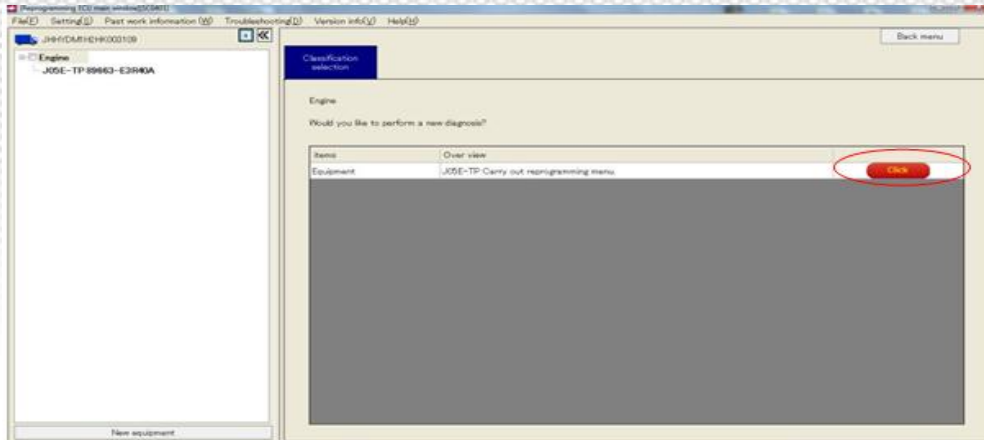
No - ECU software reprogramming is required, proceed to step 10.



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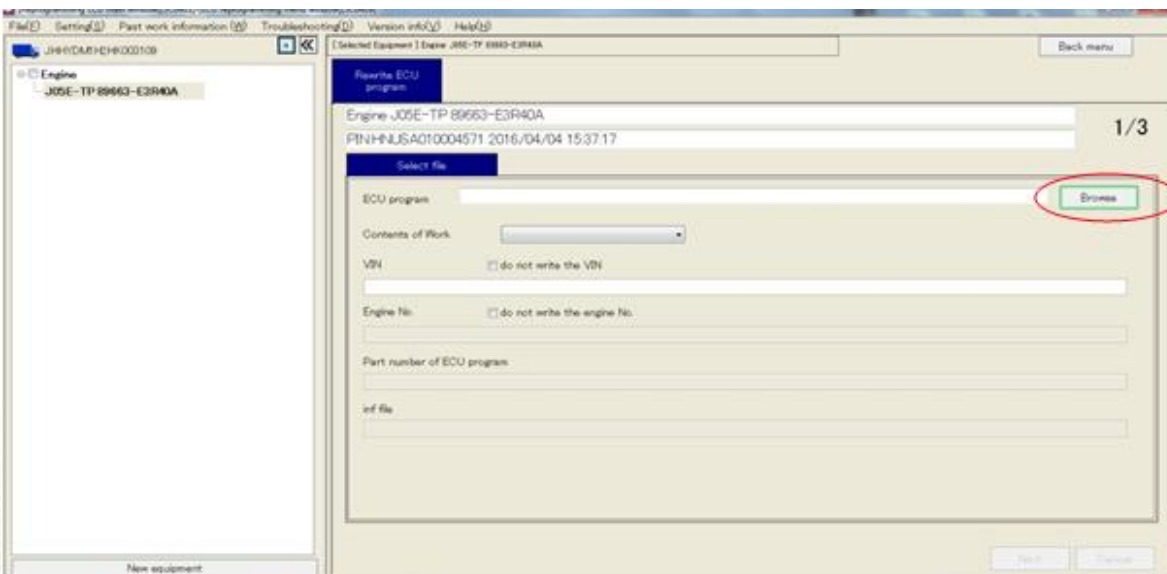
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10. Select the “Click” button.



11. Select the “Browse” icon and locate the appropriate ECU software part number based on the following table:

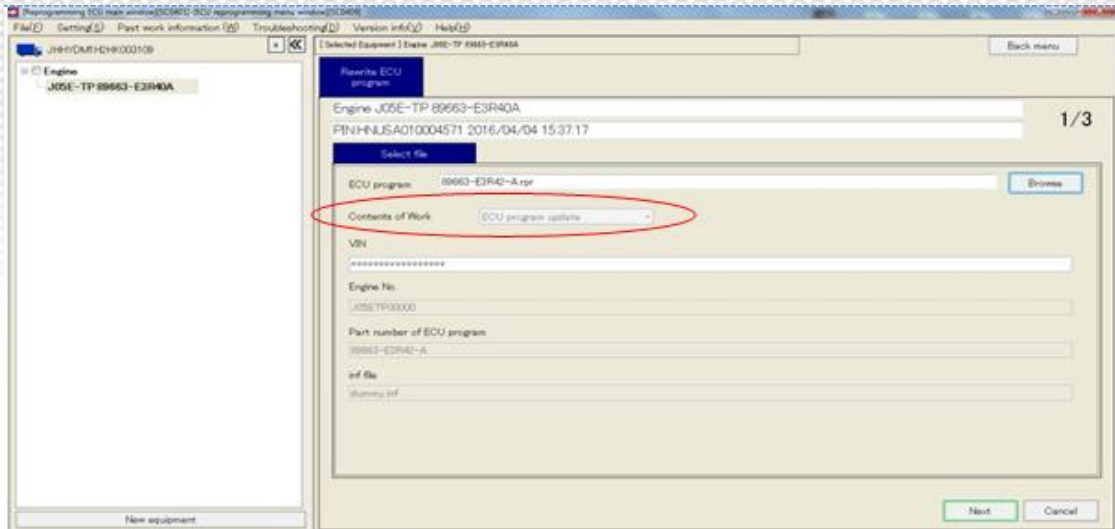
J05ETP Engine Control Unit (ECU) Software	89663-E3R42A
J05ETP Engine Control Unit (ECU) Software	89663-E3R52A



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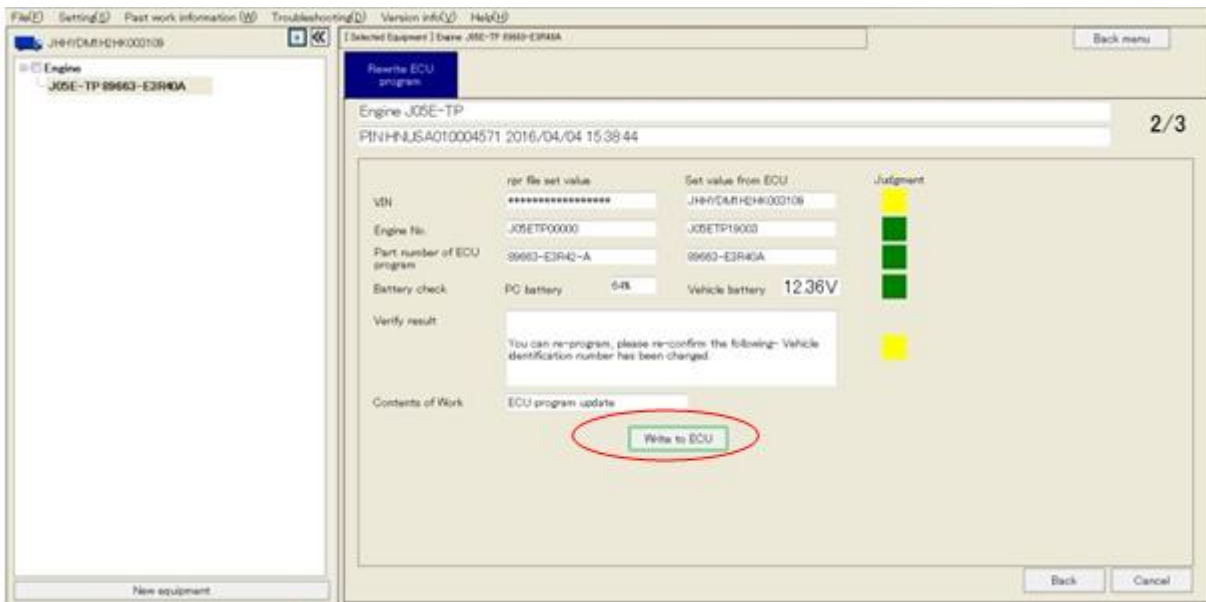
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12. Select “ECU Program Update” under the “Contents of Work” drop down menu.



13. Select the “Write To ECU” icon.

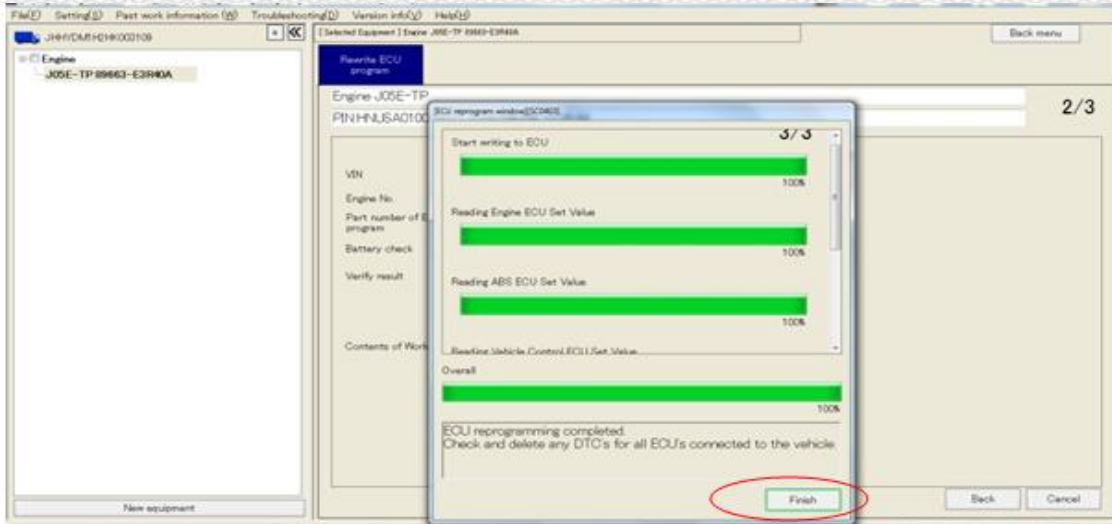
Note: The “Judgment” should be the color green or the color yellow. If the color red is shown, reconfirm your software versions and battery status for the vehicle and laptop.



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14. Once the ECU programming is complete, the “Finish” icon will be made available to select. Select the “Finish” icon.



15. Turn the starter switch to the “LOCK” position and remove the key.



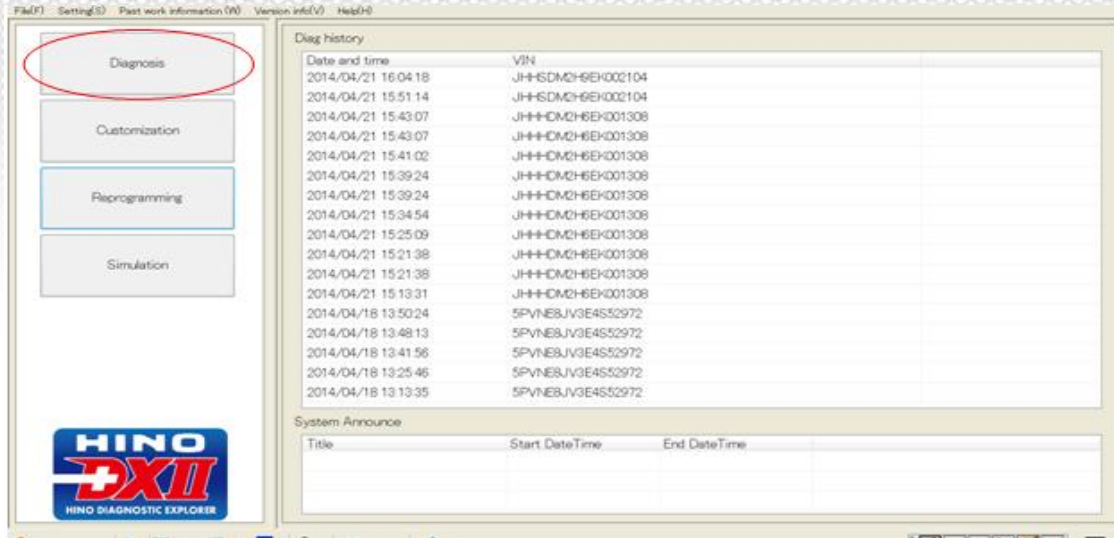
16. Insert the ignition key into the starter switch and turn the key to the “ON” position.



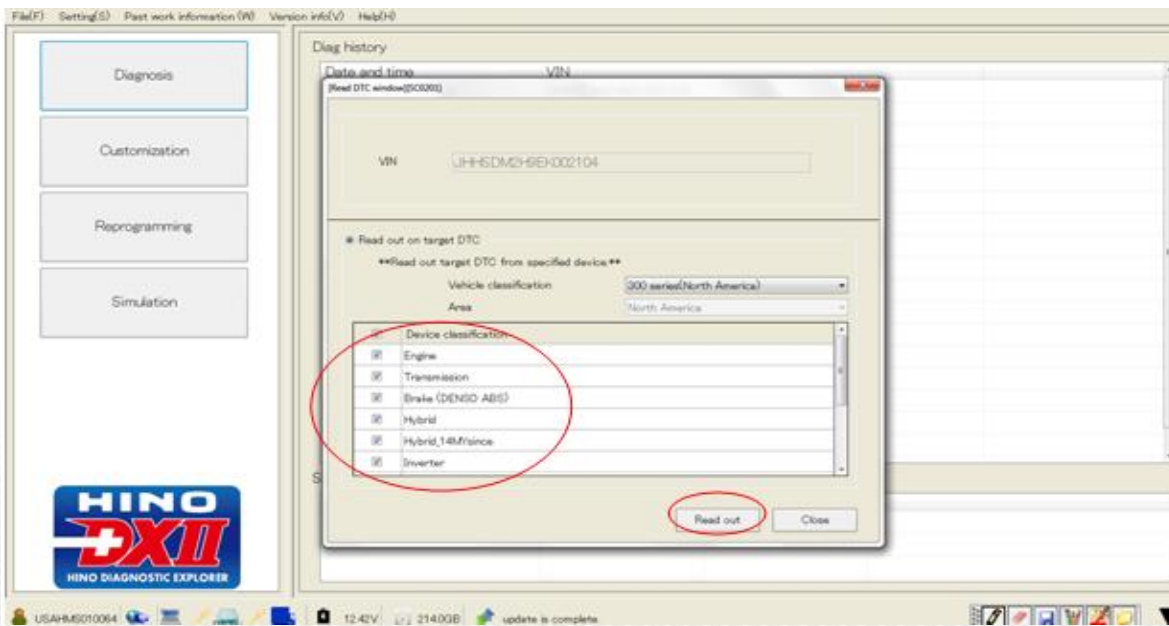
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17. During ECU software reprogramming, other DTC's may have been set. These DTC's will need to be cleared prior to completing this Emissions Recall. Select the "Diagnosis" icon.



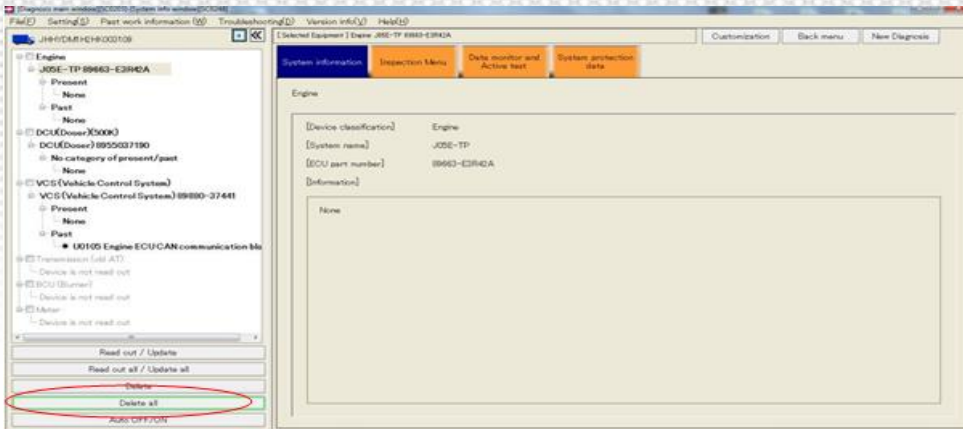
18. Check mark the "Device Classification". This should automatically check mark the remaining devices. Select the "Read Out" icon.



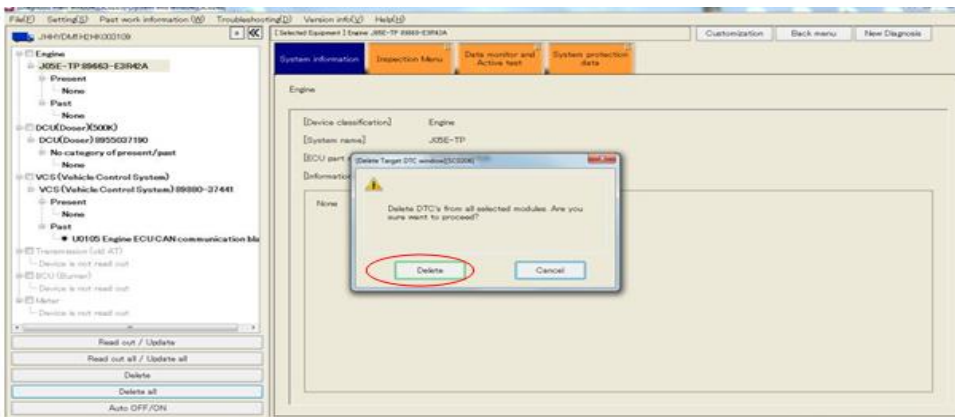
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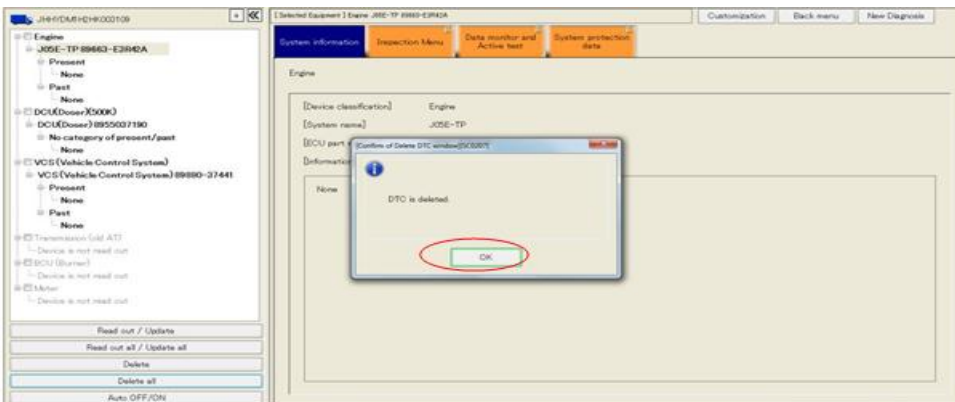
19. Select the “Delete All” icon.



20. Select the “Delete” icon.



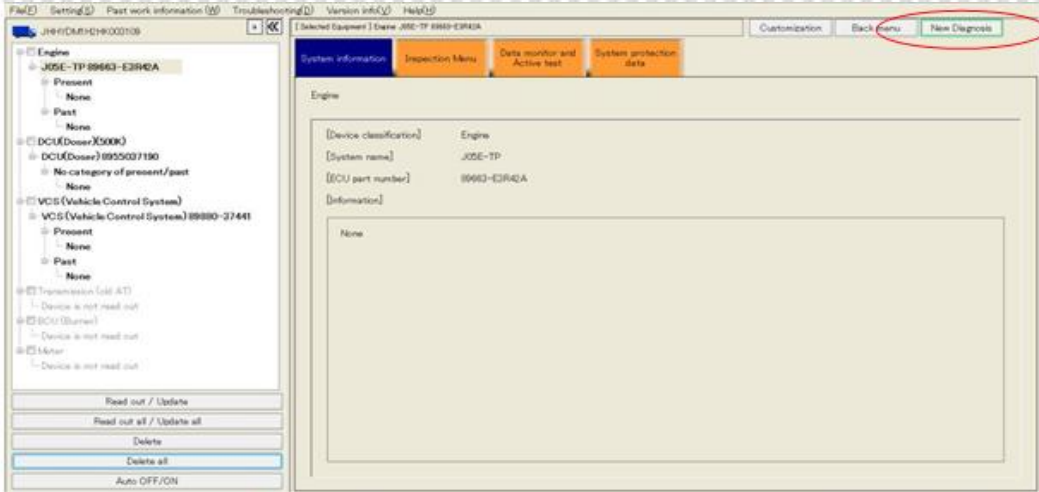
21. ECU reprogramming is complete. Select the “OK” icon.



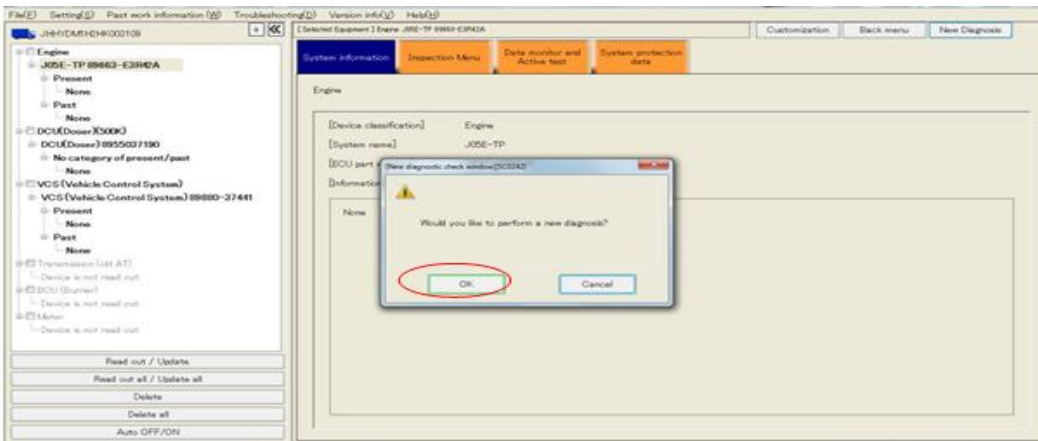
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22. Select the “New Diagnosis” icon.



23. Select the “OK” icon.



24. Turn the starter switch to the “LOCK” position and remove the key.



25. Proceed to the final inspection section to complete this recall procedure.



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FINAL INSPECTION

1. To complete this recall procedure, review the recall and confirm the following:

The PM sensor software reprogramming recall has been completed prior to performing this procedure.

When reprogramming the PM sensor and engine ECU, DTC's may have inadvertently been set in the engine ECU. Make certain that all codes logged as a result of the ECU reprogramming have been cleared from the Engine ECU, Transmission ECU, ABS ECU, DCU and VCS prior to releasing the truck back to the customer.

CLAIM APPLICATION

PM Sensor and Engine ECU Reprogramming:

- a) Recall No: AA2N0
- b) Labor charge: 1.3hr
- c) Warranty code: 86311
- d) Trouble code: 98
- e) Operation code: 86350AOT
- f) Original failed part: 9999999999



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