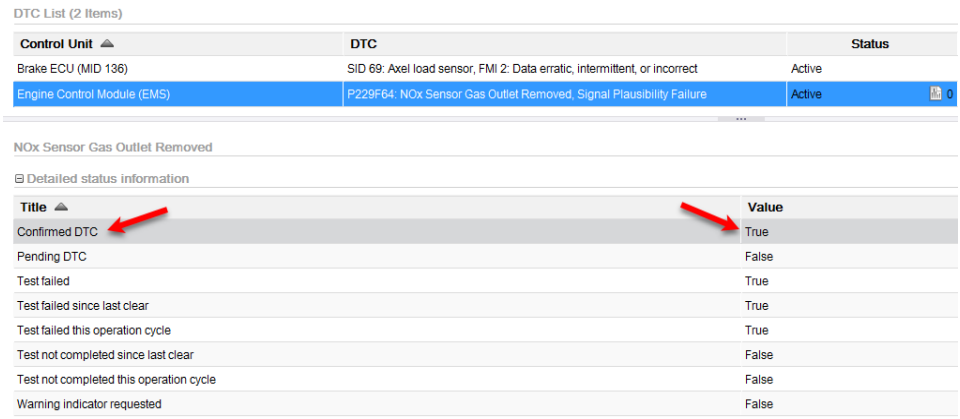
Volvo Chassis - Diagnostic Trouble Code (DTC) P0471 Illuminating The Malfunction Indicator Lamp (MIL) - Turbo Compound Generation I

Internal Content

Review the Detailed Status Information for the P0471 DTC Readout. Verify that the Confirmed DTC value is "True" prior to proceeding further.



DTC List (2 Items)

Control Unit	DTC	Status
Brake ECU (MID 136)	SID 69: Axel load sensor, FMI 2: Data erratic, intermittent, or incorrect	Active
Engine Control Module (EMS)	P229F64: NOx Sensor Gas Outlet Removed, Signal Plausibility Failure	Active

NOx Sensor Gas Outlet Removed

Detailed status information

Title	Value
Confirmed DTC	True
Pending DTC	False
Test failed	True
Test failed since last clear	True
Test failed this operation cycle	True
Test not completed since last clear	False
Test not completed this operation cycle	False
Warning indicator requested	False

If P0471 is logged and there are no other symptoms present to indicate a problem:

A. Check with the customer to see if the truck has been driven through or has been operating at high altitudes, approximately 4000 ft (1220 m) and above.

It has been determined that turbo compound chassis may set P0471 at higher altitudes. This can occur if the vehicle is operated at high altitudes consistently, or only passes through a section of high altitude during travel.

B. Software improvements have been made that address this DTC. There are two documents that should be reviewed:

1. Service Program SP 284-067 Engine Control Module (ECM) and Aftertreatment Control Module (ACM), Software Updates was released July 2018. This service program should appear under the Campaigns of the Product screen of Premium Tech Tool (PTT) when first ting to the vehicle. **Applicability to this campaign should be checked first**

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checked first.

- The Service Program document can be found on the dealer Volvo Trucks eMedia.
  - **Note:** There will be a prompt to sign in to the Trucks Dealer Portal site if necessary.
- Searching for 284-067 will return a link to the bulletin.
  - Be sure to review the correct document. Note that the FSB in step 2 below has the same number as the SP.
- **If the SP applies to the product it is not necessary to proceed to the Field Service Bulletin below.**

2. Field Service Bulletin FSB 284-067 Engine Control Module (ECM) and Aftertreatment Control Module (ACM), Reprogramming has been released and should be reviewed if the Service Program does not apply to the vehicle.

- The FSB document can be found on Volvo Trucks eMedia or under the Service tab in Impact.
  - Searching for 284-067 will return a link to the document in either application.

3. If either of the above documents applied and there are no other issues present, the vehicle should be released when software updates have been completed.

If P0471 is logged and there are other symptoms present (Regeneration, Engine Performance, Engine Stumble):

A. An eService case should be opened.

The case must include:

- This solution number.
- A complete DTC readout from the time of the vehicle's arrival.
  - A screen shot of the readout is strongly preferred. Solution CBR-908 provides instructions on how to take and save a screen shot.
- The symptoms described by the customer.
- The symptoms the technician has observed from test drive or regeneration.
- Any diagnostic checks or procedures performed.

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Tags

p047164 k53623240 p0471-64 fsb 284-067

volvo

Related links and attachments

No links or attachments available

Feedback

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to help improve the content of this article

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(June 2018)

Information

Software updates with enhancements are available for the engine control module (ECM) and aftertreatment control module (ACM) for MACK MP7, MP8 and MP10 engines on OBD2017 and OBD2018 vehicles built from January 1, 2017 to March 01, 2018.

Note: This bulletin does not apply to MACK Trucks Australia.

Follow the reprogramming procedure in the following order as outlined in this document:

- ECM reprogramming
- ACM reprogramming

The software updates address the following Diagnostic Trouble Codes (DTCs):

- P0420 – Catalyst System Efficiency Below Threshold
- P02FA – Diesel Intake Air Flow Position Sensor Minimum / Maximum
- P24DA – Particulate Matter Sensor Exhaust Sample Error Bank 1
- P009E – Fuel Pressure Relief Control Performance / Stuck Off
- P0471 – Engine Exhaust Back Pressure Circuit Range/Performance
- P1031 – Particulate Matter Sensor Clogged Tip

Check the current main software for ECM and ACM to determine the action required as shown in the table below.

Action Required		
ECM	Main Software	Action Required
MP7 / MP8	Equal or Less Than 23080716	Update to Latest Software
MP10	Equal or Less Than 22825014	Update to Latest Software
ACM	Main Software	Action Required
MP7 / MP8 / MP10	Equal or Less Than 22953199 (MP7) 22883002 (MP8) 22825000 (MP10)	Update to Latest Software

Required Tools

Premium Tech Tool (PTT) version 2.06.35 or higher

VOCOM Diagnostic Connector 88890304

Communication Interface 88890300

Note: Using other interfaces may affect programming speed.

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Note: Check Premium Tech Tool version by clicking on Help tab and then click on “About Tech Tool”.

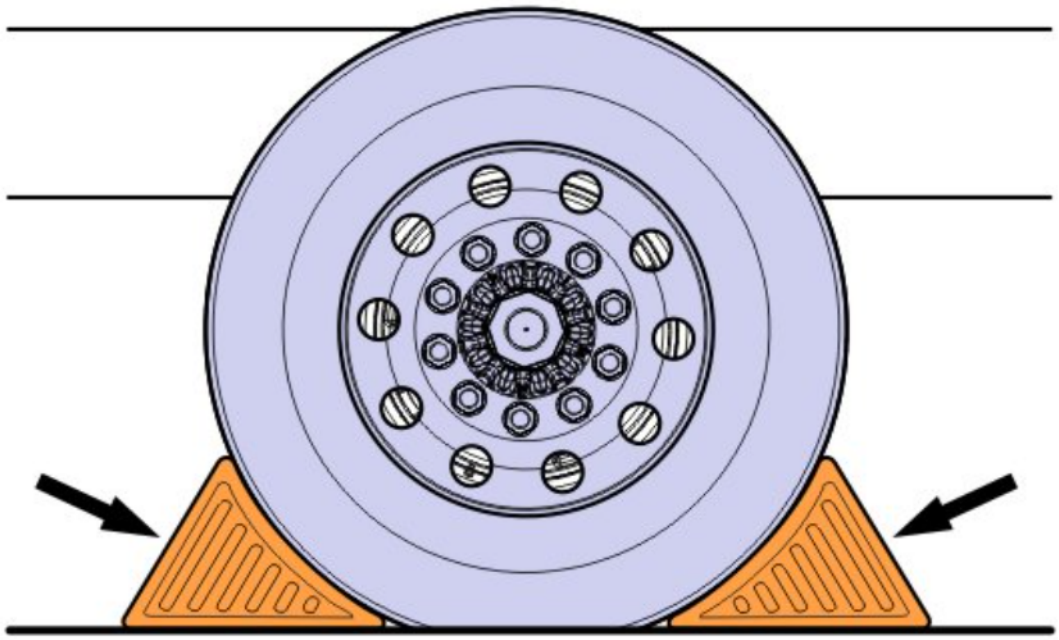
Software Update Procedure

You must read and understand the precautions and guidelines in Service Information, group 20, "General Safety Practices, Engines" before performing this procedure. If you are not properly trained and certified in this procedure, ask your supervisor for training before you perform it.

Danger

Do not attempt to repair or service this vehicle without having sufficient training, the correct service literature and the proper tools. Failure to follow this could make the vehicle unsafe and lead to serious personal injury or death.

1. Park the vehicle on a level surface.
2. Apply the parking brake.
3. Place the transmission in neutral or park.
4. Install the wheel chocks.



5. Connect Premium Tech Tool (PTT) to the vehicle diagnostics connector using the 16 pin OBD cable 88890304 and Communication Interface 88890300. Connect the PC to a functional LAN or modem connection and a 120 Volt AC source.
6. Turn the ignition switch “ON”.
7. Log in to PTT and Identify Vehicle is displayed.
8. Once the vehicle has been identified, enter the Work Order Number information, then click Start Work.

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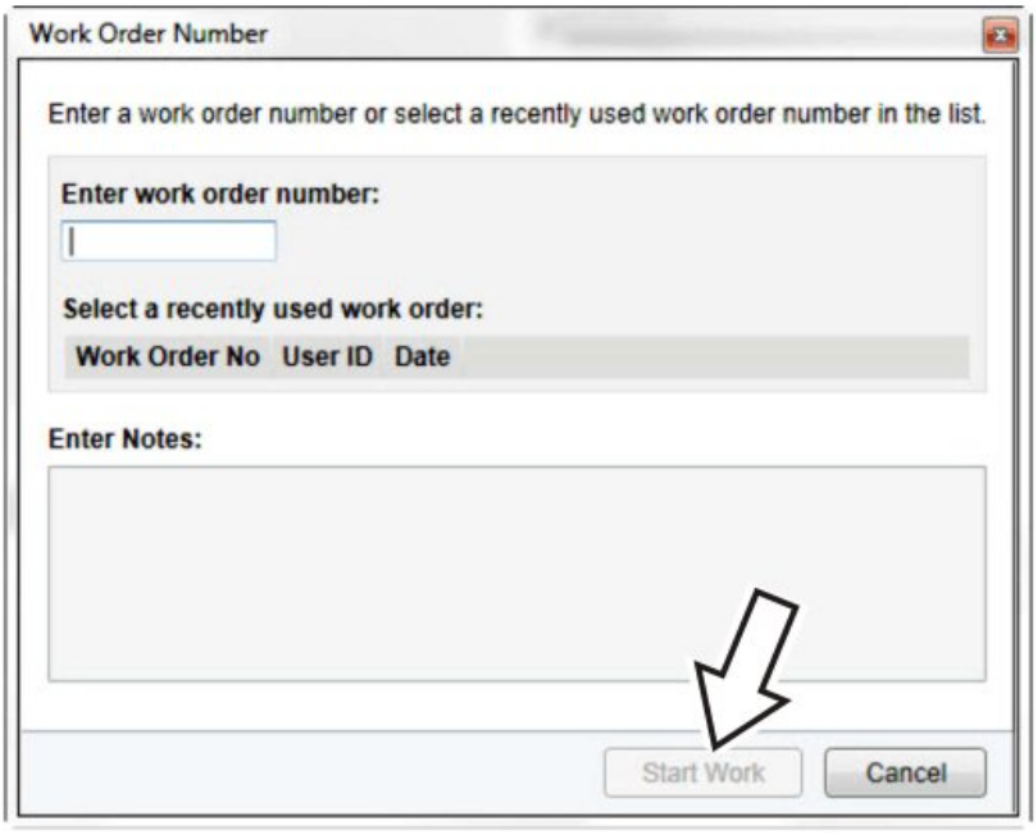
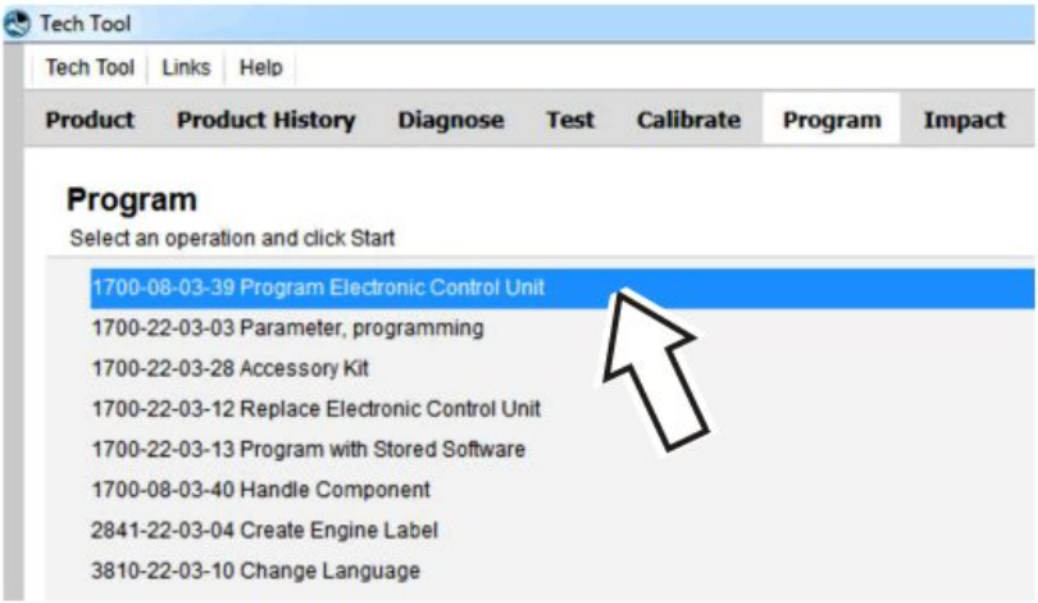


9. From the Main Menu select Program and then Program Electronic Control Unit 1700-08-03-39. Then click Start.



10. Select Engine Control Module (EMS).

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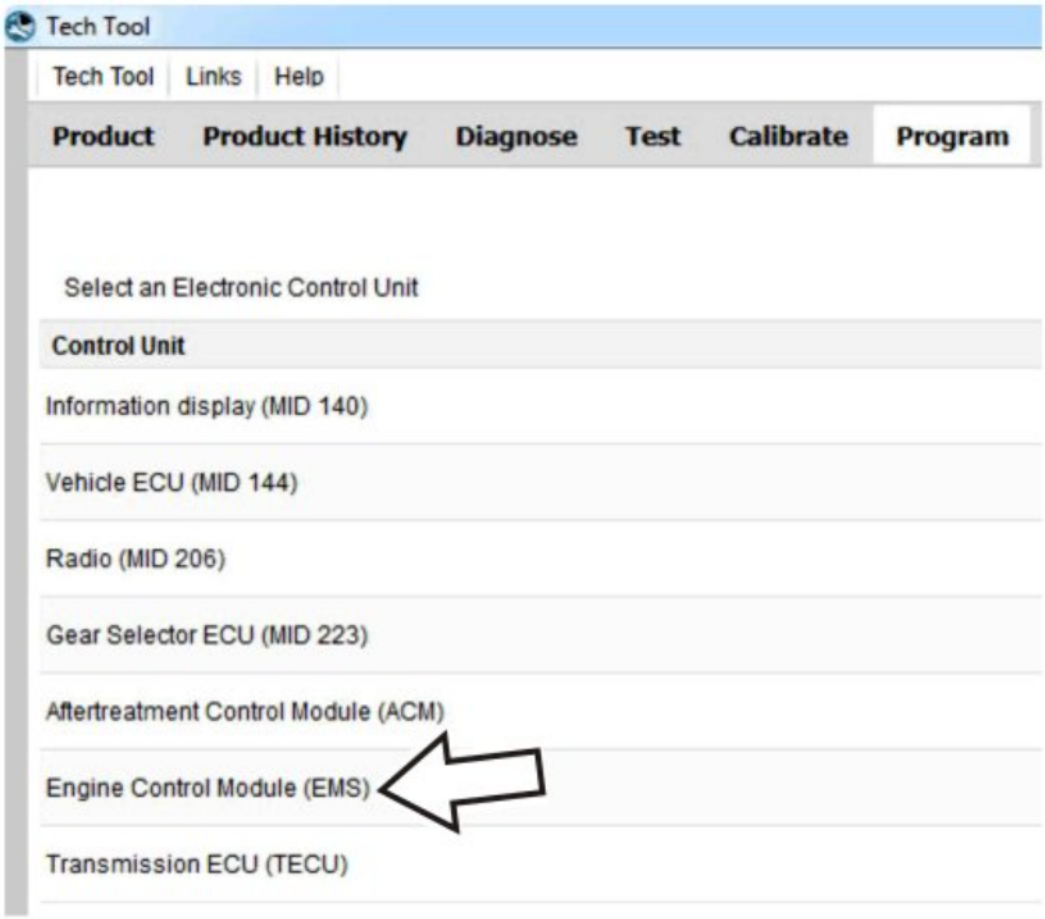
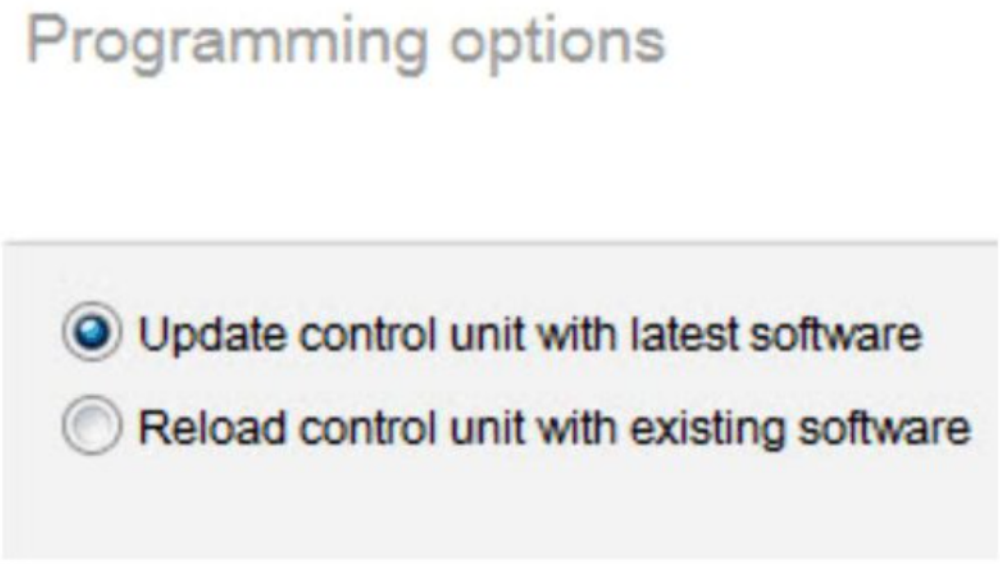


11. Select Program to update the ECM with the latest software.



12. Certain conditions must be met to continue with programming: battery voltage above 10v, parking brake applied, and ignition key in ON position with engine not running. When all conditions have been met, click Continue to proceed with programming.

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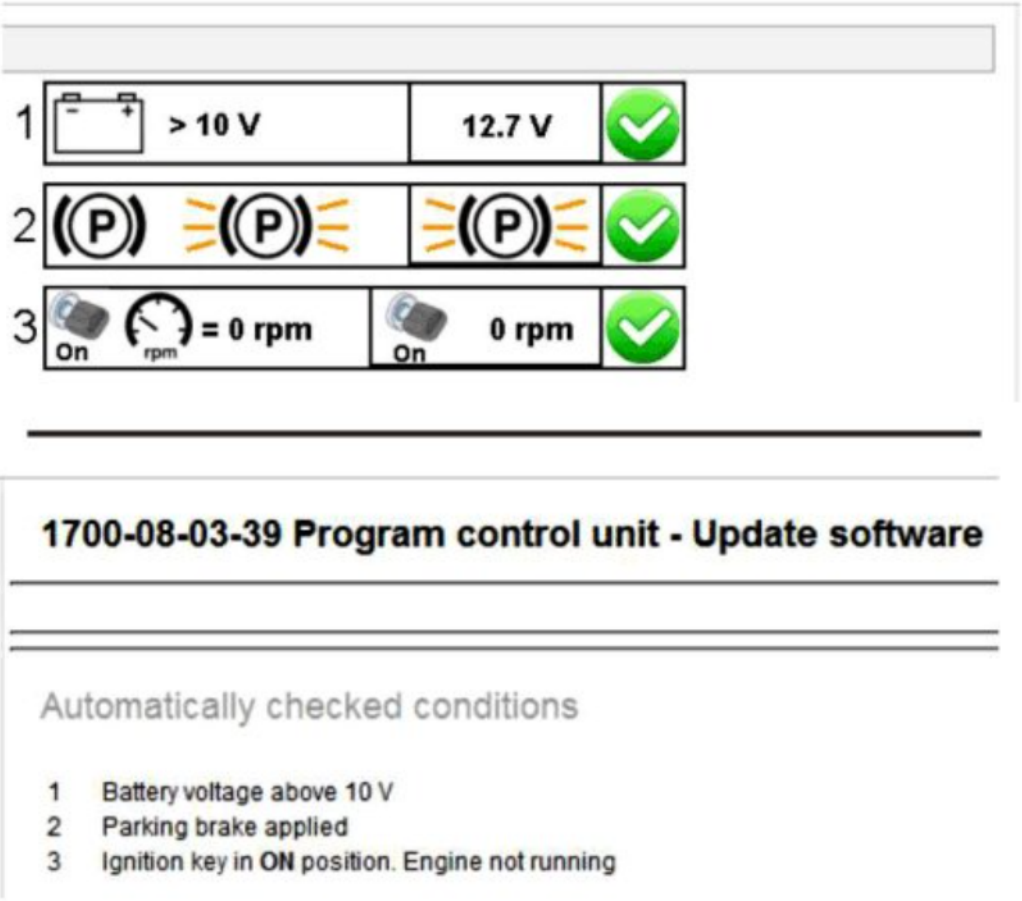
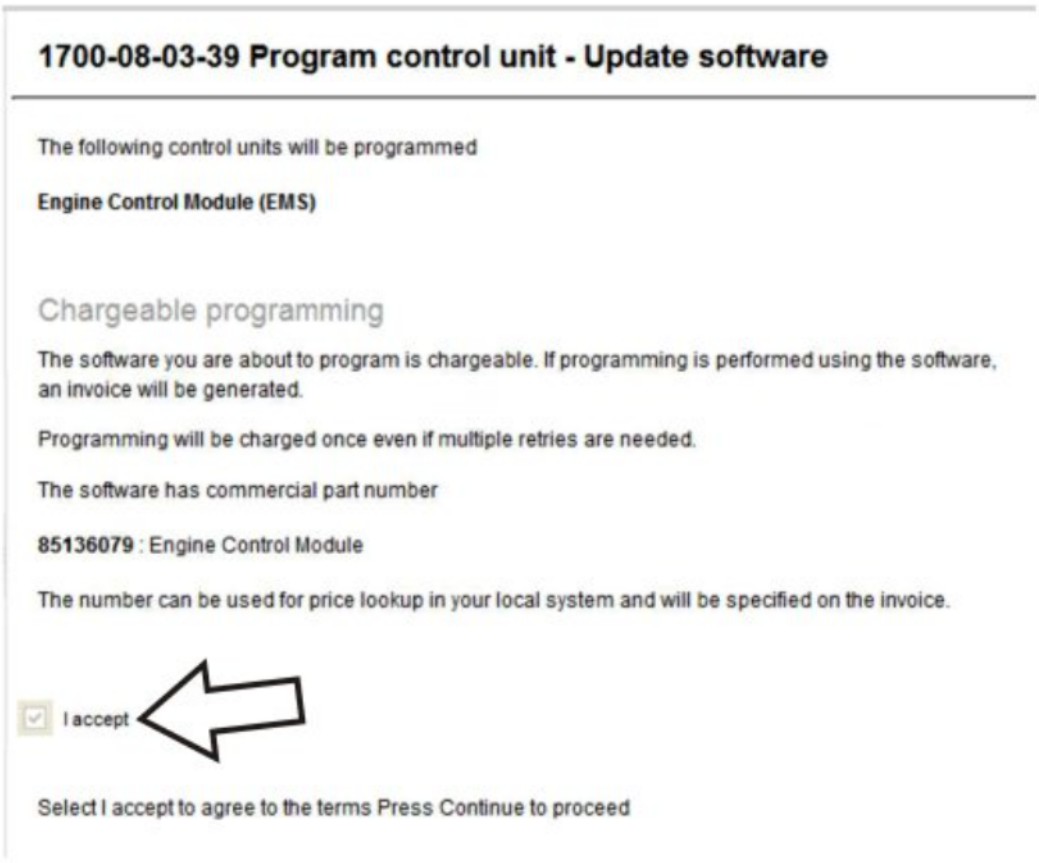


13. Select “I accept” to agree to the terms and press continue to proceed.

    Note: In the United States and Canada, the programing is NOT chargeable. An invoice will not be generated.



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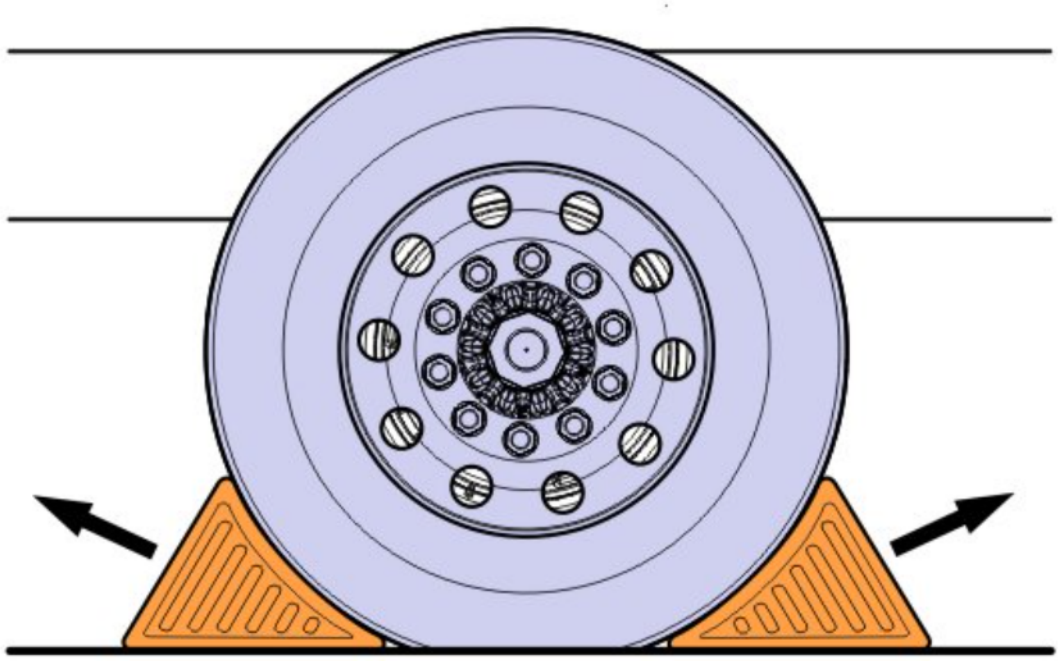
14. When programming is complete, click Exit to return to Main Menu to program the ACM.
15. When all programing is complete, clear any diagnostic trouble codes (DTC) and Finish Work.
16. Remove the wheel chocks.



Reimbursement

This repair may be eligible for reimbursement if a product failure was experienced within time and mileage limits of the applicable Warranty coverage. Reimbursement is obtained via the normal claim handling process.	UCHP Reimbursement
Claim Type (used only when uploading from the Dealer Bus. Sys.)	01
Labor Code	
Primary Labor Code (Engine Control Module (ECM) and Aftertreatment Control Module (ACM), Reprogramming)	2841-22-09-19 0.4 hrs.
Causal Part	3092091

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Methods For Taking A Screenshot / Screen Capture For eService Cases Or Other Use; Premium Tech Tool (PTT) And Other Software

Internal Content

Overview

There are a variety of reasons a screenshot may be needed for review. Diagnostic Trouble Code Readouts, PTT errors, product or control unit information, diagnostic test results, steps and messages, and oscilloscope readings name a few.

There are tools available to capture a screenshot, and Windows itself also has the ability to copy a screenshot to the clipboard without launching a program. This solution will cover the two methods that can be used on most every computer. If there is other imaging software installed on a computer that allows screen captures (Snagit, Jing, and FastStone Capture are a few examples), the software instructions will need to be followed.

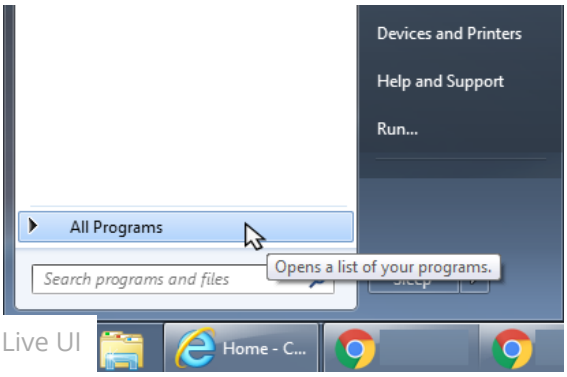
Procedure

I. Using The Windows Snipping Tool

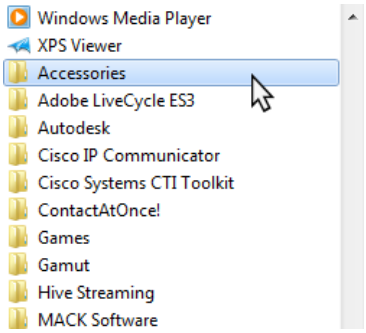
Computers running Windows XP or newer (Windows 7, Windows 8, Windows 10) have the Snipping Tool utility installed as part of the Windows software package. The Snipping Tool allows shots to be taken of specific parts of the screen, speeding the process of capturing and saving a screenshot.

For Windows XP, Windows 7, and Windows 10:

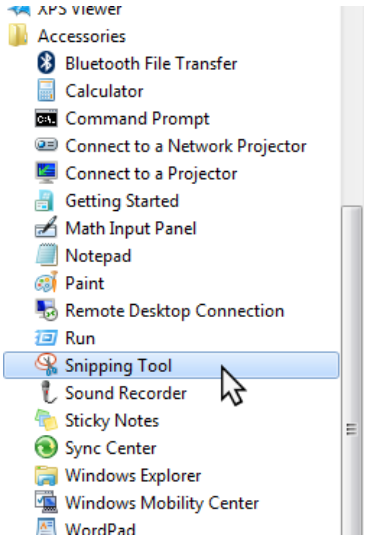
1. Click on the Start Menu, then mouse over or click on All Programs:



2. Scroll through the list of programs and find the Accessories folder:



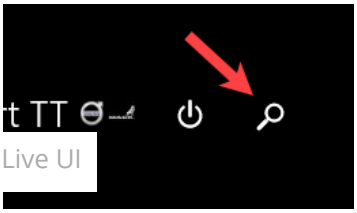
3. Click on the Accessories folder, then find the Snipping Tool. Click to open the program.



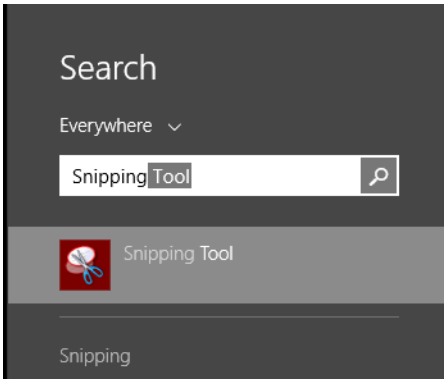
For Windows 8:

1. Click the Start button to bring up the Start Screen

2. Click the Search button (magnifying glass) in the upper right-hand corner of the screen



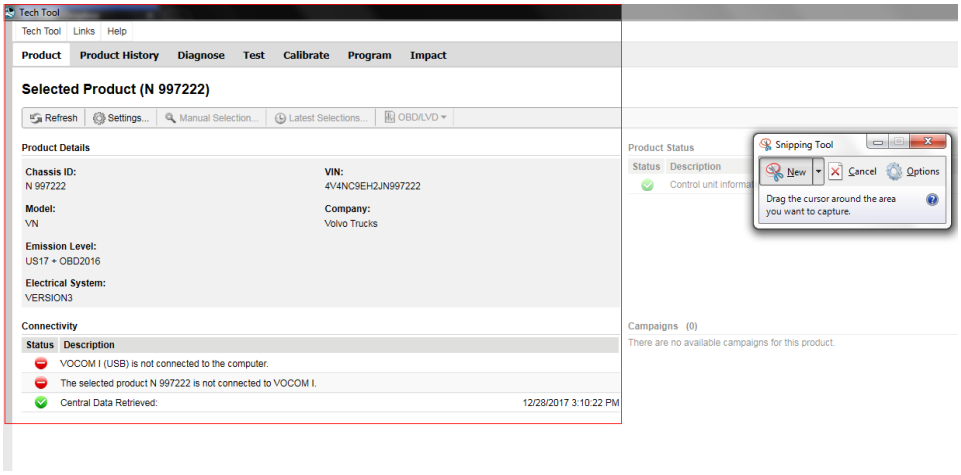
3. Type "Snipping" into the search bar. Click on Snipping Tool to open the program



For all Windows versions:

4. The Snipping Tool will open ready to capture a shot. The cursor should change to a cross icon. If the capture doesn't start automatically, click the New button in the Snipping Tool Window.

4a. Move the cursor to where one corner of the screenshot should be. Click and hold the left mouse button, then drag the mouse to the opposite corner of the desired shot:



4b. When the left mouse button is released, Snipping Tool will capture the highlighted area and open it in a preview window:

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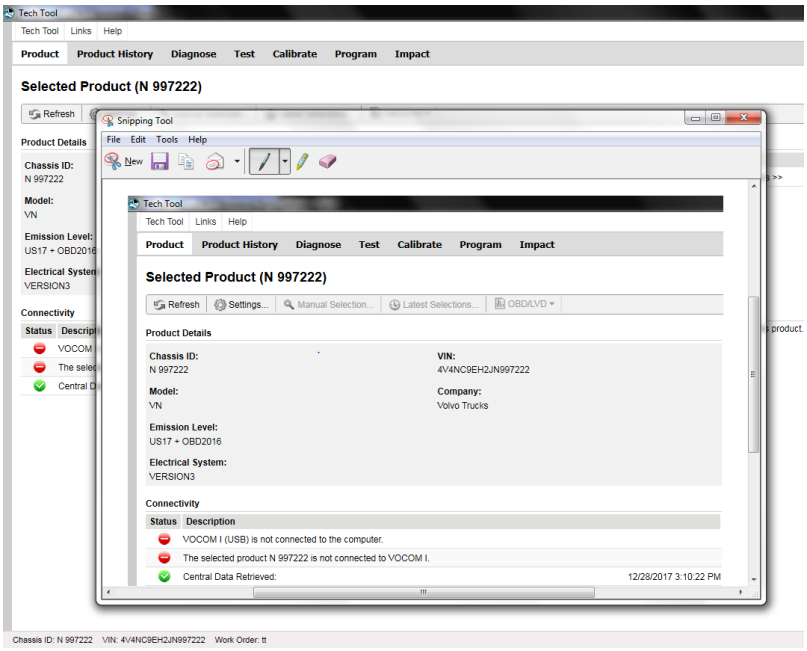
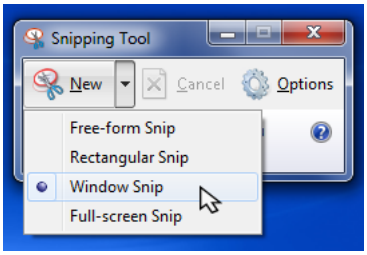


5. If a shot of a complete window is needed, click the dropdown icon (down arrow) next to the New button in the Snipping Tool and select Window Snip. Clicking once on the desired window to copy will open a screenshot of the full window in the preview pane:



6. Click on the Save (Disk) icon in the preview window. Save the file to desktop or a folder where it can be located. Attach the file to the eService case as needed.

II. Using The Print Screen Key

1. If the screenshot will be of a specific window, make sure the window is maximized first.

2. To capture a screenshot of the full screen, press the Print Screen key keyboard. **NOTE:** Many laptops have Print Screen sharing a key other function. It may be necessary to hold the Function key (Usually marked as Fn) as Print Screen is pressed

Live UI

(Usually marked as Fn) as Print Screen is pressed

Wired keyboard

Laptop keyboard

2a. If taking a shot of a specific window, holding the Alt key and pressing Print Screen (Alt+Fn+Print Screen on a laptop) will only capture the contents of the currently selected window

Wired keyboard

Laptop keyboard

3. Open MS Paint

• **For Windows XP and Windows 7** Paint is located in the Accessories folder of the Start menu, follow the above steps for locating Snipping Tool

• **For Windows 8** Follow the steps for the Snipping Tool above to go to the Search box on the Start screen. Search for Paint

4. With Paint open, press either Ctrl+V on the keyboard to paste the screenshot, click the Paste button in the upper left-hand corner of the screen (Windows 7), or select Paste from the Edit menu at the top of the screen (Windows XP). The screenshot will appear in the drawing area.

5. Save the screenshot to Desktop or another folder where it can be easily located. Attach it to the eService case as needed.

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Tags

k52225504 us04 us07 us10 us10+obd13

us14+obd13 us14+obd15 us14+obd16

us17+obd16 us17+obd18 vn vah vhd

vt 11l engine 13l engine 16l engine mp7

mp8 mp10 cu15 cu12 cng cu9 cng

cu9 leu lr mru - terrapro te - terrapro

an - anthem chu - pinnacle axle back

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