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## General Information

**IMPORTANT:** The process of reading and uploading parameters should **not** be performed if there are parameters on the vehicle's chassis ECUs that are not intended to be recorded in a service record. Only one service record per ECU, per vehicle, will be stored on the server. Once a new service record for an ECU is created, the old record is no longer available for download.

There are two different procedures for programming chassis ECUs with DiagnosticLink:

- Updating functioning vehicle chassis ECUs by uploading the parameters of the vehicle's ECUs to the server and then downloading these parameters with the updated software.
- Overwriting the parameters and software installed on the ECU with the most recent parameter sets and software from the server by directly using 'Program Device' in DiagnosticLink.

Retain the parameter information contained on a vehicle's chassis ECU when the chassis ECU is functional. A vehicle's functioning ECUs should be considered the primary source for parameters. To retain parameters:

1. Read the current vehicle's chassis ECUs parameters and upload them to the server in the 'Program Device' window.
2. Then program the chassis ECU with updated software using 'Program Device.' The parameters just uploaded will be downloaded with the updated software.

Overwrite the parameters and software installed on the ECU when:

- performing the initial programming of a spare part ECU, or
- when attempting to recover an incorrectly parameterized ECU.

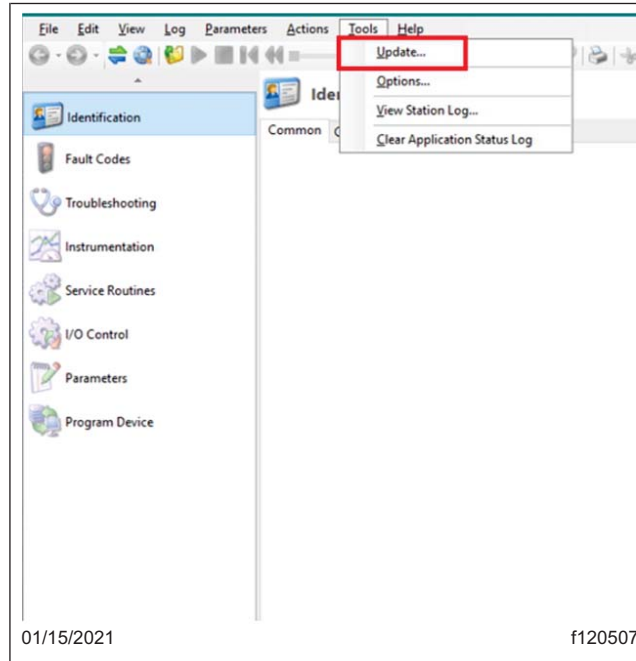
If upgrading an ECU to newer hardware when the current ECU is functional, do the following:

1. Read the current ECU parameters and upload them to the server in the 'Program Device' window.
2. Install the new ECU hardware.
3. Overwrite the new ECU using 'Program Device.'

This will transfer the parameters from the old ECU to the new ECU.

## Programming Chassis ECUs in DiagnosticLink

1. Park the vehicle on a level surface, shut down the engine, and apply the parking brakes. Chock the tires.
2. Connect the vehicle to DiagnosticLink. Make sure that DiagnosticLink is updated to the latest version (8.13 at the time of publication) or newer. To update DiagnosticLink, select 'Tools' from the top menu and then select 'Update' from the dropdown menu. See [Fig. 1](#).



**Fig. 1, Updating DiagnosticLink to the Latest Version**

2.1 When programming, we recommend configuring DiagnosticLink to connect only to 'Default' ECUs.

To make this change in DiagnosticLink:

- Select 'Tools' from the top menu, and then select 'Options' from the drop down menu.
- Find and select the 'Connection' tab. See [Fig. 2](#).
- Select the 'Select Defaults' button on the right side of the window, then select 'Apply.'



- Remove any 'Request Pending' downloads and serial numbers in the main window by selecting the 'Request Pending' list item(s) and then selecting the 'Remove' button on the right-hand side of the window. Do not select 'Remove All;' selecting 'Remove All' deletes all data pending upload. See Fig. 4.

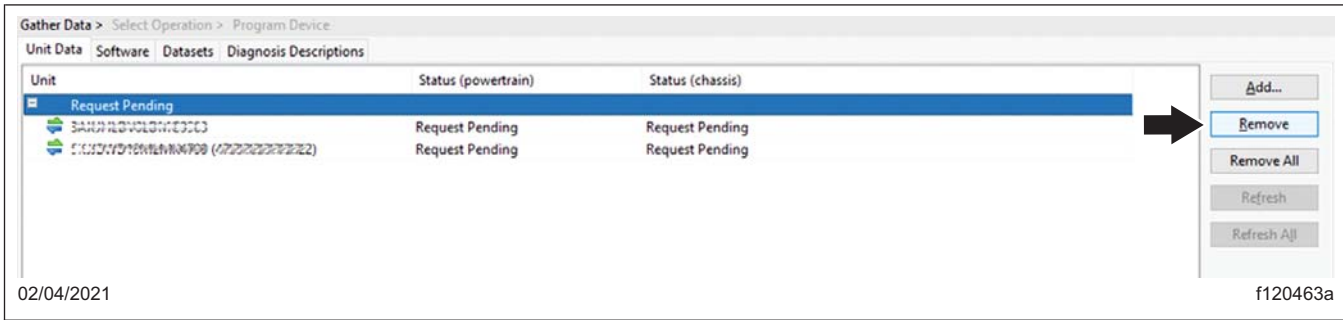


Fig. 4, Removing Pending Requests

- Turn the ignition ON and allow time for all the default vehicle ECUs to connect. (Default vehicle ECUs are listed on the bottom left-hand side of the window under 'Connections' in Fig. 5.)

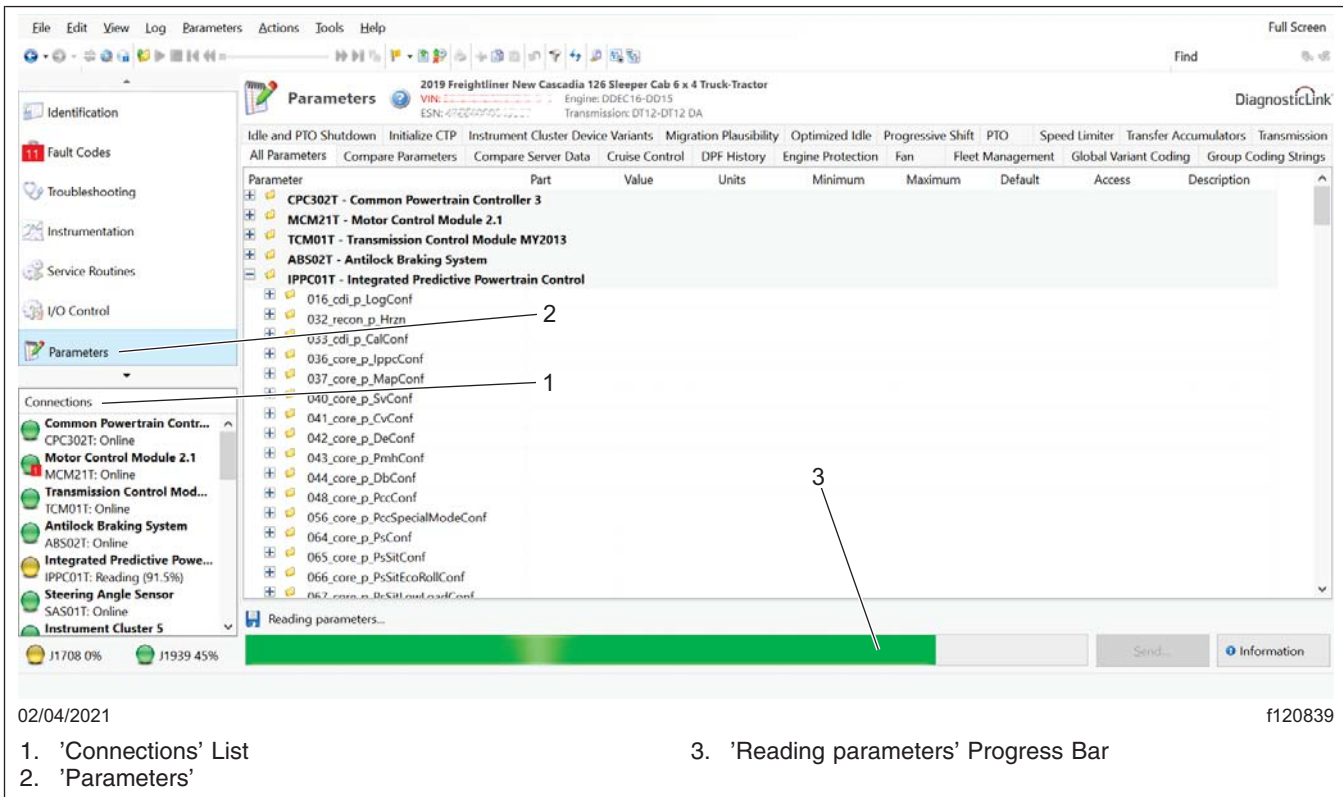


Fig. 5, Connecting Default ECUs and Reading Vehicle Parameters on DiagnosticLink

- If programming functional chassis ECUs, select 'Parameters' on the upper left-hand part of the window and then continue with the following substeps.



Authentication

Please enter your user name and password.

User Name

Remember my user name

Password

[Logon Help](#)

You have 60 days remaining before a server login is required to keep the tool active.

OK Cancel

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**Fig. 7, Login Window**

- 7.4 Select 'Add' to add a download request for the vehicle by entering the vehicle identification number (VIN). See **Fig. 8**.

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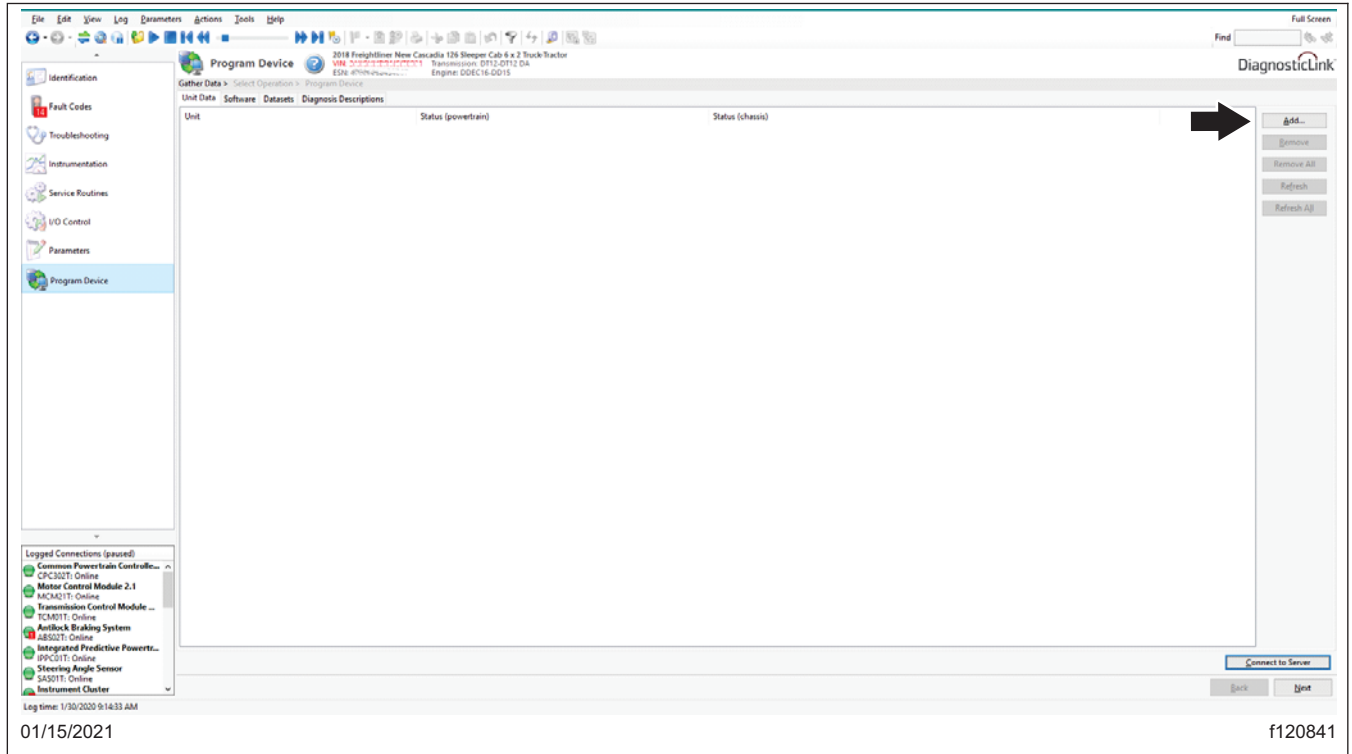


Fig. 8, Adding the VIN to Download Updated Server Data

- 7.5 Make sure the correct VIN and hardware information is populated in the window, then select 'OK.' See Fig. 9.

Request Equipment Data Download

Enter the identity of the equipment you wish to program.

Vehicle Identification  VIN  PIN

Engine Serial Number (Unit Number)

Device controllers for this equipment

+ Add - Remove

Device	Hardware Part Number
CPC302T	A0044462502-002
MCM21T	A0014465835-002
TCM01T	A0504463609-002
IPPC01T	A0004460675-001
ICUC01T	06-93681-101
HVAC_F01T	06-94732-000
SSAM02T	A06-94904-001
CGW04T	06-93361-002
ACM21T	A0004465954-002

Clear All OK Cancel

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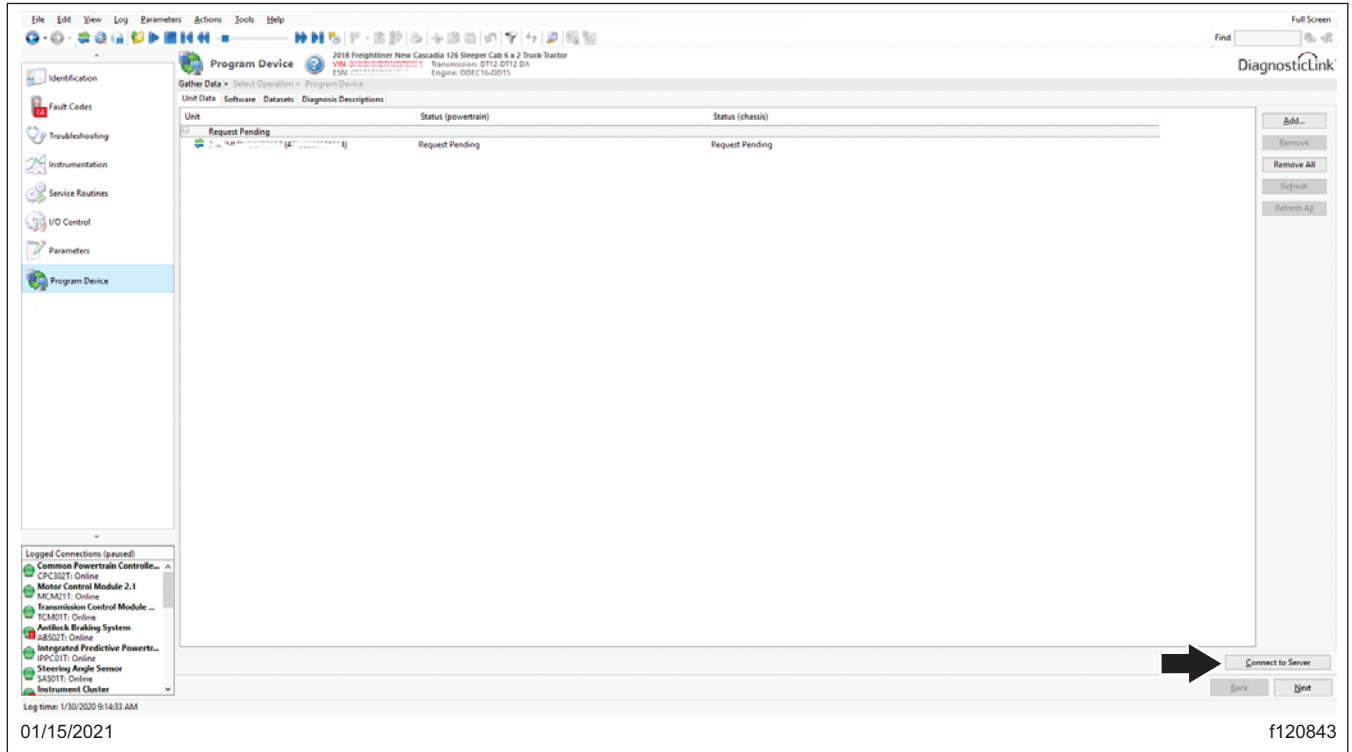
**Fig. 9, Verify VIN and Hardware Information**

- 7.6 There should be a request pending status for the VIN. Select 'Connect to Server' as shown in [Fig. 10](#), to download the updated software and parameters for the vehicles ECUs.
- The server will provide any new software that may be available for this vehicle's default ECUs as well as parameter sets based on the parameters that were just uploaded.
- When the process is completed, go to step 9.

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**Fig. 10, Downloading Updated Vehicle ECU Software and Parameters**

8. If performing the initial programming of a spare part ECU or attempting to recover an incorrectly parameterized ECU, select 'Program Device' on the upper left-hand part of the window.
  - 8.1 Use your DTNAConnect information to connect to the server; see [Fig. 7](#). Your sign-in to the server will remain active until DiagnosticLink is closed.
  - 8.2 Select 'Add' to add a download request for the vehicle by entering the vehicle VIN. See [Fig. 8](#).
  - 8.3 Make sure the correct VIN and hardware information is populated in the window, then select 'OK.' See [Fig. 9](#).
  - 8.4 There should be a request pending status for the VIN. Select 'Connect to Server' to download the software and parameters for the vehicle's ECU(s) that need to be overwritten. See [Fig. 10](#).  
The server will provide any new software that may be available for this vehicle's default ECUs.
9. Once the data has been downloaded, select 'Next.' See [Fig. 11](#).



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2019 Freightliner New Cascadia 126 Sleeper Cab 6 x 4 Truck-Tractor  
 VIN: 3A11111111111111111111111111111111  
 ESN: 11111111111111111111111111111111  
 Engine: DDEC16-DD15  
 Transmission: DT12-DT12 DA

Gather Data > Select Operation > Program Device

Select the device to program

Name	Description
IPPC01T	Integrated Predictive Powertrain Control
ICC501T	Instrument Cluster 5
HWAC_F01T	HVAC Front
SSAM02T	Single SAM
CGW04T	Central Gateway
RDF02T	Radar Frontend 2

Select the reprogramming operation you wish to take place

Replace Device Settings with Server Configuration  
 Update Device Software  
 Change Dataset

Select the unit and settings data to apply to the device

Unit	Status
3A11111111111111111111111111111111	OK

Settings

Settings	Status	Timestamp	Comment
Factory	Factory settings cannot be programmed after software has been up...		
Latest	OK		
Newest	OK		

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1. Device to Program                      2. Vehicle Identification Number (VIN)                      3. Settings

**Fig. 12, Selecting the Device (ECU) to Program With 'Latest' or 'Newest' Software**

11. Verify the VIN and hardware part number again, then select 'Start' to program the selected device (ECU). See [Fig. 13](#).

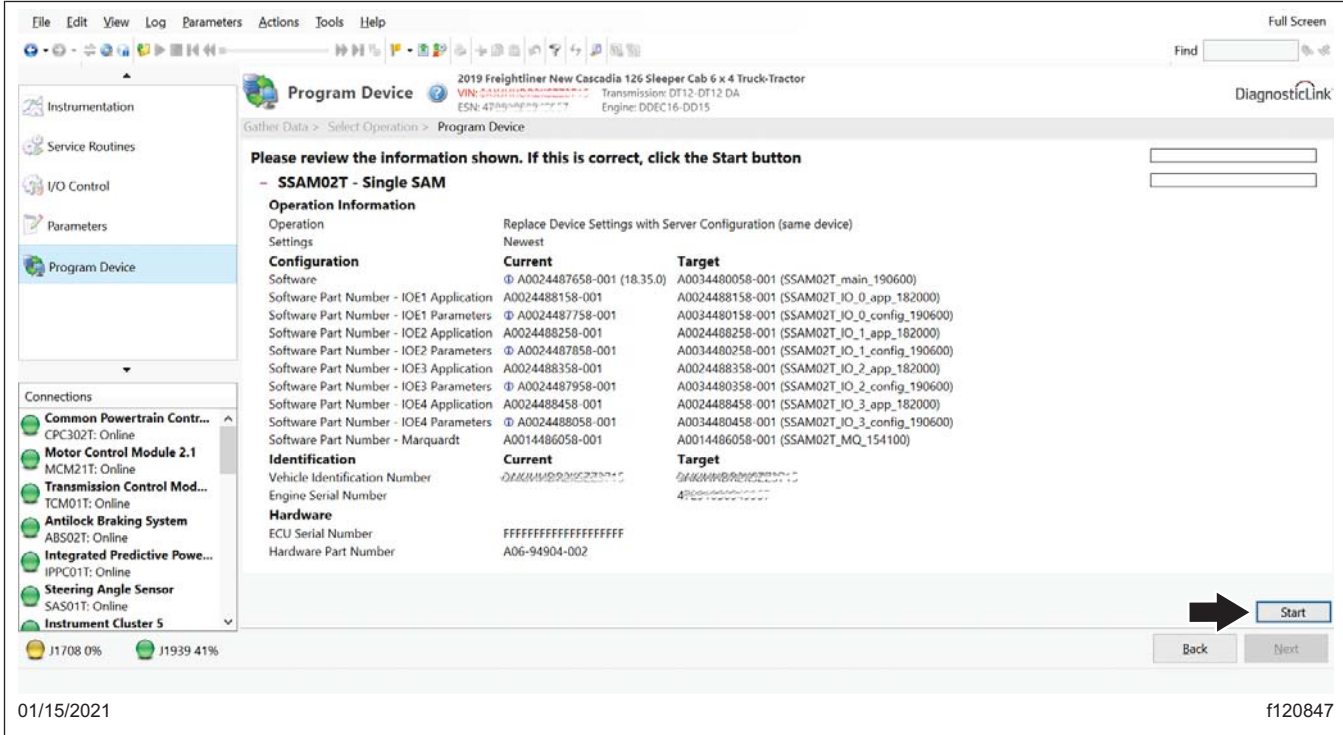


Fig. 13, Select Start to Program the Selected Device (ECU)

12. The updated software and parameters will be installed on the device (ECU) as shown in Fig. 14.

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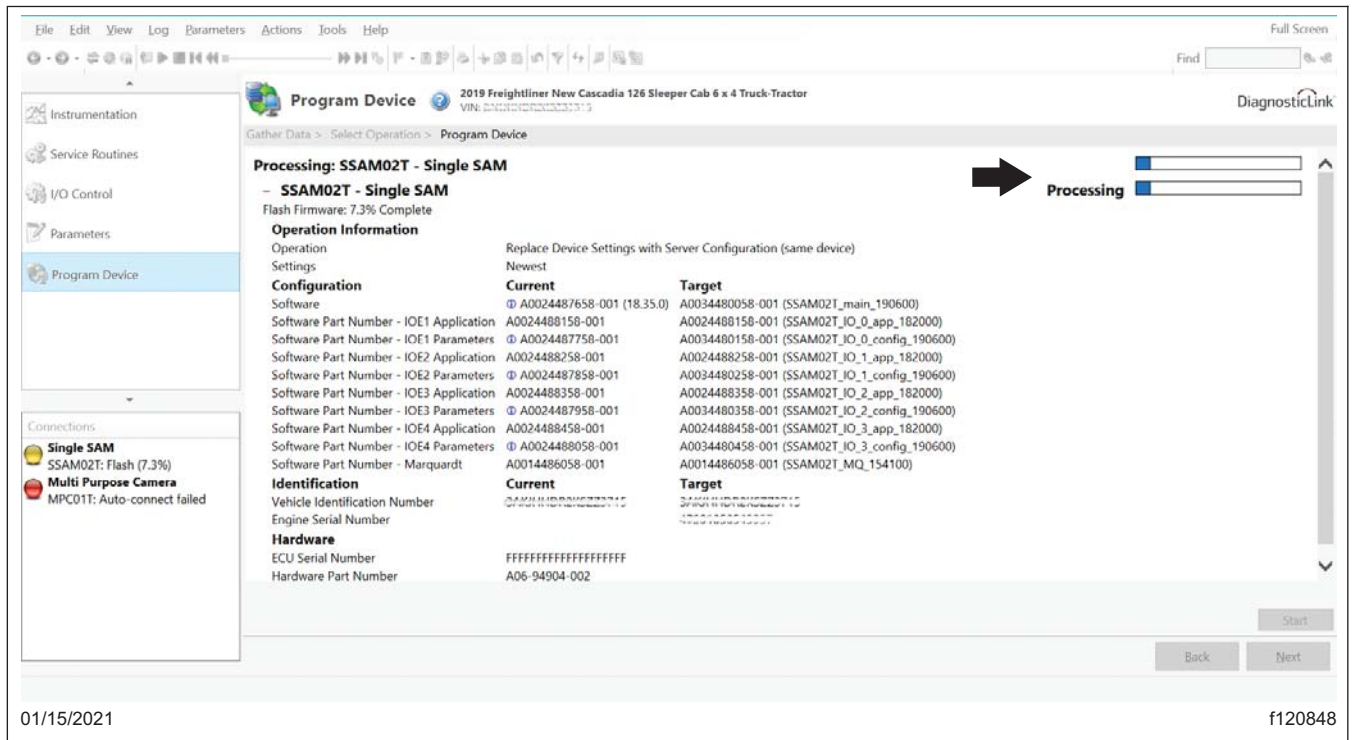


Fig. 14, Programming the Device (ECU)

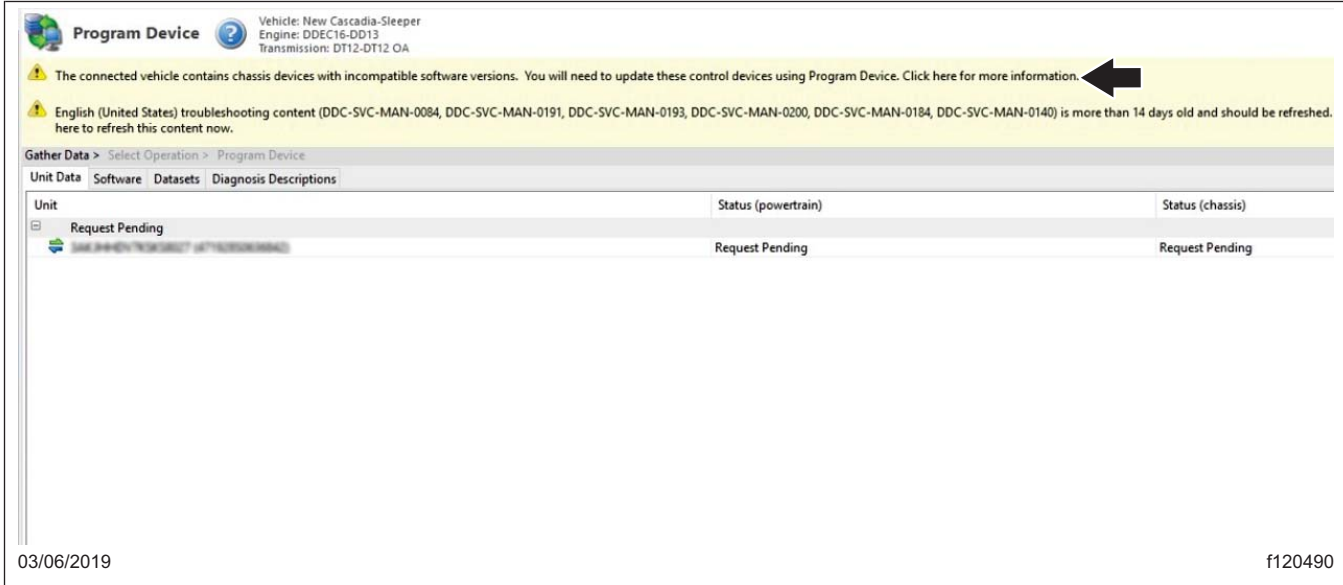
13. When programming is complete, the page will display the message: 'The device was successfully programmed' to indicate the ECU has been successfully updated. Select 'Finish.'

**IMPORTANT:** After programming is complete, the following banner message may appear in DiagnosticLink: 'The connected vehicle contains chassis devices with incompatible software versions, you will need to update these control devices using Program Device. Select here for more information.' If this banner message is shown, continue with the next sub-step. Otherwise, go to the next step.

- 13.1 Select the banner message. See Fig. 15.

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**Fig. 15, Selecting the Banner Message**

13.2 Print or take a screen shot of the incompatible chassis devices (ECUs). See [Fig. 16](#).

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Compatibility Information X

The connected vehicle contains chassis devices with incompatible software versions. You will need to update these control devices using Program Device.

VIN: 3AKHLD2V1L534100 ESN: 4719282488291

Compatibility information may not be complete due to the following issues:

Data Source	Device	Hardware	Software	Issue
Edex	CGW04T	36-82361-002	A000448227-001	The set of software returned from the server for programming does not appear in the compatibility table supplied from the server.
Edex	DCMD02T	36-01126-000	A0004487132-001	The set of software returned from the server for programming does not appear in the compatibility table supplied from the server.
Edex	DCMP02T	36-01126-000	A0004482119-001	The set of software returned from the server for programming does not appear in the compatibility table supplied from the server.
Edex	SSAM02T	A00-94904-000	A0004488016-001	The set of software returned from the server for programming does not appear in the compatibility table supplied from the server.
Edex	ICUC01T	36-82361-101	A0124482921-001	The set of software returned from the server for programming does not appear in the compatibility table supplied from the server.
Edex	HVAC_F01T	36-94732-000	A0004487128-001	The set of software returned from the server for programming does not appear in the compatibility table supplied from the server.
Edex	RDF02T	A0004482149	A0004482149-001	The set of software returned from the server for programming does not appear in the compatibility table supplied from the server.

Print...
Copy
OK

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**Fig. 16, Printing the List of Incompatible Chassis Devices (ECUs)**

**NOTE:** In some cases, the compatible hardware part number may be different from the hardware currently installed on the vehicle. If this is the case, the hardware may need to be replaced.

13.3 Program all devices (ECUs) listed as incompatible from the previous step:

- Select 'Program Device' on the upper left-hand part of the window.
- Select the device (ECU) to program, select the VIN, and select either 'Latest' or 'Newest.' Then select 'Next.'
- Verify the VIN and hardware part number then select 'Start' to program the selected device (ECU).
- Repeat until all incompatible devices (ECUs) are programmed.

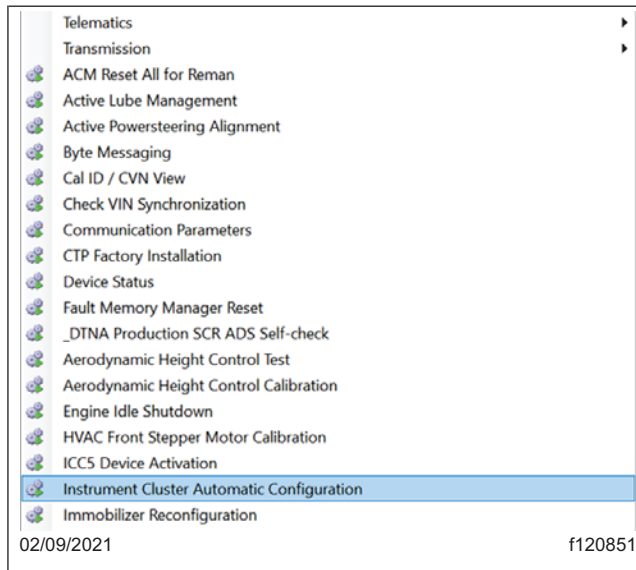
**IMPORTANT:** After a programming, some fault codes may become active and some ECUs may not auto-connect. Cycling the ignition may clear the faults and connect the ECUs.

14. Turn the ignition to the OFF position, unplug from the diagnostic port and close and restart DiagnosticLink. Wait one minute.

15. Cycle the ignition 3 times, waiting 30 seconds between key OFF and key ON.

**NOTE:** This action will enable Intelligent Predictive Powertrain Control (IPPC) to start communicating on Roll Call, and eliminate codes for the IPPC not communicating.

16. Turn the key to the ON position for the fourth time and connect the vehicle to DiagnosticLink.
17. Click on the 'Actions' menu and scroll down and select 'Instrument Cluster Automatic Configuration.' See [Fig. 17.](#)



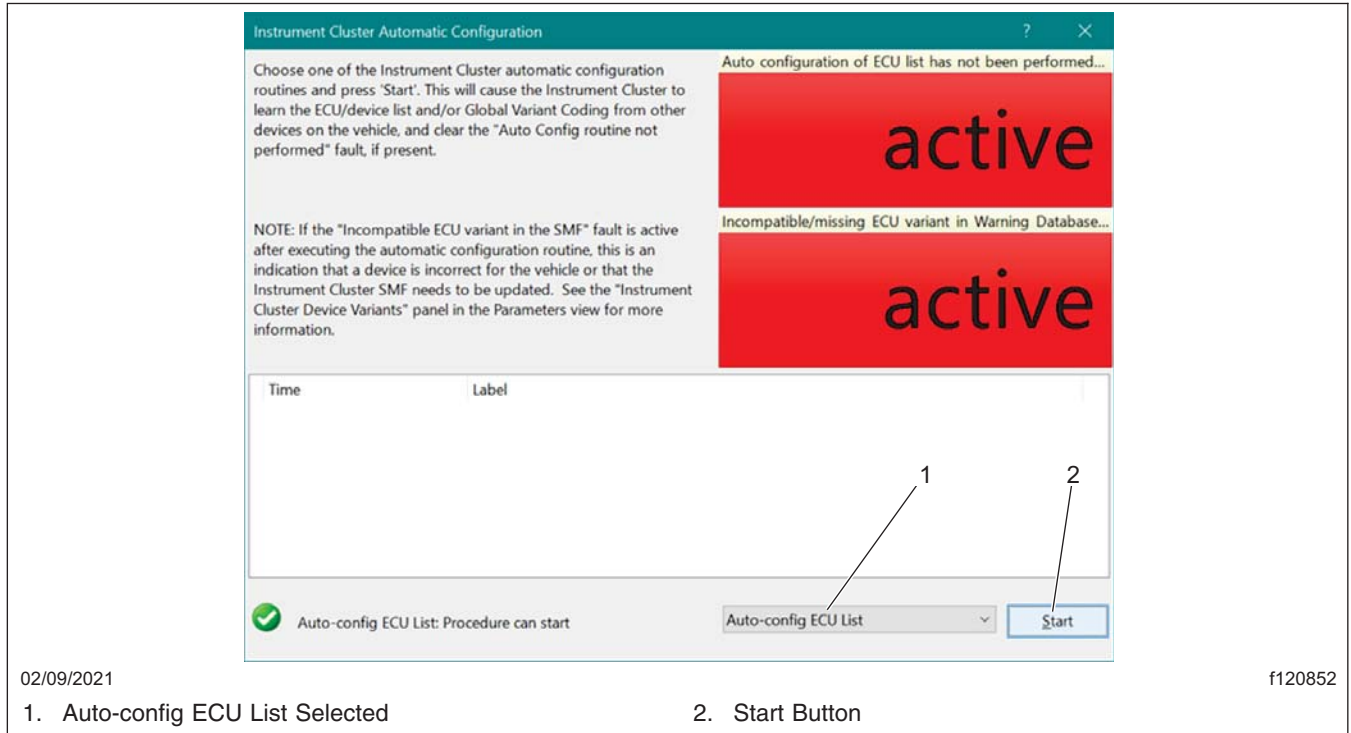
**Fig. 17, 'Actions Menu,' 'Instrument Cluster Automatic Configuration' Selected**

18. Verify that the menu selection at the bottom of the window is 'Auto-config ECU List' and select 'Start.' See [Fig. 18.](#)

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**Fig. 18, 'Instrument Cluster Automatic Configuration' Window**

19. Once the configuration step is complete, turn the ignition to the OFF position, unplug from the diagnostic port, and close and restart DiagnosticLink. Wait one minute.
20. Turn the key to the ON position and connect the vehicle to DiagnosticLink.
21. Clear inactive faults and troubleshoot any active faults.
22. Turn the ignition to the OFF position, unplug from the diagnostic port, and close DiagnosticLink.

## Warranty

This is an informational bulletin only. Warranty does not apply.