Daimler Truck North America LLC

Field Service Campaign

March 2024
SF681 A-C
(Revised September 2024)

Subject: eCascadia Software Package Update

Models Affected: Specific model years 2023-2024 Freightliner eCascadia vehicles, manufactured May 16, 2022, through September 19, 2023.

General Information

REVISION: Steps 19 & 20 have been added to ensure the DCB is unlocked.

Daimler Truck North America LLC (DTNA), on behalf of its Freightliner Trucks division, is initiating Field Service Campaign SF681 A-C to modify the vehicles mentioned above.

Certain eCascadia vehicles require eCPC (Electric Common Powertrain Controller) and BMS (Battery Monitoring System) software updates to resolve multiple issues.

The DCB (Direct Current Box) module(s) will be replaced, and the software will be updated. Vehicles in group A will also receive a coolant plumbing update.

There are approximately 378 vehicles involved in this campaign.

Additional Repairs

Dealers must complete all outstanding recall and field service campaigns prior to the sale or delivery of a vehicle. A dealer will be liable for any progressive damage that results from its failure to complete campaigns before sale or delivery of a vehicle.

Owners may be liable for any progressive damage that results from failure to complete campaigns within a reasonable time after receiving notification.

Please contact Warranty Campaigns for consideration of additional charges prior to performing the repair.

Work Instructions

Please refer to the attached work instructions. Prior to performing the campaign, check the vehicle for a completion sticker (Form WAR261).

Replacement Parts

Replacement parts are now available and can be obtained by ordering the kit and/or part number(s) listed below from your facing Parts Distribution Center (PDC).

If our records show your dealership has ordered any vehicle(s) involved in campaign number SF681, a list of the customers and vehicle identification numbers will be available in OWL (Online Warranty Link), found on the DTNA Portal. Please refer to this list when ordering parts for this campaign.

Table 1 - Replacement Parts for SF681

Campaign Number	Part Number	Part Description	Qty.
SF681 A	66-32674-003	DCB,HV CHRGNG CNTRL UNT 1,EMG	1
	66-32674-004	DCB,HV CHRGNG CNTRL UNT 2,EMG	1
	A05-36413-002	PIPE-BATT,BATT1,HOSE	1
	A05-36639-001	PIPE-BATT,BATT-3/2,HOSE	1
	05-37474-000	HOSE BATT-VENT, ID 9.5	1
	05-37580-000	BRKT-BATTERY VENTLINE,LFTNG	1
	05-37579-000	BRKT-BATTERY VENTLINE,PMP ,EP4	1
	23-12691-003	CLAMP-HOSE,CONSTANT TNSN,.375	4
	23-12485-125	CLAMP-WORM,CONSTANT,1-1/4 HOSE	5
	23-14234-001	CLAMP-BEAM,5.5-8.7	3
	23-13476-000	TIE-CLAMP,.5W,15L,4.13BUNDLE	2
	23-14137-001	CABLE TIE-FIR TREE MOUNT,TYC	4
	05-36390-407	FITTING-NORMA,Y CONN,NW7	1
	23-12905-030	SCREW-CAP,HEX,M14X30,10.9 ZNC	1
	23-14451-114	NUT-HEX,LKG,VLH,M14X1.5	1
SF681 B	66-32674-003	DCB,HV CHRGNG CNTRL UNT 1,EMG	1
	66-32674-004	DCB,HV CHRGNG CNTRL UNT 2,EMG	1
SF681 C	66-32674-002	DCB,HV CHRGNG CNTRL UNT 1,EMG	1
ALL GROUPS	WAR261	BLANK COMPLETION STICKER	1

Table 1

Removed Parts

U.S. and Canadian Dealers, please follow Warranty Failed Parts Tracking shipping instructions for the disposition of all removed parts. Export distributors, please destroy removed parts unless otherwise advised.

Labor Allowance

Table 2 - Labor Allowance

Campaign Number	Procedure	Time Allowed (hours)	SRT Code	Corrective Action
SF681 A	Replace Both Single & Double-Port DCB Modules, Update eCPC & BMS Software, Repair Coolant Pipe Assy	5.8	996-F213A	12-Repair Recall/Campaign
SF681 B	Replace Both Single & Double-Port DCB Modules, Update eCPC & BMS Software	4.3	996-F213B	12-Repair Recall/Campaign
SF681 C	Replace Single-Port DCB Module, Update eCPC & BMS Software	4.2	996-F213C	12-Repair Recall/Campaign

Table 2

IMPORTANT: When the campaign has been completed, locate the base completion label in the appropriate location on the vehicle, and attach the gray completion sticker provided in the field service kit (Form WAR261). If the vehicle does not have a base completion label, clean a spot on the appropriate location of the vehicle and first attach the base completion label (Form WAR259). If a field service kit is not required or there is no completion sticker in the kit, write the campaign number on a blank sticker and attach it to the base completion label.

Claims for Credit

You will be reimbursed for your parts, labor, and handling (landed cost for Export Distributors) by submitting your claim through the warranty system within 30 days of completing this campaign. Please reference the following information in OWL:

- Claim type is **Field Service Campaign**.
- In the Campaign field, enter the campaign number and appropriate group (**SF681-A, SF681-B, etc.**).
- In the Primary Failed Part field, enter **25-SF681-000**.
- In the Parts section, enter the appropriate part number(s) as shown in the Replacement Parts Table.
- In the Labor section, enter the appropriate SRT from the Labor Allowance Table. Administrative time will be included automatically as SRT 939-6010A for 0.3 hours.
- The VMRS Component Code is **F99-999-005** and the Cause Code is **A1 - Campaign**.
- This Field Service Campaign will **terminate on March 31, 2025**. Dealers will be notified of any changes to the termination date via an Important Campaign Information Letter (ICI) posted on the DTNA Portal.

IMPORTANT: OWL must be viewed prior to beginning work to ensure the vehicle is involved and the campaign has not previously been completed. Check for a completion sticker before beginning work.

All claims must be submitted within 30 days of the repair and within 30 days of the termination date of the campaign. U.S. and Canadian Dealers: All excess inventory to be returned to the PDC following the conclusion of the campaign must be returned in resaleable condition to the Memphis PDC within 90 days from the termination date. Please submit a PAR to request return to the Memphis PDC. (Canadian dealers should return the kits to their facing PDC.) Export Distributors: Excess inventory is not returnable.

For questions, U.S. and Canadian dealers, contact the Warranty Campaigns Department using the Warranty Support Center (WSC) app located on the DTNA Portal. Export distributors, submit a WSC inquiry, or contact your International Service Manager.

Copy of Notice to Owners

Subject: eCascadia Software Package Update

Daimler Truck North America LLC (DTNA), on behalf of its Freightliner Trucks division, is initiating Field Service Campaign SF681 A-C to modify specific model years 2023-2024 Freightliner eCascadia vehicles, manufactured May 16, 2022, through September 19, 2023.

Certain eCascadia vehicles require eCPC (Electric Common Powertrain Controller) and BMS (Battery Monitoring System) software updates to resolve multiple issues.

The DCB (Direct Current Box) module(s) will be replaced, and the software will be updated. Vehicles in group A will also receive a coolant plumbing update.

Please contact an authorized DTNA dealer to arrange to have the campaign performed and to ensure that parts are available at the dealership. The campaign will take approximately four to six hours and will be performed **free of charge**. To locate an authorized dealer, search online at northamerica.daimlertruck.com/contact-us. Scroll down to “Locate a Dealer,” and select the appropriate brand.

This Field Service Campaign will **terminate on March 31, 2025**. Please make sure the campaign is completed prior to this date. Work completed after this date will be done at the customer’s expense.

As stated in the terms of your express limited warranty, DTNA will not pay for any damage caused by failure to properly maintain your vehicle. DTNA considers the work necessary under this campaign to be proper maintenance and will, therefore, not pay for any damage to your vehicle caused by your failure to have the repairs that are the subject of this campaign performed in a reasonable time.

Contact the Warranty Campaigns Department at (800) 547-0712, from 7 a.m. to 4 p.m. Pacific Time, Monday through Friday, e-mail address dtna-war-campaigns@daimlertruck.com, or the Customer Assistance Center at (800) 385-4357, if you have any questions or need additional information.

WARRANTY CAMPAIGNS DEPARTMENT

Enclosure

Work Instructions

Subject: eCascadia Software Package Update

Models Affected: Specific model years 2023-2024 Freightliner eCascadia vehicles, manufactured May 16, 2022, through September 19, 2023.

REVISION: Steps 19 & 20 have been added to ensure the DCB is unlocked.

SF681 A: Replacement of Direct Current Box (DCB) Modules & Coolant Plumbing Update

1. Check the base label (Form WAR259) for a completion sticker for SF681 (Form WAR261), indicating this work has been done. The base label is usually located on the passenger-side door, about 12 inches (30 cm) below the door latch. If a completion sticker is present, no work is needed. If a completion sticker is not present, proceed to the next step.
2. Park the vehicle on a level surface, place the vehicle in neutral, shut down the vehicle, and set the parking brake. Chock the tires.

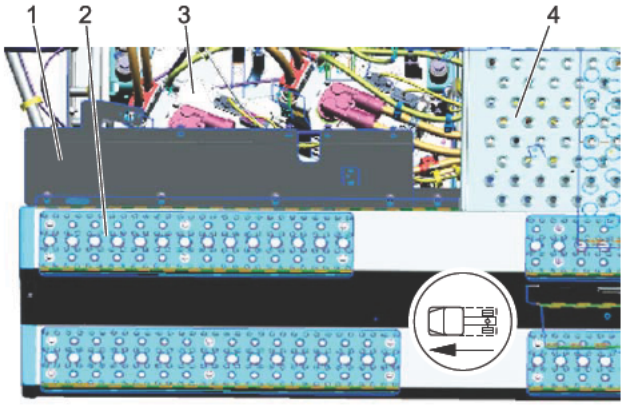
⚠ DANGER

Service and repair of the electric vehicle should only be performed by technicians that have completed HV2 or HV3 Daimler Safety Training. Decommissioning and commissioning of the HV system should only be performed by technicians that have completed HV3 Daimler Safety training. To prevent personal injury or death, or damage to the electric system, do not attempt repairs yourself.

Decommission the vehicle and verify the high voltage system is shut down. Failure to follow these steps could result in serious personal injury or death.

3. Decommission the vehicle. For instructions, see **Section 08.08** of the *eCascadia Workshop Manual*.

4. Remove the left-hand side battery deck plate. See Fig. 1. For instructions, see **Section 31.05** of the *eCascadia Workshop Manual*.
5. Remove the left-hand side battery protection cover that is attached to the side impact protection assembly. See Fig. 1.



1. Battery Protection Cover
2. Side Impact Protection Assembly
3. DC Box
4. Left-Hand Side Battery Deck Plate

Fig. 1, Removal of Battery Protection Cover

6. Remove the side impact protection. For instructions, see **Section 31.03, Subject 100** of the *eCascadia Workshop Manual*.
7. Drain the battery cooling circuit.
8. Remove the high voltage cable clamps.

IMPORTANT: High-voltage connectors need to be kept clean and clear of debris, fluids, and damage. A dirty or damaged connector can cause problems for energy transfer within the cable or high voltage components and can lead to high voltage system failures.

NOTE: To ensure the high voltage connectors are installed vertically during installation, use the tool (DSNEMG022008) to connect the three high voltage connectors.

9. Remove the high voltage connectors from the DC boxes.
10. Remove the fasteners from the ground cables, then disconnect the ground cables.
11. Disconnect the low voltage cable connectors from the DC boxes and the front side of the ground bracket.
12. Gently move the high voltage, low voltage, and ground cables out of the way.
13. Transfer the high voltage connector protective caps from the new DC boxes to the high voltage connections on the DC boxes being removed.
14. Disconnect the coolant lines from the DC boxes.

15. Remove the DC box mounting bracket fasteners. See **Fig. 2**.

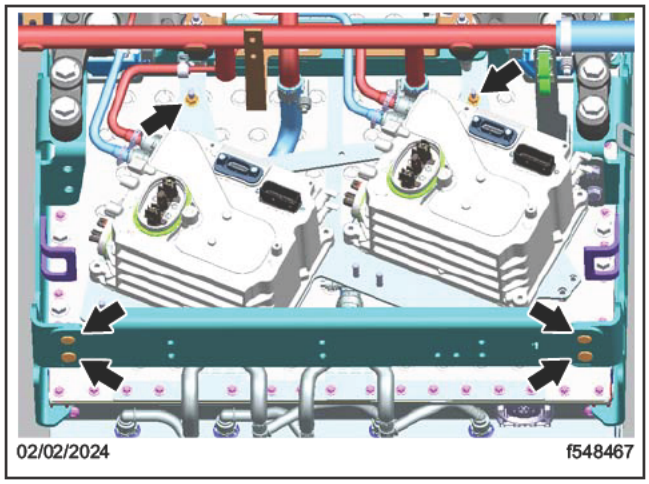
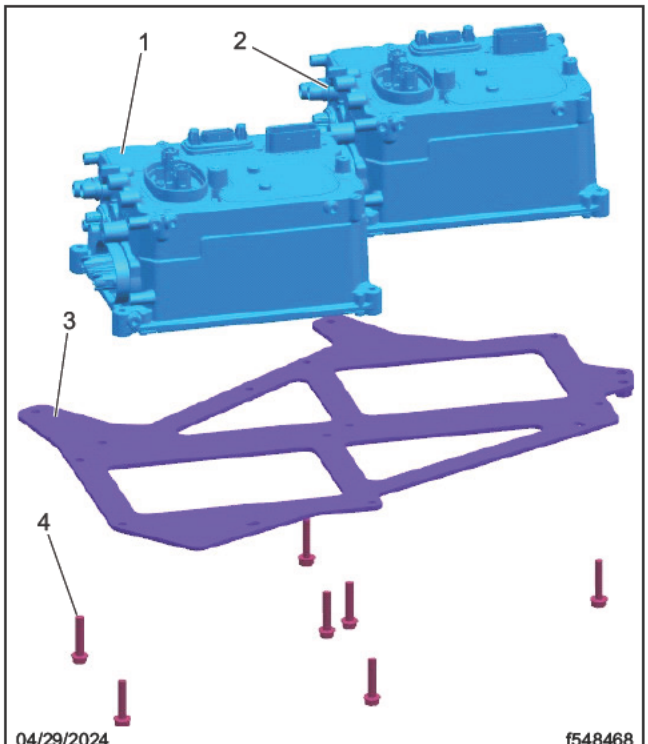


Fig. 2, DC Box Mounting Bracket Fasteners

16. Remove the DC boxes and bracket from the vehicle.
17. Remove the DC boxes from the mounting bracket. See **Fig. 3**.



1. DC Box (forward location)
2. DC Box (rear location)
3. Mounting Bracket
4. Mounting Fasteners

Fig. 3, Removal of DC Boxes

18. Remove the ground cable support bracket from the front high voltage battery B1 mounting bracket, then remove the coolant pipe. See **Fig. 4**.

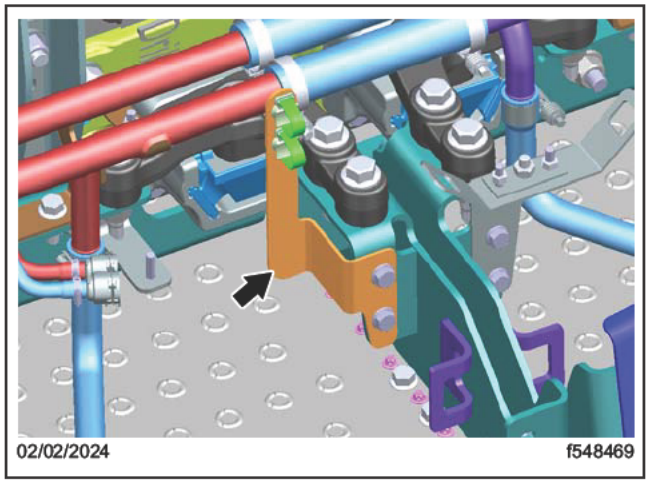


Fig. 4, Ground Cable Support Bracket

19. Remove the hardline from over the high voltage battery B1. See **Fig. 5**.

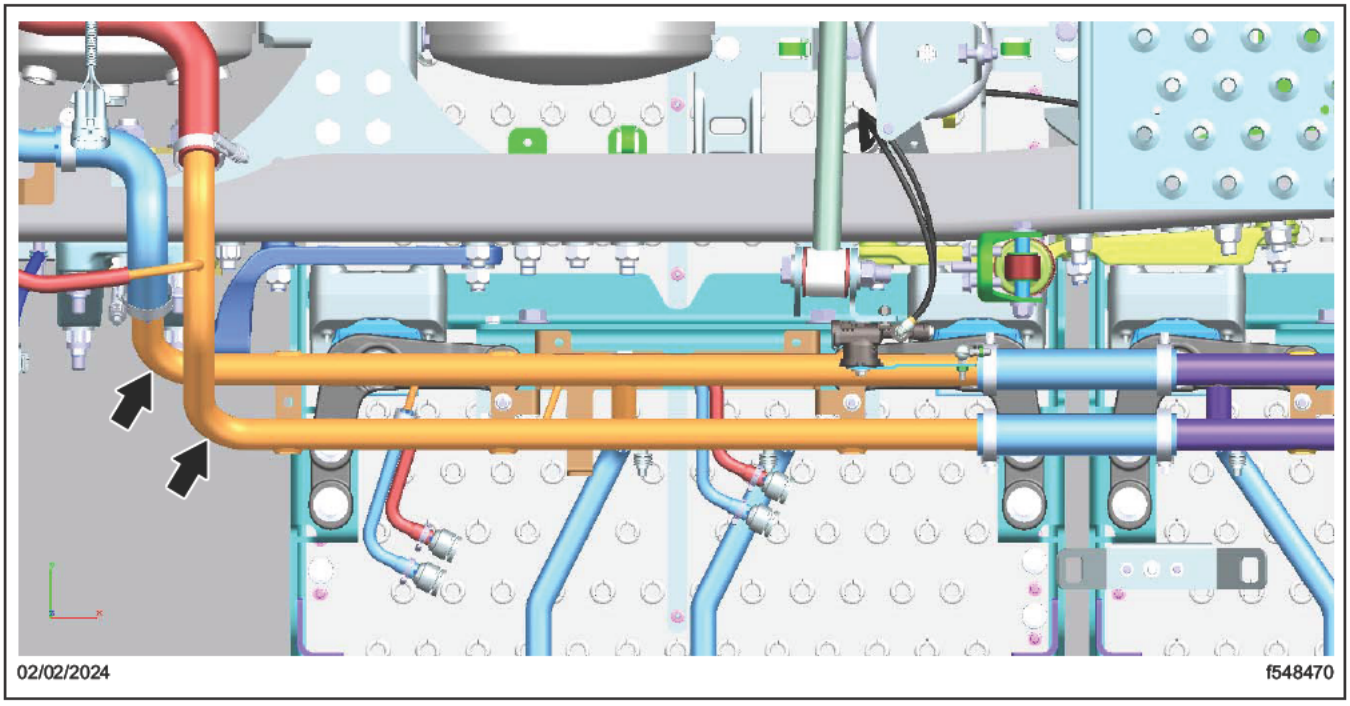
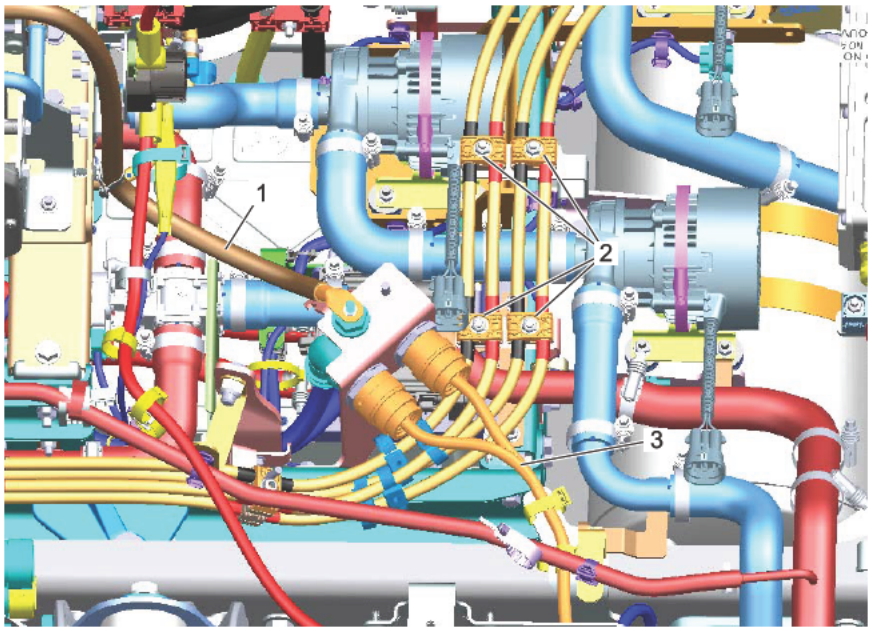


Fig. 5, Hardline over the High Voltage Battery B1

20. Disconnect the frontbox ground cables See **Fig. 6,** on the next page.
21. Disconnect the main low voltage harness from the frontbox. Disconnect the LV harness from the coolant pump. See **Fig. 6**.
22. Remove the high voltage cable clamps in the hardline area, and gently move the high voltage cables out of the way. See **Fig. 6**.



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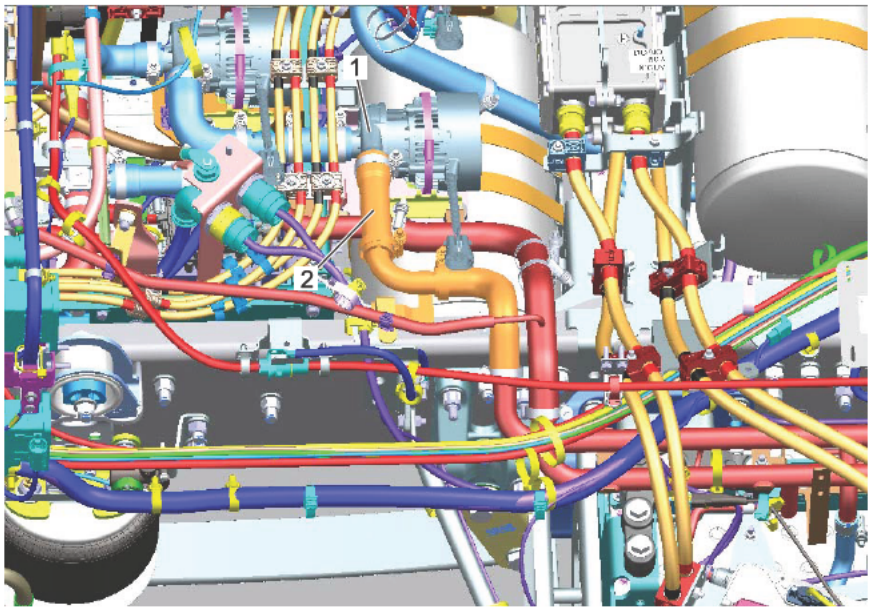
1. Main Frontbox Ground Cable
2. HV Cable Clamps
3. Main Frontbox LV Chassis Harness

Fig. 6, Frontbox Wiring Harness Connections

23. Remove the mounting fasteners that attach the hardline to the pump, then disconnect the hardline from the pump. See **Fig. 7**.



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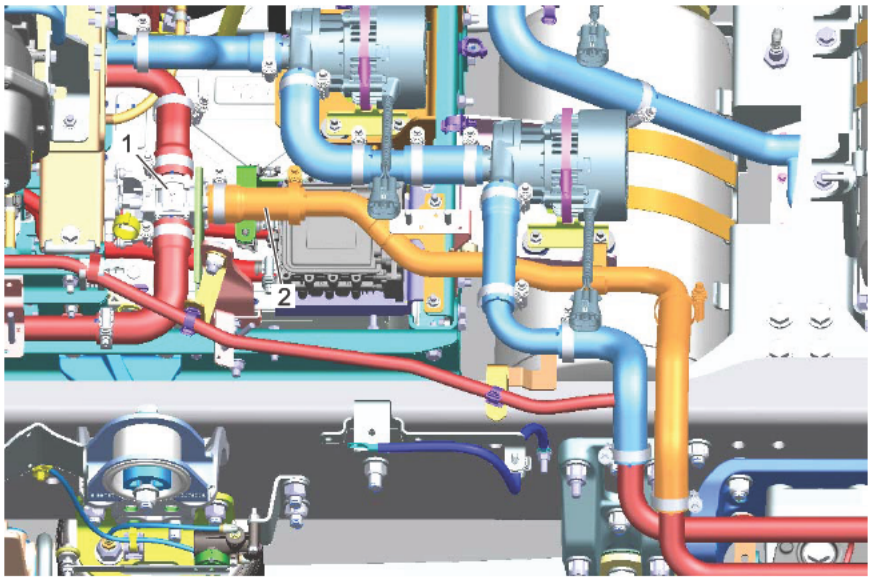
1. Pump
2. Hardline

Fig. 7, Disconnecting Hardline from Pump

24. Remove the mounting fasteners that attach the hardline to the 3/2 valve, then disconnect the hardline from the 3/2 valve. See **Fig. 8**.



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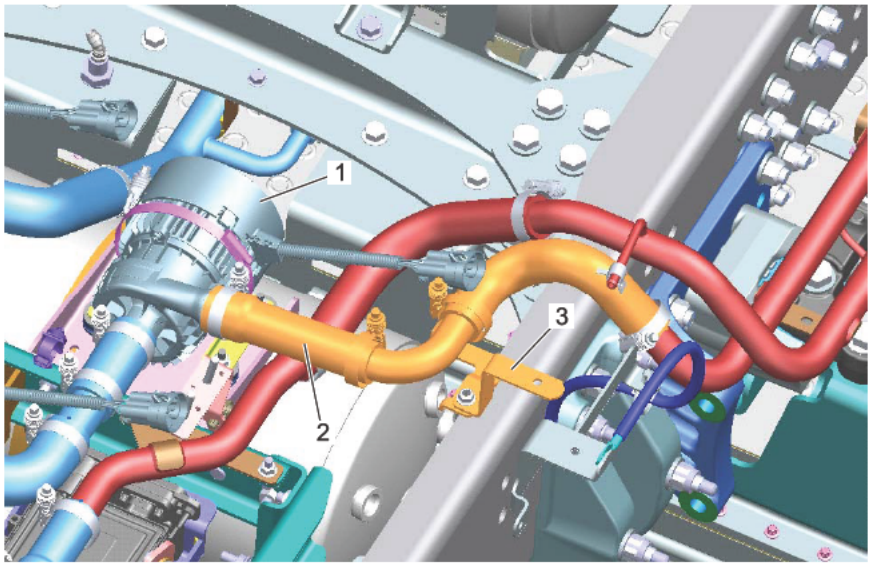
1. 3/2 Valve
2. Hardline

Fig. 8, Disconnecting Hardline from 3/2 Valve

25. Install the hardline on the 3/2 valve, and install the mounting fasteners.
26. Install the hardline on the pump.

27. Install the vent bracket, and install the mounting fasteners. See **Fig. 9**.



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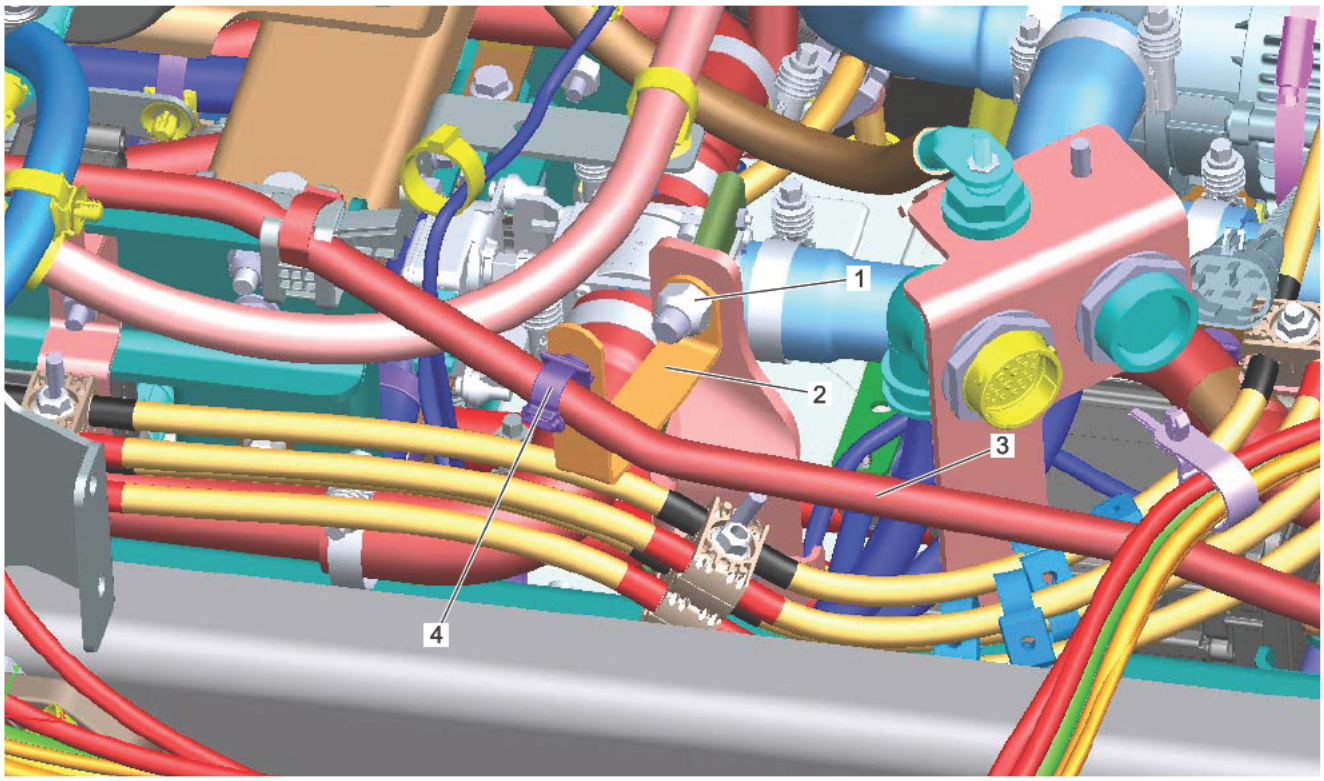
1. Pump
2. Hardline
3. Vent Bracket

Fig. 9, Connecting Hardline to Pump

28. Gently move the high voltage cables back to their original position, then install the high voltage cable clamps.
29. Connect the low voltage chassis harness to the main frontbox.
30. Connect the wiring harness to the coolant pump.
31. Connect the ground cables to the main frontbox, and tighten 115 lbf·in (1300 N·cm).
32. Install the hardline over the high voltage battery B1.
33. Tighten all coolant line connections 62 lbf·in (700 N·cm).

34. Install the vent line bracket, and install the mounting fastener. See **Fig. 10**.



1. Mounting Fastener
2. Vent Line Bracket
3. Vent Hose
4. Cable Tie

Fig. 10, Installation of Vent Line Bracket

35. Remove the left-hand side radiator support and fasteners to get access to cut the vent line. See **Fig. 11**.

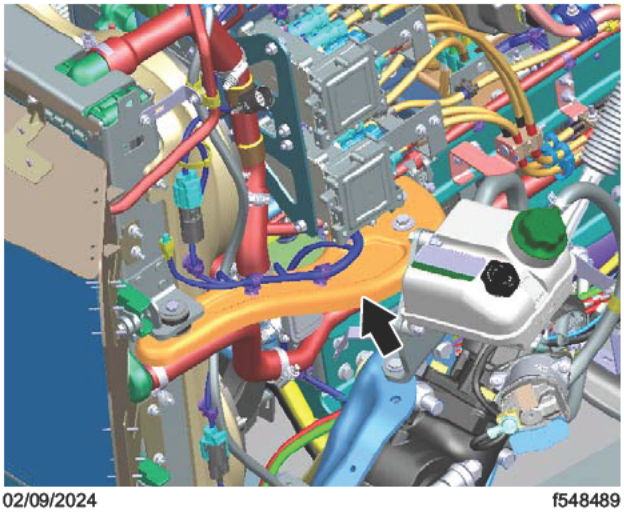


Fig. 11, Left-Hand Side Radiator Support

36. Cut the front portion of the vent line hose, and install the Y-fitting. See **Fig. 12** and **Fig. 13**.

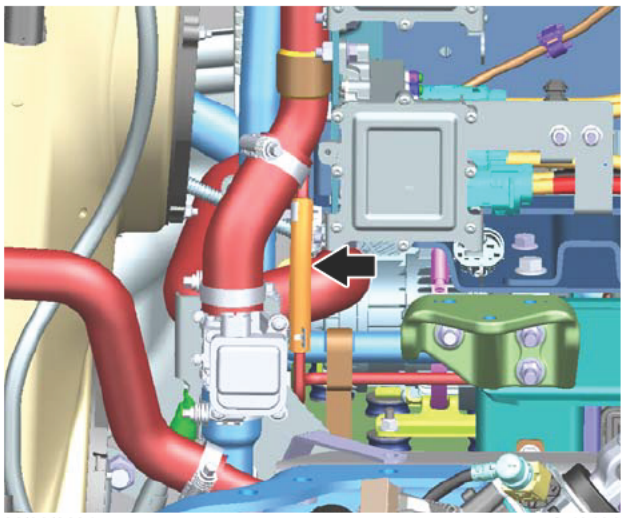
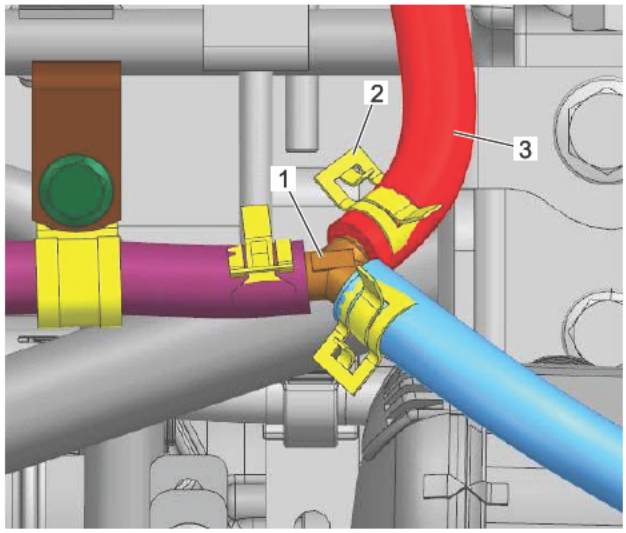


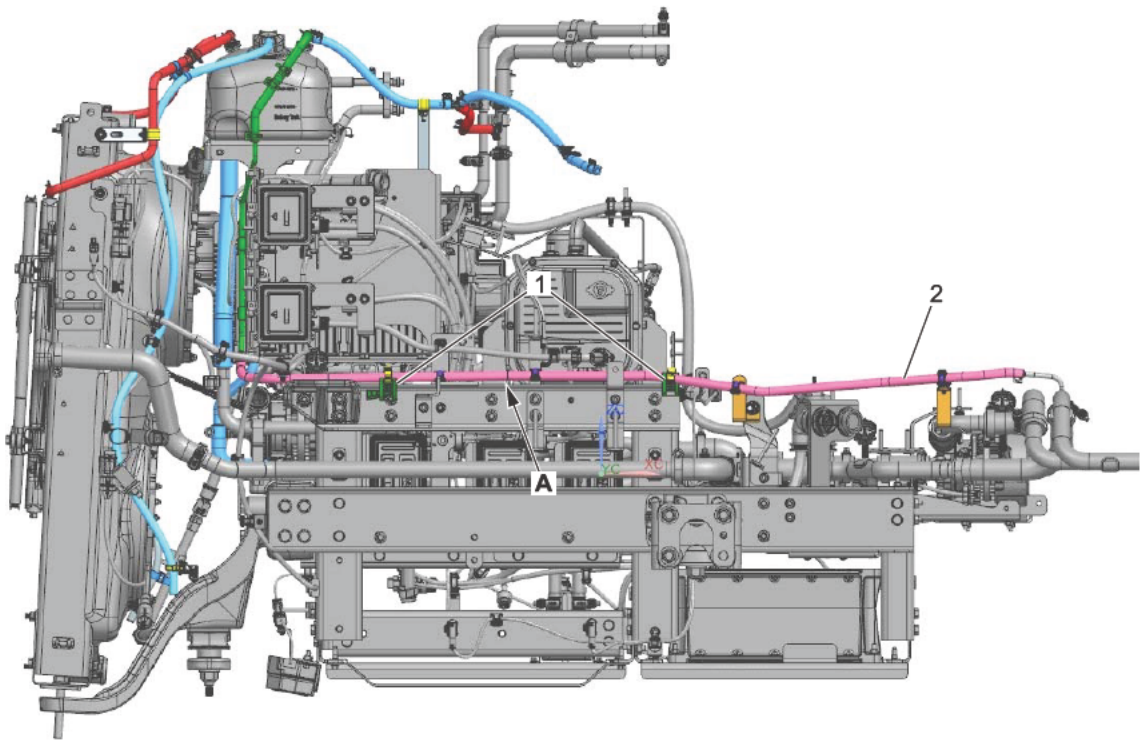
Fig. 12, Vent Line to Cut



1. Y-Fitting
2. Hose Clamp
3. Vent Hose

Fig. 13, Y-Fitting

37. Install and route the vent line. See **Fig. 14**.
38. Install the frame clamps, and secure the vent line with a cable tie. See **Fig. 14** and **Fig. 15**.



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A. Add an extra clamp in the indicated location.
1. Vent Line Clamps
2. Vent Line

Fig. 14, Vent Line Routing

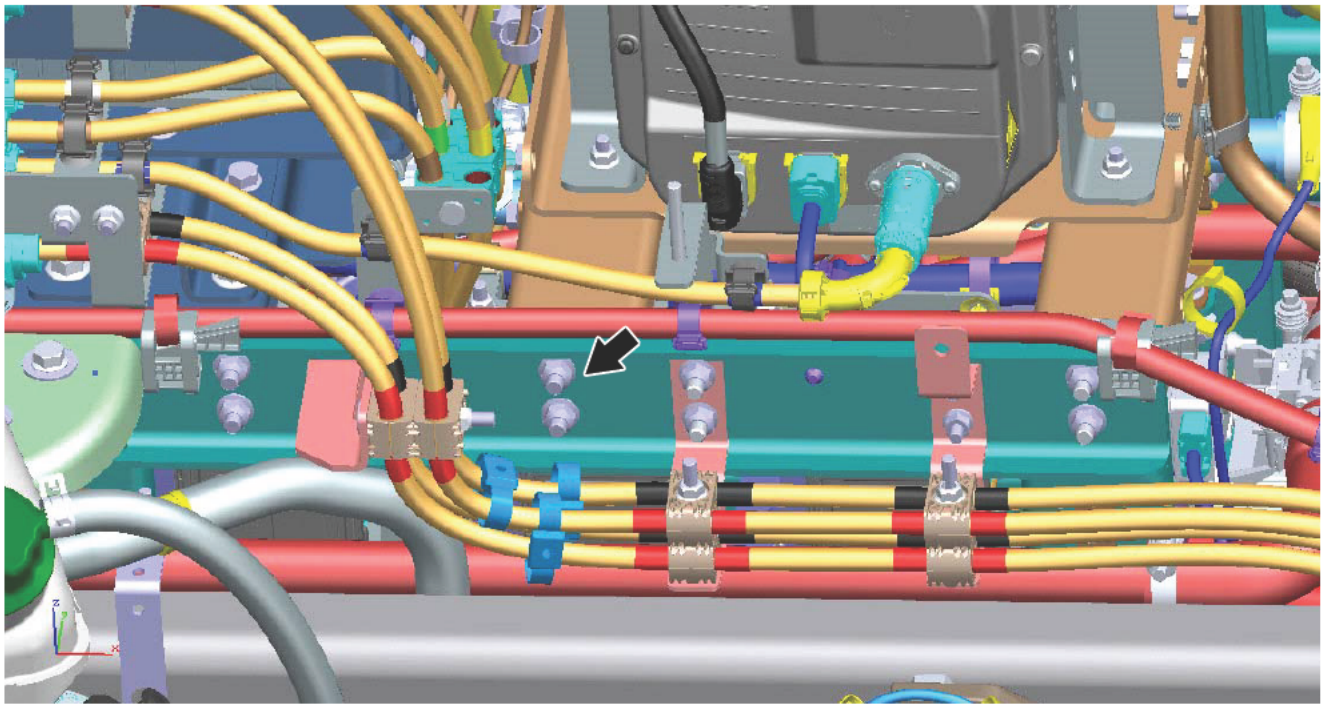


Fig. 15, Location of Frame Clamp

39. Install the left-hand side radiator support and fasteners. Tighten the three rear fasteners 35 lbf·ft (48 N·m) and the front isolated fastener 59 lbf·ft (80 N·m).
40. Clean any spilled coolant from the top of the battery.
41. Install the ground cable support bracket.
42. Transfer the high voltage connector protective caps from the old DC boxes to the new DC boxes.
43. Install the DC boxes on the mounting bracket, and install the fasteners that attach the DC boxes to the mounting bracket. Tighten the fasteners 115 lbf·in (1300 N·cm). See **Fig. 3**.

IMPORTANT: Install the DC box high voltage charging control unit 1 (66-32674-003) in the forward location, and the DC box high voltage charging control unit 2 (66-32674-004) in the rear location.

44. Install the DC boxes and bracket on the vehicle. See **Fig. 2**.
45. Install and tighten the mounting bracket fasteners.
46. Connect the coolant lines to the DC boxes.
47. Route the wiring harnesses back to the original positions.
48. Connect the low voltage connectors to the DC boxes and on the front side of the ground bracket.
49. Install the ground cable fasteners. Tighten the smaller nut and the DC box bolt 11 lbf·ft (15 N·m), and the larger nut 35 lbf·ft (48 N·m).

IMPORTANT: Clean any dirt or debris from high voltage connectors before removing them. Failure to do so could increase the chance of dirt getting into the connector during installation.

50. To ensure the high voltage connectors are installed vertically during installation, use the tool (DSNEMG022008) to connect the three high voltage connectors.
51. Remove the alignment pin, and install the high voltage connector mounting fasteners.
52. Install the high voltage cable clamps, and tighten the fasteners.
53. Tighten the high voltage connector fasteners 14 lbf·ft (19 N·m).
54. Secure the low voltage harnesses and the ground cables with cable ties.
55. Install the side impact protection. For instructions, see **Section 31.03, Subject 100** of the *eCascadia Workshop Manual*.
56. Remove the block off plate of the dual port charger. See **Fig. 16**.

Fig. 16, Location of the Block Off Plate

57. Install the forward battery cover that is attached to the side impact protection assembly.
58. Install the left-hand side battery deck plate. For instructions, see **Section 31.05** of the *eCascadia Workshop Manual*.
59. Commission the vehicle. For instructions, see **Section 08.08** of the *eCascadia Workshop Manual*.
60. Fill and bleed the battery cooling system. For instructions, see **Section 20.01, Subject 160** of the *eCascadia Workshop Manual*.

SF681 B-C: Replacement of Direct Current Box (DCB) Module(s)

1. Check the base label (Form WAR259) for a completion sticker for SF681 (Form WAR261), indicating this work has been done. The base label is usually located on the passenger-side door, about 12 inches (30 cm) below the door latch. If a completion sticker is present, no work is needed. If a completion sticker is not present, proceed to the next step.

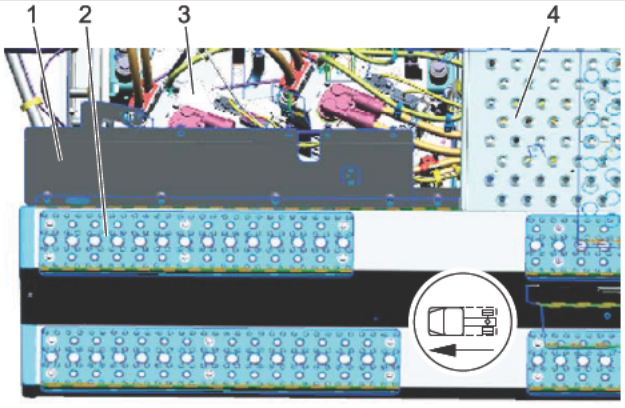
2. Park the vehicle on a level surface, place the vehicle in neutral, shut down the vehicle, and set the parking brake. Chock the tires.

⚠ DANGER

Service and repair of the electric vehicle should only be performed by technicians that have completed HV2 or HV3 Daimler Safety Training. Decommissioning and commissioning of the HV system should only be performed by technicians that have completed HV3 Daimler Safety training. To prevent personal injury or death, or damage to the electric system, do not attempt repairs yourself.

Decommission the vehicle and verify the high voltage system is shut down. Failure to follow these steps could result in serious personal injury or death.

3. Decommission the vehicle. For instructions, see **Section 08.08** of the *eCascadia Workshop Manual*.
4. Remove the left-hand side battery deck plate. See **Fig. 17**. For instructions, see **Section 31.05** of the *eCascadia Workshop Manual*.
5. Remove the left-hand side battery protection cover that is attached to the side impact protection assembly. See **Fig. 17**.



1. Battery Protection Cover
2. Side Impact Protection Assembly
3. DC Box
4. Left-Hand Side Battery Deck Plate

Fig. 17, Removal of Battery Protection Cover

6. Remove the side impact protection. For instructions, see **Section 31.03, Subject 100** of the *eCascadia Workshop Manual*.
7. Clamp the coolant lines to the DC boxes.

8. Remove the high voltage cable clamps.

IMPORTANT: High voltage connectors need to be kept clean and clear of debris, fluids, and damage. A dirty or damaged connector can cause problems for energy transfer within the cable or high voltage components and can lead to high voltage system failures.

NOTE: To ensure the high voltage connectors are installed vertically during installation, use the tool (DSNEMG022008) to connect the three high voltage connectors.

9. Remove the high voltage connectors from the DC box(es).
10. Remove the fasteners from the ground cables, then disconnect the ground cables.
11. Disconnect the low voltage cable connectors from the DC box(es) and the front side of the ground bracket.
12. Gently move the high voltage, low voltage, and ground cables out of the way.
13. Transfer the high voltage connector protective caps from the new DC box(es) to the high voltage connections on the DC box(es) being removed.
14. Disconnect the coolant lines from the DC box(es).
15. Remove the DC box mounting bracket fasteners. See **Fig. 18**.
16. Remove the DC box(es) and bracket from the vehicle.

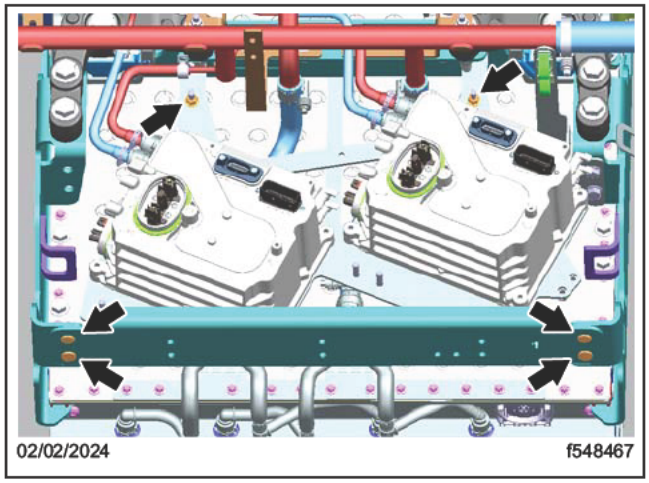
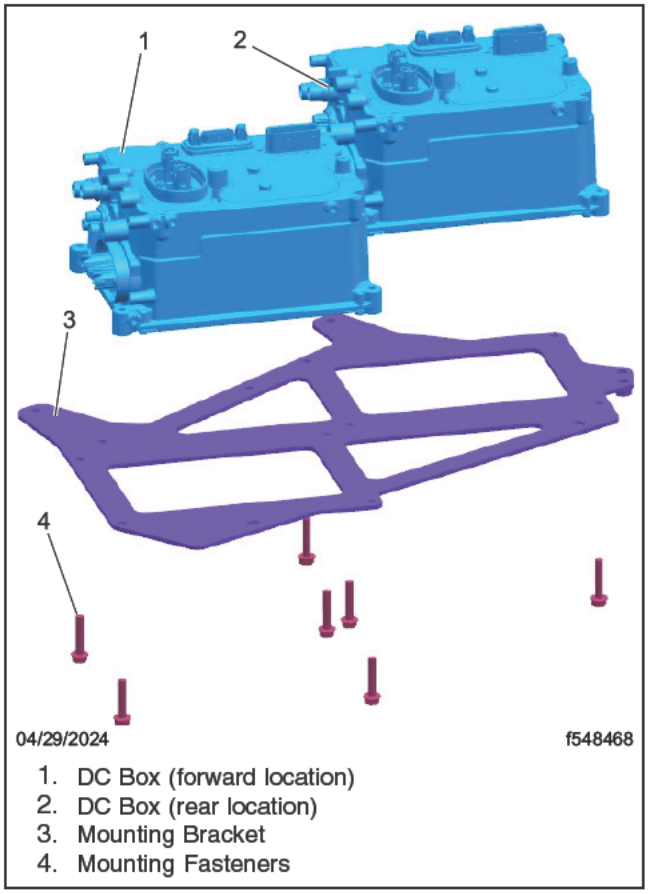


Fig. 18, DC Box Mounting Bracket Fasteners

17. Remove the DC box(es) from the mounting bracket. See **Fig. 19**.



1. DC Box (forward location)
2. DC Box (rear location)
3. Mounting Bracket
4. Mounting Fasteners

Fig. 19, Removal of DC Box

18. Clean any spilled coolant from the top of the battery.
19. Transfer the high voltage connector protective caps from the old DC box(es) to the new DC box(es).
20. Install the DC box(es) on the mounting bracket, and install the fasteners that attach the DC box(es) to the mounting bracket. Tighten the fasteners 115 lbf·in (1300 N·cm). See **Fig. 19**

IMPORTANT: Install the DC box high voltage charging control unit 1 (66-32674-003) in the forward location, and the DC box high voltage charging control unit 2 (66-32674-004) in the rear location.

21. Install the DC box(es) and bracket on the vehicle. See **Fig. 18**.
22. Install and tighten the mounting bracket fasteners.
23. Connect the coolant lines to the DC box(es).
24. Route the wiring harnesses back to the original positions.
25. Connect the low voltage connectors to the DC box(es) and the front side of the ground bracket.
26. Install the ground cable fasteners. Tighten the smaller nut and the DC box bolt 11 lbf·ft (15 N·m), and the larger nut 35 lbf·ft (48 N·m).

IMPORTANT: Clean any dirt or debris from high voltage connectors before removing them. Failure to do so could increase the chance of dirt getting into the connector during installation.

27. To ensure the high voltage connectors are installed vertically during installation, use the tool (DSNEMG022008) to connect the three high voltage connectors.
28. Remove the alignment pin, and install the high voltage connector mounting fasteners.
29. Install the high voltage cable clamps, and tighten the fasteners.
30. Tighten the high voltage connector fasteners 14 lbf·ft (19 N·m).
31. Secure the low voltage harnesses and the ground cables with cable ties.
32. Install the side impact protection. For instructions, see **Section 31.03, Subject 100** of the *eCascadia Workshop Manual*.
33. Remove the block off plate of the dual port charger. See **Fig. 20**.

Fig. 20, Location of the Block Off Plate

34. Install the forward battery cover that is attached to the side impact protection assembly.
35. Install the left-hand side battery deck plate. For instructions, see **Section 31.05** of the *eCascadia Workshop Manual*.
36. Commission the vehicle. For instructions, see **Section 08.08** of the *eCascadia Workshop Manual*.
37. Fill and bleed the battery cooling system. For instructions, see **Section 20.01, Subject 160** of the *eCascadia Workshop Manual*.

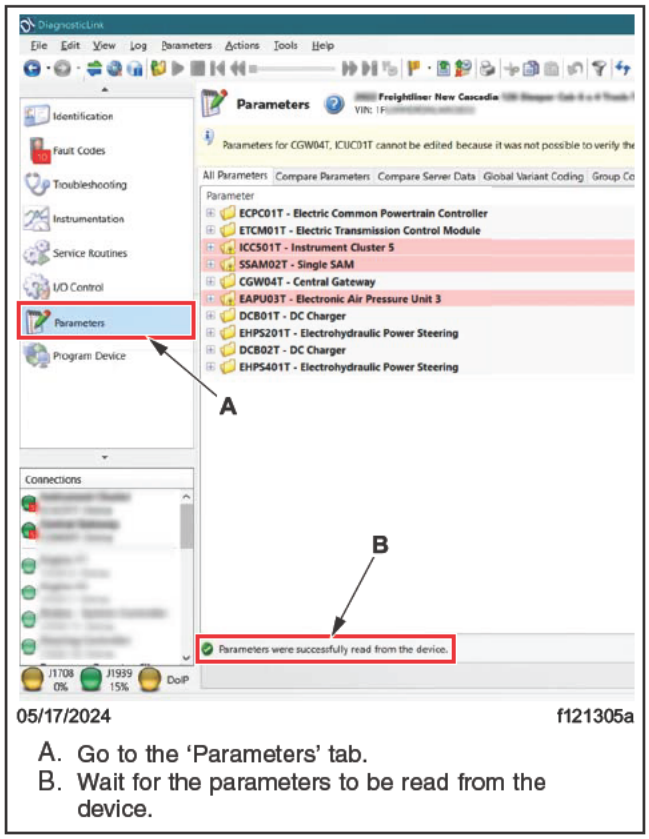
SF681 A-C: Software Programming

1. Connect a 12-volt battery charger to the jump studs in the frontbox.
2. Turn the keyswitch to the ON position.
3. Connect an RP1210B-compliant vehicle diagnostic adaptor to the diagnostic connector on the vehicle. Connect the other end of the adaptor to the laptop. Ensure the laptop is connected to a power source.
4. Open DiagnosticLink®.

IMPORTANT: Make sure that DiagnosticLink is updated to the latest version (8.20 at the time of publication or newer), before programming the vehicle.

5. Go to the 'Parameters' tab. See **Fig. 21**.

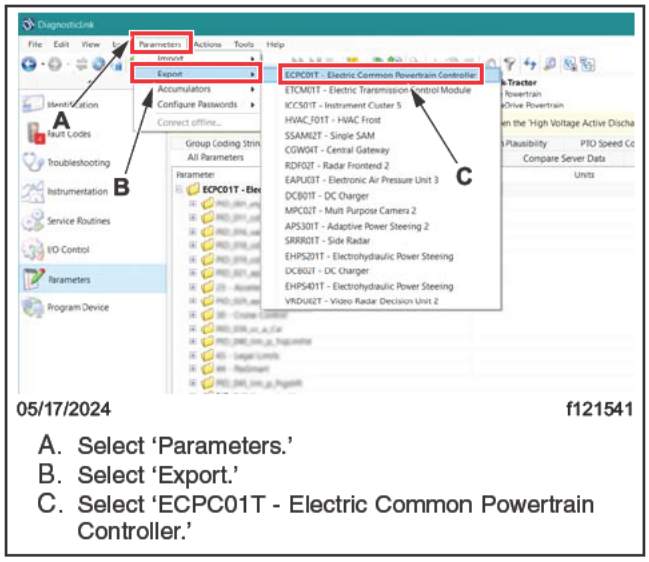
   DiagnosticLink will read the parameters of the connected electronic control units (ECUs). Wait for the message 'Parameters were successfully read from the device' to be displayed.



A. Go to the 'Parameters' tab.
B. Wait for the parameters to be read from the device.

Fig. 21, Reading the ECU Parameters

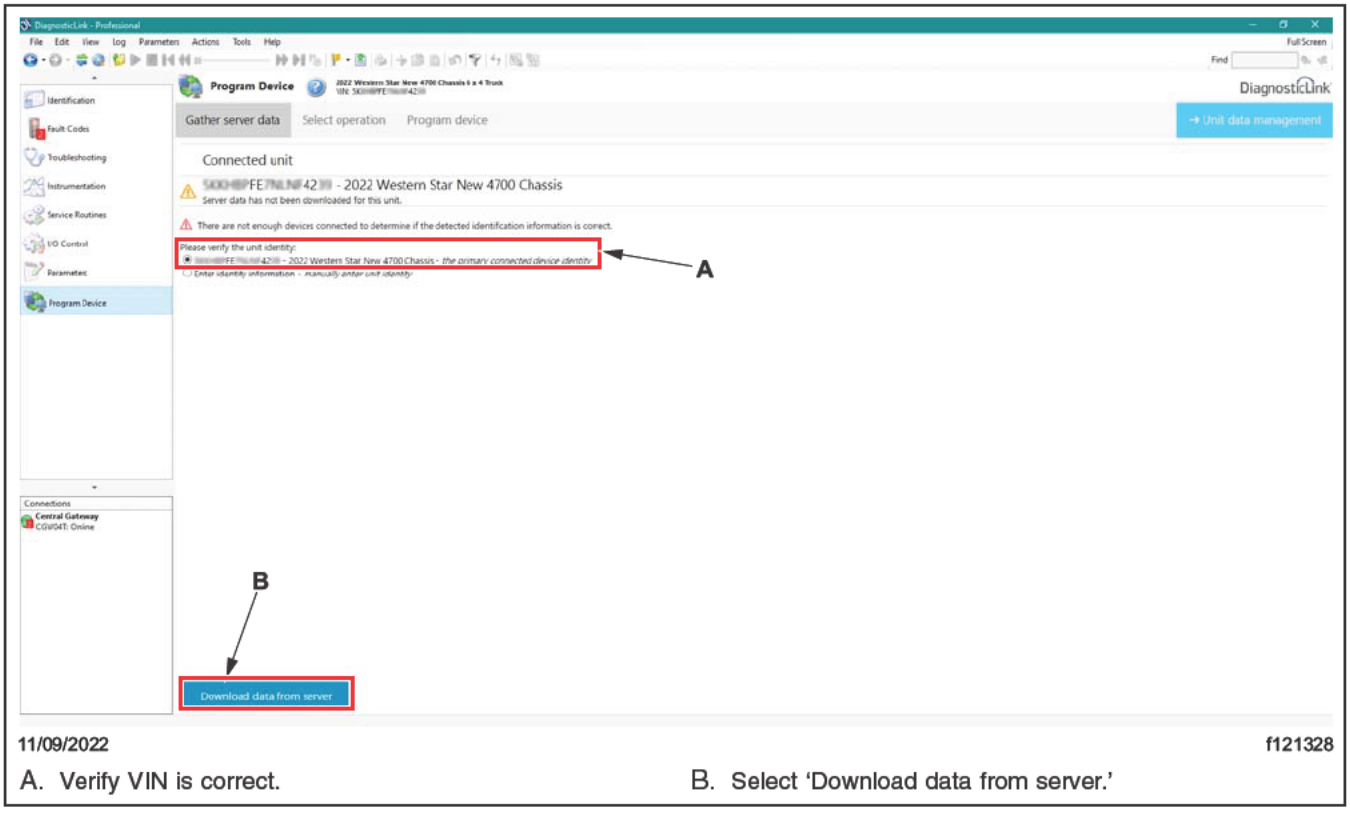
6. Export the ECPC01T parameters to a folder on the local drive where it can be retrieved if necessary. See **Fig. 22**.
   - 6.1 From the menu bar, select 'Parameters.'
   - 6.2 Select 'Export' from the dropdown menu.
   - 6.3 Go to 'ECPC01T - Electric Common Powertrain Controller.'
   - 6.4 Choose the location where the exported parameters are to be saved.



A. Select 'Parameters.'
B. Select 'Export.'
C. Select 'ECPC01T - Electric Common Powertrain Controller.'

Fig. 22, Exporting the ECPC01T Parameters

7. Go to the 'Program Device' tab, and make sure the vehicle identification number (VIN) that appears is correct. Select 'Download data from server.' See **Fig. 23**.



A. Verify VIN is correct.
B. Select 'Download data from server.'

Fig. 23, Downloading Data from Server

8. Once the data download is complete, select 'Next.' See **Fig. 24**.
   The devices with available software are listed.

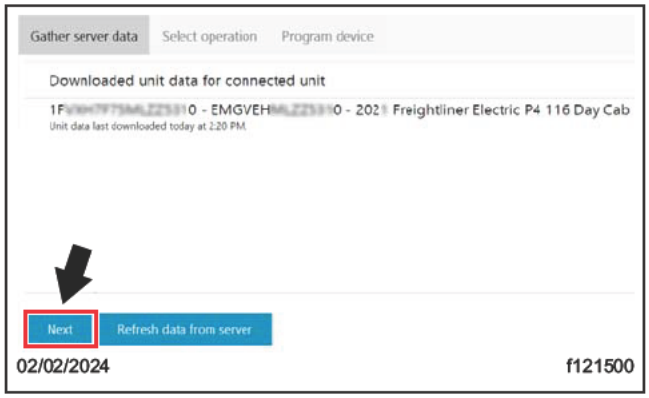
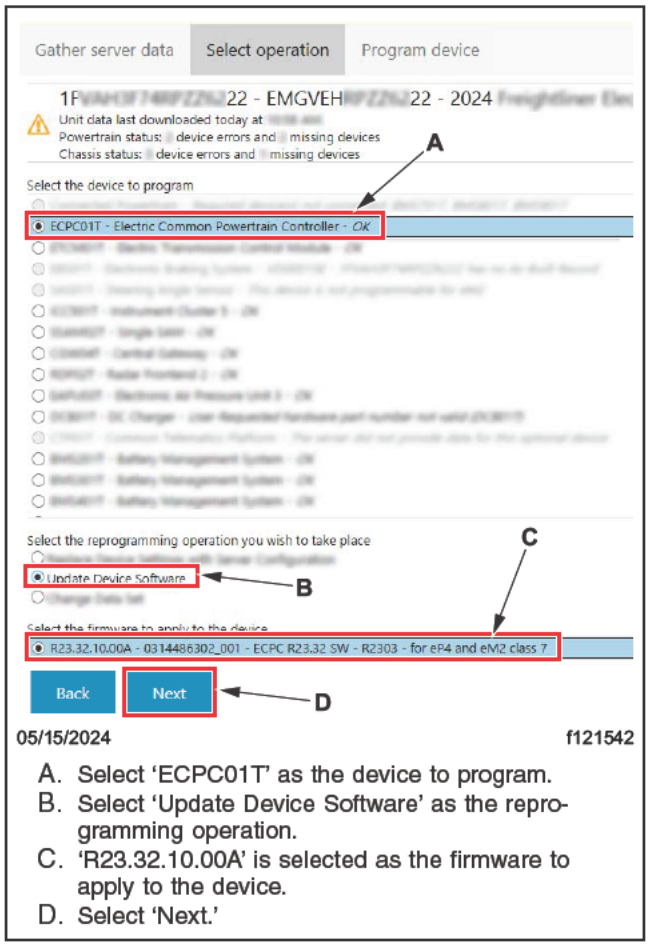


Fig. 24, Downloaded Data for Connected Unit

9. Before proceeding to program the electric common powertrain controller (ECPC) ECU, follow the substeps to disable the high voltage system.
   - 9.1 Turn the keyswitch to the OFF position.
   - 9.2 Press the ESTOP button on the dash panel.
   - 9.3 Turn the keyswitch to the ON position again.

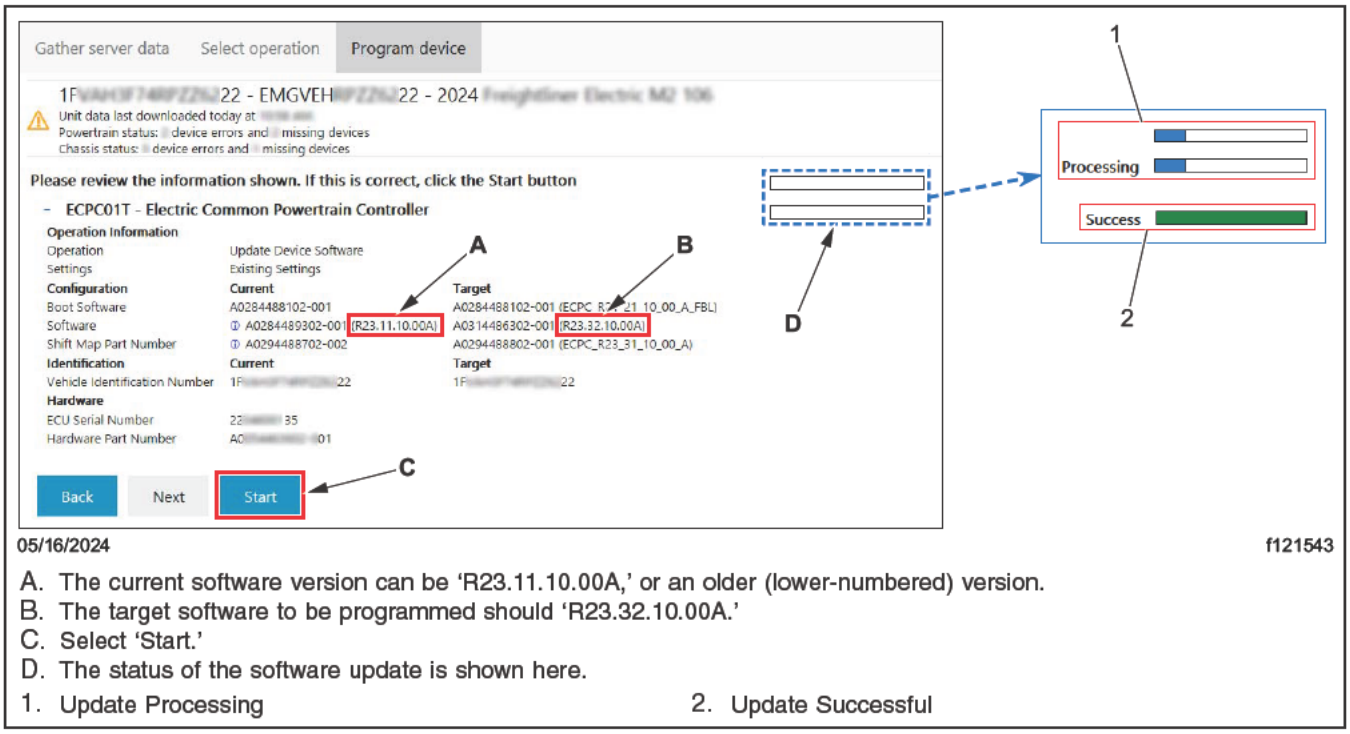
10. Follow the substeps to update the ECPC01T device software.
    10.1 Select 'ECPC01T' as the device to program. See **Fig. 25**.
    10.2 Select 'Update Device Software' as the reprogramming operation. See **Fig. 25**.
    10.3 'R23.32.10.00A' is selected as the firmware to apply to the device. Select 'Next.' See **Fig. 25**.



A. Select 'ECPC01T' as the device to program.
B. Select 'Update Device Software' as the reprogramming operation.
C. 'R23.32.10.00A' is selected as the firmware to apply to the device.
D. Select 'Next.'

Fig. 25, Selecting the Operation to Update the ECPC01T Device Software

10.4 Review the programming information, then select 'Start.' See **Fig. 26**.



A. The current software version can be 'R23.11.10.00A,' or an older (lower-numbered) version.
B. The target software to be programmed should 'R23.32.10.00A.'
C. Select 'Start.'
D. The status of the software update is shown here.
1. Update Processing
2. Update Successful

Fig. 26, Starting the Program to Update the ECPC01T Device Software

10.5 Once the programming is complete, a message is displayed: 'Programming was successfully completed.' Select 'Finish.'

11. Before proceeding to program the battery management system (BMS) ECUs, check the software version of the BMS ECUs. Go to the 'Identification' tab, then select and expand the respective BMS ECU panels.

12. Verify the BMS ECU software version. See **Fig. 27**.

Is the software version already updated to '22.25.5'?

YES → Go to step 14.

NO → Continue with step 13.

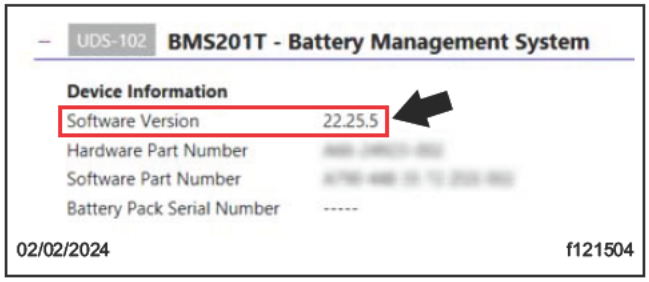


Fig. 27, BMS201T Device Information

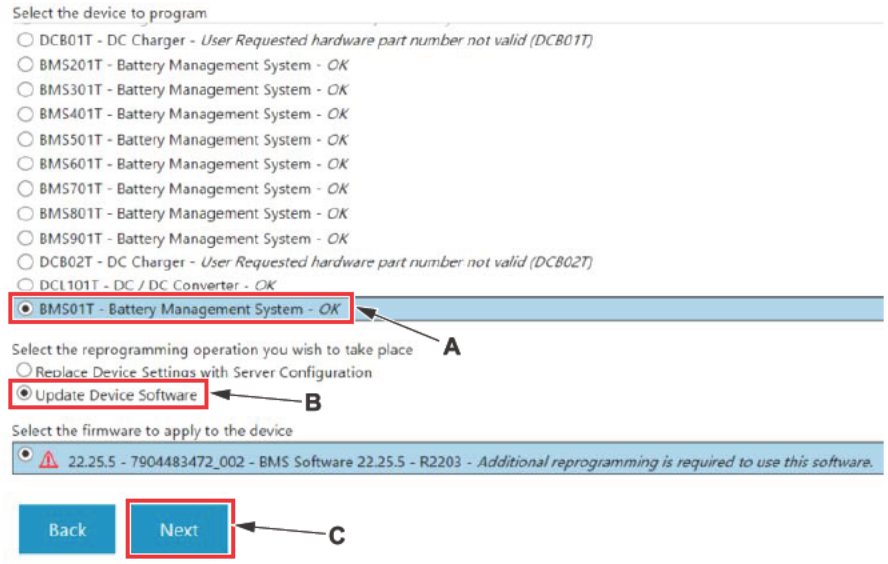
13. Follow the substeps to update the BMS01T device software.

NOTE: BMS01T is at the bottom of the list as it has the highest source address.

13.1 Select 'BMS01T' as the device to program. See **Fig. 28**.

13.2 Select 'Update Device Software' as the reprogramming operation. See **Fig. 28**.

13.3 '22.25.5' is selected as the firmware to apply to the device. Select 'Next.' See **Fig. 28**.



A. Select 'BMS01T' as the device to program.
B. Select 'Update Device Software' as the reprogramming operation.
C. Select 'Next.'

Fig. 28, Updating the BMS01T Device Software

13.4 Review the programming information, then select 'Start.'

13.5 Once the programming is complete, a message is displayed: 'Programming was successfully completed.' Select 'Finish.' See **Fig. 29**.

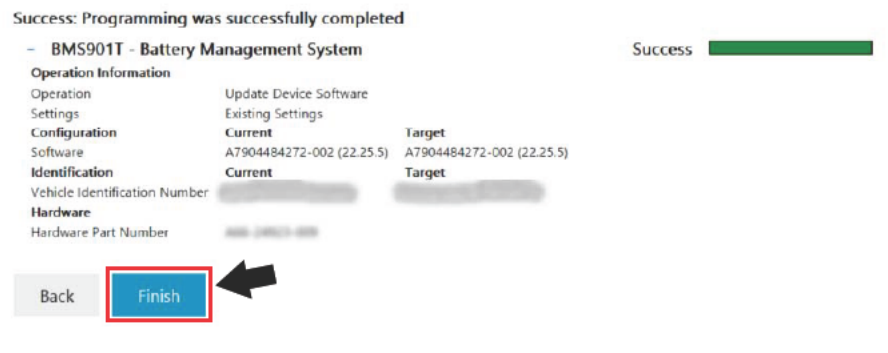
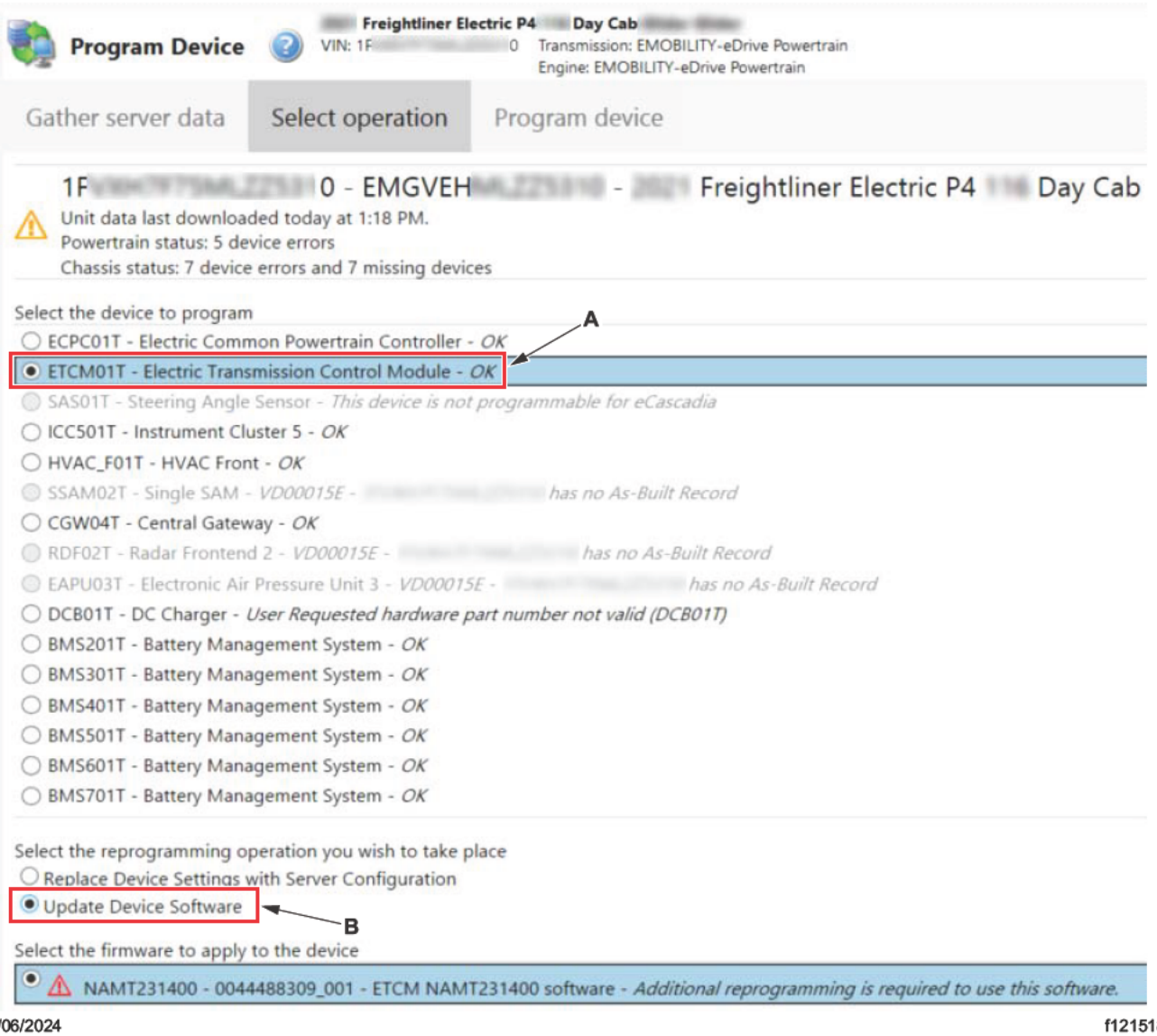


Fig. 29, Programming Successful for BMS901T

NOTE: Vehicles may have six to nine BMS ECUs, depending on the installed battery configuration.

13.6 Repeat the substeps 13.1 through 13.5 to program the remaining BMS ECUs.

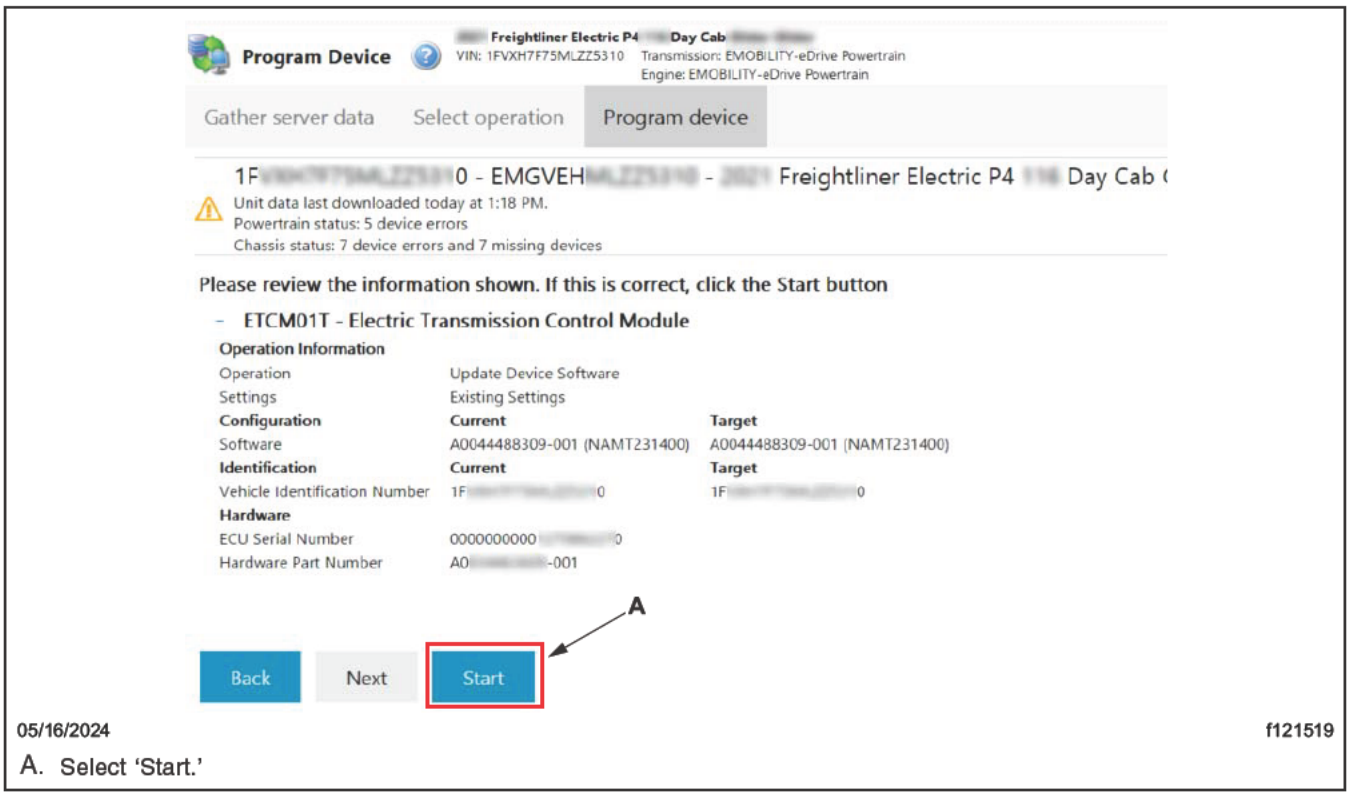
14. Follow the substeps to update the ETCM01T device software.
    14.1 Select 'ETCM01T' as the device to program. See **Fig. 30**.
    14.2 Select 'Update Device Software' as the reprogramming operation. See **Fig. 30**.
    14.3 'NAMT231400' is selected as the firmware to apply to the device. Select 'Next.'



A. Select 'ETCM01T' as the device to program.
B. Select 'Update Device Software' as the reprogramming operation.

Fig. 30, Updating the ETCM01T Device Software

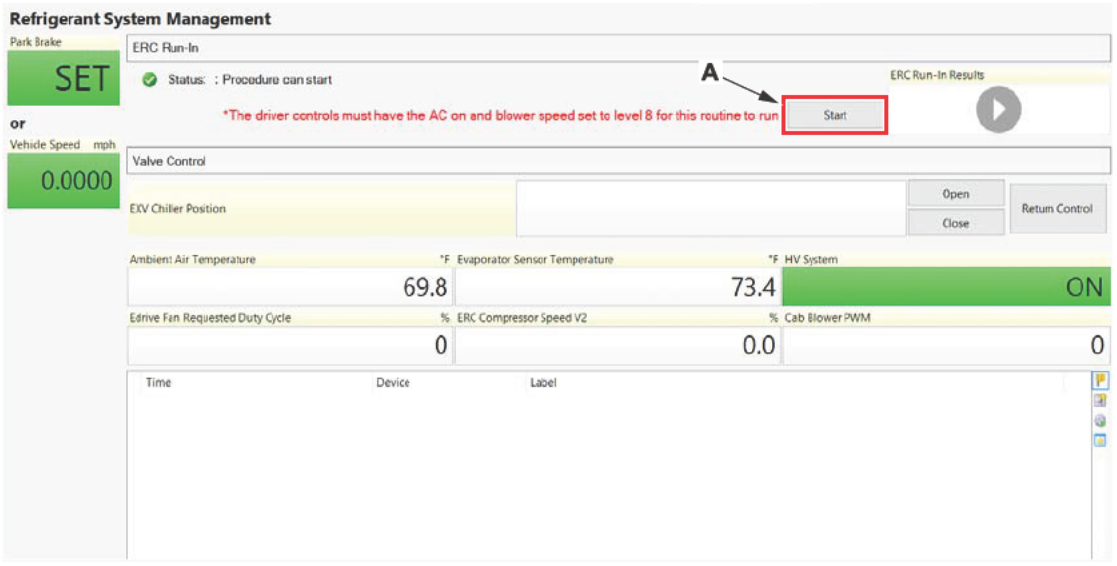
14.4 Review the programming information, then select 'Start.' See **Fig. 31**.



A. Select 'Start.'

Fig. 31, Starting to Update the ETCM01T Device Software

15. Enable the high voltage system.
    15.1 Turn the keyswitch to the OFF position.
    15.2 Release the ESTOP button on the dash panel.
    15.3 Turn the keyswitch to the ON position again.
16. Follow the substeps to perform the ERC run-in procedure.
    16.1 Open the 'Refrigerant System Management' panel. This panel is located on the 'Service Routines' tab in DL version 8.19 SP1 and later. In DL versions 8.19 and earlier, it is under the 'I/O Controls' tab.
    16.2 Set the blower fan speed to a minimum of level 8.
    16.3 Select 'Start' to re-learn the ERC run-in. See **Fig. 32**.



A. Select 'Start' to re-learn the ERC run-in.

Fig. 32, ERC Run-In Panel

17. Once the ERC run-in procedure is complete, perform the odometer synchronization procedure.

    17.1 Right-click on the 'Connections' panel, located in the bottom-left corner of the screen, then select 'Close Connections.' See **Fig. 33**.

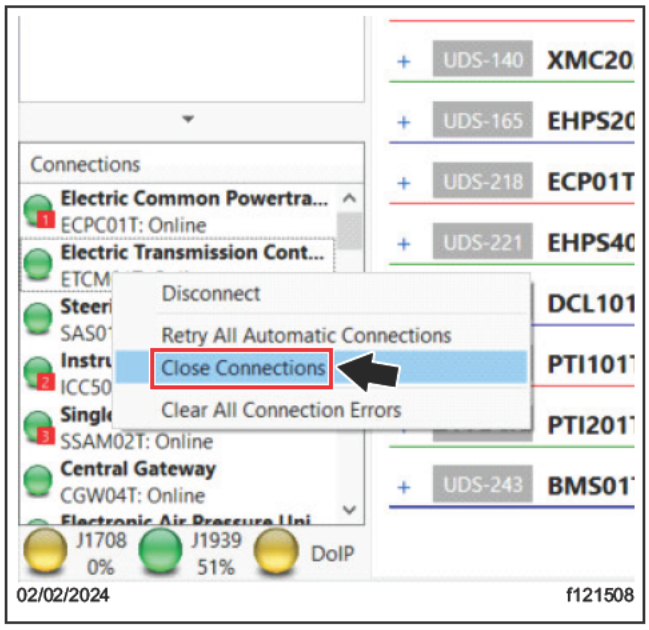


Fig. 33, Closing Connection to all the ECUs

IMPORTANT: Odometer synchronization must be achieved within 30 seconds of connecting DiagnosticLink to the ECPC ECU.

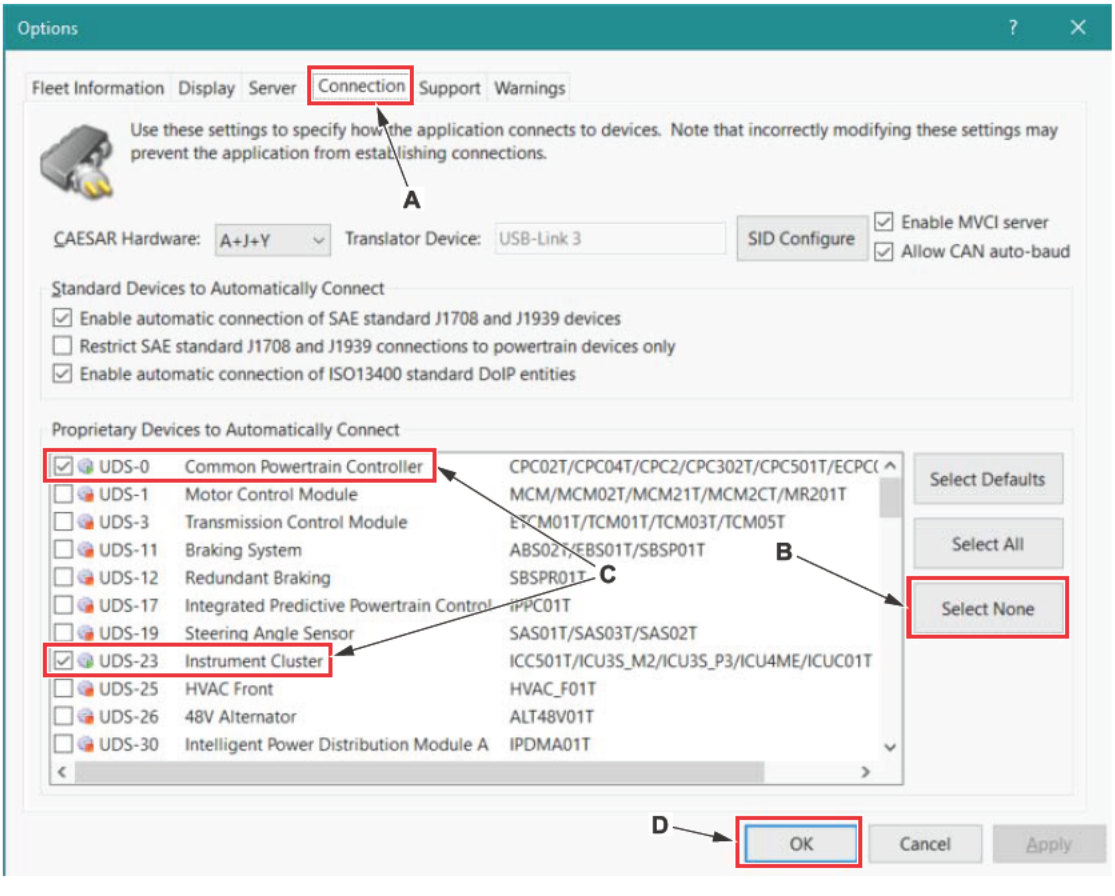
17.2 From the menu bar, select ‘Tools,’ then select ‘Options.’

17.3 In the ‘Options’ window, go to the ‘Connection’ tab. See **Fig. 34**.

17.4 Select the ‘Select None’ button. See **Fig. 34**.

17.5 In the ‘Proprietary Devices to Automatically Connect’ panel, choose only the three devices listed below, then select ‘OK.’ See **Fig. 34**.

- UDS-0 – Common Powertrain Controller
- UDS-23 – Instrument Cluster
- UDS-37 – Central Gateway



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A. Go to the ‘Connection’ tab.
B. Select the ‘Select None’ button.
C. Select the three devices listed above to connect.
D. Select ‘OK.’

Fig. 34, Connection Tab in the Options Window

IMPORTANT: The 30-second time period begins after selecting ‘OK’ in substep 17.6.

17.6 A pop-up window appears. Select ‘OK.’

17.7 From the menu bar, select ‘Actions,’ then select ‘Set Odometers.’

17.8 In the ‘Set Odometers’ window, select the ‘Sync System to Instrument Cluster’ button.

17.9 DDEC reports are not applicable for battery electric vehicles. In the pop-up window that appears, select 'OK.' See Fig. 35.

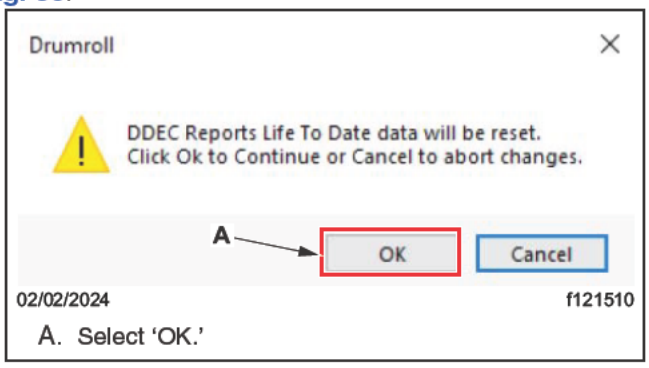

Fig. 35, DDEC Reports Pop-Up

17.10 Once the odometer synchronization is complete, the label indicates 'Done,' and a message is displayed: 'The odometer has been set up.' Select the 'Close' button. See Fig. 36.

If the odometer synchronization is not completed within 30 seconds of connecting to the ECPC ECU, an error message, as shown in Fig. 37, is displayed: 'Conditions not correct(NRC$22).'

Fig. 36, Odometer Synchronization Completed

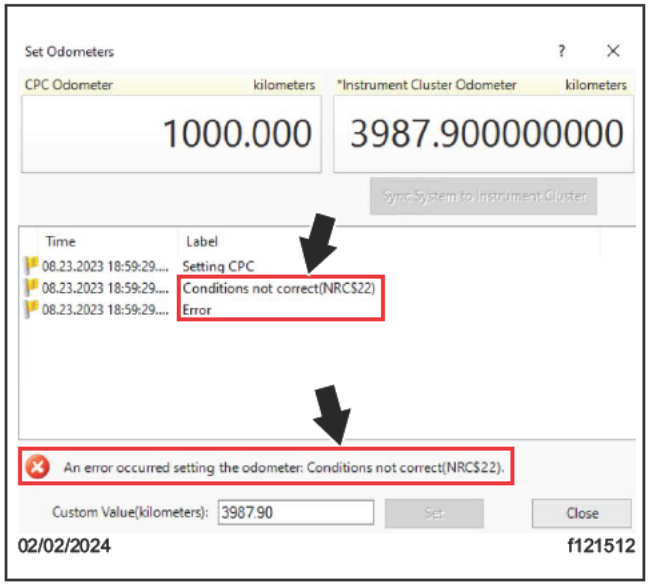

Fig. 37, Odometer Synchronization Error

- Turn the keyswitch to the OFF position, then turn it back to the ON position again.
- Repeat substeps 17.1 through 17.10 to attempt to synchronize the odometer again.

18. Follow the substeps to write the VIN to the new DC box(es).

18.1 From the menu bar, select 'Actions,' then select 'Set Vehicle Identification Number.'

18.2 In the 'Set Vehicle Identification Number' window that appears, the VIN automatically populates for the connected vehicle.

18.3 Select the 'Set VIN' button.

18.4 Allow the process to complete, then select the 'Close' button.

19. Go to the ‘Service Routines’ tab, and launch the ‘DCB Lock Release’ panel.

    19.1 If the ‘DCB HV-Lock Status’ does not show as ‘unlocked,’ select the ‘DCB Release Lock’ button, and allow the procedure to complete. See **Fig. 38**.

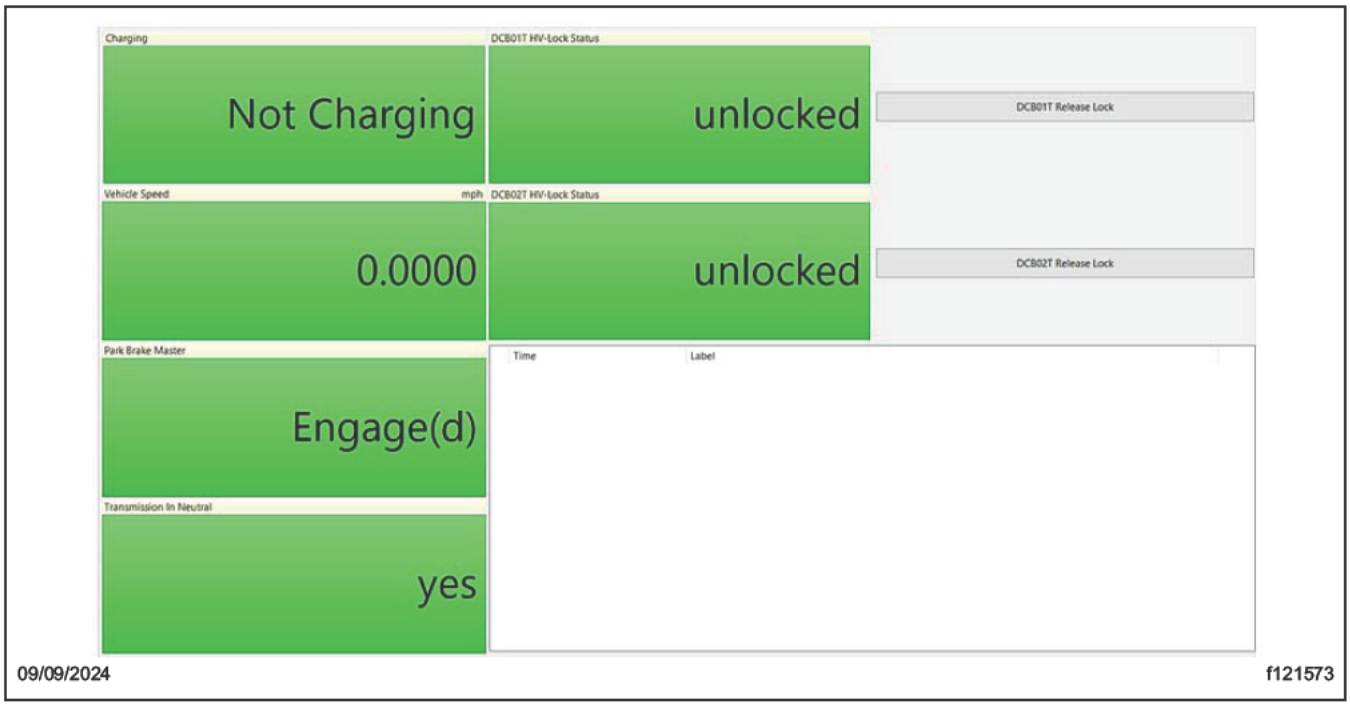

Fig. 38, DCB Lock Release Panel

20. Connect the vehicle to a charger, and verify the charging indication lamp (located above the charging port) is breathing green, indicating charging. Once the charging is verified, press the charge stop button, and disconnect the charger.

21. Clean a spot on the base label (Form WAR259), and attach a campaign completion sticker for SF681 (Form WAR261), indicating this work has been completed.