Daimler Truck North America LLC

Emission Recall

August 2023
D22R6 REV2

Subject: Emission Recall DETROIT™ DD13®, DD15®, DD16® Soot Sensor Installation and Software Reprogramming

Models Affected: DD13, DD15, DD16 (471.928, 472.910, 472.912, 473.910)

General Information

Daimler Truck North America LLC, on behalf of its Detroit Powertrain Division, is initiating Emission Recall D22R6 to modify the vehicles mentioned above.

Certain Detroit DD13®, DD15®, and DD16® engines were built without soot sensors due to global component shortages and supply chain issues. The majority of these vehicles will require installation of a new soot sensor. All of these vehicles will require reprogramming to a **minimum** of the ACM, MCM, CPC and TCM software versions and fuel map versions listed below:

For DD15 with GATS 2.0:

- ACM Software Version 10.52.1.0 ZGS 001
- MCM Software Version 19.2.1.4 ZGS 001
- CPC Software Version R21.42.00.00A
- TCM (if applicable): Software Version NAMT201403

For DD13, DD15, DD16 with 1-Box Aftertreatment

- ACM Software Version 7.61.1.0 ZGS 003
- MCM Software Version:
  - DD13: 14.3.1.1 ZGS 001
  - DD15: 6.9.0.2 ZGS 002
  - DD16: 6.9.0.2 ZGS 003
- CPC Software Version:
  - CPC501T R20.11.00.00A or R20.31.00.00A
  - CPC04T R44_00_000A
- TCM (if applicable):Software Version NAMT201403

Updated programming is available for DD13®, DD15®, and DD16® powered vehicles manufactured between January 2020 and December 2022. These DD13®, DD15®, and DD16® powered vehicles will need to have the ACM reprogrammed.

The California Air Resource Board (CARB) and the Environment Protection Agency (EPA) regulations require that software and fuel maps meet certification criteria. Reprogramming the ACM corrects the fuel maps to new certified versions, once a new soot sensor is installed.

There are approximately 38,376 engines affected by this emission recall in U.S. and Canada.

Note that some engines are already reprogrammed and have had soot sensor installed. These engines are excluded from this Emission Recall. In addition, the currently available software levels may be higher than the minimum levels shown above.

IMPORTANT:
DPF failures and related fault codes, before and after recall completion, are not caused by missing or failed soot sensors and cannot be filed under D22R6 Emission Recall. Normal in warranty procedures apply.

Work Instructions

Please refer to the attached work instructions. **Prior to performing the emission recall, check the vehicle for a completion sticker (Form WAR260).**

Replacement Parts

Replacement parts are now available and should be ordered before the customer arrives to avoid unnecessary downtime. Please follow the guidelines below and allow time to receive parts.

NOTE: These recall kits are made available for D22R6 repairs ONLY and are not to be ordered and stocked for warranty or customer purchase repairs.

- 1-Box equipped DD13®, DD15®, and DD16® (471.928, 472.910, 473.910) vehicles require Recall Kit number DDE 25-D22R6-001 and if necessary soot sensor mounting bolts DDE N910143006001
- GATS 2.0 equipped DD15® (472.912) require Recall Kit Number DDE 25-D22R6-002 and if necessary soot sensor mounting nuts DDE N000000008335

Table 1 – Replacement Parts for D22R6

Engine Model	Recall Kit / Part Number	Part Contents	Quantity
1-Box equipped DD13®, DD15®, and DD16® (471.928, 472.910, 473.910,)	DDE 25-D22R6-001	**Soot Sensor 1-Box**	1
		Soot Sensor Pigtail	1
		PHM 1 1863 Splice Connector	4
	DDE N910143006001	Mounting Bolt, Soot Sensor Electronic Control Unit (ECU)	2
GATS 2.0 equipped DD15® (472.912)	DDE 25-D22R6-002	**Soot Sensor GATS 2.0**	1
		Soot Sensor Pigtail	1
		PHM 1 1863 Splice Connector	4
	DDE N000000008335	Mounting Nut, Soot Sensor Electronic Control Unit (ECU)	2
ONLY USED IF SENSOR BOSS REQUIRED REPLACEMENT	DDE A6805420039	**GATS 2.0 Tri-Boss**	**1**
	DDE 23539925	**1-Box Soot Sensor Boss**	**1**

Removed Parts

The original soot sensor pigtail and soot sensor orifice plug can be scrapped.

Labor Allowance

Table 2 – Labor Allowance for D22R6-A

Campaign Group	Procedure	Time Allowed (hours)	SRT Number	Corrective Action
D22R6-A				
A	**No Reprogramming or Soot Sensor Install Required, INSPECTION ONLY**	0.2 Hours	996-R156A	06-Inspect
A	**Reprogram ONE Module, Replace Pigtail, Install Soot Sensor**	1.0 – 1.1 Hours	996-R156B	12-Repair Recall/Campaign
A	**Reprogram TWO Modules, Replace Pigtail, Install Soot Sensor**	1.1 - 1.2 Hours	996-R156C	12-Repair Recall/Campaign
A	**Reprogram THREE Modules, Replace Pigtail, Install Soot Sensor**	1.3 Hours	996-R156D	12-Repair Recall/Campaign
A	**Reprogram FOUR Modules, Replace Pigtail, Install Soot Sensor**	1.4 Hours	996-R156E	12-Repair Recall/Campaign

Table 3 – Labor Allowance for D22R6-B

Campaign Group	Procedure	Time Allowed (hours)	SRT Number	Corrective Action
D22R6-B				
B	**No Reprogramming or Soot Sensor Install Required, INSPECTION ONLY**	0.2 Hours	996-R156A	06-Inspect
B	**Reprogram ONE Module, Replace Soot Sensor, Discard Pigtail**	1.0 - 1.1 Hours	996-R156B	12-Repair Recall/Campaign
B	**Reprogram TWO modules, Replace Soot Sensor, Discard Pigtail**	1.1 - 1.2 Hours	996-R156C	12-Repair Recall/Campaign
B	**Reprogram THREE Modules, Replace Soot Sensor, Discard Pigtail**	1.3 Hours	996-R156D	12-Repair Recall/Campaign
B	**Reprogram FOUR modules, Replace Soot Sensor, Discard Pigtail**	1.4 Hours	996-R156E	12-Repair Recall/Campaign

Claim Reimbursement

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 recall. Please reference the following information in OWL.

Table 4 – Claim Reimbursement for D22R6

Claim Type	Recall Campaign
Campaign	**D22R6**
Component Code	**043-007-172**
Cause Code	**A1-Campaign**
Primary Failed Part	**DDE A0111531228**

Use this procedure if repair and programming was NOT REQUIRED.	
Procedure A[1]	
Labor Number	996-R156A **INSPECTION ONLY**
Labor Hours	0.2 Hours
Part Number	DDE A0111531228
Parts Return	SCRAP

Use one of the following procedures if repair and programming was REQUIRED.	
Procedure B[1]	
Labor Number	996-R156B **SOOT SENSOR REPAIR AND PROGRAM ONE MODULE**
Labor Hours	1.0 - 1.1 Hours
Part Number	DDE A0111531228
Parts Return	SCRAP
Procedure C[1]	
Labor Number	996-R156C **SOOT SENSOR REPAIR AND PROGRAM TWO MODULES**
Labor Hours	1.1 - 1.2 Hours
Part Number	DDE A0111531228
Parts Return	SCRAP

Procedure D[1]	
Labor Number	996-R156D **SOOT SENSOR REPAIR AND PROGRAM THREE MODULES**
Labor Hours	1.3 Hours
Part Number	DDE A0111531228
Parts Return	SCRAP
Procedure E[1]	
Labor Number	996-R156E **SOOT SENSOR REPAIR AND PROGRAM FOUR MODULES**
Labor Hours	1.4 Hours
Part Number	DDE A0111531228
Parts Return	SCRAP

Table 5 – Claim Reimbursement for D22R6

These SRT(s) may be required if the sensor plug is stripped and requires additional extraction steps.	
The following SRT(s) can be added in addition to procedures B-E when the appropriate labor operation is performed. Multiple SRT(s) may be required. The box next to the SRT must be checked to claim.	
Optional SRT - Group A *Add labor operation if steps 16-19 of the work instructions were required*	246-6178A: 0.2 Hours **Stripped Soot Sensor Plug, Removal – In Chassis (D22R6)**
Optional SRT - Group A *Add labor operations if steps 20-23 of the work instructions were required*	246-6178B: 0.4 Hours **Stripped Soot Sensor Plug, Removal – Nut Weld (D22R6)** 246-6170E: 2.0 – 2.3 Hours **ATS Assembly R/I**
Only one of the following SRTs can be claimed depending on the equipped aftertreatment.	
Optional SRT – Group A (GATS 2.0) *Add labor operation if step 24 was required	246-6110A: 1.3 Hours **Sensor Tri-Boss, ATS, R/R**
Optional SRT – Group A (1-Box) *Add labor operation if step 24 was required	246-6110E: 1.0 Hours **Sensor Boss, ATS, R/R**
[1] Administrative time (SRT 939-6010A) for 0.3 hours is automatically added to the claim.	

IMPORTANT: OWL must be viewed prior to beginning work to ensure the vehicle is involved in the recall and the campaign has not previously been completed.

For questions, U.S. and Canadian dealers, contact the Warranty Campaigns Department via Web inquiry at DTNAPortal.com using the WSC (Warranty Support Center) application.

Daimler Truck North America LLC

Emission Recall

August 2023
D22R6 REV2

Detroit Diesel Corporation
13400 Outer Drive, West
Detroit, Michigan 48239-4001
Telephone: 313-592-5000

Copy of Notice to USA Registered Owners

Subject: Emission Recall D22R6 DETROIT™ DD13®, DD15®, DD16® Soot Sensor Installation and Software Reprogramming

This notice was sent to you in accordance with the requirements of California emission standards and regulations. Daimler Truck North America LLC manufactured some certified DD13®, DD15®, and DD16® engines without soot sensors due to global component shortages. Engines registered in California will require reprogramming to a **minimum** software and fuel map version, with the soot sensor installation. California Air Resources Board (CARB) requires a soot sensor on all on-highway model year 2020, 2021, and 2022 heavy-duty diesel engines, regardless of manufacturer.

Your vehicle or engine may be releasing air pollutants, which exceed California standards. Failure to receive the repair may cause the vehicle to fail a vehicle inspection when such tests are required under state law. This repair does not adversely affect the performance, fuel economy, nor durability of the vehicle or engine. These engines cannot be operated in the State of California if the recall is not completed once made available.

The software and fuel maps were released for service beginning in April 2022. California Air Resources Board (CARB) and the Environment Protection Agency (EPA) regulations require that software and fuel maps meet certain criteria. Reprogramming the ACM corrects the fuel maps to a certified version.

Daimler Truck North America LLC (DTNA), on behalf of its DETROIT™ Powertrain division, is initiating emission recall D22R6 to modify specific DD13®, DD15®, and DD16® engines manufactured between January 2020 and December 2022.

Certain DETROIT™ DD13®, DD15®, and DD16® engines will require reprogramming to a **minimum** software and fuel map version.

Note that trucks already reprogrammed, with a soot sensor installed, are excluded from this recall. Records indicate that your vehicle has one of these qualifying engines, which will require reprogramming the latest software and fuel maps, with a soot sensor installation. The procedure will be completed at no cost to you when performed by an Authorized Detroit Diesel Repair Facility, and will be at the expense of Daimler Truck North America LLC (DTNA) DETROIT™ Powertrain division. The scheduled time for the software update with soot sensor installation is approximately **1.4 hours**.

Please contact a DTNA authorized repair facility to arrange to have the emission recall campaign performed. To locate an authorized facility, search online at **https://demanddetroit.com/find-a-dealer/**

If you reside in the State of California, a Proof of Correction form will be provided to you by the service facility upon completion of the repair. Please retain it as it may be requested by the DMV in order to register your vehicle.

Please understand that the California DMV (Department of Motor Vehicles) will reject vehicle registration renewals if this emission related recall has not been completed.

In order to ensure you full protection under the emission warranty provisions, it is recommended that you have your engine serviced as soon as possible. Failure to do so could be determined as a lack of proper maintenance of your engine.

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

If you do not own the vehicle that corresponds to the identification number(s), which appears on the Recall Notification card, please return the notification to the Warranty Department, Attention Campaign Coordinator, with any information you can furnish that will assist us in locating the present owner.

If you have paid to have this recall condition corrected prior to this notice, you may be eligible to receive reimbursement. Requests for reimbursement may include parts and labor. Reimbursement may be limited to the amount the repair would have cost if completed by a Detroit Authorized Repair Facility.

The following documentation must be present to your dealer for consideration for reimbursement. Please provide original or clear copies of all receipts, invoices, and repair orders that show:

- The name and address of the person who paid for the repair.
- The Vehicle Identification Number (VIN) of the vehicle that was repaired.
- What problem occurred, what repair was done, when the repair was done.
- Who repaired the vehicle.
- The total cost of the repair expense that is being claimed.
- Proof of payment for the repair (such as the front and back of a cancelled check or a credit card receipt).

Reimbursement will be made by check from your DTNA dealer. Please speak with your DTNA authorized dealer concerning this matter.

For those customers who had this issue and paid for the service prior to this recall, they can send in their receipts to Detroit Diesel Corporation for reimbursement consideration.

We regret any inconvenience this action may cause but feel certain you understand our interest in conforming to required regulations and environmental protection.

If you have any questions or need further information, please contact the Customer Support Center at (800) 445-1980.

DETROIT WARRANTY CAMPAIGNS DEPARTMENT

Enclosure

Detroit Diesel Corporation
13400 Outer Drive, West
Detroit, Michigan 48239-4001
Telephone: 313-592-5000

Copy of Notice to CANADA Registered Owners

Subject: Emission Recall D22R6 DETROIT™ DD13®, DD15®, DD16® Soot Sensor Installation and Software Reprogramming

This notice was sent to you in accordance with the requirements of Canadian Environmental Protection Act (CEPA), 1999. Daimler Truck North America LLC manufactured some certified DD13®, DD15®, and DD16® engines without soot sensors due to global component shortages. Engines registered in Canada will require reprogramming to a **minimum** software and fuel map version, with a soot sensor installation. California Air Resources Board (CARB) requires a soot sensor on all on-highway model year 2020, 2021, and 2022 heavy-duty diesel engines, regardless of manufacturer.

Your vehicle or engine may be releasing air pollutants, which exceed California, Federal, and Canadian standards. This repair does not adversely affect the performance, fuel economy, nor durability of the vehicle or engine. These engines cannot be operated in the State of California if the recall is not completed once made available.

The software and fuel maps were released for service beginning in April 2022. Canadian Environmental Protection Act (CEPA), 1999, California Air Resources Board (CARB) and the Environment Protection Agency (EPA) regulations require that software and fuel maps meet certain criteria. Reprogramming the ACM corrects the fuel maps to a certified version.

Daimler Truck North America LLC (DTNA), on behalf of its DETROIT™ Powertrain division, is initiating emission recall D22R6 to modify specific DD13®, DD15®, and DD16® engines manufactured between January 2020 and December 2022.

Certain DETROIT™ DD13®, DD15®, and DD16® engines will require reprogramming to a **minimum** software and fuel map version.

Note that trucks already reprogrammed, with a soot sensor installed, are excluded from this recall. Records indicate that your vehicle has one of these qualifying engines, which will require reprogramming the latest software and fuel maps, with soot sensor installation. The procedure will be completed at no cost to you when performed by an Authorized Detroit Diesel repair facility and will be at the expense of Daimler Truck North America LLC (DTNA) DETROIT™ Powertrain division. The scheduled time for the software update with soot sensor installation is approximately **1.4 hours**.

Please contact a DTNA authorized repair facility to arrange to have the emission recall campaign performed. To locate an authorized facility, search online at **https://demanddetroit.com/find-a-dealer/**

In order to ensure you full protection under the emission warranty provisions, it is recommended that you have your engine serviced as soon as possible. Failure to do so could be determined as a lack of proper maintenance of your engine.

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

If you do not own the vehicle that corresponds to the identification number(s), which appears on the Recall Notification card, please return the notification to the Warranty Department, Attention Campaign Coordinator, with any information you can furnish that will assist us in locating the present owner.

If you have paid to have this recall condition corrected prior to this notice, you may be eligible to receive reimbursement. Requests for reimbursement may include parts and labor. Reimbursement may be limited to the amount the repair would have cost if completed by a Detroit Authorized repair facility.

The following documentation must be present to your dealer for consideration for reimbursement. Please provide original or clear copies of all receipts, invoices, and repair orders that show:

- The name and address of the person who paid for the repair.
- The Vehicle Identification Number (VIN) of the vehicle that was repaired.
- What problem occurred, what repair was done, when the repair was done.
- Who repaired the vehicle.
- The total cost of the repair expense that is being claimed.
- Proof of payment for the repair (such as the front and back of a cancelled check or a credit card receipt).

Reimbursement will be made by check from your DTNA dealer. Please speak with your DTNA authorized dealer concerning this matter.

For those customers who had this issue and paid for the service prior to this recall, they can send in their receipts to Detroit Diesel Corporation for reimbursement consideration.

We regret any inconvenience this action may cause but feel certain you understand our interest in conforming to required regulations and environmental protection.

If you have any questions or need further information, please contact the Customer Support Center at (800) 445-1980.

DETROIT WARRANTY CAMPAIGNS DEPARTMENT
Enclosure

Work Instructions

Subject: Emission Recall D22R6 DETROIT™ DD13®, DD15®, DD16® Soot Sensor Installation and Software Reprogramming

Models Affected: DD13, DD15, DD16 (471.928, 472.910, 472.912, 473.910)

Service Tools Used in the Procedure		
Tool Number	**Tool Name**	**Tool Graphic**
DSN0ATZ16001	Soot Sensor Socket	 d580205

Remove as follows:

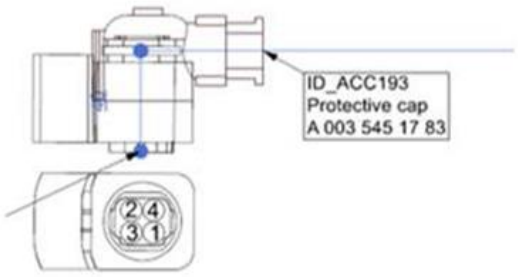
1. Turn ignition OFF, apply parking brake, chock wheels, and perform any other applicable safety steps.

CAUTION:

ELECTRICAL SHOCK

To avoid injury from electrical shock, use care when connecting battery cables. The magnetic switch studs are at battery voltage

2. Disconnect batteries.
3. If necessary, remove passenger side steps. Refer to Original Equipment Manufacturer (OEM) procedures.
4. If the vehicle is equipped with a 1-Box Aftertreatment System (ATS), remove the Aftertreatment Control Module (ACM) cover. Do not remove the ACM cover if equipped with a GATS 2.0 ATS.
5. Is the vehicle part of Group A?
   - **a)** Yes, go to Step 6.
   - **b)** No, the vehicle is part of Group B. Go to Step 25. **NOTE**: Please DO NOT replace pigtail on vehicles in Group B.
6. Remove the cable ties securing ATS wiring harness soot sensor electrical connector.
7. Refer to **Soot Sensor Pigtail Wiring** below for 1-Box Aftertreatment System (ATS), if equipped, or GATS 2.0, if equipped, and replace the soot sensor connector pigtail as shown in Step 8.



Cavity	Wire	Pigtail Color	1-Box Harness Color
1	4-1	Brown/Gray	Red/Green
2	4-2	Brown/Red	Brown/Green
3	4-3	Blue	Blue/Green
4	4-4	Yellow/Black	Yellow/Green

Cavity	Wire	Pigtail Color	GATS 2.0 Harness Color
1	4-1	Brown/Gray	Brown/Gray
2	4-2	Brown/Red	Brown/Red
3	4-3	Blue	Blue
4	4-4	Yellow/Black	Yellow/Black

Soot Sensor Pigtail Wiring

Figure 1: Tools used in this procedure: Wire Cutters/Crimpers, Wire Strippers, Philips PHM 1 1863 Splice Connectors, and Heat Gun.

8. Follow the steps 9 through 14 using the repair tools shown in **Figure 1**:
9. Pull back the ATS harness wire loom to expose the soot sensor wires.
10. Cut the soot sensor connector off the ATS harness. See **Figure 2**.
11. Using splice connector PHM 1 1863, install the new pigtail in a staggered pattern as shown below. This ensures the wire loom will fit over the crimp connections.
12. Crimp the wires at the two ends of the splice connector.
13. Use a heat gun to seal the shrink tube and fully melt the solder in the splice connector.
14. Pull the ATS harness wire loom over the wires and crimp connectors, making sure no wires are exposed. See **Figure 2**.

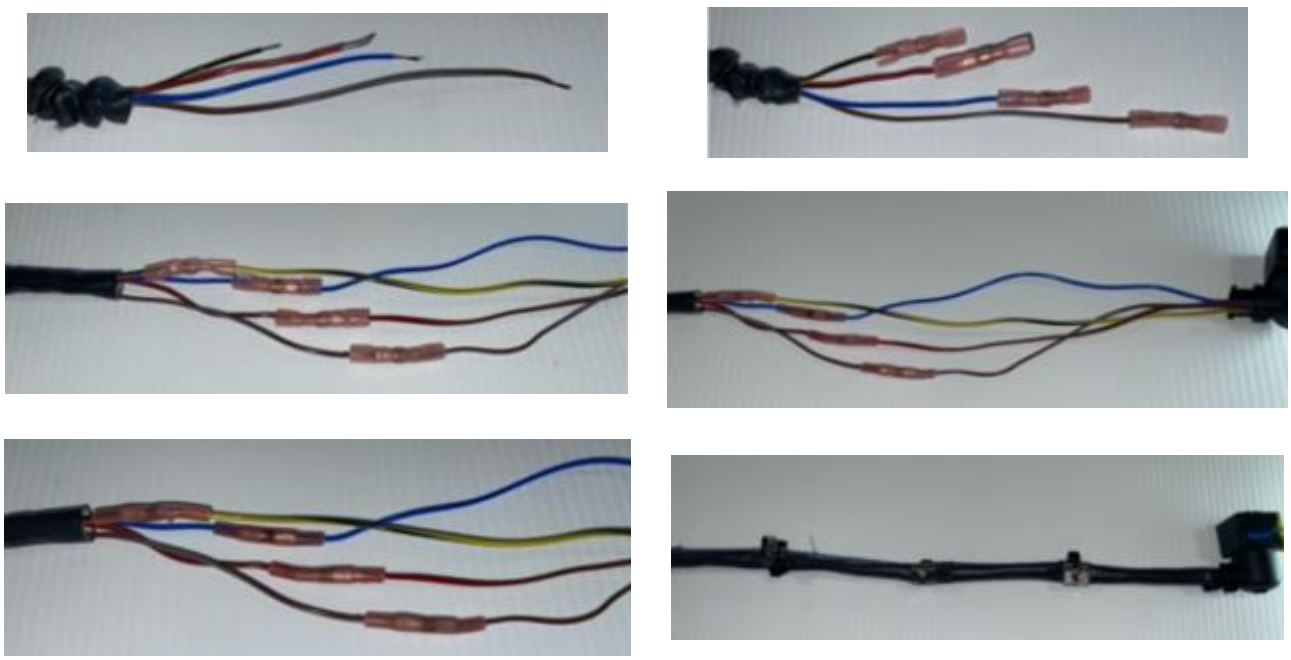


Figure 2: Complete as shown to properly secure the harness within the loom.
Top Left: Cut and strip wires,
Top Right: Crimp Philips PHM 1 1863 splice connectors on existing harness end.
Middle Left: Connect new Soot Sensor pigtail end to existing harness and crimp Philips PHM 1 1863 splice connectors,
Middle Right: Use Heat Gun to melt solder and seal shrink tube.
Bottom Left: Close up of splice connectors sealed,
Bottom Right: Loom pulled back over the harness.

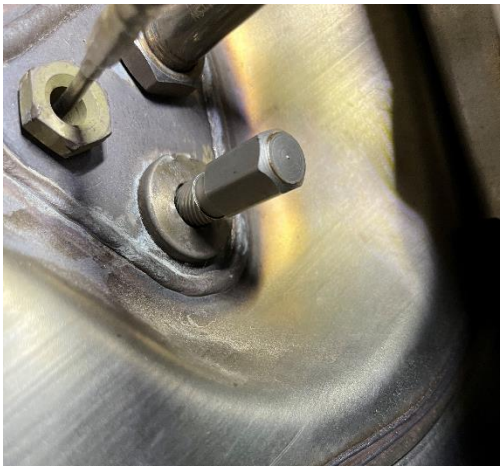
NOTICE: Do not use power or air tools to remove the soot sensor plug from the ATS.

15. Carefully apply heat to the soot sensor plug and surrounding area. Remove the plug sealing the ATS soot sensor orifice.
- **a)** If removed, go to step 28.
- **b)** If stripped, go to step 16.

NOTICE: Do NOT apply direct heat to the sensor wiring in close proximity to the soot sensor plug.
NOTICE: Two styles of plugs are used for sealing the ATS soot sensor orifice, a six-sided 24 mm hex plug (left) or a 10 mm Allen head plug (right).

16. If necessary, re-apply heat and perform the steps 17 through 19 to remove a stripped Allen head plug from the ATS:

17. Remove the stripped Allen head plug using a commercially available multi-spline screw extractor (starting with 13/32" or 10 mm, increasing in size as needed).



18. For 1-Box ATS only, remove the stripped Allen head plug using the chisel method.

NOTE: Strike the chisel at a 90-degree angle into the head of the plug until there is a deep enough vertical groove to strike the chisel from a rear angle to rotate the plug counter-clockwise.

19. Was the stripped soot sensor plug successfully removed in chassis using steps 17 or 18?
- **a)** Yes, add optional SRT 246-6178A. Go to step 28.
- **b)** No, go to step 20.

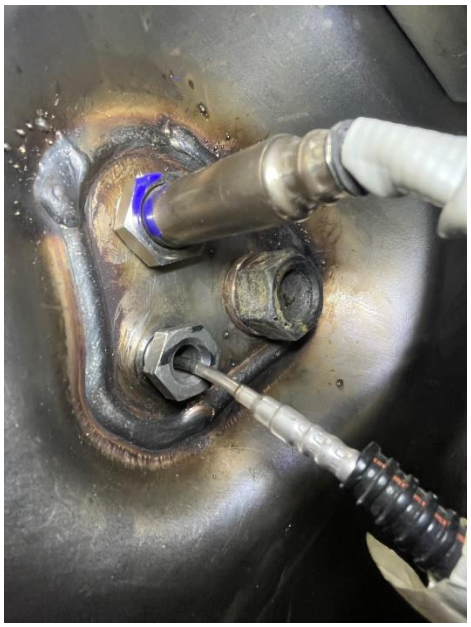
20. Remove the Aftertreatment System (ATS) from the truck.
- **a)** For GATS 2.0 Aftertreatment System, refer to section "Removal of the ATS Assembly" per Gen 5 DD15 Platform Workshop Manual (DDC-SVC-MAN-0215)
- **b)** For 1-Box Aftertreatment System, refer to section "Removal of the 1-BOX from the Vehicle" per GHG17 Heavy Duty Workshop Manual (DDC-SVC-MAN-0190)

21. If necessary, remove the ACM, disconnect harness attachment points, and reposition the ACM bracket. Refer to section "Removal of the ACM" per Gen 5 DD15 Platform Workshop Manual (DDC-SVC-MAN-0215)

NOTE: Nut should NOT exceed a hex head size of 1” or 25 mm for socket clearance. The inner diameter or threads of the nut should range between 12, and 16 mm

NOTICE: Do NOT apply direct heat to the sensors or sensor wiring in close proximity to the soot sensor plug.

22. If necessary, clean up the surface of the plug, and weld the inner portion of an appropriately sized nut to the stripped soot sensor plug.



GATS 2.0 ATS Soot Sensor Plug - Nut Weld

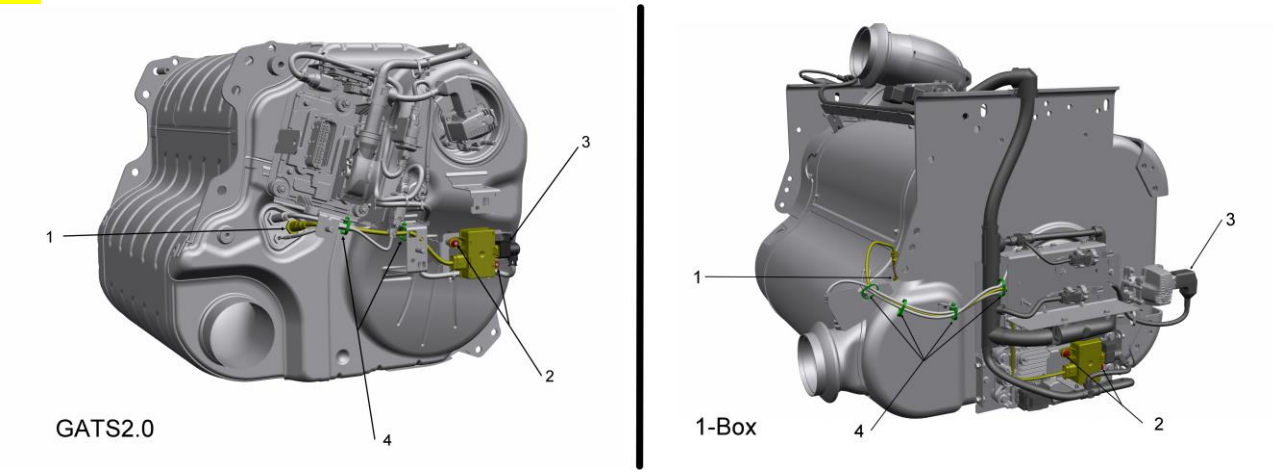
1BOX ATS Soot Sensor Plug - Nut Weld

23. Re-apply heat as needed, and remove the stripped soot sensor plug using an appropriately sized socket on the welded nut. Add optional SRT 246-6178B paired with 246-6170E – ATS Assembly R/I.
24. Was the soot sensor plug removed successfully from the soot sensor orifice without damaging the threads beyond repair?
a) Yes, go to step 28.
b) No, perform the necessary Aftertreatment Tri-Boss or Sensor Boss repair.

- If equipped with **GATS 2.0** refer to section “Soot Sensor Tri-Boss Repair” per Gen 5 DD15 Platform Workshop Manual (DDC-SVC-MAN-0215). Add optional SRT 246-6110A

- If equipped with **1-BOX** refer to section “Aftertreatment Sensor Boss Repair” per GHG17 Heavy Duty Workshop Manual (DDC-SVC-MAN-0190). Add optional SRT 246-6110E.

25. If the vehicle has a soot sensor already installed, refer to TechLit for removal of soot sensor.
26. For GATS 2.0 aftertreatment, remove old soot sensor per Gen 5 DD15 Platform Workshop Manual (DDC-SVC-MAN-0215) or Gen 5 DD13 Platform Workshop Manual (DDC-SVC-MAN-0213)
27. For 1-Box aftertreatment, remove old soot sensor per GHG17 Heavy Duty Workshop Manual (DDC-SVC-MAN-0190)
28. Apply a light amount of coper based anti-seize to the new soot sensor threads.
29. Use the soot sensor socket to install the soot sensor (1) into the ATS. Torque to 50 N·m (37 lb·ft).



NOTE: If missing, replace the mounting hardware for the soot sensor Electronic Control Unit (ECU)

30. Install the soot sensor Electronic Control Unit (ECU) onto the mounting bracket using two nuts (2) for GATS 2.0 or two mounting bolts (2) for 1-Box to secure it in place. Torque mounting nuts to 10 N·m (7 lb·ft) or mounting bolts to 12 N·m (9 lb·ft).
31. Connect the soot sensor electrical connector (3) and push down on the tab to lock the electrical connector to the sensor. Secure the ATS harness in place.
32. Install new cable ties (4) in the locations noted in the above graphic.
33. If removed, install the ACM cover. Torque to 12 N·m (9 lb·ft)
34. If removed, install passenger side steps. Refer to Original Equipment Manufacturer (OEM) procedures.

CAUTION:

ELECTRICAL SHOCK

To avoid injury from electrical shock, use care when connecting battery cables. The magnetic switch studs are at battery voltage

35. Connect the batteries.
36. Reprogram the engine to the following levels or higher.

Note: You **MUST** use DiagnosticLink® Professional 8.17 Service Pack 1 (*or higher*) when reprogramming.

Aftertreatment Type	DD15 GATS 2.0	DD13, DD15, DD16 1-Box
ACM Software Version	10.52.1.0 ZGS 001	7.61.1.0 ZGS 003
MCM Software Version	19.2.1.4 ZGS 001	**DD13:** 14.3.1.1 ZGS 001 **DD15:** 6.9.0.2 ZGS 002 **DD16:** 6.9.0.2 ZGS 003
CPC Software Version	R21.42.00.00A	**CPC04T:** R44_00_000A **CPC501T:** R20.11.00.00A or R20.31.00.00A
TCM Software Version	NAMT201403	NAMT201403

Minimum Software Levels

37. Begin the process by connecting DiagnosticLink® to the vehicle. Make sure that the ACM, CPC, MCM, and TCM (if equipped) are connected.

NOTICE:

BEFORE you begin reprogramming, make sure the VIN is correct in all modules. If the VIN is not correct in all modules, you will get an error message when attempting to reprogram.

38. Make sure the VIN is correct in all modules by looking at the 'Identification' screen in DiagnosticLink®. If the VIN is not correct in all modules, you can correct the VIN under the 'Actions' drop down menu in DiagnosticLink® by selecting the 'Check VIN Synchronization' item. Select 'Start' from this panel and follow the prompts. There will be prompts to cycle the key until the routine has completed. When synchronization is complete, turn the key back on and continue with the download process.

39. On the 'Identification' screen, check the current ACM software and fuel map levels with those listed in the above table, **Minimum Software Levels**. See **Figure 3** for an example of the 'Identification' screen.

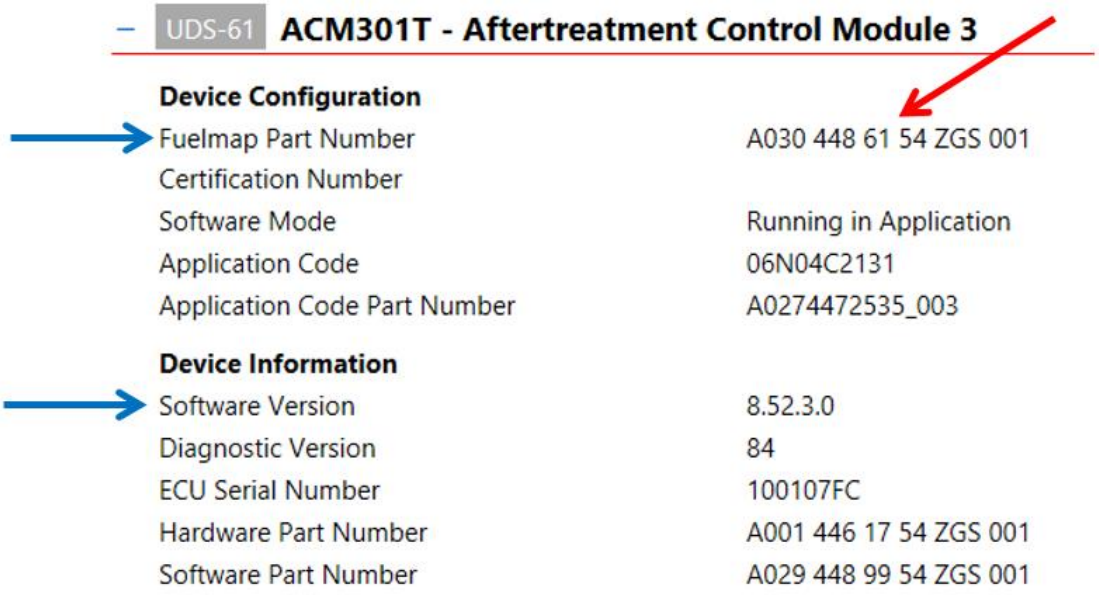


Figure 3: DiagnosticLink® Identification Screen

NOTE: The ACM, MCM, CPC, and TCM (if applicable) software and fuel map ZGS must meet the **MINIMUM** requirements.

40. Is the software and fuel map ZGS version level for ACM less than the software and fuel map ZGS version levels listed in the Minimum Software Levels table?

- **a)** Yes, the level is less than the required software and ZGS. Go to step 41.
- **b)** No; it is higher than, or equal to, the minimum software and fuel map ZGS version levels. No programming is necessary. Go to step 47.

41. Select 'Parameters' option along the left side of the DiagnosticLink® screen. Wait for parameters to be read.

42. Select 'Program Device' option along the left side of the DiagnosticLink® screen. After 'Data to Upload' displays, click 'Connect to Server'.

43. Select the 'Add' button in the lower left corner of the DiagnosticLink®screen and enter the engine serial number. Then click the 'Connect to Server' button in the bottom left corner of the DiagnosticLink® screen to download. Select 'Connected unit,' then select 'Next.' See **Figures 4**, **5** and **6**.

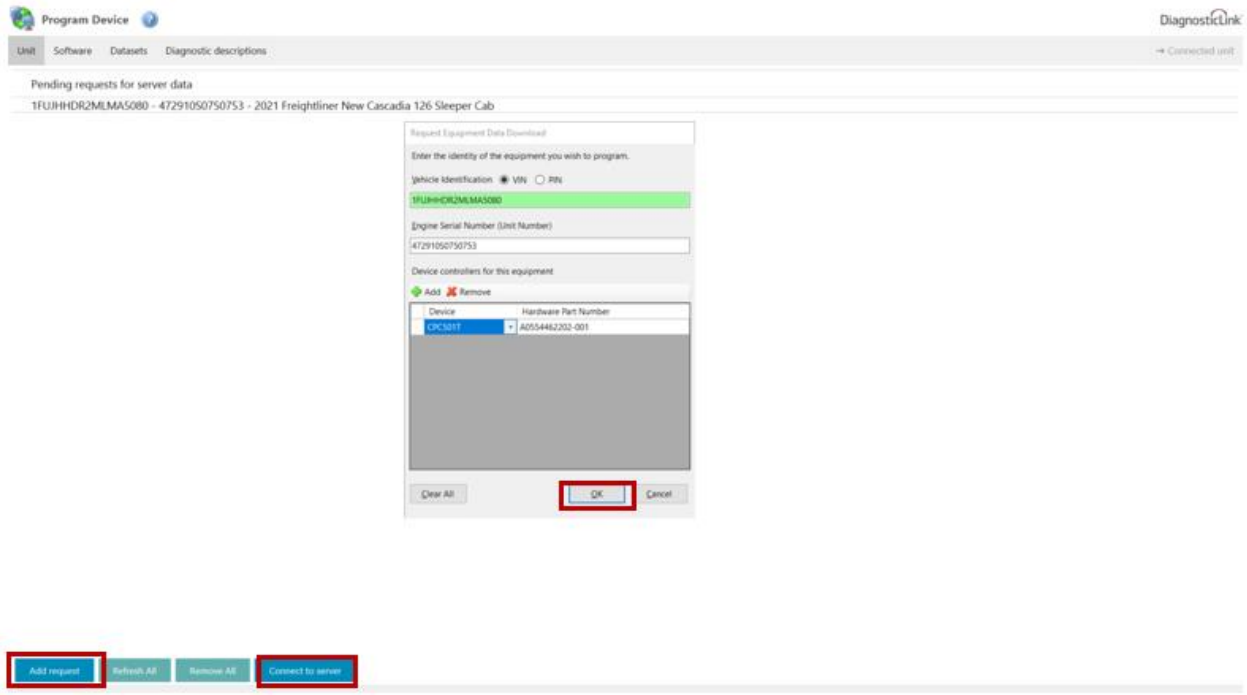


Figure 4: Adding Engine Serial Number and Connecting To Server

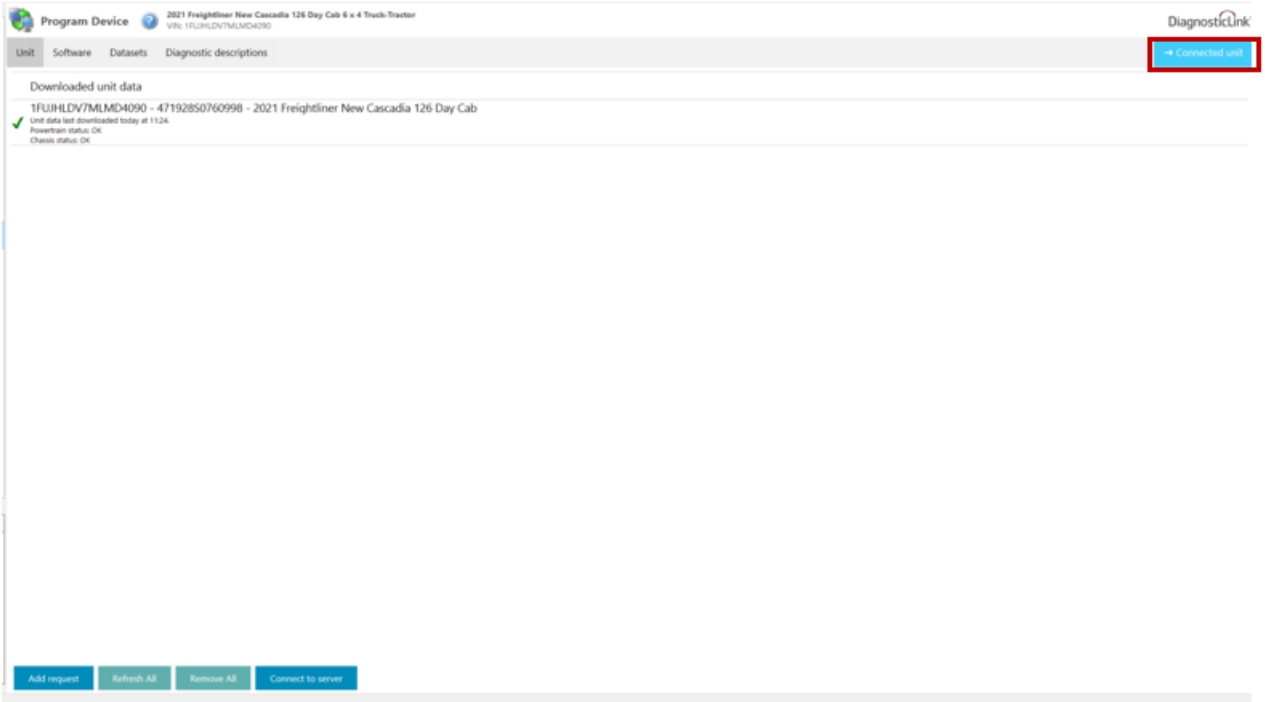


Figure 5: Selecting Connected Unit

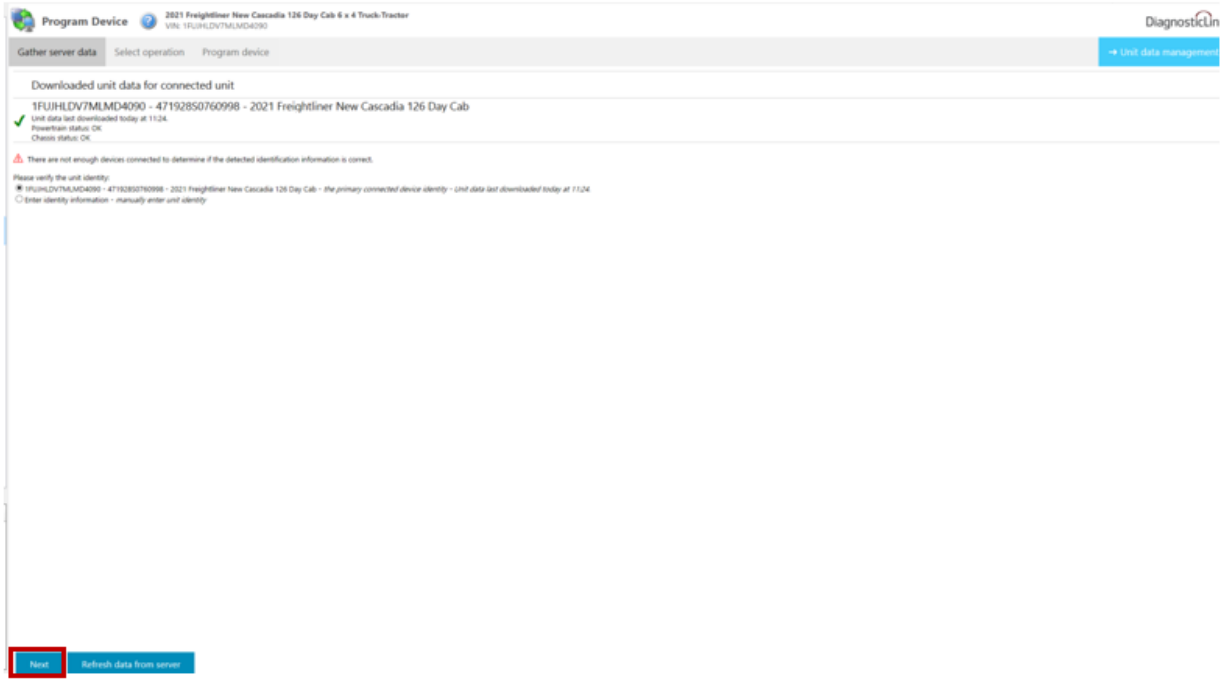


Figure 6: Selecting Next

44. Program the ACM and MCM, CPC, TCM (if applicable), as needed, based on the above inspection results and engine serial number listing included with this Emission Recall Campaign.

45. When programming is complete, click the 'Finish' button and perform the following to allow the modules to synchronize with each other:

- Disconnect the USB Link at the 9-pin vehicle diagnostic port.
- Turn the vehicle ignition OFF and wait one minute.
- Turn the vehicle ignition ON (key ON, engine OFF) and wait one minute.
- Turn the vehicle ignition OFF and wait one minute.
- Turn the vehicle ignition ON (key ON, engine OFF) and wait one minute.
- Reconnect the USB Link; reconnect DiagnosticLink® to the ACM, MCM, CPC, and TCM. Confirm the proper software and fuel map levels.

NOTICE:
CHECK with the customer to see if Auto Elevate can be enabled. Auto Elevate can prevent Aftertreatment System (ATS) issues.

46. Ask the customer if they would like Auto Elevate activated. **REFERENCE** Detroit Technical Service letter 16TS-18 for full details on Auto Elevate.

47. Install base label WAR259 (if not already present) and a blank, red completion sticker WAR260. See **Completion Stickers** section.

48. Complete **Vehicle Emission-Proof of Correction** and provide to the customer.

49. Repairs are complete. Install completion sticker.

Completion Stickers

- Upon completion of Emission Recall **D22R6**, clean a spot on the base label (**Form WAR259**), write the emission recall number (**D22R6)** on a blank, red completion sticker **(Form WAR260**), and attach it to the base label.

- Completion Sticker and Base Label Ordering Info: DTNA Portal > Service > Chassis Service Information > Order Literature (Warranty and Chassis Service) > Warranty

Vehicle Emission- Proof of Correction

A blank copy of the Vehicle Emission – Proof of Correction is attached and must be completed by the repairing outlet and provided to the customer. Customer may need this at the time of vehicle registration renewal. **For this campaign, it is critical that the Proof of Correction form states: Recall Number D22R6.**

Vehicle Emission Recall - Proof of Correction

License Number	Make	Year Model	Body Type	Vehicle Identification Number

Manufacturer _____ Recall Number D22R6

The above described vehicle has been repaired, modified and/or equipped with new emission control devices to meet applicable California Emission Control Laws.

Dealer's Address, City, State

Dealership's Authorized

X

Return this certificate to DMV only when required - otherwise retain for your records.