

NON-COMPLIANCE RECALL

Mack Trucks Inc.
Greensboro, NC USA



Date	Number	Release	Page
12.2023	EC0028	01	1(22)

EC0028 DPF Replacement (CXU, GU, LEU, LR, MRU)

RECALL INFORMATION

(December 2023)

Mack Trucks has determined that certain 2014 - 2018 commercial model year CXU, GU, LEU, LR, MRU Vehicles require a replacement Diesel Particulate Filter (DPF) along with updated software.

To ensure Mack Trucks remain emission compliant with these vehicles, follow the repair instructions outlined in this document to replace the DPF and reprogram certain control modules.

VEHICLES AFFECTED

Certain Mack Trucks manufactured between April 16, 2013, and March 13, 2017.

VEHICLE QUANTITY

There are 18,337 vehicles affected by this recall. (17,082_US, 1,255_CAN)

Parts

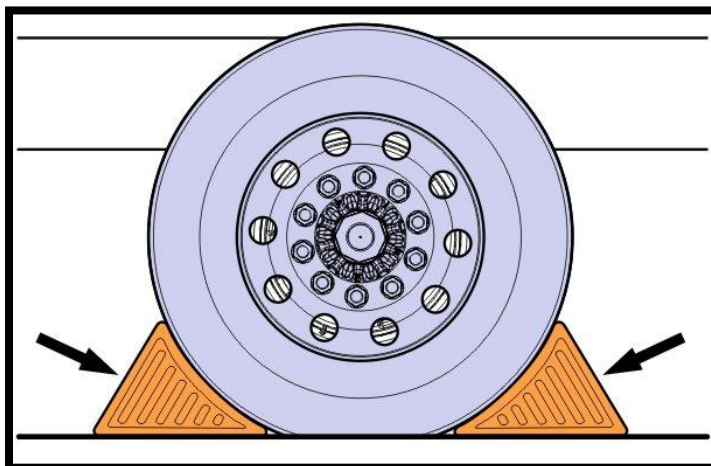
Non-Vertical Orientation		
Part Number	Description	Quantity
22810502	Filter Kit	1
21095726	V-Band Gasket	1
21021850	V-Clamp	1
992319	Stainless Cable Tie	2
21376801	Dosing Sealing Plate	1
60111689	Hex. Socket Screw	3
85152363	Recall Sticker	1

Vertical Orientation		
Part Number	Description	Quantity
22761989	Filter Kit	1
21095726	Gasket	1
21021850	Clamp	1
85152363	Recall Sticker	1

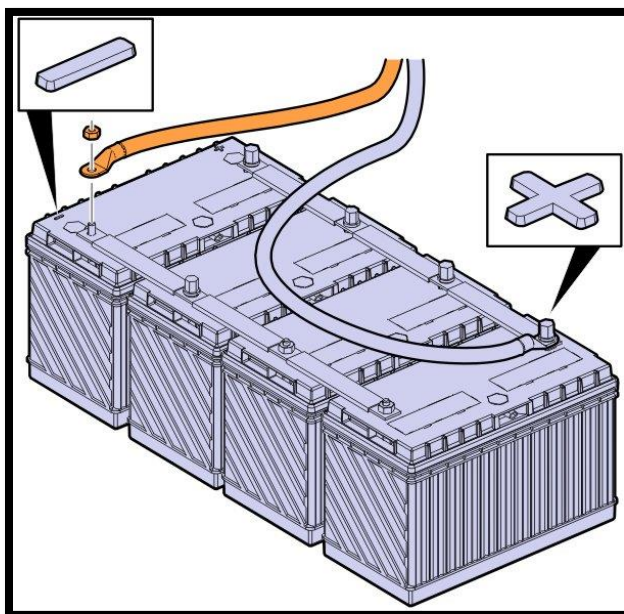
Repair Procedure

FOR FRAME-MOUNTED DPF:

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

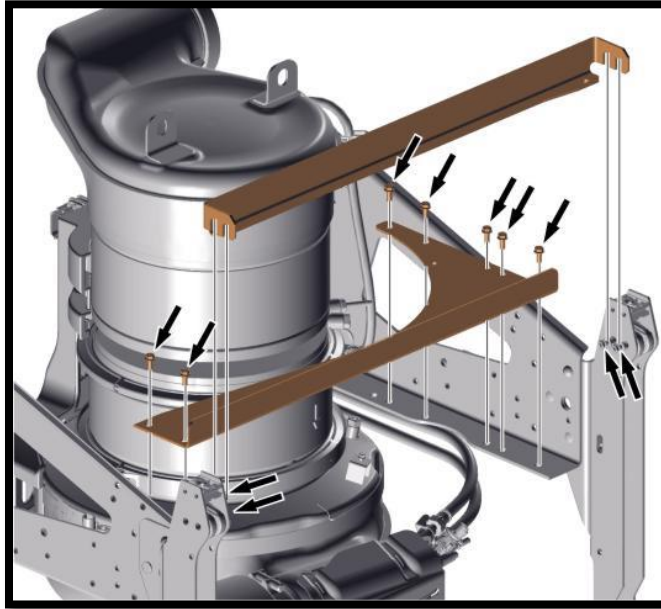


5. Disconnect the cable from the negative terminal.

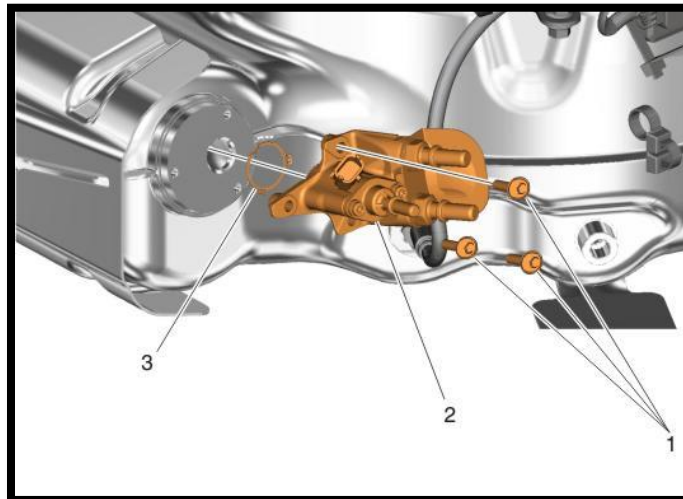


Removal

6. Remove the fasteners securing the right-side steps, heat shield, and braces located between the angle wing brackets and remove the steps, heat shield, and braces.



7. Remove the aftertreatment Diesel Exhaust Fluid (DEF) doser fasteners and the aftertreatment DEF doser from the aftertreatment Diesel Particulate Filter (DPF). Remove and discard the aftertreatment DEF doser gasket. Cover the aftertreatment DEF doser with a plastic bag and secure the bag with a tie strap.



1. Fasteners.
2. Aftertreatment DEF Doser.
3. Gasket.

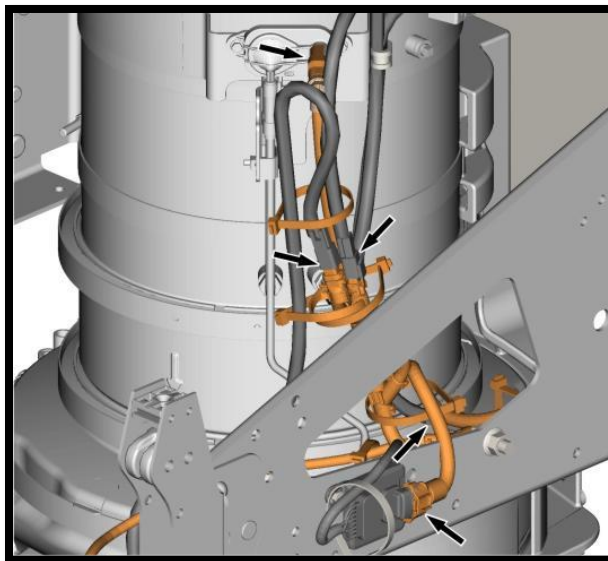
Important

Aftertreatment DEF is an irritant. Contact with DEF can irritate the skin and eyes. Inhaling aftertreatment DEF mist can cause lung irritation. Avoid aftertreatment DEF contact with skin and eyes. Avoid breathing mist created by aftertreatment DEF spray.

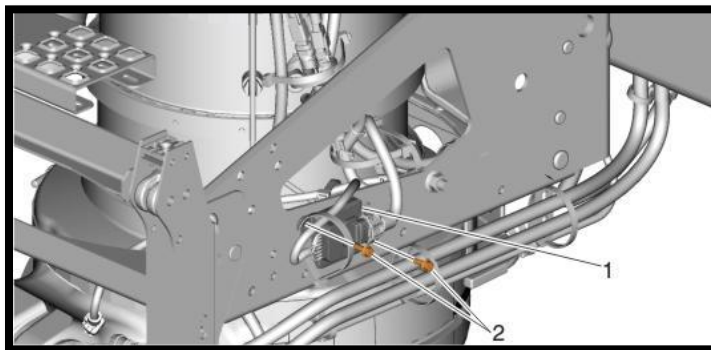
Important

When disconnecting hoses and components, do not spill aftertreatment DEF onto separated connectors. If this occurs, replace the connectors immediately. Cleaning with water or compressed air will not help as the aftertreatment DEF quickly oxidizes metal and, due to capillary action, “creeps” along cabling at a speed of about 0.6 meters/hour

8. Label all aftertreatment DPF wiring harness and differential pressure sensor connectors (if required) to aid in reassembly.

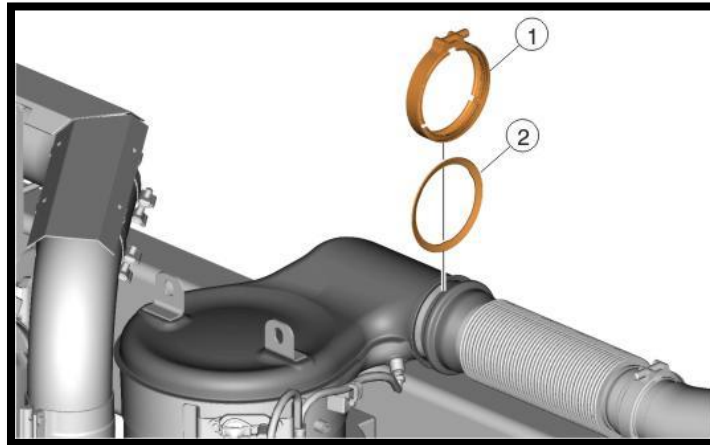


9. Disconnect all wiring and sensor connectors from the aftertreatment DPF and cut all tie straps / remove clamp securing the harness.
10. Remove the fasteners and remove the NOx sensor module from the front angle wing bracket.



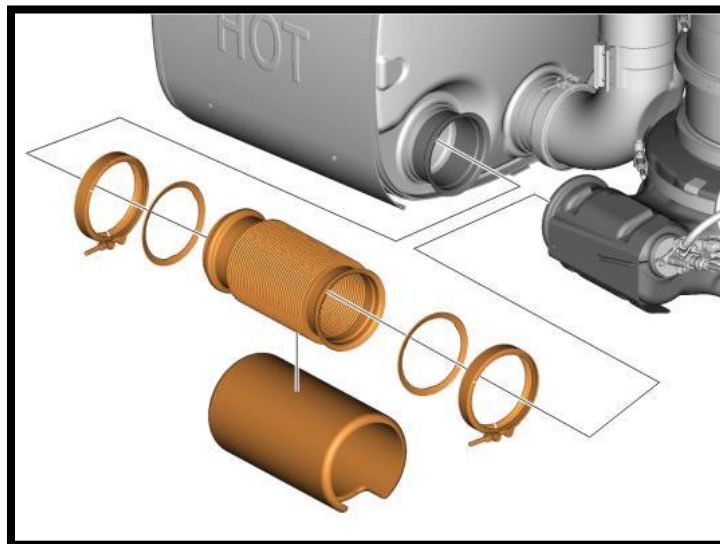
1. NOx Sensor Module
2. Fasteners

11. Remove and discard the upper exhaust V-band clamp that connects the flex pipe to the inlet of the aftertreatment DPF.



1. V-Band Clamp
2. Gasket

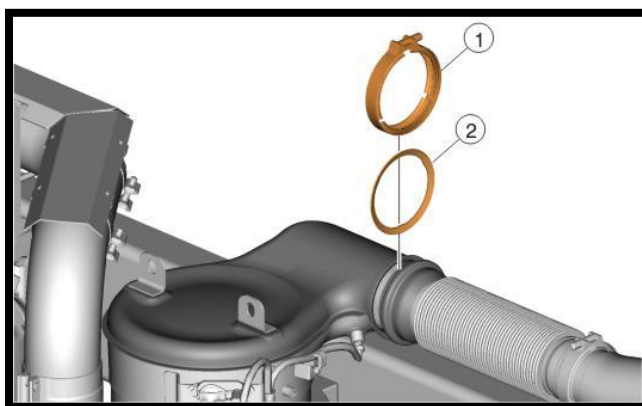
12. Remove and discard the lower exhaust V-band clamp that connects the aftertreatment DPF outlet to the thermal pipe.



13. Remove and discard the V-band clamp that connects the aftertreatment Selective Catalytic Reduction (SCR) catalyst and thermal pipe. Remove the thermal pipe. Remove and discard the gaskets from the thermal pipe.
14. Position a flat surface jack with a very stable support (such as a transmission jack) under the base of the aftertreatment DPF. Raise the jack until it will support the weight of the aftertreatment DPF.
15. Remove the upper and lower band clamps. Turn the aftertreatment DPF slightly to disconnect the inlet pipe.
16. Lower and roll the transmission jack out from the right side of the chassis to remove the aftertreatment DPF assembly.

Installation

17. Clean the gasket sealing surfaces on the upper exhaust flex pipe and the aftertreatment DPF inlet pipe. Remove and discard the gasket from the upper exhaust flex pipe.
18. Position the aftertreatment DPF assembly onto a flat level transmission jack and roll the jack under the chassis. Lift the aftertreatment DPF assembly with the transmission jack and loosely connect the upper and lower band clamps around the aftertreatment DPF. Lower the aftertreatment DPF onto the support bracket and remove the jack. Make sure the aftertreatment DPF is properly positioned on the alignment pad. Tighten the band clamps to spec.
19. Install a new V-band clamp and gasket on the upper exhaust flex pipe and position the flex pipe to the inlet of the aftertreatment DPF. Tighten the clamp fastener to spec.

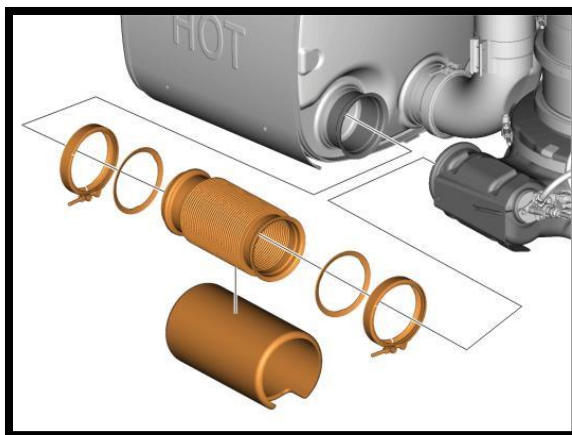


1. V-Band Clamp
2. Gasket

NOTE

Refer to the Group 20 specifications for the vehicle specific engine (MP7 or MP8).

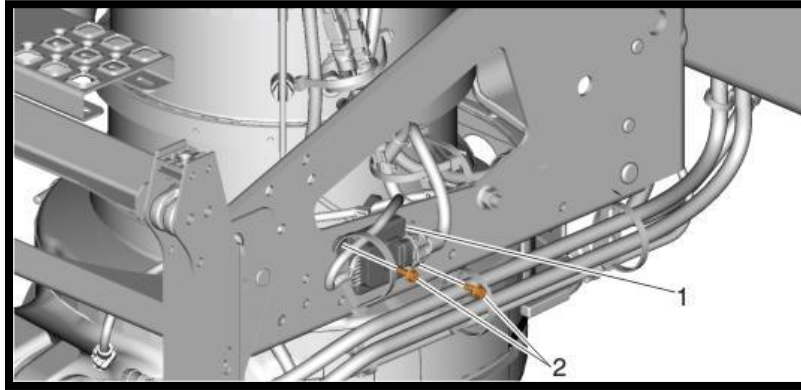
20. Clean the gasket sealing surfaces on the aftertreatment DPF outlet and SCR catalyst inlet and install new gaskets. Position the thermal wrapped exhaust pipe and install new clamps. Tighten the clamps to specification.



NOTE

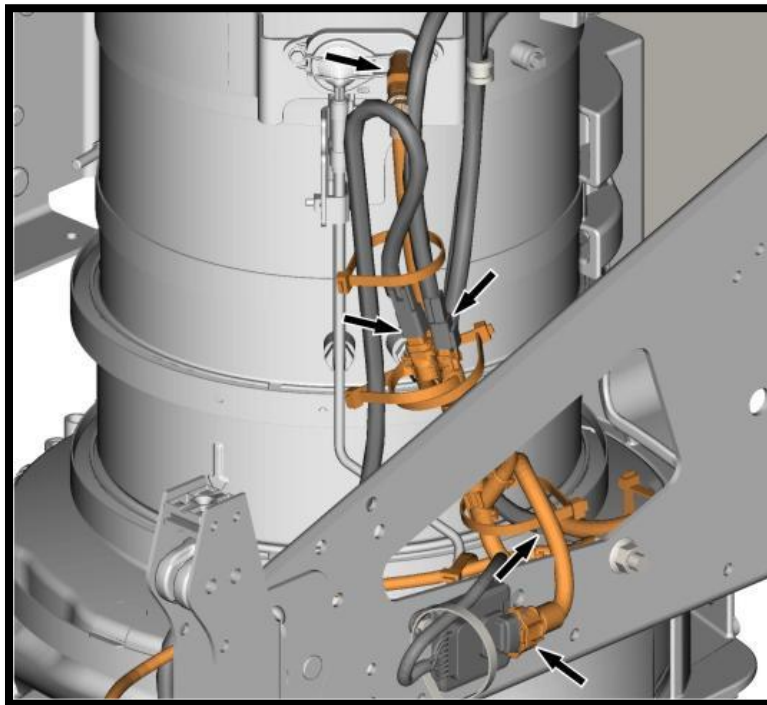
Refer to the Group 20 specifications for the vehicle specific engine (MP7 or MP8).

21. Position the NOx sensor module on the front angle wing bracket and install the fasteners.

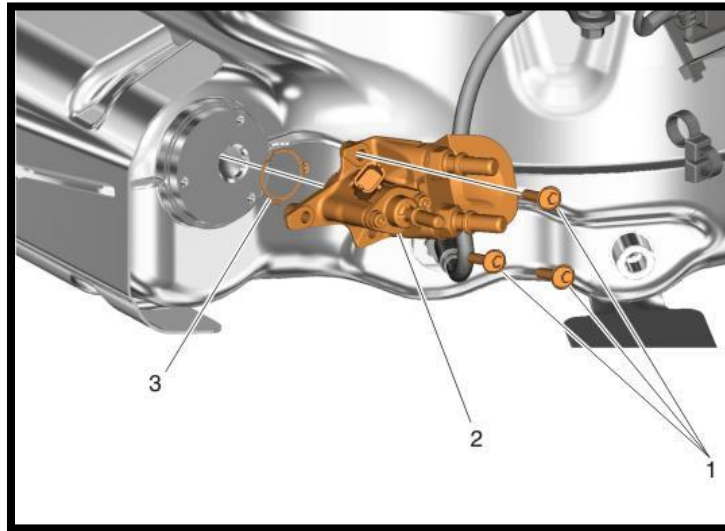


- 1. NOx Sensor Module
- 2. Fasteners

22. Reconnect the aftertreatment DPF wiring harness connectors as marked at disassembly. Secure the harness wires using nylon tie straps / clamps.



23. Position a new gasket on the aftertreatment DEF doser and install the unit on the aftertreatment DPF. Tighten fasteners to specification.

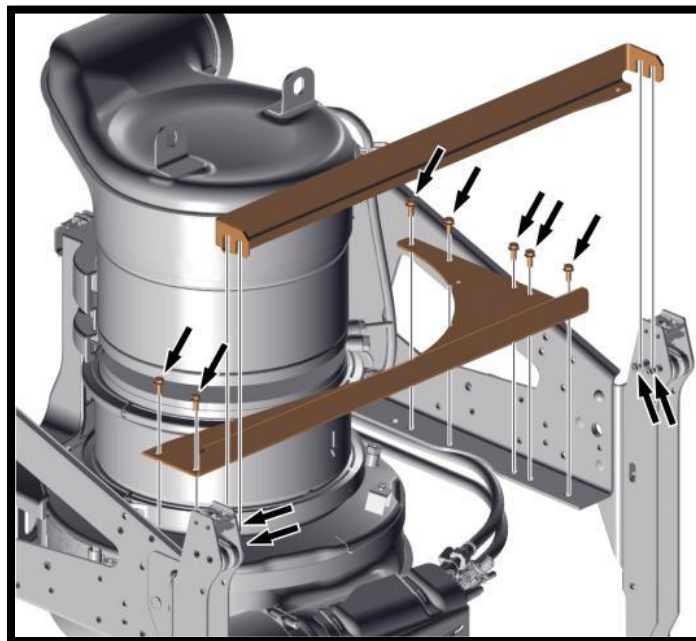


- 1. Fasteners
- 2. Aftertreatment DEF Doser
- 3. Gasket

NOTE

Refer to the Group 20 specifications for the vehicle specific engine (MP7 or MP8).

24. Position the right-side braces, head shield, and steps located between the angle wing brackets and secure using fasteners. Tighten the fasteners to specification.



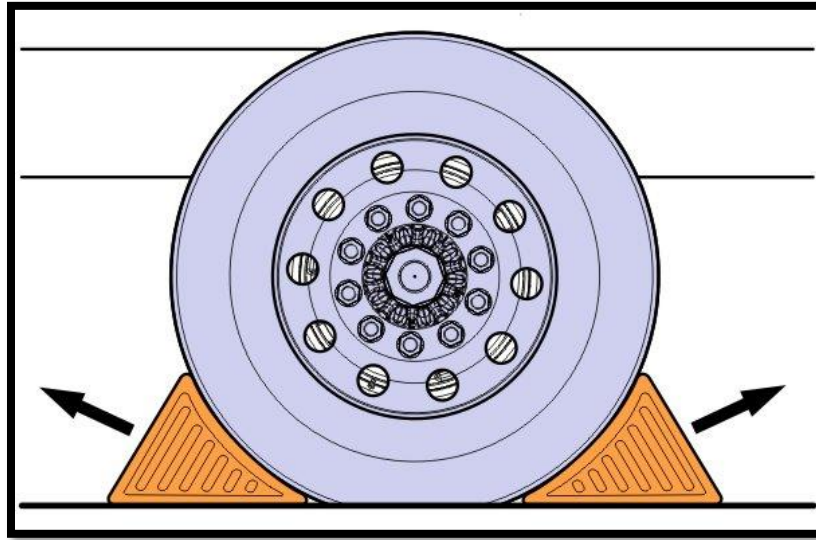
NOTE

Refer to the Group 20 specifications for the vehicle specific engine (MP7 or MP8).

The diagram illustrates two methods of connecting a battery. On the left, a single orange cable is connected to one terminal, which is the correct method. On the right, multiple cables are connected to different terminals, which is marked with a red 'X' to indicate it is incorrect.

[illegible]

27. Remove wheel chocks.

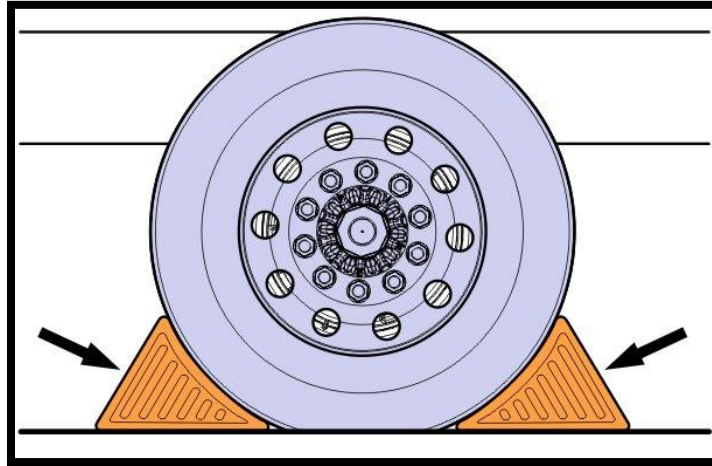


Software Updates

- 28. Connect to truck using PTT.
- 29. Under Programs Tab, Program Engine Control Module (ECM MID 128) using operation 1700-08-03-39 in PTT.
- 30. Clear any DTC's that may have occurred during programming
- 31. Return vehicle to service.

FOR VERTICAL DPF:

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

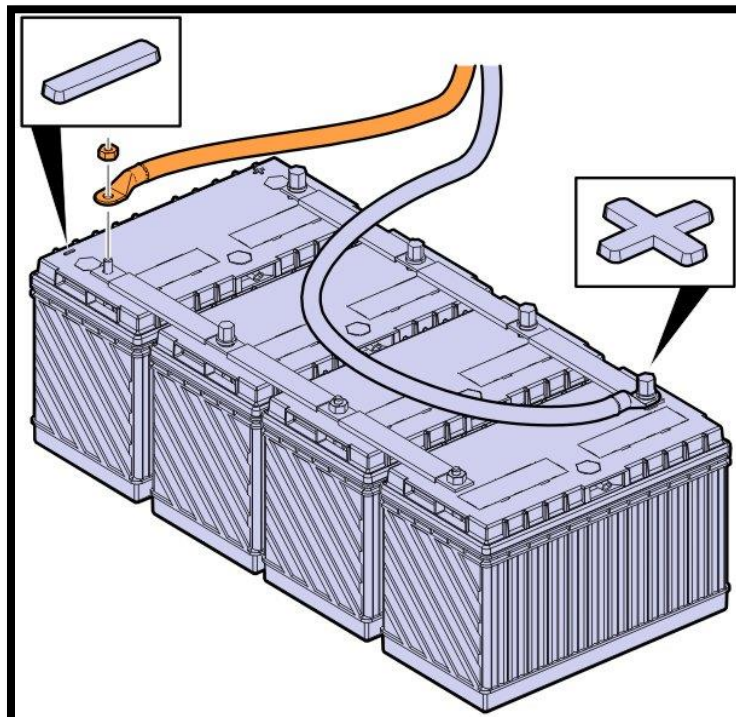


5. Using the hydraulic pump, raise the cab to full upright locked position.

Note

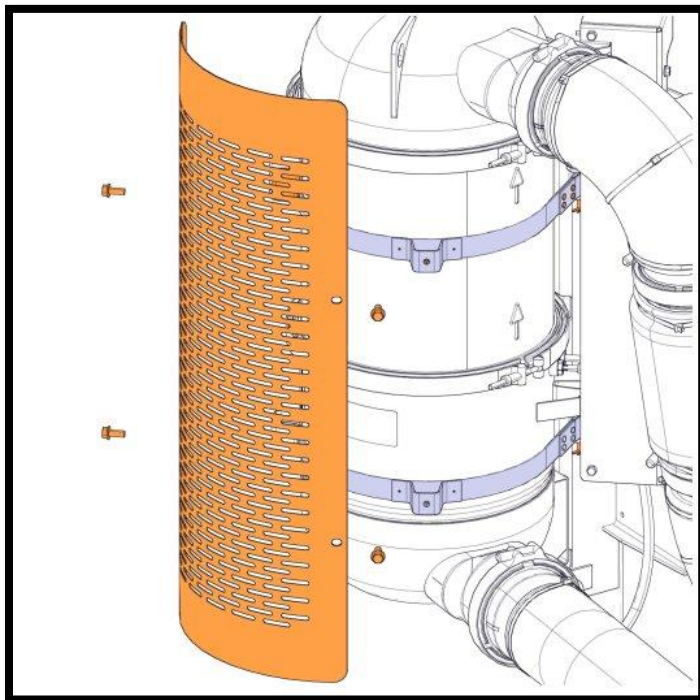
Before you attempt to raise the cab, make sure that there are no loose items within the cab that could fall and cause damage

6. Disconnect the cable from the negative terminal.

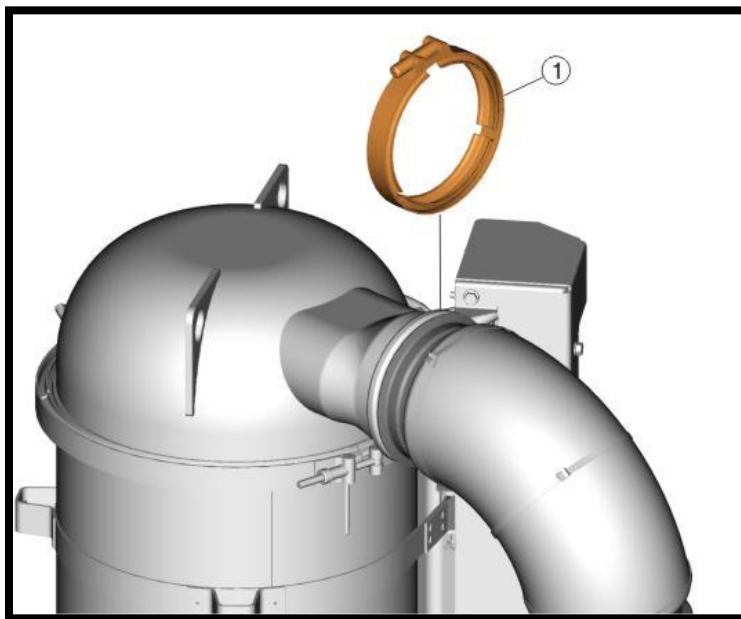


Removal

7. Remove fasteners and heat shield from DPF.

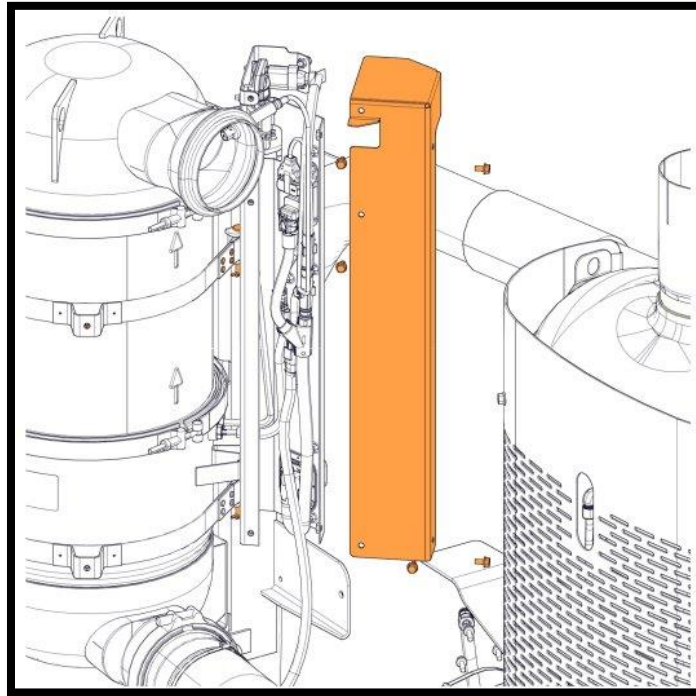


8. Remove v-band clamp and gasket from DPF outlet.



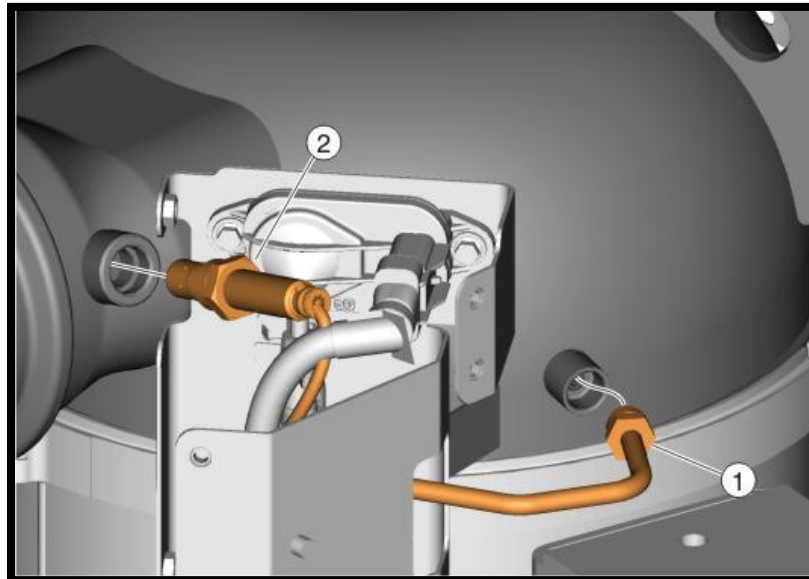
1. Band Clamp

9. Remove fasteners and cover from raceway attached to the DPF outlet.



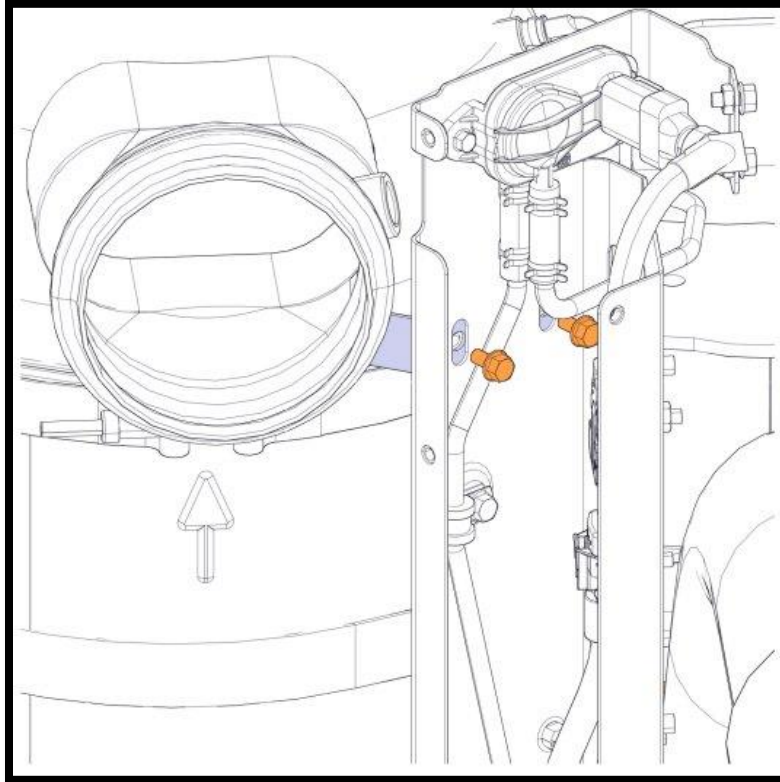
1. Raceway cover
2. Fasteners

10. Remove the differential pressure tube and the NOx sensor from the DPG outlet. Secure the NOx sensor. Do not allow the sensor to hang from the wiring harness.

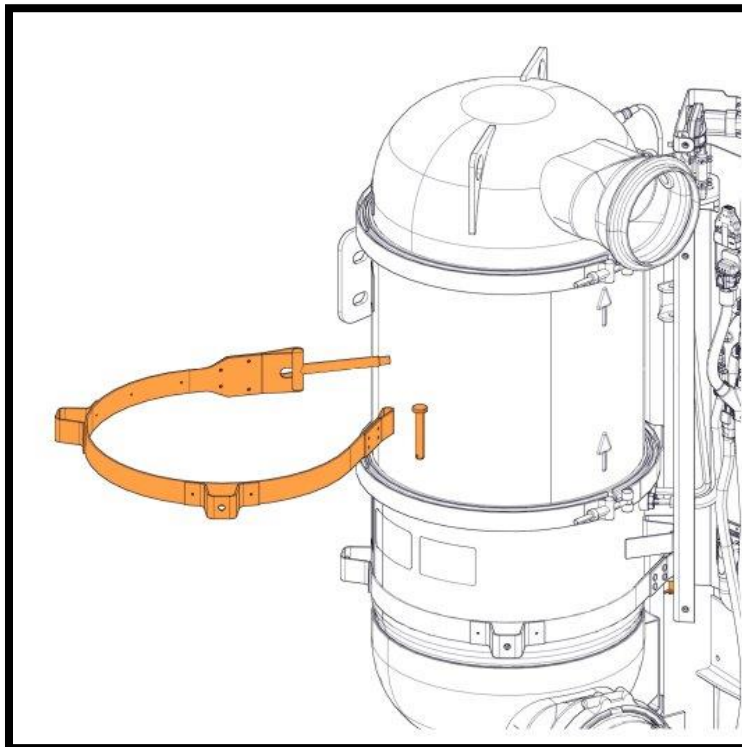


1. Differential Pressure Tube
2. NOx Sensor

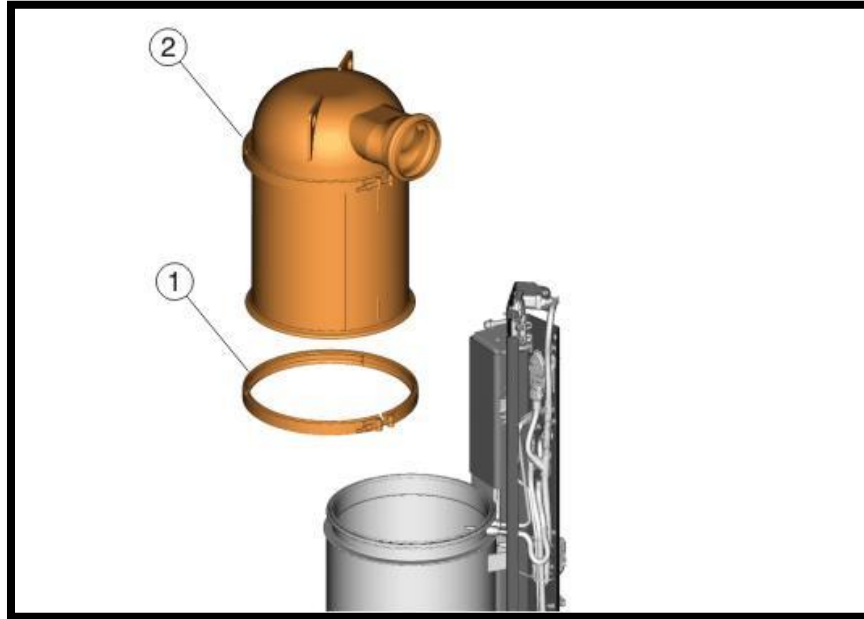
11. Remove the fasteners securing the raceway to the DPF upper mounting strap.



12. Using a marker, make the alignment marks on each of the module sections, above and below each v-band clamp.
13. Remove the fastener securing the DPF mounting strap. Remove the cotter pin and upper DPG mounting strap.

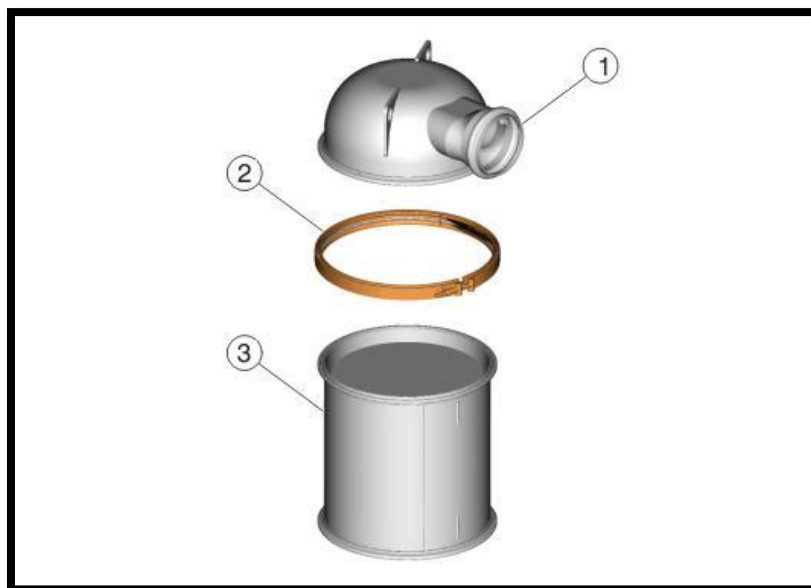


14. Position and connect hoist to the eyelets at the top of the DPF. Raise the hoist until it supports the weight of the DPF.
15. Remove the v-band clamp attaching the DPF insert to DPF inlet. Turn the DPF slightly to disconnect from inlet pipe. Discard the gasket.



- 1.V-band Clamp
2. DPF insert

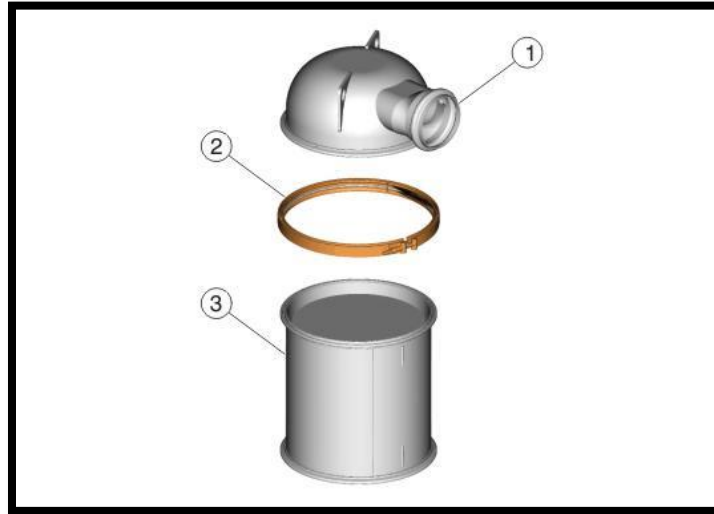
16. Lift DPF outlet and filter and move away from the vehicle. With assistance, store DPF outlet and filter in a safe location.
17. Remove v-band clamp attaching the DPF insert to DPF outlet. Turn the DPF outlet slightly to disconnect from DPF insert. Discard the gasket.



1. DPF Outlet
2. V-Band clamp
3. DPF insert

Installation

18. Prepare the replacement DPF insert for installation and ensure that the sealing surfaces are clean.
19. Clean the sealing surfaces on the DPF outlet.
20. Attach DPF outlet to the replacement filter using new gasket and v-band clamp. Tighten to specification.

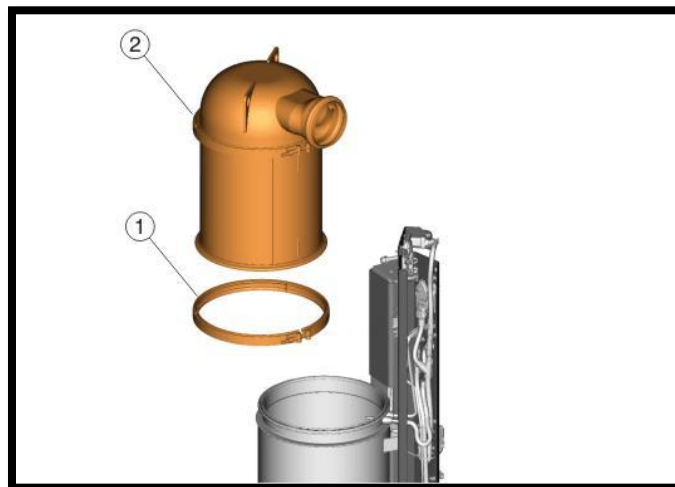


1. DPF Outlet
2. V-Band Clamp
3. DPF Insert

NOTE

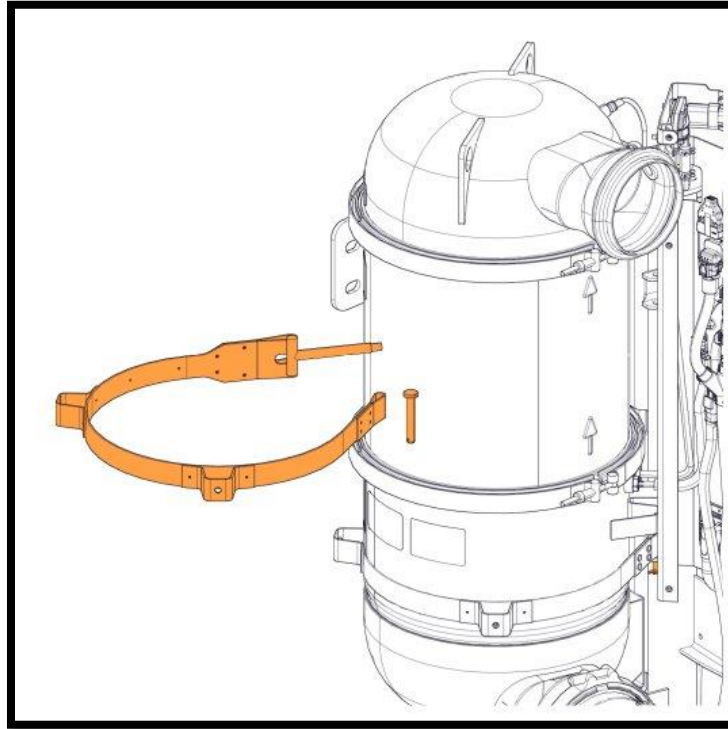
Refer to the Group 20 specifications for the vehicle specific engine (MP7 or MP8).

21. Clean the sealing surface on the DPF inlet and position a new gasket.
22. With assistance, use a hoist to position the DPF outlet and filter on the DPF inlet.
23. Loosely install new v-band clamp connecting DPF insert to DPF inlet.



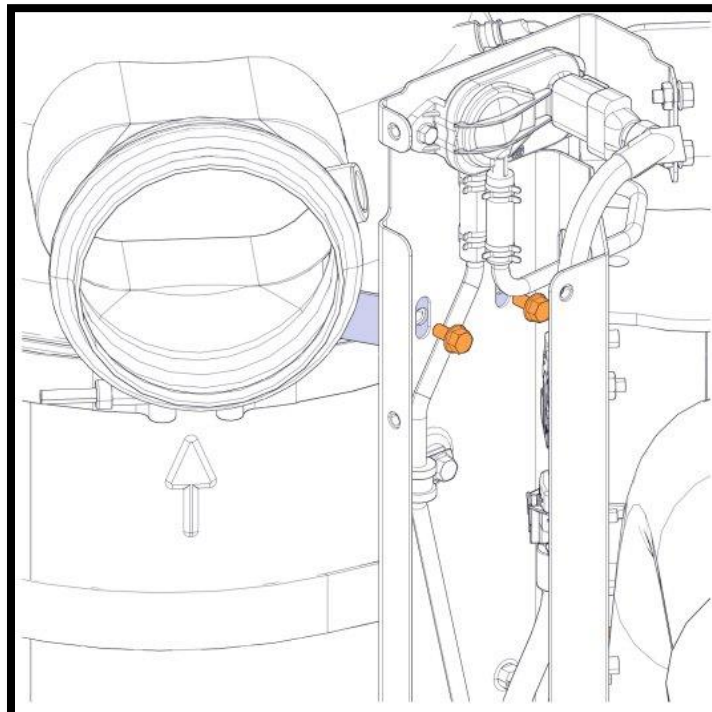
1. V-Band clamp
2. DPF Insert

24. Align the DPF outlet with the outlet pipe and the differential tube.
25. Loosely install the differential tube in the DPF outlet.
26. Loosely install the NOx sensor into the DPF outlet.
27. Loosely install upper DPF mounting strap.



1. Cotter Pin
2. Upper DPF mounting strap

28. Loosely install the fasteners securing the raceway to the DPF upper mounting strap.

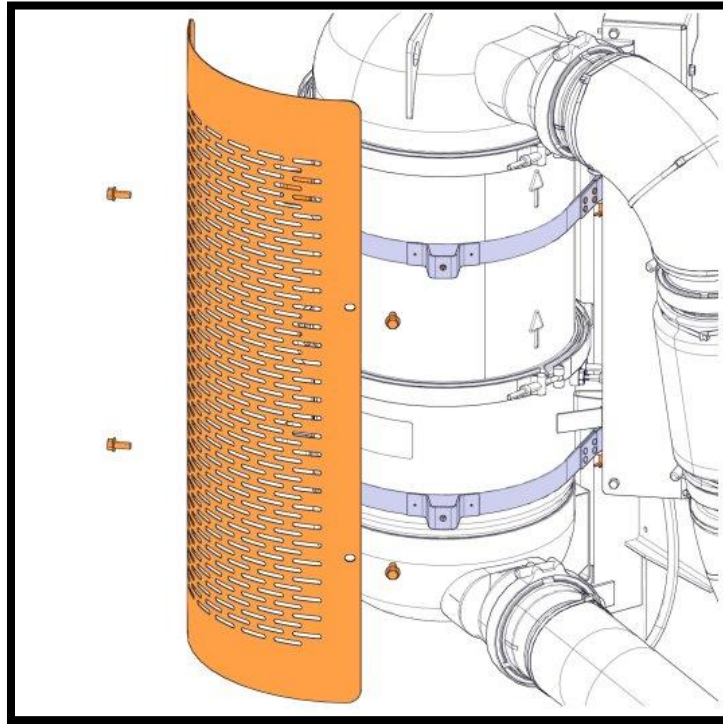


29. Tighten the v-band clamp connecting DPF insert to DPF inlet. Tighten to specification.

NOTE

Refer to the Group 20 specifications for the vehicle specific engine (MP7 or MP8).

30. Loosely install heat shield on mounting straps.



1. Fasteners
2. Heat Shield

31. Tighten DPF mounting strap. Tighten to specification.

NOTE

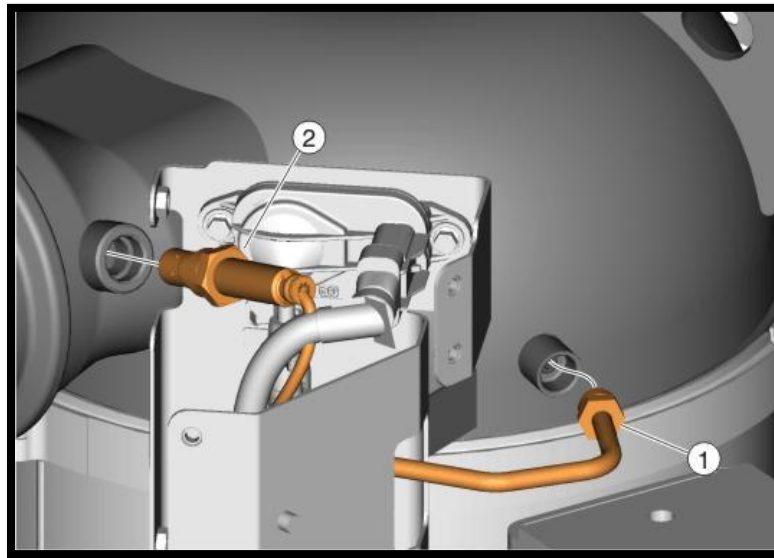
Refer to the Group 20 specifications for the vehicle specific engine (MP7 or MP8).

32. Tighten heat shield fasteners. Tighten to specification.

NOTE

Refer to the Group 20 specifications for the vehicle specific engine (MP7 or MP8).

33. Tighten the differential pressure tube and NOx sensor. Tighten to specification.

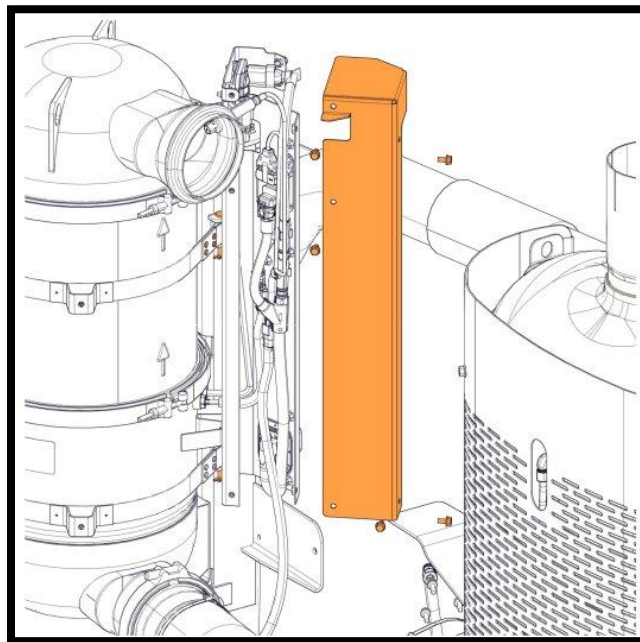


- 1. Differential Pressure Tube
- 2. NOx Sensor

NOTE

Refer to the Group 20 specifications for the vehicle specific engine (MP7 or MP8).

34. Tighten the fasteners securing the raceway to the DPF upper mounting strap. Install fasteners and cover onto raceway. Tighten to specification.

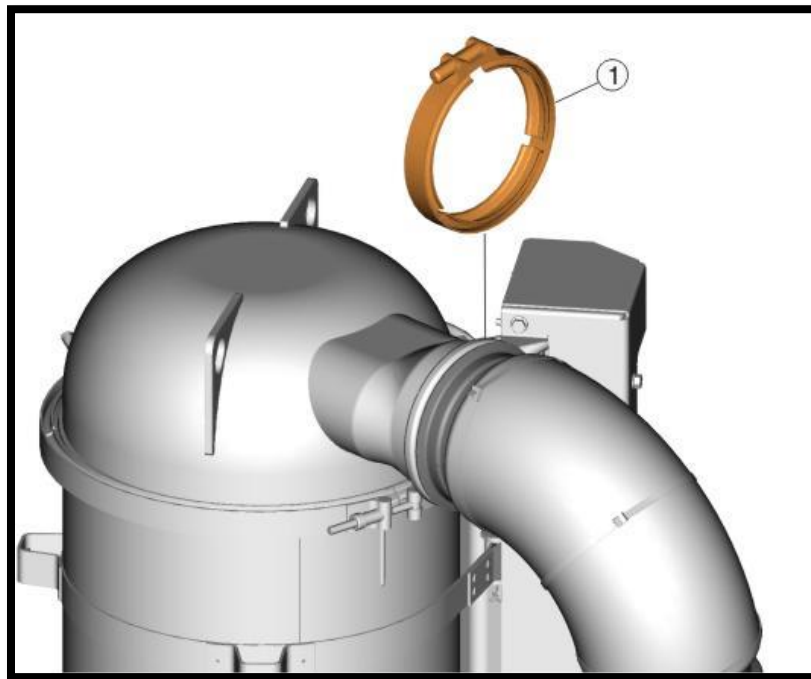


- 1. Cover
- 2. Fasteners

NOTE

Refer to the Group 20 specifications for the vehicle specific engine (MP7 or MP8).

35. Clean the mounting surfaces on the exhaust outlet pipe and the DPF outlet pipe and install a new gasket. Install band clamp. Tighten band clamp to specification.

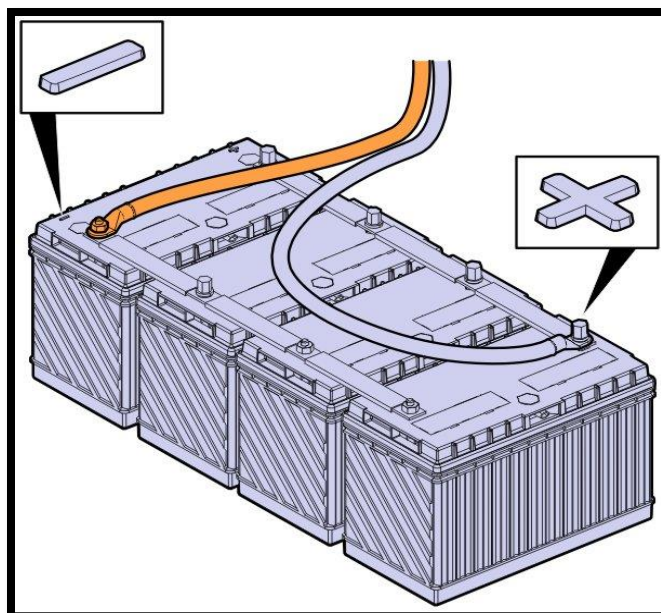


1. V-band clamp

NOTE

Refer to the Group 20 specifications for the vehicle specific engine (MP7 or MP8).

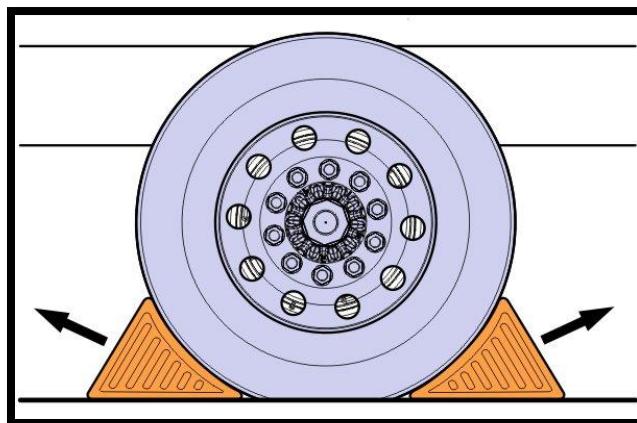
36. Lower cab until locked into position using hydraulic pump.
37. Connect the cable to the negative terminal.



38. Install and fill out campaign completion label.

[illegible]

39. Remove wheel chocks.



Software Updates

40. Connect to truck using PTT.
41. Under Programs Tab, Program Engine Control Module (ECM MID 128) using operation 1700-08-03-39 in PTT.
42. Clear any DTC's that may have occurred during programming
43. Return vehicle to service.

REIMBURSEMENT

This repair is covered by an authorized Recall. Reimbursement is obtained through the normal claim handling process.	
	UCHP Reimbursement
Claim Type (used only when uploading from the Dealer Business System)	40
Recall Status	
Vehicle repaired per instructions	1-Modified per instructions
Labor Codes	
2545-03-02-05 Aftertreatment Diesel Particulate Filter (DPF), Complete, Replacement (One) – Vertical, Back of Cab DPF	2.1
OR	
2545-03-02-05 Aftertreatment Diesel Particulate Filter (DPF), Complete, Replacement (One) – Frame-mounted DPF	1.3
Causal Part	22413830 – M0263 22342601 – M0274
Authorization Number	Frame Mounted – M0263 Vertical – M0274

Note: Dealers are to perform Non-Compliance Recalls on all subject vehicles at no charge to the vehicle owner regardless of mileage, age of vehicle or ownership (original purchaser or subsequent purchasers). Whenever vehicles are subject to a Non-Compliance Recall are brought to your dealership for service, it is strongly recommended that every effort be made to perform the recall correction before the vehicle is released to the owner.