



Engine Software and Hardware Update

GH7 ENG
2011, 2012 and 2013 MY UD-MD

FSB 258-034, Engine Software and Hardware Update

(October 2012)

UD Trucks has authorized an engine software update to reduce engine soot and hydrocarbon buildup. There are three separate operations as part of this update:

- Install continuous air purge kit
- Inspect and clean aftertreatment system
- Update software

Depending on the vehicle, one, two or all three operations may be required.

- For new in-stock vehicles with less than 1,000 miles, the following operations are required:
 - “Continuous Air Purge Kit Installation”, page 3 and
 - “Update Software”, page 18
- For in-service vehicles with repeat aftertreatment hydrocarbon doser failures, the following operations are required:
 - “Continuous Air Purge Kit Installation”, page 3 ,
 - “Inspect and Clean the Aftertreatment System”, page 14 and
 - “Update Software”, page 18
- For in-service vehicles without repeat aftertreatment hydrocarbon doser failures, the following operations are required:
 - “Inspect and Clean the Aftertreatment System”, page 14 and
 - “Update Software”, page 18

Service personnel: Please circulate, read and initial

Service Manager	Warranty Administrator	Workshop Foreman	Service Technicians						

Verification Update is Required

- 1 If the air purge valve shown on pages 11 and 12 has been installed, the update has already been performed.
- 2 Verify through the Vehicle Service Notification screen of the UD IntraNET system that the update is required.

Factory and Port Installation

Vehicles produced after the dates listed below or released from the Port after October 1, 2012 have the updated software and continuous air purge system installed.

- UD1800 models produced on or after July 1, 2012, unknown VIN start **
- UD2000 models produced on or after July 1, 2012 and starting with VIN JNAL310H9DAE20006
- UD2300 models produced on or after July 1, 2012, unknown VIN start **
- UD2600 models produced on or after May 21, 2012 and starting with VIN JNAA410H9DAN20088
- UD3300 models produced on or after May 28, 2012 and starting with VIN JNAK510L2DAR20063

** At this time there has been no production of these models after the listed date.

Continuous Air Purge Kits

- 166000PKPC — Continuous Air Purge Kit for UD2600 and UD3300 models
- 166000MKLK — Continuous Air Purge Kit for UD1800, UD2000 and UD2300 models

Kits contain all necessary parts.

Note: You must read and understand the precautions and guidelines in Function Group 20, Engine Safety Practices before performing this procedure. If you are not properly trained and certified in this procedure, ask your supervisor for training before you perform it.

Note: Information is subject to change without notice. Illustrations are used for reference only and may differ slightly from the actual vehicle being serviced. However, key components addressed in this information are represented as accurately as possible.

Continuous Air Purge Kit Installation

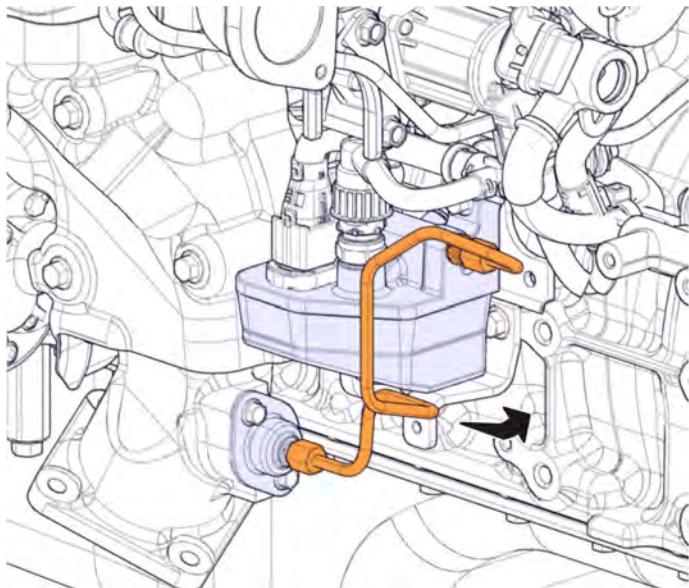


WARNING

The fuel system can be pressurised. Remove the first component carefully when working on a high pressure fuel system.

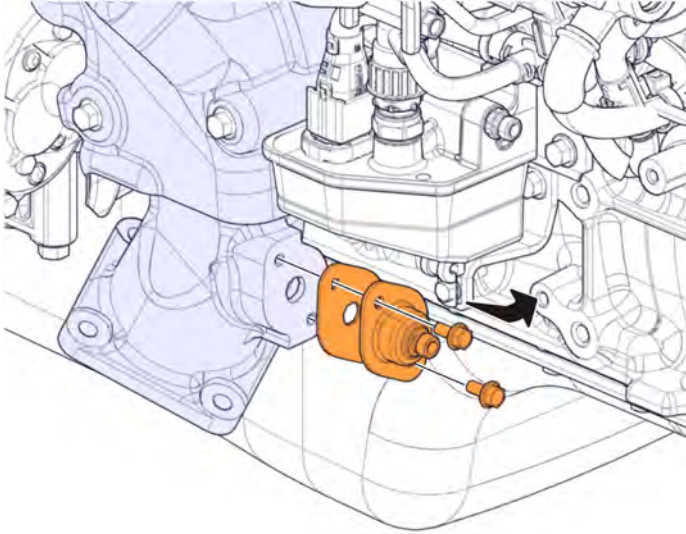
- 1 Secure the vehicle for service by parking it on a flat level surface, applying the parking brake, chocking the rear wheels, and placing the transmission in neutral or park.
- 2 Disconnect all cables from the negative (ground) battery terminals to prevent personal injury from electrical shock and prevent damage to electrical components.
- 3 Check the cab for loose items and secure before tilting the cab. Tilt the cab.
- 4 Open all air valves and drain all air tanks.
- 5 Remove right side fender and mud guard assembly.
- 6 Remove air cleaner and pipe assembly. Cover the open engine air intake pipe.
- 7 Disconnect the fuel line from the aftertreatment hydrocarbon doser.

Note: There may be fuel left in the fuel line. Avoid spilling fuel on the diffuser pipe.



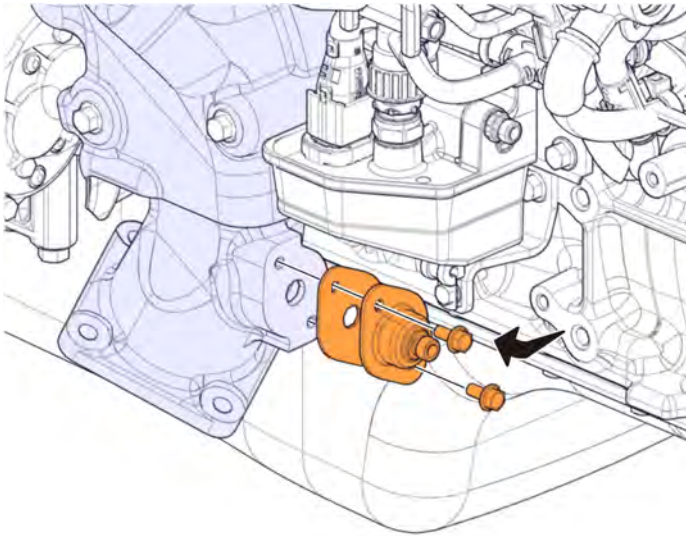
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- 8 Remove doser from diffuser pipe.



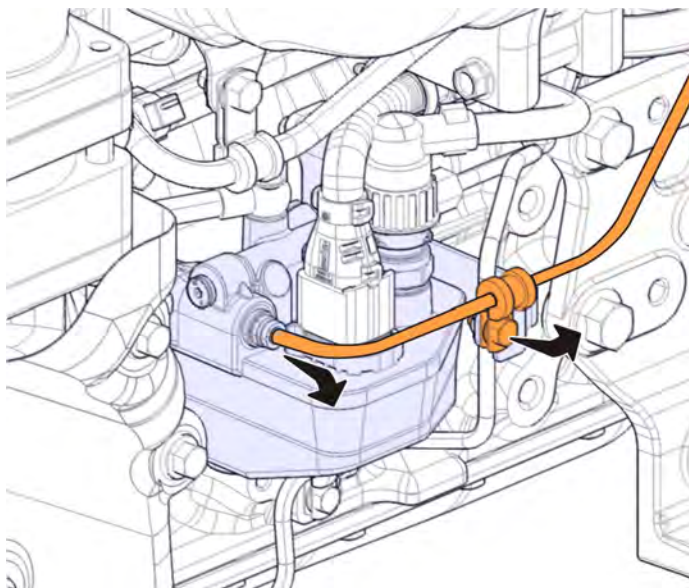
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- 9 Clean the sealing surface on the diffuser pipe.
10 Install the new doser and new gasket provided in the kit on the diffuser pipe. Tighten fasteners to specification, refer to Function Group 20, Specifications.



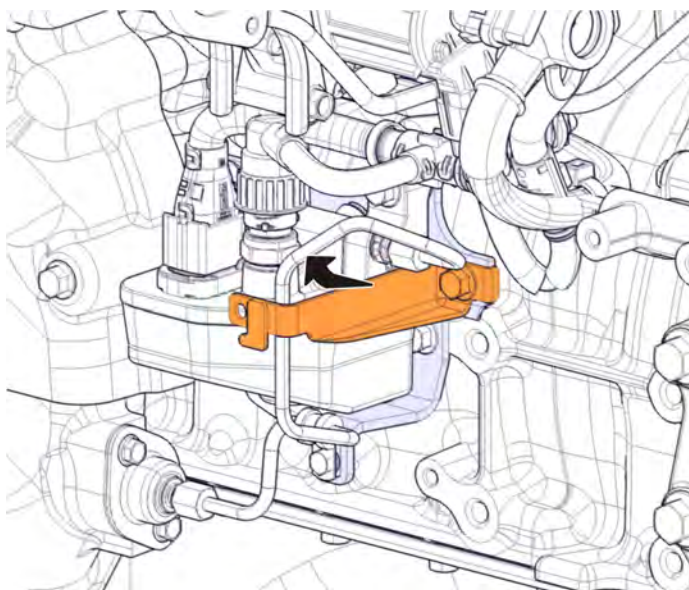
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11 Push the connection outer ring to remove the air hose from the aftertreatment hydrocarbon dosing module.



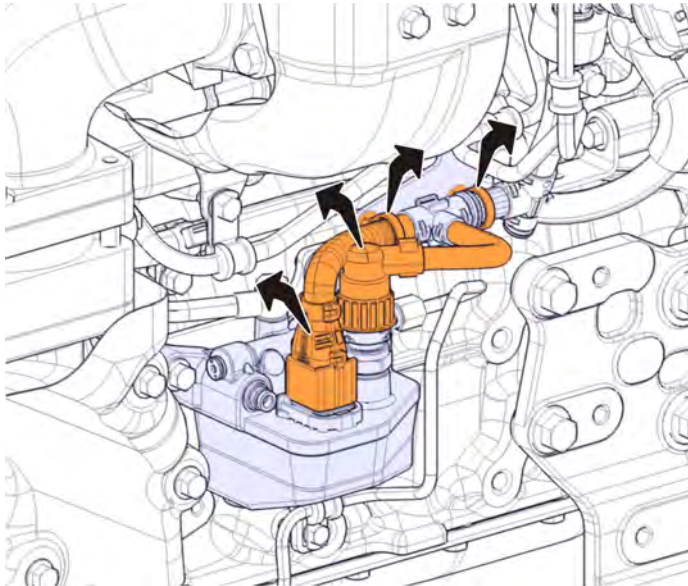
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12



C2060414

13

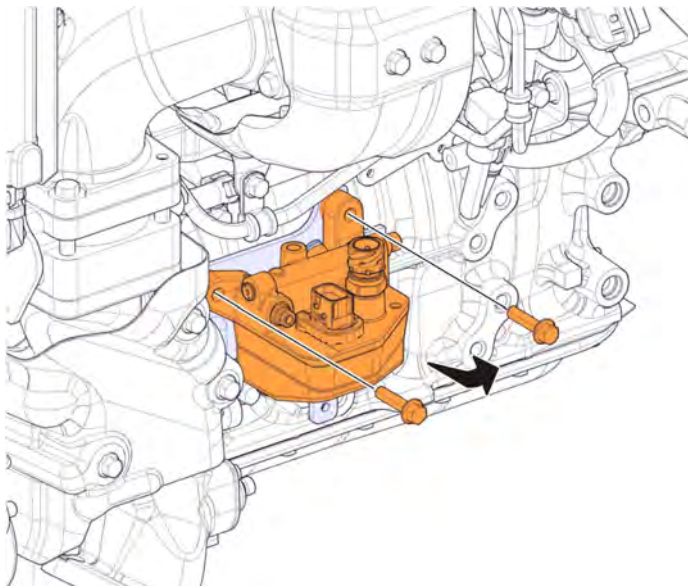


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14 Clean around the connections between the module and fuel pipes.

15 Before removing the pipes, allow the fuel to drain into a suitable container. Immediately plug all open ends since the fuel system is very sensitive to dirt.

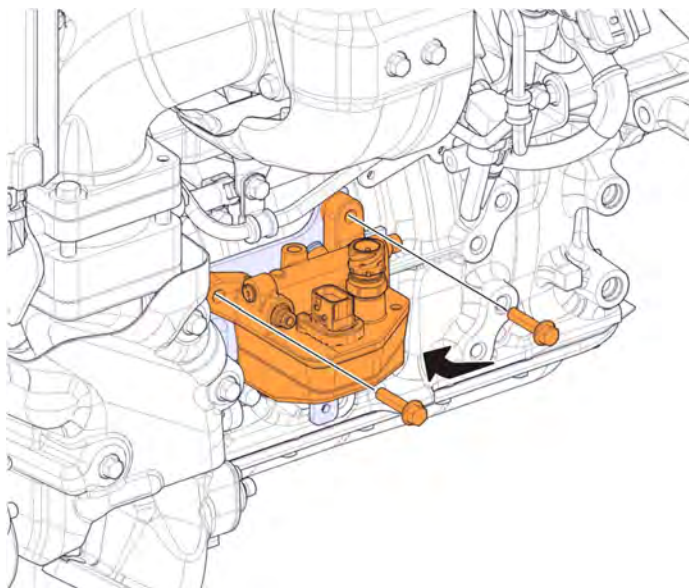
16



C2059351

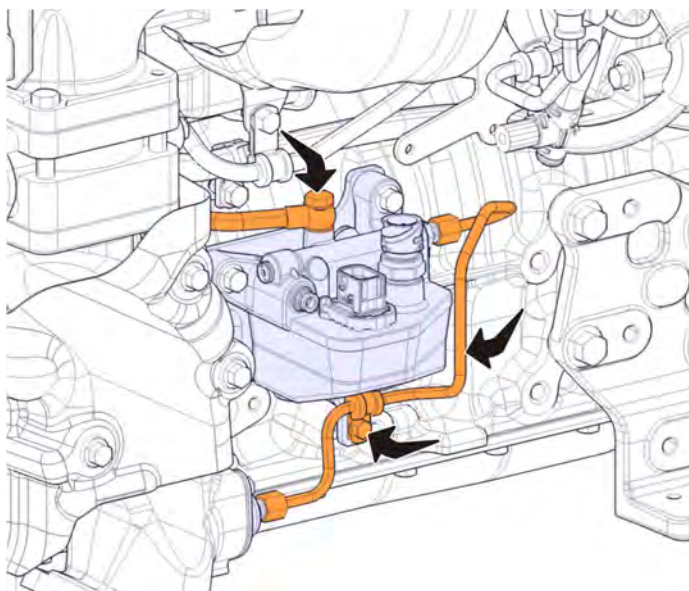
17 Install the new aftertreatment hydrocarbon dosing module provided in the kit. Tighten fasteners to specification, refer to Function Group 20, Specifications.

Note: Do not reconnect air line to the aftertreatment hydrocarbon dosing module at this time



C2059352

18 Use new sealing washers and fuel line provided in the kit. Tighten lower line to doser, but loosely attach upper line to module.

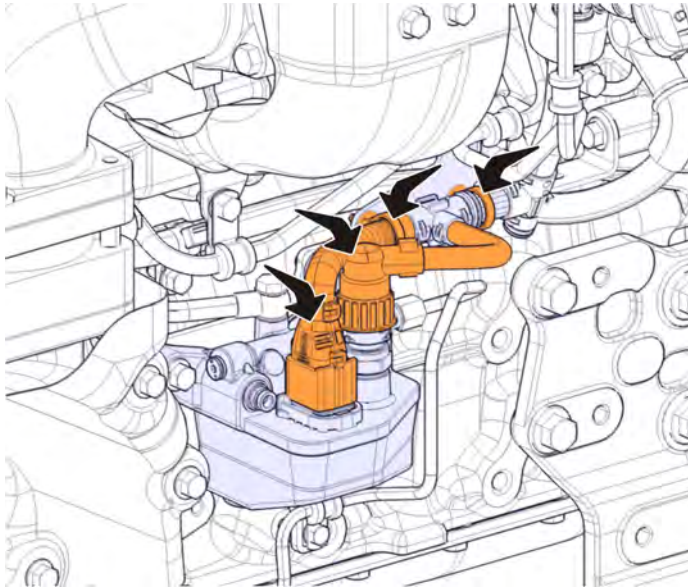


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19 Pump hand primer 10 times to flush air out of the upper fuel line. Tighten upper line to module and pump hand primer until pressure is built up.

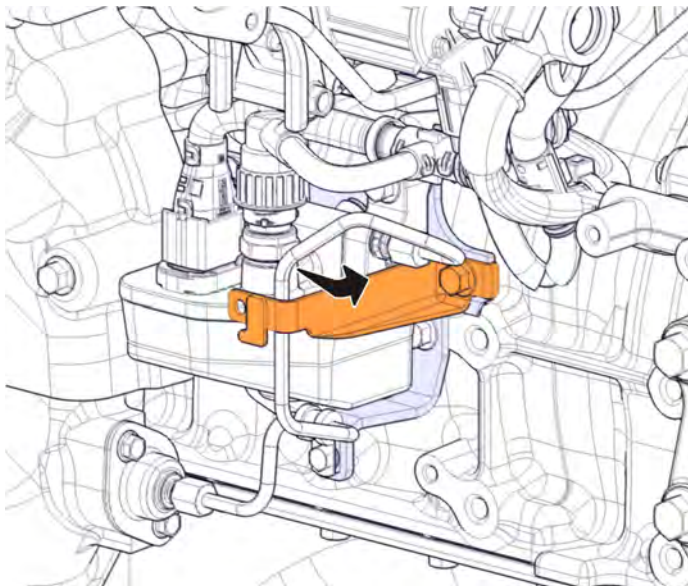
20 Tighten fittings to specification, refer to Function Group 20, Specifications.

21



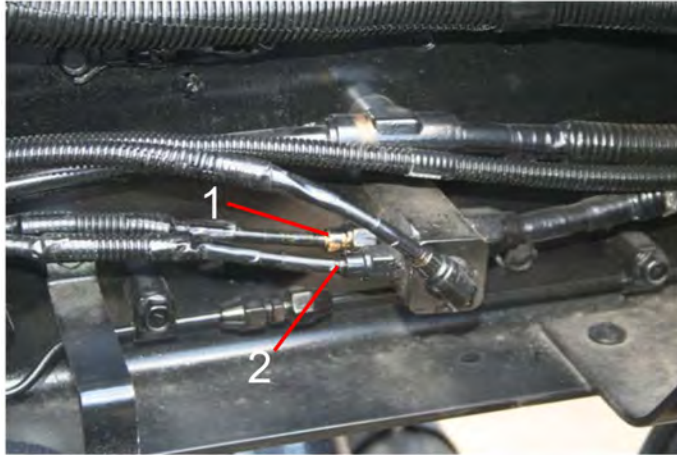
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22



C2060415

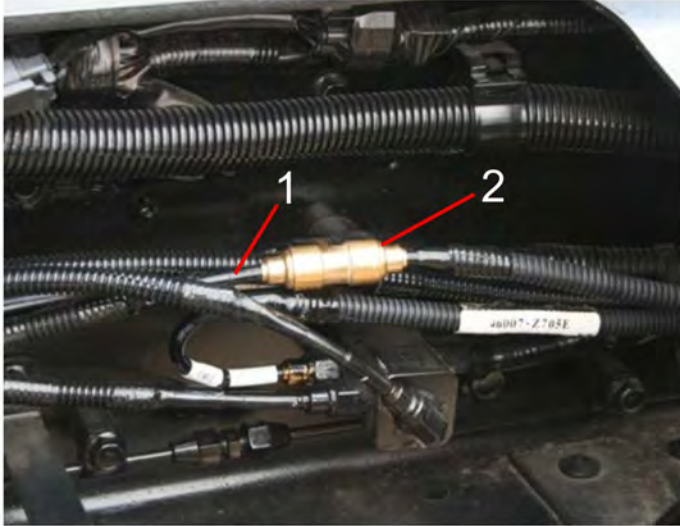
23 Depending on vehicle model, remove the air line from either port 1 or port 2 on the air distribution manifold located on the right side frame rail. Confirm that the correct line is disconnected from the manifold by applying shop air to the line. Air should be felt at the aftertreatment hydrocarbon dosing module end of the line. If air is not felt, reconnect the air line and remove the air line from the other port.



W2077032

1. Check this port first for UD2600 and UD3300
2. Check this port first for UD1800, UD2000 and UD2300

24 Trim the end of the air line tubing square, if necessary, and install a push to connect union on the end of the tubing.

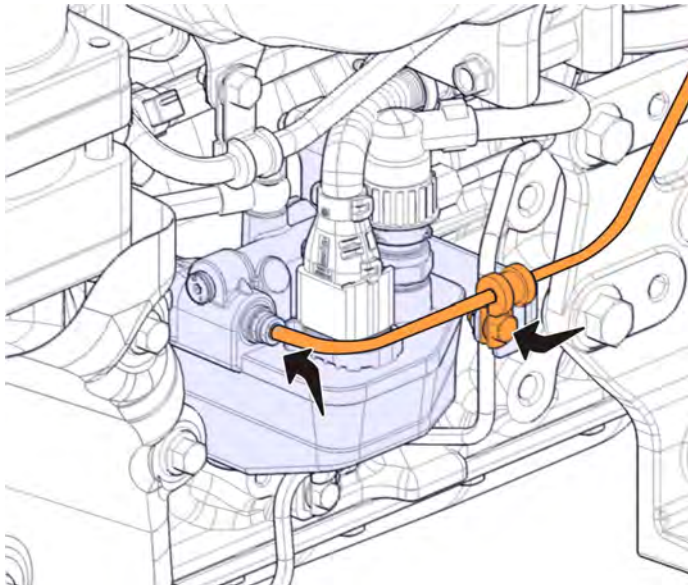


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UD2000 Shown

1. Line to Aftertreatment Hydrocarbon Dosing Module
2. Push to Connect Union

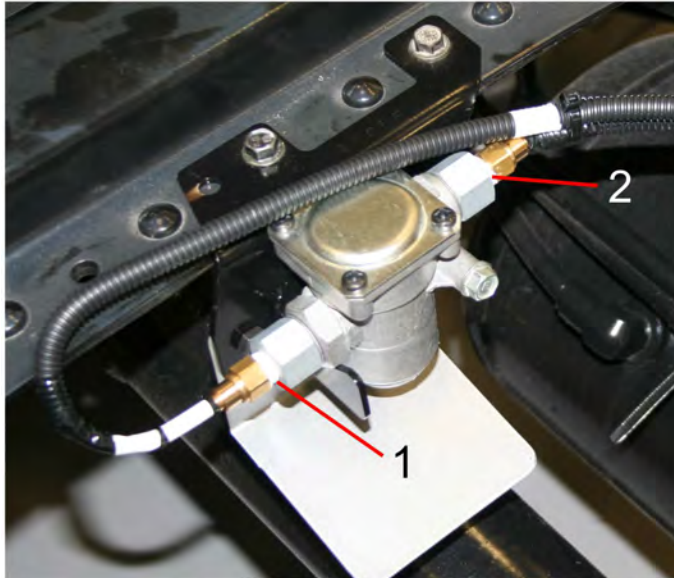
25 Connect the air line to the module.



C2059271

26 Install the air regulator mounting bracket to the rear side of the crossmember behind the transmission. Secure the bracket with screws and nuts included in the kit. The correct bracket is included for the specific model kit.

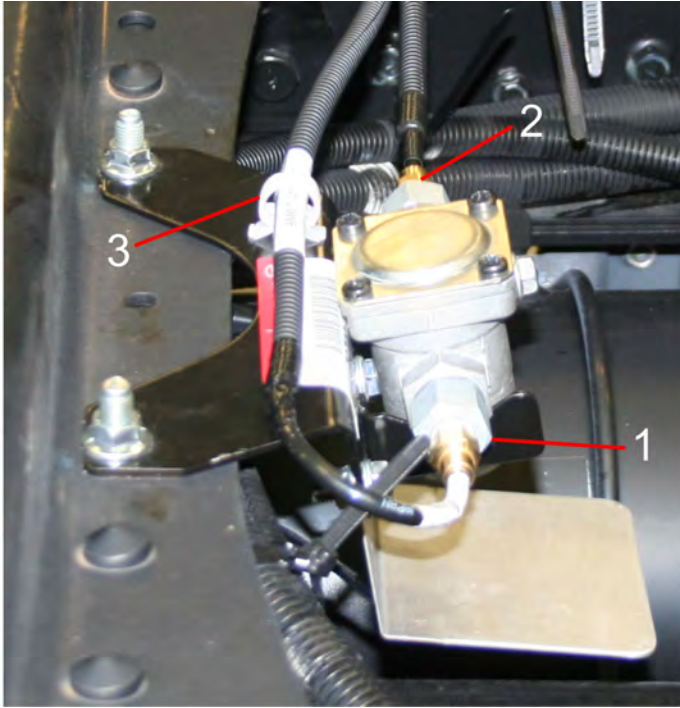
Note: The bracket should not sit on any rivet heads.



W2076605

UD1800, UD2000 and UD2300

- 1. Port 1
- 2. Port 2



W2076606

- UD2600 and UD3300 Models
1. Port 1
 2. Port 2
 3. Plastic Clip

- 27 Install the push to connect adapter fittings in the inlet port of the regulator (port 1) and the outlet port of the regulator (port 2). Fasten the regulator to the mounting bracket and install the splash shield below the regulator.
- 28 Measure and cut a sufficient length of 6 mm nylon air brake tubing and corrugated tubing provided in kit to run from the regulator port 2 to the union that was installed in step 24. Route the tubing with large bends to avoid kinking and secure with cable ties to existing harness bundles and the crossmember.
- 29 Insert the preformed tubing furnished with the kit into the correct port on the air distribution manifold and push to connect fitting port 1. Secure the tubing to the crossmember and existing harness bundles with cable ties as necessary.
- 30 Close air tank drains and lower the cab.
- 31 Connect all previously removed cables to the negative (ground) battery terminals. Tighten to 20 ±2 Nm (15 ±1.5 ft-lb).
- 32 Using Tech Tool, start VCADS Pro and Install the correct accessory kit from list below based on the vehicle model year. There are three accessory kits that are dependent on vehicle model year:

Note: Accessory kit must be installed for continuous air purge to function correctly.

Vehicle Model Year	Last Five Digits of VIN	Accessory Kit Part Number
2011	10001 to 10XXX	85135628
2012	15001 to 15XXX	85135627
2013	20001 to 20XXX	85135626

- 33 Using Tech Tool, start VCADS Pro and perform MID 128, ECU, programming.

Note: If MID 128 is not programmed after the accessory kit installation, a mechanical system error aftertreatment hydrocarbon doser occurs.

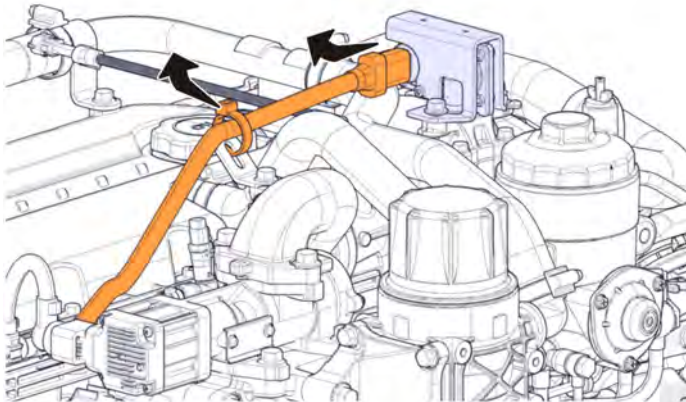
Inspect and Clean the Aftertreatment System



WARNING

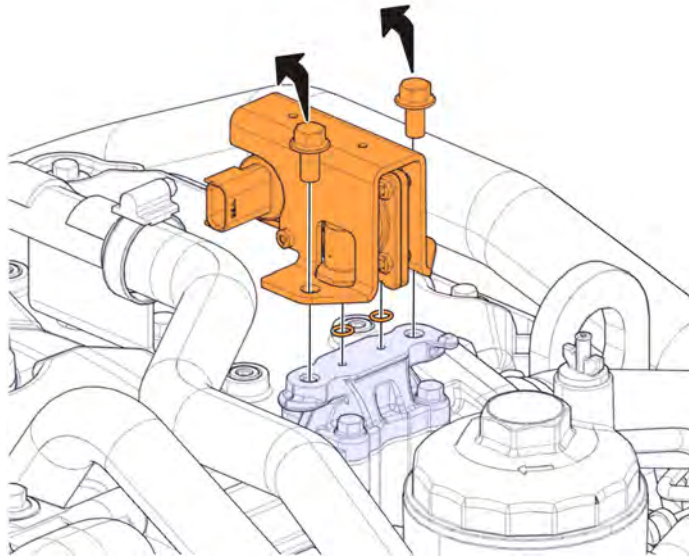
The fuel system can be pressurised. Remove the first component carefully when working on a high pressure fuel system.

- 1 Secure the vehicle for service by parking it on a flat level surface, applying the parking brake, chocking the rear wheels, and placing the transmission in neutral or park.
- 2 Disconnect all cables from the negative (ground) battery terminals to prevent personal injury from electrical shock and prevent damage to electrical components.
- 3 Check the cab for loose items and secure before tilting the cab. Tilt the cab.
- 4 Disconnect the EGR pressure sensor connector by pushing up the lock lug.



C2058015

- 5 Remove the EGR pressure sensor from the EGR venturi adapter. Remove the EGR venturi adapter.



C2058708

- 6 Carefully scrape any carbon buildup from the sensor ports. Remove the separator plate from the bottom of the venturi adapter and carefully clean carbon from the holes in the venturi and the adapter using successively larger drill bits and finger pressure. Replace any O-rings as necessary and reassemble.



CAUTION

Never use compressed air on the sensor. Damage to components can result.

- 7 Remove inlet pipe to diesel oxidation catalyst (DOC) and inspect the DOC face with a borescope. Using the pictures below as a reference, clean the DOC if greater than 25% of the surface is face plugged. Remove the DOC filter to access the diesel particulate filter (DPF) and inspect the outlet face of the DPF for soot passing through. If soot pass through the DPF is found, replace the DPF filter. Refer to TSB EN-47 for details about DPF condition. Reassemble the aftertreatment system.



W2076607

Good DOC



W2077116

Face-Plugged DOC

- 8 Check the engine oil level. If it is overfull, drain to the proper level and notify the operator of correct oil checking and filling procedures.
- 9 Connect all previously removed cables to the negative (ground) battery terminals. Tighten to 20 ± 2 Nm (15 ± 1.5 ft-lb).
- 10 Using Tech Tool, start VCADS Pro and perform MID 128, ECU, programming, if not done previously.
- 11 Start the vehicle and engage the warm-hold button. Allow the engine to warm to 75° C (170° F) coolant temperature. For continuous air purge variants, after 5 minutes of idling, disconnect the line from the aftertreatment hydrocarbon doser and verify the constant air purge operation by placing a finger over the end of the line with the engine running. After verification, reconnect the line. If no air is flowing, the system plumbing must be fault traced.
- 12 Engage warm hold button to increase DPF intake temp to 250° C (480° F), stop the engine, turn the ignition key On and record the DPF differential pressure. Start the engine and increase speed to maximum RPM while monitoring DPF differential pressure, just long enough for the value to stabilize. Subtract this value from the key On value. If it is greater than 11 kPa (1.5 PSI), remove DPF and have it professionally cleaned and inspected locally. Only replace the DPF if it is compromised or damaged. Refer to TSB EN-47 for details about DPF condition.
- 13 Perform a parked regeneration while monitoring temperatures with VCADS Pro.

Note: High temperature is caused by air in the aftertreatment hydrocarbon dosing manifold that will self-bleed at increased engine speed.

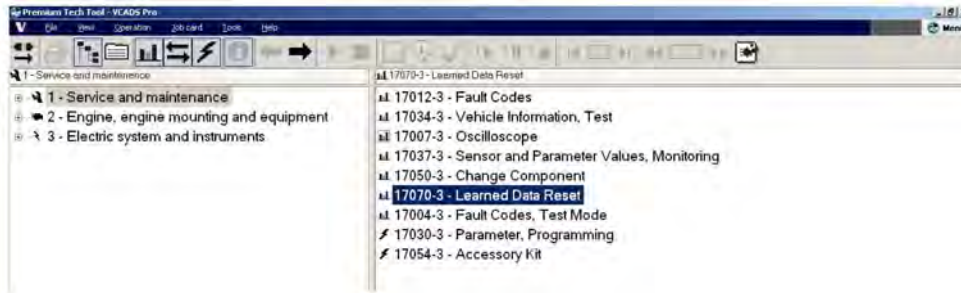
 - a. Monitor the DPF intake temperature at the beginning of the regeneration when dosing starts. If the temperature rises rapidly above 500° C (930° F), immediately stop the regeneration and increase engine speed to 2000 RPM to cool the aftertreatment system. Once the temperatures drop below 300° C (575° F), restart the regeneration.
 - b. If the engine exhaust temperature does not achieve 250° C (480° F) during the first 15 minutes of the regeneration, replace the EGR valve and restart the regeneration.

Note: A leaking EGR valve will reduce exhaust temperature and decrease regeneration effectiveness.
 - c. Continue monitoring the temperatures during the regeneration. During the second 15 minutes of the regeneration, the DPF intake temperature and the DPF outlet temperature must achieve 450° C (850° F). If it does not reach this level, fuel quality or DOC condition (if it had not been replaced) is suspect.
- 14 After the first regeneration has been completed successfully, complete a second regeneration to insure the system is thoroughly cleaned.
- 15 Allow the aftertreatment system to cool below 250° C (480° F) after the second regeneration. Recheck the DPF differential pressure after the regenerations, at maximum RPM and subtracting the key-on value. The adjusted value must stabilize at or below 4 kPa (0.5 PSI). If not, the DPF must be replaced.

Update Software

Note: Engine must be running to perform this procedure.

- 1 Secure the vehicle for service by parking it on a flat level surface, applying the parking brake, chocking the rear wheels, and placing the transmission in neutral or park.
- 2 Using Tech Tool, start VCADS Pro and perform MID 128, ECU, programming, if not done previously.
- 3 Check MID 233 and MID 144 for any open software updates and perform all required updates.
- 4 Using VCADS, select 17070–3 Learned Data Reset.



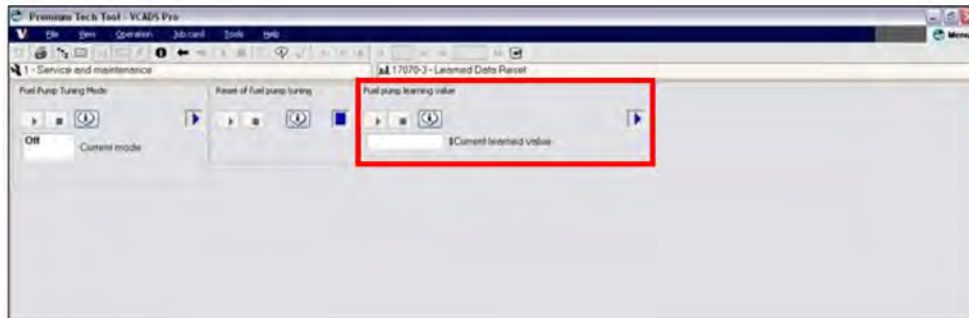
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- 5 Check the current “Fuel Pump Tuning Mode” by selecting the start button in the “Fuel Pump Tuning Mode” section of the screen. The current “Fuel Pump Tuning Mode” should display “Off”.



W2077034

- 6 Click on the start button in the “Fuel pump Learning value” section of the screen.



W2077036

- 7 Click on the start button in the “Reset of fuel pump tuning” section of the screen



W2077037

- 8 You will need to satisfy all of the conditions for performing the “Reset of fuel pump tuning”.



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- 9 Once the “Fuel Pump Tuning Mode” is initiated, the display will show “Fast”, then “Slow”, then “Off”.



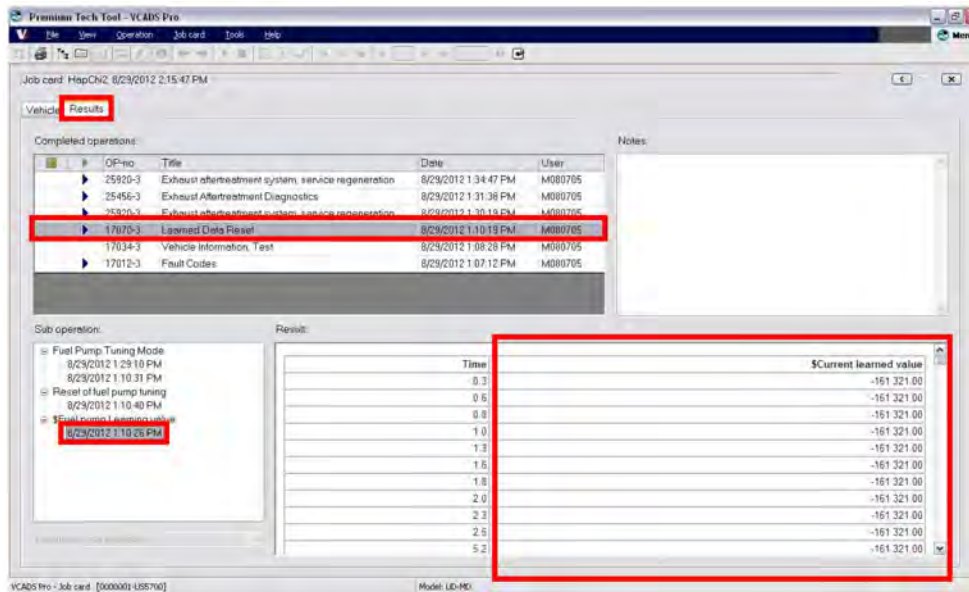
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- 10 Once the “Fuel Pump Tuning Mode” displays “Off” switch your display to “Job Card View” by clicking on the job card icon.



W2077039

11 Select the “Results” tab. Next, select “Learned Data Reset” in the “Completed Operations” menu. Then, click on the time and date stamp in the sub operations menu.



W2077040

12 The final “\$Current learned value” of the pump should be between 50,000 and -450,000.

13 Clear diagnostic trouble codes (DTC). Repairs are complete.

Job Card

- 1 Send Job Card directly to UDT.
- 2 Sending addresses are: atn; yoshiji.kishi@udtrucks.co.jp, cc; akihiro.kawano@udtrucks.co.jp / shinichi.katori@udtrucks.co.jp.
- 3 Make sure to show VIN.
- 4 XML file is too big, use ZIP or LZH compressed files.



Reimbursement

Warranty Code	K744
Trouble Code	12500379
Failed Part Number	5221323765
Failed Part Name	EECU
Labor Rate	
Continuous Air Purge Kit Installation and Update Software	3 hours/unit
Inspect and Clean the Aftertreatment System and Update Software	4 hours/unit
Continuous Air Purge Kit Installation, Inspect and Clean the Aftertreatment System and Update Software	5 hours/unit
Operation Code	999X
Parts Disposition Dispose of removed parts following local regulations	

UD Trucks North America engages in a comprehensive program of testing and evaluating to provide the best possible product. UD Trucks North America however, is not committed to, or liable for updating existing vehicles.



North America

SUBJECT: PDI Reimbursement discontinued October 1, 2012

Department: Service
Section: PART V Warranty Policy
and Procedure Manual
Model(s): All
Model Year(s): All
Effective Date: 10/19/2012
Form #: Warranty Letter 12-104
Rev #:
Supersedes:

Reimbursement for Pre-Delivery Inspection (PDI) claims has been discontinued for all UD Truck models and model years effective October 1, 2012.

For vehicles sold on or after October 1, 2012 it is still recommended that a PDI be performed and the completed PDI Inspection Form is retained with the vehicle service records.

The Information contained in this bulletin should not be interpreted as the basis for a warranty claim.