

REMOTE DIAGNOSTICS REPAIR INSTRUCTIONS



DTC: P10CE-97

Bulletin: RD24-32 Date: December 17, 2024

Description: Reductant Return: No Flow Detected - Component or System Operation Obstructed or Blocked

Applies to: US24 Emissions VN (4) B1

For Spanish click here: [ESPAÑOL](#) For French click here: [FRANÇAIS](#).

General Information

These repair instructions are intended to address the following fault(s):

DTC	Description	Possible Cause	Possible (Observable) Symptoms
P10CE-97	Reductant Return: No Flow Detected	- Restricted orifice in the aftertreatment fuel manifold - Damaged hoses and/or connections - Aftertreatment Diesel Exhaust Fluid (DEF) Pump - Blocked return line (damaged or frozen)	Aftertreatment DEF Pump Bleed Orifice

Required Parts

Part Number	Description	Quantity
23753841	Diesel Exhaust Fluid (DEF) Pump Unit	1

Additional Resources

These repairs are the most likely fix for the identified fault, if this does not fix the issue, Tech Tool will need to be used for more detailed diagnostics. If filing a warranty claim, please include the ASIST case number.

Labor Code	
2581-03-02-01	1.4
3100-09-01-05 and 3100-09-01-06	0.2 each
Causal Part	23753841

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Repair Instructions

2581-03-02-01 Aftertreatment Diesel Exhaust Fluid (DEF) Pump Unit, Replacement



Illustrations may differ slightly from the actual vehicle being serviced. However, key components addressed in this information are represented as accurately as possible.



Colors used in illustrations are for highlighting purposes only and do not correspond to the actual colors of the vehicle.



All threaded fasteners that do not have a tightening torque specification in the information are tightened to a standard torque. Standard torques are available in the following specification. ➔ [Standard Tightening Torques](#)



CAUTION

Risk of material damage.

Reagent (Diesel Exhaust Fluid) oxidizes metal and the capillary action creeps through lines at a speed of approx. 0.6 meters per hour.

- ▶ Do not spill reagent (Diesel Exhaust Fluid) on disassembled connectors. If this

occurs, replace the connectors immediately. Do not clean with water or compressed air.



CAUTION

Risk of chemical burn.

Reagent (Diesel Exhaust Fluid) may splash up if the system is pressurized.



Switch off the ignition. Wait at least two minutes before disconnecting the batteries or removing the hoses in order to allow the automatic draining of the exhaust aftertreatment system.



CAUTION

Risk of material damage.

Deficient reagent (Diesel Exhaust Fluid) can cause failure to the exhaust aftertreatment system.



Use only the reagent (Diesel Exhaust Fluid) approved by the manufacturer.



WARNING

Risk of burn injuries.

The coolant may be hot.

- ▶ The cooling system is under pressure and can reach a temperature sufficient to cause burns. Allow the coolant temperature to reach a safe level before starting the work.
- ▶ Remove the coolant tank cap carefully. Use appropriate protective equipment.



CAUTION

Risk of material damage.

Liquids can enter the unit.

- ▶ Cover electrical connectors with the protection provided.



WARNING

Risk of serious injury.

Physical injury.

- ▶ Wear appropriate safety equipment.

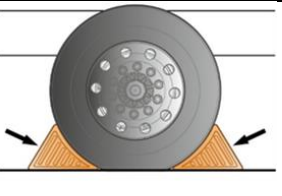
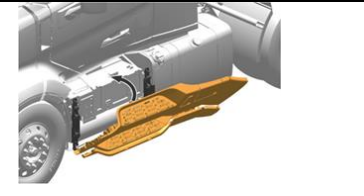
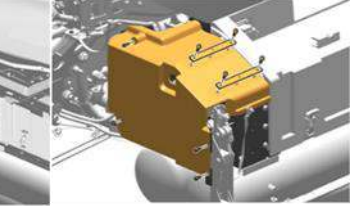
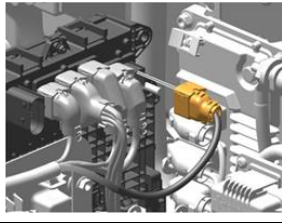
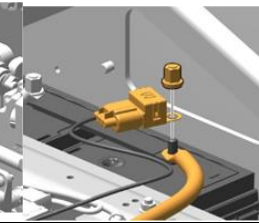
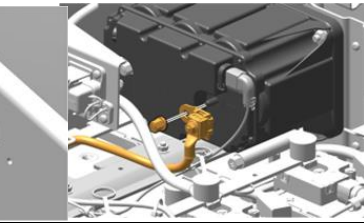
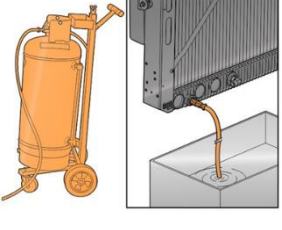
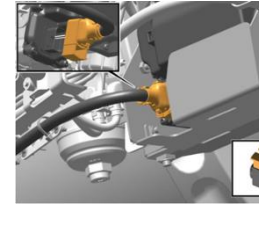
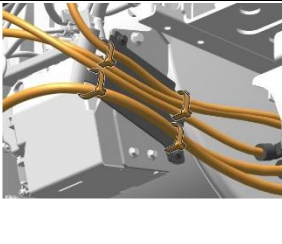
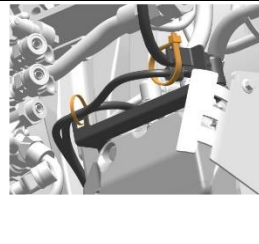
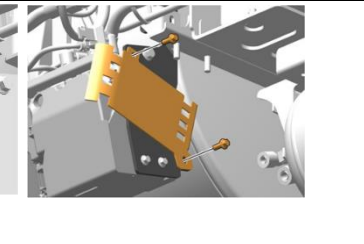
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Park the vehicle on a level surface. Apply the parking brake. Place the gear lever in neutral. Install the wheel chocks. Unlatch the LH fairing. Remove the tether. Remove the fairing.	  
Decommission the low voltage system. 1 Turn the dash mounted battery switch to the (OFF) position or (if equipped) press the LOCK button twice. 2 Remove the screws and move the splash shield out of the way. 3 Remove the nut, screws, and brackets. Remove the battery switch cover. 4 Turn the battery disconnect switch to the (OFF) position. 5 Disconnect the connector. 6 Unlatch the battery cover and remove. 7 Remove the nut, fuse, and the battery negative cable. 8 If equipped with Ultra Capacitor. Remove the nut and battery negative cable from ultra capacitor.	     
Drain the cooling system using either a coolant extractor or a drain hose and pan. Disconnect the electrical connector. Protect the electrical connector.	  
Note the positions and remove the cable ties. Move aside the pipes. Remove the screws and remove the bracket.	  

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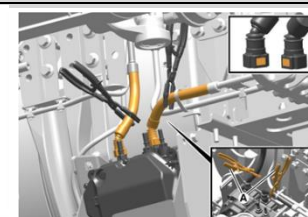
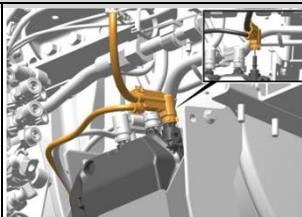


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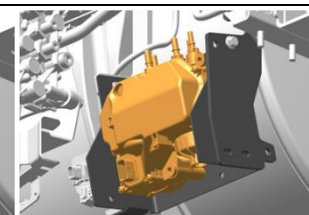
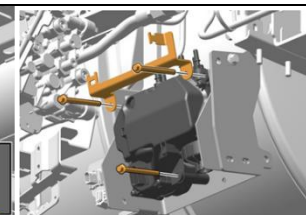
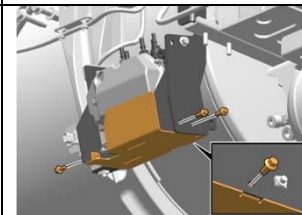
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Disconnect the connectors.
Protect the connectors.
Move aside the hoses.
Install the pliers (A).
Remove the hoses.



Remove the screws, brackets, and pump unit.

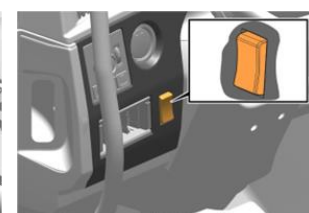
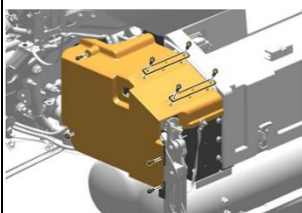
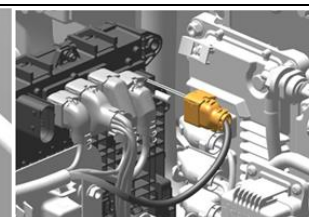
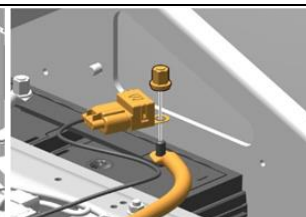
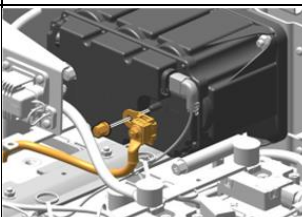


Install new pump unit by reversing above steps.
Clean the equipment and tools that have come into contact with the reagent (Diesel Exhaust Fluid).
Fill the cooling system.



Commission the low voltage system.

- 1 Install the battery negative cable from ultra capacitor if equipped. Install the nut.
- 2 Tighten the nut to torque. Tightening torque cable terminal, nut 20 ± 2 Nm (15 ± 1 lbf·ft)
- 3 Install the battery negative cable. Install the fuse. Install the nut.
- 4 Tighten the nut to torque. Tightening torque battery, terminal, nut 20 ± 2 Nm (15 ± 1 lbf·ft)
- 5 Install the battery cover. Latch the battery cover. Connect the connector. Turn the switch to the (ON) position.
- 6 Install the battery switch cover. Install the brackets. Install the screws. Install the nut.
- 7 Position the splash shield. Install the screws.
- 8 Turn the dash mounted battery switch to (ON) position or (if equipped) push the Unlock button twice.



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Install the LH fairing. Install the tether. Latch the fairing.
Start the engine. Check for leaks. Stop the engine.
Connect the diagnostic tool (Premium Tech Tool).
Perform **Function parameters reset, calibration** in the diagnostic tool.
Disconnect the diagnostic tool (Premium Tech Tool).
Remove the wheel chocks.

