



DTC (Code) P2047-13 // SPN 5394 FMI 5 Codigo:	Bulletin: RD18-002 Date Fecha: June 22, 2018
Description: Reductant Injection Valve Control Bank 1 Unit 1 – Circuit Open	
Application: US13 – US20 Emissions	

General Information

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

DTC	Description	Possible Cause	Possible (Observable) Symptoms
P2047-13 // SPN 5394 FMI 5	Reductant Injection Valve Control Bank 1 Unit 1 – Circuit Open	<ul style="list-style-type: none"> • Connector • Wiring harness • Aftertreatment diesel exhaust fluid (DEF) dosage valve 	No aftertreatment diesel exhaust fluid (DEF) dosage

Required Parts

Part Number	Description	Quantity
22391563	DEF Dosage Valve	1

Repair Instructions

Aftertreatment Diesel Exhaust Fluid (DEF) Dosing Valve, Replacement

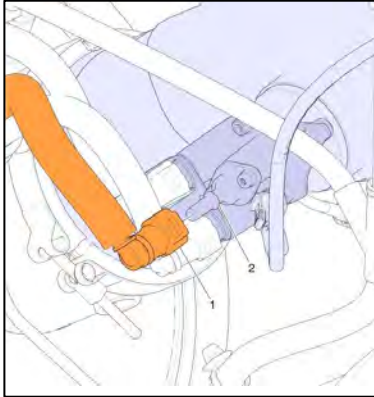
Removal

1. Apply the parking brake and transmission in neutral.
2. Open rear engine service doors.
3. Remove rear top access panel.
4. Remove all cables from the ground (negative) battery terminals to prevent personal injury from electrical shock and prevent damage to electrical components.
5. Label coolant lines to aid in reassembly.

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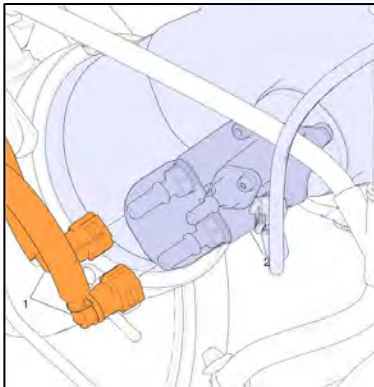
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6. Push the quick connect fitting coupling in the ON direction, squeeze the holding clip lugs on either side of the connector and pull to disconnect the DEF supply line from the dosing valve. Cover the DEF line with a plastic bag and secure the bag with a tie wrap to prevent spillage on nearby components. *Note: If the DEF line will remain open for an extended period of time, seal the opening to prevent crystallization of fluid in the line.*



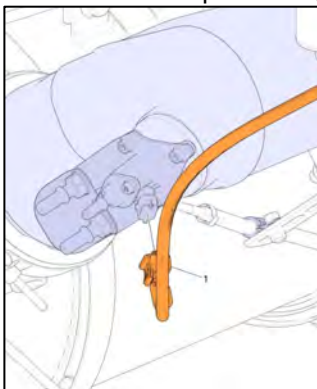
1. DEF Supply Line
2. Dosing Valve

7. Crimp off coolant lines, push the quick connect fitting coupling in the ON direction, squeeze the holding clip lugs on either side of the connector and pull to disconnect the coolant lines from the dosing valve.



1. Coolant Lines

8. Disconnect the electrical connector and position away from the aftertreatment DEF dosing valve. Cover the connector with a plastic bag and secure the bag with a tie wrap to protect it from the aftertreatment DEF.

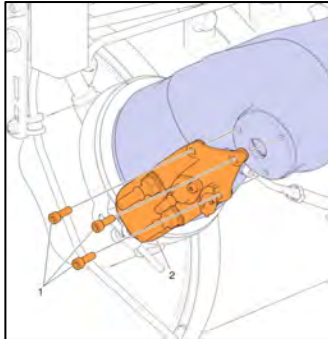


1. Electrical Connector

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- Remove and discard the aftertreatment DEF dosing valve fasteners. Remove the aftertreatment DEF dosing valve from the aftertreatment DPF. *Note: If the dosing valve will be reused, use plug kit 21376772 to cap the coolant and DEF valve fittings to prevent contamination and crystallization of DEF in the valve.*



- Fasteners
- Dosing Valve

- Remove and discard the aftertreatment DEF dosing valve gasket.

Installation

- Make sure that the mounting surface on the DPF outlet pipe is clean.
- Position a new gasket on the aftertreatment DEF dosing valve and install the valve on the aftertreatment DPF using new fasteners. Tighten the fasteners to specification, refer to Function Group 20, Specifications.
- Remove the protective covering and reconnect the electrical connector to the aftertreatment DEF dosing valve.
- Verify the connector is clean and shows no signs of damage. Push the fitting onto the valve until it stops to reconnect the coolant lines to the aftertreatment DEF dosing valve. Pull the fitting in the OFF direction to ensure the connector is locked in place.
- Remove the protective covering and verify the connector is clean and shows no signs of damage. Push the fitting onto the valve until it stops to reconnect the DEF supply line to the aftertreatment DEF dosing valve. Pull the fitting in the OFF direction to ensure the connector is locked in place.
- Install all previously removed cables to the ground (negative) battery terminals.
- Connect VCADS and clear any codes. Run SCR Dosing Test 1 in VCADS to fill the line and dosing valve with DEF. Check for any DEF leaks at the connection.
- Clean any residual fluids from the dosing valve and lines. Start the engine and check for coolant leaks at the dosing valve. Run the DEF Tank Heating Valve Activation Test in VCADS to purge air from the coolant lines. Ensure coolant is at the correct level after test. Clear any codes as required. Replenish the engine coolant level as required.
- Install rear top access panel.
- Close rear engine service doors.

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	
2589-03-02-19	1.3
Causal Part	22391563