

DTC P2422: EVAP Canister Vent Shut Valve Stuck Closed Malfunction (USA And Canada Models) (2013-17)

NOTE: Before you troubleshoot, record all freeze data and any on-board snapshot, and review the general troubleshooting information - Refer to: How to Troubleshoot the Fuel and Emissions Systems (2013-15), or How to Troubleshoot the A/T System (2013-15), or How to Troubleshoot the Fuel and Emissions Systems (2016-17), or How to Troubleshoot the A/T System (2016-17) .

DTC Description	Confirmed DTC	Pending DTC	Freeze Frame
P2422 EVAP Canister Vent Shut Valve Stuck Closed Malfunction			

DTC (PGM-FI)

1. EVAP system check:

- 1. Press the engine start/stop button to select the ON mode.
- 2. Clear the DTC with the HDS - Refer to: How to Troubleshoot the Fuel and Emissions Systems (2013-15), or How to Troubleshoot the A/T System (2013-15), or How to Troubleshoot the Fuel and Emissions Systems (2016-17), or How to Troubleshoot the A/T System (2016-17) . Clear DTC
- 3. Press the engine start/stop button to select the OFF mode.
- 4. Remove the fuel fill cap, and wait 1 minute.
- 5. Press the engine start/stop button to select the ON mode.- 6. Check the parameter(s) below with the HDS.

Signal	Threshold		Current Conditions	
	Values	Unit	Values	Unit
FTP SENSOR	-0.67-0.67	kPa		

Do the current condition(s) match the threshold?

YES

Go to step 2.

NO

Go to step 5.

2. Problem verification:

- 1. Install the fuel fill cap.
- 2. Clear the DTC with the HDS - Refer to: How to Troubleshoot the Fuel and Emissions Systems (2013-15), or How to Troubleshoot the A/T System (2013-15), or How to Troubleshoot the Fuel and Emissions Systems (2016-17), or How to Troubleshoot the A/T System (2016-17) . Clear DTC

- 3. Start the engine, and let it idle without load (in P or N) until the radiator fan comes on.- 4. Monitor the EVAP PC DUTY (purge control duty) in the DATA LIST with the HDS, while holding the engine speed at 3, 000 rpm with the EVAP PC DUTY at 20 % or more for at least 4 minutes, then let the engine idle.

Signal	Current conditions	
	Values	Unit
EVAP PC DUTY		

- 5. Monitor the OBD STATUS for DTC P2422 in the DTCs MENU with the HDS.

DTC Description	OBD STATUS
P2422 EVAP Canister Vent Shut Valve Stuck Closed Malfunction	

Does the HDS indicate FAILED?

YES

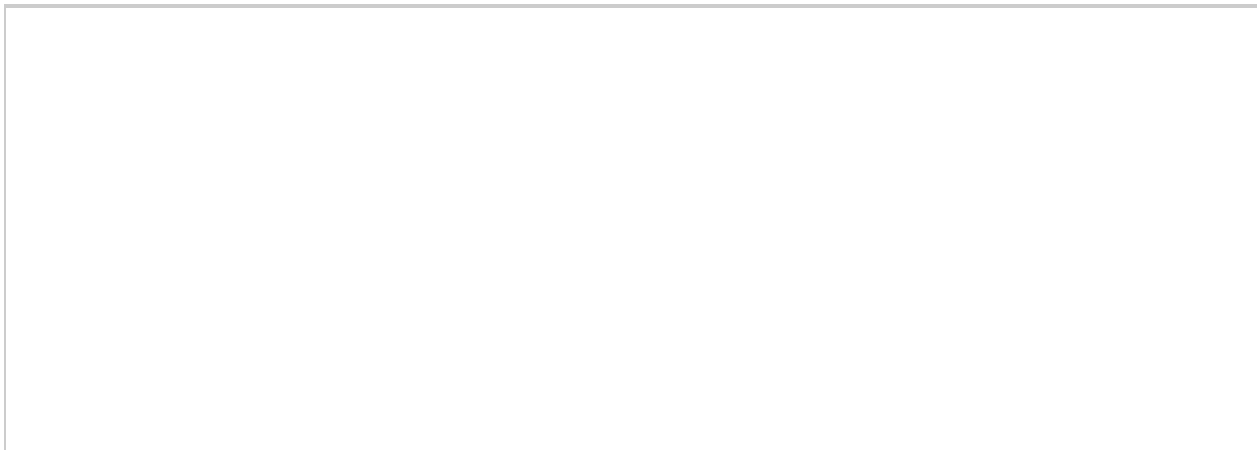
The failure is duplicated. Go to step 3.

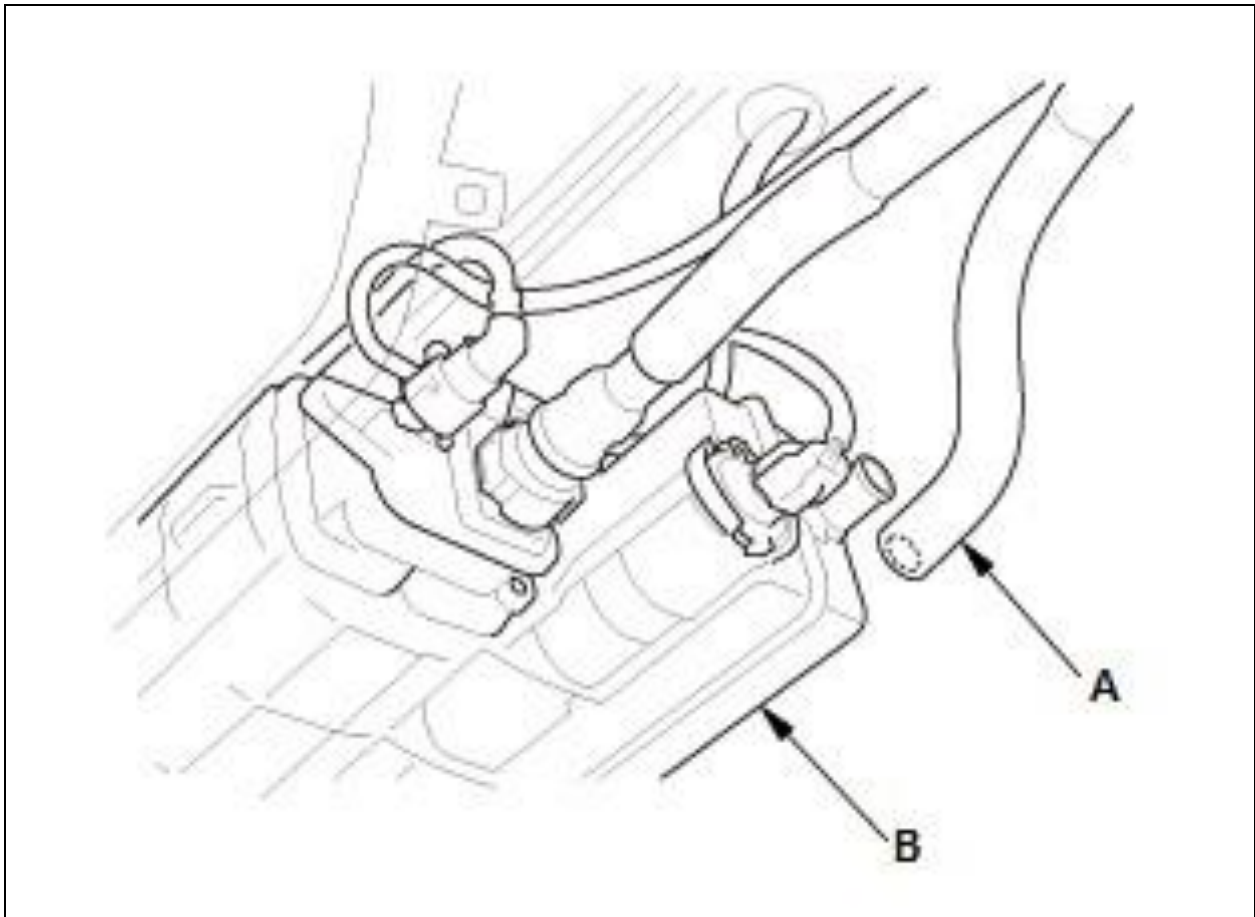
NO

If the HDS indicates PASSED, there might be an intermittent failure, and the system is OK at this time. Check the on-board snapshot, and repeat the driving conditions when the DTC set (fuel level, engine speed, vehicle speed, and outside temperature). If no problem is found, check for poor connections or loose terminals between the FTP sensor and the PCM. Also check for a blockage in the FTP sensor vent port and vent hose, and the EVAP canister vent hose and drain joint. If the HDS indicates NOT COMPLETED, let the engine idle until a result comes on.

3. EVAP canister vent line check:

- 1. Clear the DTC with the HDS - Refer to: How to Troubleshoot the Fuel and Emissions Systems (2013-15), or How to Troubleshoot the A/T System (2013-15), or How to Troubleshoot the Fuel and Emissions Systems (2016-17), or How to Troubleshoot the A/T System (2016-17) . Clear DTC
- 2. Press the engine start/stop button to select the OFF mode.
- 3. Disconnect the EVAP canister vent hose (A) from the EVAP canister (B).





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- 4. Press the engine start/stop button to select the ON mode.
- 5. Check the parameter(s) below with the HDS.

Signal	Threshold		Current conditions	
	Values	Unit	Values	Unit
FTP SENSOR	-0.67-0.67	kPa		

Do the current condition(s) match the threshold?

YES

Check for a blockage in the EVAP canister vent hose or drain tube joint, then do the repair verification.

NO

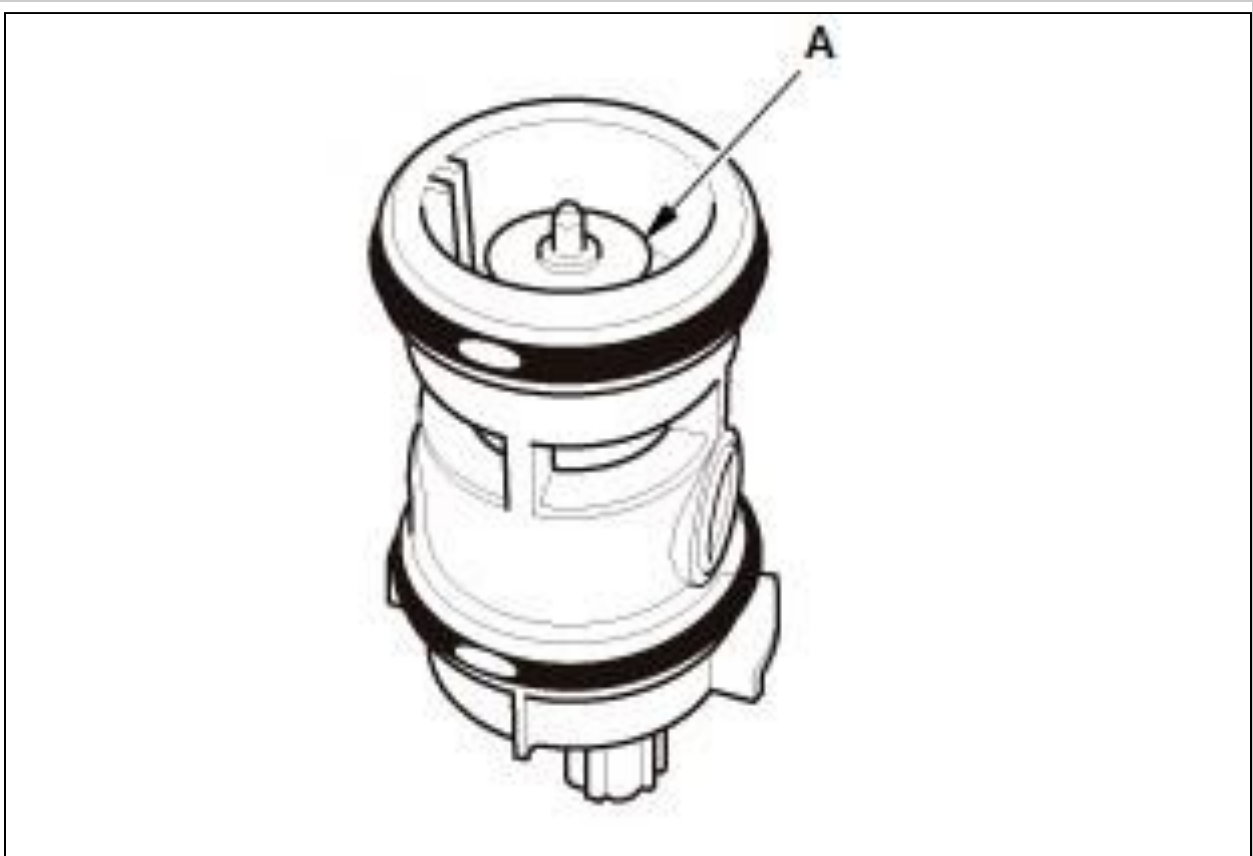
Go to step 4.

4. EVAP canister vent shut valve operation check:

- 1. Press the engine start/stop button to select the OFF mode.
- 2. Remove the EVAP canister vent shut valve from the EVAP canister .
- 3. Connect the 2P connector to the EVAP canister vent shut valve.
- 4. Press the engine start/stop button to select the ON mode.
- 5. Select EVAP TEST in the INSPECTION MENU, and do the EVAP CVS ON in the SINGLESOLENOID with the HDS.

SINGLE SOLENOID

- 6. Check the EVAP canister vent shut valve (A) operation.



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Is the valve free of corrosion, and does it operate properly?

YES

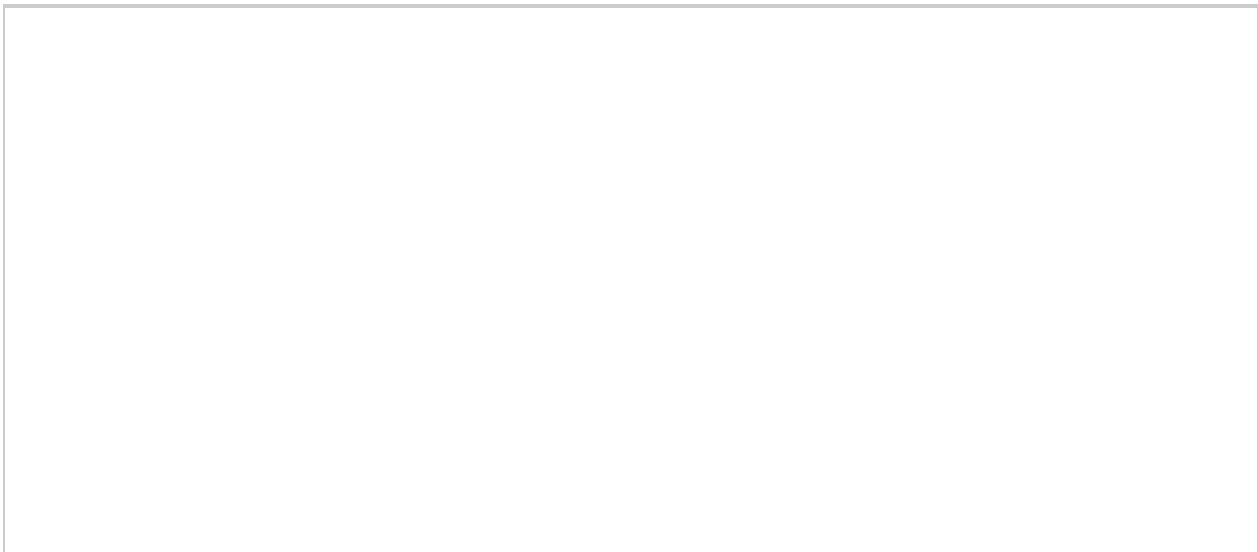
The EVAP canister vent shut valve is OK. Go to step 5.

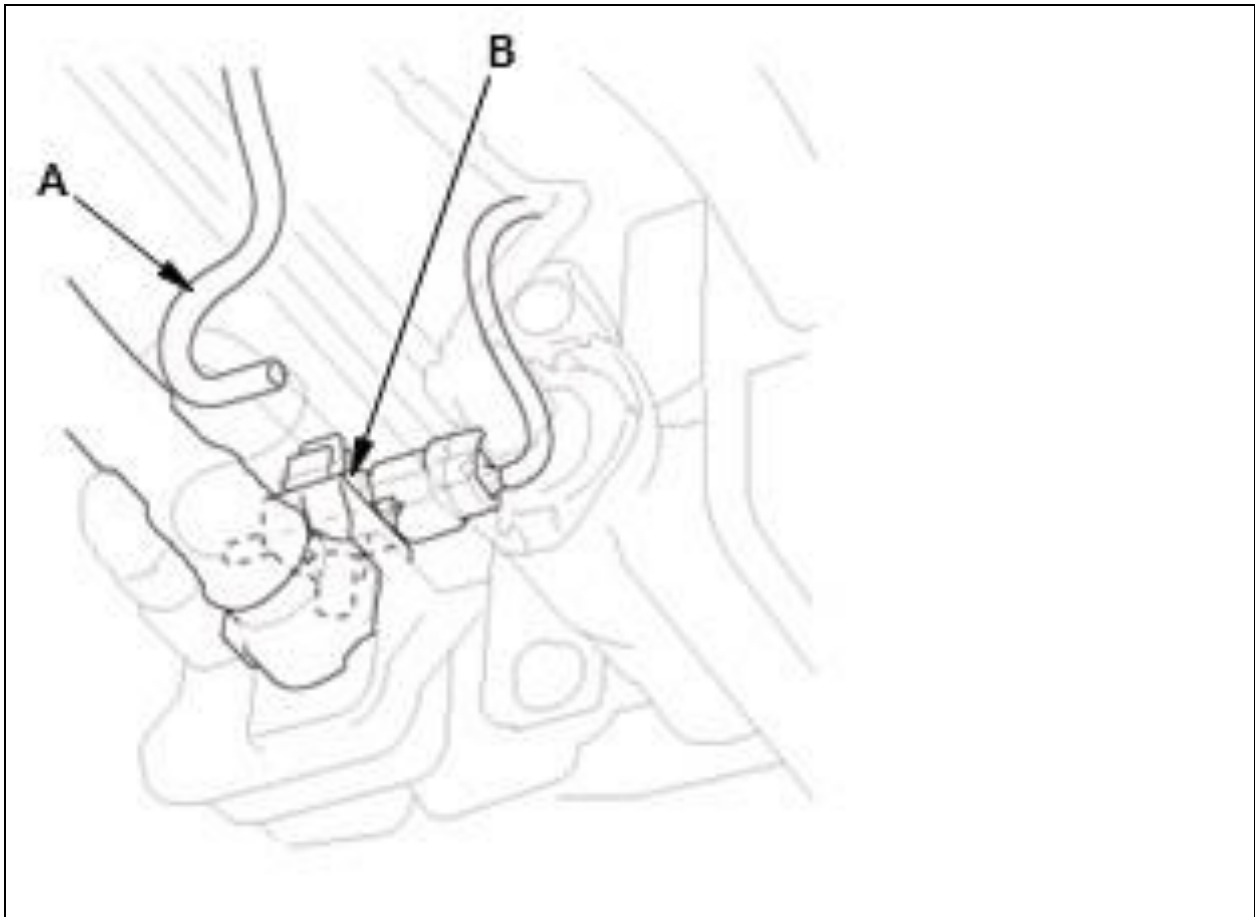
NO

Replace the EVAP canister vent shut valve , then do the repair verification.

5. FTP sensor vent hose restriction check:

- 1. Disconnect the vent hose (A) from the FTP sensor (B).





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- 2. Check the parameter(s) below with the HDS.

Signal	Threshold		Current conditions	
	Values	Unit	Values	Unit
FTP SENSOR	-0.67-0.67	kPa		

Do the current condition(s) match the threshold?

YES

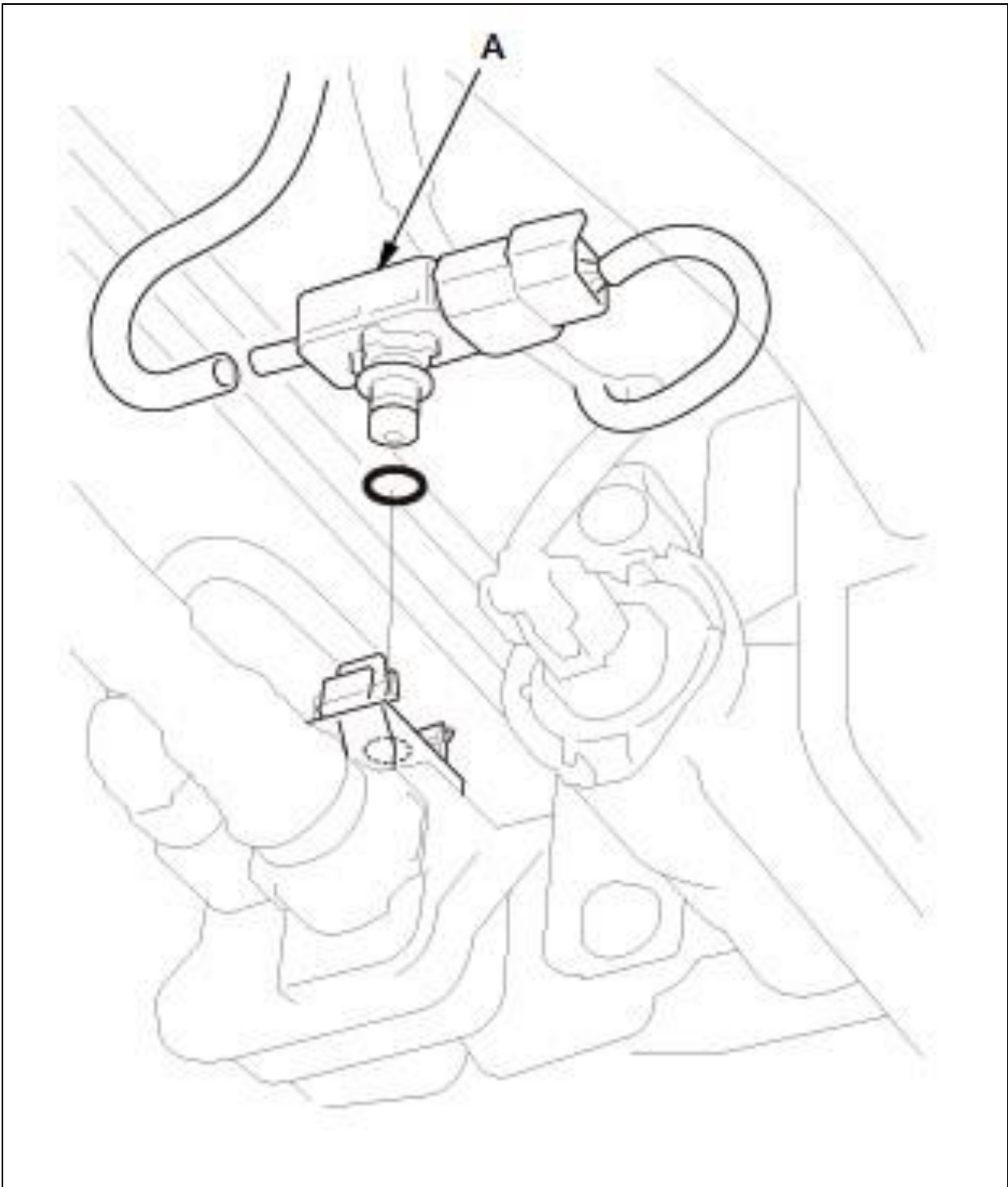
Check for a blockage in the FTP sensor vent hose, then do the repair verification.

NO

Go to step 6.

6. FTP sensor port restriction check:

- 1. Press the engine start/stop button to select the OFF mode.
- 2. Remove the FTP sensor (A) from the EVAP canister with its connector connected.



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- 3. Check the parameter(s) below with the HDS.

Signal	Threshold		Current conditions	
	Values	Unit	Values	Unit
FTP SENSOR	-0.67-0.67	kPa		

Do the current condition(s) match the threshold?

YES

The FTP sensor port is OK. The EVAP canister has an internal blockage; replace the EVAP canister , then do the repair verification.

NO

Replace the FTP sensor , then do the repair verification.

7. Repair verification (OBD STATUS check):

- 1. Press the engine start/stop button to select the OFF mode.
- 2. Install the parts in the reverse order of removal.
- 3. Press the engine start/stop button to select the ON mode.
- 4. Reset the PCM with the HDS - Refer to: How to Troubleshoot the Fuel and Emissions Systems (2013-15), or How to Troubleshoot the A/T System (2013-15), or How to Troubleshoot the Fuel and Emissions Systems (2016-17), or How to Troubleshoot the A/T System (2016-17) . Reset PCM
- 5. Do the PCM idle learn procedure .
- 6. Monitor the OBD STATUS for DTC P2422 in the DTCs MENU with the HDS.

DTC Description	OBD STATUS
P2422 EVAP Canister Vent Shut Valve Stuck Closed Malfunction	

DTC (PGM-FI)

Does the HDS indicate PASSED, FAILED, or NOT COMPLETED?

PASSED

Troubleshooting is complete. If any other Pending or Confirmed DTCs were indicated, go to the indicated DTC's troubleshooting.

FAILED

Go to step 1 and recheck.

NOT COMPLETED

Hold the engine speed at 3, 000 rpm with the EVAP PC DUTY at 20% or more until a result comes on.