



# Technical Service Bulletin

|                             |                                           |
|-----------------------------|-------------------------------------------|
| GROUP<br><b>FUEL SYSTEM</b> | NUMBER<br><b>20-FL-003H</b>               |
| DATE<br><b>MAY, 2020</b>    | MODEL(S)<br><b>SONATA HYBRID (LF HEV)</b> |

**SUBJECT:** DTC P0456: EVAP SYSTEM – VERY SMALL LEAK

### Description:

Certain 2016-2019 Sonata Hybrid (LF HEV) vehicles may experience check engine light illumination with DTC P0456 - Evaporative System (EVAP) - Very Small Leak stored.

Salt particulate deposit can form inside the Natural Vacuum Leak Detection (NVLD) sensor which may cause intermittent operation prompting the DTC P0456 and check engine light.

This bulletin provides the procedure to replace the NVLD sensor with an updated Air Filter Kit to help prevent entry of the salt particulates.

**Applicable Vehicles:** Certain 2016-2019 Sonata Hybrid (LF HEV)

### Parts Information:

| Part Number    | Description                                                                                                                                                                 | Photo | Remarks                                    |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------------------------------------------|
| 31450-E6501FFF | <p>AIR FILTER KIT</p> <ul style="list-style-type: none"> <li>Vent pipe, mounting brackets and hoses assembly</li> <li>Filter with inlet hose</li> <li>Band strap</li> </ul> |       | All vehicles                               |
| 31480-4R100FFF | NVLD Pressure Sensor Assembly                                                                                                                                               |       | All vehicles                               |
| 00232-19035    | UNDERCOATING AEROSOL (Non-Rubberized Type)                                                                                                                                  |       | One canister can be applied to 10 vehicles |

### Warranty Information:

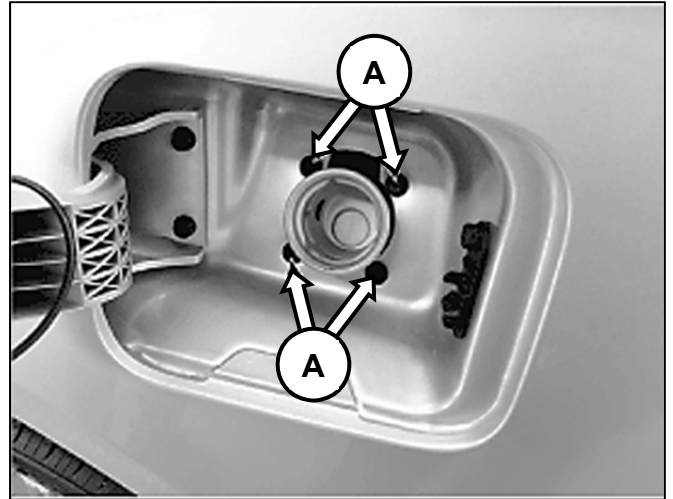
| Model                  | Op. Code | Operation                         | Op. Time | Causal P/N     | Nature Code | Cause Code |
|------------------------|----------|-----------------------------------|----------|----------------|-------------|------------|
| SONATA HYBRID (LF HEV) | 31450F02 | AIR FILTER KIT & NVLD REPLACEMENT | 1.3 M/H  | 31480-4R100FFF | I3A         | ZZ3        |

**NOTE:** \$1.23 will be reimbursed in sublet under labor op 31450F2 for undercoating aerosol application.

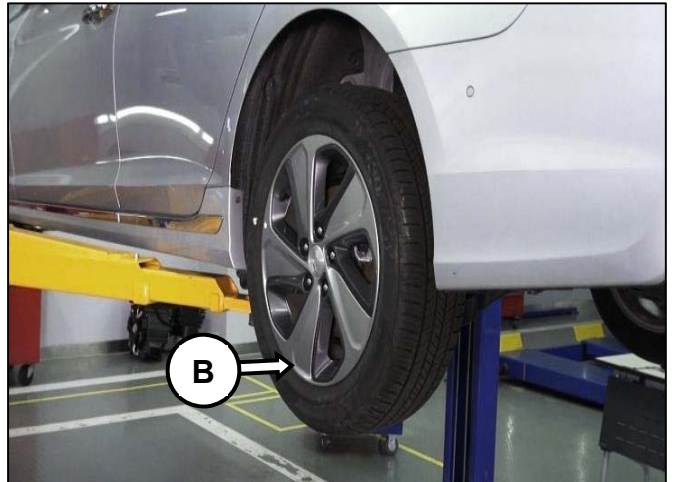
Circulate To: General Manager, Service Manager, Parts Manager, Warranty Manager, Service Advisors, Technicians, Body Shop Manager, Fleet Repair

**Service Procedure:****A. AIR FILTER KIT REPLACEMENT**

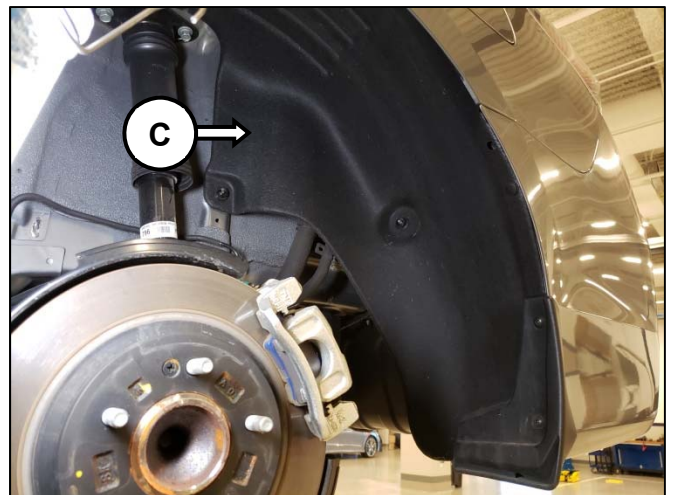
1. Open the fuel filler door and loosen the filler neck mounting bolts (A).



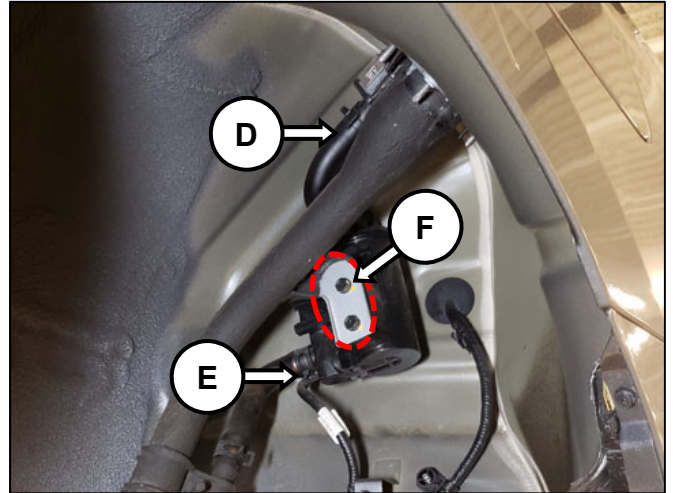
2. Lift up the vehicle and remove the left rear tire & wheel assembly (B).



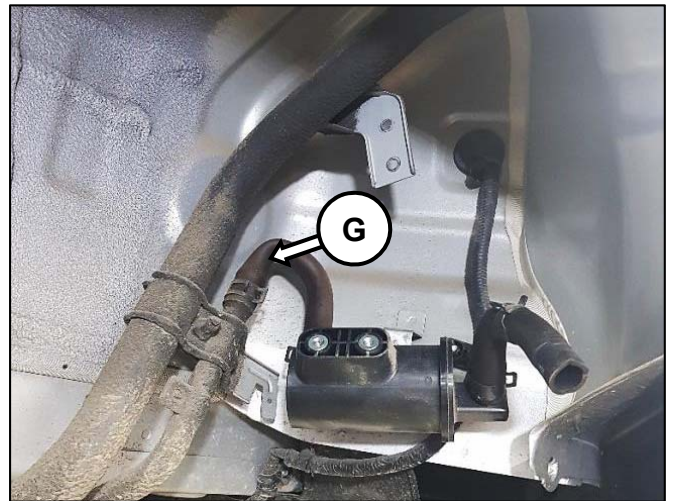
3. Remove the left rear wheel guard (C).



4. Release the hose clamp and disconnect the upper hose (D).  
  
Disconnect the Canister Close Valve (CCV) connector (E).  
  
Loosen the air filter mounting bolts (F).



5. Release the hose clamp.  
Disconnect the lower hose (G) and air filter from the vent line.



### NOTICE

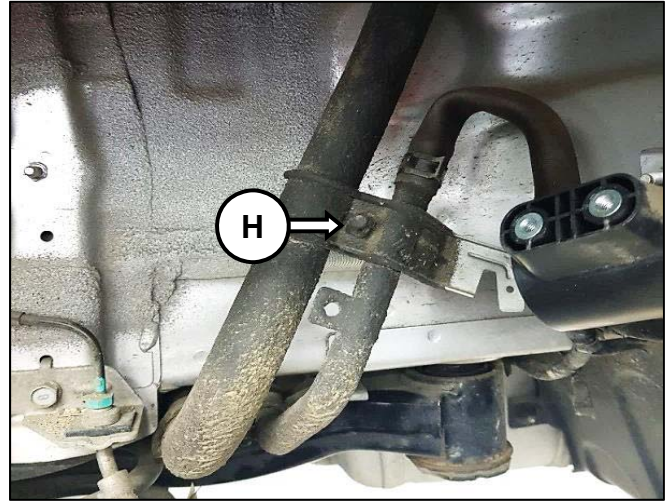
Utilize a ratcheting wrench type or low profile ratchet and socket combo where mounting bolts accessibility is limited.

Scrub off the undercoating material from the bolt heads and threads for ease of loosening bolts.

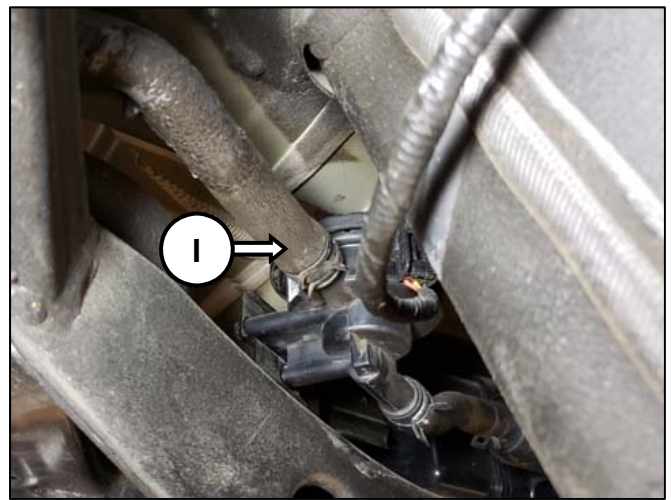


6. Loosen the upper vent line bracket clamping bolt (H).

**Note:** Mounting bolt head is facing towards the body.

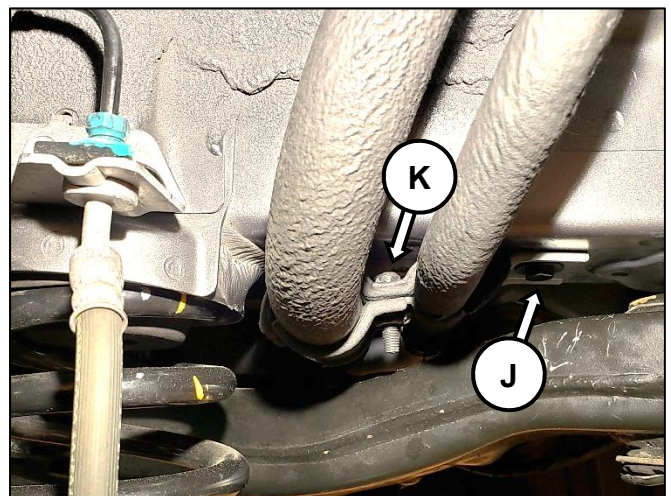


7. Release the hose clamp and disconnect the ventilation hose (I) from the Nature Vacuum Leak Detection (NVLD) valve.



8. Loosen the lower vent line bracket mounting bolt (J).

Then pull away the lines slightly and loosen the clamping bracket bolt (K).

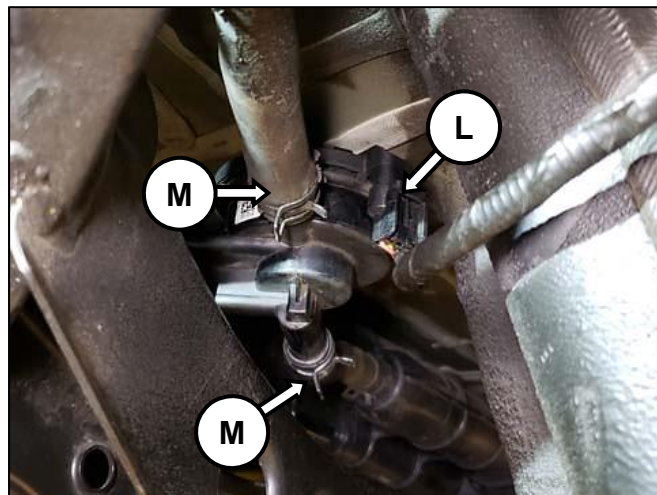


9. Remove the filler neck vent line, upper hose and air filter.



## B. NVLD REPLACEMENT

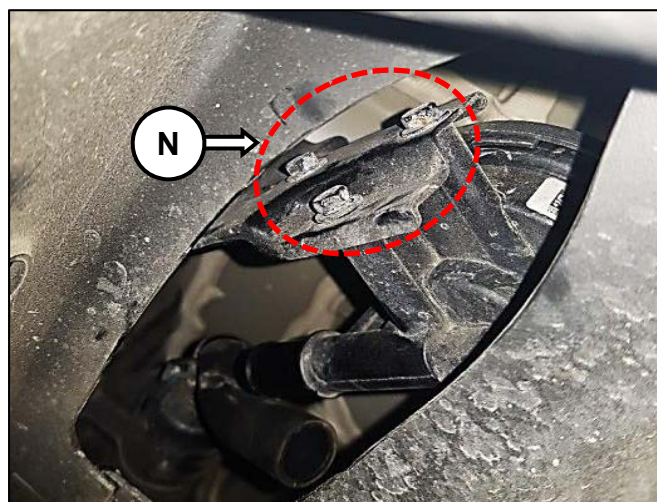
10. Disconnect the NVLD connector (L).  
Release the hose clamp and disconnect the vent hoses (M).



11. Loosen the NVLD mounting bolts (N) and remove the NVLD.

**Tightening Torque**  
: 2.3 ~ 3.3 N.m (0.2 ~ 0.3 kgf.m, 1.7 ~ 2.5 lb-ft)

Install the new NVLD and reinstall the removed parts in reverse order of removal.



12.

**NOTICE**

Require to separate and reuse the CCV which is part of the removed air filter.

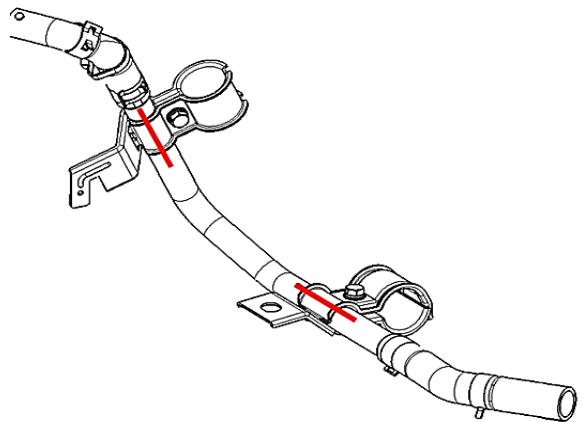
Lift up the locking lever, rotate CCV 30 degrees and then pull away to release the CCV.



13. Install the new air filter KIT and reinstall the removed parts, including CCV, in reverse order of removal.

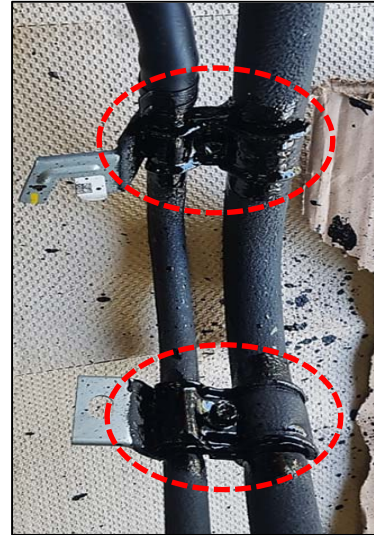
**NOTICE**

Follow markings to ensure vent pipes and brackets are aligned properly.





14. Spray the black undercoating aerosol evenly to each vent line bracket for approximately 10 seconds.



15. After spraying, tie the CCV wiring and vent pipe using band strap.

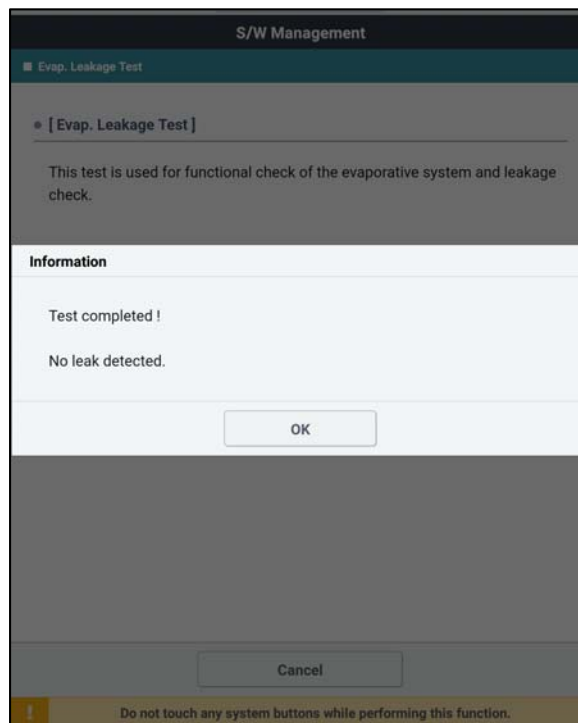


**C. GDS Evap Leakage Test:**

Follow GDS instructions and perform GDS Evap Leakage Test to confirm parts and hoses are installed properly.

16.

| S/W Management                                                  |                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • EVAP Leakage Test                                             |                                                                                                                                                                                                                                                         |
| Purpose                                                         | To check the evaporative system and fuel leakage when evaporative system related repair is done or component is replaced.                                                                                                                               |
| Enable Condition                                                | <ol style="list-style-type: none"> <li>1. Engine Idle</li> <li>2. No DTC</li> <li>3. Fuel Level : 20-70%</li> <li>4. Battery voltage greater than 11V</li> <li>5. 2 Min after the engine start</li> <li>6. Coolant Temperature : 80°C(176°F)</li> </ol> |
| Concerned Component                                             | Purge Control Solenoid Valve(PCS), Canister Close Valve(CCV), Fuel Tank Pressure Sensor(FTPS), Evap. Line                                                                                                                                               |
| Concerned DTC                                                   | P0441, P0442, P0455, P0456, P2422                                                                                                                                                                                                                       |
| Fail Safe                                                       | Warning Lamp On                                                                                                                                                                                                                                         |
| Etc                                                             | Wait at least 5 min. before re-performing Evap. leakage test.                                                                                                                                                                                           |
| OK                                                              |                                                                                                                                                                                                                                                         |
| Do not touch any system buttons while performing this function. |                                                                                                                                                                                                                                                         |



17. Check for installed parts and hose connections if EVAP leakage is detected.

After making corrections, clear the DTC(s) and perform GDS Evap Leakage Test again.

Repair procedure is completed if EVAP Leakage Test doesn't detect any leakage.