HYUNDAI NEW THINKING. NEW POSSIBILITIES. **Technical Service Bulletin**	GROUP **CAMPAIGN**	NUMBER **13-01-052**
	DATE **DECEMBER 2013**	MODEL(S) **GENESIS SEDAN (BH)**

SUBJECT: BH GENESIS SEDAN HECU INSPECTION AND BRAKE FLUID REPLACEMENT (RECALL 114)

★ IMPORTANT

***** RETAIL VEHICLES ONLY *****

Dealers must perform this Recall Campaign whenever an affected vehicle is in the shop for any maintenance or repair.

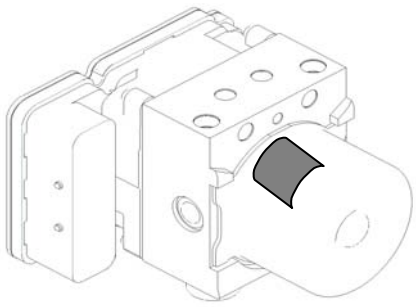
When a vehicle arrives at the Service Department, access Hyundai Motor America's "Warranty Vehicle Information" screen via WEBDCS to identify open Campaigns.

Description: This bulletin describes the procedure to:

1) Inspect (and if necessary, replace) the Hydraulic Electronic Control Unit (HECU)
2) Replace the brake fluid on certain Genesis sedan (BH) vehicles.

Applicable Vehicles:
Certain Genesis sedan (BH) vehicles produced beginning on April 30, 2008 through March 28, 2012.

Parts Information:

PART NAME	PICTURE	PART NUMBER	REMARKS
HECU		58920-3M050-QQH	6AT Without EPB and SCC
		58920-3N300-QQH	6AT With EPB and SCC
		58920-3M060-QQH	8AT Without EPB and SCC
		58920-3M360-QQH	8AT With EPB and SCC
DOT 4 Brake Fluid		00232-19053	Approximately 1.8L is required per vehicle (five 12 fl. oz. bottles).

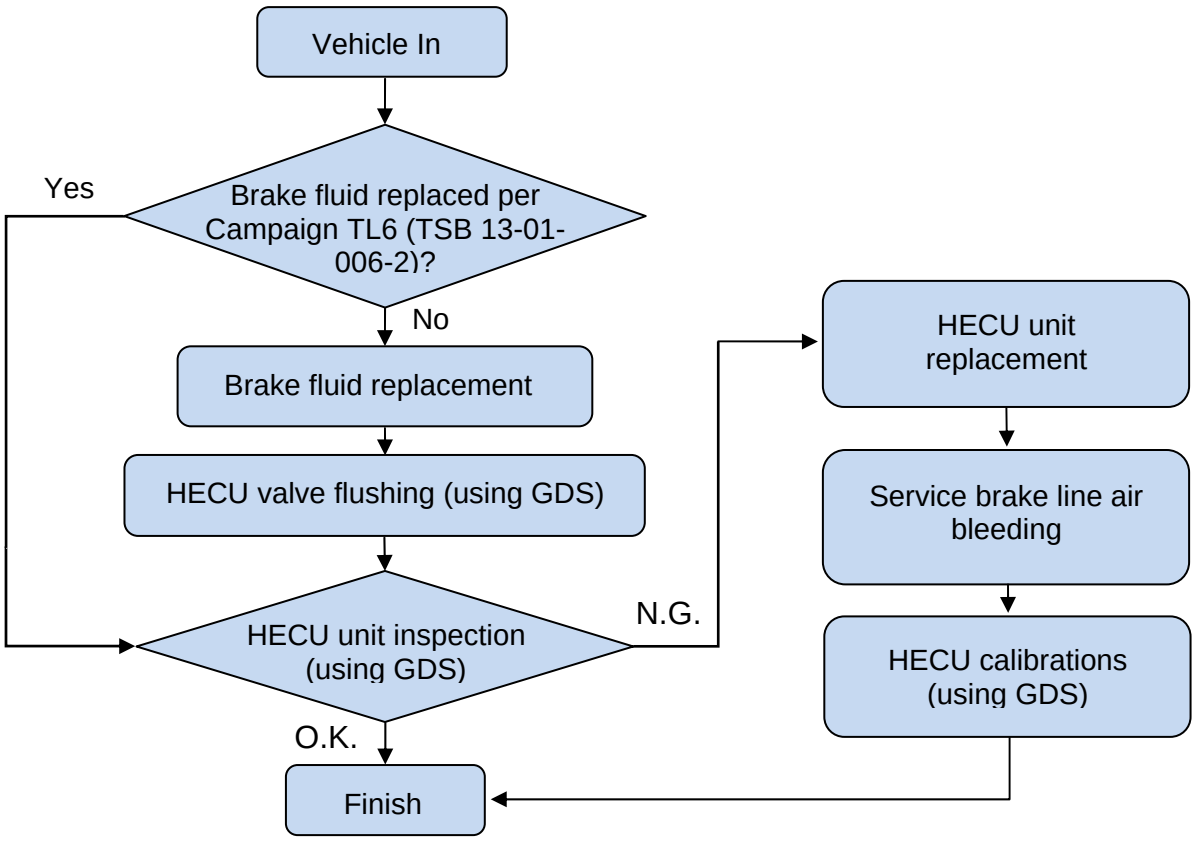
Circulate To: General Manager, Service Manager, Parts Manager, Warranty Manager, Service Advisors, Technicians, Body Shop Manager, Fleet Repair

Warranty Information:

OP CODE	OPERATION	OP TIME
31C072R0	HECU INSPECTION AND REPLACEMENT, BRAKE FLUID REPLACEMENT	3.0 M/H
31C072R1	HECU INSPECTION AND BRAKE FLUID REPLACEMENT	1.0 M/H
31C072R2	HECU INSPECTION AND REPLACEMENT	2.3 M/H
31C072R3	HECU INSPECTION	0.3 M/H

NOTE: Submit Claim on Campaign Claim Entry Screen
NOTE: Part number 00232-19053 will be reimbursed along with appropriate dealer parts mark-up in the replaced parts field.

SERVICE PROCEDURE OVERVIEW



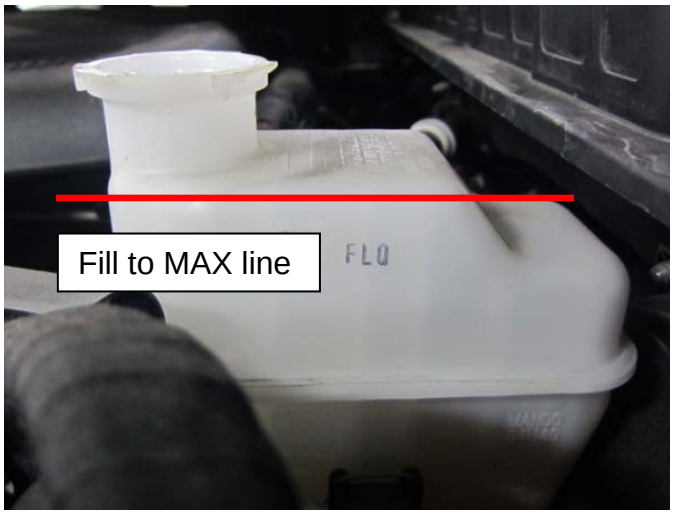
Service Procedure: Brake Fluid Replacement and Service Brake Line Air Bleeding

1. Locate the brake master cylinder, remove the cap, and remove the filter.

2. Remove as much of the brake fluid as possible using a vacuum pump or similar tool.

3. Fill the reservoir to the MAX line using DOT4 brake fluid.

   Reinstall the filter and master cylinder cap.



✶ NOTE

If any brake fluid is spilled, immediately clean the spill by generously flushing water over the area.

4. Lift the vehicle on a hoist and remove the hub covers from all four wheels. Remove all lug nuts and wheels.

★ NOTE

Tightening torque:
90~110 N.m (9~11 kgf.m, 65~80 lb-ft)

5. ***Start at the RIGHT REAR brake assembly.***

Connect one end of a bleeding line to the bleeder screw nipple, and then place the other end in a container to collect brake fluid as it is released.

6. Pump the brake pedal 3 times and then hold the pedal down to pressurize the system.

While holding the brake pedal down, open the bleeder to release brake fluid. After fluid is released, close the bleeder, and release pressure from the brake pedal.

★ IMPORTANT

DO NOT release the brake pedal until after the bleeder screw is fully closed.

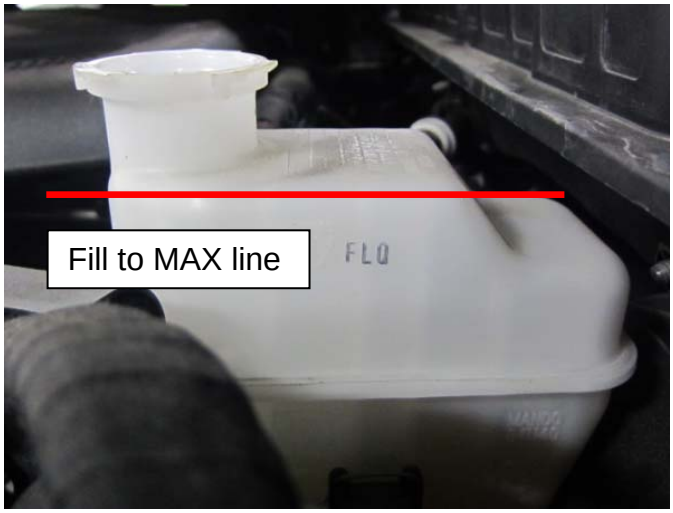
★ NOTE

Bleeder screw tightening torque:
6.9~12.7 Nm (0.7~1.3 kgf.m, 5.1~9.4 lb-ft)

7. Repeat step 6 until the level of brake fluid in the reservoir drops from MAX to MIN.

> *** NOTE**
>
> DO NOT allow the fluid level to drop below the MIN line. If the level drops below MIN at any time during this procedure, it is required to start the bleeding process over, starting from the RIGHT REAR brake assembly.

8. Refill the reservoir to the MAX line using DOT 4 brake fluid.



9. ***Move to the FRONT LEFT wheel.***

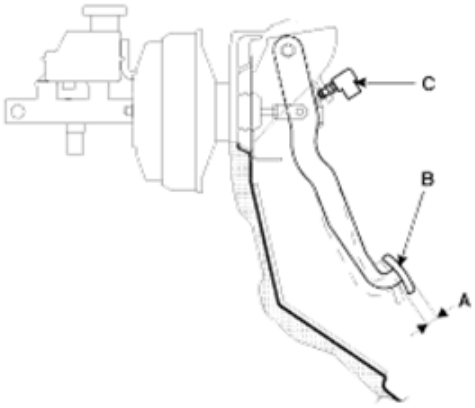
Repeat the process described in steps 5-8.

> *** NOTE**
>
> Some models may have 2 bleeder screws (one inside, one outside). For these models, bleed the outside first (until the fluid level is halfway between MAX and MIN) then move to the inside bleeder (until the fluid is down to MIN).

10. ***Repeat steps 5-8 at the REAR LEFT wheel, then the FRONT RIGHT wheel.***

11. Check the brake pedal free play by depressing the pedal.

Brake pedal free play specification: 3~8mm (0.1 to 0.3").



★ NOTE

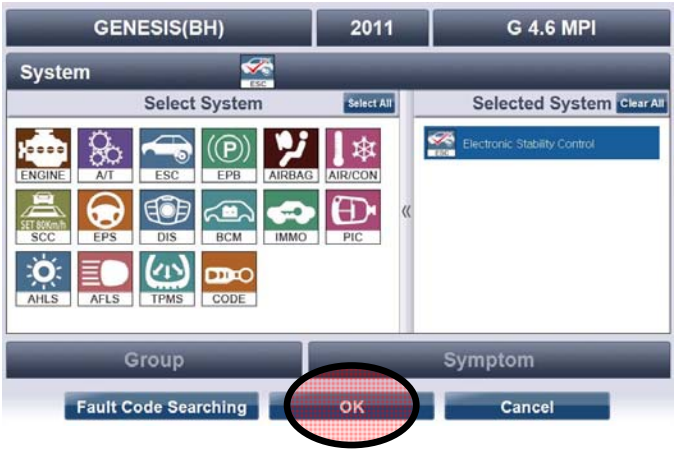
If the amount of play is over specification, line bleeding should be performed again.

If the amount of play is within specification, continue to **Service Procedure: HECU Valve Flushing.**

Service Procedure: HECU Valve Flushing

1. Connect GDS VCI to DLC connector. Connect VCI to GDS using USB cable.

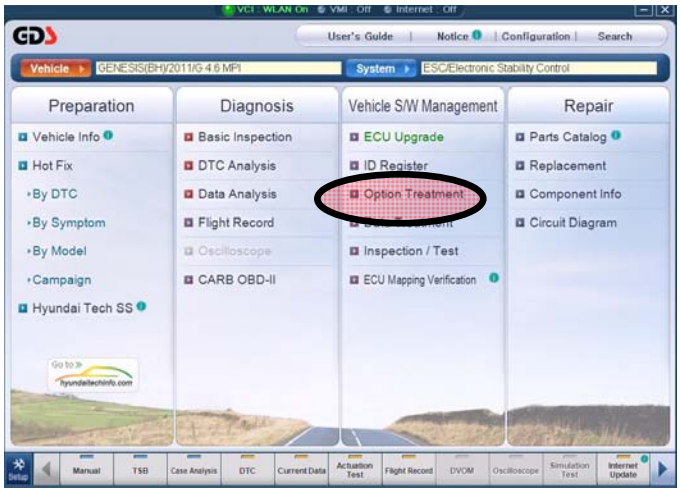
Start the engine and verify that all electrical systems are turned off (no electrical load). Select model and ESC (Electronic Stability Control) system, then press "OK" button on the screen.



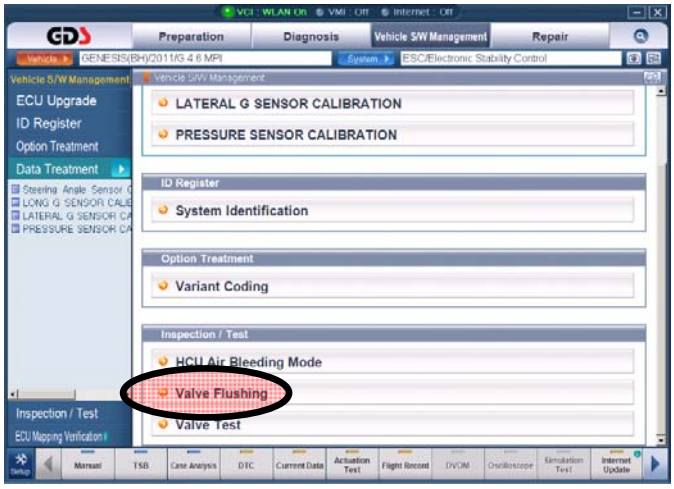
★ NOTE

Keep engine idling during this procedure to aid in maintaining adequate brake pressure.

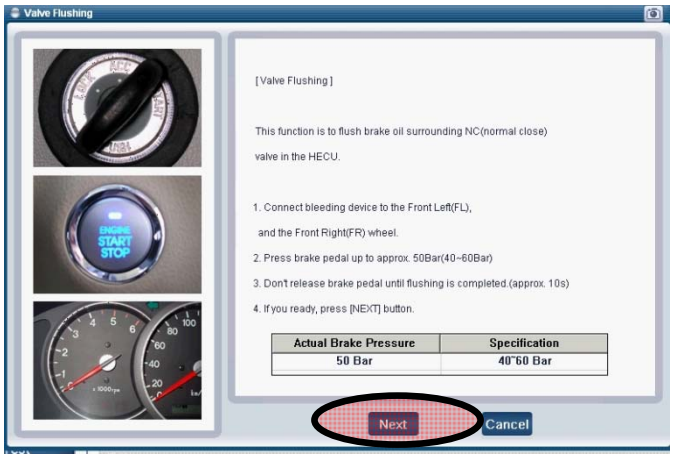
2. Select "Option Treatment" under the Vehicle S/W Management tab.



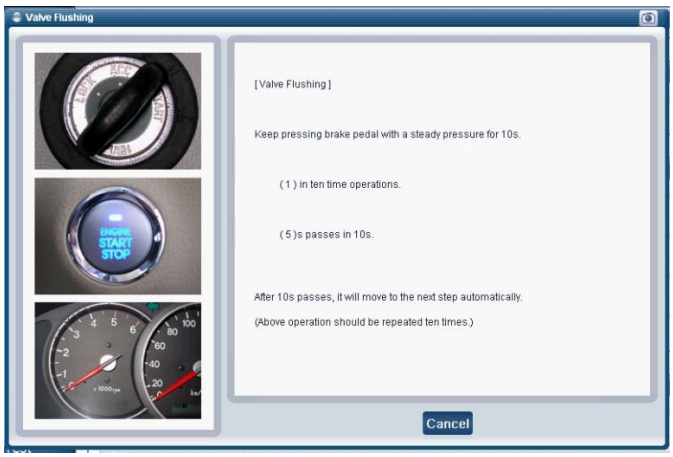
3. Select “Valve Flushing.”



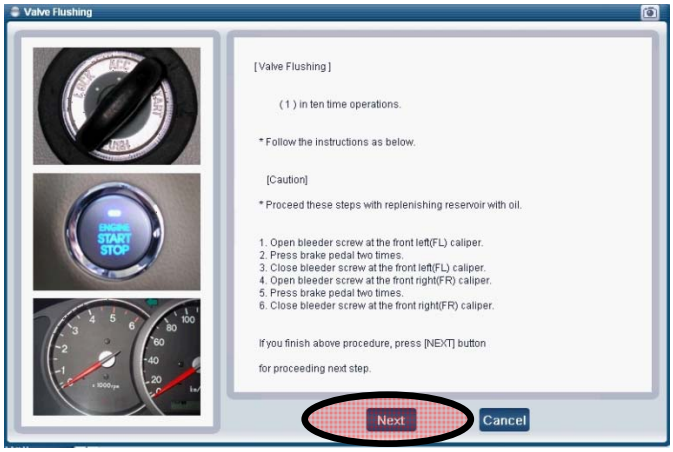
4. As directed by the GDS, press and hold the brake pedal to maintain about 50 bar (725 psi) of brake pressure. Press “NEXT” while holding pressure.



5. The HECU motor will operate and the brake pedal will pulsate for 10 seconds. Maintain holding brake pressure during this time.



6. Bleed front brake assemblies:



Start with the front left brakes.

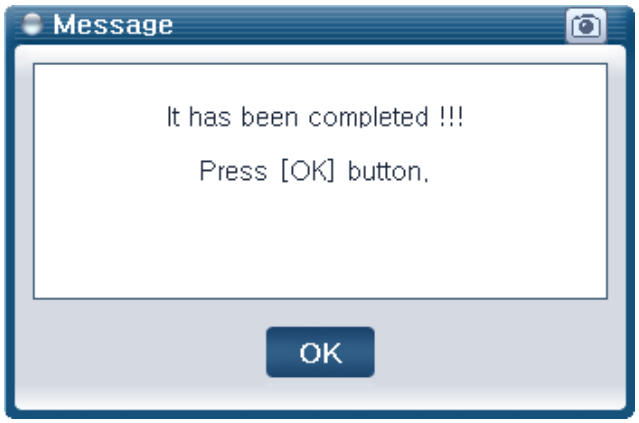
Press the brake pedal twice and hold. With a bleeding line attached, open the bleeder screw to bleed the line.

★ NOTE

Some models may have 2 bleeder screws (one inside, one outside). For these models, bleed the outside first (until the fluid level is halfway between MAX and MIN) then move to the inside bleeder (until the fluid is down to MIN).

Repeat for the front right brakes, then press "NEXT."

7. Repeat steps 5 and 6 for a total of 10 HECU valve flushing operations. GDS menu screen will count number of iterations.



★ NOTE

Monitor the level of brake fluid in the master cylinder reservoir. If the fluid drops close to the MIN line, refill to MAX.

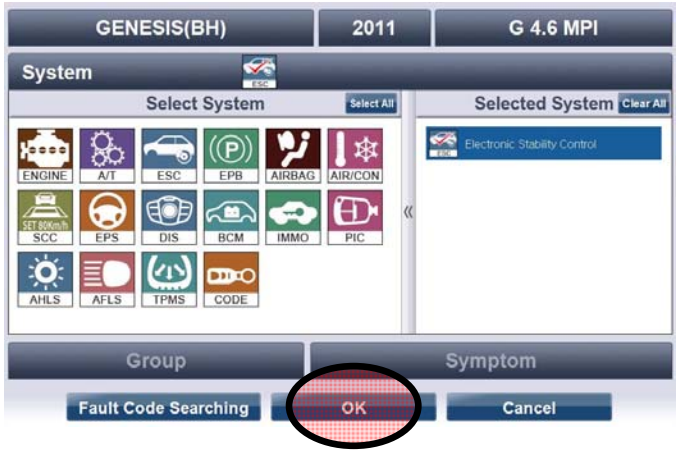
After the 10th flushing, the procedure is completed.

8. Refill the brake fluid in the master cylinder reservoir to the MAX line.

Service Procedure: HECU Unit Inspection

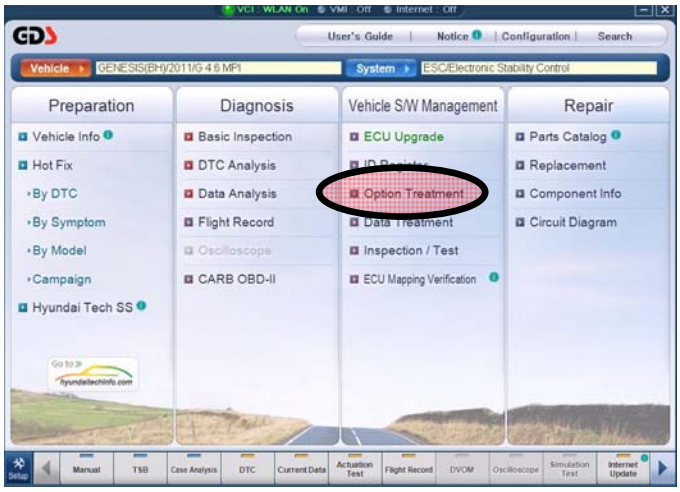
1. Connect GDS VCI to DLC connector. Connect VCI to GDS using USB cable.

   Start the engine and verify that all electrical systems are turned off (no electrical load). Select model and ESC (Electronic Stability Control) system, then press “OK” button on the screen.

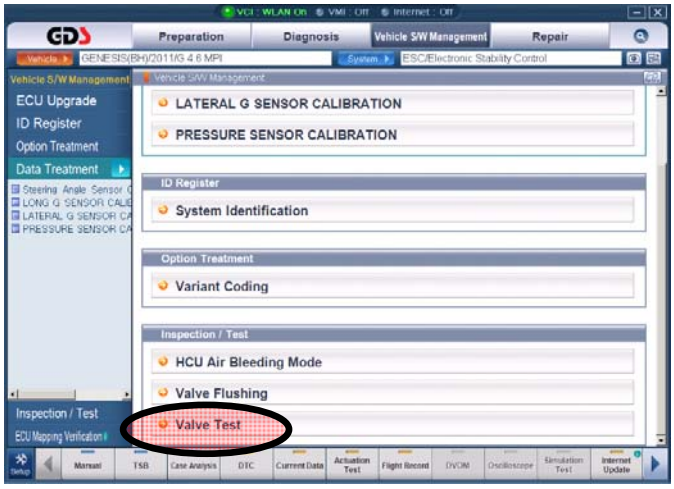


> ★ **NOTE**
>
> Keep engine idling during this procedure to aid in maintaining adequate brake pressure.

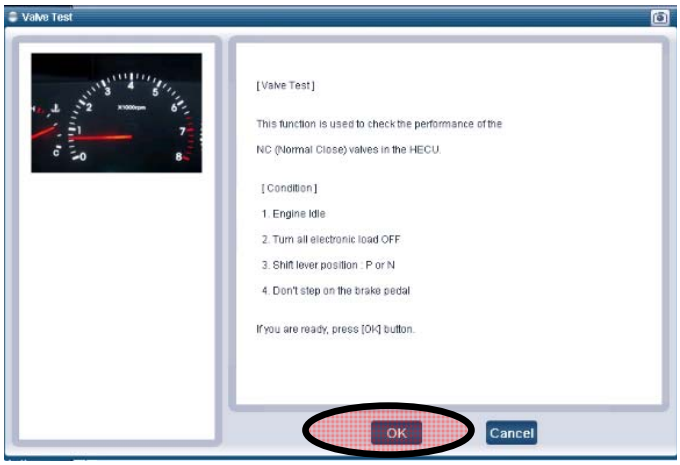
2. Select “Option Treatment” under the Vehicle S/W Management tab.



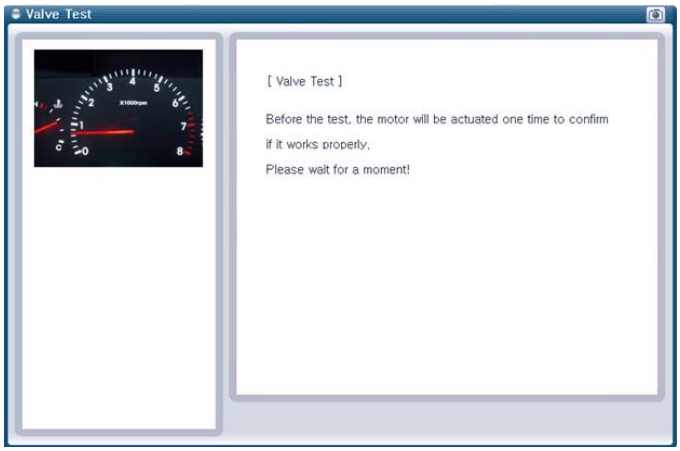
3. Select “Valve Test.”



4. Check the vehicle conditions (engine idling, all electronic loads are OFF, shifter in P or N, foot off the brake pedal) and then click “OK.”

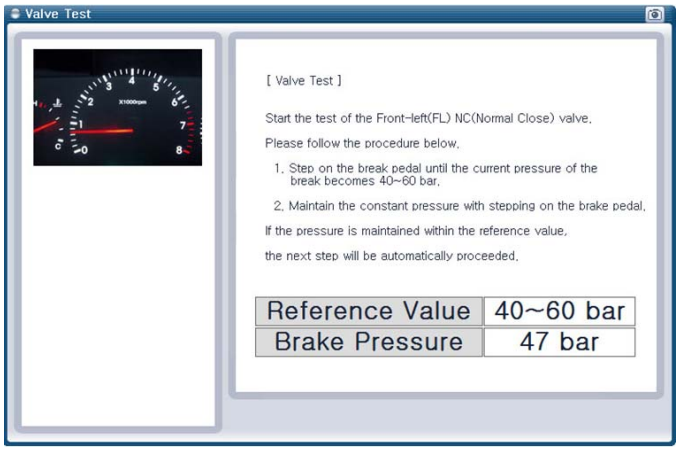


5. Wait for the motor test, which is performed automatically.



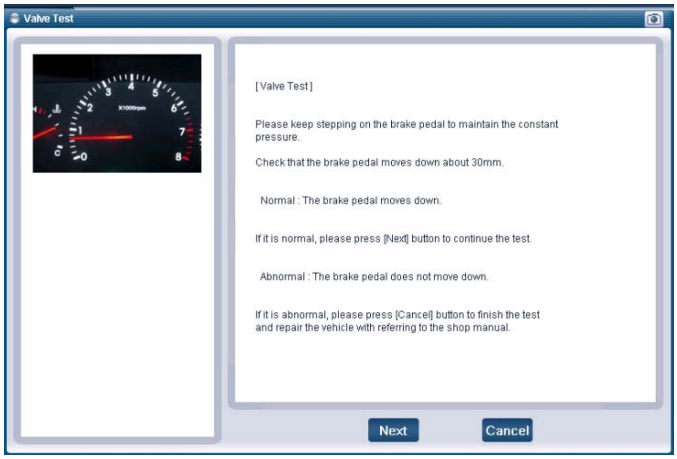
6. The valve test begins with the front left NC (normally closed) valve.

   Step on the brake pedal until the indicated pressure of the brake becomes 40 ~ 60 bar and then maintain the pressure.



7. While maintaining foot pressure on the brake pedal, check that pedal moves down approximately 30mm (1.18”):

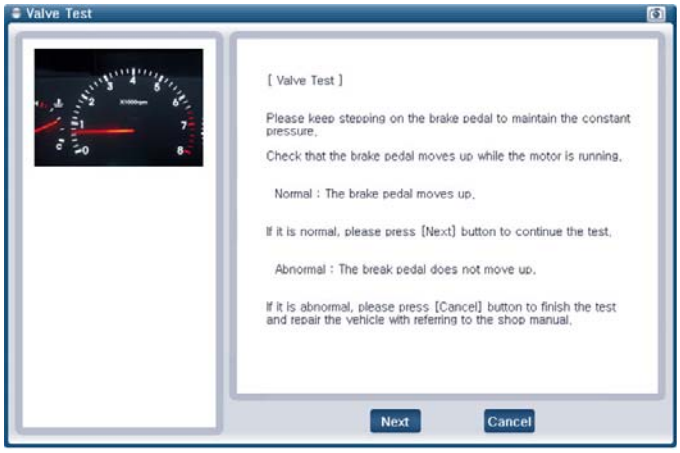
   - Pedal moves down: Continue with the HECU inspection (step 8) by clicking “Next.”
   - Pedal does not move down: Click “Cancel” to end the inspection procedure, then replace the HECU according to the applicable shop manual procedures.



★ IMPORTANT

After HECU replacement, bleed any air from the brake lines at all four calipers in the correct order, then perform the calibration procedures on page 13.

8. While maintaining foot pressure on the brake pedal, check that pedal comes back up:



- <u>Pedal comes back up</u>: Continue with the HECU inspection (step 9) by clicking “Next.”

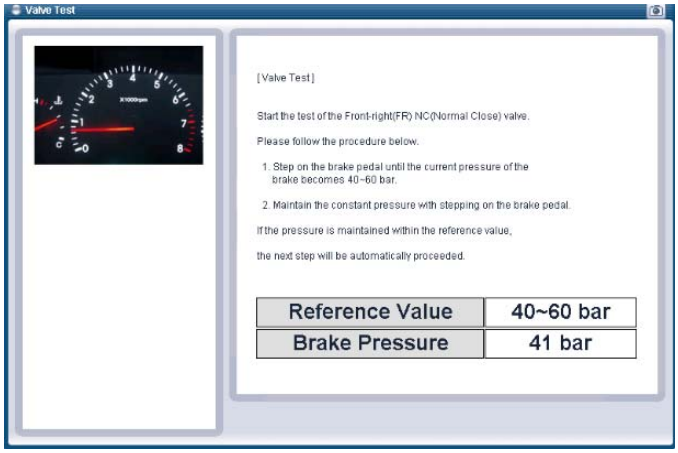
- <u>Pedal does not come back up</u>: Click “Cancel” to end the inspection procedure, then replace the HECU according to the applicable shop manual procedures.

*** IMPORTANT**

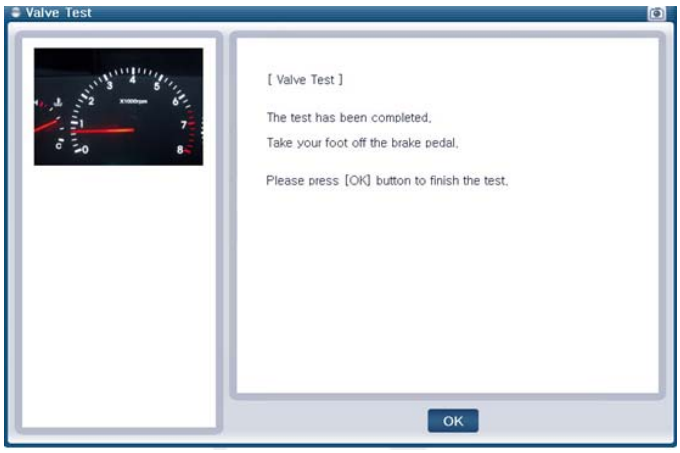
After HECU replacement, bleed any air from the brake lines at all four calipers in the correct order, then perform the calibration procedures on page 13.

9. The valve test continues with the front right NC (normally closed) valve.

Repeat steps 6-8 for the front right valve, then move onto the rear left, and rear right valves using the same procedures as directed by the GDS.



10. After all four valves are tested, the test is complete. Press the “OK” button to finish:



- If all valves tested OK: The service procedure is completed.
- If any valve did not pass the test: Replace the HECU according to the applicable shop manual procedures.

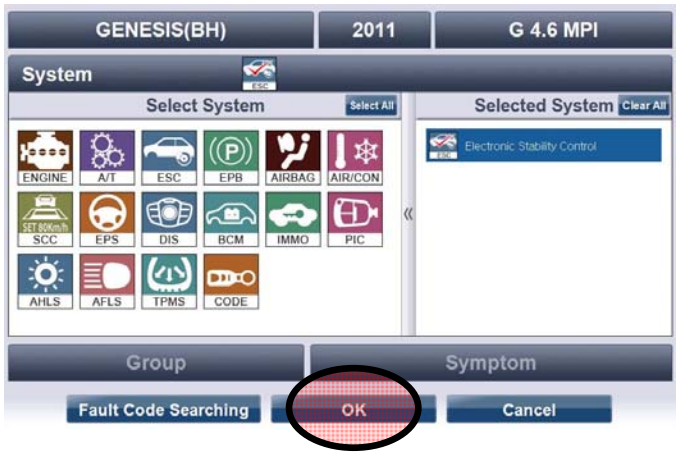
★ IMPORTANT

After HECU replacement, bleed any air from the brake lines at all four calipers in the correct order, then perform the calibration procedures on page 13.

Service Procedure: Calibrations Following HECU Replacement

1. Connect GDS VCI to DLC connector. Connect VCI to GDS using USB cable.

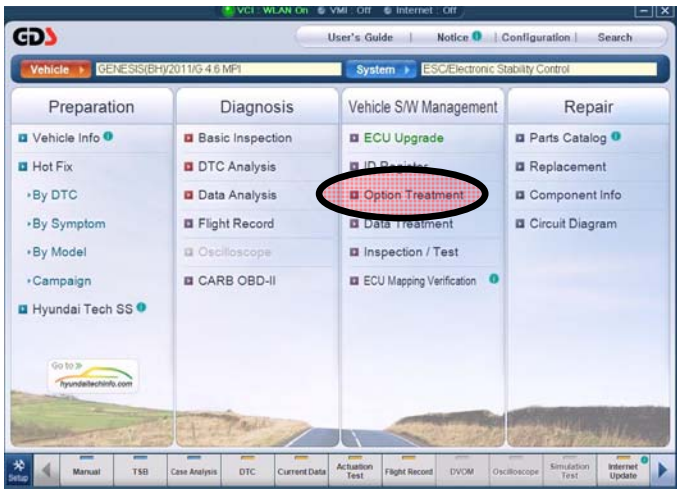
Start the engine and verify that all electrical systems are turned off (no electrical load). Select model and ESC (Electronic Stability Control) system, then press “OK” button on the screen.



★ NOTE

Keep engine idling during this procedure to aid in maintaining adequate brake pressure.

2. Select “Option Treatment” under the Vehicle S/W Management tab.



3. After HECU replacement, it is required to perform 5 calibrations:

- Variant Coding
- Steering Angle Sensor Calibration
- Long G Sensor Calibration (ONLY EPB)
- Lateral G Sensor Calibration
- Pressure Sensor Calibration

Perform these by clicking on each one, and following the GDS instructions.