

SERVICE BULLETIN

Reference number:	SB-03-0433	Issued: 23 November, 2017
Subject:	Procedure to learn engine misfire corrections	
Model(s):	DB11 V12 Coupe	
VIN Range:	All	
Applicable to:	All Dealers	
Distribute to:	After Sales Manager Executive Manager Service Manager Sales Manager	Warranty Staff Technician(s) Parts Staff

Reason for this Service Bulletin

This Service Bulletin gives the procedure for the Engine Management System (EMS) to do the Variable Valve Timing (VVT) learn procedure, and the engine misfire and fuelling corrections. You must do this procedure when you replace an Engine Control Module (ECM) or when the EMS software is updated.

Workshop Procedure

Note: *Make sure that the vehicle has a minimum of half a tank of fuel before you do this procedure.*

CAUTIONS: CONNECT A BATTERY CHARGER TO THE VEHICLE BATTERY WHEN YOU DO THE PROCEDURE THAT FOLLOWS. IF THE VEHICLE BATTERY DISCHARGES DURING THE PROCEDURE, THE SOFTWARE UPDATE CAN FAIL. THIS CAN CAUSE DAMAGE TO THE ENGINE MANAGEMENT SYSTEM (EMS).

CONNECT THE AMDS 2.0 EQUIPMENT TO AN ELECTRICAL SUPPLY WHEN YOU DO THE PROCEDURE THAT FOLLOWS. IF THE LAPTOP BATTERY VOLTAGE DECREASES DURING THE UPDATE, THE UPDATE CAN FAIL AND CAN CAUSE DAMAGE TO THE MODULE.

Notes: *Make sure that the AMDS 2.0 software has updated to the latest version. The AMDS 2.0 software will need a good Internet connection (minimum broadband speed of 2 Mbit/second) to make sure that the software is updated correctly.*

A high output battery charger (minimum of 80 A) is necessary to meet the demand of the radiator cooling fan. The battery charger must also be compatible with Absorbent Glass Mat (AGM) type batteries.

1. Put the vehicle key in the Electronic Ignition Switch (EIS). Refer to the Vehicle Owner's Guide.
2. Set the ignition to ON but do not start the engine.
3. Connect the Vehicle Communication Interface (VCI) to the vehicle with the Diagnostic Link Cable (DLC).

CAUTION: DO NOT START THE ENGINE AFTER YOU HAVE UPDATED THE SOFTWARE FOR THE ENGINE CONTROL MODULES TO THE LATEST RELEASE. THE ENGINE CONTROL MODULES MUST SHUT DOWN FULLY BEFORE YOU START THE ENGINE. IF YOU START THE ENGINE, IT WILL NOT OPERATE CORRECTLY.

4. Use AMDS 2.0 to connect to the internet and update the AMDS 2.0 database to the latest release.
5. Use AMDS 2.0 to update the software for the ECMs to the latest release.
6. Use AMDS 2.0 to erase the Diagnostic Trouble Codes (DTC).
7. Use AMDS 2.0 to open the "DID (Data Monitor)" and select the Parameter Identifiers (PID) that follow for **both** ECMs:
 - "lrnstep_c" (throttle learn counter)
 - "fofstat" (fuel off misfire adaption flag)
 - "SIGNALS_Virtual_B_nws" (camshaft control active)
 - "tmot" (calculated engine temperature)
8. Set the ignition to OFF.
 - The throttle learn procedure starts and the "lrnstep_c" PID value will change to 11.
9. Remove the vehicle key from the EIS.
10. Wait at least **one minute** to let the ECMs fully shut down.
11. Set the ignition to ON but **do not start the engine**.
12. Wait for the "lrnstep_c" PID value to change to 0.
13. Disconnect the battery charger from the vehicle battery.
14. Disconnect the AMDS 2.0 equipment from the electrical supply.
15. Start the engine and prepare to drive the vehicle from the workshop onto the road.

Notes: *When possible, use qualified non-Technician Dealer staff or supervisors to drive the vehicle to do EMS learn procedures (the same as other road test procedures).*

If the engine does not start immediately, you must go back to step 8.

16. Operate the engine at idle speed. This starts the VVT learn procedure.

Notes: *The engine must complete the VVT learn procedure before it learns the engine misfire and fuelling corrections.*

For the EMS to complete the VVT learn procedure, the engine temperature must be between 20 degrees Celsius and 90 degrees Celsius.

17. When the "SIGNALS_Virtual_B_nws" PID value changes **Set** on AMDS 2.0, this confirms that the EMS has completed the VVT learn procedure.

Note: *The engine temperature must be above 50 degrees Celsius for the EMS to start to learn the engine misfire and fuelling corrections.*

18. Road test the vehicle and manually select third gear. **Do not push the "D" button.**
19. Accelerate the vehicle until the engine speed is 4,000 rpm.

Note: *Do not use the brake pedal or the throttle pedal during the step that follows.*

20. Decelerate the vehicle until the engine speed is 1,500 rpm.

Notes: *Keep the engine speed between 4,000 rpm (maximum) and 1,500 rpm (minimum) in the step that follows.*

Change the vehicle speed and the engine speed as much as the road conditions allow in the step that follows.

21. Keep the vehicle in third gear and accelerate up to 4,000 rpm and then decelerate to 1,500 rpm ten more times.
 - This is necessary until the two “fofstat” (fuel-off status) PIDs show a value of “0”.
 - When the two “fofstat” PIDs show a value of “0”, this confirms that the EMS has learnt the engine misfire and fuelling corrections.
22. Drive the vehicle back to the workshop.
23. Use AMDS 2.0 to do a check and erase DTCs.
24. Set the ignition to OFF.

Note: *Do not disconnect the battery before the step that follows is complete. If you do, the drive-cycle will not be saved and you must go back to step 15.*

25. Wait a minimum of **20 minutes** to let the ECMs fully shut down.

Warranty Data

Procedure and Labour Time

Description	Labour Time	ROT Code
Module Reflash	0.2 hours	00.06.AH

If you have any questions related to this Service Bulletin, please contact: Aston Martin Technical Services
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 Or contact your After Sales Manager.

The English version of this Service Bulletin is written in
 Simplified Technical English to ASD-STE100™.