

SERVICE BULLETIN		
To:	All Dealers	Reference SB-30-0313 Issued: 28 May 2010
For the attention of:	Service Manager/After Sales Manager	
Please copy to:	The Dealer Principal The Warranty Administrator Aston Martin Technician(s) The Parts Manager	
Model:	DBS, DB9, Rapide, V8 and V12 Vantage, Vanquish (includes "S")	
VIN Range:	All	Page 1 of 4
Subject:	Flywheel and Gearshift Adaptive Learning Procedures	

This Bulletin Replaces SB0193

This Service Bulletin SB-30-0313 has been issued to include changes because of newer vehicles and better AMDS operation. Please discard all copies of SB0193 and do the procedures that follow.

Reason for this Service Bulletin

We have issued this Service Bulletin to tell you that it is **very important** to do the adaptive learning procedures on all Aston Martin vehicles that have V12 and V8 engines. The engine and transmission control modules use an "adaptive learning" process to improve performance. To do this, they automatically make adjustments for manufacturing tolerances in the engine and transmission. This adjustment data is stored in the module memories.

The AMDS can now Save, Restore and Delete the misfire correction data. You can find this through the "Special applications" tab in the AMDS.

You must do this procedure if:

- The Powertrain Control Module (PCM) has been reprogrammed
- They have lost their "Keep Alive Memory", after a battery replacement or disconnection.

If you replace a component that is in the list that follows, you **MUST** do the misfire correction learn procedure again. You **cannot** copy the settings back from the AMDS. Use the AMDS to delete the settings data from the vehicle.

- Replaced the Transmission Control Module (TCM)
- Replaced the Engine Management System (EMS) from the one that was installed when the corrections were saved
- Replaced or removed and installed the flywheel, clutch or auto flex plate
- Replaced the engine speed sensor (just the rear sensor on V12 engines)
- Replaced the automatic or manual transmission
- Replaced the Mechatronik unit in the transmission
- Replaced the engine
- Replaced important engine hardware. For example: crankshaft, pistons, camshafts or cylinder head.

Note: *All V12 10.5 Model Year and V8 10.5 Model Year vehicles onwards will not lose their misfire correction factors if:*
1/ The Powertrain Control Module (PCM) has been reprogrammed, or,

2/ The PCM has lost its “Keep Alive Memory” after a battery replacement or disconnection. This is applicable to the vehicles in the table that follows:

Model	VIN
DBS	After *01540 or after *11541
DB9	After *12505
Rapide	After F00001
V12 Vantage	After S00118
V8 Vantage	After *13435

If these procedures are done correctly, the vehicle will have:

- Correct misfire detection
- Reduced incorrect indications of the engine check lamp
- Improved driveability
- Smoother gear changes

Workshop Procedure

WARNING: DURING THE PROCEDURES THAT FOLLOW, YOU MUST DRIVE THE VEHICLE AT 70 MPH (110 KPH). ONLY DO THIS WHERE IT IS SAFE AND LEGALLY PERMITTED.

1. Connect and start the AMDS.
2. If you have replaced a part that is in the list on Page 1, delete all misfire correction data from the vehicle
3. Use the AMDS to Data log **PID Number 000016DD CF_KAM_MTR** in the primary and secondary PCM (When installed).
4. Data log the throttle position from the engine management.
5. Data log the brake switch position.

Flywheel Profile Data Learn Procedure (All V8 and V12 Vehicles)

To let the PCM learn the flywheel profile data, do the procedure that follows:

6. Fully warm-up the vehicle (Engine coolant temperature more than 85° C and transmission fluid temperature in the range 50° C to 100° C).
7. Set the Air Conditioning (A/C) and the Sport mode to off.

Note: The adaptive data will not be learned if the A/C and the sport mode are in operation.

8. Drive the vehicle and increase speed to a constant 70 mph (110 kph). The transmission must be in 6th gear (In D or ASM mode, or 6th gear in a manual car).
9. Release the throttle fully and let the vehicle coast down to 30 mph (48 kph). Do not brake (make sure that the road is safe to do this).
10. Do steps 3 and 4 again two more times.
11. If the procedure is completed, the PID Number 000016DD CF_KAM_MTR in the PCM will now show **“Learned”**.
If it shows **“not learned”**, the procedure did not complete correctly and you must do steps 3 thru 5 again.
12. When the PID Number 000016DD CF_KAM_MTR in the PCM shows **“Learned”**, the procedure is complete. Stop and disconnect the AMDS.

Automatic Transmission Control Module (TCM) Adaptive Learn Procedure

Up to 08MY DB9 (VIN Range *00001 thru *10562).

To let the TCM learn the gearshift adaptive data again, do the procedure that follows:

1. Fully warm-up the vehicle (Engine coolant more than 85° C and the transmission fluid temperature in the range 50° C to 100° C).
2. Do the adaption learn procedure that follows on a flat road.
3. Make sure that the transmission is in Normal mode (Not Sport or Touchtronic).
4. Accelerate from a stop with light throttle opening and get gearshifts 1 to 2, 2 to 3 and 3 to 4 with the engine speed in the range 1500 to 1800 rpm.
5. Continue to accelerate lightly to 50 mph (80 kph) until the transmission changes to 5th gear.
6. Lightly brake the vehicle to a stop and hold the vehicle at a stop with the footbrake for 15 seconds (make sure that the road conditions are safe to do so).
7. Do steps 3 thru 6 a minimum of five-times (we recommend between five and ten times). The TCM will then have learned an initial level of gearshift adaptive data.

Note: *Learning of the transmission adaptive data is never fully completed as the Transmission Control Module (TCM) continuously adapts to parameters that change.*

Automatic Transmission Control Module (TCM) Adaptive Learn Procedure

For DBS from E00001, DB9 09MY (after VIN *10557) and Rapide (from F00001).

To let the TCM learn the gearshift adaptive data again, do the procedure that follows:

1. Fully warm-up the vehicle (Engine coolant more than 85° C and the transmission fluid temperature in the range 50° C to 100° C, or above 30° C for the first five gear changes).

Note: *For the first five gear changes, the adaptations are starting from 30° C and will occur over the complete torque and speed range. After ten gear changes, the adaption parameters (speed, torque and temperature range) will decrease for better adaptations.*

2. Do the adaption learn procedure that follows, on a flat road.
3. Make sure that the transmission is in Normal mode (Not Sport or Touchtronic).
4. Accelerate from a stop with a light throttle opening and get gearshifts 1 to 2, 2 to 3 and 3 to 4 with the engine speed in the range 1600 to 1900 rpm.
5. Continue to accelerate lightly to 45 mph (70 kph) until the transmission changes to 6th gear.
6. Let the vehicle coast down from 6th gear to 4th gear. Do **not** brake.
7. When the vehicle changes to 4th gear, lightly brake the vehicle to a stop.
8. Use the footbrake to hold the vehicle at a stop for ten seconds (make sure that it is safe to do this).
9. Do steps 4 thru 8 again a minimum of five-times (we recommend between five and ten times). The TCM will then have learned an initial level of gearshift adaptive data.

Note: *Learning of transmission adaptive data is never fully completed as the Transmission Controller Module (TCM) continuously adapts to parameters that change.*

If you have any queries related to this Service Bulletin, please contact: Aston Martin Technical Services on:
+44 (0) 1926 644720 or facsimile: +44 (0) 1926 644733.
E-mail: amtech@astonmartin.com. Or contact your After Sales Manager.

The English version of this Service Bulletin is written in
Simplified Technical English to ASD STE-100™.