

| SERVICE BULLETIN | | |
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| To: ALL DEALERS For the attention of: The Service Manager Please copy to: Aston Martin Technician(s) The Dealer Principal The Parts Manager | Reference: SB: 0148 Issued: November 2004 | |
| Model: | DB9 (Manual and Automatic Gearboxes) | |
| Subject: | Flywheel and Gearshift Learning Procedures | Page 1 of 2 |

This Service Bulletin is being issued to inform the Dealer network of the adaptive learning procedures which are required when either the Powertrain Control Module (PCM) or the Transmission Control Module (TCM) have been reprogrammed or have lost their 'Keep Alive Memory'.

The engine and Transmission Control Modules use an adaptive learning process to improve performance by compensating for manufacturing tolerances in the engine and transmission.

Benefits include:

- More accurate misfire detection
- Improved engine emissions
- Smoother gear shifts

The following procedures will therefore enable the Control Modules to 'relearn' the relevant data if lost following service work during which keep alive power that has been lost. The original data would also be erased from the controller memory if any Module has been 'reflashed'.

Manual Transmission Vehicles

If the battery has been disconnected, carry out procedure A.

If the Powertrain Control Modules have been reflashed or disconnected, carry out procedure A only.

Automatic Transmission Vehicles

If the battery has been disconnected, carry out procedure A then procedure B.

If the Powertrain Control Modules have been reflashed or disconnected, carry out procedure A only.

If the Transmission Control Modules have been reflashed or disconnected, carry out procedure B only.

WARNING – The following procedures involve driving the vehicle at 70 mph (110 kph). Only do so where safe and legally acceptable.

Procedure A - Loss of Data in the Engine Control Module caused by Power Disconnection or Module Replacement (Manual and Auto Transmissions)

Enable the Powertrain Control Module to relearn the flywheel profile data as follows:

- Fully warm up the vehicle (Engine Coolant Temperature above 85°C and Transmission Fluid Temperature above 50°C)
- Switch OFF the Air Conditioning. **Adaptive data will not be learned if the Air Conditioning is on**
- Drive the vehicle and increase speed to a constant 70 mph (110 kph)
- Close the throttle fully and allow the vehicle to 'coast down' to 40 mph (65 kph) with no braking

Note:-The coast down from 70 to 40 needs to be done in Normal mode (not Sport or Touch) on the auto and in 6th gear on the manual.

- Upon reaching 40 mph (65 kph), accelerate back to a constant 70 mph (110 kph)
- Repeat the accelerate to 70 mph (110 kph) and 'coast down' to 40 mph (65 kph), a total of three times
- The engine controller will then have learned the flywheel profile

Completion of flywheel learning may be checked using WDS. Monitor the PID 'Profile correction learned during this trip'. When this PID switches to 1, flywheel learning is complete.

Note: Other engine adaptive data will be learned during further running of the vehicle.

Procedure B - Loss of Data in only the Transmission Controller (Auto transmission only)

Enable the Transmission Control Module to relearn the gearshift adaptive data as follows:

1. Fully warm up the vehicle (Engine Coolant above 85°C and Transmission Fluid Temp above 50°C)
2. Switch off the Air Conditioning. **Adaptive data will not be learned if the Air Conditioning is on**
3. Confirm that the transmission is in Normal Mode (Not Sport or Touchtronic)
4. Accelerate from rest with light throttle opening and obtain gearshifts 1-2, 2-3 and 3-4 with the engine speed in the range 1500 – 1800 rpm
5. Continue to accelerate gently to 50 mph (80 kph) so the transmission shifts into 5th gear
6. Gently brake the vehicle to a standstill and hold the vehicle at rest with the footbrake for 15 seconds
7. Repeat steps 3 – 5 a further 4 times. The Transmission Control Module will then have learned an initial level of gearshift adaptive data

Learning of transmission adaptive data is never fully completed, as the Transmission Controller continually adapts to varying parameters such as clutch wear and gearshift timings.

If you have any queries in connection with any aspect of this Service Bulletin, please contact Aston Martin Technical Services on +44 (0) 1926 644700/2/3 or facsimile: +44 (0) 1926 644733. or e-mail stiltma1@astonmartin.com, dhende17@astonmartin.com, or nhunter3@astonmartin.com

Thank you for your co-operation in this matter.

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