

- Saviour of the ECU?



Ian Jones, Technical Director of Autologic Diagnostics Ltd, looks at the importance of flash programming in vehicle repair.



Flash programming has become an integral part of servicing and repairs for the majority of newer vehicles. This is because car manufacturers are producing increasingly complicated vehicles, with multiple ECU's at the very heart of their operating structure.

When the manufacturers launch a vehicle, there can be subsequent problems found during daily use. These problems are often fixed by the manufacturers releasing a 'reflashing' fix for the ECU, similar to the software patches released by Microsoft to fix known bugs within the latest programme. Flash programming can address issues such as transmission shifting problems, hesitation, rough engine idle, drivability, check engine lights, emissions quality, poor performance and any number of other operational problems. More frequently, flash programming is the only way to repair a vehicle and cure these issues. Over 100 million cars on the road today support flash programming.

Naturally, all vehicle parts will experience wear and tear through daily use. For example, an automatic gearbox may be suffering shift jolt. Reflashing with a modified program allows the transmission pressures to be used in a modified way, increasing drivability and resulting in the prolonged life of components. As another example, given the especially cold weather experienced of late, jumpstarting can lead to voltage spikes to the ECU software. Flash programming is the only way to restore the ECU back to its original state.

Flash programming also comes into play when fitting new ECU's. The base software that ECU's are typically supplied with gives them limited functionality. Calibration software must be matched to the vehicle specification and then flashed to the ECU in order for it to work properly. Flashing may also be required to allow retrofits to function correctly. The Denison Gateway 500 will interface an iPod with the inbuilt car entertainment system. However, it will only work if the vehicle has been programmed to know that the Gateway interface is present.

Additionally, when certain components are fitted, the internal engine software needs to be updated so that the new component is recognised - otherwise the vehicle won't run properly. A genuine example of this was when BMW changed the air mass meter fitted to E46 3 series diesel engines. The new meters were not compatible with the old ones and therefore could not just be swapped out, without compromising the exhaust emissions. The Engine Management System required reflashing with a software update so that the ECM could interpret the correct signal from the meter.

Accurately diagnosing and repairing many of these newer vehicles used to require full access to expensive dealer tools, leaving many independent garages held to ransom. Without a diagnostic tool with flash programming capabilities, independent garages may end up wasting time and money trying to repair an issue with hard parts that cannot be repaired without a calibration flash update.

A 'reflash' of commonly experienced problems is not regarded by vehicle manufacturers as a recall, so unless it's discovered as part of a normal servicing of their vehicle, most affected car owners won't even be aware of any potential problems, which could easily be rectified through a simple reflash. This provides independent garages with another reason to invest in a diagnostic tool with flash programming: the up-sell. If garages offer customers the opportunity to get their vehicle updated to the latest available calibration flash, the car owner may see some benefit in performance, drivability, or even fuel economy. It also serves as good preventative maintenance to update the calibration flash and avoid any problems that it was intended to fix.

A key aspect to bear in mind before undertaking any flash programming is to ensure that there is a stable power supply. It is imperative that the voltage supply does not falter during the flash programming procedure as this can destroy the ECU that is being programmed! A number of suitable battery chargers and support units are available, such as Fronius, Deutronic and Traction.

In these tough economic times, when every penny counts and consumers know to shop around for the best deal, if your competitors are offering a flash programming service, shouldn't you be too?

Autologic Diagnostics are the manufacturers of a dealer-level automotive diagnostic tool. Covering all systems and functions, Autologic is claimed to be the only aftermarket diagnostic tool which includes ECU Flash programming and coding. Service functions, DTC's, live data/actuators and data logging are also standard.

Autologic host regular training sessions, with courses specifically designed to further a technician's knowledge of both the vehicle systems that they are working on and how the Autologic diagnostic tool can be used most effectively.

Established in 1999, the company now boasts customers in over 50 countries, including thousands of garages.



END TO END REPAIR SOLUTIONS

www.thatcham.org/thatchamID

Thatcham Integrated Diagnostics combines the repair expertise of Thatcham with the diagnostic know-how of Delphi.

Thatcham
Integrated Diagnostics
powered by Delphi