



Euro 5: FAQs

Euro 5 is currently a hot topic and with the legislation now coming into force, Bosch looks at how this will affect independent vehicle repair workshops.

What is Euro 5?

The Euro 5 standard regulates the type-approval of motor vehicles with respect to emissions, but it also includes new rules regarding the access to vehicle repair and maintenance information. As of September 2009, any vehicle manufacturer (VM) applying for EC type-approval for a new vehicle must provide proof of compliance with the Euro 5 regulations.

The main areas covered in the regulations are:

- ▶ Tighter emissions limits for diesel and petrol engine vehicles
- ▶ Access to manufacturer information for vehicle repair
- ▶ Flash programming of control units

For the independent repairer it's the proposed access to vehicle repair and maintenance information, to be made available via the manufacturer websites that is probably most important. This includes a stipulation that the VMs must allow independent repairers access to the software data that is used to reprogramme vehicle control units by use of a J2534 PassThru device.

Here are some answers to frequently asked questions regarding Euro 5:

What is a PassThru device?

A PassThru device is an item of hardware that allows a PC type computer to communicate with a vehicle's computer systems for the purpose of reprogramming and software updates.

What is J2534?

J2534 is a common programming interface standard designed by SAE (Society of Automotive Engineers) that enables the transfer of the software data. This standard must be adopted by all of the vehicle manufacturers and will allow the Independent Aftermarket (IAM) the ability to reprogramme (flash programme) ECUs without the need for a special dealer-only tool.

To enable my workshop to carry out J2534 ECU reprogramming, where do I obtain a PassThru device?

A Euro 5 compatible hardware device is required and most of the Bosch KTS diagnostic range has this capability already built-in. This includes the KTS 340,

KTS 515, KTS 530, KTS 540, KTS 570 and KTS 670. The earlier KTS 520, 550 and 650 models are compatible when used in conjunction with UBox2.

What vehicles are applicable and when does the legislation take effect?

Euro 5 mandates that within 6 months of any new vehicle type approval made after September 2009, the VM must make all of the repair and maintenance information (including ECU calibrations) for that vehicle available. This means, however, that the earliest issue date may not be until 01.03.2010.

Where do I get the ECU software updates from?

Each VM is required to make their ECU calibrations available on their own websites. It is the responsibility of each VM to maintain and update their own sites, and keep current calibrations available for download.

Will vehicle information and software downloads be free?

No. The VMs must make vehicle repair and maintenance information available via their websites on a daily, monthly, and yearly basis, but with fees for access to such information varying in accordance with the respective periods of time for which access is granted.

Are ECU software updates necessary for normal vehicle servicing?

It is envisaged that some VMs will require their vehicles to have any necessary software updates carried out during servicing in order to retain the vehicle's warranty status. With some vehicles, the installation of the latest software updates may be required before the service lamp can be extinguished.

Will I be able to reprogramme all of the ECUs in a vehicle?

No, it depends on the vehicle manufacturer, and not all ECUs are reprogrammable.

Will I be able to "initialise" and code new or replacement ECUs?

If the VM makes the software data available it will be possible to code new control units but certain programming procedures may fall outside the scope of the legislation. For example, security and safety system data may not be accessible.

Does a PassThru interface allow ECU diagnosis?

Not always. A PassThru interface is a stand-alone hardware device requiring only a windows-based PC with a USB or RS-232



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serial port, and an internet connection (to access the calibration files). Some VMs may allow ECU diagnosis with a PassThru interface and internet connection but only a few manufacturers propose this function. Euro 5 does not oblige vehicle manufacturers to provide online diagnosis.

How long does a J2534 ECU reprogramming process take?

The programming period depends on the actual vehicle, the calibration file size, and

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the total number of calibration files. Expect a range between 2 minutes and 75 minutes per control unit, however, in some cases it may take longer. Multiple control units on a vehicle may also require updating simultaneously.

Is high-speed internet access required?

No, but it is highly recommended. As you will be required to download the calibration file directly from the VM website, shorter downloads equate to quicker reprogramme times. Also, in some cases the VM will require a direct connection between the vehicle, the shop PC and the VM server.

Can I use wireless internet connections?

These are not recommended. A connection

failure could result in the permanent loss of data and leave the vehicle in an inoperable condition.

Is it possible to damage a vehicle ECU during the reprogramming process?

If all the VM instructions are followed correctly, this is not likely. However, it is important to understand that once started, the reprogramming process must not be interrupted or any reprogramming device disconnected. PCs must not be allowed to go into hibernation or similar power management modes and the vehicle's voltage must be maintained. It may also be worth explaining to the customer that the reprogramming is recommended by the vehicle manufacturer, and that your workshop does not control the content of the calibration files.

What is critical for successful reprogramming?

There are 4 key-points that need to be followed for successful reprogramming:

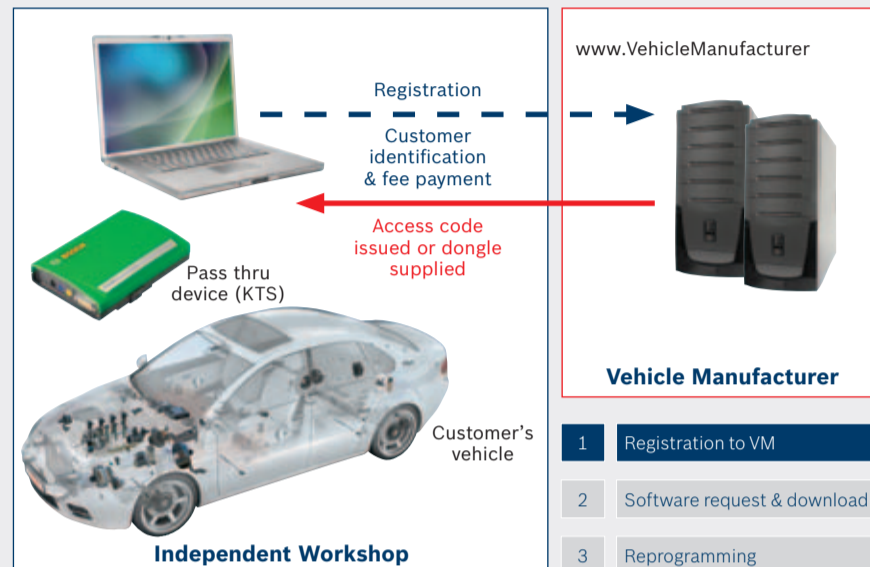
1. The vehicle's system voltage must remain constant (as specified by the VM) during the reprogramming process. Note: Electronic chargers such as the Bosch BAT 415 can ensure that system voltage remains stable throughout.
2. The vehicle's electrical system also needs to be functioning properly and in a good state of health (e.g. battery condition and cable connections).
3. Ensure that the reprogramming process is not interrupted and that all devices such as PCs remain fully active throughout the process.
4. Follow the manufacturer's reprogramming instructions to the letter.



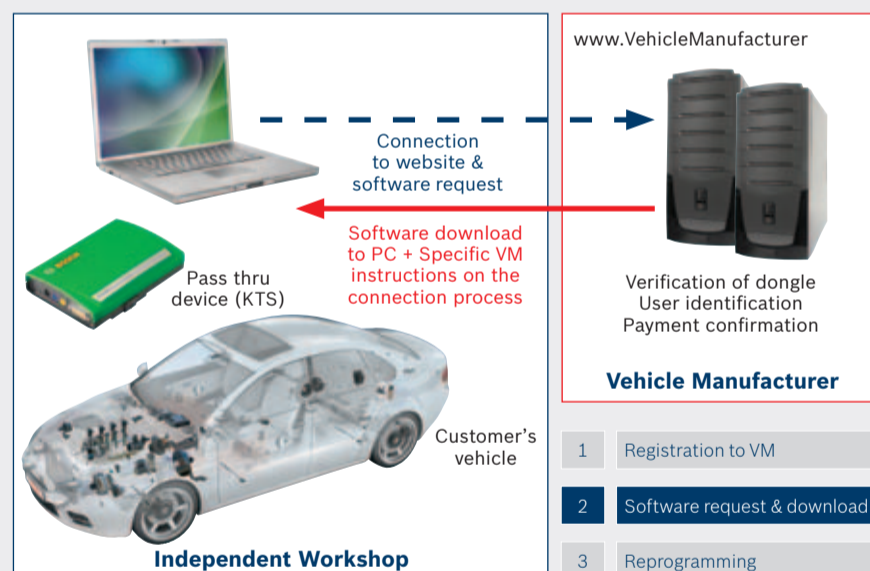
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Step-by-step: The typical ECU reprogramming sequence:

An example of the typical ECU reprogramming sequence: Step 1



An example of the typical ECU reprogramming sequence: Step 2



An example of the typical ECU reprogramming sequence: Step 3

