

Shark Injector

Instructions for Upgrading & Restoring

1999-2006 BMW



Due to the age of the vehicle's electronic components and the technical nature of flash programming, we will not be held responsible for any damage arising from your use of the Shark Injector.

Please read and understand the instructions below. Contact your dealer if you have any questions on the procedures. Do not continue the installation if you are unsure of the process.

Pre-Install Notes

If the Shark Injector has any trouble during the installation, the red LED will flash an error code – refer to page 4 for a list of codes and further explanation.

The process for an Upgrade and Restore is the same.

A battery charger is **mandatory**. The charger must be capable of providing a constant 10-20a charge.

Read through all notes and steps of these instructions before programming! Contact your dealer with any questions.

All 2002-2006 Vehicles With An Automatic Transmission

Per BMW programming instructions, any 2002-2006 vehicle with an automatic transmission must have its transmission computer disconnected. Otherwise communication between the Shark Injector and the engine computer can be disrupted. See Page 3 for vehicle-specific EGS locations.

By not removing the EGS components from the process, you run the risk of communication failure between the Shark Injector and the engine computer. If this happens at any time during the read or programming phase of installation, the total loss of the engine computer may occur. Repair or replacement of the engine computer and other components will be done at owner's expense.

Step-By-Step Installation

1. If you have a 2002-2006 model with an automatic transmission refer to Page 3 to disconnect the auto transmission computer. *Failing to disconnect the transmission computer may result in a blank or "dead" engine computer, which will need to be replaced at owner's expense.*

If your vehicle is a 1999-2000 E39 528i or 1999-2004 E39 540i/M5/Z8, at this time you must disconnect fuses 17 and 31 in the glove box fuse panel. This is to temporarily remove power to the DSC 3 module to allow programming.

If your vehicle is a 2001-2006 E46 with SMG transmission, at this time you must disconnect fuses 33, 56 and 61 in the glove box fuse panel. This is to temporarily remove power to your ABS/DSC module to allow programming.

2. Locate the rectangular 16-pin OBD-II port in the interior of your BMW. It should be under the driver-side dash or on the passenger side of the transmission tunnel and covered by a flip-top plastic cover.
3. To ensure a constant voltage for programming, connect a high quality battery charger to either the battery itself or the jumper posts in the engine bay. Turn the battery charger on to a minimum 10 amp setting (*20 amp setting if your vehicle is equipped with Daytime Running Lights, Angel Eyes, or any other accessory powered on with the key*).

NOTE: "trickle chargers" or chargers that shut off after a period of time are not acceptable. The charger must be on and provide a continuous 10+amp charge throughout the installation!

Failure to maintain 12.5v throughout the procedure may result in an inoperable vehicle, where the only solution would be the physical replacement of control modules ***at owner's expense***. Voltage below 12.5v can cause permanent failure. **Owners should evaluate the age and condition of the battery before proceeding;**

4. With the key removed, insert the Shark Injector into the port making sure not to depress the button while doing so. The Shark Injector will positively “snap” or “click” into the port when fully seated. You must be able to observe the LEDs from outside the vehicle during the installation. Use a mirror or something reflective, like the back of a DVD. The green LED should now be illuminated **SOLID** green.
5. Turn the ignition switch to the ON position but do not start the car (Check Engine/SES lamp must light up).
6. Ensure that all electrical loads are off (radio, climate control, lights, etc). Exit the vehicle at this time. Close all of the doors but lower the window closest to the OBD port.
7. Wait at least 30 seconds, and then press the button on the Shark Injector. Within 3 seconds the green LED will begin to **PULSATE** (flicker) indicating the transfer of data between the ECU and the Shark Injector. Note that the pulsating LED may be faint or very fast and you will need to look closely to notice.
8. Between 1 and 9 minutes (depending on the vehicle), the red LED will turn on **SOLID** while the green LED continues to **PULSATE** indicating that the Shark Injector is entering the REPROGRAMMING phase.
9. Between 1 and 5 minutes, the red LED will turn off, while the green LED will continue to **PULSATE**, this is the final check phase of reprogramming your vehicle.
10. Finally, between 30 seconds and 3½ minutes, the green LED will stop *pulsating* and illuminate **SOLID**, this is your indication that an Upgrade was successful. If you see a solid green and solid red LED, this indicates that a Restore to stock was successful.
11. Turn the ignition off (you may open the door for better access). Wait 1 minute but do not remove the Shark Injector.
12. If you disconnected your automatic transmission computer in Step #1, you should reconnect it now.

If your vehicle is a 1999-2000 E39 528i or 1999-2004 E39 540i/M5/Z8, and you previously removed fuses 17 and 31 in Step #1 above, you should reinstall them before proceeding.

If your vehicle is a 2001-2006 E46 with SMG transmission, and you previously removed fuses 33, 56 and 61 in Step #1 above, you should reinstall them before proceeding.
13. Close the door and assure all electrical loads are off. With the Shark Injector still connected to the vehicle, turn the ignition on but do not start the car (Check Engine lamp must light up).
14. Wait 1 minute, then press the button on the Shark Injector, the green LED will begin to **PULSATE** indicating the transfer of some final information to the vehicle’s ECU. This phase lasts 10-30 seconds before the green LED illuminates **SOLID** green. If you are performing the Restore function, you will again see a solid green and solid red LED as in Step #10 above.
15. Turn the ignition completely off.
16. Wait at least 30 seconds, then remove the Shark Injector from the OBD-II port and recap the port. Turn off and remove the battery charger.
17. Last step! Start and enjoy your newly Sharked vehicle!!

Post-Install Notes

After programming the Shark Injector will clear fault codes and adaption values stored in the DME. If a CEL light appears after the Shark Injector install, it is most-likely a pre-existing condition. You should have the DME scanned for fault codes and take appropriate action.

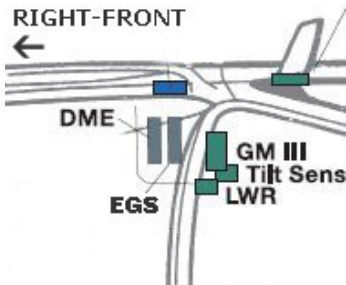
Automatic Transmission Computer for 2002-2006 BMW

The models detailed below must have their automatic transmission computers (EGS) disconnected before the programming step. Disconnecting the EGS will prevent interruption of communication between the engine computer and the Shark Injector. Disconnecting the EGS is a simple job of unplugging the connectors on the EGS unit itself. See below for EGS locations and specific instructions for each.



2002-2006 E46 325i/325xi/330i/330xi

Under a black plastic cover on the driver's side of the engine bay, against the base of the windshield. The EGS has several wiring harnesses with light blue connectors. Disconnect the connectors completely from the computer.



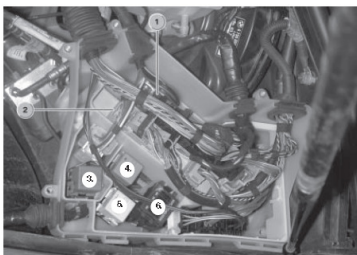
2002-2006 E53 X5 3.0

Under the cabin filter on the passenger's side of the engine bay, against the base of the windshield. Remove the cabin filter cover and then remove the white cover for the E-Box. The EGS has several wiring harnesses with light blue connectors. Disconnect the connectors completely from the computer.



2004-2005 E83 X3 2.5/3.0

Under a black plastic cover on the driver's side of the engine bay, against the base of the windshield. The EGS has several wiring harnesses with light blue connectors. Disconnect the connectors completely from the computer.



2003-2005 Z4 2.5/3.0

Under a black plastic cover on the driver's side of the engine bay, against the base of the windshield. The EGS has several wiring harnesses with light blue connectors. Disconnect the connectors completely from the computer.

Shark Injector Error Codes

If the Shark Injector has any trouble installing, the red LED will flash a 3-digit code at a pace of 0.5 sec per flash with a 2 second pause between digits. Write down the code(s) and refer to the list below. Call your Shark dealer immediately.

The following codes indicate that your vehicle is now drivable, but could not be successfully programmed.

- 123 **Vehicle voltage too low** – You must ensure at least 12.5v for programming! Your battery charger is not charging at 10amps or higher or it may have shut off or reduced its output.
- 124 **Programming voltage too low** – You must ensure at least 12.5v for programming! Your battery charger is not charging at 10amps or higher or it may have shut off or reduced its output.
- 125 **Programming voltage needed, not present** – Contact your Shark Injector dealer.
- 126 **Bad Key Index** – Contact your Shark Injector dealer.
- 128 **Login Authentication Failed** – Communication to the ECU is blocked. Either another module in the car is preventing communication or a previous software tuner has blocked access to the ECU.
- 142 **DME Hardware Unknown** – Your DME hardware is different from any one we have seen to date.
- 143 **DME Contents not stock** – Your DME is not stock! It may already have performance software installed. The Shark Injector can only install over a stock DME.
- 147 **DME Software Unknown** – Your stock version of software is new or unusual and we haven't seen it before. Most likely your dealer has installed a new version of BMW software. Contact your Shark Injector dealer for an update.
- 152 **Injector Stock Storage failure** – Return Shark Injector for analysis.
- 153 **Injector not Prepared** – Return Shark Injector for analysis.
- 162 **Vehicle Mismatch** – Your Shark Injector may have been used on a different BMW. The unit will only work on one car at a time. Contact your Shark Injector dealer for more info.
- 163 **Bad User Request** – User requested an UPGRADE when already upgraded, or a RESTORE when already restored to stock.
- 257 **Blocking ECU Detected** – Another module or computer is preventing communication between the Shark Injector and the DME – such as an automatic transmission computer or SMG module.

The following codes indicate that your vehicle could not be programmed and that its drivability is in question. Note the install step when the failure occurred, the state of the red and green LEDs, and the fault code from the red LED.

- 127 Signature Check Failed
- 132 DME Not Responding
- 134 DME Message Checksum Error
- 135 Protocol Error Busy
- 136 Protocol Error Rejected
- 137 Protocol Error Parameter
- 138 Protocol Error Function
- 139 DME reply is not known
- 145 DME Final Verify failure
- 146 DME Erase failure

Shark Injector FAQ

How does the Shark Injector work?

The Shark Injector's software replaces portions of the stock BMW software. When the button is pressed, the Injector reads the stock software and stores it for later retrieval if necessary. It also records the VIN and other required information. Then it programs the DME with its new tuned Shark files. After programming, the Shark Injector verifies that the transfer of data was completed.

What's the USB port for?

The USB port is part of a feature planned for the future. At this time, the USB port is only used for initial programming.

What octane must be used?

The minimum octane is 91. However, on certain models the Shark Injector is offered in a higher octane setting of 93. If you selected the 93 octane version you must ensure nothing less than 93 is used.

Do I really need a battery charger?

Yes! The installation of the Shark Injector requires power from the battery. It needs more power than the battery can provide on its own. This is why a battery charger is necessary. You will not be able to install the Shark Injector without the charger. The Shark checks voltage several times and will stop programming if voltage is too low.

Is it possible to "share" the Shark Injector?

No. Because the Shark Injector needs information that is specific to your car, it cannot be used on another car. The Shark Injector will give Error Code 162 if it has been previously installed on another vehicle.

A note about eBay and buying from classifieds: the Shark Injector is designed to be used on only one car at a time. Once it is used on a car it cannot be used on a different car. The Shark Injector can be reset and reused but only if it was first uninstalled from the first car. A small fee will apply to reset a used Shark Injector.

Can the Shark Injector damage my ECU?

No. The procedure that the Shark Injector follows is not much different than the one BMW uses to update your car. As long as you follow and understand the instructions the procedure is painless and transparent. In the end, this is software that is being loaded into the car; the hardware remains the same.

There is a limit to how many times a BMW computer can be programmed. Once the limit is reached it will not accept any more files and will need to be replaced or reset. We advise keeping unnecessary flashes to a minimum.

What do I do when I have to take the car to the dealer?

If your car needs to visit the dealer you should advise them that performance software is installed. If they offer you a new version of BMW software you should uninstall the Shark Injector first. New software is not always necessary and you can always refuse it.

What do I do when I have a state inspection?

In most cases, you don't have to remove the Shark Injector to pass state inspections. In rare cases, the state requires performance upgrades to be state-certified and please be aware that the Shark Injector is not certified with any US state or federal agency. Check your local laws for more information. "Race" or "no-cat" software is not legal for any street-driven vehicle and Shark Injectors with these software tunes are not designed to pass any emissions testing or inspection.

Is it legal in California?

These products are not CARB-certified or legal for sale or use in the state of California on any pollution-controlled motor vehicles.

What should I do when my Check Engine light or Service Engine light comes on?

The Shark Injector does not block or impede OBD access. You can read and reset codes just like it was stock.