

# ***Shark Injector™***

by

**Bonneville Motor Werks**

## **User's Guide**

Please follow the enclosed instructions below to ensure the prompt, and effective upgrade of your vehicle in less than 40 minutes!

*Failure to follow all of the instructions explicitly and correctly may result in damage to your BMW's computer. Please note that due to the technical nature of flash reprogramming, we are **not** and will **not** be held responsible for any damage due to nor any damages arising from your use or attempted use of the **Shark Injector™!!!***

By your use of the **Shark Injector™** you hereby agree to waive, release and discharge *Bonneville Motor Werks* and all other entities, persons and associations connected therewith from any and all claims arising out of, or relating to, the parts purchased including said parts fitness for any particular purpose. If residing in, or currently located in the State of California, you further waive and disclaim the provisions of California Civil Code Section 1542, which provides: "A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known to him must have materially affected his settlement with the debtor".

Please read and understand the conditions of sale set forth above. You further understand that any performance products manufactured by *Bonneville Motor Werks* are to be used on your off-highway racing vehicle in compliance with California State Health and Safety Code Sections 39048 and 43001(a).

***If this legal waiver is unacceptable to you, please return the unused Shark Injector™ to your retailer for a prompt refund.***

1. **STOP!!** – Please read thru ALL the steps of this instruction sheet! If you are not comfortable with this procedure please return your **Shark Injector™** to your retailer for a prompt refund;
2. Locate the rectangular 16-pin OBD-II port in the interior of your BMW. It will generally be found in the driver's under-dash area, or on the forward end of the passenger side of the transmission tunnel. It is covered by flip-top plastic cover engraved with the word "OBD". In some cases there is a second removable "trim cover" over the actual plug assembly. Remove the "trim cover" if necessary, and open the flip-top cover to gain access to the OBD-II diagnostic port;
3. Note the direction that the LED's on the end of the **Shark Injector™** will point when inserted in the OBD-II port. You will need to see these LED's for guidance from outside the vehicle. In many cases a mirror such as a mirrored tile from a home store, or a piece of cardboard wrapped in aluminum foil will be required to allow you to see the LED's from outside the vehicle. ***This is NOT optional!!***
4. If your vehicle is a **1999-2000** and listed on the **blue supplemental instruction sheet**, please ensure that you have previously had the **(SI 12 15 99) 00E-A01: Fault Readiness / O2 Readiness Codes Not Set** emissions recall update, if applicable. Failure to update your BMW as suggested may cause unnecessary delay in having to temporarily return your **Shark Injector™** for a "code 147 analysis";
5. Lower driver and passenger windows, ensuring that you have access to reach the OBD-II port;
6. At this time, ensure that the vehicle ignition is **OFF** and the key is temporarily removed;
7. If your vehicle is an **09/98** or later production E39 528 or E39 540, 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 upgrading of your DME per BMW bulletin **SI 12 16 99**;
8. If your vehicle is an **09/98** or later production E38 740, at this time you must disconnect fuse 17 in the **Engine Compartment fuse panel**. This is to temporarily remove power to the DSC 3 module to allow upgrading of your DME per BMW bulletin **SI 12 16 99**;
9. If your vehicle is an E46 M3 with SMG transmission, at this time you must disconnect fuses 33, 56 and 61 in the **Engine Compartment fuse panel**. This is to temporarily remove power to your ABS/DSC module to allow upgrading of your DME;
10. To ensure a constant voltage for proper operation of the **Shark Injector™**, attach a high quality battery charger (ex: Sears DieHard 71210, 310, 320, etc.) to the vehicle, **at the battery itself**, observing all necessary safety precautions such as the wearing of safety goggles;
11. Turn charger on at a minimum of the 10 amp setting and ensure that charging is occurring;
12. The importance of proper battery voltage cannot be emphasized enough. ***Failure to maintain proper battery voltage throughout the procedure may result in an inoperable vehicle***, where the only solution would be the physical replacement of control modules ***at owner expense***. Voltage below **12.5v** as a minimum can cause permanent failure. **Owners should evaluate the age and condition of the vehicle battery before proceeding**;
13. Wait a minimum of 20 minutes for the vehicle battery to charge with ample reserve power;
14. Open the door nearest to the OBD-II port, and insert the **Shark Injector™** into the OBD-II diagnostic port making sure **not** to depress the button while doing so. Note that the port is keyed, and the **Shark Injector™** will positively "snap" or "click" into the port when fully seated. At this time, the **green** LED should now be illuminated **SOLID green**. If the **green** LED or **red** LED is flashing or **pulsing**, remove the **Shark Injector™**, count to 10, and reinsert it into the port **without** depressing the button. The **Shark Injector™** will be powered via the OBD-II port, even with the vehicle ignition (and ECU) switched off, and **the button must not be depressed during insertion into the port**;

15. If necessary, position the mirror such that you can see both the **green** LED and it's **red** counterpart from outside the vehicle. Test close the doors and ensure that you can see the LED's from a window;
16. Turn the ignition switch to the ON position but **DO NOT** start (**Check Engine** lamp must light up);
17. **Assure that ALL electrical loads are OFF** (Radio, Climate Control, Courtesy Lamps, etc); **and that those capable of turning themselves on** (Cell Phone) **are disabled temporarily**. The Climate Control in many vehicles can be turned off by simply lowering the fan speed past it's lowest setting;
18. **Exit the vehicle at this time and close all doors**, wait at least 30 seconds, and then press the button and within 3 seconds, the **green** LED will begin to *pulsate* indicating the transfer of programming data between the vehicle's ECU and the **Shark Injector™** internal electronics package. Please note that **NO ONE** should remain inside the vehicle during use of the **Shark Injector™**;
19. Sit back, relax, watch, but **DO NOT TOUCH** anything inside the vehicle or the **Shark Injector™** itself under any circumstances. **DO NOT OPEN THE VEHICLE DOORS** as this can disturb programming!;
20. In approximately 1½ to 6½ minutes, the **red** LED will turn on while the **green** LED continues to *pulsate* indicating that the **Shark Injector™** is entering the REPROGRAMMING phase;
21. In approximately another 1 to 3½ 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;
22. Finally, in about 1 to 3½ minutes, the **green** LED will stop *pulsating* and illuminate **SOLIDLY**, this is your indication that a performance programming UPGRADE has been successfully completed and verified. If you see a solid **green** and solid **red** LED, this indicates that a RESTORE to stock was successfully completed and verified;
23. You may now open the vehicle door and turn the ignition completely off. Wait at least 30 seconds, but **DO NOT** remove or disconnect your **Shark Injector™** at this time;
24. If your vehicle is an **09/98** or later production E39 528i/iA/iT/iAT or E39 540i/iA/iT/iAT, and you previously removed fuses 17 and 31 in step #7 above, you should reinstall them before proceeding;
25. If your vehicle is an **09/98** or later production E38 740, and you previously removed fuse 17 in step #8 above, you should reinstall it before proceeding;
26. If your vehicle is an E46 M3 with SMG transmission, and you previously removed fuses 33, 56 and 61 in step #9 above, you should reinstall them before proceeding;
27. With the **Shark Injector™** still connected to the vehicle, turn the ignition switch to the ON position but **DO NOT** start (**Check Engine** lamp must light up);
28. Wait at least 30 seconds, then again press the button on your **Shark Injector™**, the **green** LED will begin to *pulsate* indicating the transfer of some final information to the vehicle's ECU. This phase only lasts about 10-15 seconds before the **green** LED illuminates SOLID green. Once the **green** LED is illuminated SOLID green you may proceed. If you are performing the RESTORE function, you will again see a solid **green** and solid **red** LED as in step #22 above;
29. You may now turn the ignition completely off. Please wait at least 30 seconds;
30. Remove the **Shark Injector™** from the OBD-II port, and recap the port;
31. Turn off and remove the battery charger;
32. Start and enjoy your newly Sharked vehicle!!

Should the **Shark Injector™** encounter any exceptions or difficulties, the red LED will flash out a 3 digit code at a pace of 0.5 sec per flash with 2 seconds pause between digits. All codes begin with a single flash, and none of the digits will repeat. If you encounter any flash codes, refer to the chart below!

The following codes indicate that your vehicle is now drivable, but could NOT be successfully programmed for some reason – follow the advice below to correct the situation. If you must return the DME and/or Shark Injector™ for analysis, please contact your **Shark Injector™** dealer first for shipping instructions.

- 123 **Vehicle voltage too low** – You **MUST** ensure at least 12.5v for programming!! The Vehicle battery is not sufficiently charged or is beyond serviceable life, the charger is not working or has insufficient output
- 124 **Programming voltage too low** – You **MUST** ensure sufficient charge for programming!! The Vehicle battery is not sufficiently charged or is beyond serviceable life, the charger is not working or has insufficient output
- 125 **Programming voltage needed, not present** – Contact your Shark Injector™ dealer
- 142 **DME Hardware Unknown** – Return **DME** and **Shark Injector™** for analysis (your DME hardware is different from any one we have seen to date)
- 143 **DME Contents not stock** – Your existing DME programming is not stock!! The **Shark Injector™** can only function on a stock programmed DME.
- 147 **DME Software Unknown** – Return **Shark Injector™** for analysis (your car may have a old, new, or unusual version of BMW software installed)
- 152 **Injector Stock Storage failure** – Return **Shark Injector™** for analysis
- 153 **Injector not Prepared** – Return **Shark Injector™** for analysis
- 162 **Vehicle Mismatch** – **Shark Injector™** was previously used or attempted to be used on a different BMW!! The unit will only work on one car!
- 163 **Bad User Request** – User requested an UPGRADE when already upgraded, or a RESTORE when already restored to stock.

The following codes indicate that your vehicle could NOT be successfully programmed for some reason, and that it's drivability is in question due to the failure – Please note WHEN and/or WHERE this failure occurred in the process, the state of the **red** and **green** LEDs and Contact your **Shark Injector™** dealer IMMEDIATELY!!

- 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**