SHARK EDIT FAQ
(v1.0.0)

This FAQ is designed to assist you in understanding the revolutionary concepts behind the **SHARK EDIT** system for engine control units.

It is split into 3 sections, a general questions section, then a specific questions section for both OBD-I and OBD-II vehicles. Please review both the GENERAL section, and then the section for your OBD variant (OBD-I for vehicles thru 1995, OBD-II for 1996+).

If you have any further questions after reading this, please send them via email to sharkedt@bonnevillemotorwerks.com. If appropriate, I will also add them to this FAQ in a future revision.

General Questions

What is **Shark Edit***?*

Shark Edit is a PC-Based editing system for vehicle engine control units. It is designed for use on a single personally owned vehicle.

What about professional use on many vehicles?

For OBD-I there are no restrictions. For OBD-II there will be two specific versions of **Shark Edit** licensable for professional tuner use. The first is based on a "per vehicle" model, where the tuner pays us a small stipend of $50 to $200 per vehicle to flash modified files into the vehicle. This is only ONCE per vehicle as determined by VIN and the ECU's individual serial number. The second is "open" and there are no charges for supported vehicles beyond the initial purchase price.

Will it work for (vehicle OEM xyz)?

Shark Edit is currently slated for compatibility w/ all OBD-I Bosch Motronic control units, and OBD-II BMW control units. Additional vehicle manufacturers will be added by us, and also by third-parties by writing plugins.

Is this a Shark Injector?

No – **Shark Edit** is completely separate from the Shark Injector except that for OBD-II vehicles a Shark Injector *may* be used to send a tune to a remote customer for loading into his/her vehicle.

Will it run on Mac? How about Linux?

Shark Edit is a Windows program. It was developed and tested on Windows XP. There are no plans at this time to port it to alternative operating systems. There is no guarantee that Microsoft will not do something to Windows Vista to completely break compatibility.

How much does it cost?

Depending on application and level, the **SHARK EDIT** software is priced from $299 to $699. See your specific OBD section for more info!

How about the professional version?

Please contact us for this information.

What do you mean by 'level'?

For tuning vehicles in their OEM aspiration state, a level 1 description file is all that is necessary or advised. For converting normally aspirated vehicles to forced induction (super or turbocharger) – level 2 description is recommended. A level 2 description file contains more predefined maps and special functions. These come from my actual tuning experience as to what is "needed" when making these forced induction conversions.

What 'maps' can I edit?

While **SHARK EDIT** has a specific set of maps provided, you can identify and manually define any calibration data object yourself – in short you can edit every editable thing available in the calibration data. The only limiting factor is how much work YOU are willing to put in.

What kind of security is built-in?

SHARK EDIT contains a permission system based upon the *ix security model. There are four entities called *Creator*, *Owner*, *Group*, and *World*. Each of these can have read, read/write, or no access. The *Creator* of the tuning project defines the access levels to that project, adds users to the *Group* entity, and in general runs the show as far as project security is concerned.

My brain hurts; can you make this any simpler?

Unfortunately not, if you don't think you can tune your own car, my suggestion is – DON'T DO IT!   You will soon be able to have someone ELSE tune your car using this industry-enabling software.

Jim, Can you tune my car for me using **SHARK EDIT***?*

Unfortunately not, this is the very reason I am releasing the technology contained in the **SHARK EDIT** program – to enable vehicle owners and other tuners to provide quality tunes.

OBD-I Specific Questions

How do I start a project?

You can start a project by reading in a file from your hard drive or by reading the contents of an EPROM via an EPROM burner/reader.

*How much does **Shark Edit** cost for my OBD-I vehicle?*

The basic **Shark Edit** program is all you need - $299 and you're done as far as software is concerned. You will also need an EPROM burner and a selection of proper blank EPROMS. These are available from many different sources on the Internet as well as local electronics stores.

Are description files necessary?

If you car is a Bosch Motronic ECU, then the included AutoMap functionality obviates the need for a canned description file.

What is AutoMap?

For any OBD-I Bosch Motronic ECU, **Shark Edit** includes a standard plugin to automatically find and define most all 'maps' in the EPROM image.

Can I still buy a description file from you?

For any cars **_except_** 1984 thru 1995 BMW vehicles, you can. They are not necessary though – thanks to the revolutionary AutoMap features. Using AutoMap in combination with peer support, you should be able to easily do whatever you need to your OBD-I vehicle.

Why can't you sell me a description file for my 1995 BMW?

Due to restrictive covenants contained in an agreement we are not allowed to do this – sorry. Other companies will likely spring up to fill the void as **Shark Edit** becomes the catalyst for a cottage industry.

What kind of security exists for my OBD-I tunes?

Unfortunately – beyond the project security inherent in **Shark Edit**, because an EPROM must be readable by the processor of the Motronic ECU to function – there is no real security.

How about those little 'protection boards'?

While they provide rudimentary protection against the casual attacker, they are not foolproof. Those who wish to use those types of security boards should contact a provider of them.

OBD-II Specific Questions

How do I start a project?

You can start a project by reading in a file from your hard drive or by reading the contents of a vehicle ECU via an interface.

What kind of interface do I need?

Determine if the vehicle you are trying to tune is local (can you touch it) or remote (you cannot touch it) when you are trying to program it? Then see below.

What kind of interface do I need for a local vehicle?

For MS42, MS43, M5.2.1, ME7.2, MSS52, MSS54, MSS54HP, EMS2000, and MS5150 equipped vehicles; any basic OBD-II "single k-line interface" will suffice.

If you ARE programming an RSA-secured ECU such as MS45, ME9, MSS60, MSS65, MSV80, or MSD80 you will need one of our interfaces. We require the use of our proprietary Bluetooth or USB interfaces for RSA-secured ECUs. These will be available for $199.

If you are programming an ECU that requires programming voltage such as MS41.1, MS41.2, or M5.2 you will need one of our specially modified USB/M20 Shark Injectors.

What kind of interface do I need for a remote vehicle?

If you have a remote vehicle you wish to read or flash load, you will need to use one of our specially modified Shark Injectors. This allows you to provide a tuned file to a customer across the state or on the other side of the planet.

How much does **Shark Edit** *cost for my OBD-II BMW vehicle?*

On the software end, you will need to purchase the basic **Shark Edit** program ($299), the BMW OBD-II Flash Module software plugin ($100) and the proper Flash Pak for your vehicle ($100 to $300 depending on vehicle and level).

On the hardware end, you will need an interface as discussed above.

What does the Flask Pak contain?

The Flask Pak contains the proper checksum plugin for the ECU type in question, a description file for the specific PSt variant of your ECU, documentation for same, and the necessary licensing components to allow the whole thing to operate.

What is a PSt variant?

PSt is an abbreviation for the German word Programmstand, which can be taken to mean "ECU Program variant". Any ECU can be programmed with many different variants of the same program, and each different variant, or PSt can have the maps in different positions and sometimes different formats. Yes, BMW does make it as complicated as they can it seems.

Does the Flash Pak contain a "base tune"?

No, it does not. A "base tune" would need to be purchased either from us or from another tuner in the form of an editable project.

What about the security of my OBD-II tunes?

The **Shark Edit** program itself will not form a project by reading either a file or ECU containing a proprietary tune. You can only form a project using a STOCK file as a base. **Shark Edit** was designed to allow collaboration where required, but to prevent IP theft as needed.

I already have a tune in my ECU, will I lose it?

No, you may read it out and save it into an encrypted VIN-locked file that may not be edited EVER, and may only be loaded back into your own vehicle.

Well, how can I edit the tune currently in my ECU?

You cannot. If your tuner uses **SHARK EDIT** – AND they wish you to be able to edit the tune – they would give you a project file containing the tune. If they do not do that – you cannot edit it. ***End of discussion!***

How about if I hack **SHARK EDIT***?*

Well, beyond the fact that it is doubtful that you can break military-grade encryption from a purely technical standpoint, the circumvention of technical copyright controls is a violation of the *Digital Millennium Copyright Act* and the *No Electronic Theft Act* – it is a serious Federal Felony – and only you can decide if a tune is worth time in "Federal Pound-Me-In-The-Ass Prison". Please note that we will assist the IP owners in prosecuting violations to the fullest extent of the law.

Can a flash be detected in my car?

OK, this is a long answer, so it gets it's own page – and the type of Dennis Miller-esque commentary that I was once famous for on Richard Welty's BMW-Digest.

Strap in folks – *it's going to be a bumpy ride*.

This is aimed at the owners of vehicles equipped w/ N54 motors, since their vehicles are the subject of BMW SIB 12 10 08 (April 2008).

The real question should be "Why do you want to hide the flashing of your car?" Do you expect to raise the boost to ridiculous levels without proper supportive hardware, blow things up, then feign ignorance and expect BMW USA to pick up the tab? It's not going to happen. The limits of the N54 motor, even if it is equipped with a larger oil-cooler and such are still being discovered. In some cases, this discovery has been accompanied by blown turbos, clutches, and motors. If you expect to hit 400whp and NOT have anything bad happen on a stock setup, you are smoking the good stuff. In short, charlatans selling snake oil have skewed many owners' expectations. It was people doing this very thing: modifying their engines, breaking things, and feigning ignorance that caused BMW to see warranty costs on the N54 skyrocket and hence take his harsh stance.

You reap what you sew.

Now, on to the technical part….

A properly calibrated flash tune will not set fault codes in the engine.

(unless BMW takes some drastic measures – which I won't go into, as I don't really want to give them any ideas, OK?)

Once removed, there should be NO TRACE of its presence.

Ergo you can tune a car and then remove the tune. No traces.

What about the __flash counter__?

To our knowledge, no BMW has ever been equipped with a "flash counter" as are some Volkswagen/Audi Group vehicles. BMW ECUs do have something called the UIF/AIF – which limits the number of updates that can be applied to any single ECU. We do not touch this structure and hence have flashed many ECUs over 1000 times.

Still, flashing your car – causing failures – then feigning ignorance is the reason we are in the mess we are in w/ the N54. Your choices are made of free will, and you should accept the consequences of your choices.

Well, wasn't the whole purpose of **Shark Edit** *to tune undetectably?*

< sigh >

No, the purpose of **Shark Edit** is to allow flash tuning at ALL.

Not just for the N54 – but for most all OBD-II BMW vehicles since 1996 model year.

As to the N54 conundrum…

BMW has had __enough__ of the piggyback computers – to the point that they are modifying existing MSD80 DME ECUs (from Progman V29.2 and beyond) and introducing a new DME MSD81 simply to PREVENT the use of piggybacks. Even if the piggyback manufacturers can get around the current level of "tripwires", BMW will simply introduce more and more until they achieve their goal. Ergo – flashing will be the only way to tune these cars. It is to this end that I took the steps to introduce **Shark Edit** to the vehicle owners.

Sounds like you agree with BMW's policies?

Well, putting aside the whole "take responsibility for your own choices" theme… I don't. As an aside, I personally think BMW's actions have opened themselves up to a major lawsuit. Any lawyers in the crowd with specialty in anti-trust and anti-competition law?

In short, if I agreed that BMW should control what happens to your car after you buy it, I would never have produced **SHARK EDIT**.