



Subaru

Flash Reprogramming from the Internet

Fix cars with software?

Yup, and it's coming soon.

If you're not recently from a dealership, the concept of fixing cars with software may still seem odd to you. After all, aren't we auto service technicians in the business of snooping out bad parts and replacing them? Sure we are, but this is a logical addition to that, and it's becoming more and more important. Now, with SAE J2534 Recommended Practice guidelines on flash reprogramming from the Internet as the law, it's also becoming more accessible to us independents, and at a reasonable cost, too.

Corrections

What sorts of problems can software changes address? To begin with, think of all the things you might have done in the old days to improve performance, such as installing different carb jets, tailoring the spark curve, and adding an aftermarket transmission valve body to adjust shift points and quality. Or, remember the bootleg modification that some techs made in the early days of electronic engine management at great risk of a hefty EPA fine? For example, to cure chronic hesitation from a too-lean mix, they'd solder a resistor into the coolant temperature sensor signal wire to make the brain believe the engine was colder than it really was.



Those were gross and unsophisticated procedures compared to what reprogramming can accomplish. We're talking an almost unimaginable array of driveability and emissions issues, both subtle and not-so-subtle.

Also, Subaru dealers can do stuff to other on-board modules besides the PCM (or, ECU, the term that Fuji Heavy Industries prefers) to improve all kinds of vehicle functions from security to A/C and ABS. We in the aftermarket, however, will be handling mostly driveability/emissions factors, and ABS only if this system is managed by an integrated VCM (Vehicle Control Module).

The proprietary software situation in the industry as a whole changed to what we have today when SAE J2534 came out. Given impetus by the California Right to Repair bill, it became the law laid down by EPA. What it says is that everybody employed in the business of fixing cars has to have access to affordable means of flash reprogramming PCMs in order to meet the most current calibrations. That is, if they have any effect on emissions.

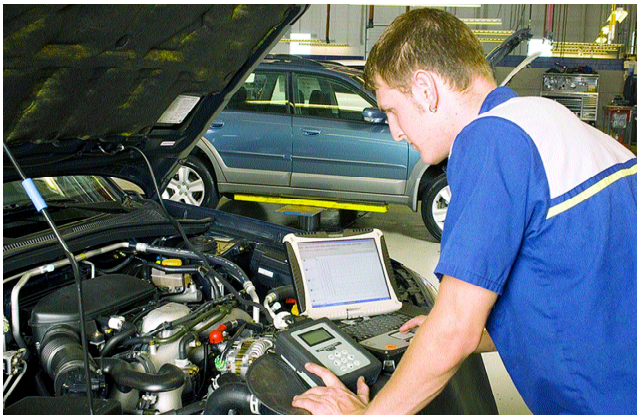
Continued on page 30

Right: Just as the EPA mandated that the OBD II DCL must be standardized, so the agency is using SAE J2534 guidelines to make flash reprogramming available to everyone.



Subaru Flash Reprogramming

We in the aftermarket can buy relatively affordable pass-through reprogramming equipment so that we can handle any Subaru emissions/driveability issue that might arise.



The new SDS the dealers are getting includes the means of flash reprogramming from the Internet, among many other things.

No Problem?

To put this in perspective where Subaru is concerned, flash reprogramming is really not needed that often, certainly not with the frequency we've heard about on several other makes. Let's face it: Subaru vehicles simply don't have that many problems, emissions/driveability-wise (or, where anything else is concerned, for that matter). The cars are most thoroughly and judiciously engineered in the first place, then strenuously tested under all possible conditions (and some that might seem impossible). Also, of the few issues that do arise that can be tweaked away with a software update, most will be taken care of by the dealer long before the warranty runs out. On the other hand, some people just prefer to do business with the likes of you, the friendly independent. If it costs them a little to have you handle all their automotive service needs,

they accept that rather than return to the dealer. Or, perhaps there's no dealer nearby.

But there's another factor on the latest Subaru models that you should be aware of: If you should ever need to replace the PCM/ECU because it's been burned, shocked, water damaged, etc., the new one won't even start the car until it receives an initial software download. In other words, it's "tabula rasa" (blank slate), as a philosopher might put it. It's like a personal computer without an operating system. In this scenario, unless you have the equipment and access to a website that provides downloads, you would have to send the car to a dealership to have the necessary programming done, which would obviously be inconvenient for everyone involved.

Compliance

Subaru of America is making every effort to be in compliance with J2534 and EPA guidelines for reprogramming. While the company's dealers will be using equipment that's part of the new SDS (Service Diagnostic System, with emphasis on System) to handle reflashing, you will be able to use any aftermarket pass-through set-up you choose — part of the purpose of J2534 is to promote standardization so that a generic tool can be used. This is similar to the DLC (Diagnostic Link Connector) standard required by OBD II. How much will it cost you to tool up? With some exceptions, \$1,000 and up.

In a future issue of *The End Wrench*, we'll give the address of the download site and details of the procedure. Then, you can rest assured that you can take care of your loyal customers. ■