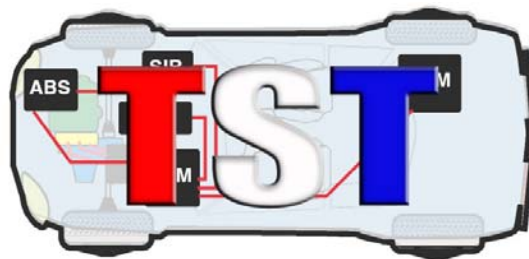


January 2011



Technicians Service Training

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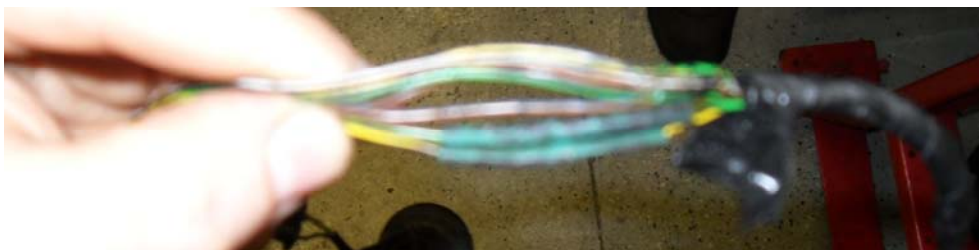
Editor

Jerry "G" Truglia

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Don't Try This at Home (J2534 Reflashing)

So, we had a 2009 BMW X5 that was in a minor fender-bender that the body shop needed us to reprogram. We went through the whole process with the Autologic, updated all the modules, and the vehicle only recognized three out of the four Parking Device Control sensors.



We found some wiring repairs done on the PDC wiring harness so we figured the repairs were shoddy. After replacing the harness, we found that now four of the PDC sensors were off-line. The PDC Module had power and ground, but no power was going out. So, we bought a new module and decided to reprogram it this time with the J-Box.

J-2534 reprogramming poses a lot of challenges, especially for BMWs. So, we illustrate it here so you can see how it is like in the real world.

Step 1: For BMW you have to go to BMWTechInfo.com, buy the \$30 one day subscription, and download the reprogramming software on a *dedicated* computer.

Step 2: Hook everything up.

(Con't on page 3)

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Currently there are **TST chapters in Connecticut, Massachusetts, New Jersey, New York** and membership continues to grow. For more information you can call

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- *Keep our fellow technicians up to date with the latest technology.*
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- *Keep technicians informed of information affecting our industry.*
- *Increase consumer awareness of what a good technician is.*

Why join TST?

TST membership includes special pricing on once a month week-day night seminars and the occasional full Saturday seminar. With a \$75.00 yearly membership, the monthly seminars are only \$65.00.

TST classes are NOT sales or product seminars. The instructors that TST brings in are all “hands-on” industry experts with up to date, cutting edge knowledge that you can use in your shop the next day. That’s 65 dollars for a seminar in which you are able to learn something useful, for fixing those tough jobs that we all see on a regular basis. Our instructors are masters at making the complex understandable. Membership also includes a Monthly Newsletter full of real world technical articles, diagnostic case studies, and solutions to the kinds of problems you see in your bays each week.

The following are some of TST’s regular instructors:

Bernie Thompson of ATS www.ATSnm.com

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Jorge Menchu the “Labscope Guru,” owner of AES

www.aeswave.com/aboutaes.htm

John Anello Auto Tech On Wheels www.autotechonwheels.com

Luis Ruiz Mechanic’s Education Association

www.meatraining.com

Jerry “G” Truglia National Instructor & owner of A.T.T.S. Inc.

www.attstraining.com

Don't Try This at Home (con't from p. 1)

As long as a car gets over a specified amount of voltage from a low-ripple battery charger (here the Midtronics GR8) we will be able to maintain the minimum 13 V the BMW needs to not fry the modules during reprogramming.

Now, we have the Foniux BMW-specified battery maintainer, but here we proved it is possible to do a successful reflash without the “proper” battery maintainer. In fact, we did this reflash by putting the charger on manual charge at 13.7 V under the hood (circled) where the vehicle is jumped.



In the above picture, you can see how we need to use a dedicated laptop with the BMW reprogramming software on it. To the left, you can see how we hooked up directly to the glassmat battery in the trunk. This is to act as a back-up just in case the charger overheats or stops.

Next, we hook up the J-2534 reflasher interface (here a Drew Tech Cardaq) between the laptop and DLC. To get an idea of how this would be done, turn to page 7.

(Con't on page 7)



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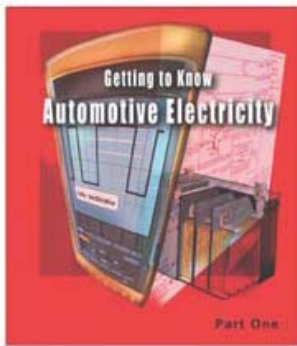
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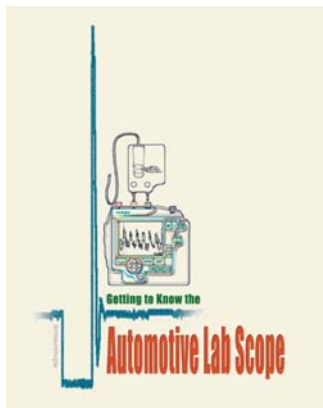
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Don't Try This at Home (con't from p. 3)



The Cardaq connected via USB to the laptop—Be careful!
The Cardaq connected to the car, directly to the DLC



We then start up the laptop, connecting to the internet using an Ethernet cable. Never use wireless because on BMWs the updated is not downloaded and then flashed—it is simultaneously downloaded from the internet into the vehicle. Any break in the internet service will fry the on-board modules.

The same is true of the USB connections to and from the J-Box. USBs disconnect easily, so if you kick the wire out by mistake you are in for a world of hurt.

Word is that BMW's J-Box software purposely has a much slower server than what is made available for the dealers...so, it is a time consuming process.

(Con't on page 9)

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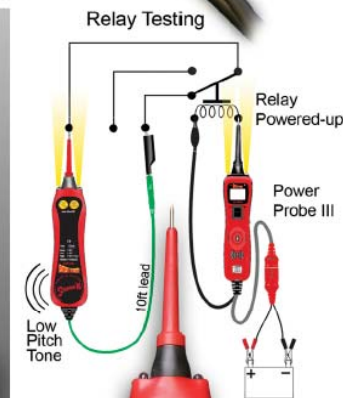


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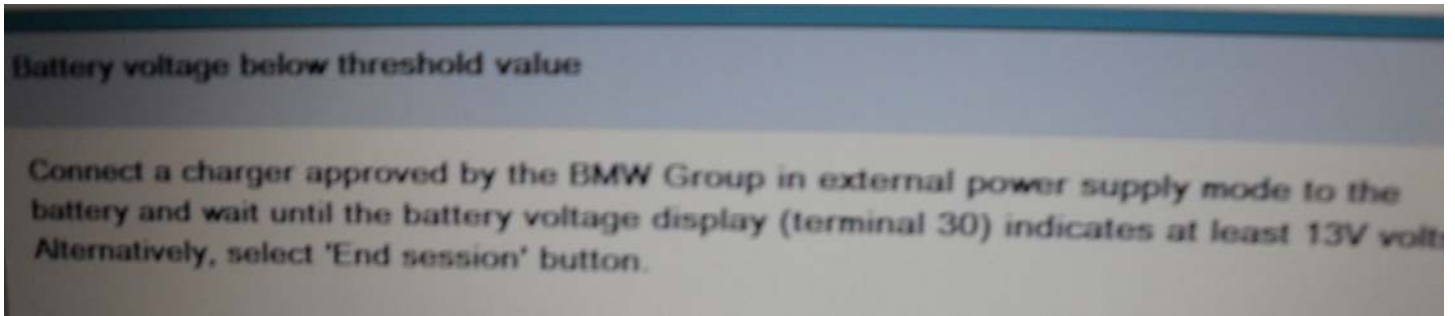
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Don't Try This at Home (con't from page 7)

3. Look out for hazards!



Not only must you make sure you are hooked up to the internet and that no one kicks the wire, you must maintain more than 13.0 V! As we discussed previously, we accomplished this using a low-ripple charger. Ideally, you should use a battery maintainer like the Fronius that supplies at least 55 AMP and 13.4V. Here, we used manual charge at 13.7 V. Charging voltage rises and falls, sometimes a bit below 13 V. BMW has it that the reprogramming pauses when it goes below 13 V...but anything that gets rid of simulated alternator charging voltage is risky.

4. Keep yourself busy for five hours...

Using an Autologic, it takes an hour—even quicker if you just update one module. **With a J-Box it takes 5 hours and you need to update all the modules.**

It's a painstaking process of following prompts and commands (such as clicking the OK button, pulling the key out of the ignition, and etcetera.) You can't walk away from the vehicle, so find something to busy yourself. Here, Adam Varney of Northeast



Auto Doctors is drinking a eating dinner, reading up on 1980s Mercedes, and interpreting some waveforms on the ATS EScope.

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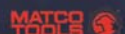


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1. Do you want seminars to continue in your area?

2. Do you find the seminars useful?

Please ask a fellow technician to come and check-out our seminars so we can continue to bring you the best available information each month.

We need your support:

Thank you, G Truglia

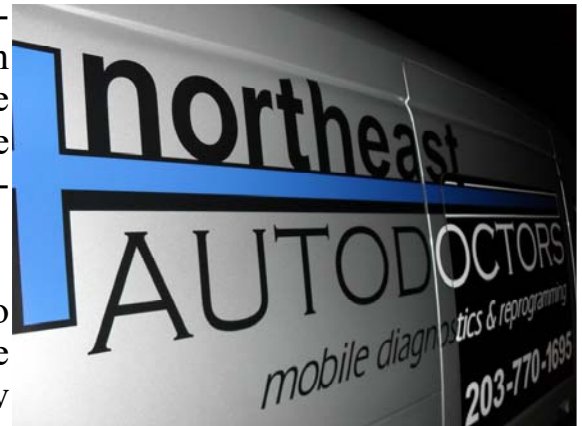
Don't Try This at Home (Con't from page 9)

5. Devise a way to make reprogramming profitable.

According to Mobile Tech Adam Varney, "You are going to have to scratch your head and figure out how you are going to charge the customer for all the soda [sic] you drank during the reprogramming."

Dealerships charge as low as \$125 to reprogram a BMW. Sometimes the manufacturer subsidizes these low rates. In BMW's case, they just shortchange the tech, paying him only 0.9 hours for hours of work. There is only so much a customer can be charged as a result!

Reprogramming is a long, technology-oriented, high stakes and low reward process. The worst part is that there is not much else you can do other than sit around and make sure the process is happening correctly. Pursue with caution! Our advice: Don't try this at home.



Craig Truglia, Kevin Quinlan, and Adam Varney

No J-Boxes, BMWs, or Modules were harmed during the writing of this article. Not every vehicle is as painstaking to reprogram using a J-Box as a BMW. Chryslers are quite easy for example. Certain manufacturers, such as Nissan and Hyundai, have compatibility issues with J-2534 even though they are supposed to be fully compatible. A Snap-On J-2534 won't even work on Toyotas.

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5. Carman Scan Lite: Most powerful aftermarket scan tool for Hyundai and Kia, and other Asian OEMs. Very reasonably priced too.
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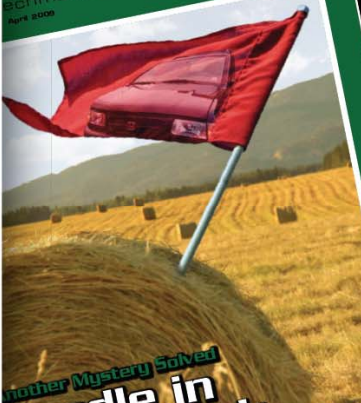


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Another Mystery Solved
Needle in a Haystack

Business INSIDER

Inside the Insider

Five Ways to Limit Liability
By stepping out into the business world, every shop has exposure. While you cannot stop people from suing you, you can limit your business' personal assets and wallet from your liability if you take some steps to protect yourself.
(Turn to page 1)

Human Potential
The mind is a strange and powerful tool. Psychologists tell us some very interesting things about its functions. First, 90% of its activity is subconscious.
(Turn to page 1)

In Times Like These
Small business is the lifeblood of our economy. Businesses like ours.
(Turn to page 3)

Sole Proprietorship
If you are not sure whether the individual or a company is the best business vehicle, this question comes up on a regular basis. My answer to this dilemma has always been the same, it depends.
(Turn to page 8)

MT Business Insider Pricing Matrix
Businesses are based on percentages, but customers look at prices. How do you reconcile your business' need to make a profit with your customers' need to pay a fair price?
(Turn to page 8)

E Certification: The Competitive Advantage
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Five Ways to Limit Liability For Business Owners
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Human Potential Using What You've Got
The mind is a strange and powerful tool. Some very interesting things about its activity are subconscious. Let's define things within or without oneself. 90%! Think a bit -- If -- you are 100% in control during your work, how many times are you capable of achieving it still only 10%? It's generally agreed that a human's learning ability is physical. Remember that a scrap of brain tissue no larger than a grain of rice contains more information than a computer the size of a Honda. Now consider that an average person's brain weighs about three pounds. How many ounces of yours do you actually use?

Jaguar 4.0L False Timing Chain Issue

So, we had a 2000 Jaguar XK8 Vanden Plas 4.0L that refused to start. The engine turned over, but refused to start. They say that there are three ingredients to a properly starting engine: spark, fuel, and an operative motor.



It had fuel and spark, so we checked to see the engine's compression. It was low all the way around at only 30 psi a cylinder when it should have been closer to 100 to 150 psi. What's the only thing that can bring compression down equally on cylinders? The timing chain! What do you think?

However, if you read the title to this article you would already know that this is wrong. Well, thanks to Identifix, we were able to find out that this is a Jaguar specific no-start that is created by a programming problem.

How so? The old programming left the injectors open too long, dumping too much fuel, effectively washing down the cylinder. This dried up the rings and killed compression. Here universally the customer might have not hydostatically locked the engine by keeping his foot down on the pedal, but instead he washed down the cylinder walls dropping the cylinder compression universally low.

It is extremely important to check out Technical Service Bulletins. TSB S479 specifically addresses this no-start with a reflash. The problem is that the TSB is extremely vague. So, unless you had Identifix, you might have felt inclined to replace the engine like the last shop, but to no avail.

The car worked great after an oil change, new spark plugs, a mixture of 10W30 and STP oil treatment squirted in the cylinders, and a reflash. Keep an eye out for this happening on other cars, as you can never discount the extremely unlikely. Do simple tests like sniffing the oil on the dipstick, checking the oil level (it may be high), oil color, or light the dipstick on fire and see how it burns. Everything from the basics to important resources were needed to repair this car the right way.

Article by Kevin Quinlan and Craig Truglia

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