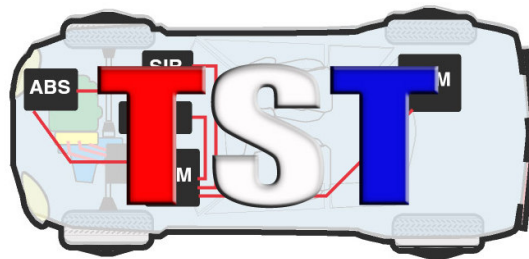


November 2024



Technicians Service Training

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"First-Time Mistakes"

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December 18th

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Editor

"G" Jerry Truglia

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"First-Time Mistakes"

To err is human; to forgive, divine is a phrase that you may have heard at one time or another. In the automotive business, however, an error could be very costly and just may not be forgiven by the vehicle or owner. In this article, I will provide you with real-world shop mistakes that I and others have made. Some are costly in time or parts that both affect the shop's bottom line; and, in other cases, costly in terms of one's reputation.

Our First Tale

One of the problems that we encountered in our shop recently was on a 2008 Honda Accord with 125,000 miles that had come back after a timing belt and tune up were performed. The owner returned to our shop because of an illuminated check engine light that resulted from an engine misfire. After the tech connected the Honda factory scan tool, he retrieved the misfire DTCs (**Figure 1**) along with a P0339 Crank Sensor DTC. It's never good when a customer returns with any problem after a repair has been recently performed on their vehicle. The return of the MIL light is the telltale sign that the vehicle's computer system sees something wrong and is going to alert the driver. There is no way, at least with drivability issues, that you can hide from doing it right. So, we had to handle the vehicle owner very carefully and be honest with her on what the problem was.

(Con't on page 3)

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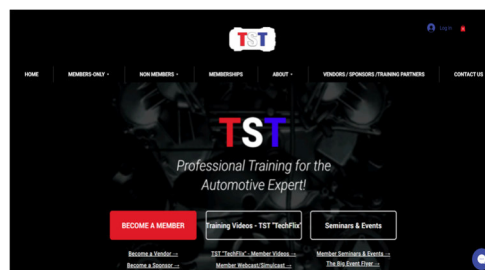
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DTC_Sell Sheet_6/24/2016/49

"First-Time Mistakes" (con't from p. 1)

We explained what went wrong and caused the MIL light to illuminate and what we were going to do to make it right.

Before we dive too deep into this misfire and crank sensor problem, a good suggestion would be to read up and understand the DTC description before moving forward. Since this looked like a simple problem that may be the result of a possible defective ignition part, the tech performed the usual diagnostic routine. Well, in this case it was a lesson that was going to be learned the hard way. Since many technicians would start testing the ig-

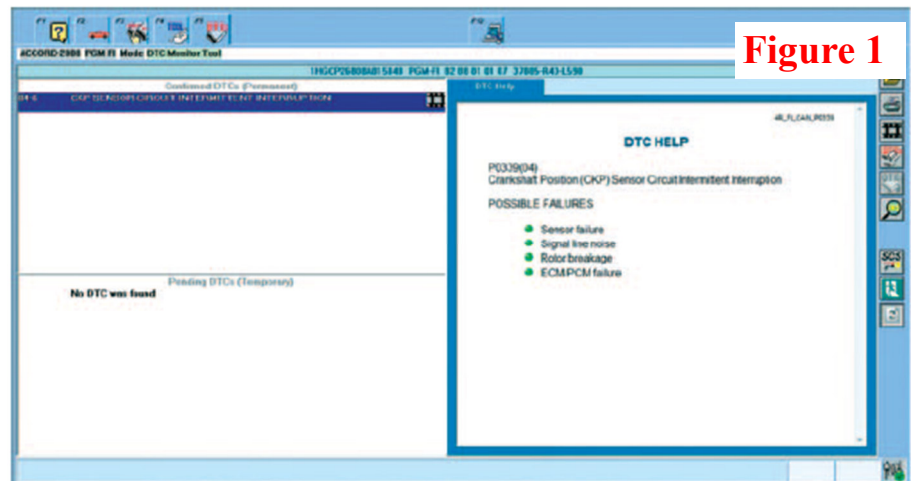


Figure 1

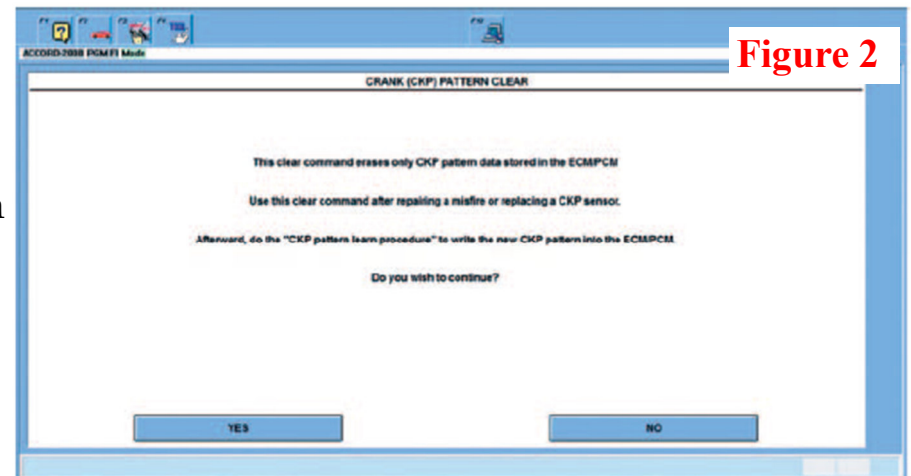


Figure 2

nition and fuel system as the first part of the diagnosis, they would not find the root cause of the problem on this Accord. The next logical step that the technician would most likely perform is checking the crank sensor and possibly replacing it without repairing the problem. Some of the first steps to perform are having a vehicle owner Q&A, visual inspection, system scan and a TSB check. In this case, there was a TSB for this Honda that describes the DTCs and lists the potential problems, such as a weak battery that can cause the P0339 DTC. Reminder: It's also a good idea to check service information and TSBs on every vehicle you work on. After all, you don't know what you don't know. My technician checked the crank sensor and

(Con't on page 5)

"First-Time Mistakes" (con't from p. 4)

the circuit without finding any problems. After checking the vehicle for over an hour, my tech was still baffled on what the root cause of the misfire could be. He decided to ask me if I had any idea what was causing the problem since he could not pinpoint it.

I proceed to check all the basics from the battery, engine mechanical condition, ignition and fuel systems, as well as the CKP circuit, only to find the same results as my tech. My suggestion was to perform a Crank Relearn procedure (**Figure 2**) on this vehicle, since it's the procedure that Acura/Honda recommends. I connected the MVCI along with the Honda factory software, showing and explaining the procedure to the technician so he could get a better understanding of the problem. Once the procedure was complete, the vehicle was road tested, then returned to the owner without any DTC or MIL illuminated. We assured the vehicle owner that her engine was in very good condition and all the issues were addressed. We explained that there was really nothing wrong with the work we performed on the engine, but by accident we forgot to perform the relearn procedure. The vehicle owner left our shop with a smile and even called us about 10 days later to tell us that the Accord was running great.

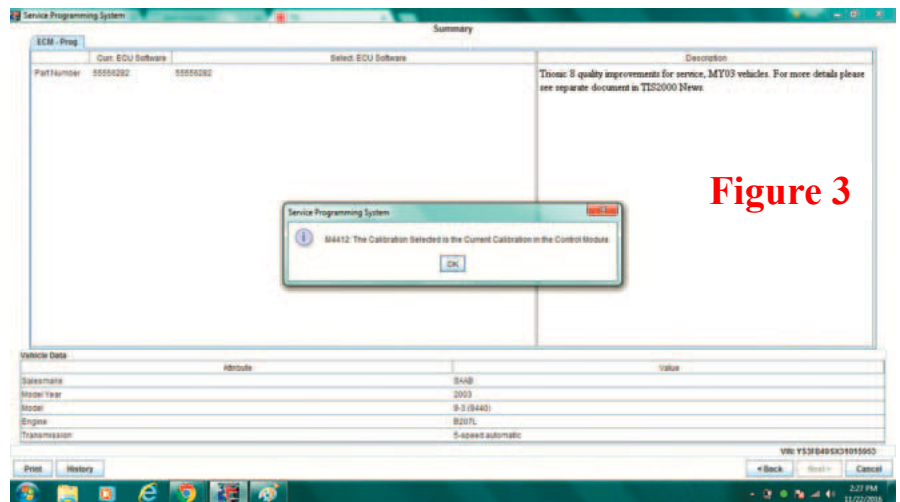


Figure 3

Lesson No. 2

Our next mistake was on a 2003 Saab 9-3 that had a DTC P1681 Control Module Internal fault that one of my techs brought in the shop for his cousin. After my tech checked all the basics, he confirmed that the

(Con't on page 6)

"First-Time Mistakes" (con't from p. 5)

After my tech checked all the basics, he confirmed that the problem was in the ECU. This problem on the 9-3 had only one fix for the P1681 DTC and that was to replace the ECU and program it. Since we all know that Saabs are no longer made, my tech went the cheapest way and found a used ECU to install. With the new ECU installed, his next step was to program it with the correct information by updating the programming file. Without asking anyone else in the shop, he proceeded to program the car with a J2534 tool **(Figure 3)**, rather than using our factory Saab tool.

It's wasn't his first time programming a vehicle, but there are some things that he just did not know about programming a Saab. After trying the program procedure two different times without success, you would think he would have asked one of us for some assistance. Not sure why he didn't ask, but he decided to wait for the weekend and contact one of my students. Jamie is a good technician that already took his lumps with a Saab and is knowledgeable and helpful, so he showed my tech the correct procedure. Jamie explained that the only way the vehicle could be programmed was with the factory Tech 2 Saab scan tool. When it comes to programming a Saab, you must go through the Tech 2 scan tool and not a J2534 device. Sometimes you just have to ask others for help and not be embarrassed to say you don't know everything. Once the procedure was properly performed on the 9-3, the vehicle ran great without any DTCs.

On to No. 3

A 2016 Acura RDX came in from one of the body shops we do work for because it was involved in an accident and had two codes stored: BD0090-87 DTC (No Signal from the Left Front Impact Sensor) **(Figures 4, 5)** and B18C7 (Blind Spot System) error. Since this is a new vehicle, the only way we were going to diagnosis it was by connecting our Honda factory scan tool. With the scan tool connected, DTCs were visible, along with helpful information on what to check and test right in the scan tool.

(Con't on page 13)

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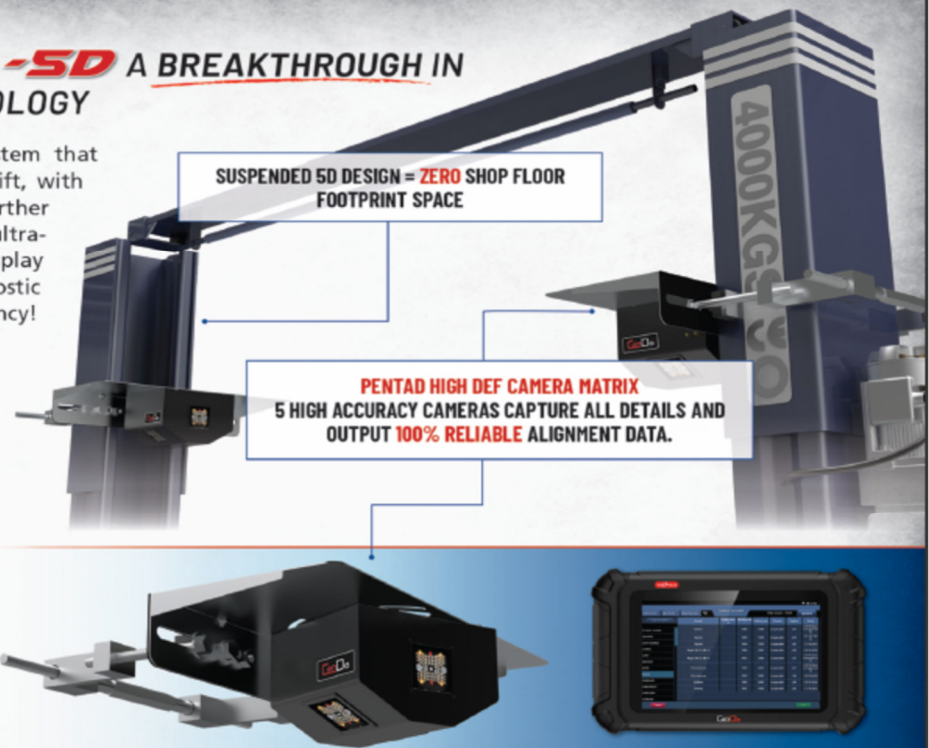
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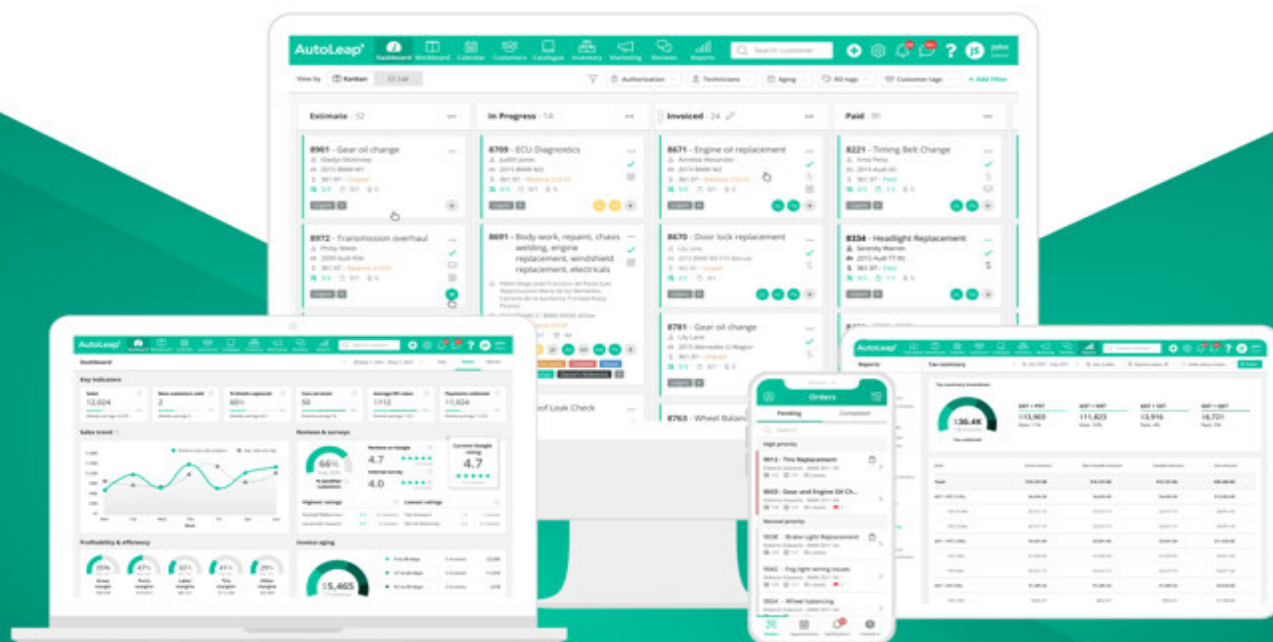
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"First-Time Mistakes" (con't from p. 12)

As you can see **(Figure 5)**, the BSI (Blind Spot System) indicator problem could be everything from an open in a wire or connector to a bad connection. We decided to tackle this problem first since it looked the easiest out of the two DTCs. We performed all the suggested checks and did not find a problem, so we performed a drag test on the BSI indicator connection along with applying Stabilant 22, then retested the circuit. The good news was that this problem was now repaired, but now we had to move on to the tougher of the two problems.

With our attention now directed to the BD0090-87 DTC, we first tried to clear the DTC again only to find it would not erase. This result meant that we had a hard code that was caused by either an open circuit, a defective impact sensor or defective SRS computer as per Acura/Honda factory information. The body shop stated that they had replaced the impact sensor and the SRS computer with new Acura parts. After performing all the system checks, wiring and connector checks, we did not find any issues that would cause this hard DTC. I called the body shop and inquired about the impact sensor, asking if they knew where the old part was. The body shop informed me that the impact sensor was replaced with an updated part number and that they were sure it was installed correctly. I stopped him to ask if he was sure that there was an updated sensor for this vehicle. He replied that his information system that he uses for collision work provided him with that information. I suggested he locate the original part and please drop it off so I could check it out. The body shop located the old left front impact sensor and dropped it off.

While examining the impact sensor we noticed that the part looked the same but the numbers did not match **(Figure 6)**. For the hell of it, and since we could not find anything else wrong in the circuit, we thought we would plug in the old sensor to see if we could clear the DTC and prevent it from returning. **Bingo - the old sensor cleared up the DTC, along with removing the message from the dash display.**

"First-Time Mistakes" (con't from p. 5)

Our conclusion was that the old sensor was good and the new one was either bad or it was the wrong part.

The Acura was not finished just yet. Due to body repair regulations, once a vehicle is involved in an accident, the sensors and computers for the SRS system are required to be replaced. It would now be up to the body shop to contact the dealer and get the correct Left Front

Impact Sensor for the vehicle before returning it to the owner. The lesson learned here is to never fully trust a part information system or parts person 100 percent, since the part was obviously wrong. With the new Left Front Impact Sensor installed, the vehicle was back to proper operation with no codes or warning messages displayed.

And The Lessons Continue

A 2008 Mercedes-Benz ML350 with 254,697 on the clock came in with a bunch of different problems from the common intake manifold to the tail lights staying on all the time. Our customer's issue with the rear tail lights staying illuminated even when the vehicle was turned off, along with the icon for the rear hatch being illuminated, killed the ML350 battery. The vehicle owner stated he noticed that the lights were not turning off,

(Con't on page 13)

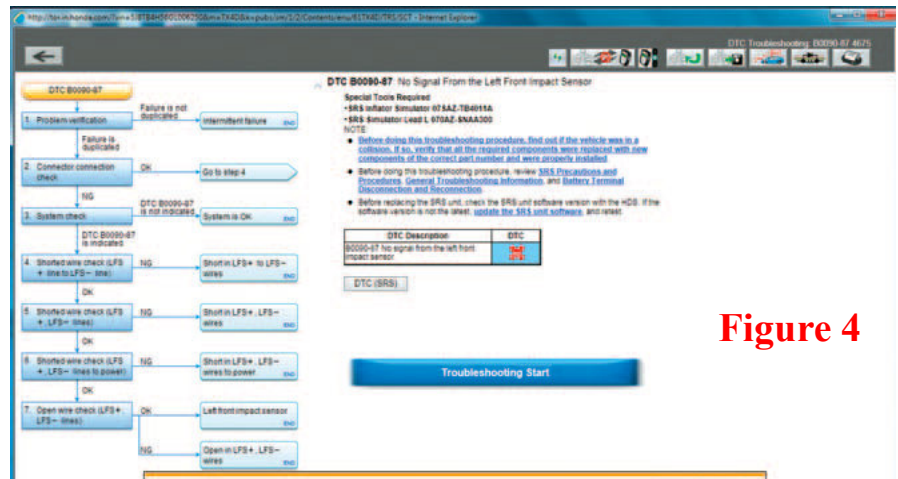


Figure 4

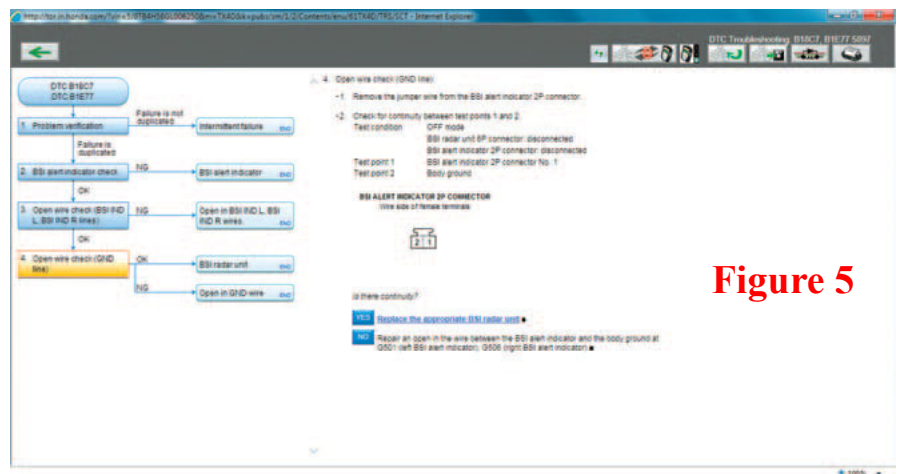
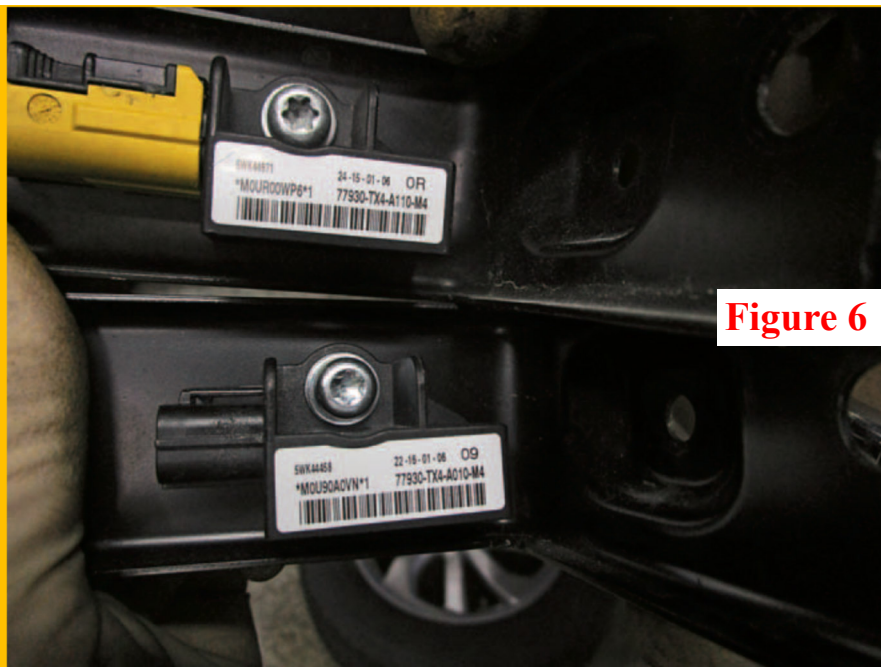


Figure 5

"First-Time Mistakes" (con't from p. 12)



*Article By
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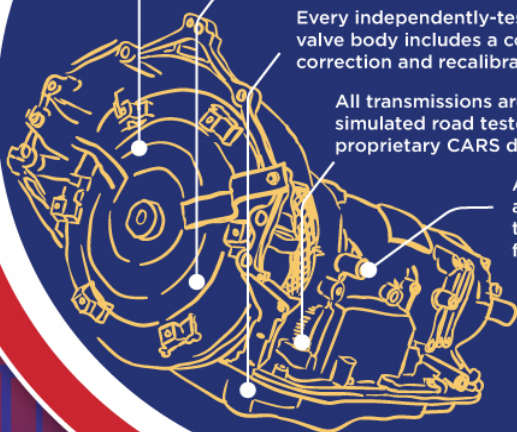
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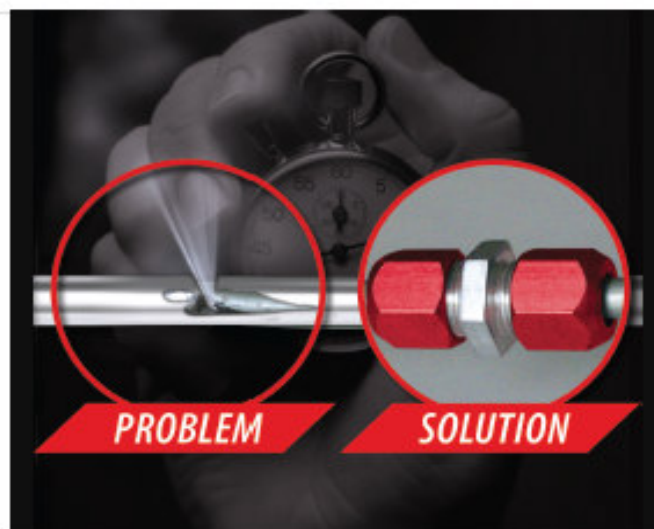
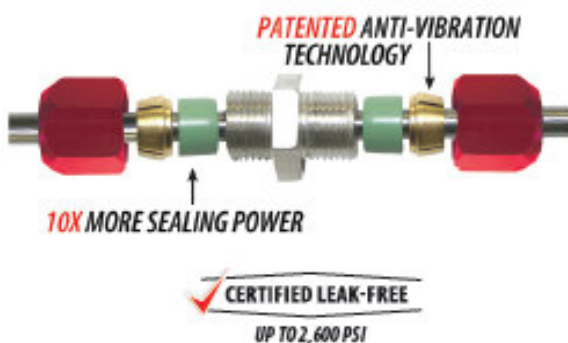


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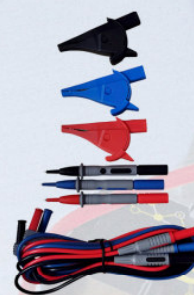
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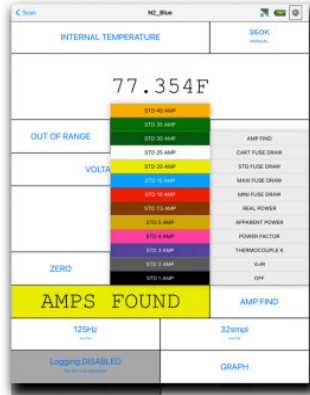
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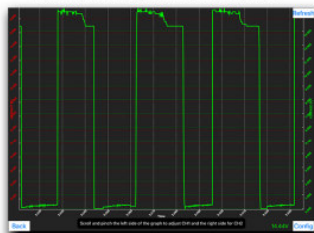
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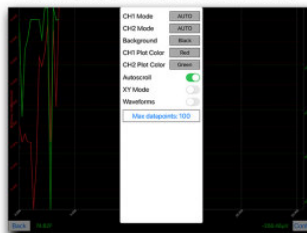
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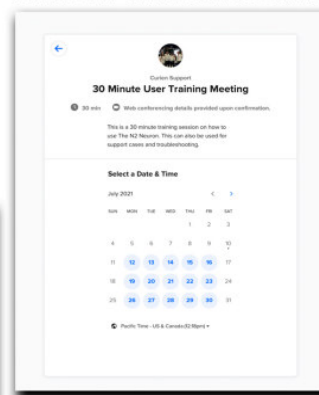
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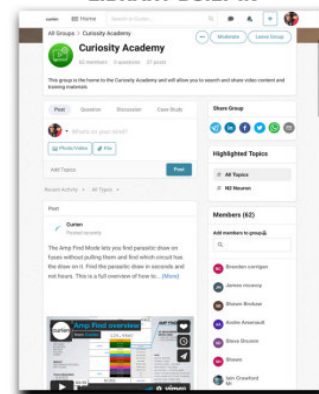
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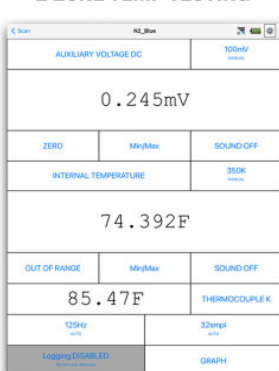
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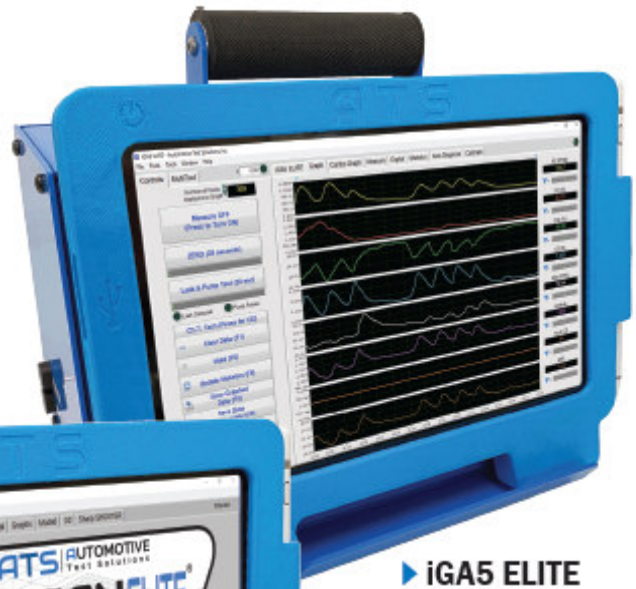
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25 6:00 am - 5:00 pm Vehicle Body Systems Diagnostic Tools - South Region	27 6:00 pm - 6:00 pm CST 2023 Diagnostic Day 1 - Midwest	28 6:00 pm - 7:30 pm 2023 Diagnostic Day 2 - Midwest	1 7:00 am - 8:30 am CST Shipping Meeting Networking	2 6:00 pm - 7:30 pm VCDI (Intermediate) - SGP	3	4
5	6	7	8	9	10	11
12	13 Plug In Power - PHEV & BEV 2023 Charging - NE	14	15 Engine Conference 2023 - NY	16	17	18
19	20	21 Automotive Cybersecurity 2023, National (Online)	22 6:00 pm - 6:00 pm Network R/CN & R/CN/A/C System Diagnostic Institute - SGP	23 6:00 pm - 7:30 pm Chassis: Driveline & - SGP	24	25 6:00 am - 5:00 pm TROUBLESHOOTING TROUBLESHOOTING & DIAGNOSTIC TECHNIQUES - Midwest
26 6:00 am - 5:00 pm TROUBLESHOOTING & DIAGNOSTIC TECHNIQUES - Midwest	27 6:00 pm - 7:30 pm VCDI (Beginner) - SGP	28 6:00 pm - 7:30 pm Transmission - SGP	29 Chassis: Driveline & - SGP	30 6:00 pm - 7:30 pm VCDI (Beginner) - SGP	31 6:00 pm - 7:30 pm VCDI (Intermediate) - SGP	1 6:00 am - 5:00 pm TROUBLESHOOTING TROUBLESHOOTING & DIAGNOSTIC TECHNIQUES - Midwest

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