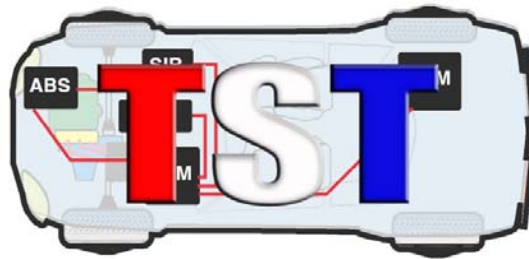


February 2017



Technicians Service Training

INSIDE THIS ISSUE:

"The Case Of The Automotive Chia Pet"

P. 1 - 12

"TST Big Event Information"

P. 14

Upcoming Seminars:

**TST Big Event Saturday
March 25th, 2017**

Tarrytown, New York

Tom Rayk—NAPA

Wayne Colonna—ATSG

Mark Warren—World Pac

Scott Brown—Iatn Keynote

**Ongoing FREE Webcasts
& on YouTube**

**Check out our YouTube
channel [tstseminar](#)**

Like us Facebook

Editor

"G" Jerry Truglia

© 2017 ATTS INC.

"The Case Of The Automotive Chia Pet"

Our I thought that I had seen everything as a mobile diagnostic specialist, but this car really stands out.

I was called to a shop on a 2003 Hummer H2 with a

6.0L engine with about 120,000 miles on it

(Figure 1). The complaint was a no-start condition. The owner of the vehicle said he had parked the truck to go into a store and



(Con't on page 2)

“The Case Of The Automotive Chia” (con’t from p. 1)

when he came out about an hour later, the truck would start up and then immediately cut out. The shop techs could not communicate with the Engine Control Module (ECM), but they were able to run the truck with carburetor cleaner. The truck had spark and fuel pressure, but was losing fuel pulse. This led the shop to believe that the vehicle was immobilized, preventing the vehicle from being started. The shop knew that this vehicle had the Pass Lock 2 system on board and that the Body Control Module (BCM) played a role in starting the vehicle.

The Pass Lock 2 systems are used on many GM vehicles from 1995-2005 and can be identified by a security light on the dash and by a key with a “PK2” stamped on the metal part of the key where it meets the plastic end. There are some keys that may not have the “PK2” stamped on them and also are used for this system. These keys do not incorporate an internal chip, but function only to turn a lock cylinder that houses a magnet in the center of the key cylinder assembly. When the lock cylinder is rotated in the crank mode, it will travel far enough for the magnet to go past a 3-Wire Hall Effect sensing device located in the lock housing allowing the sensor to pull the 5 Volt Pass Lock signal from the BCM to a certain predetermined level. It is this specific value that is learned within the BCM’s memory. If the vehicle battery was to go dead or a new Pass Lock sensor was installed in the vehicle, you would have to perform a 30-minute learn procedure to allow the vehicle to run.

The shop techs were unable to talk to the BCM as well, so they removed part of the left side dash to gain access to the Pass Lock sensor and BCM for further testing. They validated the power and ground feeds to the BCM and Pass-Lock sensor and were not too quick to condemn any unwanted parts. Because both the ECM and BCM were unresponsive, it only made sense that the truck would be in a theft mode. The engine did start and die so that indicated that the ECM was working but was just unable to communicate. The shop at this point decided to call me in to get a second opinion.

(Con’t on page 4)

What is TST?

TST is a group of dedicated technicians and instructors committed to the continuing education of our fellow technicians. We provide training seminars to technicians at a reasonable price. TST brings our members nationally known instructors and state of the art training.

Our Goal & Mission Statement

- **Keep our fellow technicians up to date with the latest technology.**
- **Provide training seminars for a reasonable price.**
- **Deliver information that the technician can use now.**
- **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 weekday night seminars and the occasional full Saturday seminar. With a **\$75.00 yearly membership**, the seminars are only **\$50.00**. **TST seminars 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 75 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 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

John Thornton of Autotrain Inc.

Wayne Colonna of ATSG

Jorge Menchu the "Labscope Guru," AES Wave

John Anello of Auto Tech On Wheels

Mark Warren of World Pac / Motor Magazine

Bob Pattengale of Bosch

Peter Meier of Motor Age Magazine

Ken Zanders of Illinois Air Team

"G" Jerry Truglia of A.T.T.S. Inc.



Technicians Service Training

Home About Us Locations Seminars Seminars on DVD Catalogs Newsletters Membership Rates/Book Store Contact Us Links



Copyright © 2007 Technicians Service Training, all rights reserved.

Technicians Service Training

11 Lupi Plaza

Mahopac, NY 10541

Phone: (845) 628-6928

Fax: (845) 628-9109

Email:

Info@tstseminars.org

TST on YouTube...type in tstseminars

No part of this newsletter may be reproduced, stored in a retrieval system, or transmitted, in any form by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission of the authors.

Information contained in this newsletter is intended for use by professional auto repair technicians familiar with approved vehicle repair procedures. The authors are not responsible for physical injury or property damage resulting from the incorrect application of information or procedures outlined in this volume.

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

(845) 628-6928

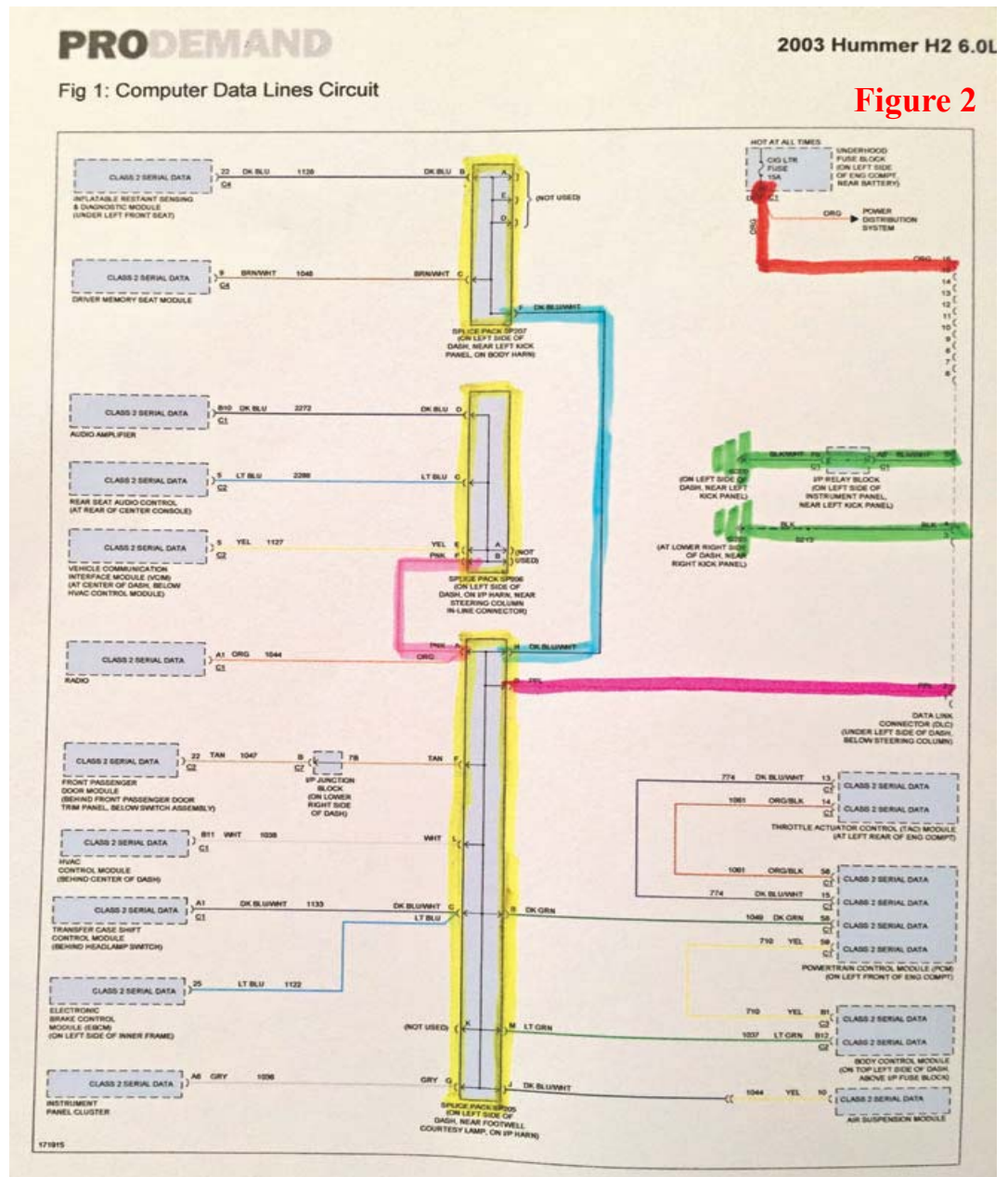
www.TSTseminars.org

“The Case Of The Automotive Chia” (con’t from p. 2)

When I arrived, I validated the shop’s findings by trying to communicate with both the ECM and BCM and had the same results with a no communication issue. It would be less than likely that two modules were both bad or that they shared a problem with the exact same power and ground feeds. What they definitely did share was the same data line. Validating communications with just two modules does an injustice in diagnostics. You need to go into every control module that your scan tool supports. This way you actually are validating your scan tool and the entire network so you can dot the I’s and cross the T’s.

In doing so, I discovered that I could not communicate with any control modules on board. This vehicle had a major network problem. It is not uncommon to have a network

that is shorted to ground or power by a bad controller on a network or due to **(Figure 2)** faulty wiring. The hardest part here was to narrow down where the problem was exactly located between (Con’t on page 7)



The World's Only Modular Diagnostic and Reprogramming Device.



Upgradable to Meet Future Vehicle Technology

- Easy, plug-n-play, field upgradable modules.
- Add new modules only as needed.
- Designed for high performance and durability

Save Time with Unrivaled Support

- Free J2534 Toolbox application with video's and help tools.
- Free online software updates.
- Toll-Free Technical phone and email support.

Complete Vehicle Repairs*

- Emission-related module calibration updates for all vehicle makes.
- Body control module calibration updates for many vehicle makes.
- OEM Diagnostics.
- Vehicle Security Professionals/Locksmiths using the NASTF Secure Data Release Model.

*Normally requires an on-line subscription from the vehicle manufacturer.

J2534 Reprogramming Applications:

- | | | |
|-------------|--------------|--------------|
| • Acura | • Honda | • Mercury |
| • Audi | • Hyundai | • Mitsubishi |
| • BMW | • Infiniti | • Nissan |
| • Buick | • Isuzu | • Oldsmobile |
| • Cadillac | • Kia | • Pontiac |
| • Chevrolet | • Jaguar | • Porsche |
| • Chrysler | • Jeep | • Saturn |
| • Daewoo | • Land Rover | • Scion |
| • Dodge | • Lexus | • Subaru |
| • Ford | • Lincoln | • Toyota |
| • GM | • Mazda | • Volkswagen |
| • GEO | • Mercedes | • Volvo |

877.888.2534 • sales@drewtech.com • DrewTech.com



GTC505

Engine Ignition Analyzer



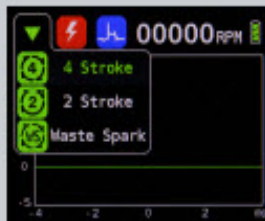
Quick, powerful and easy to use

- ▶ Plug the appropriate sensor pick-up into the flexible probe
- ▶ Select the engine's cycle (4-stroke, 2-stroke, or waste spark)
- ▶ Select the measurement type and display format
- ▶ Place the pick-up on top of the ignition module, or over the spark plug wire
- ▶ The GTC505 will automatically detect and adjust all parameters to provide accurate measurements and clear graphs

Useful for troubleshooting:

- ▶ Non-starts
- ▶ Misfires
- ▶ Intermittent problems
- ▶ Primary and secondary coil circuits faults
- ▶ Fouled or damaged spark plugs
- ▶ Damaged spark plug wires

Complete ignition system diagnostic:



Works on 2 and 4 cycle, and waste spark ignition systems engines.



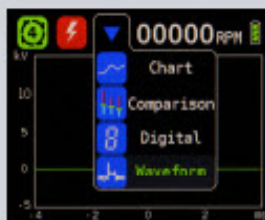
Displays secondary ignition waveforms.



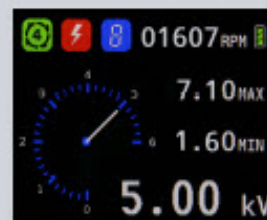
Displays and measures spark burn (firing) time, dwell time, current ramp time, RPM, and spark plug peak voltage.



Candlestick graph compares maximum, minimum and average measurements of several cylinders.



Selectable view of all measurements modes as chart, compare graph, analog gauge / digital readout and waveforms.



Analog gauge and digital readout with maximum and minimum.



Specially designed pick-ups for coil on plug ignition modules (left) and spark plug wires (right).

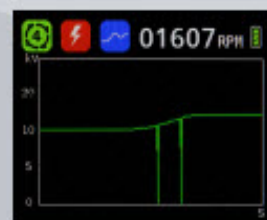


Chart mode used for detecting intermittent or infrequent failures and misfires.

General Technologies Corp. #121-7350 72nd Street Delta, BC V4G 1H9 - Canada
Toll Free: 800-440-5582 / Tel: 604-952-6699 / Fax: 604-952-6690 www.gtc.ca / info@gtc.ca

GTC
WWW.GTC.CA

"The Case Of The Automotive Chia" (con't from p. 4)

between the front and rear bumpers. I had to put a game plan of attack together by printing out a network diagram and flowing the wiring schematic to see the players involved.

Serial Data system that branched out into a parallel circuit. There were about 14 control modules on the network with some modules being optional. I highlighted the grounds in green at the Diagnostic Link Connector (pins No. 4 and No. 5) and the Power Feed in red (pin No. 16). These are standard power and ground feed pin locations on most vehicles with OBD II diagnostic connectors. I also highlighted the Class 2 Serial data line in purple at pin No. 2 of the DLC connector. This vehicle used three network splices to serve as central connecting terminals for multiple controllers, so I highlighted these in yellow. These splices were incorporated specifically by GM to aid in network diagnostics so that a technician could narrow down a bad control module without tearing the whole vehicle apart to access each control module to pull them off the network one by one. The main 12-pin network splice (**Figure 3**) was conveniently located just above the DLC diagnostic connector taped to a harness conduit.

As I was inspecting the connector, my eye came in quick contact with an aftermarket alarm wire tapped into the main purple Class 2 data wire at the diagnostic connector (**Figure 4**). I suddenly had



Figure 3



Figure 4

(Con't on page 8)

"The Case Of The Automotive Chia" (con't from p. 7)

a chill run down my spine thinking, "I found the culprit!"

It is not uncommon for an aftermarket alarm to be placed within a network causing a problem in taking down the entire system. Alarm installers will tap into certain networks so that the alarm module they install in the vehicle can go online with the existing controllers and interact with them. There is no need for the bulk of wires needed on earlier alarm systems when everything can be done by network commands. An alarm module today can take a simple command from a user's remote to unlock a door by sending a message out on the network to command a Door Control Module to unlock the doors. This function is only a fraction of what is capable in today's technical advances in aftermarket electronics.

At this point I had no choice but to remove the alarm wire. But to my surprise, the problem was still there. It was well worth a shot, because I have fixed many cars in the field using visual inspections. But this Hummer was going to give me a run for my money. It was all good because I was up for the challenge.

I pulled the 12-pin splice comb (**Figure 5**) from the main splice connector in order to isolate all the onboard controllers from the diagnostic connector Class 2 data feed line located at position "D" of the 12-pin splice connector leading back to the DLC connector pin No. 2. I hooked up my OBD II breakout box to the DLC connector. This is a very handy tool to have especially if you don't desire to lay twisted under a dash. The OBD II breakout box gives you quick access to all 16 diagnostic connector pins and incorporates LEDs for each port to show ground, power and data transmission activity. It also incorporates a male OBD II port so you can hook up your scan tool while testing the ALDL ports.



Figure 5

(Con't on page 10)

G.D.I. Got Deposit Issues?

Then get the Run-Rite® #1077 G.D.I. Fuel System Cleaning Kit!

FUEL

Offer a solution to your customer's deposit problems!

The Run-Rite® #1077 GDI Fuel System Cleaning Kit removes deposits from valves, injectors and combustion chambers. Use on Gasoline Direct Injection (GDI) and Port Injection Systems (PFI). Safe for turbos and inter-coolers.

OIL

Run-Rite® GDI Fuel System Cleaner

Run-Rite® GDI Oil System Treatment

Run-Rite® D.I.D.C. (Direct Injection Deposit Cleaner)

Removes Valve Deposits

Reduces Combustion Chamber Deposits

Designed for GDI & PFI Fuel Systems

Safe for Turbos & Inter-coolers

Improves Fuel Economy

Keep Precision Oil Passages Clean

Kleen-Rite® Engine Cleaning

Reduces Deposits and Soot Buildup

Promotes a More Complete Drain of Oil

Helps Neutralize Combustion Acids

Improve Oil Changes



Run-Rite #1077 G.D.I. 3-Step Fuel System Cleaning Kit:
8 kits per case (3 parts in each)

Kleen-Rite #3110 Ultimate ECD (Engine Cleaning Detergent)
4 bottles per case (1 gallon each)

1-800-872-8921



www.Run-Rite.com

"The Case Of The Automotive Chia" (con't from p. 8)

I used a jumper wire from the No. 2 DLC pin and connected it to each of the twelve individual splice connector pins one at a time to validate each controller for communication **(Figure 6)**. I was able to talk to all the controllers that were built for this vehicle except for the Air Bag and Driver Memory Seat. These modules shared a common blue/white wire on pin "H" of the main splice connector. This same wire ran to a second 6-pin splice connector that was located in the left kick panel. It was here that the Air Bag Control Module data line and the Driver Memory Seat Module data line tied into the blue/white wire.

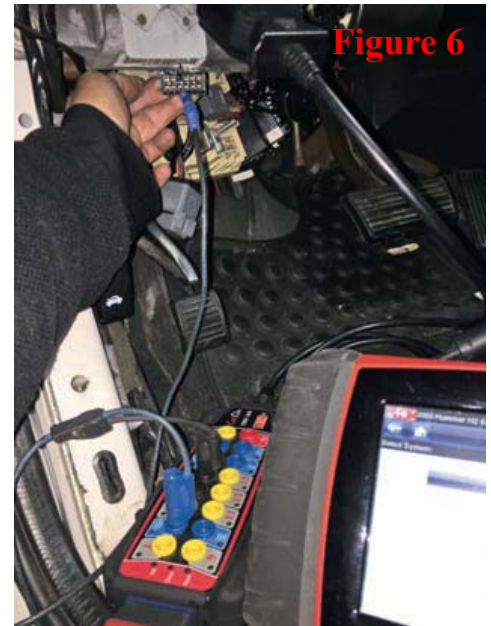


Figure 6

I removed the splice comb from the 6-pin splice connector at the left kick panel to completely isolate both the Air Bag and Driver Seat Memory control modules from the network **(Figure 7)**. I cycled the key to reset the vehicle network and attempted to start the vehicle. To my surprise, the Hummer started right up immediately. I was on the right track and now it was time to move in for the kill.



Figure 7

I next used a jumper wire to jump out the brown/white data line coming from the Driver Seat Control module to the blue/white wire feeding back to the main splice connector pin "H." I again attempted to start the Hummer and it started without a problem. Then I jumped out the blue data wire feeding back to the Air Bag Control Module and jumped it to the blue/white wire leading back to the main splice connector pin "H." I attempted to start the Hummer once again and it would not start. Okay, so now I found the culprit. The problem was in the Air Bag Control Module or wiring.

(Con't on page 11)

"The Case Of The Automotive Chia" (con't from p. 10)

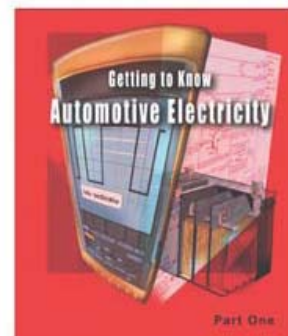
Just out of curiosity, I used my Power Probe to see if this wire was shorted to ground and I was very surprised to see 13 volts on the wire **(Figure 8)**. How can this be? Did the air bag module have a bad ground causing feedback voltage on the data line or was it simply a bad internal Air Bag Control Module board causing the same result? It was time to take a closer look.



Figure 6

I carefully pulled back the carpet under the driver seat so that I could validate the Air Bag Control Module wiring. I was suddenly shocked at what I saw! The module looked like an "Automotive Chia Pet" and it was caked with some nasty white milky powder **(Figure 9)**. I wasn't about to touch the mess for fear of the unknown substance. It seemed like moisture had built up under the carpet and created a corrosive breakdown of the aluminum housing of the Air Bag Module. This in turn worked its way into the harness connector causing cross voltage shorting into the data line.

I immediately disconnected the battery as a safety precaution to prevent an unintentional air bag deployment. I also instructed the shop technician to handle



Batteries
Starters
Alternators
Common Tests and Testers
Circuit Types
Ohm's Law

©2003 Ralph Benzaun / JCT Jerry Truglio



845 628-1062

www.attstraining.com



(Con't on page 12)

“The Case Of The Automotive Chia” (con’t from p. 11)

the “Chia Pet” with latex gloves. I did not want him to get the corrosive powder in his skin. I even gave him the option of using a hazmat outfit before he attempted to extract this Chia Pet from the vehicle.

What a humdinger of a diagnostic adventure this was for me. You diagnose cars for more than 25 years and you come across something that’s so unimaginable to believe. This is the kind of stuff that keeps me in the business. It’s the daily challenges and the rewards we reap that make it all worthwhile. I probably could have used a scope or meter and placed it on the data line to check for a short to ground or power and validated the data line for a known good communication pattern.



Figure 9

This would also involve knowing high and low signal thresholds and possibly frequency stats, but I decided to take the low road to keep it basic. I know that a lot of techs may not be a network expert or may not have GM experience. What I do know is that the average tech is able to follow a diagram and flow it mentally so he or she can build a game plan of attack without getting too technical.

My basic goal was to keep it simple and just break down the system piece by piece until I found that needle in the haystack. There are many networks that are much more complex but it seems to me that GM simplified this system by using network splices to aid in isolating a circuit fault in the system. Sometimes these splices are hidden and taped in inaccessible areas of the vehicle, but having good information systems can help you pinpoint their locations in the vehicle. In the end it’s all about knowing how to utilize your equipment, information systems and building a game plan of attack that makes you a winner.

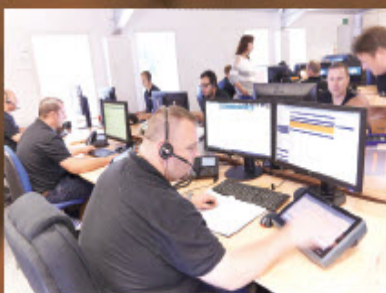
***Article by John Anello ASE Master Technician, L1,
Mobile Tech of Auto Tech on Wheels and TST Instructor***

**autologic**

FAULT TO FIX FAST



Autologic Assist is our latest cloud-connected diagnostics platform, providing you with touchscreen access to powerful capabilities across a whole host of premium car brands, including BMW, Mercedes-Benz, Jaguar, Land Rover, Audi and VW.



Assist Support is the only vehicle connected support service in the world. Staffed by dealer-trained Master Technicians who provide the help you need to fix cars faster and more profitably. At the heart of the Assist Support is our unrivalled Fault-to-Fix process.

Did you know Autologic fixed 8,500 vehicles just last week? With 2.5M fixes in 2015 alone we are **THE ONLY** vehicle connected support company in the world!



THE SMART CHOICE FOR EUROPEAN VEHICLE DIAGNOSTICS

The 14th TST Technicians Training Big Event

Seminars / TST MARCH 25TH, 2017 BIG EVENT / TST MARCH 25TH, 2017 BIG EVENT

TST MARCH 25TH, 2017 BIG EVENT

Description:

*THE 2017 BIG EVENT***

SATURDAY MARCH 25th, 2017

Only \$75.00

Thanks to our Sponsors

Tom Rayk - NAPA

Electrical World Class Diagnostics

This seminar covers needed electrical diagnostic techniques without the OHMS law and other formulas. We will perform actual diagnostic tests on stage with a camera so the class can participate. Learn the fastest way to perform VD testing and many other techniques that will speed up your electrical diagnostics.

Turn your technicians into electrical Gurus. Mastering your meter, lab scopes, amp probes and circuit diagrams. Fix problems other shops can't.

Wayne Colonna - ATSG

CVT Driveability Diagnostics

Understanding how a CVT works is necessary so they can be properly diagnosed. There are several different designs on the road today with each having their own unique principles of operation. This session will identify them and go over their differences.

Mark Warren - WorldPac

Engine & Turbocharging Diagnostics

Positive Aspiration/Turbocharging – Diagnostic Data Analysis

MAP is Back – Understanding Manifold Absolute Pressure Data

PCV Design and Considerations

Valve deposits and cleaning

Calculated Load and Absolute Load PID Analysis for Diagnostics

Fuel Economy and Turbocharging

Sign Up Today
Seats are going fast

Scott Brown – iATN Keynote Speech

"Rain - SNOW - SHINE" NO REFUNDS



More Business & Faster Repairs with Farsight Live™ Support.

Farsight Live™ includes unlimited access to one-touch technical support from Dealer Trained Technicians on all major Domestic, Asian and European car lines.

Now you have access to master techs whenever you need help. Our factory level remote technicians troubleshoot with you, saving time and money.



Financing as low as

\$229/mo

Financing subject to credit approval. Neither Ascentium Capital nor MVDS LLC DBA Farsight is the agent of the other. Ascentium not being the manufacturer, seller or distributor of the property being financed, makes no representation or warranty concerning it.



Features

- State of the art multi-vehicle diagnostic solution with Pass-Thru ready ruggedized tablet included.*
- Guided Pass-Thru Programming Support

*Tablet included with 3-year commitment

**More than a scan tool company.
We're your trusted support partner.**

One Tool for Today... and Tomorrow



**SAE J2912 Certified
Dual R-1234yf & R-134a
Refrigerant Analyzer**

ISO 9001 Certified



Neutronics
Refrigerant Analysis



Email: info@refrigerantid.com
Web: www.refrigerantid.com

Tel: 610.524.8800
Fax: 610.524.8807

456 Creamery Way
Exton, PA 19341 U.S.A.



Advancing
Battery Management



Accurate, easy-to-use Midtronics battery testers and electrical system analyzers identify batteries at or nearing replacement condition. Take a few extra minutes to test every vehicle that comes into your shop and you can help your customers make informed, proactive battery purchases and avoid the hassle of battery failure.

Your net gain? Increased battery sales and stronger customer relations.

**Invest five minutes.
Sell more batteries.**

For Small to Medium Shops:

MDX-P300 Battery & Electrical System Analyzer with Integrated Printer

- Tests 12-volt batteries (flooded, AGM, and Gel) and electrical systems for cars and light trucks
- Bad cell detection
- Tests batteries from 100-1400 CCA
- Integrated printer provides immediate results to review with customers



For High-Volume Shops:

MDX-650P Battery & Electrical System Analyzer for 6 & 12 volt Batteries

- All-purpose analyzer for cars, light trucks, motorcycles, marine, lawn & garden, Group 31, Commercial 4D/8D batteries
- 12 & 24 volt charging system testing
- Menu-driven user interface
- Quick starter analysis without disabling the ignition
- Integrated printer and replaceable 10 ft. cable



For the Technician:

PBT-300 Diagnostic Battery & Electrical System Tester

- Accurate battery test decisions in seconds
- Voltmeter mode for testing both the starter and charging system
- Expanded measurement range from 100-1400 CCA



Midtronics, Inc.
Willowbrook, IL 60527

Phone: 1.630.323.2800
Toll Free in US: 1.800.776.1995
Toll-Free in Canada: 1.866.592-8053



www.midtronics.com

[@midtronics](https://twitter.com/midtronics)

FLUSH, LUBRICATE AND REPAIR A/C SYSTEMS WITH CONFIDENCE

A/C FLUSH MACHINE WITH DUAL-TANK AND SOUNDSILENCE™ TECHNOLOGY

Performs 15-minute Flush, 30 minute drying procedure

Air Drying System ensures a max dry Air Purge Cycle

Helps prevent A/C repair comebacks

Proprietary anti-misting fluid flow system with charcoal filtration reduces solvent fumes

SoundSilence™ technology significantly reduces noise

Our air flow management system prevents flushing unless flush/purge settings are in the correct position

Easy, low-cost maintenance

1234yf and R134a compatible



COMPRESSOR GUARD™ FILTER PLATE

Inexpensive Insurance Against Compressor Comebacks

Trap Debris Before It Gets Sucked Into Your Compressor

No hose cutting, Installs in minutes

Catches debris that flushing misses

See application guide for available part numbers



DUAL AUTOMATIC RECYCLE GUARD™

High And Low Side Protection From Debris, Sealant,

Dye, Excess Lubricant And Contaminants, All In One

Compatible With All Automatic A/C Service Equipment

One unit recovers from both high and low sides simultaneously



SMART SPLICE™

Certified Leak-Free Up To 2600 Psi

OE-Approved Repair Solution

Installs in Five Minutes

No Special Tools, No Glue

Eliminates Costly Hose / Line Inventories



SMART SPLICE™ Straight | 45° | 90° Line Connectors

1-800-999-1051



AIRSEPT.

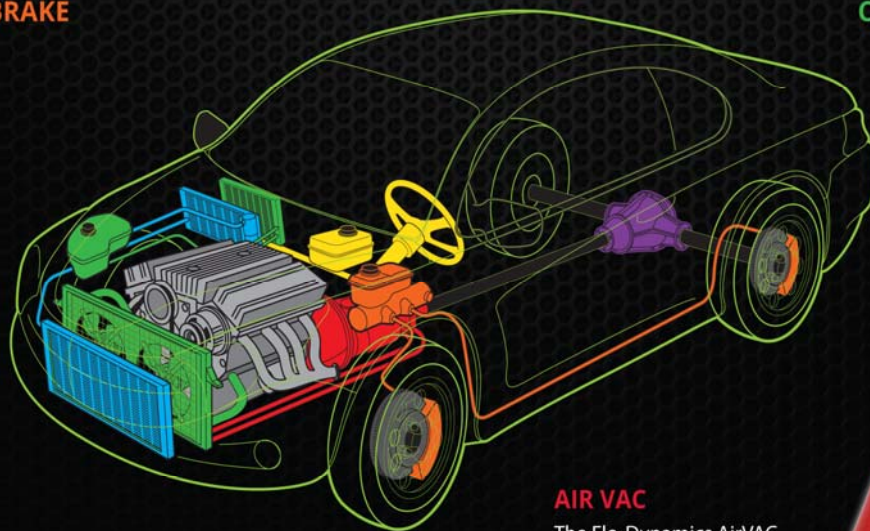
www.airsept.com

1-678-973-2287

GO WITH THE **FLO!**

FLO- DYNAMICS®

**THE LEADER IN FLUID
MAINTENANCE EQUIPMENT**



AIR VAC

The Flo-Dynamics AirVAC unit is a fast, easy and less expensive way to clean up spills. Our patented process can vacuum up all kinds of fluids, from anti-freeze to heavy weight hydraulic oils.



WOULD YOUR SCAN TOOL SURVIVE?



THE PAD II

THE WATER RESISTANT & DUST PROOF IP65 RATED SCAN TOOL

10.1" HIGH RESOLUTION IPS DISPLAY • ANDROID OPERATING SYSTEM
 GRAPHS UP TO 15 PID'S OF LIVE DATA • ALL MAKES, ALL MODELS, ALL MODULES
 OBDII WIRELESS TO THE CAR • AUTOMATIC CODE SEARCH

— GOLD READY FOR OE LEVEL TELEMATICS —



For more information visit www.launchtechusa.com or call 1-877-528-6249

LAUNCH golo CarCare



Eric Dallas
ASE Certified
Automotive Technician

“

**I DON'T HAVE TO CHOOSE BETWEEN
VALUE AND PERFORMANCE.**

”

“I've tried all the OE brand spark plugs. And as far as I can tell, the only difference is price. Autolite® gives me the same performance every time, and they fit just about every engine – from older model cars to today's complex engines. I'm not really sure why anyone would pay more.”



Autolite®
SPARK PLUGS

REAL PERFORMANCE. REAL VALUE.

Learn about our full line of premium plugs at Autolite.com

Paid endorsement.

We support voluntary professional certification through the National Institute for Automotive Service Excellence.

TECHNICAL BULLETIN

SAVE TIME.
MAKE MORE MONEY.



Product Information

The OEM Approved Smoke Pro® Total-Tech® is the world's best-selling diagnostic leak detector, and guaranteed to be the most profitable tool you will ever own. Smoke Pro® gives technicians full-featured diagnostic capabilities to detect, locate, and repair leaks in sealed systems. This compact, yet powerful machine not only finds more repair jobs, it helps you sell those repairs to your customers.

Find ALL Types of Leaks:

Vacuum, EVAP (Fuel Vapor Recovery) Exhaust, Oil, Turbos and Intercoolers, Manifolds, Break Boosters, EGR Valves, Seals, Gaskets, Brake Vacuum Hoses, Cooling Systems, Wind and Water Leaks, Diaphragms, Central Locking Systems and much more.

Find More Repair Jobs

Find leaks and sell the repair to your customer with visual confirmation.

Greatly Reduce Diagnostic Time

One simple connection diagnoses an entire system in seconds so that technicians can repair more vehicles in less time.

Improve Accuracy of Repairs

Eliminate comebacks by verifying that leaks are repaired completely.

Pays for Itself in Less Than 30 Days

With this tool, garage owners expedite diagnostics, improve accuracy in repairs, heighten customer satisfaction, and increase profits, making Smoke Pro® the most valuable tool in any repair shop.



REDLINE
DETECTION.COM

www.RedlineDetection.com
+1.714.451.1411



MADE IN
 CALIFORNIA
USA

Part Number: 95-0003/B

ARE YOU GIVING YOUR CUSTOMERS A *GREAT* REASON TO RETURN TO YOUR SHOP...

... WITH **PROVEN PRODUCTS**
AND A **PREVENTIVE**
MAINTENANCE PROGRAM
THAT WORKS!!

- LUBRICATION & FUEL
DEPOSIT CONTROL
- GDI
- FUEL / AIR SERVICE
- TRANSMISSION
- POWER STEERING
- COOLANT
- BRAKE
- CLIMATE CONTROL
- DIESEL INJECTION CLEANING

FULL SCHEDULE

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
8AM	Jones	Travis	Mead	Lee	Mahoney	Caroline
9AM	Chu	Eagle	Brown	O'Donnell	Conn	Zumpe
10AM	Smith	Wooden	Cisco	Chin	Chang	King
11AM	Moore	Baker	Glass	Burton	Ellis	Cas
12PM	Daniels	Amber	Green	Alph	Fuller	Davis
1PM	Fisch	Smith	Ricco	Nichols	Fullerton	Dinky
2PM	Hovan	Perry	Green	Line Co.	Treash	Blake
3PM	Allen	Capstone	Testa	Baker	McArthur	Carissim
4PM	Williams	Getz	Longo	Pitts	Blow	Corica
5PM	Merry	Papa	Warshi	Quincy	Donovan	Donovan



* THE BG PROTECTION PLAN IS A NO-COST
BENEFIT OF USING BG PRODUCTS.

SOMEONE IS DOING THESE SERVICES TO **YOUR** CUSTOMER'S VEHICLE ...
IS IT YOU?

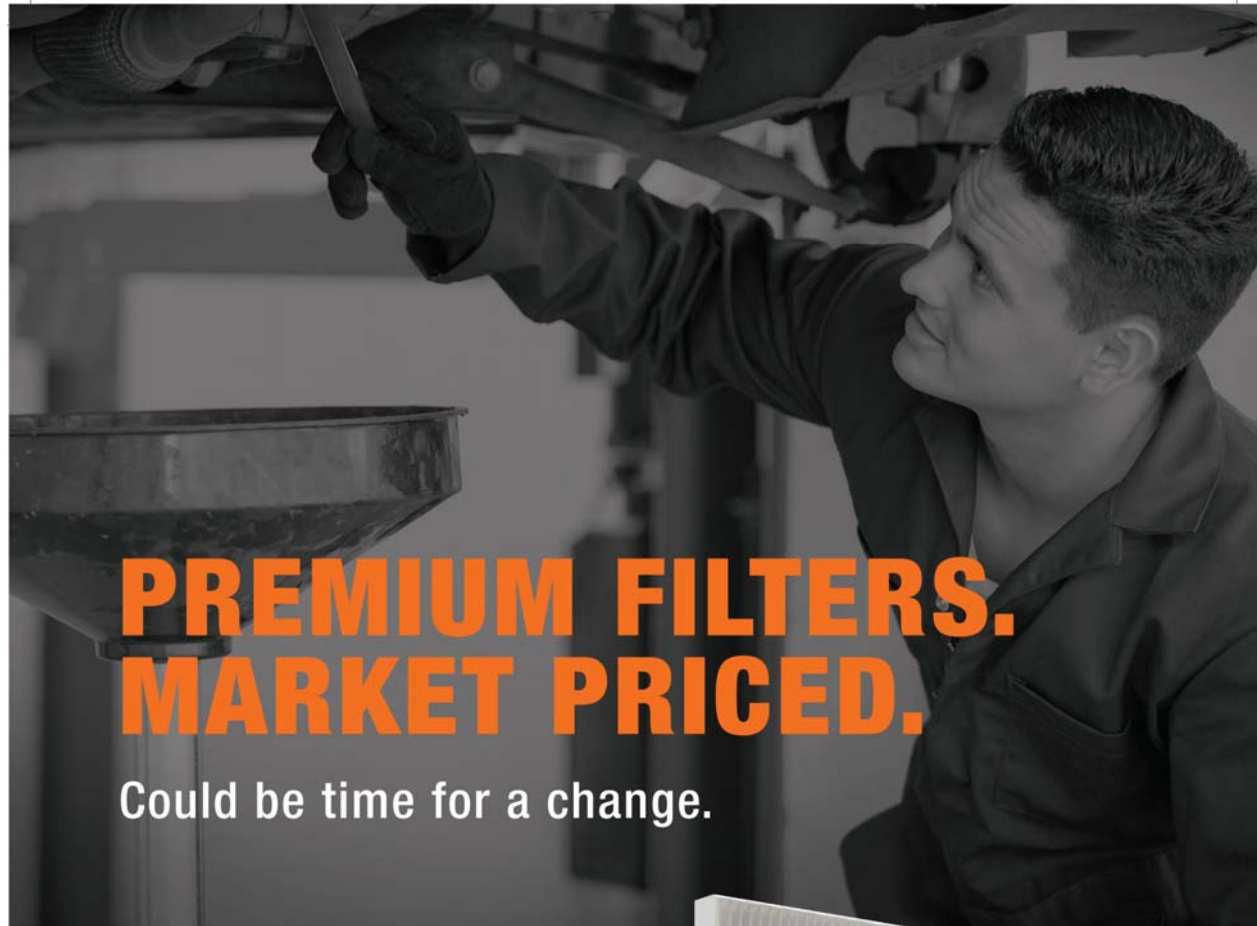


The BG Lifetime Protection Plan is the
#1 Customer Retention Tool
in service shops from coast to coast!



Distributors of Connecticut, Inc.

203.877.5690 • 65 Eastern Steel Road
Milford, CT 06460 www.lubri-care.com



PREMIUM FILTERS. MARKET PRICED.

Could be time for a change.

The FRAM Pro Series line of filters can help you get more dollars from every oil and filter service performed, while giving your customers peace of mind.

FRAM Pro Series—Engineered for the latest oil types and OE oil change intervals and top quality air and cabin air filtration.



FRAM Pro Synthetic®
For 100% Synthetic
and Blended Oils



FRAM Pro®
For Conventional
Oil Service



FRAM Pro® Air
Quality Engine
Air Filtration



FRAM Pro®
Cabin Air
Quality Cabin
Air Filtration

Contact Your FRAM Filtration Sales Representative for Details



Hotline: 800.890.2075 www.framproseries.com

© 2015, FRAM Group IP, LLC. 1900 West Field Court, Lake Forest, IL 60045.



**FIND LEAKS QUICKLY AND ACCURATELY IN ALL SEALED SYSTEMS IN 3 EASY STEPS****1.** Pressurize sealed system with CO2 gas.**2.** Quickly locate CO2 gas at the leak site.**3.** Foam color change pinpoints leak site.**BULLSEYE Leak Detector**

- ▶ Fast – Easy – Accurate
- ▶ CO2 Gas Pressurization – Safe – Easy – Effective
- ▶ Electronic CO2 leak detector to quickly zero in on leak site
- ▶ Color changing foam to identify exact leak location
- ▶ Safe for All Systems – EVAP, Fuel, Air Conditioning, Intercooler, Induction Systems, Air Suspension, Cooling Systems, Wheel and Tire – Any Sealed System

ATS
AUTOMOTIVE
Test Solutions



THE LATEST TOOLS FOR AUTOMOTIVE SERVICE AND REPAIR

Built by technicians, for technicians



REMOVE SLUDGE, ETHANOL AND WATER AND REDUCE OIL VAPORS THAT CAUSE VALVE DEPOSITS.

Quickly breaks down and removes all sludge, varnish and deposits, and holds them in suspension until they are drained. Eliminates ethanol-related fuel issues with exclusive HydroBond™ Technology.

400-1206 6DI Maintenance Kit
400-6000 Engine Oil Cleaner
400-6220 Engine Treatment
400-2001 Fuel System Cleaner



NEXT GENERATION LEAK DETECTION FOR FORCED INDUCTION GASOLINE AND DIESEL ENGINES.

Cool Smoke® HP delivers market-leading ease of use, reliability and leak detection.

600-0160 Cool Smoke HP with Turbo Adapter Kit
600-0160NA Cool Smoke HP without adapters



QUICKLY AND EFFICIENTLY RECOVER, RECYCLE, AND RECHARGE AUTOMOTIVE A/C SYSTEMS.

Patented unique, fast and complete refrigerant changeover system with 7" color touch-screen control, patented oilless compressor and motor-controlled ball valves and 1-2-5 warranty.

FX194A SAE J2788H R-134a
FX1294 SAE J2843 R-1234yf
FX3030 SAE J3030 R-134a & R-1234yf



Proud sponsor of

Technicians Service Training
11 Cape Place
Melville, NY 11761
817-628-4829 F: 617-628-4888 W: www.testtraining.org

 **CPS** Automotive

Home | About | Partners | YOUR CART (0) ITEMS | SIGN IN

TRAINING | PRODUCTS | MEMBERSHIPS | CONTACT | DONATE

Our Partners:

AIRSEPT | ASE | ATS | AUTOMOTIVE Test Solutions | ABS | AutoAid

Keeping You, Our Fellow Technicians UP-TO-DATE...

Our Goal & Mission is to:

- Keep our fellow technician up-to-date with the latest technology.
- Provide Quality Training seminars at a reasonable price.
- Deliver practical, useful repair information.
- Keep technician informed of the industry trends.
- Increase consumer awareness of our skills and professionalism

We have nationally known industry experts providing

Live Seminars/Webcasts

TST New Website has **Training On Demand—Free Webcast and Information when you want it—Pay for Webinars to watch a seminar you missed or to re-view the information that was taught in the seminar at your own pace. A 2 Day pass for as low as \$10.00—month—3 - 6 month and 1 year are available.**

TRAINING | Save on All Training with a Membership. [More Info](#)

ARTICLES

FREE WEBINARS - VIEW ON DEMAND

PAY FOR WEBINARS - VIEW ON DEMAND

LIVE SEMINARS - LIVE WEBINARS - SIMULCAST

PHOTOS

BOOKS

Stay Current

Sign up to get notified when new training gets posted.

Email...

SIGN-UP

*Emails will only be used for the purpose of informing when new content is published and will not be shared or sold.

Upcoming Webinars

Date:	Title/Description:	
Webcasts	For Future Webcasts	REGISTER

Pay For Webinars & VIEW ON DEMAND

"Mastering Your Labscope"

Topic

"Mastering Your Labscope"

Instructor "G" Jerry Truglia

This 3 PLUS HOUR seminar consists of...

MORE INFO

Reprogramming with J-2534

"Reprogramming with J-2534"

Instructor's Pete Meier and "G" Jerry Truglia

Today there are two to three options for...

MORE INFO

NACE **automechanika**

CHICAGO JULY 26-29, 2017

**WE'RE PUTTING ALL OF YOUR
TRAINING NEEDS IN ONE PLACE!**

A futuristic silver car is centered in the image, parked on a dark floor that appears to be a digital interface. The floor is covered with glowing red lines forming a grid, and various circular icons are scattered around, including a Wi-Fi symbol, a musical note, and a downward arrow. In the background, there are faint, glowing blue lines and a large, stylized 'X' shape. The overall aesthetic is high-tech and digital.

**THE LARGEST
AUTOMOTIVE
TRAINING EVENT
IN AMERICA!**

www.NACEAutomechanika.com