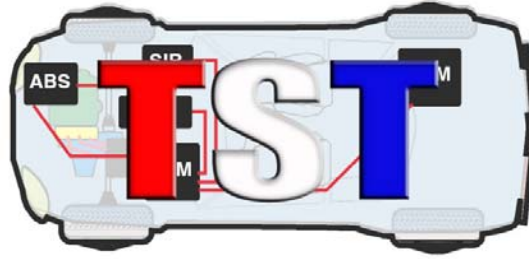


October 2012



Technicians Service Training

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November 12, 13, 14, 15
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[How's, it Works, to Diagno-](#)
[sis, to Fix it](#)

December 10, 11, 12, 13
2012 Ken Zanders [Top Ten](#)
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March 23, 2013 TST Big
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Editor

Jerry "G" Truglia

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Chevy S10 Wiring Problems

So a 1994 S-10 pickup pulls into our shop with a weird electrical problem.

This car had an unusual problem with the brake lights. Anytime the engine was running the brakes lights were on. Turn the car off and the lights went off. I asked my technician Eric to take a quick look at it. It should be noted that this truck was loaded with aftermarket electronics, to our dismay.



Typically aftermarket alarms, remote starters, and other headache inducing gizmos are the first things we suspect when we see electrical problems. Here's how we diagnosed this car:

First, we interrogated the customer. The customer recently bought the truck and said it had the brake light problem the whole time he had it. It was only now that he wanted to finally fix it.

(Con't on page 3)

*Technicians Service Training***11 Lupi Plaza****Mahopac, NY 10541****Phone:** (845) 628-6928**Fax:** (845) 628-9109**Email:****Info@tstseminars.org**

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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

TST headquarters at:

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Technicians Service Training



What is TST?

TST is a group of dedicated technicians and instructors committed to the continuing education of our fellow technicians. We provide once a month 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 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

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 Motor Magazine

Bob Pattengale of Bosch

Peter Meier of Motor Age Magazine

Ken Zanders of Illinois Air Team

Jerry “G” Truglia of A.T.T.S. Inc.

Chevy S10 Wiring Problems (con't from p. 1)

We were fairly certain at this point that the problem was likely due to a circuit cross feed from one of the electronics installations. After a few minutes of looking at the aftermarket electronics and troubleshooting, Eric told me that with the lights remained lit even with the brake light switch removed. Because of this, we knew that there was power from somewhere being fed into the brake light wire, a short to power.

At this point I suggested disconnecting any connectors in the circuit to try to isolate the location of the fault. During this process Eric mentioned that he noticed the lights would come on for a couple of seconds and then shut off if the key was turned on, but with the engine not started.

When he went to show me this phenomena, it didn't happen so we didn't take this clue seriously at this time. Oh yeah, that was a mistake. In hindsight it didn't happen because other things were disconnected before he tried to show me the symptom, but we'll get to that later.

After awhile I decided we needed to re-group and take another look at the wiring diagram. Then, I pulled out my Power Probe in order to apply power to the brake light circuit at the brake light switch. What I saw surprised me. The brake lights came on, but so did the fuel pump. This time we paid attention to the clue from before and started to examine the wiring going to the fuel tank.



This is what we found:

Con't on p. 7)

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Jim Bradanini
Program Administrator

QUOTE

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Anyway, I figured whoever needs insurance on your tools against theft, flood, fire, etc.... blanket coverage. The people are really nice and you can do it over the phone. You don't have to have a tool inventory list, though you will need one if you have a claim so do one up front anyway.

They offer \$50,000 for \$250 but we upped it to \$70,000 for \$350. <http://www.mechanicsinsurance.com>. The guys name is Jim Bradanini and his email address is: JimB@cpminsurance.com. Their phone is 203-439-2810. I had left a message and he got back to me within the hour.

Thank you so much for making your process so smooth and painless, kind and professional.

Jo



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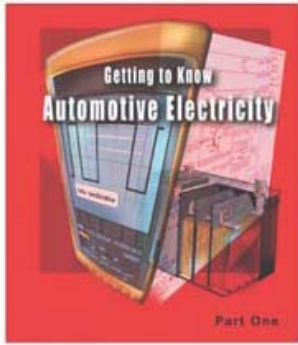
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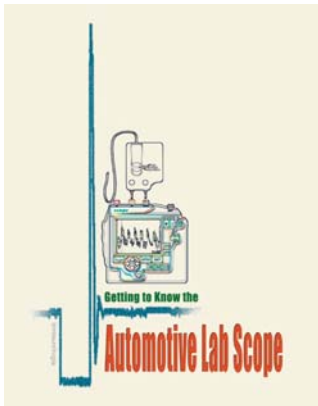
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Chevy S10 Wiring Problems (con't from p. 3)

It turns out that a fuel tank bracket was removed at some point and when it was replaced it pinched the rear harness, effectively connecting the fuel pump and brake light wires together.

We fixed the problem but the lesson here is to pay more attention to any clues you come across. Once we realized

that the brake and fuel pump circuits were connected it only took a quick inspection of the frame harness to



locate the fault. Lesson learned I hope!

*Article by Bob Powell,
ASE CMAT, L1 and TST Member*

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1999 Chevrolet Trailblazer Starting in Second Gear

This Blazer reported a transmission problem after a DIYer installed his own 1-2 shift solenoid. Of course, we assumed he screwed it up. After dropping the pan and testing the part, to our surprise the solenoid was good. We made sure it was connected properly and found that the vehicle still started out in second gear.

The fix? A new PCM. In the picture you can see how we proved in out. Using a Tech 2, we commanded on all of the shift solenoids, besides the 1-2 one of course



because it was still inoperative. However, when we jumped it, it clicked. What did we do next? We proved that there was nothing wrong with the wiring itself. Who knows, maybe the old solenoid burned out that part of the PCM. Well, the past is the past. This vehicle needed a new PCM.

*Article by Kevin Quinlan,
ASE CMAT, L1 and TST Member*

Got Wires?



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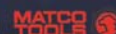


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*Analysis of 2008 California Smog Check data.

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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

Nissan Pathfinder's Exploding Battery

This one is a simple one, but the concept is important.

Nothing like a Monday morning started by a quick money maker. The customer just put in a new battery, but he says that his battery light came right back on. Upon looking at it, the answer was obvious.

The first thing I thought was that the alternator was overcharging the battery.

We used our Mid-electronics GR8 and it confirmed what our eyes saw. Curiously, the alternator



also had relatively high AC ripple (about 200 mV).

The specification for high AC ripple is 500 mV, but that's when you test from the alternator itself. In the real world we test from the battery.

The battery in my honest opinion acts as a buffer, and anything in the 200-300 mV range is bad. Quite frankly, a new alternator usually has 0 mV of AC ripple! Anything above 100 mV would make me very suspicious and quick to sell a new alternator if the conditions call for it.

*Article by Alex Portillo,
TST Member*

DYING TO FIND A/C LEAKS?

The new **UV Phazer NEO™** UV light finds leaks others miss.



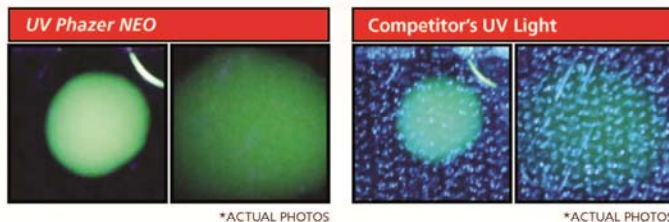
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Common Diesel Problems

Before reinventing the wheel, keep in mind these common diesel silver bullets.

Starting Problems

Engine starting problems can be related to fuel, oil, mechanical and electrical issues. Always check all the fluid levels before going through the following generic list:

No crank problems

- Batteries
- Starter problem
- One or more connection problems
- Voltage drop at the cable or ends



Cranking, but does not start problems

- Fuel problem, empty, contaminated air in fuel, etc.
- Plugged fuel filter or lines
- Glow plug problem
- Transfer problem
- Injectors plugged or injector-related electrical problems
- High pressure pump and/or pump timing problem

(Con't on page 18)

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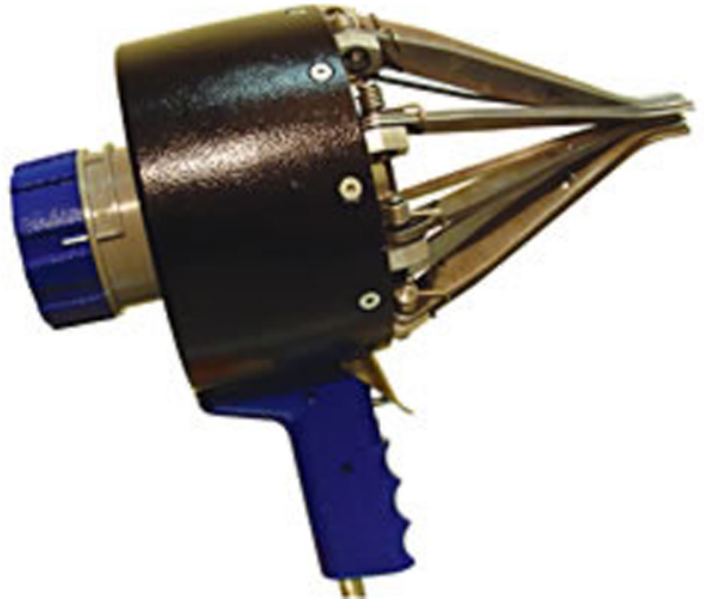
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\$39.99 for Box of Universal Gomex Clamps

\$259.99 for New CV Boot Installer Claw including Gomex Clamp Tool



Common Diesel Problems (con't from page 16)

Cranking, but does not start problems CONTINUED

- Compression problem
- Exhaust backpressure
- Crank or Cam sensor problems

Common computer and electrical problems

- Voltage drops on different components, or actuator problems
- Engine shut-down system problem
- ECM / PCM reflash or hardware problem (make sure to check everything else before replacing)

Possible hard starting problems

- Cranking RPM too slow
- Glow plug
- Governor
- Fuel Cetane low
- Water in fuel
- Injection timing
- Compression

Low power problems

- Improper fuel or oil
- Transfer pump
- Fuel leaks
- Governor
- Injector(s)

Common Diesel Problems Recap

Fuel system, including air

- Air filter or restriction in the intake
- Electrical voltage drops
- Mechanical
- Turbocharger and Aftercooler
- ECM / PCM reflash or hardware problem (make sure to check everything else before replacing)



Article by G Truglia,

ASE CMAT, CMTT, CMST, L1, CNG & TST Founder, President

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Tech Tip: **SECRETS TO INTERMITTENT MISFIRES REVEALED!**

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"This latest case study from my friends at Wells Vehicle Electronics shows how doing something as simple as installing spark plugs the old-fashioned way may result in an unnecessary comeback. This is a great video and I encourage you to share it with your fellow techs!"

Peter Meier - Technical Editor, Motor Age Magazine

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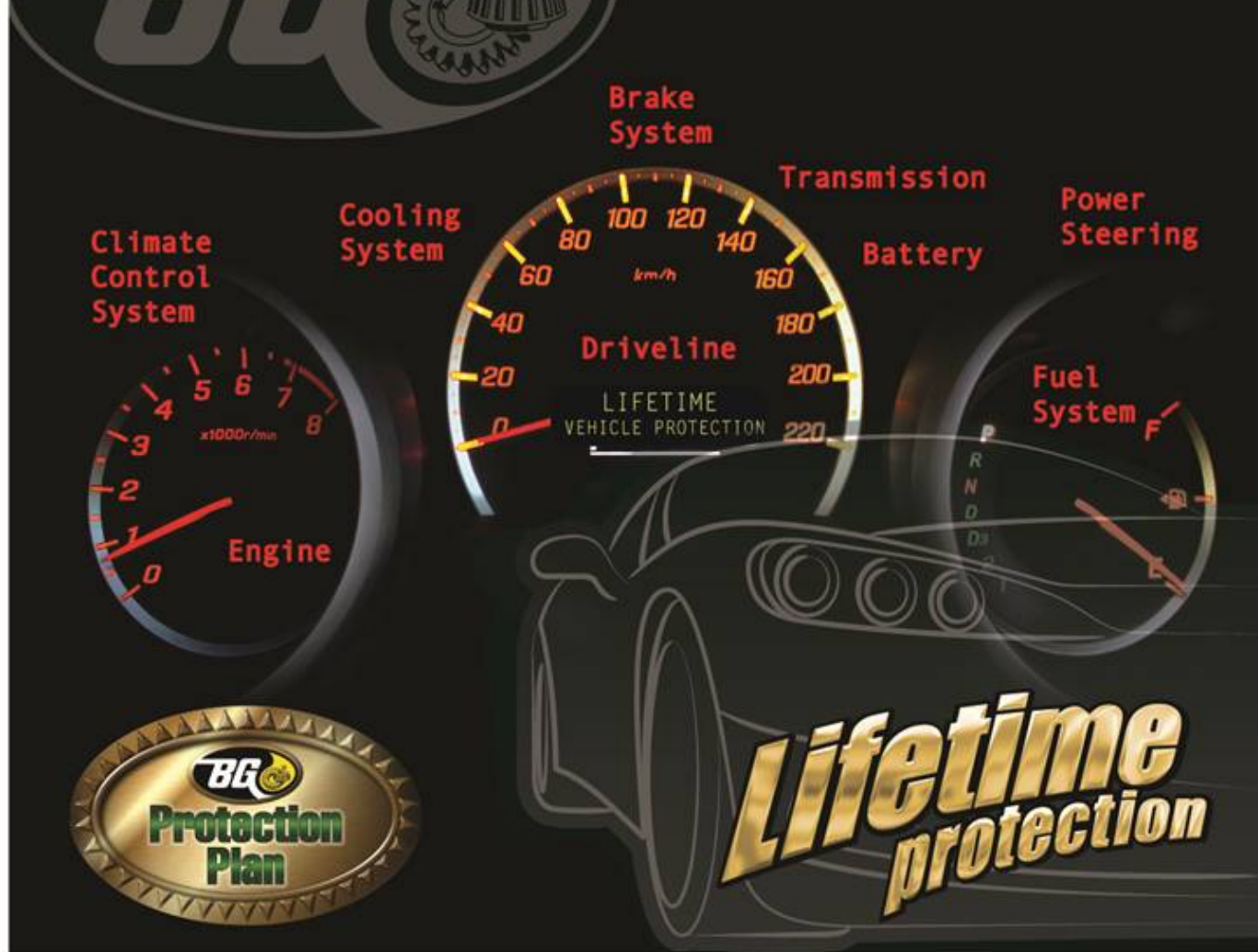


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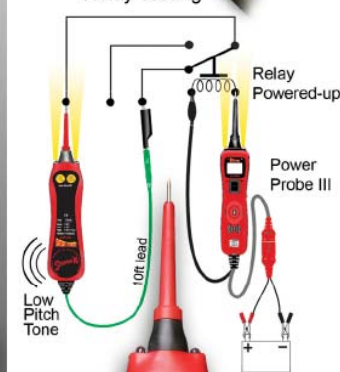
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