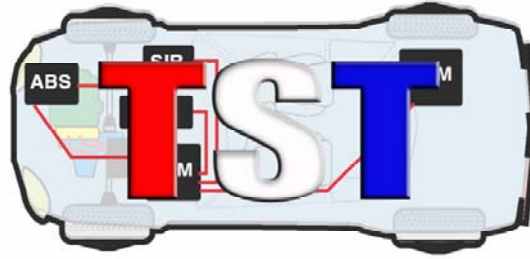


November 2011



Technicians Service Training

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P. 16 - 18

Upcoming Seminars:

Position Sensor Diagnostics

Jim Wehl

December 5-8, 2011

Module Diagnostics

John Anello

January 9-12, 2011

Editor

Jerry "G" Truglia

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Battery Maintainer SHOOTOUT

One of the biggest problems encountered when reprogramming modules is a loss of proper battery voltage.



It is absolutely critical to monitor and maintain proper battery voltage during a reprogramming event. For example, a BMW requires 13 V and 70 A at a minimum during a reflash.

What if the battery maintainer has too much AC ripple or does not maintain proper voltage? You will destroy the PCM!



The following is a real-world test of the popular battery maintainers and chargers in the market. We test them during a reflash in order to make sure our test results reflect real world conditions.

(Con't on page 3)

Technicians Service Training

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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



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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.*

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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 National Instructor & owner of A.T.T.S. Inc.

Battery Maintainer SHOOTOUT (con't from p. 1)

Using a Pico Scope and a current probe the waveforms were taken charging both a bad and a good battery on the following popular battery chargers/maintainers:



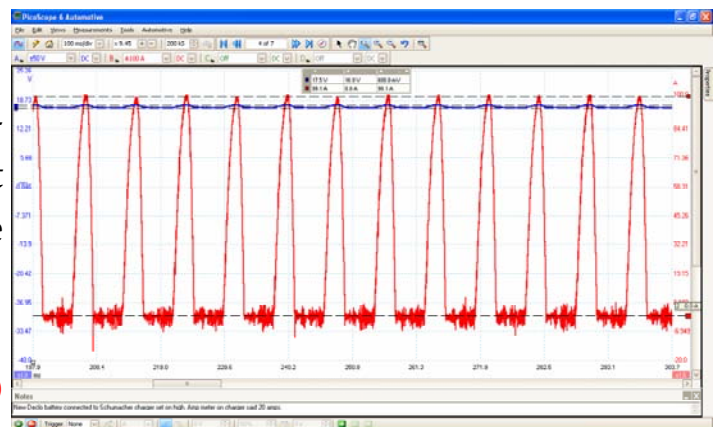
- Schumacher Model SE-8050 battery charger
- Snap-on D-TAC battery charger and tester
- Snap-on EEBC-500 Battery Charger
- Midtronics PCS-300
- Fronius Battery Maintainer
- ATS model 90 amp E-Charger.

Remember, too much AC ripple (above 500 mV) puts the module at risk. Likewise, unsteady Amperage (or inaccurate reporting of amperage) can result in a failed re-flash.

Schumacher SE-8050 Battery Charger

The new battery had a starting voltage of 12.9 V and the charger was set on the 12V high setting, with the charging ammeter reading 20 amps.

(Con't on p. 7)



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Jim Bradanini
Program Administrator

QUOTE

Hey: To all my tool carrying friends,

I just switched Brian's tool insurance from Farmers to Pro-TEC and I am now only spending \$350 a year for \$70,000 of insurance on hand tools, welder, air compressor, tool boxes, etc...we were spending \$747 every six months.

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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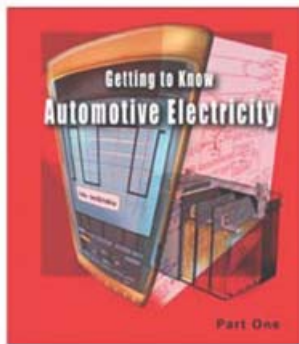
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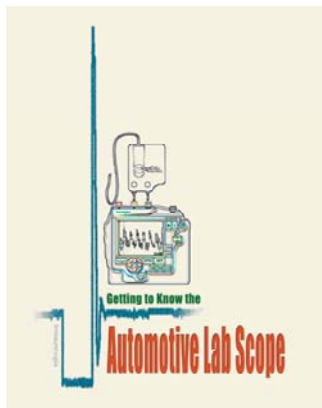
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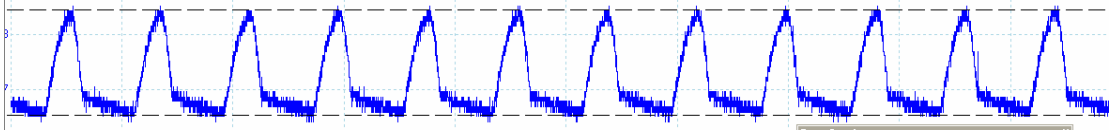
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Battery Maintainer SHOOTOUT (con't from p. 3)

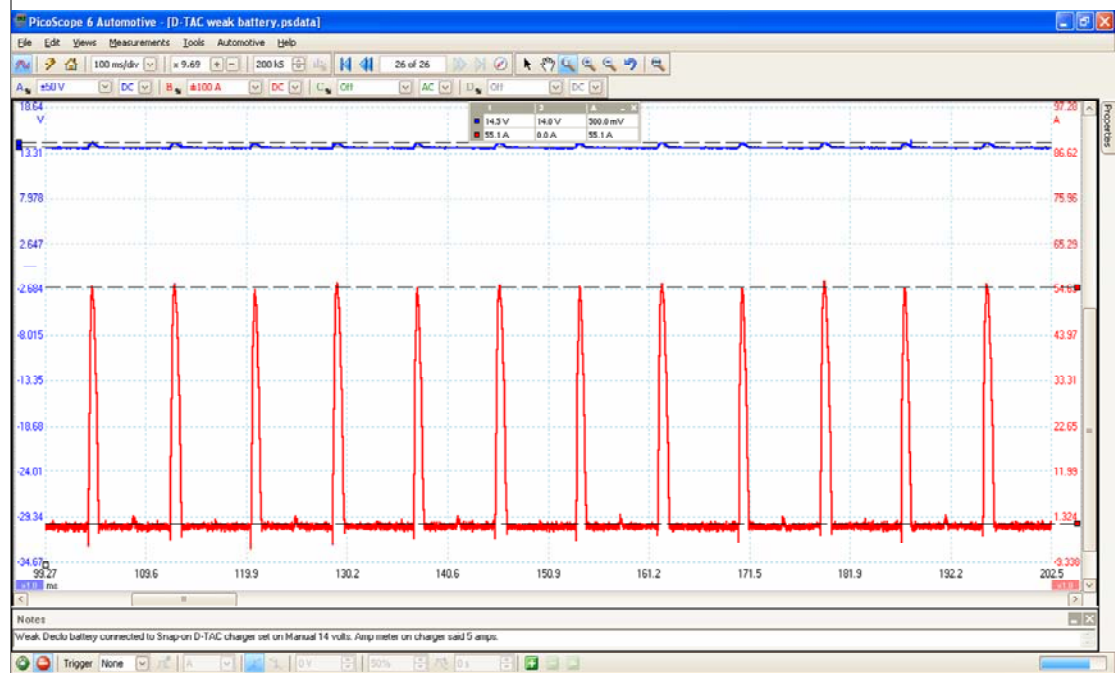
The charger applied a pulsating amp output of 99 amps, AC voltage ripple of 600mv, and DC V peaking at 17 V (seen in blue). On a weak battery, ripple increased to 1,100 mV!



This is a closer look at AC ripple.

This unit is not to be used for reflashing and it shows.

Snap-on D-TAC Charger



On a new battery the charger released 0 to 23 amps while maintaining 14 volts with little ripple (190 mV).

With a weak battery the charger is hardly suitable for re-flashing, or even charging! The D-TAC ammeter read only 5 amps while current pulsed between 0 and 55 amps. AC voltage ripple was 500 mV and charging voltage was observed at 14 V DC.

(Con't on page 9)

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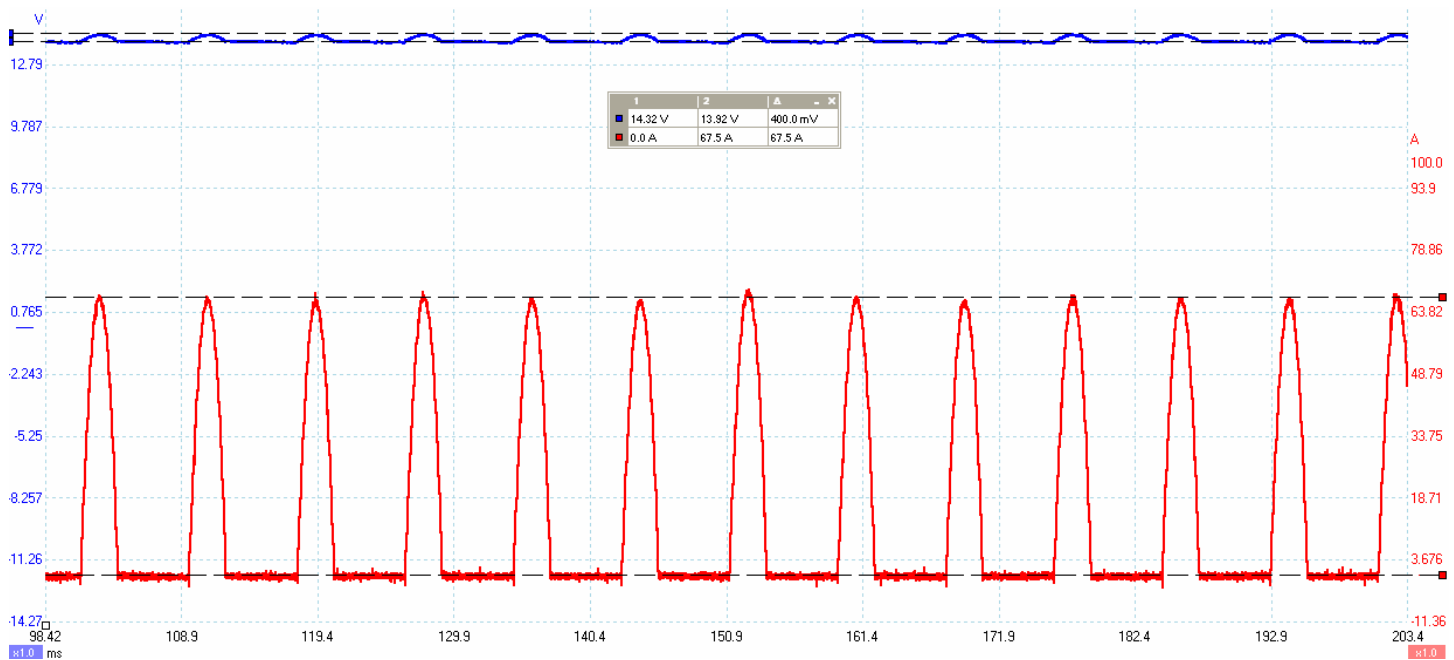
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Battery Maintainer SHOOTOUT (con't from page 7)

Snap-on EEBC-500

This is a battery charger that has a reprogramming setting that allows the user to set the desired voltage output. Does it do what it claims?



On a new battery the current was between 0 and 67 amps while charging voltage was 14 V, with 400mv AC ripple. This would work on some older non-European vehicles, but it leaves a lot to be desired.

(Con't on page 12)

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Questions:

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

2. Do you find the seminars useful?

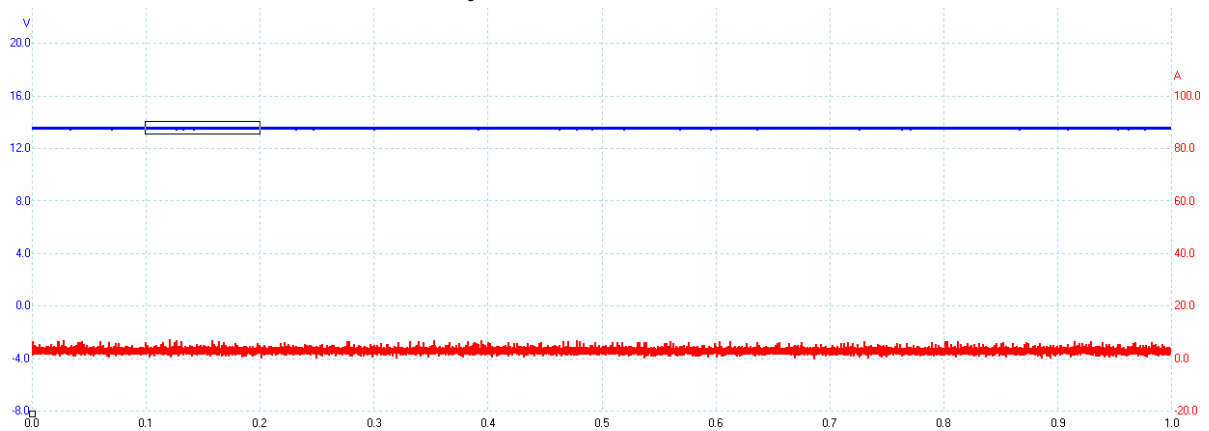
Please ask a fellow technician to come and check-out our seminars so we can continue to bring you the best available information each month.

We need your support:

Thank you,
G Truglia

Battery Maintainer SHOOTOUT (con't from page 9)

Midtronics PCS-300 Battery Maintainer



There are no user controls on this maintainer. You just turn it on and it works. On a weak Delco the unit is held 13.5 volts and did not have any measurable AC ripple.

The current output variation was only 409mA on this unit. The limitation of this charger, along with the GR8, is that it peaks at 55 A, which is not enough for some European cars.

Fronius

The Fronius was the first BMW-capable battery maintainer. It is the dealer and Autologic prescribed tool, and it is known to work flawlessly at 70 Amps. However, can it keep the AC ripple down?

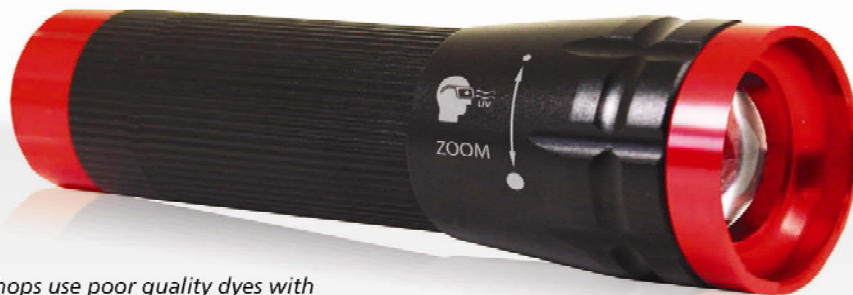


The charger had only 0.2 mV of A/C ripple on a good battery! How about a bad one?

(Con't on page 15)

DYING TO FIND A/C LEAKS?

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



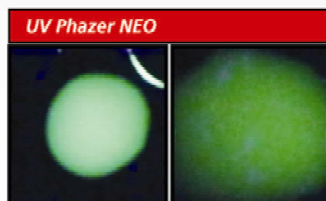
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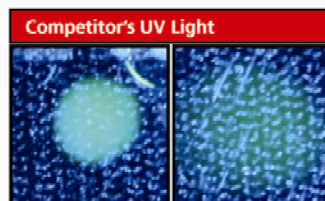
We found many shops use poor quality dyes with ineffective blue lights. That's when we challenged our Engineers to create the ultimate leak detection solution – the **UV Phazer NEO**.



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*ACTUAL PHOTOS

We compared the **UV Phazer NEO** light against a leading competitor's UV light using a few popular A/C dyes. The **UV Phazer NEO** fluoresces the dyes brighter which results in faster leak diagnosis and repair.

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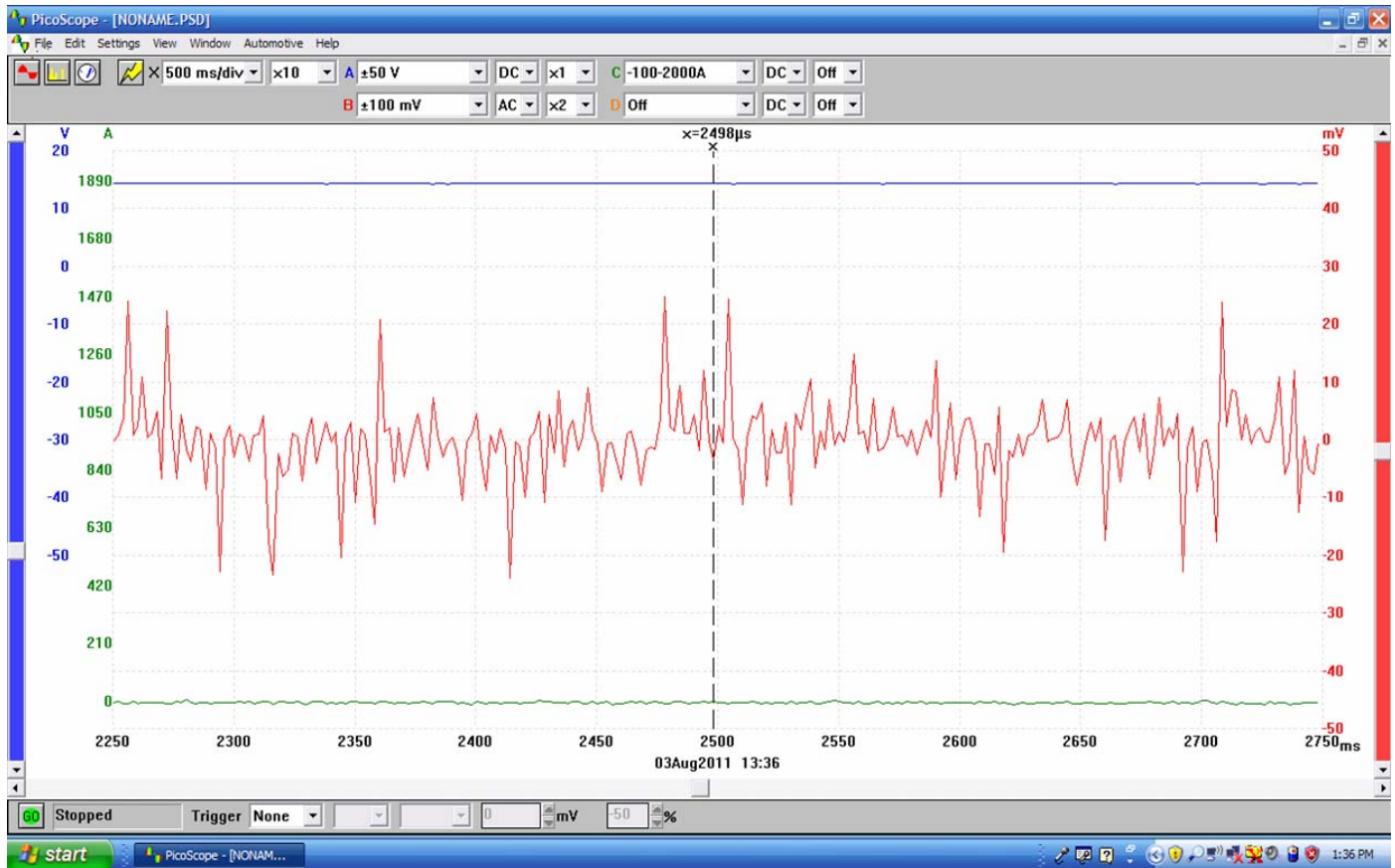
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Battery Maintainer SHOOTOUT (con't from page 12)

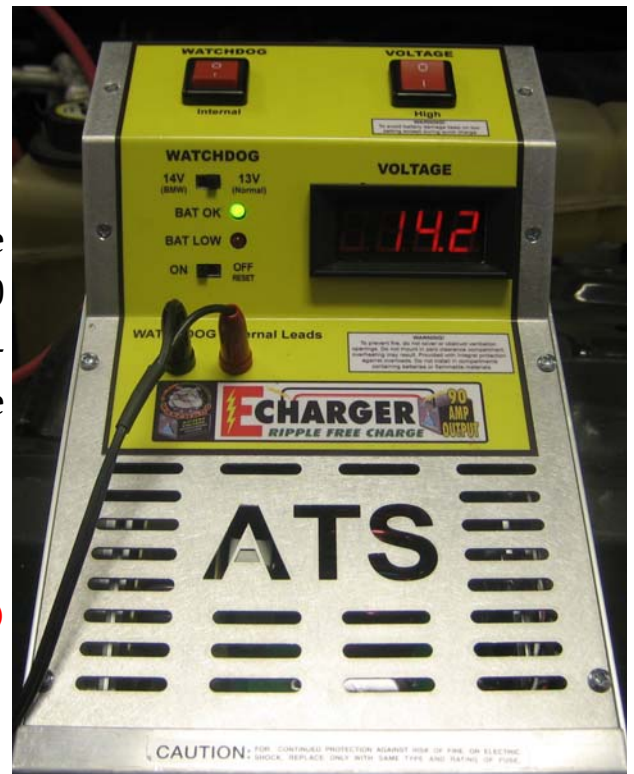


Only 25 mV AC! The Fronius is definitely a reflash capable battery maintainer, no doubt about it.

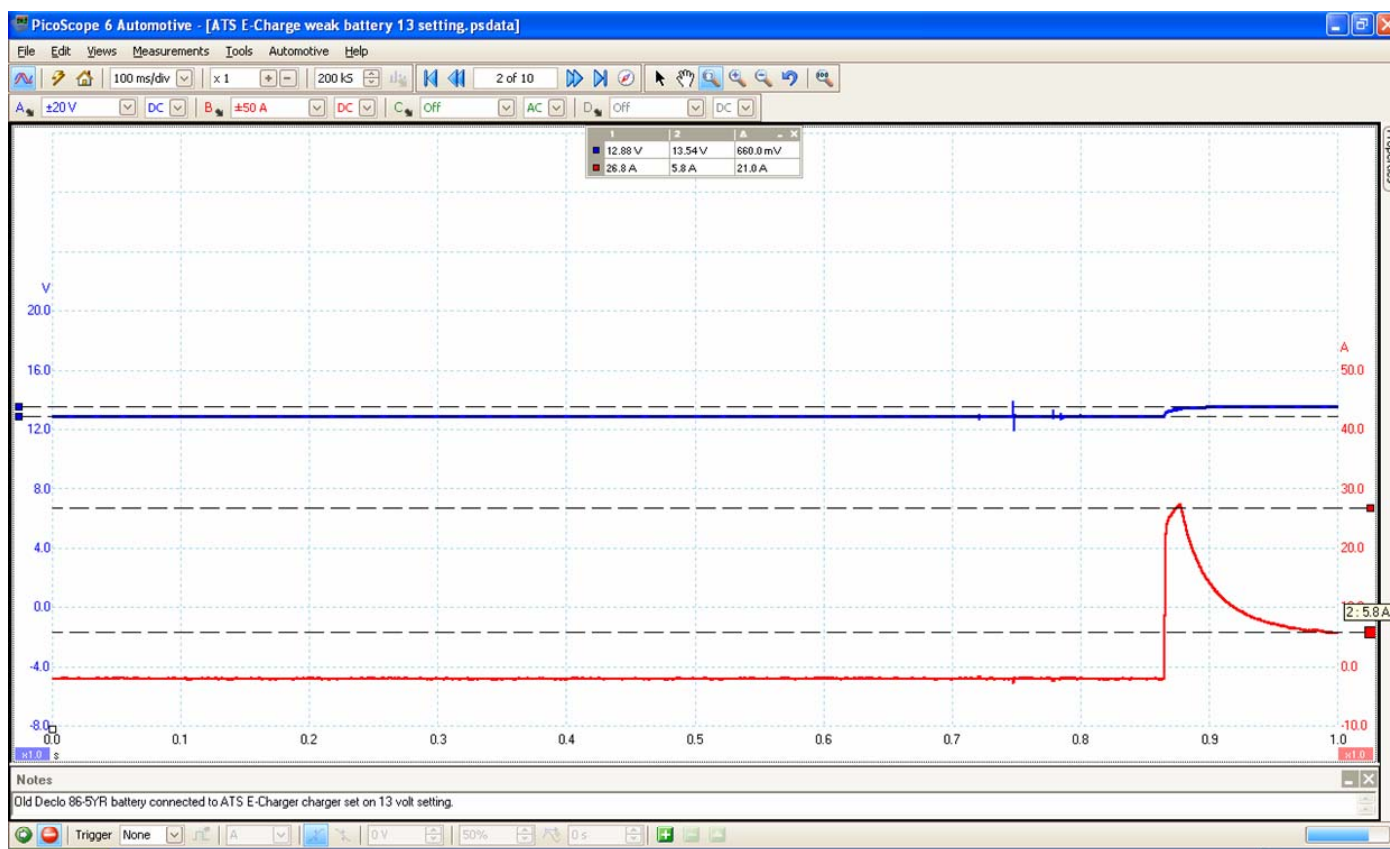
ATS E-Charger

This battery charger\maintainer is unique in several aspects. The unit is rated at a 90 amp peak output (the most in the business) and has two user selectable voltage settings, 13 or 14 volts.

(Con't on page 16)



Battery Maintainer SHOOTOUT (con't from page 16)



Here is the E-Charger on a weak battery with a starting voltage of 11.8 volts with the unit set to a 13 volt output. The current peaked at 28 amps the moment the charger was plugged in. AC ripple was undetectable. It quickly settled at a steady 2.9 amps and 13.4 charging volts.

Verdict: If you are reflashing, there are three maintainers out there to choose from.

Article by Scott Manna, Edited by Craig Truglia

Comeback Prevention Philosophy

Here's a little story...A customer came to us after spending \$1300 on an evap problem. We looked at the previous repairs and noticed that it was a classic parts-changing routine. This made us remember a Bernie Thompson, "When you start changing parts before you diagnose the problem, you can't pick out the tree from the forest." That's what happened in this case. *(Con't on p. 18)*

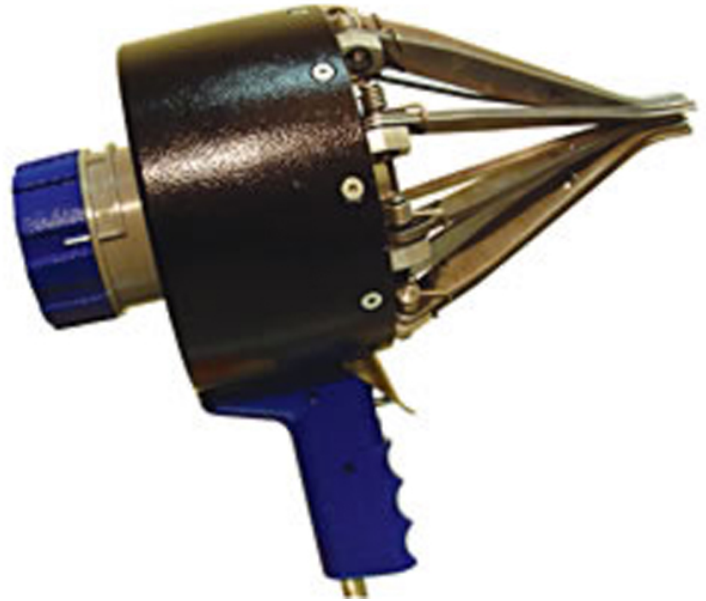
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\$259.99 for New CV Boot Installer Claw including Gomex Clamp Tool



Comeback Prevention Philosophy (con't from p. 16)

To make a long story short, an O-Ring at the charcoal canister was installed improperly, stretched by a small screwdriver. What must have happened is that when the entire evap system was replaced, somewhere along the way the repair was botched.



Now for the comeback prevention part...

Auto repair is a very demanding business. We have to work very long hours, deal with a lot of personalities, have many headache problems, and yet turn a profit. For many shops a bay has to generate a \$1,000 a day to make a decent profit. So what do we do? We rush, pushing cars out as soon as possible.

There are three things not to rush in order to prevent a comeback.

1. **The Diagnosis.** The evap issue on the 99 Honda could have been solved from a little less reading on Identifix, and a little more real world testing. Often times we need to read the manual (on Mitchell and AllData) and figure out how a system works and attack the problem in an intelligent way.
2. **The Search for Parts.** It might seem appetizing to call up Billy at the parts store down the street and throw on the first set of pads and rotors you get. Quick \$400, right? However, for \$400 or \$500, you are now on the hook for anything those brakes do: squeak, shake, etcetera... Choosing the right part, often OEM, is the key essential ingredient in comeback prevention.
3. **The Work.** That 99 Honda would have been fine if the technician was not rushed in installing that evap canister. Plain and simple. Work done right often takes a little extra time.

Don't rush and buy the right parts. Simple, right? Just be sure to charge accordingly. If the customer does not like the price, offer the lesser parts and do not offer a warranty. That way, you won't lose either way. It works for us anyway.

Article by Craig Truglia and Kevin Quinlan

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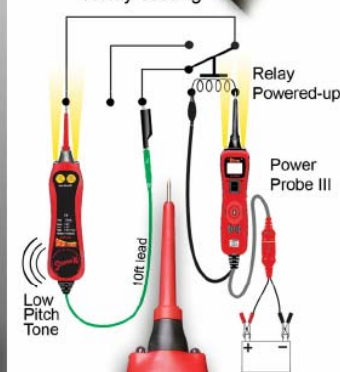
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