### THIRD ANNUAL RACING ISSUE!

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PRODUCT SPOTLIGHT Personal Gear page 24

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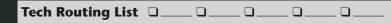
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## New Year's resolution: Do things better this year; the OEMs have your number

Independent shops need to keep investing in technical training, employee compensation and new tools and equipment.

t the start of a new year, it's natural to take stock of our prospects for growth and profitability. Looking back on 2012, the glass can be seen as half full, given the slight gain in consumer confidence and overall economic growth, or half empty, considering the challenges posed by a federal government intent on adding to the nation's debt and saddling businesses and consumers with higher taxes.

Trying to draw a conclusion from the myriad factors affecting aftermarket demand isn't easy. The automotive industry plays a big role in our nation's economy, and the news media is relentless in reporting every bit of information they can find to "enlighten" us on everything from consumer confidence to natural disasters to political debates, you name it. In their attempts to keep us informed, they mainly confuse us. So in the interest of making sense of this information overload, I offer my take.

## Consumer outlook holds steady

The economic factors influencing the automotive aftermarket aren't changing fast. And that's a good thing. The independent aftermarket has been healthy despite the nation's generally lousy economy, and indications are that the industry is making all the right moves to sustain a strong status quo.

The aging of the nation's vehicle fleet, together with the increasing length of car ownership, still points to growth for the automotive aftermarket, according to Polk research. Cars bought in the last 10 years are lasting longer, and consumers know it. For most consumers, maintaining existing cars makes more sense than buying new ones. NPD, another research firm, confirms an overall positive outlook for the independent aftermarket. Consumers are starting to spend more money since the recession began in 2007. But not enough to encourage a lot of people to buy new cars. Most consumers are still holding onto their existing cars longer than they did 10 years ago.

This explains why the number of OEM dealers has been declining (since prior to the recession) and OE service sales have been flat.

#### OEs are hot on our trail

Digging into the finer details, there are conflicting indications about whether consumers expect to spend more on auto repairs in 2013. On one hand, higher fuel prices result in fewer miles driven and fewer repairs. On the other hand, used cars are more enticing in comparison to higher new car prices. And on still another hand, OE dealers are offering more liberal financing options to encourage new car sales.

The independent aftermarket has been healthy despite the nation's generally lousy economy, and indications are that the industry is making all the right moves to sustain a strong status quo.

One thing most observers agree is change isn't happening fast. And this is a good thing for independent shops.

The fact that shop operating costs have been inching upward has helped stabilize the number of shops (industry research confirms this), giving existing shop owners a better chance of sustaining their profitability. Wages, benefits, materials, maintenance, and tool and equipment costs are rising. But if they weren't, more competitors would be out there making it harder for those who are already established.

Hence, the short-term outlook remains healthy for independent aftermarket service providers.

This doesn't mean independent shops should be complacent.

OEMs are revving up efforts to change things. Fiscal 2012 ended on a positive note for new car manufacturers, thanks in part to the federal bailout that all of us paid for. Fiscal 2012 marked the best year for car sales since 2007, even if purchases did not come close to pre-2007 levels.

## Independent shops must prepare for change

Independent shops need to be ready. So far, they've done a good job addressing the growing demand for aftermarket services. Outlays for new tools and equipment have moved at a healthy clip in the last several years, and most forecasts see this continuing for at least another two or three years.

Automotive tools cost more because they do more. Newer scan tools, for instance, make it easier to diagnose problems faster and get cars out the door in less time.

The outlook remains positive for those shops committed to investing in technical training, competitive employee compensation, and investment in the tools and equipment needed to address a more diverse vehicle fleet.

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## Kalitta Motorsports: As the bar rises, so does the passion to perform

Team relies on parts, equipment and tool partners for optimum performance

or the Kalitta Motorsports team, success is measured not only in the speed of the race cars and the number of winning Wallies (drag racing's most competitive award), or the coveted trophy of the NHRA. The team enjoys the passion of drag racing and the family atmosphere instilled by company founder Connie Kalitta, and in the adrenalineintensive, competitive world of drag racing, the bar rises every year.

Kalitta Motorsports' four race cars – two Top Fuel and two Funny Cars – now compete in 24 races a year, placing major demands on the assembly and repair crew. To meet the challenge, the team relies on the cooperative spirit of its 60 employees and its parts, equipment and tool partners.

While race fans may be familiar with Kalitta Motorsports celebrity drivers like Alexis De Joria, Del Worsham, David Grubnic, Doug Kalitta and Conrad ("Connie") Kalitta, the responsibility for keeping the cars running at optimum performance falls to the entire crew.

Under the supervision of Jim Oberhofer, vice president of operations,

the staff remains passionate about the assembly, maintenance and repair of the cars at the facility in Ypsilanti, Mich.

"Trying to keep that competitive edge is huge," explains Oberhofer, who is now in his 25th year with the Kalitta team. "We win and lose races by thousandths of a second. To remain competitive, we have to make sure the chassis are as fast as possible."

The team uses a combination of OEM- and custom-made parts to remain competitive. The team assembles two to three cars per year, Oberhofer notes, and competes in a race almost every month of the year.

## A custom-designed work space

The 50,000-square-foot building at the Kalitta headquarters was constructed 10 years ago in an industrial park to meet the growth of the team, which 74-year-old Connie Kalitta started in 1957. The rectangular building houses an open work area where technicians attend to maintenance, assembly and repair.

The work areas include spaces for parts assembly, tire work, brake repair, and a soundproof room for analyzing the air flow of the teams' blowers, an important part of creating speed for the engines. Seven 53-foot-long semi trailers



Tech Marla Weidenaar places rings on pistons.



A tech adjusts a Funny Car engine.



All techs have their own work areas in an open room.

that transport the race cars, pit crews and tools to and from races double as movable partitions inside the main work area, designating areas for specific tasks. The building also has business offices and storage areas.

Repair stations share the same open work area as the assembly. There are five dedicated repair technicians. Thirty company-owned toolboxes are positioned throughout the general work area. The repair techs also work on the transport trailers. Each tech is responsible for the tools in a section of the shop.

Everything is assembled in-house. Painting and testing are done off site. The company custom-builds over 100 parts. While they don't make their own engine blocks, they do repair them, along with cylinder heads.

The engines are assembled according to National Hot Rod Association (NHRA) specifications for Top Fuel Dragsters and Funny Cars. Crankshafts, pistons, valves, connecting rods, cam shafts, gears, front hub lifters, piston rings, superchargers, clutch discs and bearings are used to assemble the engines.

Preparation for future events is also done at Kalitta headquarters. "It's a constant rotation of parts," notes Oberhofer. In meeting the NHRA specs, the team has the flexibility to experiment with different clutch and cylinder head configurations. "We're planning a whole year out for clutch parts right now," Oberhofer says. "Everything is so specialized with these cars that you have to plan ahead or you fall behind." Planning *CONTINUED PAGE 10* 



The reception area at Kalitta Motorsports has plenty of racing memorabilia.



Tech Mac Savage inspects a race engine.



Tech Tom Davis inspects an engine with a small flashlight.



Tech Mac Savage demonstrates a wrench that Mac Tools developed specifically for Kalitta Motorsports.



The Kalitta Motorsports assembly facility is located in an industrial park in Ypsilanti, Mich.

for future needs is challenging because parts are becoming obsolete faster.

The highly sophisticated engines are inspected regularly to determine wear. The cylinder walls of the engines must retain a specific size. They get replaced if they get "out of round." A dial board gauge is used to determine this.

The growth in electronic components has made parts assembly easier in the time that Oberhofer has worked at Kalitta. "It's actually easier to work on this stuff now," he says.

#### **Tools of the trade**

While the tools used in the assembly have changed over the years, the pit crew tools have not changed as much, since race car engines have not evolved the way regular car engines have. "Our stuff reminds me more of the cars in the sixties and seventies," Oberhofer says of the pit crews' tools. Kalitta Motorsports relies on Mac Tools for all of its standard tools.

Certain tools, such as line borers, mills, lathes, valve grinders, soldering guns and wire crimpers are used more in parts making than in maintenance.

Soldering guns and wire crimpers are used to make wire harnesses for electronic ignitions.

A valve grinder cuts engine valves to a precise length to get the right angle on the base of the engine. An intake valve has a 55-degree "seat." A grinder makes the seat a precise 55-degree angle on the intake side.

A dynometer in a soundproof room allows a tech to use an analyzer to test the *CONTINUED PAGE 12* 

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At left, Rachel Brunner, Jim Oberhofer and Bob Lawson oversee the assembly and maintenance work.



Brian Landry uses a vertical Bridgeport mill.



Andrew Waits indexes spark plugs.

airflow of the teams' blowers.

Kalitta Motorsports serves as a tool test laboratory for Mac Tools. Mac Tools recently developed a wrench used for tightening the inner head nuts of cylinder heads and other delicate tasks. Mac Savage, a clutch tech, told Mac Tools he wanted to see more weight on the handle in its precision torque wrenches, for a more solid grip. The pit crews play an important role in the success of the race team. The engine must deliver as much horsepower and torque as possible through the clutch to the rear wheels without the wheels losing traction. The biggest challenge the pit crew faces is being able to work fast as a team during the races. Each of the two pit crews has one person in charge of making sure tools are accounted for.

"Every time that engine runs, it has to be torn apart," explains Bob Lawson, Kalitta Motorsports business manager, who grew up in a racing family and has spent his life in the business.

The marketing effort has increased significantly over the years as parts and tool manufacturers have partnered with racing teams to promote their products. Drag racing gets great media exposure for partners such as Mac Tools.

Mac Tools has used other partnerships to leverage its drag racing ties, such as bringing rock stars like Kid Rock to events. "Anybody that's a fan of his is going to associate him with us," notes Lawson. "You make these people (fans) feel exclusive." While marketing to the public, Mac Tools also invites shop owner customers to races. Professional customers recognize racing represents the most demanding use of their tools.

## Who gets to be on the drag race pit crew?

Success in motorsports relies on a competent pit crew as much as a talented driver. Kalitta Motorsports, like other race teams, has recognized the importance of identifying good candidates for the pit crew. But veteran team managers like Bob Lawson, business manager, is quick to note there is no formula for identifying a good candidate for this very important role.

"There's no educational property that teaches you how to work on a race car," says Lawson.

Candidates need to have a commercial driving license, a high school diploma and some mechanical aptitude. Beyond these simple requirements, the main quality they seek is a personality that will fit in with the rest of the team. This is an intangible quality that teams learn to identify with experience. Candidates are interviewed extensively by different people in management. Several technical schools send the company candidates for these positions.

"Chemistry (among the crew members) is the most important thing for us because of the amount of time the team must stay on the road," notes Lawson. "Youth and enthusiasm are two pretty important things. If they start out with the right character, we can grow on that and teach them the things they must know."

Chemistry refers to the ability of crew members to communicate under pressure. During a race, the driver calls to the crew chief for changes needed once he gets a sense of how the car handles on the track. The crew chief then oversees the crew in making sure these things get done. Every team member must understand what he must do.

Lawson says some people come to the drag racing field thinking it is glamorous. Some think the position is a way to get on national television. He says it's easy for the Kalitta team to determine which candidates have this misconception and which ones understand that the work is very demanding of members' time. "Once you do the interview process, you can pretty well weed people out," he says.

In time, the techs earn the respect of the crew by demonstrating their technical competence and their ability to work with the team.

## ADVERTORIAL 🖻

### SP Tools Racing-bred tools

SP Tools stems from a racing tradition that has inspired their industry-leading specialty tools.

It all began with brothers Paul and Mark Schley, who were just a couple of kids interested in race cars.

"The first car we had was a 1963 Volkswagen [Beetle]. Before that we were building go-carts and other motorized things. We always wanted everything to go fast."

The now internationally famous "Lightning Bug" was the first Beetle to do an under 10 second quarter mile, reaching a speed





of 126 MPH in that time—all without a turbo, supercharger, nitrous or other easy ways to attain such speed. Having won 18 NHRA drag racing records, it

had modifications that the Schleys designed on their own such as a heavy-duty rocker shaft and a heavy-duty washer that secured the upgraded flywheel.

"While we were working on this car, we were using specialty tools to make the job quicker. We even began making some of our own, about four or five of them, amongst the modified parts we were making. So, we called the company 'Schley Products,' because we were not initially focused on any one particular thing."

Their real breakthrough out of racing modifications and into the tool industry came in 1986 with their brake caliper tool that helped compress difficult GM calipers. It won the top award for tools at that year's SEMA show and Snap-on, amongst other distributors, started selling the Schleys' tools. Since then, they have never looked back.

Yet, the Schleys maintained their racing roots. They raced a 1996 Viper GTS Coupe in the 90s and 2000s, an upgraded VW Beetle capable of a nine second quarter mile, and then resurrecting the Lightning Bug herself. The famous blue bug now travels the world, including Europe and Japan wowing crowds that love vintage race cars.



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#### Q&A with Kylie Hirko of PTEN. An interview with the President of Redback USA, Thomas Meyer

### Q. How did you get into the footwear industry?

**A.** In my travels to Australia collecting plants, my fellow collectors gave me a pair of Redbacks to help get around the outback. They were great dealing with their harsh conditions and I noticed two years later how well they had lasted. I went back to Australia and visited the Redback Factory, met the Cloros Family and found they had been making boots for over 100 years. I asked if they needed an importer to North America and ordered my first container. Afterward, I found out how easy they were to sell.

### Q.Who was your market in the beginning?

A. Well it was all over the marketplace with

such a versatile product – we were in department and outdoor stores and fire departments.

### Q. So my big question is, Thomas, how did you break into the auto industry?

**A.** Well, I gave a pair of Redbacks to a transmission tech friend. He later told me how great they were against slipping and the harsh elements in his shop. In 2000, Matco Inc. wisely began selling Redbacks on their mobile tool trucks and now we are available on just about every mobile tool truck.

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The combination of technological features into one product creates a phenomenally durable, comfortable safe work boot that folks in this hard working industry appreciate, along with what we like to consider world class customer service, all have made Redback a big success.

### Q. How has Redback been involved in racing?

**A.** On the frontlines, distributors promoted and distributed Redback boots to the racing community. We've also sponsored various teams and soon became known as the boot that takes you "From Zero to Comfort in 3.2 Seconds."

#### Q. What do you envision for the future?

**A.** We are always thinking of ways to build our brand and make it easier for distributors to sell Redback. We've taken feedback from our customers and have added scratchless belts, insoles and socks to our line – all made from the finest products from the U.S. to New Zealand.

#### Q. Sounds like fun...

**A.** It has been an amazing decade, getting to know technicians and distributors across the country, making life-long friends and watching their kids grow up! I look forward to continuing to bring safety and comfort to your industry.



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Tool Briefing offers real-world tips and advice for using specific tools to accomplish specific tasks. The Customer Concern is shown below, along with a brief list of factory bulletins addressing the same problem. Remember, the tool information might apply to many other vehicles too.

## Fuel trim issue: 'Mini' problem, but big headache

Fuel trim issues affect drivability.

#### VEHICLE APPLICATION: •Mini 2005 Cooper 1.6

AVG. REPORTED MILEAGE: • 77,142 miles

**DIRECT HITS:** 

**372575** 

1

2

#### **CUSTOMER CONCERN:**

Code P2096 indicates that the rear O2 sensor registers a long-term lean condition. There is a technical service bulletin, No. M12 01 06, that addresses this problem. Small leaks at exhaust system welds and flange gaskets as well as at bungs for O2 sensors are relatively common, and can be found by pressurizing the exhaust system and using a soapy water solution to look for leaks, indicated by bubbles.

#### **TOOLS USED:**

- Scan tool
- Injector cleaner
- Fuel injection tester
- Smoke machine
- Exhaust gas analyzer

## **STEPS**

#### **TESTS/PROCEDURES:**

Check long-term fuel trim values. Expect a value >5 percent positive.

Test operation of front and rear 02 sensors - the front should switch high and low in the range of 0-1 V, and the rear should maintain a relatively steady 0.5V-0.7V at idle.

If the front sensors switch normally, the rears stay low, generally.

If the above tests come out okay, try cleaning injectors.



customer's 2005 Mini Cooper has a "check engine" light. After scanning for DTCs, you see you have a P2096, indicating that the rear oxygen sensor is experiencing a long-term, lean condition. Thankfully, there is a technical service bulletin (TSB), No. M12 01 06, that addresses this problem.

The TSB refers to exhaust leaks at weld spots, gaskets and at the bungs for the oxygen sensors. BMW recommends putting a restriction into the tailpipe and spraying soapy water on leak points while letting the car run. There is also an Identifix quick hit on the problem, indicating that if the O2 sen-

sors are not stuck lean, that clogged fuel injectors have been known to throw the P2096 as well.

Several tools can help find the problem the easy way. First, forget the



A technician uses an Autoland Scientech iScan II wt to diagnose a Mini with a P2096. For information on this product, go to www.VehicleServicePros.com/10614927.

soapy water! Use a smoke machine. Other tools will also help cut down on diagnostic time, including an emissions analyzer, bottle of propane and a scan tool with strong European-



An emissions analyzer checks lambda in order to verify if the vehicle is really running rich or lean. For information on the Kane gas analyzer from Ansed, go to www.VehicleServicePros.com/10697838.

enhanced capabilities.

#### STEP 1: IS IT REALLY LEAN?

Since we have a rear oxygen sensor reporting lean, and both a TSB and an Identifix quick hit indicating different causes that might lean out the sensor, our first step is to confirm what is going on. Do we have a vehicle that is running lean (exhaust leak at the front oxygen sensor, vacuum leak on MAF vehicles, front oxygen sensor "stuck lean," clogged injectors, weak fuel pump, etc.) or just a lean rear sensor (exhaust leak before the rear O2, rear O2 "stuck

Scanning for codes using the Autologic gives us our first clue. As we can see in "fuel system status," the vehicle sets the code near instantly in open loop. For information on this product, go to www.VehicleServicePros.com/10441342.

Freeze frame data corresponds to a stored dtc. If ther the freeze frame data may not be valid.	e are no dtcs present,		
Dtc that caused freeze frame storage	P2096 🕥		
Number of emission related dtcs stored	Not supported		
Malfunction indicator lamp (mil) status	Not supported		
Fuel system 1 status	OL 🕥		

lean," or mixture adaptation not done with a scan tool)?

With some scan tools, we can connect to repair databases such as Identifix. We need the test plan from Identifix or any other troubleshooter test tips if we do not know how to test to see whether the vehicle is running lean. What any of these databases cannot teach us is how to interpret long-term fuel trim (LTFT) values. This value is almost entirely dependent upon the front oxygen sensor. If the vehicle is really running lean, expect the LTFT to be above +7 and the front O2 to be steadily below 450mV.

Now, if LTFT is in a normal range (+/-7), indicating the vehicle actually isn't running lean, but the rear sensor thinks it is, the rear O2 is defective and merely shifted lean (or is being tricked by an exhaust leak forcing it lean).

Another strategy, if analyzing fuel

To smoke the exhaust, simply block one of the tailpipes and put the smoke machine in the other. For an exhaust leak to be bad enough to throw off an oxygen sensor, the leak will be large enough where the smoke will be clearly visible. For information on the Global Leak Detection Smoke Wizard, No. GLD40, go to www.VehicleServicePros.com/10329948. For information on the Clore Automotive JNC660 Jump Starter, go to www.VehicleServicePros. com/10206747.

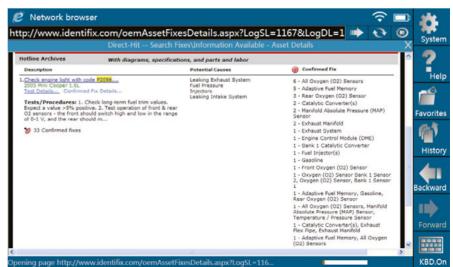
trim issues is difficult, is to simply place an emissions analyzer in the tail pipe and make sure your lambda is close to 1 (give or take +/- 0.03). If there is perfect lambda or good LTFT, but a code appears for a lean rear sensor, be assured the vehicle isn't actually running lean but the rear sensor alone is stuck lean.

#### **STEP 2: O2 SENSOR TESTS**

On the scan tool, if the O2 in the front is switching between 150 and 850 mV, but the rear one is stuck low (around 0 to 300 mV consistently), then we know that only the rear O2 is being forced lean because it is defective or there is an exhaust leak. If the front sensor stays consistently below 450 mV, then the rear sensor will likely be low, too, because something is forcing the whole system lean (front oxygen sensor stuck lean, vacuum leak on MAF vehicles, etc.)

Since these sensors go bad all the time, what's a quick way to test them? Use a scan tool and a bottle of propane. Simply add some propane through the ABS brake booster hose to see if the front oxygen sensor mV goes up. If the front

**CONTINUED PAGE 20** 



Using the Windows multi-tasking function of the Launch GDS to access identifix.com, the tech is able to search the current DTC P2096 for bulletins, tech hints and troubleshooter flow charts. For information on this product, go to www.VehicleServicePros.com/10363164.



Fuel injectors are flow tested to see if there is a problem. If there is, in most cases the ultrasonic cleaning function of the Launch X-SonicClean is able to break up any hard deposits while running its automated cleaning. For information on this product, go to www.VehicleServicePros.com/10225061.

oxygen sensor does not budge but the rear one does, the front one needs to be replaced. Conversely, if the front sensor nudges but the rear one does not, the rear needs replacing.

If both sensors change readings thanks to propane, it's time to use a smoke machine. There might be an exhaust leak around one of the sensors throwing the reading off. To smoke the exhaust, block one of the tailpipes and put the smoke machine in the other. For an exhaust leak to be bad enough to throw off an oxygen sensor, the leak will be large enough where smoke will be clearly visible.

If there is no smoke machine available, use an emissions analyzer to look for elevated HC, which would be typical of an exhaust leak, around critical leak points as per the TSB.

Without any exhaust leak or an oxygen sensor problem, there is something else making the vehicle run lean. Since it is easier to check the intake system as opposed to the fuel system, it makes sense to smoke the intake through the ABS brake booster hose. However, the Mini is a speed-density system that would run rich with an intake leak, not lean, so the proper approach is to diagnose the fuel system.

#### STEP 3: TEST THE FUEL SYSTEM

On many vehicles, the easiest thing to check first is the fuel pressure simply by hooking up the fuel pressure gauge to a testing port, often on the fuel rail. On a good Mini with a supercharger, KOEO and KOER fuel pressure should be about 3.5 BAR/53 psi. A regular Mini should be about 3.0 BAR/43 psi. If fuel pressure does not meet this spec, Identifix suggests cleaning the fuel injectors. However, it is wise to rule out the fuel pump first on most vehicles.

The fuel pump on Minis is extremely hard to connect to with a fuel volume tool, but it is doable with modifications to the frame around the pump. For this reason, it makes sense to check fuel volume only after checking the fuel injectors. Keep in mind that this vehicle should flow at least 0.6 GPM.

So, we rule out the fuel pump by process of elimination by moving on to the fuel injectors first. To test the fuel injectors, remove the intercooler and connect a fuel injector tester to each fuel injector with a fuel pressure gauge connected to the fuel rail. The directions on how to use different fuel injector testers might differ a little, but essentially all that needs to be done is to connect the tester's power and ground to the battery terminals, fit the plug into the injector, and select the amperage for the injector. Then activate the tool, which duty cycles the injector.

There is an injector problem if the pressure at the fuel rail differs between different injectors. Remember to start the car after testing each injector to avoid "hydrolocking" the engine.

An off-car fuel injector tester can do a more accurate job of testing fuel injectors. Simply plug in fuel injectors with the right fittings and perform a uniformity test. If there is a difference in a spray pattern between injectors, where it looks uneven or the volume of what sprayed is different, the injector spraying deficiently has a problem. A difference of about 7 percent in spray volume indicates an injector issue that would cause a drivability problem. Injectors otherwise will have slight deviations in spray volume, but that is nothing to be concerned about.

#### **STEP 4: FIX THE PROBLEM**

If we have a bad fuel injector, there is not a fuel delivery issue causing the vehicle to run lean.

The best method to fix the problem is to clean all of the fuel injectors with an ultrasonic fuel injector cleaner so they have equal performance. The tool simply pulses the fuel injectors on and off while the pintles bathe in a vibrating bath of ultrasonic cleaning solution. Always use approved fluids to clean and test fuel injectors to prevent damage.

If the fuel injector is out of the car, change the screens on the top by sticking the pointy head of a slide hammer in, popping the screen out and sticking a new screen in.

Minus the luxury of fixing fuel injectors out of the car, use an on-car fuel injector cleaner tool. Connect the tool to the fuel rail and pull the relay out for the fuel pump. Add shop air to the tool, which then delivers the fuel injector cleaning solution to the injectors. Then, run the car using the solution as fuel. Some people dilute the solution with gasoline to make it last longer. Typically, fuel injectors cleaned this way will clear up over time, if not right away. Other times, a second cleaning is needed.

Last but not least, use the OEMenhanced scan tool to perform a fuel mixture adaptation. Without a scan tool with dealer-level capabilities, this adaptation cannot be performed and the P2096 will instantly return.

#### CORRECTION

A photo caption in the Tool Briefing on real-world EVAP in the December 2012 issue incorrectly identified the Redline Air Complete from Redline Detection. For more information on this product, go to VehicleServicePros. com/10615060. Both this image and that of a SmokePro Total Tech were supplied by Redline Detection. For information on the SmokePro Total Tech, go to VehicleServicePros. com/10237333.

To read the December Tool Briefing, go to VehicleServicePros.com/10829043.



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## Should you get involved with reflashing?

Learn more about reflashing equipment, and how to avoid nasty pitfalls.

What should I look for when shopping for J2534 equipment?

First, you need the J-Box itself. They all cost around the same, so what you should be interested in is whether the piece of equipment is approved by the OEM. You can look this up at www.NASTF. org by looking at the "Reprogramming



Fig. 1: Drew Technologies makes VIN rewriting software that can be used with its J-2534 hardware. Pictured is Launch's 'J-Box" with a proprietary 20-pin connector. The connector allows the J-Box to be used as a factory interface on older Bimmers when purchasing the factory subscription. Check this tool out at VehicleServicePros.com/10782927.

Information" section on the left side of the page. The National Automotive Service Task Force (NASTF) makes all this information on every OEM readily available in one place. Second, you'll need a battery maintainer. You need a good, low-AC ripple flow of high amperage during a reflash, and only a battery maintainer can provide this. Third, you need a laptop with Windows 7. The reason is that in the real world, you are going to need to be mobile when it comes to reflash, and the more



Fig. 2: A battery maintainer, not charger, should be on a vehicle at all times during a reflash. Check out the Associated Equipment Intellamatic battery charger, No. ESS6008MSK, at VehicleServicePros.com/10731899.

wires you have hanging all over the place, the greater risk you take of killing a module. Furthermore, most J2534 applications are transitioning from Windows XP to Windows 7. Windows 7 has an XP emulator that allows you to use applications that only work in XP. However, an XP emulator is very slow, so if you can get the reflash software running in Windows 7 itself, it's best to stick with it. (See **Fig. 1** and **Fig. 2**)

#### Can I reflash all modules on all vehicles?

No, not really. Most manufacturers allow you to reflash PCMs and TCMs at most, so that you can solve an emissions issue. Now, reflashing a BCM has nothing to do with emissions, so they won't support it. There are some notable exceptions. Toyota and GM are two examples of manufacturers with a two-day, \$55 subscription that allows you to reflash anything you want with the J-Box. (**Fig. 3**) Volvo and BMW are the same, but they are difficult to use and costly for some (Volvo is \$225 for a few days).

#### I have heard a lot of horror stories about frying PCMs. How do I avoid doing that?

Nissan recommends turning off your cell phone and ■ putting a large piece of paper on the car that says, "This vehicle is being reprogrammed. Stay away!" Now, you might not actually need to do this, but in the real world there are a few precautions you do need to take. In no particular order, here are a few. You should not be working with any tangled wires. Keep everything neat, because anything that might interrupt a reflash, like a lack of communication to a piece of hardware, can cost you the module, and you know you don't want to have to pay for that. Always double check that your DLC, USB ports and power cables are fully connected



Fig. 3: A GM is reflashed using an AC Delco subscription with a Drew Tech Mongoose cable. Mongoose cables allow the user to use J2534 technology in order to turn their PC into the factory scan tool. Check this tool out at VehicleServicePros. com/10760444.



Fig. 4: An example of a properly set up vehicle. Pictured here is DG Technologies' DPA5, an example of a J2534 and RP1210 reflasher, which allows the unit to reprogram even heavy-duty applications. Check this tool out at VehicleServicePros.com/10774670.

and not jiggling.

Another precaution you should take is making sure your battery maintainer is hooked up properly to the vehicle's battery or to the jump-starting posts. Make sure you plug it in where no one else in the shop might walk by and kick out the wire by mistake. (See **Fig. 4**) Also, make sure that your laptop has its Windows, Flash and Adobe updates all completed before you reflash. If any of these begin in the middle of a reflash and reset your computer, this can cause problems with on-board modules.

Lastly, make sure that anti-virus software is disabled. If the program automatically opens up when you are in the middle of reflashing, obviously that's not good. It's best to have a laptop that you use exclusively for automotive use, so that you don't need to worry about virus protection or programs that can cause conflicts with one another. (See **Fig. 5**)

Where do I learn more about J2534 reprogramming?

There's no shame in knowing that there's always more to learn. Oftentimes it's best to learn it by real-world experience, being taught by someone who knows how to actually do it on a real car. However, if no one is willing to make you their J2534 disciple, do not fear! You can get some training from instructors at training events, whether they be regional associations (i.e.,



Fig. 5: Note that no other programs are running in the background during this reflash. Also note that Hyundai and KIA factory information and reprogramming software is free and very easy to use.

Technicians Service Training in the Northeast) or national events (i.e., VISION). There might even be a handson trainer in your area. Training DVDs from a few providers (such as Technicians Service Training and AVI) also cover the topic.

A few free resources exist online. DrewTech's website (www.DrewTech. com) and the "OTC Tool Guy" YouTube channel (See **Fig. 6**) are very good and cover car-line specific reflashing. OTC Tool Guy's videos, for example, in about six minutes cover exactly how you register on an OEM website and subsequently carry on your reflash. They have a lot of essential, real-world tips. In their video on reflashing



Fig. 6: YouTube is a useful source of J2534 reprogramming information. The "OTCToolGuy" channel gives step-by-step instructions for most manufacturers.

Nissans, they warn you that after a successful reflash, the software uses the word "failure," and cautions the technician not to be afraid. That tip comes in handy when you reflash your first Nissan so you don't freak out and think you fried the module.

Have questions? Need answers? Email craig.truglia@cygnus.com to have your questions answered in this column.

### Product SPOTLIGHT

#### **PERSONAL GEAR**



#### Keep feet safe from high temperatures

**Redback Boots' Smelter Furnace** Boot comes with hinged, stainless steel metatarsal guard and full chrome tanned leather that has been treated for specific heat, chemical and water resistance. The 9" high work boot with gusseted tongue prevents any sudden exposure to molten metals and ongoing splashes. Uses Velcro straps to ensure closure and quick release. The seams are double-stitched with 20-gauge fire retardant thread. The Nitrile vulcanized rubber sole is resistant to repeat exposures of 300 degrees C and single exposures of 1,000 degrees C. The steel toe is certified to OSHA/ASTM F2413-11 standards.

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#### Anti-fog safety glasses

**Honeywell Safety Products Uvex** Pheos safety evewear combines streamlined styling with technologically advanced materials to deliver highperformance protection. The evewear's frameless design features duo-spherical lenses for optical quality and all-around coverage. The dielectric style comes with Uvex Dura-streme dual action anti-fog, anti-scratch coating for exceptional versatility and value. Available in two sizes and three lens tints. A unique temple design allows for increased airflow to resist lens fogging, and a slot in the temple tip simplifies the attachment of hang cords or corded ear plugs. Contains no metal parts to deliver dielectric performance. Offers 100 percent UV protection.

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#### Hands-free, flexible task light

The Striker FLEXiT Light is a handsfree, flexible LED task light. It's ultrathin, flexible silicone body allows an unlimited amount of light projections, to create a focused spot or a broad flood light. The durable Shape-Loc frame makes it easy for users to bend, fold, wrap, stick or hook the FLEXiT around objects to position and aim the light. The durable ABS base holds three AA batteries (included), the electronic switch and circuit, two large neodymium (rare earth) magnets, and a loop to hang or mount the light. The FLEXiT is 0.85" thick, 7" wide, and 13" tall. Three light functions: low, medium and high. Enter 30 at "e-inquiry" on

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#### Read small print and parts numbers The Uliman LED

MG-2LT telescopic magnifying glass contains two highintensity LEDs that make this tool ideal for reading small print, parts or serial numbers in dark, hard-to-reach areas. This tool has a 2" viewing diameter, with a 4x magnifying strength. With its 37-1/2" telescopic reach, it is sure to become a mechanics favorite tool for identification or inspection. Enter 33 at

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### See into dark spots

The **TerraLux LightStar100-pink flashlight** operates in three modes: high (100 lumens), low (50 lumens) and strobe (100 lumens). It can run two hours on high and 8.5 hours on low. It has a focused beam pattern, which is especially bright in the center. Made of aircraft-grade aluminum, this water-resistant flashlight measures 4" long with a 0.875" diameter. Includes holster, battery, wrist strap and lifetime warranty.

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#### Shine light in any direction

The Alert Stamping & Manufacturing KTB2000 Tilt and Twist 20 LED task light operates with three replaceable AA batteries which last over 30 hours in the low setting and 15 hours at the bright 70 lumens high setting. This light includes a stand-up base with a magnet strong enough to hold the light horizontally, and includes a hook for hanging. The light also offers a "tilt and twist" feature, allowing users a tilt angle is up to 90 degrees and abilty to twist 360 degrees. Protective top and bottom rubber bumpers help avoid marring surfaces and protect the light.

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#### **PERSONAL GEAR**

## SPOTLIGHT



#### Illuminate tough spots

**OTC's Spectrum waterproof-grade** LED worklights come equipped with a lithium-ion battery that provides 50,000 hours of light. This light features a hang hook, magnetic base, pivoting body, face light and a top light. Models include the Spectrum Solar, No. 5550, a 10W LED worklight and a UV LED top light which aides in leak detection or tracing and smoke detection; the Spectrum Trio, No. 5551, that combines a 9W LED worklight with a 3W LED top light; and a Spectrum 30+4, No. 5552, which provides a broader, wider light with 30 LEDs on the face and four LEDs on top.

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#### Keep feet dry, comfortable

Wolverine's Gear Work Boot features Wolverine ICS technology, a proprietary system that gives wearers the ability to customize their comfort for how they walk by adjusting the gel disc that sits in the boot's heel to one of four settings: cushion, firm, inward or outward support. In addition to Wolverine ICS, the boot features the highest quality materials and components. A waterproof leather upper and waterproof membrane guarantee feet stay dry in wet conditions. The boot comes as available in 6", 8" and Wellington styles, and is also available with a composite-toe cap.

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#### Illuminate dark spots

Streamlight's Stinger Classic LED flashlight has a similar in size, shape and feel to the original Xenon Stinger, but also features extremely powerful LEDs. The updated model offers three microprocessor-controlled variable intensity modes and a strobe function. It delivers 390 lumens and 13,200 candela peak beam intensity on the high setting, 210 lumens and 6.500 candela on medium, and 100 lumens and 3,100 candela on low. Run times range from six hours and 45 minutes on low to one hour and 45 minutes on high. Comes with either a three-cell, 3.6V Ni-Cd or Ni-MH sub-C rechargeable battery.

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#### Enjoy the radio sans cords

Makita's wireless lithium-ion radio. No. LXRM03B, comes as part of the 18V cordless series, powered by one fast-charging 18V lithium-ion battery. Features rich sound and increased compatibility, with two auxiliary ports for MP3/iPod compatibility. Delivers rich stereo sound from two powerful 3" side-firing speakers. The radio can be powered by any Makita pod- or slide-style battery, including up to 16 hours of run-time with the fast-charging 18V LXT lithium-ion battery (sold separately). Engineered to stand up against harsh jobsite conditions pairing protective bumpers and water-resistant construction, according to the manufacturer.

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#### **Rock race car gloves**

**Mechanix Wear's M-Pact 3 gloves** bring the race track to the user's garage. Not only a knuckle saver with Kevlar-molded knuckles for superior protection, these gloves include impact-absorbing, molded thermal plastic rubber finger protection, along with an anatomically shaped multilayer synthetic leather palm with EVA interior foam padding. For comfort and flexibility, there's a heavy duty stretch panel and Spandex padded top.

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## Strong eyelets anchor laces in place

The Blue Tongue Stinger Athletic shoe offers an athletic design, built with an oiled nubuck leather for extra strength and tough wear. This shoe features the newly integrated high-quality, black D-ring evelets, which anchor laces in place and can withstand high-impact work environments while exhibiting superior corrosion resistance. A molded sock liner provides a snug fit while the rubber out-soles provide non-slip/oil resistance. An abrasionresistant toe guard protects toe area from taking a beating while metal reinforced lace loops. Available in US sizes 7-13.

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Kit includes: Power Probe III CT2000 Transmitter ECT2000 Reciever Cigarette Lighter Adapter 3" Probe Tip 3 Bulb Adapters Battery hook-up clips 20 ft extension lead 2 Piercing Probes Back Probe **Blade Probe** Gender Matching Adapters Alligator Clip Adapter 1-3-6 ft Leads Instruction CD

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### Product SPOTLIGHT

#### **PERSONAL GEAR**



#### **Electronic earplugs**

**Etymotic HD-15 High-Definition electronic earplugs** are designed to protect the hearing of anyone who operates around continuous loud noise. HD-15 earplugs allow users to hear naturally, as if nothing is in their ears. A dual-mode switch selects either automatic 15-dB protection or enhancement, which provides amplification for soft and conversational sounds when desired. Both modes block sudden, loud impact noise. The HD-15 earplugs can be customized through the company's CUSTOM-FIT program for personalized earmolds that provide a secure, comfortable fit. Provide a noise reduction rating (NRR) of 25 decibels.

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#### Powder-free nitrile gloves

Atlantic Safety Products' Black Lightning Gloves are one of the strongest 6-mil black nitrile gloves produced, according to the company. Developed with a unique 5.5 pH formulation, which matches healthy skin pH levels, this glove reduces excess perspiration and provides an exceptional comfortable fit. This powder-free nitrile glove has a textured grip and is approved for medical use.

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#### **Camo pocket floodlight**

The **Maxxeon WorkStar camo and carbon fiber pocket floodlight** combines the convenience and compact size of a penlight with the output of a worklight, while looking sharp. The wide-angle, brilliant white light helps users find hidden problems faster and easier than using an ordinary flashlight. This compact, 6" lighting tool weighs 2 oz, and clips easily and comfortably into any pocket. The tough T6 aluminum body is anodized black and virtually indestructible. All threaded joints have rubber O-ring seals,

for water resistance. The rugged tailcap switch comess rated at 50,000 cycles and sealed against contamination. Enter 45 at "e-inquiry" on vehicleservicepros.com



#### **The BEST MADE in USA Intelligent Chargers Available** Model ESS6008MS Battery Charger/Analyzer/Power Supply with Dead Battery Override 12-1004 12-1007 Folding Light 16-180 Lumen 30+1 SMD LED 37V Li-ion Battery 80-100 Lumen 3.7 Li-ion Batter 12-1008 The only charger on the market 12-1009 Folding Light with a Memory Saver Function. 24+ 5 SMD LED 700-800 Lumen Needle Light 20 pcs Super White Piranha LÉD 3.7 Li-ion Batterv 90-110 Lumen Made in USA 800-949-1472 www.associatedequip.com The Professional Technician's Choice

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Self-leveling ceiling mount model

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"Impressively high-tech"

- GIZMODO

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- GADGET KING

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- MARC SPAGNUOLO, THE WOOD WHISPERER

## "Wicked awesome"

- TOOL-RANK

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- NEW YORK TIMES GADGET WISE

"In a word, it's genius"

- EMERCEDESBENZ.COM



Introducing RoboReel—the \$299 power cord reel that's worth every penny. To find out what's got the reviewers so amped, visit roboreel.com or call 888-GR8-STUFF.



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ECONOWEAR"

#### Black disposable nitrile gloves

Magid Glove & Safety's EconoWear black disposable nitrile gloves, No. T9559, offer enhanced durability with a thin 5-mil construction. The slightly thinner material helps to reduce hand fatigue while improving fit and feel, and delivers greater tactile sensitivity. Gloves come 9-1/2" long and offers better puncture, abrasion and chemical resistance than disposable vinyl or latex gloves. The added benefit of a black coloration over traditional blue nitrile gloves allows them to hide dirt, grime and grease to increase overall product lifetime and value.

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(Battery Not included)

#### Rechargeable LED worklight

**Snap-on** offers the **Rechargeable 7.2V LED Work Light**, No. CTL761. Some of the features and benefits include: LED output of 200 lumens; low-battery red LED illuminates to inform when the battery needs to be recharged (patent pending); four-hour run time; battery recharge time of 30 minutes; a light head that rotates 120 degrees; a tempered glass lens that resists breakage; a single-bulb LED with bulb life of 50,000 hours; and an aluminum head that helps dissipate heat. Battery and charger are sold separately.



#### Full-grain leather belt

**Coastal Boot** introduces the **Mechanic's Belt**, constructed full-grain leather with a 2.5mm thickness. This belt has no PVCs, plastics or inferior cuts of leather and offers durable construction and an anti-scratch design that will not mar a vehicle's surface. A twin prong buckle design provides added strength. Available in waist sizes from 28" to 48". Three designs to choose from: Basket Weave, Motoring, Barbed Wire. Coastal Boot also offers customized belt designs. Made in the U.S.A.

Enter 1 at "e-inquiry" on vehicleservicepros.com

#### **30** PROFESSIONAL TOOL & EQUIPMENT NEWS **FEBRUARY 2013** www.VehicleServicePros.com

#### **PERSONAL GEAR**



#### Compact LEDs for flood or directional light E-Z Red's Pocket LED

E-Z Red's Pocket LED Light Stick, No. PCLED6, features six bright highpower LEDs and produces floodlight or directional light, providing 36 lumens and up to 11 hours of runtime. Use the PCLED6 to illuminate hard-to-reach, tight areas. The Light Stick takes three AAA batteries, is water-resistant and has a molded clip to stay in the pocket and a magnetic base.

Enter 3 at "e-inquiry" on vehicleservicepros.com



#### Heated, battery-powered jacket

**Milwaukee Electric Tool Corporation** offers the **Heated Jacket**, No. M12 in red, Realtree AP Camouflage and a black design option, available in sizes S-3XL. Powered by M12 Red Lithium battery technology, these jackets work with the entire M12 battery system. Hidden in a sleek back pocket, which can expand to hold an XC battery, an upgraded battery holder now includes a battery fuel gauge and a powered USB port for charging portable electronic devices. The M12 red lithium battery delivers superior runtime, with up to six hours of continuous heat on a single battery charge.

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#### **19202 TRUCK DRAIN WITH LID**

For large capacity crank cases or radiator systems. The drain holds 60 quarts and is equipped with four rollers and a handle for transport and easy positioning under trucks. Cover and curved side design help keep oil from spilling during movement. Convenient handles and pour spout facilitate oil evacuation.



#### 97102 BLACK PLASTIC CREEPER

New color for the popular low profile plastic creeper. Comfortable, body-fitting design. Urethane rollers are inserted into steel bushings that are molded into the creeper body for added strength and easy roller replacement. Low profile, 7/8" floor clearance. Easy to clean surface is resistant to solvents and fuels.



#### **17630 UNIVERSAL SEAL INSTALLER**

Used to install many sizes of seals. The flexible arms of the spider keep the seal centered during installation. Includes two driver and spider sizes along with long and short handles.



#### **39000 "No-SLIP" PULLEY PULLER/INSTALLER** Removes and installs pressed on power steering, alternator and air pump pulleys. The unique puller body completely houses the pulley hub to prevent slipping on even the tightest pulleys. Fits most domestic models including GM 3.1 and Quad 4 engines. Works on traditional V shaped

pulleys and serpentine belt system pulleys.



**57650 ALTERNATOR DECOUPLER PULLEY TOOL KIT** Five piece kit for removing and installing many alternator decoupler pulleys on the most popular vehicles in North America. Includes two Pulley Sockets and Three Shaft Bits. Kit works on both Overriding Alternator Decoupler (OAD) and One-Way Clutch (OWC) pulleys. Tools can be used while the alternator is on or off the vehicle.



www.lislecorp.com/about/program



#### **19212 TRUCK DRAIN WITH PUMP**

For large capacity crank cases or radiator systems. The drain holds 60 quarts and is equipped with four rollers and a handle for transport and easy positioning under trucks. The pump is AC powered and rated to pump up to seven gallons per minute. With a 12' hose, the pump is also convenient for pumping coolant back into the radiator after service or repairs. Cover and curved side design help keep oil from spilling during movement.



#### 22930 3/8" JIFFY-TITE® DISCONNECT

Extra low profile design quickly and easily disengages the Jiffy-tite quick-connect fittings without removal of the clip or damage to the connector or retaining clip. Fits the most popular Jiffy-tite fittings on newer GM, Daimler Chrysler and Mercedes vehicles. Fittings are found on transmission oil cooler lines, radiators and other applications. Also found on Harley-Davidson V-Rod.



#### 60450 RADIATOR PETCOCK WRENCH SET

Used to open and close petcocks on radiators and other applications. Includes long and short wrenches. Two slot widths fit most metal and plastic petcocks. Made of 3/4" hex steel. The tools can be used with a 1/4" drive ratchet or 3/4" open or boxed end wrenches.



#### 64750 11 PC. BACKPROBE KIT 64900 17 PC. BACKPROBE KIT

Provides technicians with an assortment of back probe pins with standard banana plug connections. Probes are fully insulated, providing added protection to 30v. Alligator clips provide a connection to multimeter probes.



Enter 4 at "e-inquiry" on vehicleservicepros.com



#### **1** RUN MULTIPLE APPLICATIONS AT ONE TIME

Launch Tech USA's Launch Pad offers the benefits of a tablet with the strength of the Launch diagnostic platform. With a Windows 7 operating system, multiple applications can be utilized simultaneously. The user can perform wireless-to-the-vehicle diagnostics, graph and record PID data, and use online repair databases all at the same time. Add-on modules

allow for future adaptability, such as J2534 reprogramming and a lab scope. Also included is a free, 30-day trial of Identifix's Direct-Hit, which notifies the technician of vehicle-specific repair information and known fixes automatically, right on the screen.

Enter 24 at "e-inquiry" on vehicleservicepros.com

#### **PROTECT EYES** WITH SAFETY GLASSES

**Encon Safety Products**' officially licensed **NASCAR licensed safety eyewear Model 427** offers both good looks and superior protection. The glasses have a weightless frame for even the most active wearer. The soft temple and nose tips provide maximum comfort for extended wear and the 10.0 base curved lens offers wrap-around protection with an exceptional line of vision. It is third-party tested to meet or exceed both the ANSI Z87.1-2010 and CSA Z94.3-2007 standards.

Enter 25 at "e-inquiry" on vehicleservicepros.com

#### **O TURN A FLASHLIGHT** INTO A DROP LIGHT

The **Streamlight Lite Pipe system** is an ultrathin rechargeable worklight designed for use as a drop light or to fit into tight spaces in automotive and industrial applications. The light consists of a 9" light cone attached to the body of a Xenon Stinger flashlight, and a removable, rotating hang hook. By removing the hook, the unit also can be used to cast bright light into hard-to-reach places, such as a vehicle undercarriage or equipment interiors. Powered by eight C4 LEDs, the Stinger Lite Pipe delivers 220 lumens of light in a uniform flood pattern and provides a run time of three hours and 15 minutes.

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### **4** HOLD AND LIFT ENGINES

The Hein-Werner 2-ton foldable engine crane, No. HW93809, combines strength and convenience. The three boom extension positions provide versatility in application extending to a height of 130", and a reach of 50" with a swivel handle hook for full-load rotation. It includes adjustable wide clearance legs that can be folded up for convenient storage. One of the legs has been designed with a swivel caster added for accurate placement of the base for optimum working conditions. The manual hand pump was designed for easy and controlled load lifting. It is made in the USA.

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### **O** BALANCE HEAVY DUTY TIRES

Ranger Products' heavy duty RB24T wheel balancer can handle truck tires up to 50" in diameter and 20" wide. Although best suited for buses, trucks and OTR wheels, the Ranger RB24T can accommodate automotive and light truck wheels as well. The RB24T features Drive-Check technology that simulates road and driving speed conditions and measures computer-generated imbalance of the tire and wheel assembly automatically. It then recommends the most cost-effective weight optimization correction as needed, which minimizes weight usage and maximizes productivity. An integrated wheel lift easily lifts the heaviest wheel assemblies for effortless mounting on the balancer.

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#### **KEEP HANDS CLEAN, COMFORTABLE**

**Atlantic Safety Products' Orange Lightning Gloves** can match a natural 5.5 pH level typical of skin ensuring that the user has a comfortable glove that does not dry out hands. Tough, rated at 6 mil thick, with a composition that allows extra

stretching improves the glove's durability. With a unique formulation that reduces excess perspiration and washed to remove excess chemicals that irritate users' hands, this powder-free nitrile glove provides class-leading comfort, according to the manufacturer. All gloves come in orange.

#### Enter 50 at "e-inquiry" on vehicleservicepros.com



Ken-Tool's T45AS super duty tubeless truck tire iron, No. 34649, has proprietary heat treated ends delivering a slip-free grip on the rim and bead to facilitate mounting and demounting tires. The tip ends insert easily, and prevent the cutting or ripping

the mount end, the unique, trademarked curve design always grabs the bead edge. On the demount end, the angled tip easily slips between bead and rim and will not slip when demounting the second bead. It utilizes a 7/8" shaft and 52" length that provides the technician with up to 40 percent greater leverage than previous models.

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#### SCRAPE OFF TOUGH **RESIDUES AND DEBRIS**

Mayhew Tools' Dominator heavy duty scraper set, No. 60026, includes a 17" scraper with a 3" blade made from 5/8" square steel and a 14-1/2" scraper with a 2" blade made from 1/2" steel. It is designed for heavy duty applications with wider blade widths that will not bend under extreme loads. It is assembled with the patented Dominator handle which includes metal end

cap for striking and two composite material for superior comfort and control.

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#### **TIGHTEN WITH 30 FT/LBS OF TOROUE**

ACDelco's 12V 1/4" power ratchet wrench, No. ARW1202, includes two 12V li-ion batteries, one quick charger and a carrying case. The tool features a 1/4" square drive, 30 ft/lbs of tightening torque, spindle lock, aluminum gearbox housing, variablespeed switch, anti-switch grip, 0 rpm to 160 rpm and a weight of 2.35 lbs.

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#### **SCAN GMS AT THE FACTORY LEVEL**

Bosch's Tech 2 Pro Optima scan tool package, No. F00E900977, includes the GM Tech 2, CANdi module and 32MB programming card. The tool allows technicians to diagnose and repair many GM vehicles manufactured from 1992 to current with the exception of those vehicles that are covered by GDS 2. Technicians can diagnose issues related to powertrain, chassis and body systems ECUs on General Motors vehicles, with enhanced diagnostics capabilities on GMLAN (CAN)

bus using the CANdi module. It includes a

reprogrammable PCMCIA card containing application software that's updated through PC-enabling, ACDelco TIS applications for software updates and OEM reflashing.

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#### TROUBLESHOOT DIAGNOSTIC DATA

DG Technologies' Gryphon S4 captures vehicle data for troubleshooting and diagnostic analysis. It comes with free analysis software

that provides advanced filtering and triggering for customizable control of measurement, data logging and data display. With high-speed Ethernet, two USB slots and WiFi, this tool provides multiple communication methods. The tool also features modular "expansion" cards to include: hardware simulation and validation, End-Of-Line (EOL) programming, and ECU development and testing. This economically priced unit comes with the Linux operating system for faster operation.

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#### **NON-SLIP STEP**

The **Shure-Step II**, No. SS2Y-NOB, makes the elevated work on trucks safe by providing mechanics a leg up. The step is rated for 500 lbs and can be stacked for work on larger trucks. It comes 10" tall, weighs 8 lbs and measures 24" by 14". The "Nobby Top" grips the technician's shoes even when oil or coolant has spilled on it. The large replaceable rubber pads on the bottom will keep the unit from sliding on the floor when the tech is standing on it.

Enter 56 at "e-inquiry" on vehicleservicepros.com



Stanley Proto ratcheting spline combination wrenches allow the user

13 degrees additional swing. It features polished chrome, reversible ratcheting and an open-end configuration. The set includes 38 fractional and metric sizes as well as four wrench sets. The wrench pattern features a patented I-beam design that removes material weight while offering an increased bearing surface to help improve comfort and reduce hand fatigue. It comes with an anti-slip design, locking the wrench onto the fastener head to prevent wrench slippage. It can be used on spline, 4-point, 6-point, 12-point and Torx fasteners. Fractional sizes range from 1/4" to 1 1/4" and metric sizes from 6mm to 32mm.

> Enter 57 at "e-inquiry" on vehicleservicepros.com

#### **REACH INTO TIGHTER SPOTS**

Koken universal double joint impact swivel sock-

**ets**, Nos. 13772-P and 14772-P, allow the user to reach into even tighter spots than one regularly can with an

impact swivel. This can be accomplished by having the tool "swivel" at two different points. Simply attach any impact socket to the tool and it becomes an impact swivel. Inside the tool a mechanism allows the female drive part and body part to quickly return to a straight position. No. 13772-P works with 3/8" applications and 14772-P with 1/2" applications. Enter 58 at "e-inquiry" on vehicleservicepros.com

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#### New PRODUCTS E

#### BACK PROBE MODULES AND SENSORS

Lisle's back probe kits, Nos. 64750 and 64900, come as 11- and 17-piece kits that provide technicians with assortments of back probe pins with standard banana plug connections for testing modules and sensors. It includes an assortment of straight, 45-degree, and 90-degree back probe pins with standard 4mm female banana plug connectors. It also includes angled probes for accessing hard-to-reach connectors. There is no need to disconnect the terminal and connector. Alligator clips with 4mm male banana connectors provide a connection to multimeter probes. The probes are fully insulated, providing added protection to 30V.

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#### **CHARGE VEHICLE BATTERIES**

Associated Equipment ATEC bench chargers (Nos. 9015, 9061, 9092, 9431 and 6015B) provide mechanics an array of battery charging options. These chargers feature sleek cabinetry, more efficient transformers and a digital meter display with a pushbutton switch to toggle between voltage and current readings. It comes as a 6/12V Automatic, 10/2A Full Rate Portable (No. 9015); 6/12V Automatic, 10/2A with 55A Boost Assist (No. 9061); 6/12V Automatic, 15/2A with 100A Boost Assist (No. 9092); 6/12V Manual 30/6/2A with 150 A Boost Assist (No, 9431); and 6/12V Manual, 40/10A with 200A Boost Assist (No. 6015B).

#### Enter 61 at "e-inquiry" on vehicleservicepros.com

#### REACH NUTS IN CONFINED SPACES

Klein Tools' extra-wide jaw 8" adjustable wrench, No. D509-8, features a full 1-1/2" jaw capacity, the same capacity as a standard 12" adjustable wrench. The shorter handle makes it easier to reach nuts and bolts in confined spaces. The tool has a minimally protruding jaw shank that also provides greater capacity in tight spaces. A unique four-threaded knurl worm gear helps balance this wrench for smoother operation and it allows the user to apply up to 30 percent more force, according to the manufacturer. It comes with standard and metric measurement scales for faster adjustment and a wider handle for added comfort.

S . MON XLEDY TOOLS S

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#### REMOVE DRAIN PLUGS QUICKLY, EASILY

The **Durston/VIM Drain Plug Wrench**, No. DPW1417, comes 16" long with offset heads for clearance. Made of a high alloy, heat-treated steel with a polished chrome finish, this single wrench works with many vehicles with 14mm and 17mm drain plugs. It has a 12-point box head to prevent stripping and get better grip. It makes oil changes quicker than ever.

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#### QUICK-ADJUSTING UNIVERSAL PULLERS

The geometry of the cross-bar and sliding parts of the Kukko 2-Arm Quick Adjusting Universal Pullers with Slender Arms, from Anglo American Tools, has been optimized to ensure particularly easy movement of the extractor hooks along the cross-bar. But it also ensures a rocksolid hold once positioned on the bolts. With quick-adjust technology, a manual adjustment knurl allows rapid loosening and adjusting of the extractor hooks without using a wrench. These pullers feature self-lock technology: By turning the locking screw, the hooks are centered and tensioned and therefore firmly grip the piece to be pulled off. This prevents the hooks moving or slipping off. Made in Germany.

> Enter 64 at "e-inquiry" on vehicleservicepros.com

#### **PERFORM MORE WORK WITHOUT A HOSE**

**Matco's 12V Infinium Cordless 3/8" Ratchet Kit**, No. MUC1238RKIT, comes with a 2.0 Ah battery that has 33 percent more run time than previous 1.5 Ah versions. It is designed to have all the benefits

Coil on Plug



General Technologies

Corp.

and ruggedness of a pneumatic ratchet but with the following features: 55 ft/lbs of torque, feather trigger to adjust torque, LED trigger activated light, patented grease fitting in the yoke for reliable servicing of the tool, battery "fuel gauge," and a 1-hour charge time for the battery.

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Easy and quick to use, it measures:

- Spark Burn Time
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For diagnostics of:

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#### "More Grip… Less Slip"

- Removes worn brake & fuel fittings
- Works where others fail
- Easy access to tight areas
- Amazing grip with 'Spring-Torque'
- Sizes from 3/8" to 9/16"





#### "Fits like a wrench, grips like a socket"

- Pivot/hinge/clamp for 360° contact
- Won't slip off like other wrenches
- Socket-like gripping
- Use with 1/2" or <u>3/8" ratchet drive</u>
- Sizes from 3/8" to 1-1/4'





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## **PRODUCTS**



#### **FIX CRACKED PLASTIC PARTS**

**E-Z Red's Cordless Hot Stapler Plastic Repair Kit**, No. HC001, allows the user to fix all different kinds of broken plastic components. It features an adjustable head for multiple angles, LED Light, LED charging and low-battery indicator lights, 120V charger included, three-heat settings for different plastics and three different staple types. The finished repair is strong and flexible. It can be used to repair broken locator pins, door panel clips and tabs.

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#### ROLL VEHICLES WITHOUT DRIVE AXLES

The **JE Tools ABR 2000 Axle Bearing Retaining Tool** is designed to retain the clamping force on the wheel bearing during a repair requiring the vehicle to be moved with the axle/drive shaft removed. It allows the vehicle to roll on its wheels without drive axles, eliminating costly wheel bearing or hub assembly damage by maintaining the clamping force on the bearing halves to simulate an installed axle. This tool offers a universal fit, fitting all makes and models. It also fits some rear independent hub bearings and some 4-wheel-drive trucks. It eliminates the need to use bolts and washers that will bend after one use.

Enter 71 at "e-inquiry" on vehicleservicepros.com



#### REMOVE HV BATTERIES QUICKLY, SAFELY

**Snap-on's hybrid battery lift**, No. YA785, makes it easier, faster and safer for service technicians to remove, install and move hybrid HV batteries. Designed specifically for the Toyota, Honda and Ford hybrids, the tool provides a safer alternative to manual lifting. It accommodates battery packs with a special harness to adapt to specific lift points, helping minimize potential damage to vehicle interior. The low-profile legs fit beneath the vehicle and within the inside of the rear tires so the lift can easily get within reach of the battery.

> Enter 69 at "e-inquiry" on vehicleservicepros.com

#### ADD FUEL ADDITIVES TO ANY CAR

Rislone's EZ Nozzle additive delivery system allows consumers to install fuel additives into "cap-less" fuel tanks. None of the fuel additive bottles currently on the market will open such a system's safety door. When this tool is inserted into a capless or obstructed fuel tank, the EZ Nozzle opens the fuel system safety door and allows the additive to flow in neatly, with no spilling and no additional equipment required. EZ Nozzle is built right into the top of the bottles used for Rislone's new Super Concentrated line of fuel additives.

Enter 72 at "e-inquiry" on vehicleservicepros.com



#### 38 PROFESSIONAL TOOL & EQUIPMENT NEWS FEBRUARY 2013 www.VehicleServicePros.com



#### LIFT CARS QUICKER, SAFER

The MAHA TWIN IV 7700 double scissor lift provides quick lube stations, car dealers and automotive workshops with a lift capable of servicing a wider range of vehicles faster and safer than other double scissor lifts on the market, according to the manufacturer. It has a holding capacity of 7,700 lbs and a raining lever that allows full lifting force even in the lowest height range. The lift comes customizable to accommodate diverse automobile styles, including low clearance and narrow frame vehicles. Wheels can be easily accessed for service.

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#### LIFT UP TO 12,000 LBS

**Dannmar's Major D-12 lift** comes with a single hydraulic cylinder under the runway. The heavy-duty, industrial-grade hydraulic cylinder features single-piece contruction and pilot-fitted, machined steel piston. It is resistant to hydraulic fluid leaks, thanks to pressure-loaded U-cup piston seals, backups and wear bands. It is coated in a durable, powdercoat finish that provides protection from most abrasives, chemicals, and weather for increased durability. The lift can handle up to 12,000 lbs. It comes with long approach ramps, anti-skid runway, bolt on tire stops, a steel slack safety lock mechanism, and more.

Enter 74 at "e-inquiry" on vehicleservicepros.com



#### SPOT LEAKS WITH UV FLASHLIGHT

**UView's UV Phazer Black**, Nos. 413065 and 414075, features a "True UV" LED blacklight that is 11 times more powerful at illuminating UV dyes than previous offerings, according to the manufacturer. Available in rechargeable, li-ion (No. 413065) and AAA battery (No. 414075) offerings, the flashlights benefit from the features of the Phazer Neo, but at an even better price. It includes adjustable lens focus, anodized aluminum housing and a 400 nm wavelength.

> Enter 75 at "e-inquiry" on vehicleservicepros.com



2432 Peck Road, City of Industry, CA 90601 Tel: 562.699.3190 Fax: 562.699.3195 Toll free: 877.708.6657 sales@kingtonyamerica.com, www.kingtonyamerica.com Enter 76 at "e-inquiry" on vehicleservicepros.com



#### New PRODUCTS

#### **REDUCE STRAIN, WITH MORE TORQUE**

Chicago Pneumatic's CP7769 series 3/4" impact wrench can be used for heavy vehicle mechanical repair and maintenance repair operations. The CP7769 and the CP7769-6, with 6" extension shank, each provide 1,440 ft/lbs (1950 Nm) of maximum torque. The tool's balance and interaction between motor and clutch mechanism help it consume less air (7.75 cfm) than many lowerpower 3/4" wrenches. It has a convenient, S2S single-hand forward/ reverse switch for more efficient operation. It has a fiber-reinforced composite body and magnesium clutch housing to help the tool to be durable yet light weight. Enter 77 at "e-inguiry" on vehicleservicepros.com

> EASILY CLEAN AND BUFF STUDLESS WHEEL HUBS

The **Mueller Kueps Wheel Hub Grinder Type 1** includes a special grinder for cleaning the wheel centering device as well as the attachment area between wheel and hub. This tool allows technicians to completely remove burned-in corrosion residues in a quick and easy process. Actual process time per hub only takes about three to 25 seconds, depending on residue thickness.

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#### **REMOVE BROKEN STUDS, BOLTS AND SCREWS**

Knipex's double-edged bolt and screw extractors, No. 9R 471 901 3, can remove damaged screws, studs and bolts and is servicable for years of use. It removes damaged screws and bolts without damaging the threads on both right- and left-handed thread applications. Non-slip and double-edged engagement removes even the toughest frozen bolts. The tool has four double-edged cutting/gripping edges. Simply drill the right sized hole into the frozen bolt, hammer in the extractor, and turn it out with a wrench or ratchet. Made in Germany.

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#### MEASURE ENGINE RPM WITH BATTERY CONNECTION

The General Technologies TA303 Diesel and Gasoline Engine Tachometer requires only a connection to the vehicle's battery or cigarette lighter socket to measure engine rpm. No sensors or reflective tapes are necessary because the TA303 uses the ripples generated by the engine's alternator to automatically calculate its speed, so it can be used on any diesel or gasoline engine equipped with an alternator. The TA303 is compatible with 12V to 42V DC electrical systems, and includes cables to connect to the vehicle's battery and cigarette lighter socket, a 10' extension cable, user's manual, and a hard carrying/ storage case.

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#### KEEP VERUS ORGANIZED, SECURE

The **Snap-on Verus custom-fit foam drawer organizers** allow technicians to turn their tool cart into a high-end mobile diagnostic tool station. The custom-fit foam drawer organizers keeps the Snap-on Verus and its accessories clean, organized, secure and protected. The 4-piece rigid foam insert pad has dedicated locations for standard accessories, plus optional scan adapters, scope accessories, ignition adapters, amp probe and more. It makes diagnostic quicker and less difficult than ever.

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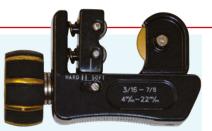
#### PRESS IN BEARINGS AND OTHER PARTS

Pacific Automotive Industries' **Workshop Pro Multi-Function Press** uses a 10-ton air-over-hydraulic ram for servicing struts, removes front bearings using a uniquely-designed hanging hub perch coupled with a 30-ton air-overhydraulic ram, and removes rear axle bearings with the supplied splitter and rods. The air-over-hydraulic foot pedal allows mechanics to have both hands free to properly position the work piece in the adjustable hanging perches. The tool comes with a 28-piece accessory pack. Two hardened long rods have been designed to screw into the bearing splitter for easy rear axle bearing removal.

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#### **CUT TUBES**

Cal-Van's Constant Pressure Tube Cutter, No. 157, utilizes a spring to keep consistent compression on the cutting blade to the tube. This allows the user to cut through thin-walled steel tubing without having to continually tighten or readjust the cutter. Simply



turn the adjustment handle until the alignment marks line up, then turn the cutter until the tubing is cut. It makes the task of cutting through steel walled tubing faster and easier. It can cut a range of tubing sizes from 3/16" to 7/8". It features a replaceable blade. Enter 85 at "e-inquiry" on vehicleservicepros.com

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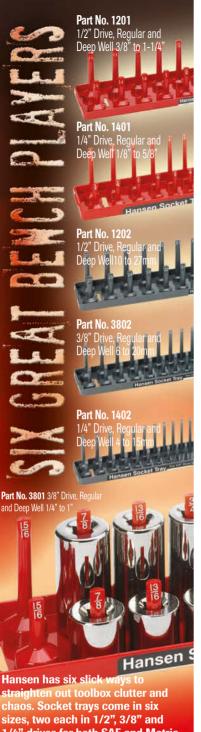
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straighten out toolbox clutter and chaos. Socket trays come in six sizes, two each in 1/2", 3/8" and 1/4" drives for both SAE and Metric sockets. The best selling 3/8" drive SAE socket tray holds 26 sockets from 1/4" to 1" while the Metric version holds sockets from 6mm to 20mm. SAE trays are red, Metric are gray. Ask for Hansen Socket Trays at your nearby tool distributor or retailer, or contact Hansen Global for the name of your nearest dealer.

Made in U.S.A.

Innovative Tools That Really Work 251 Taylor Street • Two Rivers, WI 54241 920-793-5213 • www.hansenglobalinc.com

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## New PRODUCTS



#### UNDERCOAT VEHICLES, PREVENT RUST

PlastiKote's undercoating paints, Nos. 272 and 273, come in both rubberized and professional formulations. It offers durable protection against rust, corrosion, moisture, fumes, dust, heat and cold. They also protect vehicles from harsh elements or damage from rocks, sand and salt that is on the roads during winter months or after severe storms. It features an Accusol trigger spray nozzle that allows paint to be sprayed in tough spots. It provides a non-asphaltic coating which contains no asbestos fiber.

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#### **INFLATE TIRES WITH NITROGEN**

Pneumatech's Tire Inflation Series nitrogen generators feature high-efficiency membrane technology that produce highpurity nitrogen gas for automotive and commercial fleet service. Four-stage filtration removes oxygen, water vapor and other contaminants from compressed air to create a clean, dry nitrogen supply with 95-plus percent purity. The series includes five models, with flow rates ranging from 168 scfh to 1,120 scfh to accommodate a wide range of tire inflation needs. Each model features dual pressure gauges for real-time status, an easy-access cabinet and no moving parts. All integrate into an existing, compressed air system and can also be mounted to an optional receiver tank.

> Enter 88 at "e-inquiry" on vehicleservicepros.com

#### FLEXIBLE BLACK RUBBERIZED LIQUID SPRAY PAINT

Alvin Products' Rubber In A Can penetrates into cracks and holes to create a leak-proof seal for repairing RVs, trucks, boats and more. This flexible black rubberized liquid spray paint can be sprayed anywhere a watertight, leak-proof seal is required, stays flexible, and will not crack, chip or peel. Suitable for use on

virtually any rigid surface, this flexible rubber coating flows into openings and is paintable. The product withstands temperatures from -20 degrees F to 300 degrees F and can be applied to wet and dry surfaces.

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#### **PRESSURIZE WATER WITH AN AIR GUN**

**GuardAir's HydroForce air gun** combines the power of compressed air with municipal utility water to produce a turbulent air/water jet stream with 14 lbs of thrust, providing tough cleaning power. The Hydroforce has no power package or pressure unit and does not require electricity or gasoline. Its features include rugged all-metal construction, one trigger operation, hot or cold water capable, no duty cycle limitations 3/4th FNPT, water shut-off valve for air drying, and available in multiple lengths 24" 36", and 48". Made in U.S.A.

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#### CHARGE SIX BATTERIES AT ONCE

**Milwaukee's M18** six-pack sequential charger can charge up to six battery packs of any Milwaukee M18 lithium-ion battery. This makes charging quicker and more convenient than ever. It features a compact design, integrated hang holes for vertical mounting, and a pass-through plug to conserve outlet space. It can charge M18 compact batteries in 30 minutes and extended capacity (XC) batteries in 60 minutes.

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#### COMPRESS SPRINGS WITHOUT VISE GRIPS

**Craftsman's MaxAxess sockets** allow users to tackle any length bolt, eliminating the need to switch between standard and deep sockets. The sockets are handy for working on struts without using vice grips. The pass-through system provides more fastener clearance for long bolts and fits into tight spaces traditional ratchets and sockets can't. The units are covered by the Craftsman Lifetime Guarantee. The sockets come in 1/4" and 3/8" drive sets. They include metric and SAE measurements. They include pass-through ratchet, drive square adapter and hollow saft handle.

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**TWO POST LIFTS** 7,000 through 30,000 lb. capacities. Inquiry #10



**MOBILE COLUMN LIFTS** MP-Series electric-hydraulic mobile lifts available in 2,4, 6, or 8 post configurations. Inquiry #12



**SCISSOR LIFTS** 6,000 lb. capacity full rise and portable with all position safety locks. Inquiry #11



FOUR POST RUNWAY LIFTS 19,000 through 120,000 lb. capacity models give complete under vehicle access for trucks & buses. Inquiry #13



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power delivery.

#### **REEL IN YOUR VACUUM HOSE**

Coxreels' compact vacuum reel, No. V-117-850, comes as a direct hand crank reel handling up to 50' of 1-1/2" standard vacuum hose with bullet cuffs. It can be used for any general maintenance and vacuum operations, including commercial vacuum systems; construction sites; plant floors, machine shops; wood shops, and more. The V-117-850 features a solid 1-piece, steel U-shaped frame and open drum design and a direct connect port, no thread, for fast hose installation. This model is lightweight, compact and has CNC robotically spun and ribbed discs with rolled edges for greater safety, strength, and durability. Made in U.S.A.

Enter 94 at "e-inquiry" on vehicleservicepros.com

#### **REMOVE FASTENERS IN TIGHT SPOTS**

Durston/VIM Tools' half-cut stubby bit set. No. VHC77, comes with the No. HBR5 mini bit ratchet and stubby 16mm, 5/8" long bits. The bits are all for automotive use, including hex, torx, torx tamper proof, torx plus 5-point, torx plus 6-point, XZN, Philips and flat tips. They are designed to be half the length of regular bits to get work done where there is little clearance. The set comes with dozens of bits for common sizes. They are made from S2 steel and include a lifetime warranty.

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## you can depend on. **JNC660 Bringing the Power**

This high performance unit is ideal for dealerships, service facilities, marinas and towing operations, where frequent jump starting is the norm.

It features a high performance Clore PROFORMER battery, a built-in automatic charger, 46" #2 AWG cables and Industrial Grade clamps to deliver the power time after time.



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#### TABLET VERSATILITY WITH ADDED DURABILITY

GammaTech's Durabook CA10 Tablet features a TFT multi-touch screen and digitizer, array of wireless connections, eight hours of battery life and enhanced durability. The 10.1" TFT LCD display with resistive, multi-touch screen panel meets Military Standard 810G and IP43 standard for drop, shock, dust and water resistance. The unit's wireless connectivity increases productivity and efficiency while keeping users in touch with company networks. Additionally, optional GPS technology allows the unit to be used for telematics. It supports a variety of wireless communications such as Intel Wi-Fi Link 135 and Bluetooth 4.0 as well as Mini PCI-E for WWAN/GPS (3G or LTE module) and RFID/NFC module.

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#### VSI-2534 – More Than Just A Reprogramming Too

Diagnostics - Read/Clear Fault Codes - Keycode Erase/Reprogram



#### STRIP AND CRIMP WIRES

The Phoenix Crimpfox-N series comes with permanent dies and an additional cut-

ting and stripping die for complete wire processing. Inserted in the handle of the tool, the Crimpfox-WF die provides cutting and stripping capabilities in addition to crimping. The tool exhibits a stripping capability from 20-10 AWG and cutting capabilities from 24-10 AWG. It features precise processing with specific crimping geometries and an easy follow-through ratchet release, and releasable pressure lock mechanisms. It offers the operator cutting and stripping capabilities for complete processing of the cable with one tool.

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#### **NOZZLE-TYPE IONIZER**

JDV Products' nozzle-type ionizer, No. N-1, has a low profile and can fit in space-restricted areas. It comes equipped with a straight and corner nozzle so it can complete a wide array of applications. Up to four units can be daisy-chained together using one power supply. It can be used for hoppers, part feeders, filling stations and for preventing static electricity when handling and assemblying electronic components.

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## New PRADUCTS



#### **EXPLOSION-PROOF EMERGENCY LIGHT**

The Larson explosion-proof LED emergency light, No. HALP-EMG-48-2L-LED, can withstand wet and corrosive conditions and provide instant and automatic emergency lighting operation in the event of power failures. This LED emergency light provides an effective safety measure for hazardous locations and will provide 90 minutes of illumination in the event that standard operating power is abnormally cut. It contains two T8 style LED tube lamps that can provide a total of 5,900 lumens of crisp white light for effective illumination of work areas, walkways, storage areas, and any location where less reliable fluorescent fixtures are traditionally used.

Enter 103 at "e-inquiry" on vehicleservicepros.com





#### **POLISH-FREE HEADLIGHT RESTORATION KIT**

AirSept's See Brighter Non-Abrasive Headlight Restoration Kit removes cloudiness from polycarbonate lens covers and increases headlight projection. See Brighter works in five minutes, without labor-intensive sanding and polishing. The simple, two-step process is easy for entry-level technicians and detail shop personnel. Simply wipe the lens cover with the included pre-cleaner, then again with the patent-pending See Brighter Lens Restoration Solution. No sanding, polishing or drying time. See Brighter also includes built-in UV protection to help the restoration last up to one year.

> Enter 104 at "e-inquiry" on vehicleservicepros.com

#### **COMPUTERIZED BRAKE LATHE**

Pro-Cut's GYR vbs (validated brake service system) guides technicians through the entire rotor matching process, insuring that discs can be matched to industry specs. The finished metrics (rotor thickness and run-out) of each rotor are captured and saved to the on-board tablet and the Cloud. In addition, color-coded customer reports are available for print-out. The system includes a bar code scanner, tablet computer with GYR application and Pro-Cut in either the PFM 9.2 or Warthog model. The GYR vbs works in this sequence: The VIN is transmitted via barcode scanner and the GYR application pulls the rotor specs for the vehicle. The system then saves the metrics of each finished rotor.

> Enter 105 at "e-inquiry" on vehicleservicepros.com

# 

#### WRENCHES REQUIRE LESS CLEARANCE

The Matco 7 and 9 Series Ratcheting Wrenches offer an improved ratcheting wrench design that includes a 15-degree Knuckle Offset and best-in-class swing arc for enhanced performance that saves knuckles and grants easy access to small, confined spaces. The 72-tooth 7 Series delivers a 5-degree swing arc and the 90-tooth 9 Series delivers a 4-degree swing arc. The 9 Series also includes an anvil drive box end and an exlusive, non-slip open end that works in both directions without reversing the wrench. Both sets are forged of high-carbon alloy steel and full polish finish, and come with a lifetime guarantee.

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#### **CLEAN ANY ELECTRIC TERMINAL**

IPA's HD fleet tech's electrical terminal maintenance set, No. 8048, provides the tools necessary for cleaning and maintaining the most common electrical connectors and connections found in modern fleets. Applications include Deutsch, Cannon, 7 round pin trailer harnesses, weather packs, bullet connectors, common ABS sensor and power connectors, trailer light plugs and more. The set includes: two sizes of flat male and female terminal cleaners, two gold 7 round pin socket harness cleaners, one black ABS sensor/power connector cleaner, 10 Super Hard Round Diamond Coated Micro Files, trailer light bullet connector cleaner and contact chemical cleaner. It comes packaged in a custom leather-type holster.

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#### **HVAC TEXTBOOK IN SPANISH**

**Mobile Air Conditioning Society** (MACS) Worldwide's Modern Automotive HVAC Systems textbook has been completely translated into Spanish. Intended to fulfill the need for accurate mobile A/C and engine cooling repair information for the Spanish language community, the textbook covers system design and components; retrofit, background, overview and future; cooling system components and operation-overview; air delivery systems; diagnostic and service equipment tools; A/C system testing and diagnostics; and A/C system service and repair.

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#### **ILLUMINATE UNDERHOOD WORK**

**Magnalight's LED engine bay light with magnetic base**, No. MUL-15-4V, produces 720 lumens and incorporates a rugged handle and magnetic mounting base. This 12V, 12-watt light can iluminate a space 70' by 60', but measures 3" by 4". Constructed of aluminum with a shatterproof polycarbonate lens, the light can resist intrusion from water, wind and debris. It comes with a 16' coil cord ending in a cigarette plug adapter, a 21' straight cord with ring terminals, and a 16' straight cord with battery clamps.

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#### **STOP-LEAK CONCENTRATES**

Bar's Leaks Engine Oil Stop Leak Concentrate, No. 1010; Transmission Stop Leak Concentrate ,No. 1420; and Power Steering Stop Leak Concentrate, No. 1630, come in 11-oz bottles. Bar's Leaks' Engine Oil Stop Leak Concentrate can seal leaks caused by normal engine wear and age. Transmission Stop Leak Concentrate can stop leaks caused by normal transmission wear and age. Power Steering Stop Leak Concentrate stops leaks caused by

normal power steering system wear and age, according to the manufacturer. Concentrates can be used with all domestic, import and heavy-duty fluids, including petroleum, mineral oil synthetics and ATF.

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#### LOAD TEST BATTERIES

The **CT3 Christie continuous duty battery load tester**, from **Clore Automotive**, uses a 250-amp, fixed load to simulate actual vehicle cranking loads for accurate, reliable battery testing in a wide variety of shop and fleet maintenance environments. The tool enables assessment of 6V and 12V battery state of charge, battery capacity and charging system output. The operator

does not have to interpret test result numbers to determine battery condition. Instead, a large, color-coded display gives test results in simple pass/fail zones. Made in U.S.A. Enter 112 at "e-inquiry" on vehicleservicepros.com

#### REMOVE BOLTS AND NUTS EASIER

IngersollRand's2350XP1/2" CompositeImpactooldelivers

almost 700 ft/lbs of reverse torque from a 1/2" impact. It operates with a 6-vane motor and twin-hammer impact mechanism, delivering 690 ft/lbs of reverse torque. It includes a feather-touch trigger that reduces operator fatigue. With a patented one-hand forward/reverse control and a wide range of power regulator settings, the tool allows users control so they can perform multiple tasks with the same tool. The silenced tool technology reduces noise levels in the service bay, while the large grease fitting makes it easy to maintain it.

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#### **UV LIGHT FOR GLASS REPAIR**

Delta Kits' battery-operated. LED curing light assists in windshield repair and headlight restoration by producing UV light in a durable and lightweight portable flashlight. It decreases curing time and is designed to provide ease of use for any mobile windshield repair technician. Constructed of aluminum, this slip-resistant tool weighs less than 5 oz. It utilizes a single, highquality, high-intensity 365nm LED that provides incredible curing power and speed, eliminating the need for an external electrical source. It provides a tack-free surface cure in approximately 30 seconds, faster than most 12V, 115V and 230V UV lights. It requires a single 18650 battery or two CR123A batteries (not included).

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#### **IMPROVE LATHE SAFETY**

Danray Products' heavy-duty steel lathe chuck shields can be used on lathes or similar machines. Lathe chuck shields serve two basic functions: first, they provide a safeguard between individuals and lathe-related hazards including flying chips, sparks, coolant, lubricant and the rotating equipment of the machine itself. The shield hinges left and rests at a 30-degree angle above the headstock, making it easy to change the chuck. The operator does not need to reach over the chuck to move the shield into position. The front portion of the shield can also be hinged up to change the workpiece.

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#### 12MM & 14MM WHEEL HANGER GUIDES

- Wheel Hanger Guides slide into wheel lugnut holes without using threads aiding technicians during wheel mounting
- Saves time no threads, no turning wheel guide to install and remove
- Works on Mercedes, Audi, BMW, Mini Cooper, SAAB and Volvo vehicles
- Wheel hanger guides support wheel/tire so technician can easily thread lugnut bolts into brake rotor
- Each kit includes one 12MM and one 14MM Wheel Hanger Guide
- · Easily slides in and out of rotor holes without using threads
- · Must have for removing wheels
- · Helps prevent scratches on expensive wheels
- Made of durable bulletproof polycarbonate plastic
- Purchase a LT465 kit for the half the price of one steel hanger pin

**Your Automotive** 

OOLS







LT465

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#### New NDUCTS

#### **CLEAN FORD DIESEL EGR SYSTEMS**

Engine Clean's Ford Diesel EGR Tool cleans the Ford diesel EGR system of carbon, varnish, and gums; it cleans the EGR valve, EGR intake and coolant tube. It uses shop air to inject concentrated cleaning detergents into the EGR system, not aerosol cans, and helps restore fuel efficiency and throttle response. It clears EGR trouble codes, produces high customer satisfaction and increased sales and is technician friendly, being a oneperson operation. The kit includes the EGR Tool, the EGR adapter, a straw sprayer and a bottle of D-501 EGR cleaner, all packaged in a toolbox.

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#### FUEL EFFICIENT WELDER/GENERATORS

The Miller Electric Trailblazer engine-driven welder/generators, Nos. 275 and 325, feature technology that reduces fuel use by about 35 percent, increasing run times as much as 50 percent, according to the company. Smart-Cor technology provides independent weld and generator power, ensuring no interaction between the welding arc and other tools. Welder/generators without this capability can cause fluctuations in the welding arc when a load is simultaneously applied to the generator. Auto-Speed technology automatically adjusts the engine speed to run at lower speeds determined by the load applied to the machine. Whereas other comparable welder/generators operate at 3,600 rpm at all times, the Trailblazer series varies its output based on demand.

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#### We've got your back! TMX-589 TECH METER KIT New Item!! Includes: **True RMS DMM - CATIII** 1000V - IP67 Waterproof LOADpro<sup>®</sup> Test Leads Troubleshooting Book DVD Training Video 1 Hr. **Compass for alternator** OOPE & solenoid testing "This kit will build your confidence." Bryan Lewis ASE Master Tech 2 Time SuperTech Champion We've got your back with one hour of video instructions, diagnostic tips & applications. DVD included with TECH METER KIT. We know vou want more information...you asked we did it. Call 800-227-1603 for more info. - www.esitest.com 7 ech Meter



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Balcrank's semi-auto tips, available on many of Balcrank's metered and non-metered control handles for fluid dispensing devices, helps those technicians looking for a semi-auto function for their digital and mechanical meters. An auto open and pushto-close operation has been designed to meet the needs of technicians. The semi-auto tip may be manually opened by pulling

forward on its shell or

automatically if pres-

SEMI-AUTO TIPS

surized to 510-515 psi and closed by pushing the shell to the closed position.

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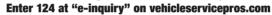


La-Man Corp.'s Refrigerated Air Dryers provide reduced dewpoint temperatures and air line filtration for a wide variety of compressed air applications. The product employs a three-in-one heat exchanger to first pre-cool the air, second to refrigerate the air to condense out all liquid vapors, and third to return heat to the air to prevent downstream pipe sweating and condensation. Product features include an on/off switch, power-on light, dewpoint indicator and a programmable timed solenoid. It has a maximum inlet pressure of 232 psi.

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#### **RETRIEVE VITAL CRASH DATA FROM VEHICLES**

The **Bosch Crash Data Retrieval (CDR) Tool** complies with the NHTSA ruling allowing access to Event Data Recorder (EDR) information stored in Electronic Control Units (ECU) of cars, light trucks and SUVs. The CDR Tool is comprised of hardware and software that work together to image the EDR information stored in the safety system modules already installed in late-model vehicles. The EDR information may also contain vital crash data if the vehicle has been involved in an accident. Some of the data parameters reported are vehicle speed, brake status, injury severity, acceleration, seat belt status, occupant detection and many more.





Enter 126 at "e-inquiry" on vehicleservicepros.com

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#### New PRODUCTS



#### CIRCULATE AIR WITH A PORTABLE FAN

The **Makita 18V LXT fan**, No. BCF201Z, as part of Makita's 18V cordless series, can be powered by the 18V LXT lithium-ion battery for maximum portability and battery life. Designed to help circulate air and aid in the drying of chemicals, this portable fan has two settings (high 1,700 rpm, low 1,200 rpm) for optimal air velocity control, with up to three hours of continuous run time on low speed. It is engineered to withstand any jobsite environment. The fan has a slim, compact design at 13.6"L x 5" W x 21" H, and weighs 5.7 lbs.

Enter 129 at "e-inquiry" on vehicleservicepros.com



#### REPAIR FENDERS, WHEEL WELLS AND QUARTER PANELS

Porter-Ferguson's straightwell tool system helps body repair techs repair damaged areas in a fraction of the time that conventional techniques require. Designed primarily for wheel well, quarter panel and fender repair, this system includes pulling tools both curved and flat in either single or double channel models. It works on curved wheel wells, flat and wide pulling surfaces. Tools can be tightened or loosened with a hammer to ensure conformity to the work area. In addition to wheel wells and quarter panels, it can also be used to pull minor damage on bumpers, headlight housings, or anywhere else there is a pinch weld. Made in the U.S.A.

Enter 130 at "e-inquiry" on vehicleservicepros.com



## STORE MORE TOOLS WITHOUT SACRIFICING MOBILITY

**Snap-on's heavy-duty shop cart**, No. KRSC246, features deeper storage space, a durable flip lid and an extra deep top compartment to safely secure more tools and equipment. This mobile tool storage unit can be moved around the bay quickly and efficiently, helping service technicians complete more jobs during the course of a day. It comes 24" deep for extra storage capacity. The top section provides openings to vertically store pry bars and extensions up to 36". It has a choice of two durable flip lid materials: stainless steel or truck bed liner. It features six drawers: two (2" deep), two (4" deep) and two (6" deep).

Enter 133 at "e-inquiry" on vehicleservicepros.com



#### CHANGE TIRES WITHOUT SCRATCHING THE RIM

The **Bosch TCE 4335THP manual tilt tire changer** comes as a mid-priced tire changer that incorporates a premium-grade helper assembly with three rigid arms to keep the tire bead in the drop center of the rim at all times. The unique, 3-point helper system eliminates the need for costly bead holding accessories that will inevitably break, get lost, and can possibly cause injury if not used properly. The machine can tilt back, allowing the user to work on rims up to 26". The mount head design allows for tire lever removal without ever touching the rim, preventing the risk of rim damage.

> Enter 131 at "e-inquiry" on vehicleservicepros.com



#### **RETAP HYDRAULIC AND A/C LINES**

Lock Technology's hollow end line taps, No. LT-991, rethread female fittings without line removal in order to make it easier to service A/C and hydraulic line fitting threads that become corroded over time and otherwise break when disconnected. The hollow-end tap slides over the flared end of the line easily, rethreading the female connector. This 8-piece kit covers all popular sizes, including 14mm, 16mm, 18mm, 20mm, 22mm, 24mm, 27mm and 1 1/8". It can be used on brake, oil, transmission and heater lines.

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#### **REMOVE STUBBORN OIL CAPS**

Lock Technology's dual-sided universal oil cap removal tool, No. LT-265, helps remove seized plastic oil caps. Oil caps on Toyota, Nissan, Hyundai and many imported manufacturers tend to seize up, even if the last mechanic to do the oil change lubricated the bottom. This tool easily removes oil caps without damaging them, including a slotted end that fits Toyota and most single-fin oil caps and a double-prong side that fits into slotted notched sides of Nissan oil caps. It prevents breaking the oil cap by attempting removal with an oil filter wrench or hammer and screwdriver.

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#### **CHARGE THE VERUS PRO** AND USB DEVICES

Snap-on's Verus Pro docking and charging station, No. EAA0365L04A, allows users to keep their diagnostic and information system powered all day long. The charging station allows technicians to place their Verus Pro on the work bench or store "at the ready" where it is most convenient for them. With a 15-pin video connector, technicians can hook-up to their external big-screen monitor to display their Verus' screen. The built-in USB hub connects up to four USB devices. The multi-position stand allows for vertical, angle or fold to lay flat.

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#### **RACING GEAR LUBE**

Champion Oil's Synthetic 75w-140 Racing Gear Lube, engineered for both gasoline and diesel vehicles, can also be used on severe duty applications such as towing, off-road driving and commercial use. The lubricant can outperform conventional gear oils by providing anti-wear characteristics and cold-flow properties. While many racing and performance applications still use mineral gear oils, synthetic gear oils show better resistance to oxidation, better flow at start-up and better retention of viscosity at elevated temperatures. It contains shock load inhibitor (SLI) chemistry proven to absorb abrupt load transitions.

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#### New PRODUCTS E

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#### **PERFORM COOLANT FLUSHES**

**Clore Automotive's Viper Cooling System** Service Center, No. AF3250, comes as a multi-function cooling system service center that can be easily operated. It offers cooling system drain and fill, power flush and back flush functions, plus adds useful diagnostic testing operations to assist with cooling system troubleshooting. A cooling system flush can be completed in as little as 15 minutes or less on most vehicles. It features quick vehicle hook-ups at either the upper radiator hose or at the heater hose and includes a full assortment of hose adapters, tees and radiator cap adapters. Detachable 7-gal tanks ease changeover between different coolants.

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#### SLIP WORK BOOTS ON AND OFF Georgia Boot's Riverdale collection of boots, No. G4513, come in two lightweight and durable pull-on styles. This boot can be worn at work all day long and then again in the great outdoors after the user gets home, according to the manufacturar. It is composed of distrassed leather

come in two lightweight and durable pull-on styles. This boot can be worn at work all day long and then again in the great outdoors after the user gets home, according to the manufacturer. It is composed of distressed leather and Cordura. It has a flexible EVA midsole and a removable polyurethane Comfort Core 5 footbed. It is designed to be waterproof, oil- and slip-resistant. It comes with optional steel toe.

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#### BALANCE TIRES QUICKER, MORE ACCURATELY

Hunter's SmartWeight balancer can balance tires more quickly by automatically placing the tire in position where weights need to be applied and calibrating itself automatically without any input from the user. It also includes improvements to the GSP9200 platform such as a larger motor and drive system to handle wheels up to 44" in diameter and 175 lbs, new software with TPMS specs database, cost-savings tracking software and support for a vehicle bar code scanning tool; and a wheel lift option to ease the mounting of heavy assembles. Enter 141 at "e-inquiry" on

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#### REMOVE THE TOUGHEST NUTS AND BOLTS

**Chicago Pneumatic's 1" impact wrench**, No. CP7782, works on high-torque truck and heavy duty applications. It comes as a regular 1" impact (No. CP7782), a 6" extended (No. CP7782-6) and a 6" extended spline anvils (No. CP7782-SP6). All three impact wrenches feature the highest reverse impact torque at 2,140 ft/lbs (2,900 Nm) of any wrench in its class, according to the manufacturer. Features include a full teasing trigger for smooth operation, a pinless reinforced rocking dog clutch to ensure long tool life and an integrated shock absorbing bumper to protect both the application and the tool.

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## TOOL Review 🖻

## **Master Appliance ProHeat LCD Dial-In Heat Gun**

Heat gun allows user to lock in temperature and fan settings.

aster Appliance's UL-certified ProHeat LCD Dial-In Heat Gun, No. PH-1400, features separate, easy-touse controls for digitally displayed temperatures in 10-degree F increments, from 130 degrees F to 1,000 degrees F. It displays in Fahrenheit or Celsius; air flow is adjustable from 4 cfm to 16 cfm. The Proheat LCD Dial-In Heat Gun Kit includes the PH-1400 heat gun, five specialty attachments and a carrying case.

#### **The Review**

Lou Fort, lead technician at K.A.R.S. Inc. in Huntingburg, IN, understands that the heat gun is often an uncelebrated, but necessary, tool. After receiving the ProHeat for reviewing purposes, he immediately put the tool to work on needed wiring repairs and decal work in the shop.

Right away Fort noticed that the "lock in" feature that allowed him to adjust exact temperature and fan settings was helpful. "Being able to lock in both a temperature and fan-speed setting for repetitive work is a major plus," he said. "By locking in your settings when doing these jobs, you won't have to set up the gun each time."

Most of the tool setup was reportedly user-friendly. Fort found that the user can choose between using the fan only or fan and heat with "a simple flip of a threeposition (OFF/FAN/FAN & HEAT) switch."

He observed that "once you have made that choice, setting the desired fan speed and/or temperature requires turning the adjustment knobs on the top of the unit. Setup may also include locking, if desired, the settings with the use of a magnetic key. Picking Fahrenheit or Celsius for the temperature display is also possible if desired; this also takes the magnetic key supplied with the unit."

Fort was most impressed by a subtle safety feature that reflects the tool's overall attention to detail: "The unit has a built-in safety feature that ... keeps the unit from turning back on by itself in the event of a power loss. Here is a quick explanation of how it works: Say you have the gun sitting on a bench all powered up and running when, wham, out go the lights. If you were to just walk away to investigate this sudden loss of power and it happens to come back on while you were away, the gun will not turn back on by itself. Rather, the unit will display 'OFF' and require you to turn it fully off and back on to restore its use."

Fort appreciated that the product was manufactured in the U.S., and thought the packaging should proudly display the product's origin.

He also made one suggestion for improvements on the tool: He found using the magnetic key for adjusting the tool's settings difficult to use, simply because he did not know where to put it.\*\* "Either place a decal or make markings on the rear housing that



would aid in proper placement of the magnetic key," he suggested. "I feel that this was a small detail that got overlooked when they improved the gun's stability by removing a locating pad that had key placements in it."

He contacted John Brott from Master Appliance regarding this. "[He] promptly returned my email, and called me," Fort said. This conversation "made 'key' placement a no-brainer."

After figuring this out, Fort was tempted to use his heat gun on everything, including on his lunch on the day there was a line for the microwave. Joking aside, he rates it a solid 8 out of 10, because of its overall quality but imperfect manual. "I would have loved to have given the PH-1400 ProHeat LCD Dial-In Heat Gun a 10," he explained, "I am confident it is built with the same quality as all my other Master Appliance tools."

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\*\*The manufacturer has indicated they are now placing markings on the rear housing which will address this key placement issue.



## **Murray TriGage Combo Tool**

Quickly measure the thread pitch, size of the bolt and reference the grade being used.

urray Corp.'s TriGage Combo Tool measures bolt diameter, thread pitch and bolt grade to ensure that when replacing bolts or studs, users select the correct size. It also helps to select the correct size split thread repair die when repairing exterior threads. It works for both SAE and metric applications.

#### The review

Eric Moore, a mechanic at DeMary Truck in Columbus, OH, is no stranger to retapping studs and dealing with broken bolts. He works in an industry where technicians put anti-seize on wheel studs. Thread repair is what you sign up for in the medium duty repair business.

Working on mainly Mitsubishi and UD trucks, Moore is used to having to break out his thread pitch gauges, bolt size guides and grade charts.

When he was sent a TriGage Combo

from Murray Tools, a tool that apparently can fulfill the functions of those three tools in one tool, he was intrigued.

It did not take long to put the tool to the test. "We used it during the replacement of exhaust manifold studs, when matching up the old ones to some we had in stock," Moore recalled. "The tool proved to be a very quick reference when doing this type of job."

Like most technicians, Moore does not read directions unless he absolutely has to. Moore reported that the tool was intuitive and that it did not come with directions, nor did he need them. "There was not a manual included, but there were quick references on the packaging," he noted. "Very easy to follow, and understand."

Along with the multi-tool's compact design, Moore commented on its ease of use.

"I felt that the inclusion of the three-

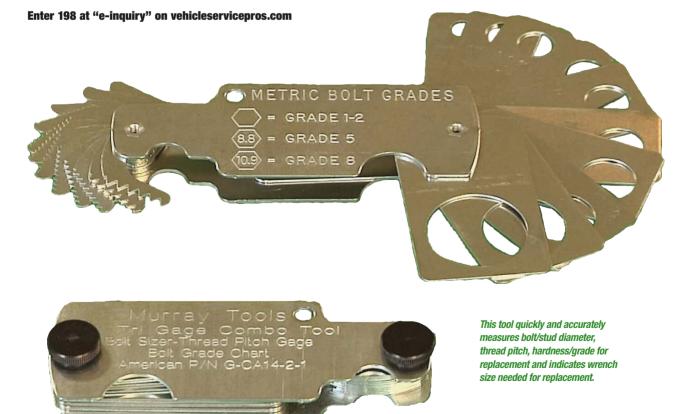
in-one tool made it very productive," he said. "I found the tools very easy to use."

Moore did have a suggestion for a future design improvement. "The only thought I had while using this tool was to maybe include the average torque specification reference for the bolt size/grade being referenced," he said.

"Some fasteners that we used this tool for reference on had no specific torque specification. In these specific applications, that would have been real handy."

Overall, Moore liked the tool.

"This combination tool was very effective, allowing in very few motions to measure the thread pitch, size the bolt, and also reference the grade being used," according to Moore. "I would rate this tool a solid nine out of 10 for the excellent and creative use in combining the three reference tools in one."





## **Great Stuff RoboReel Power Cord System**

Power cord winds itself and keeps the user safe from electrical hazards in extreme situations.

he Great Stuff, Inc. RoboReel Power Cord System features a motorized rewind with no springs, and comes with a replaceable cord that won't corkscrew. Easily retract the cord with a power switch on the main unit or the button on the receptacle ball. RoboReel comes with 50' of 12-gauge cord and provides 360-degree rotation. It includes emergency power shutoff, overheat protection and a four-year, 4,000-wind warranty. Made of resins that are oil-, gas-, chemical- and UV-resistant, the RoboReel is ceiling mountable and portable.

#### **The Review**

Lou Fort, lead technician at Huntingburg, IN-based K.A.R.S. Inc., is used to using droplights for his extension cords, since these lights can be wound up pretty easily after all. However, sometimes he needs this droplight for one thing and he either has to walk to the far end of the shop for another droplight or roll out the dirty extension cord from the closet, do his work, and roll it up again to put it away.

When he received the RoboReel Power Cord System, he was curious to find out what it could do.

Fort said set-up for the portable unit was easy; all he had to do was mount it.



The RoboReel includes safety features such as emergency power shutoff and overheat protection. It comes with a four-year, 4,000-wind warranty.

This unit can also remain unmounted for easy mobility around the shop. (Other versions of the RoboReel can be mounted on a ceiling.) The only "set-up" needed was to plug the unit in and pull out the cord to power it up.

"The RoboReel is the easiest, safest, extension cord I have ever used in my life," Fort said. "Having my extension cord on a reel keeps it from becoming a tangled up mess, which can take forever to straighten out."

Fort found it easy to operate. "I leave it plugged in 24/7. The RoboReel turns off the power to the cord when retracted, restoring power when extended 18" automatically," he explained. "The RoboReel's power retraction system has eliminated the need to walk the cord back to ensure it doesn't whip around, causing damage to anything or anyone.

"The RoboReel can also be retracted from its base, I found that feature to be quite handy more than a time or two."

This motorized extension cord is built to last, not only because of its warranty, but also the ease of fixing the unit for the years of use after its warranty is up. "The manual is worth hanging onto for proper maintenance," Fort noted. "It has instructions on replacing the cord or other parts when needed in the future. The manual also covers the units' features in more detail along with troubleshooting tips should you need some."

When asked if there were any features he would improve, Fort said there were "none."

However, he had no problem listing things he did like: "Let me start with its safety; if the cord gets cut it will shut the power off. Power to the extension cord receptacles, all three of them, can be turned on or off from either the base or receptacle end. Having built-in 'thermal' protection reduces the risk of fire. The extension cord can be retracted from either



in a self-leveling mounting system that can be attached to any ceiling beam or vertical beam.

the base or receptacle end. You can extend the cord to any length desired without having to over extend to find a latch like a spring-style reel cord. The cord base pivots a full 360 degrees, so no matter which way it's mounted, it maintains full functionality."

"The RoboReel Portable Power System is a game changer; I give the RoboReel a 10+," Fort said. "I used the RoboReel to power up battery chargers, heat guns, vacuum cleaners, worklights, inductive heater systems, etc. The RoboReel powered pretty much anything that needed power from an extension cord."

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Our readers offer a proud look at their awesome tool storage systems.



Sioux City, IA

obby Blundell has been in the business for only six years - long enough to need a good box but not too long to be jaded when it comes to the business. His lighthearted nature can be seen in his box.

Blundell calls it "the entertainment center." His Snap-on KRL7972 Workcenter with a KRL7245 overhead has "everything you need to fight your boredom." The toolbox has a desktop gaming computer, Altec Lansing home theater stereo speakers, wireless keyboard and mouse, and a Samsung flatscreen HD TV. The entertainment center also includes a Playstation 3. Many of the techs at Sioux City Ford-Lincoln spend their lunches



Blundell's desktop PC is connected to an HD TV.

playing video games at the box.

Is it a toolbox or an "entertainment box?"

"Everyone knows lunch is at Robby's box," Blundell says. "Myself and another tech here always joke about it being a landmark to visit when anyone travels to Sioux City."

Blundell aims to make his box his "own little environment." So he made other modifications for his own gratification. They include a gratuitous amount of lights: four white LED strips in the overhead, four blue LED strips under the stainless top, and two blue LED strips under the workcenter for an "underglow effect." He added two Blizzard oscillating fans to keep him cool during the summer. For charging his cell phone, he

> mounted to the side wall of the overhead a Rocketfish cell phone charger.

That is not to say Blundell is not a serious technician. The box has all the tools that an ASE certified technician needs at his age. The box and the service cart carry about \$10,000 of hand tools, \$1,500 in Ford-specific specialty tools, and \$4,000 in assorted electronic and pneumatic tools (impacts, drills, gauges for fuel pressure or engine compression, and more).

His favorite tool is his Power Probe III: "I have made a lot of money with that [tool]. If you do any electrical at all, check one out, they're awesome." But Blundell does not discount his hub grappler, because "it makes it fun to pull bearings apart. That thing has saved me countless hours and is well worth the money. The way it is designed is a little misleading. It doesn't work how you think a normal puller might, but it is very nice to have around."

Blundell boasts that his box is "an electronic guy's dream." For years he had a Snap-on 54" box, but he always dreamed about the box he has now. One day, daydreaming aloud, the Snap-on representative just happened to walk in trying to unload a new box. It was exactly the box that Blundell was dreaming of, so he traded in his old box (which was paid in full) for the one he has now. For some people, dreams do come true.

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