

# PTEN

Professional Tool & Equipment News

The Independent Tool Authority



**Exclusive!  
Innovation  
Awards:**

Part two of the  
2016 nominees  
page 32

# ECT3000 CIRCUIT TRACER

By Power Probe



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## Tool Briefing:

Diagnosing and  
repairing emission issues  
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## Tool Reviews:

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▼ Rewind brake  
pistons using  
1/4" extensions



▼ Wirelessly  
check tire pressure  
and tread depth



▼ Three-position  
flexible head





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# JUNE Contents

## Exclusive

### 32 2016 PTEN INNOVATION AWARD NOMINEES, PART 2

See all of the nominees in the second round of this year's Innovation Awards program, featuring new and innovative products introduced throughout last year.

## Features

### 10 FEATURED NEW PRODUCTS

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**Shop:** Adams Mobile Air  
**Location:** Terrell, Texas

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The annual PTEN Product Showcase issue will feature a wide range of products spanning eight different categories.

## PRODUCT SHOWCASE 2016

## On Our Cover

Power Probe  
ECT3000 Circuit Tracer





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# ATEQ VT56

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### TPMS HELP & TRAINING MODULES



### PART NUMBER LOOK-UP

OE AND AM SENSOR AVAILABILITY BY MMY	
Sensor	PART NUMBER
Continental	SE10001HP
DILL	9153
DYNAMIC	DVT-1001H
EZ Sensor	33000
MYERS	21193
NAPA ECH OE-D	92-1021C
NAPA QWIK	92-4001A/R
OE	25920615

### AFTERMARKET SENSOR PROGRAMMING



### TPMS SERVICE HISTORY

SAVE & DOWNLOAD VEHICLE AUDIT REPORTS		
Make/Model/Year	Date	Reset
DODGE/Grand C/2010	11/25/2015	OK
FORD/F-Series/2015 433	11/25/2015	OK
DODGE/Grand C/2010	11/25/2015	OK
BUICK/Enclave/2014	11/25/2015	OK
FORD/Explorer/2015 315	11/25/2015	OK
VOLVO/XC60/2010 315	11/25/2015	OK
NISSAN/Altima/2013 Seda	10/29/2015	OK
NISSAN/Altima/15/33/46	10/29/2015	OK

### TREAD DEPTH MEASUREMENT



### VEHICLE VIN SCAN



### OPTIONAL

TIRE TREAD DEPTH GAUGE  
DOCK INTEGRATED PRINTER



### RELEARN PROCEDURES



### TPMS SENSOR INTELLIGENCE

VEHICLE MAKE/MODEL/YEAR					
ID	PSI	Hz	°F	BAT	
LF	1E1C30E1	33.3	433	62	OK
RF	1E1C30E4	32.8	433	62	OK
RR	1E1C4228	33.3	433	59	OK
LR	1E1D5AE5	29.0	433	57	OK

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### Tool Review

The reviewer says the time savings from using this tool can be immense.

The Streamlight Double Clutch USB, is a 4 oz, compact, low-profile LED headlamp that is USB rechargeable, with optional battery back-up. To read the full review, visit [VehicleServicePros.com/12181725](http://VehicleServicePros.com/12181725)

### Ask the Expert



A portable evaporative cooler is a great way to achieve cooling without having to close the doors or use costly/harsh chemicals. What can I do to cool down my sweltering shop in the summer? To read the full article, visit:

[VehicleServicePros.com/12207135](http://VehicleServicePros.com/12207135)

### Video



Daniel McGuinn reviews the SP Air Sealed Flat Head Mini Air Ratchets, Nos. SP-7265 and SP-7260. To watch, visit:

[VehicleServicePros.com/12207741](http://VehicleServicePros.com/12207741)

### Give Your Input

PTEN  
Innovation AWARDS  
**PEOPLE'S  
CHOICE  
2016**



The third annual People's Choice voting has begun! We're asking readers to weigh in on the 2016 PTEN Innovation Award nominees again this year. To let your voice be heard, visit

[VehicleServicePros.com/2016PC](http://VehicleServicePros.com/2016PC)

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### Featured Products



**Schrade Moe  
Demolition Tool,  
No. SCHPB2BK**

Taylor Brands  
[VehicleServicePros.com/  
12165140](http://VehicleServicePros.com/12165140)



**FireAde**

Fire Service Plus, Inc.  
[VehicleServicePros.com/  
12174245](http://VehicleServicePros.com/12174245)



**ATEC Smart Battery  
Chargers, Nos.  
3055A, 3075A and  
3100A**

Associated Equipment  
[VehicleServicePros.com/  
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LIVE DATA VIEW / PRINT / STORE / PLAYBACK  
DEDICATED SERVICES SECTION - OIL SERVICE  
RESET, TPMS RELEARN, EPB, ABS/SRS, SAS  
FULL-SCREEN PID WAVEFORM GRAPHING ANALYSIS  
WITH TRIGGER-TYPE RECORDING MODES

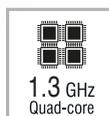


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**AUTEL**



## Emissions fail:

### The dirt on “clean” diesels

Software cheats and government loopholes have left the field wide open for scandal amid automakers

By Erica Schueller, Editor  
Erica@VehicleServicePros.com

In the wake of the recent allegations that another major automaker, Mitsubishi, has confessed to altering emissions testing capabilities, I wanted to take a closer look at the rules and regulations that govern emissions programs.

First, a quick primer: News broke last year that Volkswagen had tweaked its diesel vehicle emissions software for TDI engine models to allow two separate operating modes. One mode meets all the parameters for compliance regarding EPA-regulated emissions requirements, triggered to adjust engine performance when an emissions test is prompted on the system. However, when driven normally, the computer switches to another mode that significantly changes the fuel pressure, injection timing, exhaust-gas recirculation parameters for better fuel efficiency and performance, at the cost of higher NOx emissions.

This software has been installed on more than half a million Volkswagen diesel models introduced in the U.S. between 2009 and 2015; not to mention millions more in Europe. Shortly thereafter, some Audi and Porsche vehicles also were found to be non-compliant.

While this hits close to home with the VW scandal, it's a global issue.

Now, Mitsubishi is in hot water, with vehicles affected possibly dating back all the way to 1991 — that's 25 years of misrepresented information.

While Mitsubishi's scandal is unique to cars on the road in Japan, altering information to meet government regulations runs rampant among a number of vehicle manufacturers.

This isn't anything new. Back in the 1990s, heavy duty diesel OEs were caught using “defect devices” to alter emissions output. This led to the development of PEMS, or portable emissions measurement systems, for

real-world emissions testing. While a dynamometer uses set criteria with little alterations to test emissions, the real-world testing provides an indication of how the vehicle is actually used.

Volkswagen and Mitsubishi have been blatantly cheating the system. But other auto manufacturers also have circumvented the system by still “legally” passing the emissions test, or they have been called out for other misrepresented information.

Instances include Opel, GM's German segment, allowing vehicles to shut off the emissions controls in certain temperature and speed parameters (something technically allowed for EU vehicles); GM's inaccurate fuel economy ratings on some 2016 model vehicles; Mercedes-Benz allegedly shutting off the system that captures NOx emissions at certain temperatures; the list goes on.

Government regulated emissions levels are dictated by lab test results — which are much more deliberate and specific, and certainly not indicative of how consumers drive vehicles in real-world conditions.

If that's not enough; according to an April 2016 report by *The Guardian*, a recent test conducted in the U.K. determined that 97 percent of diesel light duty vehicles emit more than the legal limit for EU NOx emissions.

While not only misrepresenting the actual performance of the vehicle, these proprietary software programs highlight just how much we don't know about the internal workings of today's technologically advanced vehicles.

So now, there's a crack in the glass as we find out just how wide-reaching these practices are among vehicle manufacturers. It will be interesting to see if any other OEs are uncovered. **PTEN**



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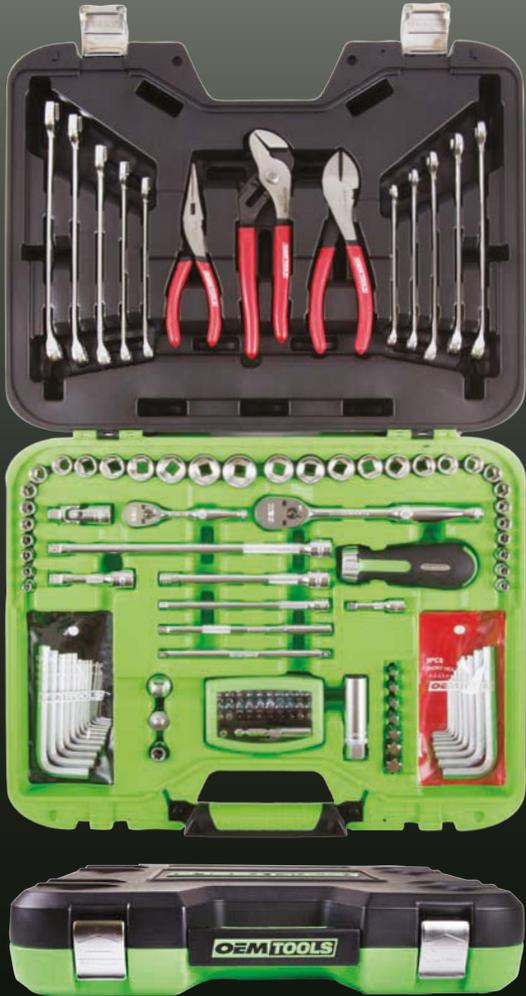
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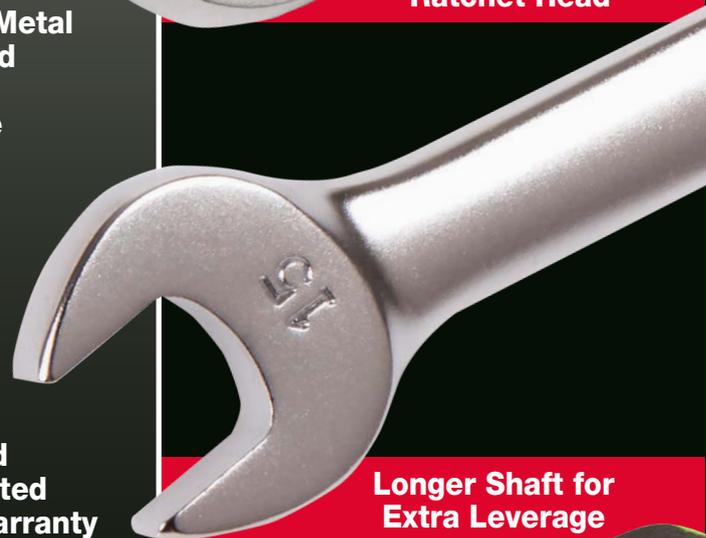
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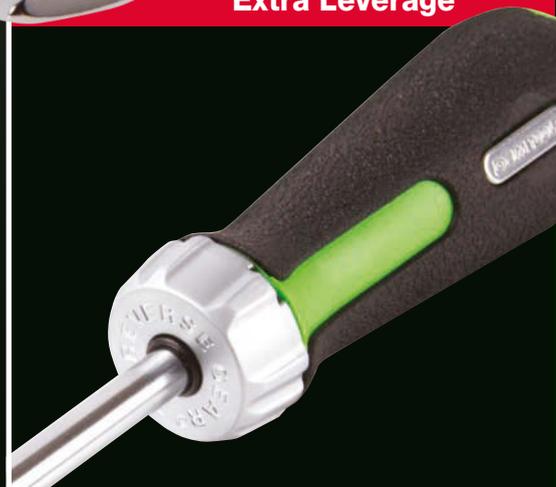
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# FEATURED New Products

**K**icking off the New Products section each month, our Featured New Products page includes brand new products showcased on the cover that are available to the automotive market.

## Traces the distance and direction to the short

The Power Probe ECT3000, a 2-pc circuit tracer, transmits a signal into an isolated circuit (shorted or open) and traces the direction to the problem. The receiver allows users to see the distance from the wire being traced and the direction to the short. The auto-signal locking feature eases first-time use and eliminates the need to remove interior trims and carpets. The integrated flashlight will illuminate the work space and the automatic 10-minute shut-off helps users save battery life.



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## Three-position flexible head

The SP Air Flex Head Cut-Off Tool, No. SP-7231, is lightweight and features a three-position flexible head for greater access to tight work spaces. The tool has an ergonomic design with a cushion grip handle, rear exhaust, safety throttle lever and a built-in power regulator. It has a direct drive motor with a graduated trigger and a metal guard for safety. The SP-7231 can cut muffler and radiator clamps, bolts, sheet metal, fiberglass and steel rods up to 3/4". The cut-off tool has an overall length of 8.6", weight of 2.6 lbs, free speed of 18,000 rpm and air consumption of 4 cfm. Made in Japan.



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## Rewind pistons with 1/4" extensions

The Cal-Van Tools 2- and 3-Pin Adjustable Brake Piston Tool, No. 723, designed to rotate brake pistons back into the caliper on most domestic and import vehicles with self-adjusting parking brakes, gives the technician the ability to rewind brake pistons using a 1/4" extension. This single tool replaces kits that contain up to 20 parts by having universally adjustable 2- and 3-pin configurations. The tool fits on a standard 1/4" ratchet or breaker bar and works on both right- and left-hand pistons.



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## Allows users to check tire pressure and tread depth

The Steelman Pro Bluetooth Tire Gauge offers users a comprehensive way to check the tire pressure and tread depth on vehicles. The Bluetooth Tire Gauge and corresponding app were designed to be straightforward and simple to use. By either scanning the VIN number with a smart device or entering it in manually, the app will auto-populate the make and model of the vehicle. From there, technicians can simply measure the air pressure and tread depth of each tire. The app will tell users what the levels are, and what they should be, based on the factory specifications of the vehicle. The app includes functions to save vehicle tire data for later reporting.

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## Provides up to 12 hours of run-time

The Dent Fix 15" Magnetic COB LED Work Lamp, No. DF-LED935, has a maximum lux of 935. The adjustable dimmer switch controls the amount of light needed for the job. At its lowest setting, a full charge provides 12 hours of run-time and at the brightest setting, it offers 2-1/2 hours of light. Included with the lamp is the 5V USB/wall charger to recharge the Li-ion battery.

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## Includes 52 pieces and 25' of tubing

The S.U.R.&R. 1/2" and 12mm Fuel Line Replacement Kit, No. KP1212, includes 52 pieces and 25' of tubing. The kit addresses many domestic and import applications, including Dodge, Ford and GM diesel trucks, model year 2005 to present, and it also works with EVAP lines. With the company's Universal Quick Connect technology and thumb release, the kit does not require specialty tools or insertion tools. Replacement parts are available.

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## Safely handles nearly any tire and wheel combination

The Bosch TCE 4295, a swing arm center-post tire changer that combines the efficiency of a traditional swing arm with the versatility of a modern center-post, can handle nearly any wheel and tire combination safely, according to the company. The TCE 4295 provides a rigid frame and allows for a wide range of applications and effortless locking with the 'Smart Lock' center locking system. The tire changer is available with air- or electrically-operated turntables that feature increased capabilities for larger wheel and tire combinations with a clamping capacity of up to 32".

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## Reduced vibration level

The Florida Pneumatic AIRCAT Reciprocation Saw, No. 6350, features an internal vibration absorption mechanism that reduces the vibration level. The 8", 1.25-lb tool provides access to confined areas, offers a free speed of 9,500 strokes per minute and cuts up to 3/8" diameter rolled steel. The rotational rear exhaust diffuser allows the operator to direct exhaust air as preferred. The saw comes with two 18T, 24T and 32T saw blades.

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## Activate and pulse ignition coils

The Automotive Diagnostics and Publishing Zapper Automotive Ignition Coil Pulser and Tester, designed to activate and pulse all kinds of ignition coils on a bench, allows users to test a variety of coils found on the market today. The Zapper allows coil on plug (COP) testing, DIS, distributor coils, coil packs and any other coil system, as well as testing of COP coils with an internal driver within the coil.

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## Four-in-one tool

The Rupes BigFoot iBrid Nano multi-action tool offers four distinct options including: a rotary and random-orbital polisher, a spot sander and a small brush option for cleaning and polishing applications. This tool includes a Li-ion battery, high-torque motor, plug-and-play power supply, battery status LED, protective shield, on/off speed control dial, start/stop lever and lock button. Lightweight and specifically designed for one-handed operation, BigFoot iBrid Nano is equipped with a full range of specific foams, compounds and accessories, and available in both short and long neck version, each packaged in a complete kit.

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# New Products

## Waterproof and dustproof

The ToughTested Bluetooth Portable Speaker and Power Bank, No. TT-PBW85, a dustproof, IPX65-rated waterproof speaker incorporates a wide-angle design and 50mm drivers to offer surround sound for large work areas. This unit doubles as a power bank to charge devices for six hours, or plays consistent music for 30 hours. The unit also includes a multi-LED power beam flashlight.



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## With steel toe options available

The Rocky Boots Mobilite collection provides users with a mixture of durability and comfort. The Mobilite collection features a large toe box and a three-density EVA midsole for supreme comfort, an oil- and slip-resistant rubber outsole and guaranteed Rocky waterproof protection. Steel toe options are available.



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## Bend and form metal

The Chicago Pneumatic Air-Hydraulic Workshop Presses utilize up to 100 tons of pressure, allowing users to bend and form metal. The two-step stroke system provides high precision and the large gauge (in short and metric tons) gives easy and fast pressure control. It has a sturdy steel and iron frame for durability. The presses also include many ergonomic features such as a movable cylinder, a dedicated winch to easily adjust the bench, a set of eight punches and V-blocks with a high capacity piston. The presses are EC and ASME certified, and include an additional adjustable safety cage for ASME markets.



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## Store cordless tools in or on toolbox

The Killer Tools Cordless Tool Garage, No. ART55, allows users to store cordless tools in or on the side of a toolbox. According to the company, powerful magnets hold the unit to any steel surface without falling.

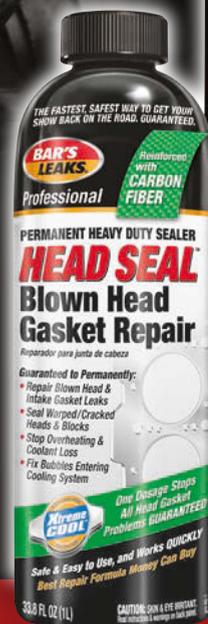


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  - If the vehicle can idle for 15 minutes without overheating, the HG-1 has a 95% chance of repair success.
- ▶ When will it not work?
  - If the vehicle can't idle for 15 minutes or more without overheating, it has stretched or broken head bolts, a seriously warped head, or the gasket is leaking between water passages. If this happens it will require a hard fix.
- ▶ This is also the best repair formula money can buy.



**Guaranteed to repair head gaskets**

[www.barsleaks.com](http://www.barsleaks.com)

Part# HG-1

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## THE INDUSTRY'S LEADING J2534 DEVICE.

The CarDAQ-Plus 2<sup>®</sup> is the best J2534 device you will need to finish the job right. The CarDAQ-Plus 2<sup>®</sup> provides the ability to perform emission-related module updates for all vehicle makes, body control module updates, and dealer-level diagnostics for many vehicle makes. This device comes with the J2534 Toolbox helper application and excellent technical support free for the life of the tool. Grow your business with Drew Technologies, the leader in automotive J2534 reprogramming and diagnostic devices.

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**Toolbox design for portability**

The Ridge Tool Co. Ridgid 10 Gallon Wet/Dry Vac, No. 1000RV, offers a toolbox design for portability and easy storage with accessories and power cord storing inside compartments on the vac. The extra sturdy cart allows it to be wheeled to the job. The 5.0hp motor provides the required suction power to tackle many messes. The 7' expanding hose won't pull loose during use, and the Qwik Lock fine dust filter captures dirt and particles.

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**Ergonomic pistol grip**

The K-Tool International Air Operated Continuous Flow Grease Gun, No. KTI73962, offers an ergonomic pistol grip and an acute angle design. Its heavy duty aluminum die cast head with internal bore precision is honed for rapid action. Grease is discharged with every press of the trigger. With a 6" steel extension and coupler, the grease gun dispenses 14 oz per minute and develops up to 4,800 psi (air inlet 40 to 120 psi). With a three-way loading 14-oz cartridge, bulk and suction fill, the grease gun comes with a one-year warranty.

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**Five different sets available**

The GearWrench Single-Size Socket Sets offer a selection of different style sockets, all in the same size, on a portable socket rail. Available sets include 5-pc 1/4" 8mm Set (No. 80102), 10-pc 1/4" and 3/8" 10mm Set (No. 80319), 10-pc 1/4" and 3/8" 12mm Set (No. 80576), 5-pc 3/8" 14mm Set (No. 80945) and 5-pc 3/8" 15mm Set (No. 80946). Each set includes standard, mid-length and deep chrome sockets, a universal chrome socket and a magnetic impact socket. The sets are packed on a standard GearWrench socket rail and ship in a full-color carton.

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NO MORE DOWNTIME

DUAL POWER

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800 LUMENS BRIGHT

- SPOT BEAM
- OR
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# THE ALL-NEW POWER PROBE TEK

ECT3000

## SHORT/OPEN CIRCUIT DETECTOR

THE ECT3000 AUTOMATICALLY LOCKS TO THE CORRECT SIGNAL AND DIRECTS YOU TO THE SHORTED CIRCUIT

SAVE TIME. NO NEED TO TEAR UP WIRE HARNESSSES, PANELS, CARPETS, AND MORE TO LOCATE OPEN OR SHORTED CIRCUITS

SIGNAL DISTANCE BAR INDICATES THE DISTANCE TO THE CIRCUIT THAT IS BEING TRACED

PPKIT04

## POWER PROBE IV WITH ECT3000

THE PPKIT04 COMBINES THE POWER PROBE 4 WITH THE ECT 3000 TO QUICKLY TROUBLESHOOT AND DIAGNOSE CIRCUITS

SAVE TIME. NO NEED TO TEAR UP WIRE HARNESSSES, PANELS, CARPETS, AND MORE TO LOCATE OPEN OR SHORTED CIRCUITS

THE POWER PROBE 4 COMBINES DVOM FUNCTIONS, 3 ADVANCED DIAGNOSTIC MODES (FUEL INJECTOR TESTING, ECT OPEN CIRCUIT TESTER, AND DRIVER TESTER) WITH THE ABILITY TO DIAGNOSE CIRCUITS AND POWER UP COMPONENTS



ECT3000



PPKIT04

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1.800.655.3585 | 714.990.9443 | [WWW.POWERPROBE.COM](http://WWW.POWERPROBE.COM)

# New Products



## Socket design helps disperse stress

The Nепros Socket, No. NB2-10W, offers a compact design that allows it to access bolts in tight spaces and a high-precision cold forging that results in tolerances approaching zero, according to the company. The NB2-10W socket design helps disperse stress, making it more difficult to damage the bolt or nut edges, and ensuring sure transfer of force for tightening or loosening. With the stress spread out along a surface, the wall thickness that was necessary for line-type contact can be reduced.

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## With Mode 6 functionality

The Ottotest Diagnostics iFlash scan tool and J-2534 programmer (optional) in one VCI, offers full coverage for Asian and domestic vehicles. This scan tool includes comprehensive bi-directional controls, Mode 6 functionality, up to eight multi-trace graphing, snapshot, units conversion, a simple-to-use interface and in-tool feedback that is answered within 24 hours, according to the company. Live customer support is open during EST business hours and software updates can be purchased for one year or on a pay-as-you-go program.



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## Features 28,500 cfm

The Portacool 370 variable speed portable evaporative cooler features 28,500 cfm and comes equipped with six Cat5 Air Boosters. These boosters are calibrated to engage automatically when the internal pressure rises inside the evaporative cooler. Suitable for large indoor and outdoor workspaces, this unit cools an area up to 6,250'.

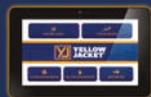
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# NOW YOU CAN DO MORE THAN ONE THING AT A TIME.



**YELLOW JACKET REFRIGERANT MANAGEMENT SYSTEM AUTOMATIC FOR R-134a and R-1234yf**

WITH PORTABLE TABLET ▶



Introducing the all-new YELLOW JACKET Refrigerant Management System (RMS) controlled by a portable computer tablet. This new system takes flexibility to a new level by allowing you to handle R-134a now and change over to R-1234yf later, or you can simply purchase the R-1234yf model today! The RMS is controlled with a colorful, easy-to-use interface from multiple locations in your shop. Built tough, and made in America, this durable machine now sets the standard for productivity in auto repair shops everywhere.



**MADE IN THE U.S.A.**

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## With an added bead blaster system

The **Monster Swing Arm Tire Changer**, No. MSTTC-1, offers an added bead blaster system to help inflate stiff sidewall tires and other difficult-to-inflate tires. The MSTTC-1 provides a clamping range of 9-3/4" to 23-1/4"

and is equipped with a 110V motor. A one-year warranty is included on material and workmanship.

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## Traps 99.97 percent of dust

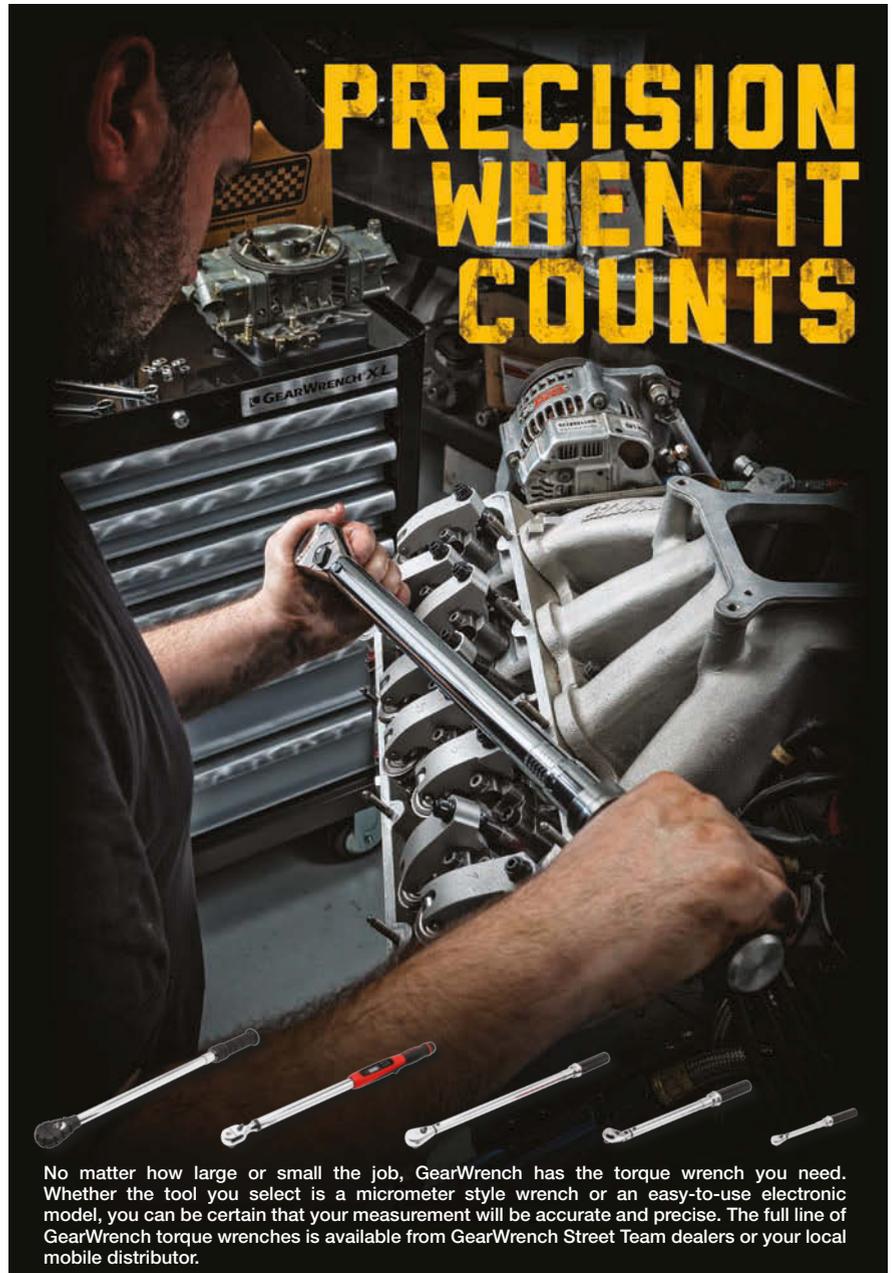
The **DeWalt 20V MAX 1/2 Gallon Wet/Dry Hand Vacuum**, No. DCV517, has a filter that traps 99.97 percent of dust as small as 0.3 microns, according to the company. A membrane coating minimizes dust penetration through the filter and allows the cartridge to be rinsed after use. This vacuum features a tank capacity of 0.5 gallons as well as a flexible hose attachment. The 2.5' hose is extendable up to 5' and accepts DeWalt vacuum accessories with the addition of the Universal AirLock Adaptor. The DCV517 also has a gripped handle for comfort. Powered by the DeWalt 20V MAX battery system, the vacuum offers a significant run-time improvement over previous models.

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## Adapt speed for different applications

The **Ingersoll Rand 426 Reversible Cut-off Tool** is a light-weight, 3" pneumatic tool designed for cutting materials such as mufflers, sheet metal, tail pipes, nuts and bolts. The reverse function and speed regulator knob allow operators to control the direction of the spark when cutting through metal materials, and adapt the speed for different applications. It comes with five cut-off wheels and weighs just 2 lbs.

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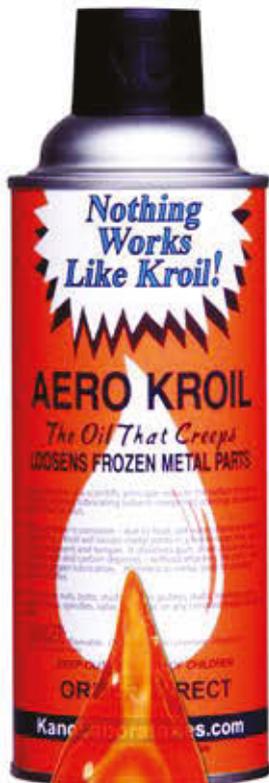
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# Loosens Frozen Metal Parts



## It Works!

Based on Kano's scientific discoveries, AeroKroil creeps into millionth inch spaces, dissolves rust and lubricates to quickly loosen frozen metal parts, free rusted bolts, free frozen shafts ... serving 480 of the Fortune 500 - Since 1939.

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## Remains flexible and lays flat

The Milton Industries Cobra Flex pneumatic air hose remains flexible down to -40 degrees F and lays flat. Offering up to 300 psi, the hose is made from a hybrid polyvinyl chloride material and includes a bend restrictor to help eliminate kinking. This compressed air hose offers sturdy brass metal hose ends instead of soft aluminum. The Cobra Flex is UV-, oil- and abrasion-resistant. The lightweight hose will not change colors or fade when exposed to the elements, according to the company. It is available in various lengths, sizes and tapered thread sized hose ends.



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## Touchscreen graphical interface

The John Bean Wheel Balancing System, No. B800P, from Snap-on Equipment, is fully automatic and offers a touchscreen graphical interface. The wheel scanner detects rim diameter and offset, and it automatically chooses the balancing mode, weight types and positions. The B800P also features automatic spoke detection, which identifies the number and position of wheel spokes; the easyWeight pinpoint indicator laser to assist in positioning adhesive weights; Smart Sonar to automatically capture wheel dimensions; Virtual Plane Imaging (VPI) to ensure accuracy; and a power clamp that captures the wheel accurately with a constant force for precision.



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## Runs on baby oil

The Proflex+ Smoke Monster Jr. Pro, No. S-50, is a compact smoke machine that only weighs 8 lbs. With one-button activation, it runs on ordinary baby oil. The machine locates EVAP, vacuum, exhaust and manifold leaks in vehicles and light duty trucks in minutes. The Smoke Monster Jr. Pro has a built-in vacuum/pressure decay gauge, flow meter to determine leaks as small as 0.010" and a fixed air pressure rate of 1.5 psi. Multiple accessories are included in a plastic storage case.



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## Stabilizes fuel for up to two years

The Kinetic Fuel Technology K100MG Gasoline Fuel Treatment with Enhanced Stabilizers stabilizes fuel for up to two years. The bio-based, all-in-one proprietary formulation chemically binds with water, preventing problems associated with ethanol fuels, including water and phase separation, while upgrading and stabilizing fuel quality for easier starts, better mileage and reduced emissions. The fuel treatment is recommended for use in all gasoline fuels, but is especially formulated for ethanol blends. The U.S.A.-made product acts as a water eliminator, fuel injector cleaner, lubricator and octane booster. It is available in 8-oz, 32-oz, 5-gal and 55-gal containers to treat a range of 16 to 14,080 gallons of fuel.



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## ANSI Cut Level 3 glove

The **Brass Knuckle SmartCut**, No. BKCR3520, is an ANSI Cut Level 3 glove with a flexible shell and slip-resistant foam nitrile coating. Designed to combine medium-level cut protection with abrasion, slip resistance and dexterity, this glove has a reinforced area between the thumb and forefinger. The glove has a seamless shell made of 15-gauge, high-performance polyethylene (HDPE) composite yarn. The durable nitrile coating on the palm and fingers channels oil away from the surface to provide slip resistance.

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## Combine functionality and comfort

The **Red Kap Cell Phone Pant and Shorts** are designed for multiple uses and are concealed with a custom, snap closure. This feature allows users to have small pocket tools on-hand and it is ideal for keeping any cell phone safe. These pockets also provide quick access to the contents. The strategic placement of the pocket on the side seam was designed with automotive technicians in mind. These pants and shorts also offer a comfortable seam cut to help ensure an easy and relaxed experience when bending, lifting or twisting.



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## Service cables while still attached to vehicle

The **SP Tools/Schley Products Battery and Welding Cable Crimper**, No. 15600, is designed to service battery cables while still attached to the vehicle. The compact tool is heat-treated for durability, and it crimps up to 0 AWG cable terminal ends. The crimper allows technicians to access the end of the cable that needs service to repair it right at the vehicle with no need to strike it with a hammer. The tool uses a common wrench and ratchet to securely crimp a cable end. Available in December 2016.

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# AIRCAT

PNEUMATIC TOOLS®

## POWERFUL

COMPACT IMPACT WRENCHES

Following the success and proven reliability and performance of the AIRCAT 1055-TH and 1075-TH compact impact wrench series, we are introducing the NEW NITROCAT low weight KEVLAR® "Body armor" series, the 1056-XL and 1076-XL.

The new series is priced at AIRCAT's normal unbeatable day-to-day price levels.

# NITROCAT

CAUTION XTREME POWER

1076-XL 3/8"  
1056-XL 1/2"

- Powerful **550 ft-lb Max Torque**
- Weighs only **2.5 Lbs.!**
- Patented "Silencing Technology" **reduces noise level to 85 dba**

## New!



1055-TH 1/2" - **500 ft-lb Max Torque**  
1075-TH 3/8" - **400 ft lb Max Torque**

- Reliable **Jumbo hammer** mechanism
- Weighs only **2.75 lbs.!**
- Patented "Silencing Technology" **reduces noise level to 85 dba**



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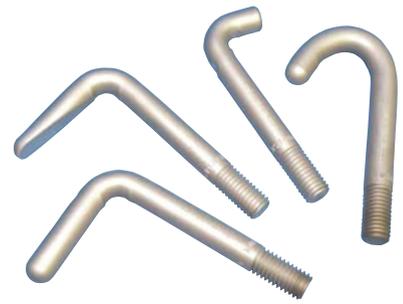
# New Products

## Repair information for DTCs

The Diesel Laptops DTC Solutions Version 1.1 has been released with expanded coverage. DTC Solutions offers repair information on Diagnostic Trouble Codes (DTCs). DTC Solutions is concise and easy-to-use software to get repair information on DTCs for CAT, Cummins, Detroit, Volvo, International, PACCAR, Hino, Isuzu, Ford, Allison, Eaton, WABCO, Bendix and more. DTC Solutions is a PC desktop-based application that comes with a lifetime license.



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## For use on aluminum vehicles

The Morgan Mfg. Slide Hammer Hooks offer users a 1/2" diameter family of hooks for use on aluminum vehicles. The hard chrome hooks won't cause galvanic reaction with aluminum panels and members. These heat-treated and case-hardened chrome moly steel base metal hooks are for use with aluminum only and offer 1/2 to 13 threads for the BS-16B body. Four designs are included: Small Hook (No. BS-16SA), Large "J" Hook (No. BS-16LA), Round Right Angle Hook (No. BS-16RA) and Round Right Angle Hook with Flat Milled Surface (No. BS-16RFA). These Slide Hammer Hooks are made in the U.S.A.

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# BECAUSE YOU CAN NEVER BE TOO SENSITIVE.

## PRO-Alert™ IR TP-9364 Infrared Electronic Refrigerant Leak Detector



R-1234yf  
COMPLIANT

Features state-of-the-art infrared sensor technology for extremely accurate detection of R-12, R-134a, R-1234yf and other refrigerant leaks. Certified to meet both SAE J2791 and J2913 performance standards for electronic refrigerant leak detectors.

- ▶ Optimum sensitivity detects leaks down to 0.1 oz year (3 g/year)
- ▶ Infrared sensor provides extremely long life of 1,000 hours or more!
- ▶ Audible alarm and multiple LEDs help locate leaks fast
- ▶ NiMH battery provides over six hours of use between charges

Comes complete with:



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## Hydraulic power steering tester

The AAE pressureTECH is a hydraulic power steering tester for automotive technicians who need to properly diagnose power steering system component failures prior to the removal of these components from the vehicle. The tester can help technicians avoid misdiagnosing steering system failures. The pressureTECH is designed to be lightweight, portable and user friendly. This diagnostic tool comes packaged in a protective hard shell case complete with two hoses for high- and low-pressure connections and six different fittings to assist connecting to a wide range of vehicle steering systems.

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# DELIGHTFULLY SOUND-FREE



Model# RS7580H-603

MSRP: \$4250\*



## HUSH *Quiet*<sup>TM</sup>

**ROTARY-SCREW AIR COMPRESSOR**

Engineered for high performance, efficiency and reliability, BendPak's Hush-Quiet RS7580H-603 rotary screw air compressor can meet the compressed air demands of high volume tire shops, general maintenance and fleet shops, vehicle body and paint facilities or busy automotive dealerships. Our exclusive Hush-Quiet technology makes it the perfect compressor to install in noise conscious service areas.

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But this one's ~~mine.~~  
*Ours*

"Having BendPak lifts is a valuable asset to us. It helps us keep our cars the fastest in the nation. No matter what we're doing, BendPak is what we use."

- Bobby Ducote, Kye Kelley & Scott Taylor from TV's "Street Outlaws-New Orleans"

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## Adjust and set voltage at the point of use

The Miller Electric ArcReach remote control technology has been added to the company's XMT 350 CC/CV, XMT 450 CC/CV and Dimension 650 multi-process welding power sources. ArcReach allows welding operators to adjust and set voltage at the point of use — the weld joint — without the use of control cords. These machines also include the Auto-Bind feature as a component of the ArcReach technology, which automatically establishes communication between the power source and wire feeder. Miller is also offering a ArcReach Stick/TIG Remote equipped with remote control technology that is compatible with all three machines.

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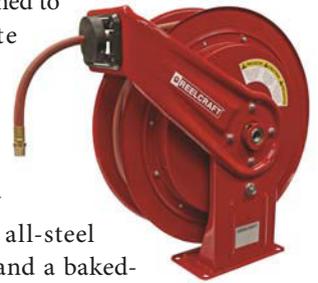
## Lighter steel-toe cap

The Wolverine Thunderhead work boot is made with the company's CarbonMAX toe-cap and EPX technology. According to the company, the CarbonMAX toe-cap is 50 percent lighter than standard steel-toe caps, and thin for a better fit while meeting ASTM standards. The multi-layer construction of EPX technology conserves and returns energy with a stabilizing and cushioning midsole and a low-density EVA foam footbed. The boot combines a breathable mesh and TPU upper with moisture-managing mesh lining to keep water out and feet dry. The Thunderhead low-density EVA foam cushions from heel to toe.

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## All-steel construction

The Reelcraft Series HD70000 hose reels are designed to accommodate up to 100' of 3/8" I.D. hose or 75' of 1/2" I.D. hose. The heavy duty base design, all-steel construction and a baked-on powdercoat finish combine to produce a corrosion-resistant product. The re-designed latching mechanism provides longer service life of the latch components. The containerized drive spring offers safe and easy handling during maintenance. Two sealed ball bearings produce a smooth spool rotation and easy operation. The guide arm adjusts to seven positions for various mounting locations and applications.



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DISCOVER THE EVAPORATIVE COOLER RIGHT FOR YOU VISIT PORTACOO.COM

MADE IN USA WITH DOMESTIC AND GLOBAL PARTS

## EVERY DEGREE MATTERS

Workers in hot environments can rapidly lose fluids leading to slower reaction times. Protect your employees with a Portacool portable evaporative cooler.



## COMFORT BY THE NUMBERS

A 23% reduction in reaction time occurs with 4% body fluid loss

PORTACOO

WHEN COMFORT COUNTS™

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# New Products



## Helps easily remove seized or frozen lug nuts

The **Lock Technology Lug Ripper II** removes seized or frozen lug nuts off of the rim of a vehicle in 11 minutes or less, without dam-

aging the tire rim of a vehicle. This tool is a specialized drill bit that is so strong it can cut into 4" of steel up to 200 times. The Lug Ripper II is designed for 17mm, 19mm, 21mm and 23mm lug nuts. It is made out of carbide metal strong enough to remove lug nuts multiple times. The cutting head or threads are designed for cutting out the inside of the lug nut only. The center of the shaft is hollow to allow the stud to go inside during the drilling process. The mounting end has a round shaft that will be inserted into a standard low rpm 1/2" air drill.

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## Laser-based machine vision system

The **Hunter Road Force Elite** quickly performs both traditional wheel balances and Road Force measurements. The laser-based machine vision system determines wheel dimensions and wheel run-out measurements. The Road Force Elite utilizes a loaded roller, which applies up to 1,250 lbs of force against the tire to measure the assembly as it would perform under the weight of the vehicle. The company's Force Matching feature guides the user to index and match the lowest spot on the rim with the stiffest spot on the tire to capture the best possible ride.

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## For 3.7L and 4.7L, 6- and 8-cylinder engines

The **ProMaxx Tool Myra ProKit** is designed for exhaust manifold repairs on 3.7L and 4.7L 6- and 8-cylinder engines like those found in Jeep Grand Cherokee, Dodge Dakota and Dodge Durango vehicles. The tool's slim design helps it address limited access areas, and it uses three precision-ground guide bearings to facilitate precise boring of the damaged studs while keeping the tool within the envelope of the cylinder head. A built-in drill depth gauge helps reduce potential cylinder head damage. The kit includes the company's ProCutter deburring tool, spline extractor, specially formulated drilling fluid and other accessories.

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# GTC505 Engine Ignition Analyzer

**NEW**

## Quick, powerful and easy to use

- ▶ 3.5" color display
- ▶ Li-ion rechargeable battery
- ▶ Works with coil on plug, coil near plug, waste spark (D.I.S.) and conventional ignition systems



Real-time ignition waveforms

Detects intermittent misfires

Compares cylinders

Analog gauge & digital readout

Set includes

- ▶ GTC505 with protective rubber holster
- ▶ Sensors for coil-on-plug & spark plug wires
- ▶ USB charger and cable
- ▶ Hard padded case for carrying and storage

For more information: scan the QR Code, visit us at [www.gtc.ca](http://www.gtc.ca) or call toll free 1-800-440-5582

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## Available in four lengths

The OEM Automotive Tools Rechargeable Multi-Use Work Lights use Li-ion technology that holds charge for a run-time up to 43 hours on low and quickly recharge anywhere with a universal micro USB cable. The two magnets on each end of the light attach to ferrous metal surfaces. The four lights are available in 6" (No. 24603), 8.5" (No. 24605), 13.5" (No. 25997) and 23.5" (No. 24604) lengths with five light modes and a lightweight, aluminum casing. The charging indicator light is red when charging, green when fully charged and yellow when 20 percent battery remains. Additional accessories include a strap for hanging, rubber ends to use with the magnetic adhesives for non-metal surfaces, dry bags and two swivel hooks.



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## Three forward and reverse settings

The Capri Tools 1/2" Compact Stubby air impact wrench offers users 11,000 rpm and 450 ft/lbs of torque. Fine-tuned CNC machinery combined with a refined twin-hammer mechanism, this air impact wrench provides powerful and balanced performance, according to the company. This impact also offers users three forward settings and three reverse settings. At only 5.1" long, it's ideal for getting into tight, hard-to-reach areas.



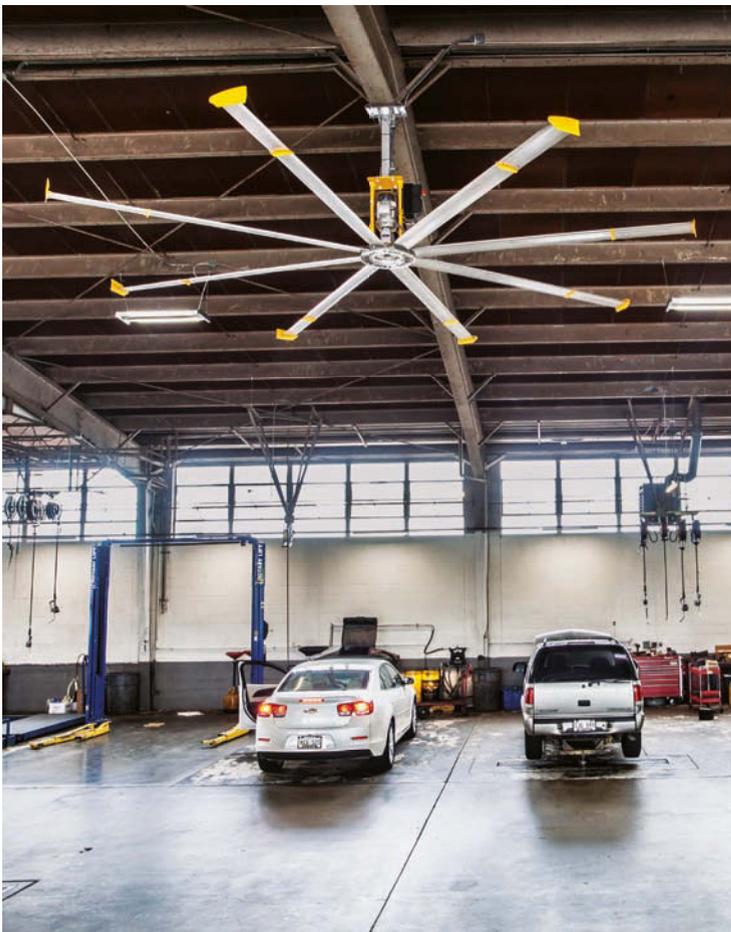
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## Use with a standard air hammer



The Mayhew Tool Shake n' Break Pneumatic Bolt Breaker is used in conjunction with a standard air hammer, with safety spring, at low air pressures, providing vibrations to loosen rusted, corroded, undercoated, painted, dirty and overly tightened screws. Vibrations shake the screw loose while simply turning the screw. This tool can be used on cars, trucks, motorcycles, boats and agricultural equipment. It loosens stuck fasteners in places such as: wheel openings, bumpers, striker pins, seatbelt bolts and more. The standard 0.401 Parker shank comes in 1/2" and 3/8" sizes.

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## HEAT GETTING TO YOU?

It's time for a Big Ass upgrade.

Big Ass Fans® do more than keep you feeling up to 10°F cooler all summer long. They also dry floors to prevent slip hazards, minimize dust, and disperse fumes and muggy air. Durable, portable, mountable, customizable — there's a Big Ass Fan for every space in your shop.

### LEARN MORE TODAY!

Visit [bigassfans.com/scpten616](http://bigassfans.com/scpten616) or call 855-402-6629 for more information.

Circle 76 on card, or enter at "e-inquiry" on [VehicleServicePros.com](http://VehicleServicePros.com)



## Stores neatly under the seat of most vehicles

The GTE Tools LugStrong compact lug wrench brings the same power of a 24" "cross" style lug wrench but slides together to store neatly inside the spare tire compartment or under the seat of most vehicles. The LugStrong is offered in three configurations that allow the user to custom tailor their use of the tool to the situation at hand. The most common lug sizes—17mm (11/16"), 19mm (3/4"), 21mm (13/16")—are built into the tool. The tool also includes a 1/2" chuck that allows the user to add any other socket necessary, which allows it to be repurposed as an on-the-go breaker bar, as well. The exterior of the unit is knurled to prevent slippage, and the whole package fits inside of its compact storage pouch.

**Circle 77 on card, or enter at "e-inquiry" on VehicleServicePros.com**



## Full 1hp motor

The Florida Pneumatic AIRCAT 1/4" Straight Die Grinder, No. 6260, incorporates a full 1hp, 22,000 rpm motor that provides non-stall operation and rapid material removal. The trigger is designed to provide comfort and convenience, and the composite handles insulate the operator's hand from the effects of cold air. The patented muffler system reduces noise levels to 82 dBA, and vibrations are low. Available in July 2016.

**Circle 78 on card, or enter at "e-inquiry" on VehicleServicePros.com**

## Designed where torque-plus-angle is needed

The ACDelco Line of Digital Torque and Angle Electronic Wrenches is designed to meet the need where torque plus angle is required. This line offers new additions including: seven models of angle wrenches, four models of interchangeable wrenches and three models of digital wrenches. Angle Wrenches perform accuracy of CW +/- 1.5 percent CCW +/- 2.5 percent and they can record 30 sets of torque value. Interchangeable wrenches allow users to switch from a square driver to an open-end driver. These wrenches also feature a vibration/audible/LED flashing alert, auto shut-off and a backlit LCD. Selections ranging from 1/4" drive at 1.11 ft/lbs to 1" drive with maximum 738 ft/lbs.

**Circle 79 on card, or enter at "e-inquiry" on VehicleServicePros.com**



## For cleaning difficult-to-reach places

The S.U.R.& R. Flex Air Blow Gun Kit, No. FA14, allows technicians to customize nozzle extensions for cleaning difficult-to-reach places. The FA14 connects to shop air and the flexible UltraBEND tubing can be cut to various lengths (1" to 25") and bent into special shapes for making cleaning and drying applications simple. This kit includes the blow gun, 25' roll, 1/4" UltraBEND tubing and four 1/4" nuts.

**Circle 80 on card, or enter at "e-inquiry" on VehicleServicePros.com**



## 360 degrees of rotation

The Big Ass Mobile Light Stand offers 360 degrees of rotation, so technicians can get bright, direct light under the hood, under the car or wherever else they need it. The LED fixtures are made from heavy duty extruded aluminum for durability. Diffused lenses prevent harsh glare and are removable for cleaning. Light outputs of 10,000 to 26,000 lm are available, with CRI and color temperature that mirror natural daylight.

**Circle 81 on card, or enter at "e-inquiry" on VehicleServicePros.com**



## Standard and high-temperature options

The DV Systems ProDry Refrigerated Air Dryers, available in standard and high-temperature options, effectively cool and dry compressed air. ProDry refrigerated air dryers are microprocessor controlled, ensuring a stable dew point temperature. All ProDry air dryers are equipped with a two-stage heat-exchanger, improving efficiency and energy savings, according to the company, and include a high-efficiency condensate separator and large surface-area refrigerant condenser. ProDry refrigerated air dryers are also equipped with an automatic electronic drain.

**Circle 82 on card, or enter at "e-inquiry" on VehicleServicePros.com**



# Portable. Quick. Safe.

Fastest way to get your car in the air.

**\*FREE  
SHIPPING**

**MSRP \$1125<sup>00</sup>**



**Model BL-3500SLX**  
3,500 lb. Capacity

# **NEW & IMPROVED**

**MSRP \$1340<sup>00</sup>**



**Model BL-5000SLX**  
5,000 lb. Capacity

**MSRP \$1490<sup>00</sup>**



**Model BL-7000SLX**  
7,000 lb. Capacity



See it on YouTube



**SUV & LIGHT TRUCK  
ADAPTER SET**



Optional for BL-5000SLX & BL-7000SLX

The truly portable QuickJack™ is convenient to use and lightning fast allowing technicians to easily move the lift wherever it's needed. The QuickJack eliminates the need to bend over, kneel or squat when working on vehicles. A lowered height of just 3' means it goes where other jacks don't and an optional 12-volt power supply allows you to use it practically anywhere. Sturdy lock bars, a remote pendant control and adjustable rubber contact pads make it the perfect lifting system. Available in 3,500-lb. / 5,000-lb. or 7,000-lb. capacity. Visit us at [www.quickjack.com](http://www.quickjack.com)

**[www.quickjack.com](http://www.quickjack.com) • 1-888-262-3880**

\*Free shipping available to most areas in the 48 contiguous states.

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# **QUICKJACK™**

Circle 83 on card, or enter at "e-inquiry" on [VehicleServicePros.com](http://VehicleServicePros.com)

**NEW**



**KEEP 'EM  
STRAIGHT**

**MRP  
\$12,780**  
(Aligner Only)

**MRP  
\$14,780**

PRICE INCLUDES:

- ✓ **\*FREE SHIPPING!**
- ✓ **FREE INSTALLATION!**
- ✓ **FREE ON-SITE TRAINING!**

(Lift sold separately)

## INTRODUCING THE ALL NEW 3D IMAGING WHEEL ALIGNER

**ADVANCED IMAGING TECHNOLOGY THAT DELIVERS  
FAST AND ACCURATE ALIGNMENTS**

The model 3DP4100 Target 3DPro™ is an extremely accurate wheel alignment system thanks to advanced imaging technology that delivers fast, industry-standard alignments. It streamlines the entire alignment process delivering critical readings in less than two minutes. With minimal investment and reduced training, the Ranger Target 3DPro aligner expands your service potential and sends more profit to your bottom line.

Circle 84 on card, or enter at "e-inquiry" on [VehicleServicePros.com](http://VehicleServicePros.com)

MODEL 3DP4100

Call **1-800-253-2363** or Visit [bendpak.com/3DAligner](http://bendpak.com/3DAligner)

\*Free shipping on all Ranger Products to most areas in the 48 contiguous states.  
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**R Ranger**



## Spark-proof technology and reverse polarity protection

The NOCO Boost Plus 1000A 12V UltraSafe Lithium Jump Starter, No. GB40, delivers 7,000 joules of starting power. The compact unit offers spark-proof technology and reverse polarity protection allowing it to safely connect to any battery. It is capable of up to 20 jump starts on a single charge. Designed for use with gas engines up to 6L and diesel engines up to 3L, the jump starter doubles as a portable power source for recharging smartphones, tablets and devices. An ultra-bright 100-lm LED flashlight offers seven light modes.

Circle 85 on card, or enter at "e-inquiry" on VehicleServicePros.com



## Accepts universal 328mm by 10mm belts

The Dent Fix Finger Belt Sander, No. DF-FBS16, can access tight spaces while providing 16,000 rpm and 90 psi. An interchangeable belt helps make the tool a multi-use device, depending on what type of belt is added. The sander can accept universal 328mm by 10mm belts.

Circle 86 on card, or enter at "e-inquiry" on VehicleServicePros.com

## OEM-specific coverage for over 100 systems

The Snap-on Ethos Pro full-function scan tool, No. EESC331, comes standard with OEM-specific coverage and functions such as functional tests, codes, data, service resets, bi-directional controls, and adaptations and relearns to validate repairs. It includes OEM-specific coverage for more than 100 systems and 47 Asian, European and domestic makes for vehicles as far back as 1981. Ethos Pro also covers newer technologies including TPMS, hybrids, body control, suspension, collision avoidance and infotainment systems. This tool offers quick navigation with the 5.5" color touchscreen, the four-way keypad and the ability to compare seven live data parameters on screen at once, or graph up to four side-by-side to see cause and effect of vehicle faults.



Circle 87 on card, or enter at "e-inquiry" on VehicleServicePros.com



## Available in 6", 8" and 10" models

The Zipp Tool Pneudraulic Alligator Squeezers are available in 6" (No. Z3280-1), 8" (No. Z3280-2) and 10" (No. Z3280-3) models. These industrial-grade compression rivet squeezers are made for installing solid rivets. The compact, lightweight squeezers provide constant force over the entire stroke range, which decreases operator fatigue and improves the quality of the work, according to the company.

Circle 88 on card, or enter at "e-inquiry" on VehicleServicePros.com

## GOT A FROZEN/DAMAGED LUG NUT?

### LT1350 LUG RIPPER II

- Don't torch frozen/damaged lug nuts off just drill out the lug nut/stud threads only in 11 minutes or less
- 16mm Tungsten steel drill bit with 4 carbide cutters allow for speed and durability
- Available **NOW** from your local mobile tool dealer/distributor
- Patent Pending
- Includes 4 drill guides -

17mm - 11/16"  
19mm - 3/4"  
21mm - 13/16"  
23mm - 7/8"



Tungsten drill bit w/4 carbide cutters up-close



Drills out female/male threads on lug nut/stud only!



Your Automotive Specialty Tool Source

LOCK TECHNOLOGY, INC.  
Toll Free 800-421-7241  
www.ittools.com  
ittools@ittools.com

Circle 89 on card, or enter at "e-inquiry" on VehicleServicePros.com

# New Products

## Loosen rusted or seized fasteners

The Lisle Seized Fastener Remover Kit, No. 62140, offers a driver designed to work with the included sockets or bit holder and 5/16" hex impact bits. The kit can be used with a pneumatic impact tool to loosen rusted or seized fasteners. The hex shape of the sockets and flats on the bit holder allow the use of a turning wrench while impacting the fastener. A locking pin in the driver keeps the bit holder in place on the square drive for safe operation. The bit holder can be removed from the driver by depressing the pin. The kit, contained in a blow molded case, includes six sockets to fit hex 0.394" to 0.830"; Phillips Nos. 1, 2, 3, 4; and a straight slot bit.



Circle 90 on card, or enter at "e-inquiry" on VehicleServicePros.com

## Lays flat and won't kink

The Gates Hybrid Polymer Air Hose has zero memory so it will lay flat instead of kinking or curling. This hose will withstand high temperatures up to 170 degrees F, a requirement for certain paint booths. It also will maintain excellent flexibility in cold temperatures down to -40 degrees F.



Circle 91 on card, or enter at "e-inquiry" on VehicleServicePros.com

## For both current and future vehicles

The GM MDI 2 is the next generation Global Diagnostic Interface tool for both current and future vehicles.



This communication module offers processing power and security that manages the transfer of data between a vehicle's onboard ECU network with an auxiliary CAN bus. The GM MDI 2 replaces the MDI (introduced in 2007) and offers faster programming speed. The MDI 2 can be used to perform pass-thru programming on all GM vehicles built in 1996 and after. Servicing the current generation vehicles will require the diagnostic software Global Diagnostic System 2 (GDS2).

Circle 93 on card, or enter at "e-inquiry" on VehicleServicePros.com



## FLEX HEAD CUT-OFF TOOL

**NEW**

Built-in Power Regulator

360° Exhaust Sleeve



Disc Cover

Safety Throttle Lever



**SP-7231** Disc Size: 3"

**3-POSITION FLEX HEAD**

Disc Size	: 3"
Free Speed	: 18,000 rpm
Length	: 8.6"
Weight	: 2.6 lbs.
Required Air Pressure	: 90 PSI
Average Air Consumption	: 4 CFM
Air Inlet Size	: 1/4"-NPT

 **MADE IN JAPAN**

**SP AIR**  
U.S.A. CONTACT

SP AIR USA, Inc.  
1571 Westbelt Drive  
Columbus, OH 43228-3829

Toll Free 855-438-5313  
Phone: 614-528-6600  
FAX: 614-528-6700

E-Mail: sales@spairusa.com  
URL: http://www.spairusa.com/

Circle 92 on card, or enter at "e-inquiry" on VehicleServicePros.com

## Evaluate components from 200' away

The IPA 12-Function Remote Control, No. MUT-RM12, works with the company's line of Super MUTT trailer testers to evaluate several components from more than 200' away. Users can test all electrical circuitry, air brakes and access ABS codes. The remote mirrors the onboard features of the Super MUTT. Remote-controlled testing and diagnostics allow the Super MUTT to guide a technician through 91 critical points of inspection and testing. Testing Mode assesses the trailer's electrical circuitry to identify wiring problems often missed during routine inspections. If a problem is found, the Super MUTT instantaneously shifts into Diagnostic/Pulsar Mode.



Circle 94 on card, or enter at "e-inquiry" on VehicleServicePros.com



## 4.9mm dual camera probe

The Ansed Dual Camera Video Scope Kit, No. VS-49, is a scope kit with a 4.9mm diameter switchable dual-camera probe. Users can change from front to side views with a click of a button. The IP67 rated device records photos and video. The kit contains the probe, a 4 GB SD card, four AA batteries, an AV cable, a USB cable and a plastic carrying case.

Circle 95 on card, or enter at "e-inquiry" on [VehicleServicePros.com](http://VehicleServicePros.com)



## Cuts through oxidation

The Shurhold Industries Dual Action Polisher Pro, can cut through oxidation faster than the previous version, with its greater pad and orbit size. The polisher features a 21mm random orbit for a swirl-free shine, a 900-watt motor, a 6" Quick Change Backing Plate, two ergonomic gripping styles, EZ Change carbon brush ports, a variable speed dial and locking button to ensure users keep a steady pace without accidentally turning off the unit. This version also offers an entirely new pad system with stronger Velcro backing. This polisher weighs only 6 lbs, and it comes with a detailed user guide and canvas storage bag.

Circle 96 on card, or enter at "e-inquiry" on [VehicleServicePros.com](http://VehicleServicePros.com)



## 550-lb capacity per caster

The Homak 41" H2Pro Series 6 Drawer Roller Cabinet features a HMC high-security tubular locking system, replaceable ball-bearing drawer slides, full-length aluminum drawer pulls and 6" by 2" casters with a 550-lb capacity per caster. This roller cabinet features a workstation, six drawers and is available in blue (No. BL04041062), black (No. BK04041062) and red (No. RD04041062). Homak offers an eight-year limited warranty.

Circle 97 on card, or enter at "e-inquiry" on [VehicleServicePros.com](http://VehicleServicePros.com)

# PicoScope® NVH Kit

REAL TIME NVH DIAGNOSIS



Vehicle noise, vibration and harshness (NVH) are significant reasons for customer dissatisfaction. But quickly identifying the cause of a vibration and finding its location can be a difficult task, even for the most experienced technician.

Providing real-time diagnosis to the technician in the form of either: a bar graph, a frequency chart, a 3D frequency chart, RPM order or road speed view, the PicoDiagnostics NVH Kit from Pico Technology is the cost-effective answer to the many NVH problems facing technicians today.

For more information: 1-800-591-2796

[www.picoauto.com](http://www.picoauto.com)

Circle 98 on card, or enter at "e-inquiry" on [VehicleServicePros.com](http://VehicleServicePros.com)

# 2016 INNOVATION AWARDS NOMINEES Part 2



Every year, the *PTEN* Innovation Awards feature the newest and most innovative products introduced to the automotive aftermarket. For 2016, we received 111 submitted products spanning 26 different categories. Check out the second round of nominees throughout the next several pages. If you missed the first round of nominees, check out the May issue of *PTEN*. For the full list of 2016 nominees with full product details, visit: [VehicleServicePros.com/2016IANominees](http://VehicleServicePros.com/2016IANominees)



## EXTREME TOOLS

RX SERIES 72" 19 DRAWER ROLLER CABINET, NO. RX722519RC

*CATEGORY: TOOL STORAGE*

Enter 100 at "e-inquiry" on [VehicleServicePros.com](http://VehicleServicePros.com)



## CHIEF AUTOMOTIVE TECHNOLOGIES

SELF-PIERCING RIVET GUN, NO. PNP90

*CATEGORY: BODY SHOP*

Enter 101 at "e-inquiry" on [VehicleServicePros.com](http://VehicleServicePros.com)



## CAL-VAN TOOLS

AMP HOUND 2

*CATEGORY: ELECTRICAL SYSTEMS*

Enter 102 at "e-inquiry" on [VehicleServicePros.com](http://VehicleServicePros.com)



## BARTEC USA, LLC

TECH400PRO

*CATEGORY: TIRE, WHEEL SERVICE*

Enter 103 at "e-inquiry" on [VehicleServicePros.com](http://VehicleServicePros.com)

## TECH-LIFE

TECH-LIGHT MAGNETIC WORKLIGHT

*CATEGORY: LIGHTING*

Enter 104 at "e-inquiry" on [VehicleServicePros.com](http://VehicleServicePros.com)



## GTE TOOLS

MASTERBEAD ADHESIVE DISPENSING GUN

*CATEGORY: SPECIALTY TOOLS*

Enter 105 at "e-inquiry" on [VehicleServicePros.com](http://VehicleServicePros.com)

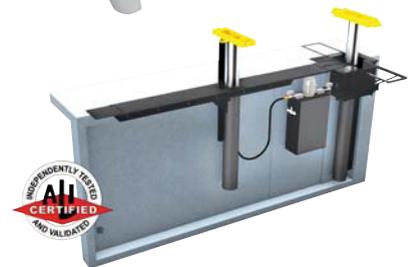


## ROTARY LIFT

70 SERIES HEAVY DUTY INGROUND LIFTS

*CATEGORY: LIFTS, JACKS AND STANDS*

Enter 106 at "e-inquiry" on [VehicleServicePros.com](http://VehicleServicePros.com)



## PROMAXX TOOLS

NINO EXHAUST MANIFOLD REPAIR TOOL

*CATEGORY: SPECIALTY TOOLS*

Enter 107 at "e-inquiry" on [VehicleServicePros.com](http://VehicleServicePros.com)



2016  
INNOVATION AWARDS  
NOMINEES



**LISLE CORPORATION**  
19MM HARMONIC BALANCER  
SOCKET FOR HONDA, NO. 77080  
*CATEGORY: SPECIALTY TOOLS*  
Enter 108 at "e-inquiry" on  
VehicleServicePros.com



**SNAP-ON TOOLS**  
4-PC STRIKING PRYBAR SET,  
NO. SPBS704A  
*CATEGORY: HAND TOOLS*  
Enter 109 at "e-inquiry" on  
VehicleServicePros.com



**MAYHEW TOOLS**  
PRO RATCHETING HOSE CLAMP  
PLIERS, NO. 28680  
*CATEGORY: SPECIALTY TOOLS*  
Enter 110 at "e-inquiry" on  
VehicleServicePros.com



**K-TOOL INTERNATIONAL**  
BLUBIRD OIL SHIELD AIR HOSE  
*CATEGORY: AIR TOOLS*  
Enter 111 at "e-inquiry" on  
VehicleServicePros.com



**PICO TECHNOLOGY**  
PICODIAGNOSTIC NVH KIT  
*CATEGORY: INSPECTION  
TOOLS, LAB SCOPES*  
Enter 112 at "e-inquiry" on  
VehicleServicePros.com



**AUTOLOGIC**  
ASSIST  
*CATEGORY: SCAN TOOLS*  
Enter 113 at "e-inquiry" on  
VehicleServicePros.com

**SKF/LINCOLN  
LUBRICATION SYSTEMS**  
LOW-CAPACITY DRAINS  
*CATEGORY: FLUID EXCHANGE*  
Enter 114 at "e-inquiry" on  
VehicleServicePros.com



**ATD TOOLS**  
SABER FOLDING MINI THIN LIGHT  
WITH TOP LIGHT, NO. ATD-80369  
*CATEGORY: LIGHTING*  
Enter 115 at "e-inquiry" on  
VehicleServicePros.com



**INNOVATIVE PRODUCTS  
OF AMERICA**  
MICRO-MALE  
ELECTRICAL PIN CLEANERS  
*CATEGORY: SPECIALTY TOOLS*  
Enter 116 at "e-inquiry" on  
VehicleServicePros.com



**SNAP-ON TOOLS**  
RECHARGEABLE SHOP LIGHT,  
NO. ECFLED84  
*CATEGORY: LIGHTING*  
Enter 117 at "e-inquiry" on  
VehicleServicePros.com



**HICKOK/WAEKON**  
SECONDARY IGNITION  
PICKUP, NO. 75300  
*CATEGORY: INSPECTION  
TOOLS, LAB SCOPES*  
Enter 118 at "e-inquiry" on  
VehicleServicePros.com



**CORNWELL  
QUALITY TOOLS**  
3/8" STUBBY IMPACT  
WRENCH, NO. CAT2138  
*CATEGORY: AIR TOOLS*  
Enter 119 at "e-inquiry" on  
VehicleServicePros.com



# 2016 INNOVATION AWARDS NOMINEES



**INNOVATIVE PRODUCTS OF AMERICA**  
**PROFESSIONAL DIESEL INJECTOR-SEAT CLEANING KIT**  
*CATEGORY: ENGINE SERVICE AND REPAIR*  
**Enter 120 at "e-inquiry" on VehicleServicePros.com**



**AUTEL**  
**MAXISYS, NO. MS906TS**  
*CATEGORY: SCAN TOOLS*  
**Enter 121 at "e-inquiry" on VehicleServicePros.com**



**CPS AUTOMOTIVE**  
**FX3030 REFRIGERANT MANAGEMENT CENTER**  
*CATEGORY: AIR CONDITIONING SERVICE*  
**Enter 122 at "e-inquiry" on VehicleServicePros.com**



**MAC TOOLS**  
**3/8" DRIVE AXIS COMFORT-GRIP FLEX-HEAD 18" RATCHET, NO. XR1890FPA**  
*CATEGORY: HAND TOOLS*  
**Enter 123 at "e-inquiry" on VehicleServicePros.com**



**LOCK TECHNOLOGY**  
**BRAKE FITTING RE-THREAD KIT, NO. LT993**  
*CATEGORY: BRAKE SERVICE*  
**Enter 124 at "e-inquiry" on VehicleServicePros.com**



**DREW TECHNOLOGIES**  
**CARDAQ-PLUS 2**  
*CATEGORY: SCAN TOOLS*  
**Enter 125 at "e-inquiry" on VehicleServicePros.com**



**SNAP-ON EQUIPMENT**  
**JOHN BEAN WHEEL ALIGNMENT SYSTEM, NO. V2400**  
*CATEGORY: TIRE, WHEEL SERVICE*  
**Enter 126 at "e-inquiry" on VehicleServicePros.com**



**ATEQ TPMS TOOLS**  
**VT56 TIRE TREAD DEPTH GAUGE**  
*CATEGORY: TIRE, WHEEL SERVICE*  
**Enter 127 at "e-inquiry" on VehicleServicePros.com**



**PHOENIX SYSTEMS**  
**COOLANTSTRIP**  
*CATEGORY: DIAGNOSTIC TEST EQUIPMENT*  
**Enter 128 at "e-inquiry" on VehicleServicePros.com**



**SNAP-ON TOOLS**  
**14V/18V MULTI-BAY CHARGER, NO. CTC123**  
*CATEGORY: POWER TOOLS*  
**Enter 129 at "e-inquiry" on VehicleServicePros.com**



**MILWAUKEE TOOL**  
**M18 FUEL 3/8" COMPACT IMPACT WRENCH WITH FRICTION RING**  
*CATEGORY: POWER TOOLS*  
**Enter 130 at "e-inquiry" on VehicleServicePros.com**



**GENERAL TECHNOLOGIES CORP.**  
**IGNITION SYSTEM ANALYZER, NO. GTC505**  
*CATEGORY: ENGINE SERVICE AND REPAIR*  
**Enter 131 at "e-inquiry" on VehicleServicePros.com**

2016  
INNOVATION AWARDS  
NOMINEES



**AUTOMETER PRODUCTS**  
BVA-460 PROFESSIONAL GRADE  
HANDHELD SYSTEM ANALYZER  
*CATEGORY: BATTERY  
SERVICE EQUIPMENT*  
Enter 132 at "e-inquiry" on  
VehicleServicePros.com



**THEXTON**  
RAPID CORE REMOVER,  
NO. THX819  
*CATEGORY: TIRE, WHEEL SERVICE*  
Enter 133 at "e-inquiry" on  
VehicleServicePros.com



**COAST PRODUCTS**  
RECHARGEABLE  
PENLIGHT, NO. HP3R  
*CATEGORY: LIGHTING*  
Enter 134 at "e-inquiry" on  
VehicleServicePros.com



**MAC TOOLS**  
1/4" MEDIUM 90 DEGREE AIR DIE  
GRINDER, NO. AG52AH90  
*CATEGORY: AIR TOOLS*  
Enter 135 at "e-inquiry" on  
VehicleServicePros.com



**SNAP-ON TOOLS**  
LITHIUM ION COMPACT ENGINE  
STARTER, NO. EEJP200M  
*CATEGORY: BATTERY  
SERVICE EQUIPMENT*  
Enter 136 at "e-inquiry" on  
VehicleServicePros.com



**OTC**  
HENDRICKSON SUSPENSION  
BUSHING TOOL, NO. 4246  
*CATEGORY: SUSPENSION*  
Enter 137 at "e-inquiry" on  
VehicleServicePros.com



**SNAP-ON EQUIPMENT**  
HOFMANN GEODYNA  
8250P WHEEL BALANCER  
*CATEGORY: TIRE, WHEEL SERVICE*  
Enter 138 at "e-inquiry" on  
VehicleServicePros.com



**PHOENIX SYSTEMS**  
FORD HEAVY DUTY  
REVERSE BRAKE BLEEDER  
*CATEGORY: BRAKE SERVICE*  
Enter 139 at "e-inquiry" on  
VehicleServicePros.com



**CHICAGO  
PNEUMATIC TOOL CO.**  
4-1/2" ANGLE GRINDER,  
NO. CP7545  
*CATEGORY: AIR TOOLS*  
Enter 140 at "e-inquiry" on  
VehicleServicePros.com



**STREAMLIGHT**  
STRION PIGGYBACK CHARGER  
*CATEGORY: LIGHTING*  
Enter 141 at "e-inquiry" on  
VehicleServicePros.com



**LOCK TECHNOLOGY**  
UNIVERSAL HUB SHOCKER,  
NO. LT830A  
*CATEGORY: SPECIALTY TOOLS*  
Enter 142 at "e-inquiry" on  
VehicleServicePros.com



**SNAP-ON TOOLS**  
PRECISION PLIERS, NO. P87150  
*CATEGORY: HAND TOOLS*  
Enter 143 at "e-inquiry" on  
VehicleServicePros.com

# 2016 INNOVATION AWARDS NOMINEES



**LINK NEW TECH**  
QD8 QWIK DRAW BRAKE FLUSH  
AND BLEEDER  
*CATEGORY: BRAKE SERVICE*  
Enter 144 at "e-inquiry" on  
[VehicleServicePros.com](http://VehicleServicePros.com)



**MONSTER TOOLS**  
ALL-IN-ONE MASTER  
BEARING RACE AND SEAL  
DRIVER, NO. MST1108A  
*CATEGORY: SPECIALTY TOOLS*  
Enter 145 at "e-inquiry" on  
[VehicleServicePros.com](http://VehicleServicePros.com)



**SNAP-ON TOOLS**  
MOBILE WORK STATION,  
NO. KEMW361A  
*CATEGORY: TOOL STORAGE*  
Enter 146 at "e-inquiry" on  
[VehicleServicePros.com](http://VehicleServicePros.com)



**REDLINE DETECTION**  
DUAL PURPOSE DIAGNOSTIC  
LEAK LOCATOR  
*CATEGORY: LEAK DETECTION*  
Enter 147 at "e-inquiry" on  
[VehicleServicePros.com](http://VehicleServicePros.com)



**PHOENIX SYSTEMS**  
DOT 3/4 ANTI-RUST  
BRAKE FLUID TREATMENT  
*CATEGORY: CHEMICALS*  
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**SNAP-ON TOOLS**  
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# DIAGNOSING AND REPAIRING EMISSION ISSUES

All vehicles manufactured after 2006 have standardized vehicle communication with the adoption of OBD-II, with the primary function being to ensure they are meeting emission standards. Here, we cover a few different examples of emissions issues.

*By Barry Hoyland, Contributing Editor*

**W**hy should you be interested in an article on emission diagnosis and repair if you don't test emissions? Because you diagnose and repair vehicles equipped with OBD-II.

OBD-II was created with a few purposes in mind; to test both the electrical and functional capabilities of a vehicle's engine control systems to assure they are meeting emission standards, alert the driver if there is an issue and standardize vehicle communication to diagnostic tools. Since you work on vehicles equipped with OBD-II, understanding the design and functions of its components will assist you in both turning and keeping that pesky "check engine" light off.

A "check engine" light that is illuminated means that one or more of the emission components is not functioning properly, resulting in the vehicle exceeding the Federal Test Procedure emission limit by 1.5 times. An illuminated "check engine" light also means you will be able to obtain some information directly from the vehicle's computer system as to what component or system is not working properly.

An additional benefit of OBD-II mandates was that the DLC, or Data Link Connector, would be universal and placed in generally the same area of the dash on all vehicles. This also allowed for scan tool manufacturers to communicate with all vehicles in a common manner.

Scanning the vehicle will provide you with fault codes, indicating which part of the system is not meeting standards. Obtaining freeze frame data will provide information as to what the vehicle operating conditions were at the time of the code setting. This



▲ *Fig. 1. Using a Redline Detection high-pressure smoke machine, this image shows a previously undetected leak coming from a brake booster check valve.*

information is helpful not only to recreate the condition while diagnosing the issue, but to verify the system is functioning correctly after the repair.

One capability and function of your scan tool that is under-utilized and misunderstood is Mode 6. Using Mode 6 on your scan tool allows you to examine the test results of various monitored systems to see if they are passing or failing. Passing a test means the system is working within limits and a resulting "complete - pass" would be displayed on that particular monitor result. Failing a monitor test means the monitored system has an issue and the vehicle may exceed emission standards. This results in a "complete - fail" being displayed and the "check engine" light will be illuminated.

A frustration many technicians have is when monitors have not "run" or they do not complete. Running a monitor means that the vehicle must operate under strict conditions in order to test that specific system. An incomplete monitor means that the vehicle has not met one or more of the conditions required to test the components in that particular system.

We will look at a couple of vehicles to see what caused their monitors to not run.

## VEHICLE ISSUE 1:

Failed emissions due to the "Comprehensive Component Monitor" not completing

## VEHICLE AFFECTED:

2004 Dodge Ram 5.9L Diesel

## TOOLS USED:

- TSBs - Mitchell 1
- Scan tool
- Aerosol keyboard cleaner
- Heat gun
- DMM

### 1 SCAN THE VEHICLE

Scan results indicated no codes were present and none of the monitors had been completed.

### 2 OBTAIN INFORMATION

It is a good idea to begin searching for information with a check for relevant Technical Service Bulletins (TSBs). TSBs are generated when the vehicle manufacturer has been made aware of issues consistent with a specific vehicle platform or engine control system and have a common cause as well as a common repair. TSB fixes can consist of replacing components, changing PCM programming, or both.

We were able to find a TSB in our Mitchell 1 ProDemand database relating to a powertrain control module (PCM) programming change directly

related to the vehicle not completing the Comprehensive Component Monitor.

At first look it seemed a simple programming change would fix the vehicle. Additional information within the TSB directed us to check the current software version installed. Checking the serial number confirmed the vehicle already had the latest software version installed and the TSB would no longer apply.

The next step in the information process is to determine what the vehicle required to perform a drive cycle. A drive cycle is a series of self-tests performed under conditions spelled out by the vehicle manufacturer that will allow each monitored component and system to evaluate its ability to work properly.

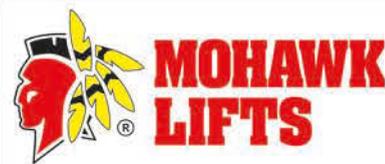
In this, as well as most vehicles, it is necessary for the PCM to perform a "cold start." To determine if the engine looks at the data from the Engine Coolant Temperature sensor and the Ambient Air Temperature (outside air) sensor to determine if they are within 10 degrees F of each other. Most vehicles use the intake air temp sensor to communicate the outside air temperature to the PCM. This vehicle, being a diesel, actually has a separate ambient sensor as well as an intake air sensor.

### 3 PERFORM DIAGNOSTIC TESTS

Observing the scan data, we found the ambient air temperature sensor was stuck at 110 degrees F. Since the engine was cold and it matched the outside air temperature of 62 degrees F, we suspected the air temp sensor was not allowing the PCM to ever determine the engine was starting "cold."

We scanned the PID for the ambient air temperature PID while we both cooled and heated the sensor. Using a can of aerosol keyboard cleaner we sprayed the sensor in order to cool it. Even though the sensor frosted over, the PID value showed 110 degrees F. We then used a heat gun to warm the sensor and it still showed a temperature of 110 degrees F.

To verify the sensor was the issue and not the PCM or wiring, we repeated both tests using a DMM to check the sen- ➔



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sensor's resistance value. In both the "cold" and "hot" tests, the resistance of the sensor remained at 4,000 ohms.

## 4 REPAIR THE VEHICLE

We replaced the ambient air temp sensor, then rechecked with the scan tool to see if the PID value matched the outside air. Since it did, we drove the vehicle to see if the monitors would run. Since the PCM was now able to determine the engine performed a cold start, it was able to run and complete the monitors.

**VEHICLE ISSUE 2:**  
Always displays a P1000 code

**VEHICLE AFFECTED:**  
2006 F-150 5.4L

- TOOLS USED:**
- Scan tool
  - TSBs - Mitchell 1
  - Power Probe IV

Ford vehicles will set a P1000 code if monitors have not completed. Normally Fords will run monitors very quickly, but this one seemed like it would never run any monitor. After clearing codes, a P1000 also will set because the monitor status is reset as well as any fault codes.

## 1 SCAN THE VEHICLE

We decided to drive the vehicle and check the monitor status prior to turning the engine off. When we did this, our scan tool showed all of the monitors had completed except the EVAP system monitor, which is normal for most vehicles as the EVAP system can take a few trips to complete.

## 2 OBTAIN INFORMATION

We checked for TSBs and found none pertaining to this issue. Since we had determined the vehicle would perform its monitor tests with the engine running but they cleared when the key was off, we suspected the keep-alive power to the PCM had an issue. Looking

## Tools Used



▲ Redline Detection  
Dual Purpose Diagnostic Leak Locator,  
No. 95-0130

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▲ Vacutec  
Heavy-Duty Smoke Machine,  
No. WV711

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▲ Motorvac  
Cool Smoke HP,  
No. 500-0150

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at the wiring diagram showed the keep-alive circuit to the PCM was powered by fuse 5 in the underhood junction box. Using a Power Probe IV we found we had power on both sides of the fuse when the engine was running but not when the engine was off. We had power with the engine running because the circuit would feed back to fuse 5 from the PCM relay with the engine running.

## 3 REPAIR THE VEHICLE

We were able to trace a broken wire in the harness that supplied battery power to the fuse. Once power was restored, the vehicle was capable of completing and saving the results of its monitor tests.

**VEHICLE ISSUE 3:**  
Ongoing issue with a P013C fault code and history of P0430 code

**VEHICLE AFFECTED:**  
2007 Jeep Commander 5.7L

- TOOLS USED:**
- Scan tool
  - Repair information - Identifix
  - High-pressure smoke machine

The last vehicle we will look at has had an ongoing issue with a P013C fault code and history of a P0430 code. P0430 is a catalyst efficiency code; P013C indicates a slow response from rich to lean on the bank 2 rear oxygen sensor.

## 1 SCAN THE VEHICLE

We scanned the Jeep and found a current P013C code. Freeze frame data did not provide any helpful information, and the sensor seemed to be working normally at this time.

## 2 OBTAIN INFORMATION

We discussed the issue history with the vehicle owner. The oxygen sensor had been replaced and a flash program update specific to this issue had been performed only to have the code return. Since we did not have much information to go on from freeze frame data and the system seemed to be operating normally now, we chose to look at Identifix Direct-Hit to see if there were any similar repairs listed.

There were some reports of similar issues with the same code being caused by exhaust leaks. The customer stated he had the vehicle tested at an exhaust shop and they found nothing leaking by using a stethoscope to listen for leaks.



◀ For information on the OTC 550 Series Digital Multimeter, No. 3940, visit [VehicleServicePros.com/10267705](http://VehicleServicePros.com/10267705)

The problem with trying to use a stethoscope to listen for an exhaust leak is as soon as the engine starts there is enough heat to quiet the leak due to metals expanding and sealing it up. Even though the leak is sealed enough to be quiet, the slightest amount of air entering the exhaust system can alter what the oxygen sensor reads. Pulsations in the exhaust stream from normal engine operation actually can draw extra air into the exhaust. When this air is in between the front and rear sensors it will look as if the catalytic converter is not working correctly, which could explain either code.

### 3 PERFORM DIAGNOSTIC TESTS

Unwanted or unmetered air can affect both upstream and downstream oxygen sensors. Smoke testing the intake and exhaust systems is one way to determine if any issues are present. Smoke testing the intake system to find any vacuum leaks found an unknown and undetected leak at the brake booster check valve.

To test this vehicle, we used a Redline Detection high-pressure smoke tester (See Fig. 1). Regular smoke testing can be invaluable for checking vacuum leaks and EVAP systems, but the high-pressure/high-volume tester allows testing of higher-pressure systems like turbo and exhaust systems.

When the high-pressure tester was installed in the tailpipe, a very visible leak showed up at the weld in the "Y" pipe in front of the catalytic converter.

### 4 REPAIR THE VEHICLE

The "Y" pipe was replaced as well as the brake booster check valve. At this time the fault code has not returned and there was an added benefit - a slight increase in fuel economy from the previously undetected vacuum leak at the brake booster. **PTEN**

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# Top 10 Tools



## Key tools for a successful shop

This shop owner explains why these tools are vital to running a prosperous business.

By Josh Smith, Assistant Editor

**OWNER:** Pete Rudloff

**SHOP:** Pete's Garage, Inc.

**LOCATION:** Newark, Del.

Pete Rudloff is a technician, national automotive instructor and advisor, nationally published technical writer and owner of Pete's Garage Inc. in Newark, Del. - a six-bay facility with more than 4,500 sq. ft. of work space. He says Pete's Garage has become known for fixing difficult-to-repair cars and has built a reputation of being a diagnostic destination more than a maintenance shop. Rudloff also created Delaware Training Group to bring technicians together in an environment that fosters learning. Among many other professional accolades, Rudloff is an ASE Certified L1 Master Technician.

**1** Pete's Garage works on five manufacturer groups and has OE level scan tools for all of them, including the Chrysler wiTech. In addition to Chrysler, the shop has OE level scan tools for GM, Ford, Toyota and Honda. "Having the OE scan tool gives me the same capability as the dealer," Rudloff says. "With full communication capability, I know that I will not encounter a tooling deficiency whenever I schedule a client in for testing. Having 100-percent capability is critical to my service-ready business model."

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**2** "By combining a premium graphing scan tool with my OE tool arsenal, it gives me a competitive edge beyond the OE dealer shops," explains Rudloff. He says the Snap-on Solus Edge is faster at most tasks than its OE counterparts. "And if it runs out of ability, I always have my OE tools to back it up."

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**3** Rudloff likes this tool because it is fast and user-intuitive. "The 4425 takes everything good about Pico and makes it more powerful," he says.

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**4** "Taking engines apart to determine their state of health is the old way of doing things," explains Rudloff. He adds that this tool allows him to check valve timing and compression by pulling a spark plug.

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**5** Rudloff says this delta pressure sensor complements the Pico Pressure Transducer. He uses it to measure air pressure changes in both intake and exhaust pressure pulses.

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**6** "These spacious carts give me the flexibility to mobilize both specialty tooling and basic hand tools away from my primary toolbox," Rudloff says. "With four of these carts, I'm able to keep a lot of my gear in an easy-to-use, organized format."

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**7** Pete's Garage has a policy to torque every fastener, which is why these tools come in handy. Rudloff utilizes three different sizes of these torque wrenches, adding they are fast to set, inexpensive, durable and do not require resetting to zero after use. "I like these over my more expensive digital torque wrenches," he says.

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**8** This impact swayed Rudloff to use cordless power tools instead of traditional air tools. Calling it the most powerful 1/2" impact he has ever used, Rudloff says the Li-ion batteries almost seem to never need a re-charge.

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**9** "A few years ago, my shop dropped conventional balancing in favor of doing Road Force correction before balancing on every tire," Rudloff explains. "Tire profits have soared and customers have been happier than ever."

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**10** Rudloff calls his Motorola smartphone "a nearly priceless tool," noting that he uses his smartphone to perform vehicle inspections electronically, look up service information and using his Seek Thermal Imaging Camera attachment. He also uses it for taking pictures of things that would otherwise be notated in writing. "The smartphone is a huge time-saver in the bay, and the Droid Turbo has the battery power to go all day."

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**1** CHRYSLER WITECH DIAGNOSTIC SYSTEM



**2** SNAP-ON SOLUS EDGE, NO. EESC320



**4** PICO TECHNOLOGY AUTOMOTIVE PRESSURE TRANSDUCER, NO. WPS500X



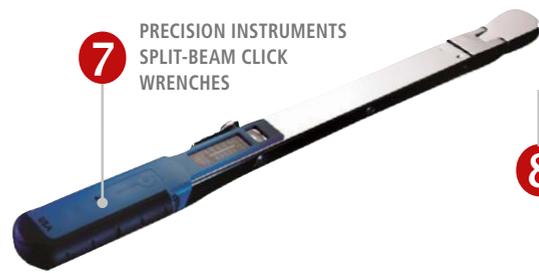
**3** PICO TECHNOLOGY PICOSCOPE ADVANCED AUTOMOTIVE KIT, NO. 4425



**5** AESWAVE FIRSTLOOK ENGINE DIAGNOSTIC PULSE SENSOR



**6** MAC TOOLS DELUXE 3-DRAWER UTILITY CART, NO. MB197UC



**7** PRECISION INSTRUMENTS SPLIT-BEAM CLICK WRENCHES



**8** DEWALT 20V MAX BRUSHLESS HIGH TORQUE IMPACT WRENCH



**9** HUNTER ROAD FORCE WHEEL BALANCER



**10** SEEK THERMAL COMPACT CAMERA FOR ANDROID SMARTPHONE

## Beydler Manibolt Driller

The reviewer says this tool makes an unpopular, difficult task easier to complete.

by Josh Smith, Assistant Editor

**P**erforming a stud removal is a difficult task that is unpopular with many of the technicians at DeMary Truck in Columbus, Ohio. But shop owner Eric Moore says the Beydler Manibolt Driller made this arduous job easier and faster to complete.

“The Beydler Manibolt Driller Kit was fairly substantial in saving time doing a job that never is easy,” Moore says. “The centering jig worked great and kept the bit from walking.

“We liked the template and jigs – the way they lined up with the existing bolt holes, which made it more seamless to use,” he continues. “We couldn’t put a definite dislike on any features – unless of course there were replacement studs included in the kit to make it a one-stop shop.”

Moore and his technicians used the Beydler Manibolt Driller on several Ford vehicles, noting specifically a 1998 F-150 with a 4.6L engine and a 2005 F-450 with a 6.0L.

“None of these vehicles are very fun to perform stud removal on to begin with. However, the jig made it less painful than the norm when not using it,” he says.

The tool arrived packaged in a blow molded case with all the adapters, jigs and drill bits for Ford V8 engines, as well as 4.6L, 5.4L and 6.8L engines. Additionally, an instruction card came included. Moore also watched YouTube

videos with a couple techs to better understand the process.

“It’s not something an apprentice could jump right into, but it is a great tool for learning the job with an experienced tech alongside,” Moore says.

To set up, the exhaust manifold needs to be removed, and Moore found that cutting off the broken end of the stud or bolt to about 3/16” to 1/4” proud of the head worked best. “Once the size of the fasteners has been determined, it involves selecting the corresponding centering jig,” explains Moore. “Mount the template to the head using the other cylinder ports bolt holes, which keeps the

### PRODUCT DESCRIPTION:

The Beydler Manibolt Driller, designed to save technicians time when replacing broken manifold bolts, allows users to drill on-center and perpendicular. The company offers templates for Ford, Chrysler, Dodge, Jeep and GM vehicles. In addition to the templates, technicians will need bushing clamps, flathead screws, drill bits and taps. These tools are made in the U.S.A.

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template steady. Set the jig in place over the affected area and start drilling.”

Moore says his techs had varied opinions, but several may be influenced by their dislike for this type of job. “They hate having to do extractions in general, so we weren’t winning them over regardless,” Moore says, adding a number of technicians loved the tool.

One of Moore’s techs has a similar tool from another company. He says the Beydler tool was easier to set up. “This is when we found that cutting the stud or bolt flush, with a small amount being proud of the head worked best, helping to center the jig more squarely and providing a flat surface,” Moore says.

As far as improvements, Moore says he and his techs like the de-burring tool that came with the other company’s kit. “If we could use that in conjunction with the Beydler Manibolt Driller, it might make it even smoother to use.” **PTEN**

# Fluid Rx Diagnostics Instant Lubricant Diagnostics 10-Spot Customer Presentation Chart

The reviewer found the chart to be a great tool for upselling necessary or additional fluid maintenance.

by Mike Schmidt, Managing Editor

**S**ervice writer and technician Brandon Kuchler recently tested the Fluid Rx Diagnostics Instant Lubricant Diagnostics 10-Spot Customer Presentation Chart at his Grandview Heights, Ohio-based shop. After using it for some time, he found it to be a great tool for upselling necessary or additional fluid maintenance.

According to the company, the chart features an overview on the benefits of proper fluid preventative maintenance and test results for brake, power steering and transmission fluids, as well as crankcase and gear oils – all in one display. Kuchler utilized the chart on almost every vehicle that came in the shop where the customer was present, and he says it gave the customers a great visual comparison.

Kuchler employed the test sheets most often for transmission fluid health and brake fluid comparisons, and he deemed the setup of the Fluid Rx Diagnostics chart to be “pretty easy.” All it took, he says, was placing a new card on the clipboards provided and entering customer information.

“It was usually more work to get the fluid sample from the vehicle than it was to place it on the card for presentation,” states Kuchler.

The chart also provided both

English and Spanish-language versions of the information, which pleased Kuchler quite a bit.

“If you have a bilingual shop or customers, it is nice to have,” he says. “The kit also had bilingual (report cards) and clipboards sized for the (test sheets).”

Kuchler adds that the kit also includes the Teflon-coated sampling tool for testing fluids.

While he appreciated the usefulness of the chart as a means for upselling, Kuchler says a bigger test sheet for a standard-sized clipboard with additional spaces for comparisons, especially for fluid samples, would be ideal.

“That way it would be easier to present a whole picture of the customer’s fluid’s condition at one time, instead of one or two at a time,” he adds.

All in all, the Fluid Rx Diagnostics Instant Lubricant Diagnostics 10-Spot Customer Presentation Chart left a favorable impression on Kuchler. He found it to be most effective when the customer was present, but Kuchler says he also could use the test sheets, take pictures of them and send them to his customers for review as well.

“It works as long as the customer is open to the suggestion of more work than they originally brought their vehicle in for,” he adds. **P**TEN



## PRODUCT DESCRIPTION:

The Fluid Rx Diagnostics Instant Lubricant Diagnostics 10-Spot Customer Presentation Chart combines all 10 diagnostics charts, making it simple and convenient to test and evaluate virtually every year, make and model of vehicle that rolls into the service bay, according to the company. This chart features an overview on the benefits of proper fluid preventative maintenance and test results for brake, power steering and transmission fluids as well as crankcase and gear oils – all in one easy-to-understand display. The laminated analysis chart is designed for both countertop and in-vehicle presentations and shows results for all standard and most proprietary fluids including the newest formulas from GM, Ford, Chrysler, Nissan, Toyota, BMW, Mercedes-Benz, Audi and Volkswagen.

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## GTE Tools MasterBead

The reviewers rave about how easy it is to use this dispensing gun.

by Josh Smith, Assistant Editor



**T**he GTE Tools MasterBead dispensing gun is awesome,” says Eric Moore, owner of DeMary Truck in Columbus, Ohio.

“It makes using any type of tube sealant so easy and controllable,” he adds. “So much faster, and neater, than using the ‘goop it on and spread it around with your finger’ method.”

Lou Fort, lead technician at K.A.R.S. Inc. in Huntingburg, Ind., agrees with Moore’s assessment, adding the MasterBead is “not only easy, but a pleasure, to use.”

The MasterBead, which comes with an instruction sheet, is basically ready to use right out of the box. Fort says there are a couple of steps to prep the tube, noting the dispensing gun only

accepts aluminum tubes. “Once the tube is ready to be inserted, you need to retract the plunger fully, release the tension latch and open the jaws,” Fort explains, adding setup was faster and easier than he first thought it would be. “The tool is now ready to accept the tube. After you slide the tube’s end down into its holding fixture, you close the tension latch on the plunger.

“Switching between different tubes of adhesive was also fast and easy.”

Moore mainly used this dispensing gun for applying sealants and gasket-maker materials. Specifically, he and his techs used the tool on both a 2007 International DT466 and 2001 Honda Accord to apply sealant as a gasket for the oil pan. The tool was also used to dab sealant at the cam towers when replacing the valve cover gasket on the Honda. “I used it for applying gasket maker to the case halves of a 2001 YZ250F I was rebuilding the engine bottom half on,” adds Moore. “It made for a much more controllable, even application. I would normally dab some on my finger and spread it around the sealing surface.”

Fort used the tool to reseal differential covers, engine cover mating joints and intake end seals. “I also have been using the tool to effortlessly dispense weather strip adhesive and dielectric compound,” he says.

“Having the tube mounted in the tool allowed me to work through the air bubbles seamlessly,” Fort says, calling the MasterBead likeable and a simple,

effortless way to dispense material. “There was minimal residual pressure left on the tube whenever I finished my task, keeping waste and mess down to levels never before experienced.”

Unlike other tools Fort has used, the MasterBead reduces waste by squeezing the tube – rather than rolling it. Also, changing from one tube to another was previously impractical, so more than one tool was required. “GTE’s claim it gets 99 percent of the material out of the tube is spot on. Never before have I had such complete material application,” he says.

Fort said the tool’s overall size was a drawback because there are several job types that this tool is too large to use. Also, Fort uses products that do not come in aluminum tubes. In order to broaden the MasterBead’s range of use, Fort suggests updating the tool to make either an adjustable tube end clamp or one that could be exchanged. Though it may be difficult, he also suggests the company “have the tube clamp be a dual position or adjustable one.”

Moore has a similar tool that he purchased decades ago. “While they are similar in use, the GTE (Tools) MasterBead dispensing gun was much easier to load, lighter and seemed smoother when applying product. The older version is heavier and can be too aggressive when in use, tearing the crimp away from the tube.”

“We love this tool,” Moore says. “It made a necessary task cleaner, neater, more accurate and proved to be less wasteful with product.” PTEN

### PRODUCT DESCRIPTION:

The GTE Tools MasterBead handheld, silicone/adhesive dispensing gun is designed specifically for aluminum-type adhesive tubes. The MasterBead gun is made from ultra-durable polymers and 99 percent of the adhesive material can be dispensed in a consistent and uniform bead every time to eliminate mess and waste. The tool’s automatic loading feature allows it to continue dispensing material with no need to reset or re-clamp the tube, while enabling single-handed operation. MasterBead is designed to accommodate up to 4-oz, aluminum-style adhesive tubes and comes with a lifetime warranty.

Circle 174 on card, or enter at “e-inquiry” on [VehicleServicePros.com](http://VehicleServicePros.com)

## Hella Gutmann mega macs PC

The reviewer says this tool is practical and offers in-depth coverage when it comes to European vehicles.

by *Mattie Gorman, Associate Editor*

**F**ernando Torres, owner of Advanced Auto Diagnostics in Miami, with technician Daniel Alt, recently provided feedback on the Hella Gutmann mega macs PC. “At our shop we utilize a few different scanners, yet we find that the Hella (mega macs PC) gives us a more in-depth coverage when it comes to European vehicles,” says Alt.

The mega macs PC came packaged with instructions, which Alt says were straightforward and easy to understand. At the beginning, he found the Hella Gutmann mainframe to be more complex to use than “your average scanner,” but with experience, Alt says it was very practical. He liked that no OBD connector cable was needed because of the ability to connect to a vehicle via Bluetooth.

Alt used this scan tool to reset the service light on a 2015 Porsche Macan. He also used the mega macs PC on a 2012 Audi A5 2.0. He says, “We had to remove the throttle body to perform repairs and upon installing everything, the car developed a minor misfire that no computer besides the Hella (Gutmann would) detect.” Alt adds that the mega macs PC was the only diagnostic tool that allowed him to complete the relearn procedure, which fixed the issue.

This tool provides a little bit of everything from programming modules, performing relearn procedures, reading and erasing trouble codes and “best of all, the easy-to-use service reset procedure,” he



says. But one of the things he liked most was that, not only does the mega macs PC retrieve trouble codes, it also offers an in-depth explanation of possible causes for each code.

Alt said one of the downsides to the tool is that technicians need to be familiar with chassis codes for BMW and Mercedes vehicles when selecting vehicle models in the tool. Although, he adds, it’s “not a big deal for a trained professional.”

He also suggests the company can add VIN decoding as a time-saving improvement so technicians don’t have to manually enter vehicle information when connecting the car.\*

Aside from his suggestions, Alt describes the mega macs PC as a great asset to the shop, and he really appreciated the swiftness and effectiveness of the support team. “I must compliment the tech support for the tool. Whenever we need them, they respond in great timing.”

Alt adds, “When it comes to European vehicles the Hella (Gutmann) scanner points you in the right direction.” **PTEN**

*\*Manufacturer's note: The Hella Gutmann mega macs PC identifies most vehicle models by reading the VIN automatically, when prompted to do so.*

### PRODUCT DESCRIPTION:

The Hella Gutmann mega macs PC features a Windows-based user interface with unlimited data access, for multi-brand diagnostic jobs on various cars, vans and light trucks with a special focus to European brands. This product offers functions such as vehicle identification via the VIN, readout and clearing of fault codes, graphic display of parameters, actuator tests, basic settings, codings, service resets and the automatic storage of vehicle data. Users can broaden this scope by combining the mega macs PC with the Data Plus license to access a broad range of data and background information. Then, access component help texts, service data, timing belt data, technical data, wiring diagrams, fuses and component test values, directly on a laptop, tablet or workshop PC.

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# Category Spotlight

Safety Equipment and Personal Gear

In addition to product details on a specific category, this section now features a number of different resources on this subject. Use the key below to determine what type of content you're reading.



PRODUCT



VIDEO



ARTICLE

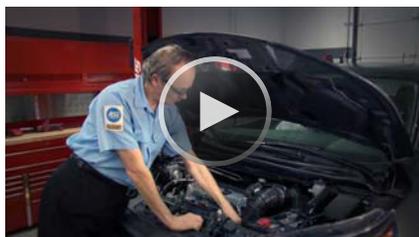


ASK THE EXPERTS



TECH TIPS

## ▶ SNAP-ON RECHARGEABLE PIVOT LIGHT VIDEO



To watch a video demo of this product, go to: [VehicleServicePros.com/12062701](http://VehicleServicePros.com/12062701)

## FOR CHEMICAL AND PUNCTURE PROTECTION

The **Worx Gloves**, available in two different options, offer chemical protection for users. The 8mil powder-free 10" nitrile glove offers puncture resistance for jobs that require durability and comfort, according to the company. These gloves are also offered in a 14mil powder-free version with a 12" cuff. Formulated with 100-percent synthetic nitrile, they are latex-free. The gloves come 100 per box and are available in four sizes.



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## HELP YOUR TECHNICIANS WITH THEIR DRY, OVERWORKED HANDS

Technicians have grown accustomed to the cracking, splitting, dryness and sometimes even bleeding of their hands that results from the demanding nature of their profession, says Jarrett Newman of The Hand Stuff ([www.thehandstuff.com](http://www.thehandstuff.com)), a company that makes all-natural balm for hands. "Technicians fix for a living, yet the greatest asset and tool they have – their hands – are probably in dire need of repair because they're typically neglected, with no real thought given to improving their condition."

Perhaps the single most compelling reason that technicians should care for their hands, she says, is that they "are crucial to their job function. Maintaining hand health allows technicians to work more comfortably and handle any tool in their arsenal more fluidly. That, in turn, allows them to work faster, with greater quality, getting through their workload in less time."

Getting through the workload faster creates opportunities to take on more work, adds Newman, and more quality work means less rework. All of this leads to making more money. "The ability to make money – i.e., the health of the business – is dependent upon the health of employees."



## HELPFUL TIPS

Newman offers these helpful tips to care for and increase the lifespan of the hands to share with your technicians.

1. Always wash hands to remove filth and grime. "It's important to allow your skin to breathe so it can properly function," she notes. "The skin is an organ, after all, and it is the largest one of the body."
2. Be sure to moisturize hands on a daily basis to help repair, protect and soothe to make them feel more comfortable.
3. Whether it's a scrape, burn or puncture wound, make sure to disinfect and bandage. Not only does it minimize scarring, but dressing the wound prevents any sort of irritation from occurring due to contact with harsh or hazardous chemicals and substances. Long-term exposure to harsh and hazardous substances can be disastrous for the functionality of your hands, Newman points out. "Remind technicians that improving the quality of their work starts with their hands," she advises. "Don't fail your hands, invest in them. It will be one of the most comfortable decisions you ever make."



## STAINLESS STEEL HINGES

The **Magnum glasses** from **Gatorz** feature impact-resistant polycarbonate technology, stainless steel hinges and a frame that is both made from 7075 billet aircraft aluminum and adjustable to custom fits. The TRURAY Optics lenses provide 100-percent UV protection and feature anti-scratch coating. The Magnus glasses also include a metal "G" logo and the company's classic four-rivet system.



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## ALSO CHARGES PERSONAL DEVICES

The **Streamlight Super Siege**, a 1,100 lm rechargeable light also functions as an auxiliary USB power source to charge personal electronic devices. Its rechargeable 8,800 mAh Li-ion battery provides up to four full charges for most smartphones and up to eight full charges for most Streamlight USB-rechargeable flashlights. The Super Siege features six output modes, a glare guard and run-times of up to 230 hours, depending on mode. The Super Siege weighs 1 lb, 14 oz with a height of 7-1/2" and a base diameter of 3.8". This light is available in Safety Yellow and Coyote and includes Streamlight's Limited Lifetime Warranty.



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## DESIGNED FOR PAINT AND BODY SHOP TECHNICIANS

The **SABER Exact Match LED Pocket Light**, No. ATD-80450, is a color rendering index (CRI) light designed for paint and body shop technicians to visually examine the color and appearance of automotive coatings and finishes. The high CRI value COB LED provides bright light to aid in matching exact colors. The light offers two settings for varied brightness and run-times, emitting 110 lm on low and 300 lm on high. Featuring 4000-4500K color temperature, the light runs on a 3.7V, 1,000mAh Li-ion rechargeable battery, and a one-minute automatic shutoff prolongs battery life. The light includes four chemical-resistant replacement lenses, a magnetic base that swivels 180 degrees, a lanyard and a 3-in-1 charging system.



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## ROTARY LIFT TECH LIGHT SERIES VIDEO



To watch a video demo of this product, go to: [VehicleServicePros.com/12121742](http://VehicleServicePros.com/12121742)



## DROP-POINT BLADE

The **Snap-on Relay** knife from **CRKT** offers a compact size with a 3.16" drop point blade and a satin finish. This knife, designed by Ken Onion, also offers a liner lock and an IKBS ball bearing system that deploys the blade smoothly and effortlessly. A textured glass filled nylon handle with tire tread grip has a universal design to accommodate various hand shapes. This knife is available in gray (No. SEK80MNKK), or black (No. SEK80MNSK).

Circle 180 on card, or enter at "e-inquiry" on [VehicleServicePros.com](http://VehicleServicePros.com)

## DUAL BRIGHTNESS SETTING

The **Primeline Tools Worklight Xtreme 7 Headlight**, No. 24-960, features 100 lm from a Cree LED bulb. The headlight offers a dual brightness setting, an adjustable elastic strap and an emergency beacon at the rear. This headlight is detachable, can pivot and features a hanging hook. Three AAA batteries are included.

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## WITH ACTIVALOE MOISTURIZING ALOE VERA GEL

**SW Safety Solutions AloeTUFF single use, nitrile gloves** feature ACTIVALoe moisturizing aloe vera gel that soothes dry, chapped skin. These powder-free, 8-mil nitrile gloves also include an absorbent lining and a fully-textured grip for dexterity and safer handling. The AloeTUFF offering also features TouchTek technology, a manufacturing process that removes chemical residue from the glove to further avoid skin irritation or risk of contamination. According to the company, the gloves conform to several global PPE, chemical and environmental standards

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## ADENNA NITRILE GLOVES VIDEO



To watch a video demo of this product, go to: [VehicleServicePros.com/12154153](http://VehicleServicePros.com/12154153)

## U.S. SIZES 15 AND 16

The **Redback USA Easy Escape Oiled Kip Slip-on Boot** is available in a dark, rich brown for U.S. sizes 15 and 16. This New Zealand double-tanned leather is one of the most premium leathers offered by Redback. This boot comes in a steel and non-steel toe, has an easy on/off design and the PU soles are oil/acid slip-resistant for maximum grip on all types of terrain. A two-component TPU Air midsole enhances shock absorption and energy return. The Anatomic Support System cradles the foot to reduce arch sagging and prevents foot, leg and back pain. This style will replace the U.S. sizes 15 and 16 in the Crazy Horse and Puma brown slip-ons.



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## FEATURES THE BULLS EYE SPOT BEAM

The **Coast FL70 headlamp** assists technicians working under the hood or chassis by providing light where it's needed. The Bulls Eye Spot Beam gives technicians a tight, focused spot with a maximum beam distance of 140m (459'), while producing an outer ring of flood light that allows a broader area for added side vision. An oversized power switch and easier-to-grip focusing bezel ensure no fumbling in the dark to turn on or adjust the light, even while wearing gloves. The hinged bezel makes light focusing and beam positioning fast and easy, particularly for upclose tasks, such as changing fluids or tightening nuts and bolts.



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## THREE TOUCHSCREEN FINGERTIPS

The **CLC Safety Viz Pro glove**, No. L145, has reinforced textured palm pads and fingertips for better grip and durability as well as a padded palm and knuckles for added protection. The synthetic leather palm material resists abrasions and tears. The gloves have flexible, bright orange LED polymer strips around rubberized safety cuff, which illuminates in a steady glow or in flash modes. The gloves offer three touchscreen fingertips, padded knuckles and a stretch spandex back. The terry-wipe thumb helps gently remove sweat or debris from face, and the stretch spandex back allows flexibility. The gloves are powered by included, replaceable 3V Lithium batteries (No. 2032).



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## HOW TO SELECT THE PROPER WORK GLOVE

By: Cory Houston, Mechanix Wear

Chances are, some of your technicians have experienced a minor hand injury at one point or another on the job. Some may say it is just part of the job, while others will dive into a tale of survival of how they almost lost a finger – and have the scars to prove it.

Whether it's a small cut, laceration or even an impact injury, all can be prevented with the proper set of work gloves. For your technicians, it means less worry about their hands and more focus on performing the job. For you, as a manager, it means less downtime and medical costs.

It has been estimated that these types of injuries amount to hundreds of millions of dollars per year in lost production time, medical expenses and workers' compensation. According to the latest data from the National Safety Council (NSC), the average hand injury costs \$21,918 – indemnity plus medical expenses.

Second to back injuries, the most recent report from the Bureau of Labor Statistics states 25.3 percent of all work related injuries resulting in days away from work, were hand related.

To read the full article, visit [VehicleServicePros.com/12081206](http://VehicleServicePros.com/12081206)



▲ It is important that technicians are conscious of the hazards present when considering a task specific work glove.

▶ Data from the National Safety Council (NSC) finds that the average hand injury costs \$21,918 – indemnity plus medical expenses.



## COMBINES COMFORT AND PERFORMANCE

The **Wolverine Edge work boot** fuses Wolverine's technologies for combination of comfort and performance; its CarbonMAX toe-cap is lightweight, thin and ASTM approved, while the multi-layer construction of EPX technology conserves and returns energy. The Edge also features Waterproof Plus breathable membrane and hi-vis reflective accents for additional comfort and safety. The boot combines a waterproof nubuck leather upper with moisture-managing mesh

lining to keep water out and feet dry. The CarbonMAX toe-cap uses nanotechnology to create a lightweight and comfortable safety toe that is up to 50 percent lighter than standard steel-toe cap. The new Wolverine Edge boot is available in men's and women's styles.

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## Category Spotlight

Safety Equipment and Personal Gear

### LOW-PROFILE HELMET LIGHT

The **Bayco Nightstick Dual-Light**, No. NSP-4616B, a thin, low-profile helmet light offers separate spot and flood lighting with available brightness to 450 lm. A rear-mounted three-AA battery pack can run the light for up to 10 hours and features a rear-facing crew-finder amber LED for safety. The low-profile design allows users to work without having to remove the headlamp when raising or lowering their face shield. Manufactured from glass-filled nylon polymer and featuring a multi-position tilt head, both the independent spotlight and the independent floodlight use CREE LEDs and an advanced (TIR) Total Internal Reflection lens designed to optimize lumen output and beam pattern. The NSP-4616B is IP-X7 rated waterproof and meets the requirement for NFPA-1971-8.6 (2013).



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### MEMORY FOAM CONFORMS TO FOOT

The **Rocky Hauler boot** delivers comfort to users through the Rocky Rebound Comfort System, which "rebounds" energy and absorbs shock in key impact zones, and through the Rocky EnergyBed footbed, which features memory foam that conforms to the foot. This boot offers a Goodyear welt for added durability and an oil- and slip-resistant rubber outsole. It is available in 6" or 8" heights, and with a soft or composite toe.



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### CONSTRUCTION-GRADE ALUMINUM HOUSING

The **Cat® Lights Dual Beam Tactical Light**, No. CT3410, provides 275 lm of light on top beam and 200 lm on flood panel. With its construction-grade aluminum housing and weather-resistant switch, there's nothing this light can't handle, according to the company. The CT3410 features a magnetic base and pocket clip, making it ideal for hands-free use. The CT3410 runs on three AAA batteries and is 4.5" long.



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### PALM CUSHION TO HELP PREVENT BLISTERING

The **MadGrip Pro Palm glove** offers the MadGrip Injection seamless construction that allows for all day, on-the-job comfort, according to the company. The grip, combined with cushioning on the palm, prevents blistering and hand fatigue while maintaining maximum control of the task at hand. Uses for technicians include, but aren't limited to, all-purpose utility, handling impact tools, tire maintenance and changing, materials handling and metal/glass handling. The Pro Palm gloves also offer reinforcement in critical abrasion areas for extended durability and vibration dampening.



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## TECH-LIFE TECH-LIGHT VIDEO



To watch a demonstration of this product, go to: [VehicleServicePros.com/12196724](http://VehicleServicePros.com/12196724)

## MEGATESTER DEMONSTRATION VIDEO



To watch a video demo of this product, go to: [VehicleServicePros.com/12147365](http://VehicleServicePros.com/12147365)

## MADE OF AUS8 EDGE-RETAINING STAINLESS STEEL

The **Taylor Brands Schrade SCHA11B Shizzle Assisted Opening Liner Lock Folding Knife** features a sleek and rugged design, and it is designed to be durable enough to take on a wide array of cutting tasks. Made of AUS8 edge-retaining stainless steel, the knife offers an ergonomic spine side recurve for leverage and a skeletonized handle design. The SCHA11B comes with a wrench to switch the pocket clip around for tip-up or tip-down carry, as well as left- or right-handed carry.

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## MANY COLORS AND SIZES AVAILABLE

The **Red Kap Motorsports Shirt** features a straight hem and TouchTex technology, which provides technicians with breathable comfort, strong colors and stain resistance. The Motorsports Shirt comes in a striped design and a non-striped design. Both designs feature a pencil stall pocket to keep small tools on hand and color blocking to hide common stains. The striped design provides covered snaps to prevent scratching a vehicle's paint job. These shirts come in an array of colors and sizes.

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# Big-Time Boxes

READERS OFFER A PROUD LOOK AT THEIR AWESOME TOOL STORAGE SYSTEMS.

▶ Carl Adams reads a copy of PTEN magazine near his T3 toolbox truck outfitted with a crane, the longest truck in the company's fleet.



▲ The technicians have everything from hand tools to compressors and parts on the trucks.

OWNER:

Carl and James Adams

Adams Mobile Air  
Terrell, Texas

## Mobile storage set up helps these A/C techs in the field

by Mattie Gorman, Associate Editor

**A**dams Mobile Air, a group of seven mobile A/C field technicians, is owned and operated by Carl Adams and James Adams. The company, which got its start in 2010, services the greater Dallas/Fort Worth area for mobile A/C and heating service, repair and installation on heavy duty trucks and all types of equipment. "We provide the comfort of a climate-controlled cabin for operators of a variety of equipment," says Carl Adams.

Adams Mobile Air has traded in typical shop and wall toolboxes for "a toolbox on six wheels," says Carl Adams. "We run with a 2003 F-550 equipped with two Craftsman seven-drawer toolboxes, a Miller Bobcat 225 welder, dual-tank Kohler air compressor, Victor cutting torch rig with nitrogen regulator, vice and crane."

With a total fleet of six trucks, they purchased the first two trucks with service bodies (T1 and T2) in the first year, following it up with T3 in 2011, T4 in 2013, T5 in 2014 and T6 in 2015. All toolboxes

on T3, the company's longest truck (pictured above), are approximately 20" deep. The front four toolboxes are 24" wide by 39" tall, the center boxes are 31-1/2" wide by 39" tall, the two drop-down boxes are 50" wide by 39" tall to hold the tools, equipment and parts needed to outfit each technician in the field.

"The trucks are stocked with approximately \$8,000 worth of varying A/C parts inventory and supplies. The trucks carry about \$10,000 worth of tools ranging from wrenches, ratchets and sockets, drill bits to gauges, crimpers, drivers, hand tools, welders, generators, vacuum pumps, ladders and so on." He continues, "The truck boxes also carry a wide range of belts, jugs of Freon and nitrogen, an assortment of compressors, hoses, fittings and small parts like O-rings, caps, tape, filters, oil, etc."

Adams says that the air compressor and welder switches they remote mounted into the side of a toolbox help avoid the time and effort it takes to physically climb in and out of the back of the truck. They also installed pneumatic cylinders

on the doors to help vent heat out of the equipment storage area.

Adams adds, "These techs have got to carry just about everything they need to get the job done out in the field every day. The biggest service we offer our customers is the convenience of on-site service calls so our customers don't need to down their equipment and haul it into our shop. This helps (our customers) save time and money. For this reason, we must be prepared for just about any job we are called to do and that is why we need such big boxes to hold all the tools, equipment, parts and supplies our techs need to get the job done for each call out to almost any job site on any given day."

Adams says everyone's favorite part of the toolbox is the crane. "We will let the pictures say the rest." **PTEN**

Want to see more photos of this storage setup?  
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