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The Independent Tool Authority



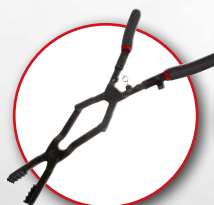
Details on the
cover products
and other new tools
Page 10

ADAS CALIBRATION NEW COVERAGE by Autel



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2019 PTEN Innovation
Awards Nominees, Part 1
Page 36

Tool Briefing:
Back to
(alignment) basics
Page 46



▲ Designed for
long reach



▲ Offers
360-degree
articulation with
the joystick



▲ Allows for
portability and
one-person
operation in the
shop and field



PERFECTING PUSH-BUTTON PUMP PLIERS SINCE 1984



KNIPEX – Tools Designed With Your Hand in Mind

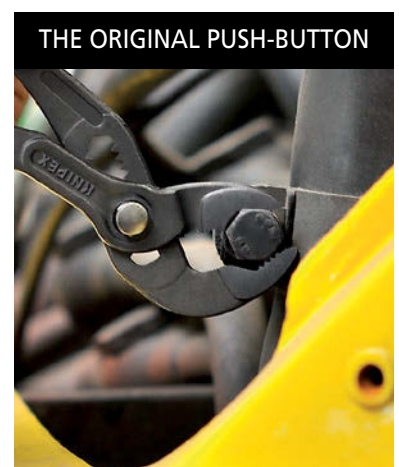
35 years ago, in 1984, KNIPEX released the first design of the now famous Cobra® push-button pump pliers—able to grip any fastener shape *tighter* and stay *locked on* until you let it go! Over the years, the Cobra Pliers have evolved into what they are today—the finest pump pliers you can buy. With more than 23 products ranging in 7 sizes from 5" - 22" and 4 handle styles, we have the perfect tool for any application. When it comes to function, feel and future reliability, professionals prefer the *original* Cobras.

Lock into the legacy—KNIPEX locking push-button pliers.

See a video of this tool: <https://goo.gl/wia8M>

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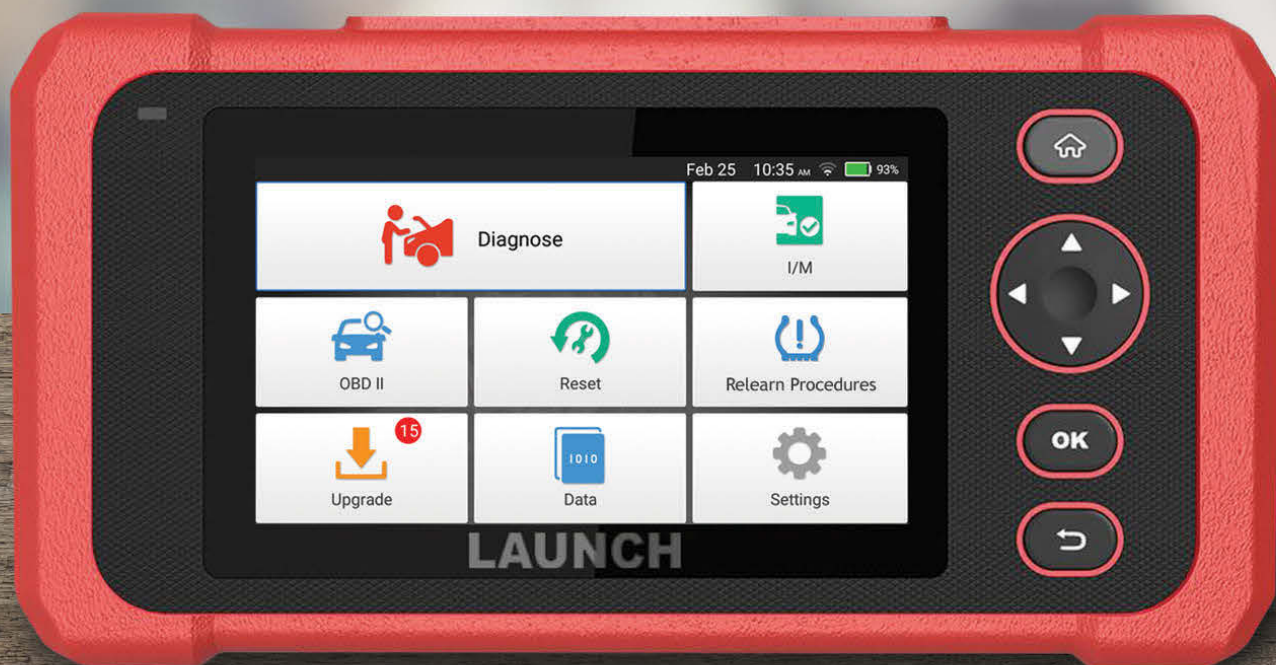


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EXCLUSIVE

36 2019 PTEN INNOVATION AWARDS NOMINEES, PART 1

The Innovation Awards return this year, with close to 150 new products introduced last year.

FEATURES

10 FEATURED NEW PRODUCTS

Check out the new tools from Autel, Lisle, AME International, and Oasis Scientific. Then, read about all the other new products, beginning on page 11.

46 TOOL BRIEFING

Back to (alignment) basics

50 TOOL REVIEWS

Our review panel gives feedback on the following tools:

- KNIPEX Tools CoBolt XL Bolt Cutters
- Ingersoll Rand W7152 and W7252 1/2" Impact Wrench
- Ullman Devices Digital Inspection Mirror E-DM-1
- SP Air Mini High Speed Sealed Flat Head Impact Ratchet



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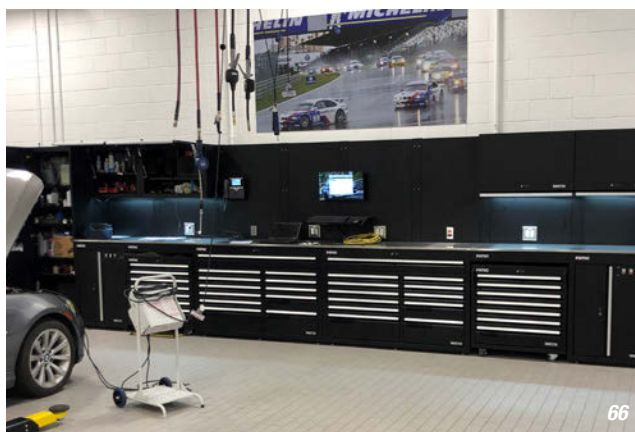
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Connected cars and tomorrow's technicians

54 DIAGNOSTIC DISCOURSE

The right (diagnostic) tool for the job.

58 CATEGORY SPOTLIGHT

This month's section features product information and user tips on Diagnostic Test Equipment. In addition to product details, this section features links to product video demos, reviews and more.

65 MARKETPLACE

66 BIG-TIME BOXES

Owner: Boris Said
Shop: BMW of Murrieta
Location: Murrieta, California

ON OUR COVER



The MaxiSYS ADAS System from Autel



IN THE NEXT ISSUE

Check out the second half of the 2019 PTEN Innovation Awards, as well as our Scan Tool Spec Guide, in the June issue.

ADAS CALIBRATION **AUTEL** NEW COVERAGE

SOFTWARE / TARGETS



6 NEW LDW TARGETS

PACKAGE PART# **LDWTARGET2**



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NEWS



MACS TO HOST AUTOMOTIVE SOFTWARE AND ELECTRONICS BOOT CAMP WITH DR. MARK QUARTO

The Mobile Air Conditioning Society (MACS) Worldwide is

sponsoring the event at the MACS training center in Lansdale, Pennsylvania, September 16-20. To read more, visit: VehicleServicePros.com/21078807

TECH TIP



There are three simple steps to make sure your air line installation is providing the right pressure and that your accessories selection is correct. To read more, visit: VehicleServicePros.com/21078983

GUEST BLOG



When it comes to lifting vehicles with dual rear tires, technicians must be careful not to over-pressurize them during the lifting process. To read more, visit: VehicleServicePros.com/21077388

VIDEO



The Vividia D Series USB Digital One-Way Articulating Borescope has a 4.5mm and 5.9mm diameter camera probe and 1m long insertion tube. To watch the video demonstration, visit: VehicleServicePros.com/21077549

FEATURED PRODUCTS



Ford Valve Spring Compressor
CTA Manufacturing
VehicleServicePros.com/21078121



Portable Scene Light II Streamlight
VehicleServicePros.com/21077623



Crankenstein Jump Starting 12V/24V Power Pack Weego
VehicleServicePros.com/21079007



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VICE PRESIDENT/GROUP PUBLISHER – TRANSPORTATION Larry M. Greenberger
LMG@VehicleServicePros.com

PUBLISHER Kylie Hirko
630-253-4034 Kylie@VehicleServicePros.com

EDITOR Sara Scullin
800-547-7377 x1394 Sara@VehicleServicePros.com

MANAGING EDITOR David Brierley
800-547-7377 x1566 David@VehicleServicePros.com

ASSISTANT EDITOR Tyler Fussner
920-234-6232 Tyler@VehicleServicePros.com

ASSISTANT EDITOR Emily Markham
920-234-6359 Emily@VehicleServicePros.com

ASSISTANT EDITOR Kayla Oschmann
800-547-7377 x1764 Kayla@VehicleServicePros.com

MULTIMEDIA ACCOUNT EXECUTIVE Cortni Jones
800-547-7377 x1391 CJones@EndeavorB2B.com

MULTIMEDIA ACCOUNT EXECUTIVE Diane Braden
800-547-7377 x1364 DBraden@EndeavorB2B.com

MULTIMEDIA ACCOUNT EXECUTIVE Mattie Gorman
800-547-7377 x1636 MGorman@EndeavorB2B.com

INSIDE SALES Kaylee Kidd
800-547-7377 x1362 KKidd@EndeavorB2B.com

PRODUCTION MANAGER Connie Wolf
800-547-7377 x1679 CWolf@EndeavorB2B.com

ART DIRECTOR Eric Van Egeren

LIST RENTAL REP Elizabeth Jackson
847-492-1350 x18 ejackson@meritdirect.com

AUDIENCE DEVELOPMENT MANAGER Debbie Dumke

ENDEAVOR BUSINESS MEDIA

CEO – Chris Ferrell

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Circ.ProfDistmag@omeda.com
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bpetillo@wrightsmedia.com



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Connected cars and tomorrow's technicians

A few takeaways from the ETI ToolTech conference

By Sara Scullin, Editor
Sara@VehicleServicePros.com

It's easy to get so caught up in the day-to-day business that we fail to look ahead. I was privy to some thought-provoking 'big picture' details concerning the aftermarket at ETI (Equipment & Tool Institute) ToolTech.

This year's meeting in Charlotte, North Carolina, recapped some noteworthy shifts happening in the industry.

1. EVERYTHING IS CONNECTED

Connected technology is one such change shaking up the industry. "Connected car" refers to a vehicle having some level of connectivity already embedded in the car; items that help it "talk" to other things in a connected environment.

Kumar Saha, director of research and consulting with Frost and Sullivan, says, "Double digit growth is expected in telematics ... in all global regions." Saha says the majority of vehicles in North America alone will have some level of connectivity by 2025.

Various levels of connectivity already do and will continue to provide services like virtual assistants in cars, infotainment, safety services (eCall), over the air updates, OEM predictive services, and advanced speech recognition. Consider how such changes might affect the touch point with your customers ... and the process of diagnosing a vehicle.

2. YOU CAN'T IGNORE ADAS (ADVANCED DRIVER ASSISTANCE SYSTEMS)

Many speakers talked about the opportunities and challenges that ADAS systems present. I learned that by 2030, nearly 80 percent of U.S. vehicles will have some level of ADAS technology. However, current targets and calibration procedures (static versus dynamic) to service ADAS are non-standardized.

Also consider that there are no OEM standard names for sensors and systems; technicians may find 293 name variations for a "360-degree camera view," for example, including "around view camera," "surround view camera system," etc.

Collision shops technically see sensor issues before the dealer, and very few dealership technicians are properly trained in using this equipment and following a standardized procedure.

I-CAR's Scott VanHulle says the organization (I-CAR) is developing both virtual and online training to help train inter-industry professionals on ADAS, including updated electrical and diagnostics courses.

3. TRAINING IS KEY

While this industry transforms, the number of trained technicians is getting smaller and smaller, says Mark Saxonberg, NASTF (National Automotive Service Task Force) Chairman. The challenge — posed to high schools, trade schools, and industry professionals alike — will be to "grow [our] own" technicians in the coming years, making sure tomorrow's workforce comes armed with entry level skill certifications based on: the ability to perform tasks, apprenticeships and in-service training, and career development.

Finally, don't discount the value of mentorship. Saxonberg points out, "For every dollar you invest in a mentoring program, you get \$1.50 back from the investment." He adds, mentored employees have a 90 percent retention rate, while 30 percent of technicians who were not mentored will look for a new job in the first year.

"Without mentoring, we cannot move from the world of cannibalizing technicians to growing our own," says Saxonberg. **PTEN**



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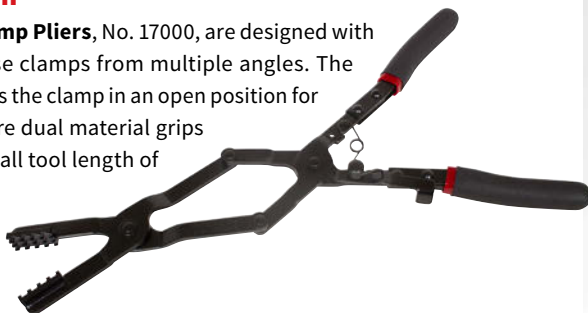
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FEATURED NEW PRODUCTS

Designed for long reach

The **Lisle Long Reach Hose Clamp Pliers**, No. 17000, are designed with cross-cut tips to grip most hose clamps from multiple angles. The ratcheting lock mechanism holds the clamp in an open position for handsfree use. The pliers feature dual material grips for improved comfort. The overall tool length of 17" allows for extra long reach.

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Allows for portability and one-person operation in the shop and field

The **AME International TorqIT** torque gun series is made in the U.S., and was designed to provide high-precision battery-operated torque. Available in four models ranging from 120-3,000 ft-lbs in torque, the TorqIT torque guns are ideal in tire service applications on equipment and vehicles in the commercial and OTR industries. Battery-powered and lightweight, the TorqIT torque gun series allows for portability and one-person operation in the shop and field. The TorqIT batteries are equipped to last approximately 300-500 sequences on a full-charge, and once the batteries run low, can be fully recharged within 60 minutes. The digital programmable screen on each model provides consistent and accurate torque with every use. The TorqIT also features a built-in speaker that emits an audible beeping indicator and additionally provides a visual indicator as the reaction arm backs off the wheel nut as the desired torque is met. Each torque gun is outfitted with a standard reactionary arm, and other styles are available to accommodate a variety of applications.

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Offers 360-degree articulation with joystick

The **Oasis Scientific Vividia ME-610 Automotive Industrial Borescope Inspection Camera** is designed for automotive and industrial inspection and diagnostics. This tool offers a 1m long, 6mm diameter probe with 360-degree all-way articulation controlled by a joystick. The camera is equipped with a sapphire protect lens that is impact, fall and scratch-resistant. The probe is made from titanium alloy with high wear resistance. The ME-10 offers high quality, clear images with LEDs. The Vividia tool is suitable for examining car engine cylinder blocks, valves, piston heads, nozzles, ternary catalytic converters, and evaporation tanks. The ME Series Articulating Borescopes feature three models: ME-610 (without the air cooling channel), ME-610C (with an air cooling channel for compressed air cooling), and the ME-610HT (with air cooling and compact rechargeable pump for hot engines).

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Kicking 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.



The system now has an expanded LDW vehicle coverage upgrade

The **Autel MaxiSYS ADAS System** now has an expanded LDW vehicle coverage upgrade. The LDWTARGET2 Package contains Lane Departure Warning (LDW) calibration targets for Nissan, Mazda, Mercedes Benz, Mitsubishi, and Subaru. The targets in this package are compatible with the Autel MaxiSYS ADAS tablet and other MaxiSYS MS908 tablets with the ADAS software upgrade. The target board holder is required to use these targets and is available via purchase of either the LDWPACKAGE or ADASCOMPLETE Package. A software update on ADAS-capable MaxiSYS tablets is required to utilize this expanded vehicle coverage. A one-year warranty is included with package purchase.

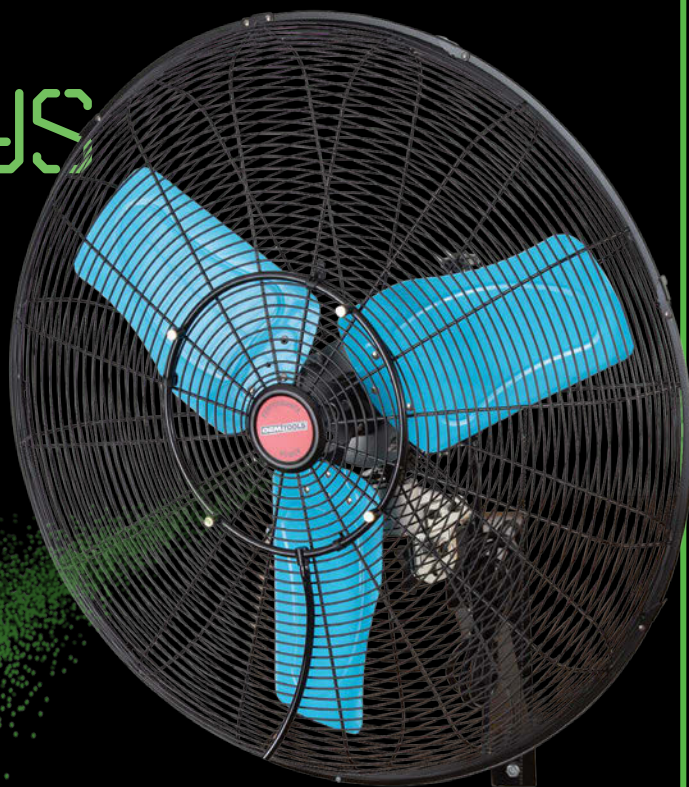
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Designed for a faster evaluation

The **OTC Universal Cooling System Pressure Test Kit**, No. 6977, is designed for a faster evaluation with a universal approach by eliminating the search for the right cap adapter. The hand pump features an easy-to-read pressure gauge with a padded base to prevent vehicle scratches, and a 36" pressure hose with quick-connect. The hose adapters use brass fittings for increased durability and includes a banded spring clamp for easy attachment. Each of the four adapters include a Schrader valve to prevent spray when disconnecting and come in four sizes: 1/4", 5/16", 1/2", and 5/8" in diameter.

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Android based diagnostic scan tool

The **Matco MaxFlex**, No. MDMAXFLEX, is an Android based diagnostic tablet designed to flex three ways to fit the needs of technicians. The unit can be used as an enhanced code reader, can be customized to monthly subscription plans by only paying for the coverage they need, and can be configured to include a software package with annual updates. All three subscription configurations are compatible with Matco's MaximusFix.

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Recyclable and environmentally friendly

The **Airboss Air Tools Twin Hammer Impact Wrench**, No. AW-140P, offers 1,253 ft-lbs of max torque, weighs 4.9 lbs and is 6.54" long. The motor is designed to offer a longer life. This impact is lightweight, and helps reduce the hand pressure needed during use to improve work efficiency. The tool is ergonomically designed, able to sustain high pressure, and is made from green materials that are recyclable and environmentally friendly.

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Designed to remove rusted bolts and pins

The **Mayhew Tools ProPneumatic Pin/Drift Punch Set**, No. 32040, includes five 3" long pins from 1/4" to 1/2" in width. Constructed of shock-resistant alloy steel that is fully hardened and tempered, the tools are designed to easily remove rusted bolts and pins. Each of the punches has a 0.401 Turn Type Parker Shank, are made in the U.S.A., and are backed by a life-time warranty. The black oxide finish helps prevent corrosion and rust for long-lasting durability. For convenience and accessibility, the tools are packaged in a self-contained, reusable storage tray that fits most toolboxes.

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Continuous run for big air jobs

The **Legacy Manufacturing Flexzilla Air Compressor with Silencer**, 460 Volt, 3-Phase, 2-Stage, Vertical, No. FXS10V080V3-460, is designed to operate quietly in the work space. This compressor features the company's Quiet Technology with Silencer noise suppression and operates at noise levels no louder than a normal conversation. The compressor features a large, low rpm pump and motor, 10 HP motor, 80-gal tank, automatic tank drain, continuous run for big air jobs, Cool Flow Technology, and an exclusive six-year parts warranty. This compressor has a max psi of 175.

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Diamond coated tips for improved gripping power

The **GEARWRENCH Diamond Tip Screwdrivers** are engineered with tri-lobe ergonomic handles for improved strength and comfort, and a "speed zone" for fast turning in low-torque applications. The dual-material handle is oil- and solvent-resistant, and the manganese phosphate coated blades offer corrosion resistant. The diamond coated tips provide up to four times the gripping power and reduce cam-out and slippage, the company says. The set of six includes three Phillips-head screwdrivers and three slotted screwdrivers.

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C27S Collapsible Tool Trolley

Offers technicians a unique tool storage unit that collapses for easy transportation or storage. When collapsed, it has a centralized locking system that secures with keys provided. The two center tray drawers slide-out in either direction enabling easy access to tools.



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NEW PRODUCTS



Nylon coated blade

The **Carlyle Tools Tape Measures** are designed for rigorous professional use. All of the tape measures feature a nylon coated blade for added standout and premium rubberized coating around the casing. The top end models feature high-vis tape with graduations on both sides for easy reading vertically and horizontally. Available tape measures include: 16' Self-locking with Speed Mark (No. TMSL16); 25' Self-locking with Speed Mark (No. TMSL25); 25' Self-locking, high-vis, dual foot, double sided measurements (No. TMSL25HV); 25' Power Blade, high-vis, dual foot, double sided measurements (No. TMPB25HV); and 25' Power Blade, high-vis, magnetic foot, double sided measurements (No. TMPB25MT).

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Minimizes saturation in heavy liquid applications

The **Magid TriTek Palm Glove** features a flexible, dual-layer glove coating designed to give users oil grip without saturation. TriTek absorbs oil on the outside, but repels it on the inside to strengthen grip and minimize saturation in heavy liquid and oil applications, the company says. TriTek is designed to offer abrasion-resistance while maintaining dexterity and flexibility. The DX Technology Shell offers an ANSI Cut A4 coreless shell for non-irritating, lightweight comfort.

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Automate and regulate fluid dispenses

Graco Inc.'s Pulse FC Fluid Control System is designed to provide service operations with accuracy and control to automate and regulate fluid dispenses for optimal accountability. This wireless system utilizes the companies SD Series preset meters. With a Pulse FC system starter kit, users can easily convert their SD preset meters to Pulse FC and gain additional control of their fluids. The Pulse FC system's software allows for reporting, providing users with the analysis needed to make informed decisions about scheduling, inventory, and pricing. This gives transparency from the service bay to the back office, allowing decision makers to know what's happening.

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For Skyliift four-post lifts

The **Stertil-Koni High Performance LED Lighting System** for the Skyliift four-post lifting system is designed to increase area-specific under vehicle lighting to improve shop safety and efficiency. This lighting system features: pre-assembled 40" light tubes with transformer and mounting brackets; modular "plug and play system;" slim-line design; IP65 water resistance; and eco-friendly, energy-efficient bulbs.

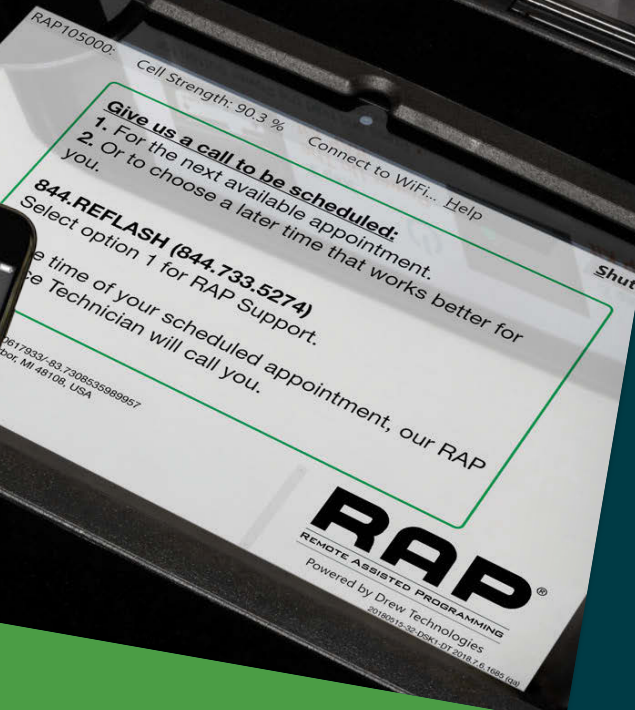
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Offers adjustable cut depth

The **SP Air Adjustable Wheel Cover**, No. 7231AWC, is designed to stabilize the cutting action. This product has an adjustable cut depth, with a minimum depth of 1/8". It protects sub-surface objects such as wiring harnesses, and provides accurate and clean cuts 90 degrees to the surface. This product fits SP Air models SP-7321 and SP-7231R, as well as the Mac branded MAC AT35A.

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Textured surface designed to improve gripping power

The **Eppco Tiger Grip Gloves** feature a raised, full textured surface designed to improve gripping power. These gloves are commercial grade, 8mil thickness, puncture resistant, and latex free. They are available in orange to provide high visibility, and to allow users to see dirt, grime, and grease, helping to prevent transferring it to vehicle interiors and other unwanted places. These gloves are available in sizes small through 3-XL.

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Lightweight and compact design

The **Cal-Van Tools Stretch Belt Installation Tool**, No. 736, is designed to make installing new stretch belts easier and faster. The design helps increase the ease of installation and prevent damage to the belt and pulley. The lightweight and compact design makes this tool suitable for working in tight areas.

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NEW PRODUCTS



Work top flips up for extra storage

The **Monster 36" Green Heavy Duty Professional Cart**, No. MST3605, offers an 800-lb load capacity. The sliding top compartment's inner size is 35.9" wide, 21.7" deep, and 7.7" high. The slide work top surfaces flip up to provide extra storage areas. Four 5" by 2" heavy duty casters enable smooth mobility, and the rounded frame edges help provide dent protection for painted surfaces. The cart offers latching drawers with PVC drawer liners, and includes a one-year warranty.

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VehicleServicePros.com

Folds for storage when not in use

The **Carlyle Tools Folding Mechanics Stool with Cup Holder**, No. 815-1342, offers versatile adjustment and folding. This stool is



suitable for use at workbenches, service desks and work tables.

This product is compact, portable and space saving, with a pivot frame that allows for easy folding when the stool is not in use. The

easy seat adjustment doesn't require tools, and the seat and back are upholstered with wipe-friendly vinyl for easy maintenance.

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VehicleServicePros.com

Make fast and accurate cuts through a variety of materials

The **Milwaukee M12 FUEL 3" Compact Cut Off Tool** is designed for making fast and accurate cuts through a wide array of materials. This tool features a brushless motor that delivers 20,000 rpm. When paired with Milwaukee's Redlink Intelligence and Redlithium XC4.0 Battery pack, this tool has the cutting performance and speed to tackle various materials without bogging down, the company says. It can make 12" cuts in 26 gauge sheet metal in under 10 seconds, according to the company. With reversible blade rotation, users can control where they eject debris and can optimize the blade for the application at hand. Its in-line design offers improved control in cutting applications and improves the line of sight to the material.

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VehicleServicePros.com



Allows independent rear dual wheel rotation

The **Quality Stainless Products (QSP) Tire and Wheel Lift**, No. LM-350, is designed for the heavy duty service industry. Tire and wheel assemblies can weigh as much as 350 lbs, making them difficult for one person to mount and demount. The LM-350 offers an off-center column design that helps improve access to lug nuts, wheel balancers, and tire changers. This unit offers variable speed control for raising and lowering wheel assemblies safely. The dual rollers are designed to allow independent rear dual wheel rotation.

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"e-inquiry" on
VehicleServicePros.com



Keeps power tools organized

The **Beta Tools Utility Work Cart**, No. CX49, is a sheet-metal cart that can be used as a mobile work station. It is designed to keep corded devices and power tools organized while providing a work top for diagnostic tools, battery chargers, or a computer. This work cart features a slide-out keyboard tray and four side cable hooks to keep power cords organized. The four small compartments are suitable for smaller cords. Two swivel casters (one with brake) make the cart easy to move around. The two shelves and the side compartments provide plenty of storage. There is a sturdy handle for pushing and pulling the cart. The empty cart weighs 79 lbs.

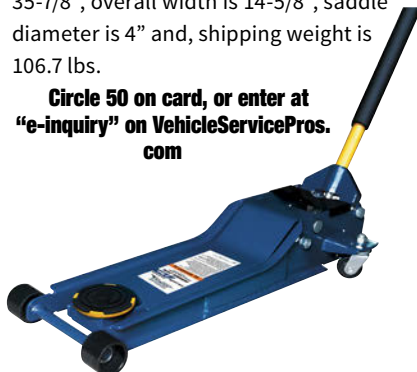
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Industrial grade casters

The **RPG 2-Ton Service Jack** offers a low-profile design with deep reach and a minimum height for low clearance vehicles. The jack offers a 24" maximum height for increased work space, and also features a universal joint mechanism and safety bypass system for cylinder protection. Industrial grade casters are included for easier transportation, as well as a sturdy, one-piece handle. To prevent damage to the vehicle, a foam handle is also included. The handle length is 50-1/2", overall length is 35-7/8", overall width is 14-5/8", saddle diameter is 4" and, shipping weight is 106.7 lbs.

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Helps user retain control of tool

The **Ingersoll Rand QX Series Ergonomic Tightening System (ETS)** delivers short pulses of energy into the fastener during tightening to help the operator retain control of the tool. The motor control algorithm is designed to minimize the average force experienced by the operator, helping to protect the user from injury. This tightening system is available on Ingersoll Rand's QX Series cordless fastening tools in pistol and right angle configurations that range from 1.33 ft-lbs to 59 ft-lbs of torque.

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For cutting plastic components and soft metals

The **KNIPEX Tools 8" High Leverage Angled Flush Cutter** is designed for easy cutting of plastic components and soft metals. The joint design helps this tool require less effort for cutting, because the cutting edge is closer to the rivet. The bevel-free precision cutting edge provides a flush cut. Other features include a 20-degree angled head that provides more space for hands, gripping surface below the joint for gripping and pulling, precision cutting edges, and an opening spring and lock integrated into the handle. This cutter is made from German chrome vanadium electric steel, forged, and oil hardened.

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NEW PRODUCTS

Low profile for use in tight areas

The **SP Air Low Profile Hex Bit Driver**, No. SP-7250H, is lightweight and features a sealed head with low profile for use in tight areas. Use with any 1/4" drive bit and one hand easy to use thumb lever for forward and reverse operation. Also featured is the patented 360 degree rear exhaust.



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Users can easily take pictures and videos

The **Oasis Scientific Vividia D3145 USB Articulating Borescope** has 4.5mm diameter camera probe which is ideal for diesel engines and can be bent from 0 degrees to 180 degrees. The oil and waterproof insertion tube probe is protected by braided metal layers which offer strong abrasion resistance. With a USB connection, the D3145 Digital Borescope can be connected to Windows, Mac, Android devices, and iPhones and iPads (with a separate wireless conversion box). End users can easily take pictures and videos with the free software/app. The D3145 Articulating Borescope is an ideal tool for automotive, diesel engine cylinder, airplane, aviation, manufacturing, and instrument inspections. Vividia's D Series borescopes feature 3 models: the 4.5mm diameter D3145, the 5.9mm diameter D3160, and the 4.5mm diameter 2-way articulating D3245.

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More compact and industrial design

The **Patterson High-5** sports a newly redesigned 43" frame, suited for buildings with lower ceiling heights. It includes an updated clamping mechanism which facilitates easier and quicker installation; place the clamp over the beam and adjust the bolts. The High-5 generates a breeze during the warmer months, producing a 6-8 degree cooling effect, and promotes de-stratification through the colder months, making it a great solution for saving energy on utilities. Available accessories include 2-10' drop rods and purlin kits for easy suspension. 15-Year limited warranty: your choice of the installer still maintains the warranty.

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NEW PRODUCTS

Removes missing and distorted lugnut caps

The **Matco Tools 3-pc Chrome Cap Buster Kit**, No. LT1233, is designed to remove missing and distorted chrome lugnut caps easily. The kit comes in a blow molded case and includes a dual flip 1/2" drive impact socket, and 18.5/19.55mm, 21/21.5mm, and 22/22.5mm sizes.

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Raised textured surface for improved grip

The **Black Mamba Torque Grip Gloves** are designed to offer an enhanced grip and improved protection for automotive technicians. These gloves feature a raised texture on the surface of the glove to provide a more precise grip on tools and parts. These gloves were created in response to customer demand for a disposable glove that was tough enough to withstand the tough tasks of a technician, the company says. These gloves are designed to prevent users from needing to change gloves multiple times due to ripping or tearing.

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Provides easy access to hard-to-reach fittings

The **Lincoln Industrial 48" PowerLuber High-Pressure Grease Gun Hose**, No. 1248HP, is designed to provide easy access to hard-to-reach lubrication fittings. The spring-wrapped hose endings help prevent kinking. The 1248HP fits all PowerLuber grease gun models, the company says.

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809 Sealed Flat Head Ratchet Series

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- 809-SH-5 1/2" 60 ft-lb Maximum torque



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Concave, custom-molded composite tub

The **GEARWRENCH Mechanics Creeper**, No. 86995, offers improved access for low-clearance overhead work applications. The creeper features six smooth-rolling offset TPC (thermoplastic copolyester) casters and a concave, custom-molded composite tub for easy mobility and a lightweight design. Durable EVA (ethylene-vinyl acetate) padding offers comfort with minimum thickness for a lower working height.

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Remove airlocks when refilling the cooling system

The **OTC Cooling System Refilling Gun**, No. 6976, incorporates deep vacuum technology to remove airlocks when refilling the cooling system, eliminating the need for system bleeding and interchanging hoses. With universal attachment onto most radiator and header tanks, the tool allows technicians to pull air out of the coolant system easily while new coolant is added without spills or waste. The integrated vacuum gauge automatically tests for leaks, while the rubber cones suit both passenger and commercial vehicles with no adapter needed.


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For use in precision electronics applications

The **Klein Tools 4-in-1 Electronics Pocket Screwdriver**, No. 32614, is a multi-bit pocket screwdriver. The tool is designed for use in precision electronics applications with four different tips in one tool: #0 and #00 Phillips, and 1/8" and 3/32" slotted. The screwdriver features concealable tips and a pocket clip for convenient everyday carrying between jobs. Other features include a rotating cap for precise control, interchangeable barrel with a short and a long side for greater versatility, and a cushion-grip handle to provide comfort when working on small equipment. Steel bits with heat-treated precision ground tips for greater tool strength, and corrosion-resistant anodized aluminum plated barrel ensures durability.

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USB Flashlight

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Chemical-resistant, nitrile disposable gloves

The **Eppco Lion Grip Gloves** are chemical-resistant, nitrile disposable gloves with a tread style textured surface that is designed to provide better grip and tactile sensitivity. They are commercial grade, 8mm thick, puncture resistant, and latex-free. The gloves come in black to promote non-medical durability and to separate them for automotive use. They are available in sizes medium through XXL.

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Improved spindle assembly, side bars and jaws

The **Wilton Tradesman bench vise** features a fully sealed, one-piece spindle nut assembly, a redesigned spindle assembly with replaceable Tommy bar, a precision machined slide, and machined steel serrated jaw inserts with black phosphate, anti-corrosion coating. This Tradesman version comes in four sizes, with jaw widths of 4 1/2", 5 1/2", 6 1/2", and 8". The 60,000 psi, ductile iron body, jaws, and base of this Tradesman vise are backed by Wilton's Lifetime Warranty.

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Symptom-driven advice in real-time

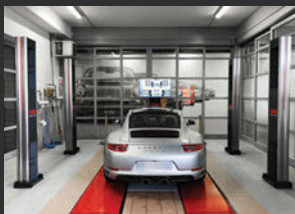
The **Autologic Diagnostics DrivePro** provides customers with a multi-function diagnostic platform that combines Autologic's diagnostic software with technical support from trained master technicians. Users can expect expert guidance and symptom-driven advice in real time, as well as direct communications with software engineers capable of providing software updates. DrivePro also boasts flash programming and code functionality, which allows users to code and program new parts directly via the onboard Autologic diagnostic software or Remote Flash Programming services via EAP.

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Customer Rating
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Snap-On Solus Edge
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YES	WIRELESS BLUETOOTH* CAPABLE	NO
YES	OEM SPECIFIC FAULT CODES	YES
YES	LIVE DATA GRAPHING	YES
YES	FUNCTIONAL TEST & BI-DIRECTIONAL CONTROLS	YES
YES	ANTI-THEFT / KEY DUPLICATION	YES
YES	RESET INSPECTION INTERVAL LIGHTS	YES
YES	RECORD AND PLAY BACK LIVE DATA	YES
YES	STEERING ANGLE AND ELECTRONIC BRAKE SERVICES	YES
YES	PRINTS VEHICLE DIAGNOSTIC REPORTS	YES
YES	WIFI / INTERNET CAPABLE	YES
YES	1-YEAR WARRANTY	YES
INCLUDED	DOMESTIC AND ASIAN VEHICLE COVERAGE	INCLUDED
INCLUDED	EUROPEAN VEHICLE COVERAGE	\$649 ⁰⁰
YES (2)	STYLUS INCLUDED	NO
YES	BUILT IN CAMERA	NO
YES	WEB BROWSER	NO
YES	DOWNLOAD THIRD PARTY APPS	NO

\$1,499 TOTAL COST **\$4,544****
\$599⁹⁹ 1-YEAR SOFTWARE SUBSCRIPTION RENEWAL \$749⁰⁰

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OBD2 WITH ABS/FixAssist®/SRS



ZURICH ZR13

YES	LIVE REAL-TIME ENGINE DATA	YES
YES	FREEZE FRAME DATA	YES
YES	READS OBDII '96 & NEWER COMPATIBLE	YES
YES	BATTERY/ALTERNATOR TEST	YES
YES	OIL LIGHT RESET	YES
YES	BATTERY RESET	YES
YES	ERASE TROUBLE CODES	YES
USA ASIA/EUR	ABS CODES/DEFINITIONS	USA ASIA/EUR
USA ASIA/EUR	AIRBAG CODES/DEFINITIONS	USA ASIA/EUR
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ZR11 Customer Rating ★★★★★
OBD2 WITH ABS

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ZURICH ZR-PRO

The recently released Zurich ZR-PRO professional OBDII scanner is a new state-of-the-art automotive diagnostic tool and tablet designed to give master mechanics the power of sophisticated diagnostics in an easy-to-use tablet – at a fraction of the price of tool truck scanners. The ZR-PRO is an advanced automotive scan tool equipped with all the functions the professional technician needs to diagnose virtually any vehicle by enabling easy communication with a vehicle's most sophisticated systems.



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- www.HarborFreight.com/qz/Zurich



INCLUDES: ZR-PRO Scanner Tablet OBD2, Lithium Ion Battery, 14" OBD2 Extension Cable, OBD2 Bluetooth Adapter, High Quality Carry Case, Password Envelope and Owners Manual & Quick Start Guide

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NEW PRODUCTS

Fully adjustable return speed

The **Macnaught Retracta R3 with RACR** (Retracta Adjustable Control Return) is a hose reel with fully adjustable return speed for increased safety. The patented RACR system utilizes an adjustable hydraulic brake that allows the user to set the speed of return to meet individual requirements. The RACR system is easy to adjust with a screwdriver. Featuring a 10-year warranty, the hose reel has a texture-rolled carbon spring for improved service life. The unit comes standard with overrun protection and a safe tensioning mechanism. It offers a hose capacity of up to 65', and its RetractaFlex hybrid polymer hose eliminates kinking for superior performance.

The polymer hose mouth design provides high wear resistance, and the reel has an integrated handle for convenience. Its wide mounting bracket offers improved stability. The fully serviceable Retracta R3 reel is available in an array of case and hose colors for air, water, oil, grease, and hot water applications. The Retracta R3-RACR Hose Reel is suitable for factory floors, shops, vehicle dealerships, truck and heavy equipment repair facilities, and more.



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Provides 900 ft-lbs of removal torque

Michigan Pneumatic's 1/2" Impact Wrench, No. MP-2144QR, offers power and durability. Part of the Venom Series of impact wrenches, it provides 900 ft-lbs. of removal torque and is built to withstand the harshest environments and demanding applications. The durable aluminum/composite design, rugged twin hammer clutch, and other internal components are engineered and built for heavy use and extended life. This industrial grade impact also offers a one-finger easy forward/reverse switch, handle exhaust for quiet operation, and is available with 2" extended anvil (MP-2144QR-2). For maintenance operations, the MP-2144QR-P offers a pin retainer for positive socket retention. The MP-2144QR's lightweight aluminum and composite design, power, and durability make it ideal for vehicle service and maintenance repair professionals.

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Offers real-time integration into shop management systems

BOLT ON TECHNOLOGY Pit Stop is a professional website platform designed to offer 100 percent real-time integration into the industry's top shop management systems (SMS). Customers can book appointments online, add pending recommendations, and share important vehicle information right on the shop's website, and it will feed directly into the shop's calendar and SMS. With full customization, shops can create a professional, SEO-enabled website that helps improve rankings on popular search engines, including Google, Bing, and Yahoo. Shops can also add photos of services, highlight special incentives, and automatically share their best Google and Facebook customer reviews right on their website.



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Extra-long reach and color coded for quick identification

The **OEMTOOLS Professional Color Coded Extra Long L-Wrench Sets**, No. 24299, feature durable S2 steel for strength and a protective, color-coded satin finish for durability and easy size identification. The drive end chamfered design provides a better grip. Each set comes with a hinged storage case for easy storage and organization. Sets are available in metric, SAE, and star sizes. The metric and SAE hex keys have a ball-end design to reach angles up to 25 degrees. Each is color coded and individually labeled to easily and efficiently identify different sizes.

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Pop up to 3/16" stainless steel rivets

The **Milwaukee M12 Rivet Tool** is designed to simplify the riveting process. This tool rivets up to two times faster and requires 65 percent less muscle effort than hand tools, eliminating the maintenance of pneumatic hoses and compressors, and can pop up to 3/16" stainless steel rivets. This tool uses a scotch yoke mechanism, which allows the tool to deliver more force in a compact and shorter package. The M12 Rivet Tool can pop a range of materials including aluminum, steel, and stainless steel rivets. Redlink intelligence hardware and software integrates full-circle communication between the tool battery and charger to protect them from overloading, overheating, and over-discharging.



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Compact for use in tight spaces

The **Chicago Pneumatic 1/2" Impact Wrench**, No. CP7748, is designed for power, comfort, and durability, and is suitable for workshop or roadside assistance tasks such as tire changing. This impact weighs 4.4 lbs and delivers 960 ft-lbs of power in forward and reverse. The power ring system allows users to use this impact in tight spaces without having to remove the tool to change direction. The tool features a 360 degree swivel air inlet to improve maneuverability. The curved handle uses rubber material at the back of the tool to improve handling and prevent the tool from slipping through dirty and oily fingers.



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Align up to five axles simultaneously

The **Pinnacle Automotive Systems Jumbo 3D Super Alignment System** is an imaging aligner for multiple axle trucks, buses, and trailers. Utilizing imaging technology, the Jumbo 3D Super is ideal for every environment, the company says. With one short runout compensation, users can have alignment readings on all five axles in less than three minutes. With an extensive database, easy to use intuitive software, ability to align up to five axles simultaneously, and an optional car/light truck add on kit, this alignment system is suitable for a variety of shops.

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



Special tool developed for use in tight spaces

The **Wurth USA Limited Edition 31-pc Mini Ratchet Set**, No. 07142019, features the most common short socket wrenches, ratchet wrenches, and bits. The set also includes a special tool developed specifically for use in the tightest of spaces. The tools come in a black "limited edition" surface and are delivered complete in an organized, high-quality presentation box.

Circle 83 on card, or enter at "e-inquiry" on VehicleServicePros.com

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

Direct to metal and immediately paintable

SEM Products, Inc. developed a patent pending solution of **Dual-Mix** heavy bodied seam sealer and ORBiT, the OE ripple bead installation tip. All four colors (gray, beige, black and white) are available as heavy bodied seam sealers, designed with a high viscosity to hold tooling marks. When paired with ORBiT, these products offer a solution for duplicating the hard to match OE ripple bead without any special technique or additional customized equipment.

Circle 84 on card, or enter at "e-inquiry" on VehicleServicePros.com



Designed to tow, mount, or hang

Master Magnetics' 3-in-1 Magnetic Sweeper with Quick-Release is designed to tow, mount, or hang, and works over any terrain. The magnetic sweeper provides a fast clean up, reduces the risk of injury and property damage, and reclaims the use of metal components that it retrieves. It is available in five widths ranging from 48" to 96".

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

Headlamp turns on with motion detection

The **K Tool International 3-watt 120 lm Head Lamps**, Nos. KT173398A and KT173398B, are designed to provide bright, hands-free lighting for a variety of applications. This light offers four operating modes, an adjustable ratcheting headlamp with 180 degrees up or down to direct light beam, and adjustable head strap. The battery pack is in the same space as the light itself, allowing technicians to lay comfortably on their back when accessing the underside of a car. The headlamp turns on with motion detection: just wave your hand or turn your head side to side to light up the work area.

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



NEW PRODUCTS

Features 70 ft-lbs of torque

The **Snap-on 3/8" Drive Super Duty Air Ratchet**, No. PTR72, features 70 ft-lbs of torque output to remove stubborn fasteners. This ratchet can withstand up to 1580 ft-lbs of manual torque. The PTR72 offers 275 rpm of free speed for fast removal and installation of fasteners, and its steel wear bushings help reduce ratchet head wear. This tool includes dual pawls for added strength and "stop lock" pins to prevent ratchet pawl lockup. The tool also has a tip valve-style trigger, making it easy to feather for improved control.



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

Zero runout wheel connection technology

The **Cartek Group Ze-Ru System** is a patent-pending zero runout wheel connection technology



for wheel alignment on medium and heavy duty vehicles. The Ze-Ru clamping mechanism rests on a precise surface provided by the flat area of the rim, helping to eliminate play, deflection, and movement, to eliminate the need for "runout" detection, and make the wheel alignment process more efficient. This system is suitable for a variety of Class 5, 6, 7, and 8 vehicles using different size adapters. This system allows users to obtain wheel alignment ratings in a few minutes, the company says.

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

Equipped with ultra-flexible, tough hose

The **Prevost Flexair Hybrid Hose Assembly**

comes equipped with an ultra-flexible, tough hose, a non-scratch sheet to protect equip-



ment, a high quality plug, and a PREVO S1 quick safety coupler available in various profiles and sizes. The lightweight, easy-to-handle hose is designed to combine the best characteristics of PVC and rubber, and comes fitted with a hose restrictor to help prevent kinking and bending near the connectors. Prevost guarantees the hose for one year under normal wear and tear when used with a Prevost plug. This hose assembly is available in 3/8" and 1/4" ID sizes, with 25', 50', and 100' lengths. The assembly components arrive pre-installed so the user can remove the assembly from the package, plug in, and use.

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

Offers a single piece arbor/cutter construction

The **Blair Equipment Co., Inc. Rotabroach Extended Reach**

Cutters are available in four sizes, which include 3/8", 7/16", 1/2", and 9/16" diameters. The new cutters are also available in a convenient kit that contains all four cutter diameters in a molded plastic case for protection of the tools, plus two pilots and a hex wrench. The Extended Reach cutters feature a single piece arbor/cutter construction and include a spring-loaded pilot for "popping out" the slug at the end of the cut. The cutters provide depths of cut of up to 1/4" with a 0.80" maximum flute length and are made in the U.S.



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

Starts vehicles in below zero temperatures

The **Snap-on Tools 12V Li-ion Compact Engine Starter/USB Charger and Light**, No. EEJP2-1MBK, is ideal for personal use emergency jumps and powerful enough for the shop.

This unit is suitable for power sport, motorcycle, and four- to eight-cylinder vehicles. The tool features on-screen commands to guide the user, and offers safer starting via reverse polarity protection. This unit can start vehicles in below freezing temperatures and includes a bright LED work (or flashing SOS) light and a USB charging port. The internal Li-ion batteries can be charged with AC from the wall or DC from the vehicle, and a safety feature is included for vehicles with less than 1.5V DC.



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

Zinc finish with 3-1/2" grip

The **Lisle Double Ended Clip Lifter**, No. 35460, features a smaller opening designed for lifting the center pin and a wider opening that lifts the fastener from the panel. This tool also works with plastic fasteners, plastic clips, upholstery, or door panels. It offers a zinc finish with a 3-1/2" grip, and the overall tool length is 8".

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Circle 95 on card, or enter at "e-inquiry" on VehicleServicePros.com

NEW PRODUCTS

Designed to make heavy duty frame straightening easier and more efficient

The **Josam Frame Press** is designed to make heavy duty frame straightening easier and more efficient. The Frame Press system is founded on the principle of I-beams cast in the shop floor. Combined with the optional Josam service pit, it makes for the ideal working area for straightening heavy and light trucks, trailers, and buses, the company says. Presses and other tools are anchored to the floor rails, enabling both horizontal and vertical repairs to be carried out. The system works hydraulically, is manufactured in three versions, and includes straightening trolleys, C-clamps, vertical presses and pumps, chain attachments.



Circle 97 on card, or enter at "e-inquiry" on VehicleServicePros.com

Fits any standard size drill

The **Arconic Huck Rivet Shaver** fits any standard size drill and burnishes 5/32", 3/16", and 1/4" shavable rivet heads to leave a clean, solid appearance that closely matches solid or brazier head rivets. Shavable head rivets can be installed in a blind hole where the blind side or back side does not allow access.

Circle 98 on card, or enter at "e-inquiry" on VehicleServicePros.com



Tests 12V batteries and systems

The **Clore Automotive 12V digital battery and electrical systems tester**, No. BA227, features an integrated printer, from SOLAR. Compatible with a wide variety of battery types, the BA227 is designed to test flooded, AGM flat plate, spiral wound, gel cell, start-stop AGM, and enhanced flooded batteries. It features 36" cable leads, replaceable cable ends, and temperature compensation. The tester walks the operator through the testing process, prompting for key pieces of information and guiding the operator from one step to the next. The tester provides assessment of both charged and discharged batteries. Its backlit screen allows testing in all lighting environments. The tester has a 6.5V to 15V operating range and the ability to test batteries from 100 to 1,400 CCA.



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Circle 96 on card, or enter at "e-inquiry" on VehicleServicePros.com



Replace fuel line fittings

The **Lisle 19mm and 22mm Line Sockets**, No. 12320, are designed to replace fuel line fittings on Cummins ISB and ISX engines. The sockets help reduce the possibility of fuel leaks and prevent damage to fitting, fuel rail, and fuel line. The 22mm is used on the ISX Cummins motors and the 19mm is found on 2011 and older diesel engines. These sockets are for use with a 3/8" square drive.

Circle 100 on card, or enter at "e-inquiry" on VehicleServicePros.com

Extended raised height

The **AMGO MR06 Mid-Rise Scissor Portable Lift** is an ideal choice for low ceilings or adding a bay for seasonal increases in business. It provides a good working height for tires, brakes and body repairs. The quick set-up time and extended raised height makes the MR06 optimal for those shops that demand speed and quality in their lifting equipment.

Circle 101 on card, or enter at "e-inquiry" on VehicleServicePros.com



See electrical connection point in dimly lit areas

The **Automotive Test Solutions LIGHTBRIGHT Self-Powered Circuit** uses a super bright LED that allows users to see the electrical connection point in dimly lit areas and make connections using only one hand in tight spaces. The LED is a white light that will not change the color of wiring. The standard banana jack connects to most electronic measuring equipment. The back probe has a replaceable stainless pin. The set includes four colors: yellow, red, green, and blue.

Circle 102 on card, or enter at "e-inquiry" on VehicleServicePros.com

Circle 103 on card, or enter at "e-inquiry" on VehicleServicePros.com

20TH ANNUAL **PTEN** INNOVATION 2019 AWARDS

Each year the *PTEN* Innovation Awards feature the newest and most innovative products introduced to the automotive aftermarket. This year, *PTEN* received 149 product entries – the most entries in a single year to date! We've published the first round of nominees in this section. Stay tuned for the second round of nominees next month in the June issue. For the full list of 2019 nominees with full product details, visit: VehicleServicePros.com/2019IANominees.

NOMINEES PART 1



EZ Red
XLM500 Xtreme Magnetic
Logo Worklight
CATEGORY: Lighting
Circle 104 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Makita
18V LXT Sub-Compact
Brushless 3/8" Square
Drive Impact Wrench,
No. XWT12RB
CATEGORY: Power Tools
Circle 106 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Snap-on Diagnostics
Apollo D8
**CATEGORY: Automotive
Scan Tools**
Circle 108 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Alert Stamping
Weatherproof Reel
CATEGORY: Shop Equipment
Circle 110 on card, or
enter at "e-inquiry" on
VehicleServicePros.com

Legacy Manufacturing
Flexzilla Pro Air Compressors
CATEGORY: Shop Equipment
Circle 105 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Lumax
Extra Long Heavy Duty Quick
Release Coupler, No. LX-1403-XL
CATEGORY: Oil and Lube
Circle 107 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



SP Air
Reversible Flex Head Cut-Off
Tool, No. SP-7231R
CATEGORY: Air Tools
Circle 109 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Bosch
ADS 325 Scan Tool
**CATEGORY: Automotive
Scan Tools**
Circle 111 on card, or
enter at "e-inquiry" on
VehicleServicePros.com





Ullman Devices
Digital Inspection Mirror
CATEGORY: Inspection Tools, Lab Scopes

Circle 112 on card, or enter at "e-inquiry" on VehicleServicePros.com



NEXIQ Technologies
Pocket HD Handheld Scan Tool
CATEGORY: Heavy Duty Scan Tools

Circle 114 on card, or enter at "e-inquiry" on VehicleServicePros.com



SP Tools/Schley Products
Sheppard Pitman Arm Remover
CATEGORY: Tire, Wheel Service

Circle 116 on card, or enter at "e-inquiry" on VehicleServicePros.com



Hofmann-USA
Geodyna 7340 Wheel Balancer
CATEGORY: Tire, Wheel Service

Circle 118 on card, or enter at "e-inquiry" on VehicleServicePros.com



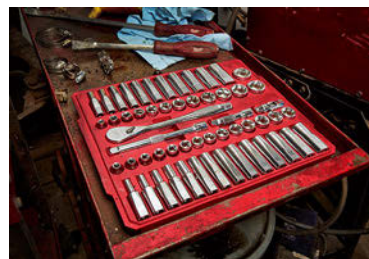
GEARWRENCH
Mobile Work Station
CATEGORY: Tool Boxes & Carts

Circle 120 on card, or enter at "e-inquiry" on VehicleServicePros.com

Snap-on Tools
Polartek Dual A/C Machine, No. EEAC334
CATEGORY: A/C Service
Circle 113 on card, or enter at "e-inquiry" on VehicleServicePros.com



Milwaukee Tool
Ratchet and Socket Sets
CATEGORY: Hand Tools
Circle 115 on card, or enter at "e-inquiry" on VehicleServicePros.com



Rotary Lift
Heavy Duty Two Post Lift, No. SP020
CATEGORY: Lifts
Circle 117 on card, or enter at "e-inquiry" on VehicleServicePros.com



Matco Tools
Maximus 3.0 Diagnostic Scan Tool, No. MDMAX3
CATEGORY: Automotive Scan Tools
Circle 119 on card, or enter at "e-inquiry" on VehicleServicePros.com



Bosch
HDS 250 Heavy Duty Scan Tool Kit
CATEGORY: Heavy Duty Scan Tools
Circle 121 on card, or enter at "e-inquiry" on VehicleServicePros.com



2019 NOMINEES

PART 1



Lisle
Actuator Motor Wrench
Set, No. 64100
CATEGORY: Specialty Tools
Circle 122 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Robinair
17800C Multi-Refrigerant
Machine
CATEGORY: A/C Service
Circle 124 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Thexton
Extended Small Engine
Spark Tester, No. 862
CATEGORY: Specialty Tools
Circle 126 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



**SP Tools/Schley
Products**
Breather Hose Release
Tools, No. 14550
CATEGORY: Specialty Tools
Circle 128 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



**Innovative Products
of America**
Flow-Thru System with Brush
and Venturi, No. 8091
CATEGORY: Shop Equipment
Circle 130 on card, or
enter at "e-inquiry" on
VehicleServicePros.com

Snap-on Tools

Flank Drive Xtra (FDX)
Socket System
CATEGORY: Hand Tools
Circle 123 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



GEARWRENCH

Bluetooth Speaker/Radio,
No. 86997
*CATEGORY: Safety Equipment
& Personal Gear*
Circle 125 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Milwaukee Tool

M12 FUEL Stubby
Impact Wrenches
CATEGORY: Power Tools
Circle 127 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



OTC

Heavy Duty Gear Puller,
No. 6614
CATEGORY: Specialty Tools
Circle 129 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Bosch

BAT 135 Battery Tester with
Integrated Printer
*CATEGORY: Battery
Service Equipment*
Circle 131 on card, or
enter at "e-inquiry" on
VehicleServicePros.com

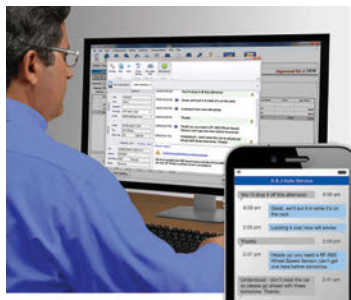




FLIR
ONE Pro LT
CATEGORY: Inspection Tools, Lab Scope
Circle 132 on card, or enter at "e-inquiry" on VehicleServicePros.com



Thexton
Portable Trailer Light Tester
CATEGORY: Electrical Testing Tools
Circle 134 on card, or enter at "e-inquiry" on VehicleServicePros.com



Mitchell 1
Manager SE MessageCenter
CATEGORY: Shop Software
Circle 136 on card, or enter at "e-inquiry" on VehicleServicePros.com



Mueller-Kueps
Wheel Weight Pliers, No. 282 240
CATEGORY: Tire, Wheel Service
Circle 138 on card, or enter at "e-inquiry" on VehicleServicePros.com



WD-40
Specialist Fast-Acting Carb/Throttle Body and Parts Cleaner
CATEGORY: Chemicals
Circle 140 on card, or enter at "e-inquiry" on VehicleServicePros.com



Snap-on Equipment
Heavy Duty Tilt Back Tire Changer, No. EEWH331A
CATEGORY: Tire, Wheel Service
Circle 133 on card, or enter at "e-inquiry" on VehicleServicePros.com



Mighty-Seven
1/2" Drive EZ Grease Series Impact Wrenches, No. NC-4650HB
CATEGORY: Air Tools
Circle 135 on card, or enter at "e-inquiry" on VehicleServicePros.com



KNIPEX
6-1/4" Wire Rope Cutter, No. 95 62 160
CATEGORY: Hand Tools
Circle 137 on card, or enter at "e-inquiry" on VehicleServicePros.com



Mac Tools
Repair Source Diagnostics
CATEGORY: Automotive Scan Tools
Circle 139 on card, or enter at "e-inquiry" on VehicleServicePros.com



General Technologies
Fuel Injection Analyzer, No. GTC605
CATEGORY: Specialty Tools
Circle 141 on card, or enter at "e-inquiry" on VehicleServicePros.com

2019 NOMINEES

PART 1



Carlyle Tools
All-Aluminum 2-Ton
Service Jack
CATEGORY: Jacks and Stands
Circle 142 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Drew Technologies
DriveCRASH
CATEGORY: Body Shop
Circle 144 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Mueller-Kueps
Quick-Lock Razor Scraper
CATEGORY: Hand Tools
Circle 146 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Snap-on Tools
Wireless Pressure Tester,
No. EEPV700-KIT
**CATEGORY: Engine
Service & Repair**
Circle 148 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Lock Technology
Texas Twister Air Hammer,
No. LT855-AH-SK
CATEGORY: Air Tools
Circle 150 on card, or
enter at "e-inquiry" on
VehicleServicePros.com

Milwaukee Tool
USB Rechargeable Rover
Pivoting Flood Light
CATEGORY: Lighting
Circle 143 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Matco Tools
Universal Brake Caliper
Wind-Back Tool, No. BCW6
CATEGORY: Brake Service
Circle 145 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Dill Air Controls
TPMS Hex Nut Removal
Kit, No. 5010
CATEGORY: Tire, Wheel Service
Circle 147 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



GEARWRENCH
Electronic Torque Wrench
with Angle
CATEGORY: Hand Tools
Circle 149 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



H&S Autoshot
Double-Pulse Synergic Multi-
Purpose MIG/TIG/Stick Welder,
No. HSM250
CATEGORY: Welding
Circle 151 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



SPEAKS **SOFTLY** & CARRIES A BIG PUMP



Hush Quiet™ Vertical Rotary-Screw Air Compressor

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NO SUCH THING AS "TOO TALL"



Model shown XPR-10XLS

MRP \$3,860

***FREE SHIPPING**



For technicians challenged to work under a lift all day, common injuries stem from poor working posture and improperly fitted equipment. BendPak's **NEW 10,000-lb. capacity XPR-10XLS** and **XPR-10AXLS** two-post lifts feature over **80 inches of lifting height** to absolutely tower above other lifts. Make all jobs easier and support the long-term health of taller techs. Plus, get the best warranty and after-sale support that only comes with BendPak.

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BP BendPak
Enter 153 at "e-inquiry" on VehicleServicePros.com



Snap-on Tools
Advanced Digital
Multimeter with Free App,
No. EEDM596FK
*CATEGORY: Electrical
Testing Tools*
Circle 154 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Matco Tools
29-pc Hyper-Step
Drill Bit Set
CATEGORY: Specialty Tools
Circle 156 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Mayhew Tools
90-Degree Locking Hose
Clamp Pliers
CATEGORY: Hand Tools
Circle 158 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



CAY Industries
Socket Roll Pro
CATEGORY: Tool Organizers
Circle 160 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Mac Tools
600 lm Inspection
Light, No. MHL600
CATEGORY: Lighting
Circle 162 on card, or
enter at "e-inquiry" on
VehicleServicePros.com

Carlyle Tools
Interior Creeper, No. 815-1337
CATEGORY: Creepers & Seats
Circle 155 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



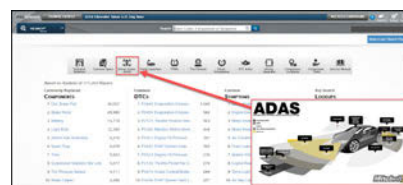
OEMTOOLS
GM Harmonic Balancer
Puller, No. 25264
CATEGORY: Engine Service & Repair
Circle 157 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Pelican Products
Five Series Flashlights
CATEGORY: Lighting
Circle 159 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Mitchell 1
ProDemand Driver Assist
ADAS Quick Link Feature
CATEGORY: Repair Information
Circle 161 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Dent Fix Equipment
AluArc Aluminum Repair
Station, No. DF-900ARC/DX
and DF-900ARC/DXE
CATEGORY: Welding
Circle 163 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



2019 NOMINEES

PART 1



K-Tool International

Car Creeper Seat,
No. KT174906

CATEGORY: Creepers & Seats

Circle 164 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



ProMAXX

Oil Tube Extractor

CATEGORY: Specialty Tools

Circle 166 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Macnaught

BOP20 Battery-
Operated Pump

CATEGORY: Oil & Lube

Circle 168 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



MAHLE

ArcticPRO ACX2280 Refrigerant
Handling System

CATEGORY: A/C Service

Circle 170 on card, or
enter at "e-inquiry" on
VehicleServicePros.com

Monster

Auto-Darkening
Welding Goggles

CATEGORY: Welding

Circle 165 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



BluBird

FastFix Hose Fittings

CATEGORY: Shop Equipment

Circle 167 on card, or
enter at "e-inquiry" on
VehicleServicePros.com

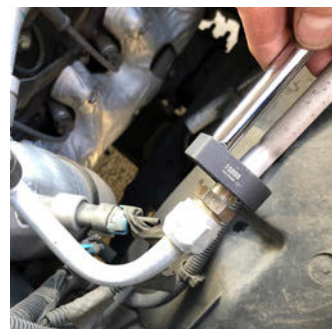


SP Tools/Schley Products

Shouldered Crow Foot
Socket Set, No. 15000

CATEGORY: Hand Tools

Circle 169 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Snap-on Tools

14.4V 1/4" Drive MicroLithium
Cordless Long Reach Ratchet
Kit, No. CTR717,

CATEGORY: Power Tools

Circle 171 on card, or
enter at "e-inquiry" on
VehicleServicePros.com





John Bean
V6200 Heavy Duty Aligner
CATEGORY: Alignment Equipment
Circle 172 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Airboss Air Tools
Twin Hammer Mechanism
Impact Wrench,
No. AW-80T
CATEGORY: Air Tools
Circle 173 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



TEXA
eTruck Telematics Device
CATEGORY: Diagnostics
Circle 174 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Cojali
Jaltest CV Kit
CATEGORY: Heavy Duty Scan Tools
Circle 175 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Wilton
Mechanics Pro Vises
CATEGORY: Shop Equipment
Circle 176 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Snap-on Tools
Heavy Duty Off-Road Creeper,
No. JCWTANK
CATEGORY: Creepers & Seats
Circle 177 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Macnaught
Retractor R3 with RACR
CATEGORY: Shop Equipment
Circle 178 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



CRKT
Technician Tool
*CATEGORY: Safety Equipment
& Personal Tools*
Circle 179 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



Snap-on Tools
10-pc Bearing Race
and Seal Driver Set
CATEGORY: Shop Equipment
Circle 180 on card, or
enter at "e-inquiry" on
VehicleServicePros.com



MAC Tools
High Performance 1/2"
Drive Air Impact Wrench,
No. MPF990501
CATEGORY: Power Tools
Circle 181 on card, or
enter at "e-inquiry" on
VehicleServicePros.com

Back to (alignment) basics

It's important to check for any mechanical issues before picking up a scan tool.

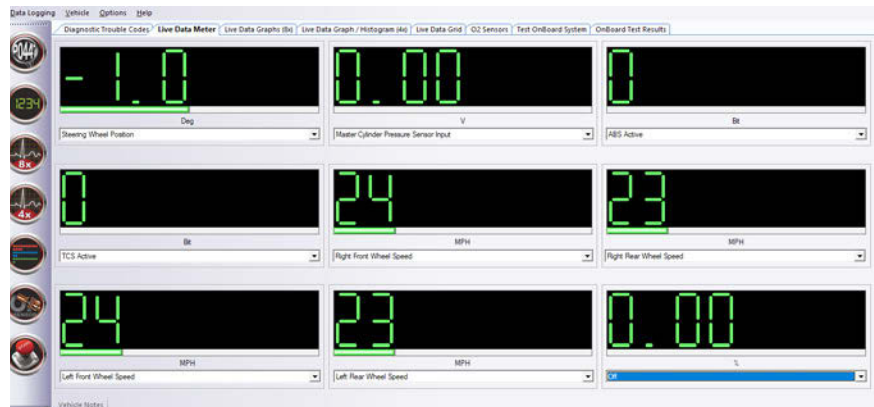
By Barry Hoyland, Contributing Editor

This vehicle came to us after the customer had taken it to two other shops where repairs had been performed. The repairs that were performed were a replacement of the steering gear box, replacement of the power steering pump, replacement of the steering angle sensor, and a front wheel alignment.

When repairs have occurred at other shops, our experience has shown it is best to start our diagnostic process by completely starting fresh, rather than assuming other repair shops test and repair efforts were either correct or complete. As always, the best place to start a diagnosis is to discuss the issue with the customer, then duplicate the issue by driving the vehicle.

Upon driving the vehicle, we experienced all of the symptoms the customer described to us, most predominant was the extra effort the steering took to return to center.

1 DIAGNOSE THE VEHICLE
With all of the electronically controlled systems on today's vehicles, it is extremely important to completely understand which systems are present on the vehicle you are working on, as well as how they could affect the issue it is experiencing. On a 2009 Silverado, there were multiple steering options available, an Electric Power Steering system (EPS) which uses a 42V pump with a rack and pinion, or a Hydraulic Power Steering system (HPS) which uses a hydraulic pump with either a rack and pinion, or a traditional



steering gear box.

The inspection and diagnostic process differs depending on which system the vehicle uses, but with either system a scan tool is a very good place to start. The reason for using a scan tool for an EPS system is fairly obvious because most electronically controlled systems rely on some form of communication to various modules within the vehicle's computer systems, more so with CAN bus equipped vehicles.

Even though HPS systems have been around for many years and have functioned very well without electronic controls, the addition of Antilock Brake Systems (ABS) and Traction Control Systems (TCS), to name a few, have created a need to utilize a scan tool to check for fault codes and data parameter identifications (PIDS) that can affect steering when a problem exists.

This vehicle is an HPS system utilizing a standard steering gearbox rather than a rack and pinion. We connected our scan tool to the vehicle and checked for codes in any of the modules that

▲ This scan tool reading shows each individual wheel speed and the steering wheel position, none of which are indicating a problem.

could cause steering issues. These modules included the Powertrain (PCM), Body (BCM), ABS, TCS, and Electronic Stability Control Systems (ECS). None of the modules showed any current or history codes.

We observed the datastream on the scan tool while operating the vehicle to determine if any displayed PIDS were out of range. The PIDS we were interested in included the steering wheel angle sensor, power steering pressure, and wheel speed sensors. Any of these sensors displaying data out of normal operating parameters could cause the symptoms we were experiencing. None of the sensors showed any indication of an issue.

2 OBTAIN VEHICLE SPECIFIC INFORMATION
Once we checked for codes and had test driven the vehicle to duplicate the issue, we used our **Mitchell 1** database to determine if there were any Technical



VEHICLES AFFECTED:
2009 Chevrolet Silverado

ISSUE: Steering pulls, increased steering effort, does not return to neutral position

Service Bulletins (TSBs) related to our issue. We found numerous TSBs on this vehicle for a multitude of problems related to components being added to the vehicle, including aftermarket components added to the diagnostic link connector (DLC). We checked for any customer modifications and found none.

There was an additional TSB that met some of the conditions we experienced, but not all of them. In cases like this, we have found it worthwhile to check the TSB closer to verify the repair that is listed will not apply to our vehicle. In this case, the repair was to replace a steering column shaft seal that was interfering and causing a rub when the steering column was rotated. We tested the seal for clearance and detected no rubbing, so we felt the TSB was not relevant.

Since we found no TSBs that pertained to this vehicle's issue, we looked up the manufacturer specifications and procedures for alignment and steering angle reset, along with the recommended tire size and pressure.

Part of your alignment process should include checking to see if the proper size tire is on the vehicle, especially with ECS and ABS systems because these systems are calibrated to the "roll out" or total circumference of the tire. We have seen many issues arise on trucks after the owner has replaced the original tires and wheels with "off-road" tires. We checked the recommended tire size and air pressures which were correct.

3 INSPECT THE VEHICLE

Usually the inspection process is part of the diagnosing process, but in the case of most undercar issues it comes after scanning and gathering information. We placed the vehicle on our alignment rack and noticed there was some additional effort required to turn the wheels, even while on the turn plates.

Our first step was to check all of the steering linkage to make sure there were no components binding. All of the linkage appeared to be in good shape with no apparent rust buildup. We then tested the ball joints with a **dial indicator** and

PRO-DEMAND Change Vehicle 2009 Chevrolet Silverado 5.3L Eng 1500

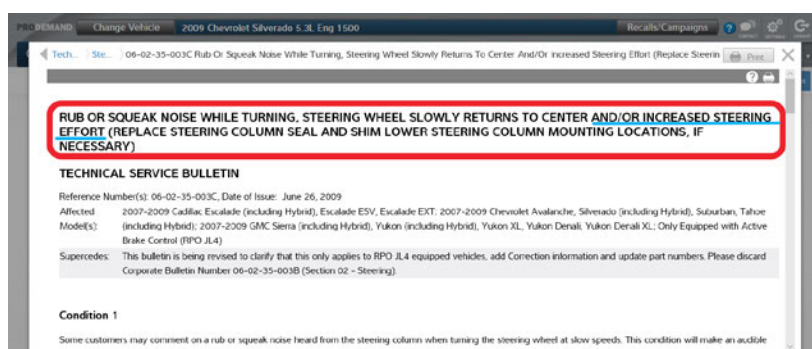
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Print Page

Tire Fitment

Size Description													
Drive Type	Body Style	Vehicle Option	G/W/R (lbs)	Front/Rear/Both	Standard	Optional	Inflation (psi) Front-Rear	Torque (ft.-lbs)	Wheel Base (in) Min - Max	Rim Size	Bolt (# - mm)		
RWD	4D Pickup Extra Cab	LT (20 Inch Option)	6400-6800	B	P275/55R20 1115		30 - 30	140	1339 - 1435	8.5J	6-139.7mm		
RWD	4D Pickup Extra Cab	LT (20 Inch Option)	6400-7000	B	P275/55R20 1115		30 - 30	140	1339 - 1435	8.5J	6-139.7mm		
RWD	4D Pickup Extra Cab	LT (20 Inch Option)	6400	B	P275/55R20 1115		30 - 30	140	1339 - 1435	8.5J	6-139.7mm		
RWD	4D Pickup Extra Cab	LT 4WD	6400-6800	B	P265/70R17 1135		35 - 35	140	119 - 157.5	7.5J	6-139.7mm		
RWD	4D Pickup Extra Cab	LT 4WD	6400-7000	B	P265/70R17 1135		35 - 35	140	119 - 157.5	7.5J	6-139.7mm		
RWD	4D Pickup Extra Cab	LT 4WD	6400	B	P265/70R17 1135		35 - 35	140	119 - 157.5	7.5J	6-139.7mm		
RWD	4D Pickup	LT RWD	6400-	B	P245/70R17		35 - 35	140	119 - 157.5	7.5J	6-139.7mm		

▲ This TSB found in Mitchell 1 ProDemand indicated a possible issue with a steering column seal.



▲ The Mitchell 1 ProDemand Tire Fitment Guide is a sure fire way to make sure the correct tire size and pressures are installed on the vehicle.

other components for excessive play and found none.

Our next step was to disconnect the tie rods from each steering knuckle to determine if the tightness was on one side of the vehicle, or if it was an issue in the steering gear box, steering column, or steering linkage. Make sure you use the correct tool to separate any steering knuckle or tie rod end to avoid damaging components. We like the **OTC 6295** set as it comes complete with all of the tools to fit most cars and light trucks. The left wheel turned from side to side easily, but the right side took considerable effort to turn. We then removed the steering knuckle from the ball joints and found the lower ball joint was extremely difficult to rotate.

4 THE REPAIR

On this model of vehicle, GM used either a cast steel or an aluminum control arm. The cast control arms had replaceable ball joints, and

the aluminum ones require replacing the complete control arm rather than the ball joint. Our vehicle had aluminum control arms, so it was necessary to replace the complete unit.

This brings us to a decision point: Is it necessary to replace the upper *and* lower control arms? Is it necessary to replace *both* the left and right sides? You could make an argument for either just replacing what is necessary to fix the immediate issue, or to replace everything due to all the parts being the same age. You could also go one step further in diagnosing the problem by comparing the ease of movement between new components and the ones on the vehicle.

Whichever choice you make, it is vitally important to advise your customer of your findings and provide them with enough information, along with your suggestion based on the findings and your experience, for them to make the best decision that fits their circumstance. Remember, safety is an extremely

high priority, but it should never be used as a scare tactic to sell repairs.

After we received the customer's approval, we obtained and installed a new upper and lower control arm for the right side and compared the ease of movement of the steering knuckle between the left and right side. Even though we thought the left side moved freely, comparing it with the new parts, there was a significant difference. We then received approval from the customer to replace the left side upper and lower control arms.

Once the control arms were replaced and the steering linkage reconnected, the steering seemed to move much more freely. It should be noted that if the nuts that are used on steering and suspension components do not use a cotter pin to lock them after tightening, they should be replaced. The nuts are designed to be used only once and should always be replaced if they are loosened or removed.

The next step in this repair was to

perform an alignment and steering angle reset. Another note: on late model vehicles equipped with Advanced Driver Assistance Systems (ADAS), after an alignment or steering angle reset has been performed, most vehicles will require a recalibration of the system. We will be discussing ADAS in the next Tool Briefing article.

After the alignment, the vehicle was driven on an extensive road test to verify the original problem of the steering not returning to a neutral position was corrected. The road test confirmed the problem was no longer present.

CONCLUSION

On today's vehicles it is very easy to get "lost" in the electronic world where it seems that all issues are more complex than they really are. I have seen many technicians get wrapped up in thinking the cause of an issue is due to a computer or sensor problem when in truth it was



▲ *Not every suspension problem is as obvious as this broken ball joint.*

due to a mechanical component failure. Don't forget, in order for any electronic system to function, all of the mechanical components that are either controlled, or are used as inputs to sensors, must function properly. **PTEN**

RELATED TOOLS FOR THIS REPAIR



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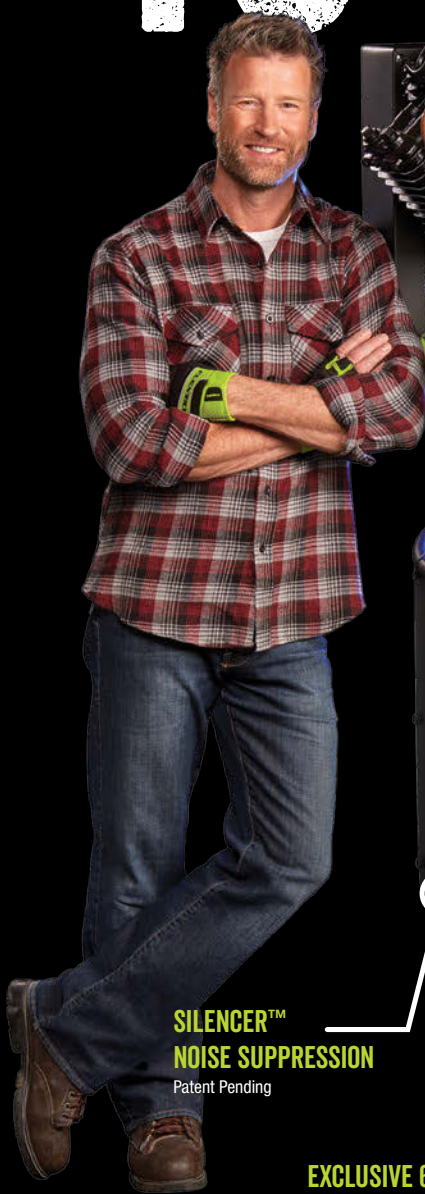


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PRODUCT DESCRIPTION:

The KNIPEX Tools CoBolt XL Bolt Cutters are 10" in length and are available with straight blades (No. 71 01 250) or with a notch (No. 71 31 250) to cut thicker round materials. Features include a high transmission ratio that lowers the hand force needed, requiring 60 percent less effort compared to high-leverage diagonal cutters of the same size, according to the company. Other features include gripping jaws below the joint for gripping and pulling nails and wire. Forged and oil-hardened from German chrome vanadium heavy-duty steel, the tool has induction-hardened precision blades with a cutting edge hardness of approximately 64 HRC.

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KNIPEX Tools

CoBolt XL Bolt Cutters

Versatility and leverage allow this single tool to perform many cutting functions.

by Vesna Brajkovic, Contributing Editor



THE REVIEW:

The ability to do a variety of jobs — and do them well — is an important quality to seek out in a hand tool, especially for shop owners looking at tools to help them perform at a high level while saving time on the job.

Barry Hoyland, shop owner of Vehicle Service Solutions of California (VSSCA) in Las Vegas, and *PTEN* contributing editor, says the KNIPEX CoBolt XL Bolt Cutters allow a “single tool to perform many cutting functions, such as [cutting] small bolts, small metal plate, springs, [hardened steel, and nails].”

The CoBolt XL Bolt Cutters come in two styles: one has a straight blade, No. 71 01 250, and the other has a notch, No. 71 31 250, that allows technicians to easily

cut thicker, round materials.

Hoyland frequently works on police vehicles at his Las Vegas shop, and found both cutters useful while installing radio equipment. He used the cutters to sever the antenna and antenna cable, and to bend small brackets.

The shop owner further noted that the notch design of cutter No. 71 31 250 came in handy when he needed to cut spring coils from a 1/8" diameter spring in order to fit it into a confined area.

“This tool allowed us to easily cut the spring,” Hoyland says. “Larger round

material can be cut easily with the notch at the base of the cutting blade.”

The CoBolt XL Bolt Cutters come packed individually, with no manual or setup required. Hoyland said the hand tools are easy to use, and he is overall impressed with their ability to cut various materials on the job.

“I like the versatility and leverage the tool provides,” explained Hoyland. “The long handle with its compound action offers a lot of cutting power with little effort.” **PTEN**

Ingersoll Rand W7152 and W7252 1/2" Impact Wrench

The power and profile of this cordless impact make it "the best cordless" impact this reviewer has tested.

by Vesna Brajkovic, Contributing Editor

PRODUCT DESCRIPTION:

The Ingersoll Rand W7152 1/2" cordless impact wrench delivers 1500 ft-lbs of 'nut-busting' torque and utilizes an IQv Intelligent Control System to change modes from MAX torque to "hand tight." The tool weighs 7.6 lbs and has an impact- and chemical-resistant housing with patented steel reinforced frame. The impact includes a shadowless LED light ring with task light mode and four light settings with dim options. The Ingersoll Rand W7252 offers a 2" drive extension of this tool. These impacts are also available in kits which include one or two batteries, a charger, and tool bag, Nos. K12 and K22.

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THE REVIEW:

As one of the first to review the newly-released Ingersoll Rand W7152 1/2" cordless impact wrench, Eric Moore of DeMary Truck in Columbus, Ohio, had little to base his review on. At the time, he wasn't allowed to know the name of the tool or what torque power it was rated at.

Even so, just by working with the "super secret" tool, he came out impressed. The tool has taken its spot as the highest rated cordless impact wrench Moore has reviewed.

"This [Ingersoll Rand] impact is hands down the best cordless tool we have tested so far," Moore says. "It has torque that is surprising, and the battery life is astounding. Using this tool, there were only a few times where it needed [to be] supplemented with an air-driven impact."

Besides torque, Moore says the angled nose of about 15 degrees and a short profile allow for better access in

some tight spots.

Additionally, the impact offers a shadowless ring of LEDs to illuminate work areas.

Technicians at DeMary Truck used this cordless impact for a variety of jobs, including removal of wheel nuts on light and medium duty vehicles, suspension service, and exhaust repairs.

"We couldn't kill it," Moore says of the tool's ability to get jobs done.

The only job Moore says he needed a supplemental air-driven tool for was

removing the struts and shocks on a vehicle.

"The [W7152] was doing a fantastic job, but we chose to use the air impact to save the tool from overheating, or damaging the battery by using it for such a high drain task with little to no time in between uses for it to cool off," explains Moore.

Moore notes that when squeezing the impact's trigger, when placed on a fastener for example, the tool doesn't torque the user's wrist, as he's noticed other comparable impact wrenches tend to do.

Another difference between this and other wrenches on the market is the use of pictograms to denote torque setting, rather than numbered settings.

The W7152 Moore reviewed came in a kit, No. K22, including two batteries, a charger and soft sided carry bag.

"No cord, no hose, high torque means less wasted movement that equals time savings," Moore says of the tool. **PTEN**

Ullman Devices

Digital Inspection Mirror E-DM-1

The easy reach into tight spots, paired with user-friendly digital capabilities, makes this a time-saving tool for technicians.

by Sara Scullin, Editor

PRODUCT DESCRIPTION:

The Ullman Devices Digital Inspection Mirror is a smartphone-enabled 720p camera with LED illumination. Users can connect this product to their phone through an app. This product is rechargeable via micro USB port with a 30-minute run-time. Users can increase trust and credibility by showing inspection images and videos to customers, the company says.

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THE REVIEW:

Peering into dark, cramped spaces is made easy with Ullman Devices’ Digital Inspection Mirror, No. E-DM-1, says Matt Fanslow of Riverside Automotive in Red Wing, Minnesota. Fanslow quickly found this tool could be used to inspect “virtually anything” in the shop, and noted it was particularly useful in the cramped quarters of today’s vehicles. The mirror’s size and LED illumination stand out from previous inspection methods, which for Fanslow involved “aiming my camera at a mirror and trying to take a photo.”

This tool takes inspection a step further by offering technicians the ability to quickly upload images and video for further sharing and research. Fanslow appreciates the idea of an adjustable mirror that feeds to a Wi-Fi enabled device for live viewing, along with the ability to capture photos and video.

“It’s essentially a camera mounted on a telescopic rod that mimics the use of a

mirror, but allows you to watch live, as well as snap photos and video. With our cameras, cell phones, and DVI tablets, this lets us get into spaces or take photos from angles we wouldn’t be able to [access] otherwise,” Fanslow says.

In one scenario, Fanslow used the inspection mirror to investigate a power steering leak behind a vehicle’s CV axle and the output shaft of the transaxle on the passenger side.

“You could see [the leak] with a mirror, but you couldn’t take a picture of it,” Fanslow says. “We were trying to show the customer they needed an expensive power steering line. [Utilizing only] the mirror, it was just our word versus being able to show them where the problem was. It always seems to go better when you have photographic evidence.”

The Ullman Digital Inspection Mirror arrived at the shop professionally packed, and the camera was pro-

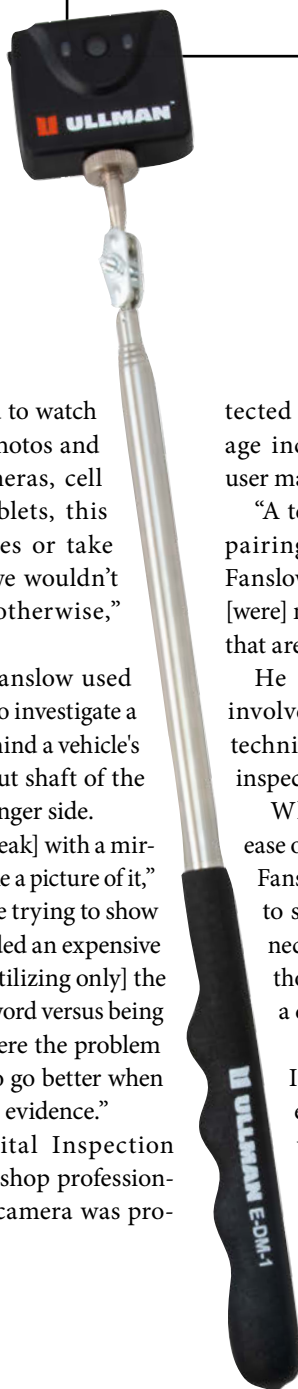
tected with bubble wrap. The package included an easy-to-understand user manual.

“A techie type will have zero issues pairing the devices [using Wi-Fi],” Fanslow says. “[And] the instructions [were] more than adequate to help those that are not quite as tech savvy.”

He adds setup for this product involved very light assembly. Then, technicians simply paired the digital inspection mirror with their device(s).

While the tool’s capabilities and ease of use were notable advantages for Fanslow, down the road he would like to see the product offer more connectivity options, such as Bluetooth, though he says, this is “by no means a deal-breaker.”

Fanslow said the Digital Inspection Mirror was “very easy to use” and saves time with its quick access to hard-to-reach areas and sharp image capture. **PTEN**



SP Air Mini High Speed Sealed Flat Head Impact Ratchet

The reviewer liked the easy reverse functionality and “skinny head” of this air impact ratchet.

by Sara Scullin, Editor

PRODUCT DESCRIPTION:

The SP Air Mini High Speed Sealed Flat Head Impact Ratchet features a patented high speed and sealed head mechanism and is designed to be up to four times faster than a standard ratchet. The tool offers one-handed operation for the forward and reverse lever, and the sealed head helps prevent the spread of the ratchet housing while protecting the tool's functionality from dirt and dust. The Impact ratchet is available in 1/4" (SP-7260RP) and 3/8" (SP-7265RP) sizes.

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THE REVIEW:

When it comes to access in the vehicle repair world, one size does not fit all. Sometimes a new version or size of a traditional tool can go places where previous versions could not.

Reviewer Phil Fournier, owner of Phil's Auto Clinic in Hemet, California, appreciated SP Air Corp's new take on the air impact ratchet. The company's SP-7260RP 1/4" Air Impact Ratchet has upped the speed on this common tool and given the product a sealed head mechanism to protect the tool and help prevent the spread of the ratchet housing. It's got a smaller, more streamlined design and offers one-handed operation for the forward and reverse lever.

Fournier has used many air ratchets in his time; he says the compact size of this one has its benefits.

“Ease of use is a given, but [SP Air] put the reversing switch in a place that makes

it easy to reverse without having it reverse unintentionally – a pet peeve I have with other air ratchets,” Fournier says.

He used the 1/4" air impact ratchet to remove the transaxle on a third generation Toyota Prius.

“Book procedure calls for removal of the engine and transmission first, which is the easier way to do it, but we have found we can do it faster leaving the engine in the car, and this little impact ratchet definitely helped in the tight spaces so commonly found in modern vehicles,” Fournier says, adding, “a 14mm bolt or nut is about the biggest you would want to use [the SP-7260RP 1/4" air impact ratchet] on, and it handles those quite well.”

The tool shipped with a small manual which included simple instructions for using the air impact ratchet.

“The small profile and skinny head is what I liked most,” Fournier says. “It

also has the benefit of not pinning your hand on a stuck bolt like a conventional air ratchet does.” He found the reversing lever was very easy to operate and noted it “does not switch directions when you don't want it to.”

Fournier felt the noise level of the air ratchet could be improved upon and would like to see that refined a little, perhaps by replacing or improving the muffler. *Editor's Note: SP Air notes the SP-7260RP and SP-7265RP are rated 88.1db, well below the OSHA requirements.*

Overall, Fournier found this little air ratchet to be a big help in tight spaces and easy to use.

“This tool is very handy as a time-saver in tight spots, as the head of the impact ratchet is very flat and thin for an air ratchet and will fit into spots where others will not fit, and where one would normally have to use a hand ratchet,” Fournier concludes. **PTEN**





The right (diagnostic) tool for the job

Code readers, scan tools, and crossover products all have a place in the shop.

By **Scott Weaver**, Contributing Editor
gonzosae@aol.com

These days, the scanner is less likely to be a standalone tool in the repair shop. Now it is integrated into the front office and the customer's invoice. Today's technician is asked to provide much more than a clean bill of health to the customer — he or she must also present a well-documented repair order that shows and tells all.

Reading the codes from a tool and describing the results to the customer is only a small part of a repair transaction. As we have all heard more than once, "codes don't fix cars." But it's a good place to start. The real issue is, just how important are those codes? Can you get an accurate repair evaluation just by reading a code number and the description from a handheld code reader?

First, let's first get our facts straight. A code reader is not a scanner, and that teenage kid at the parts store that leaps over the counter like a gazelle with a code reader in his hand is normally not the most highly-trained technician. By the time the customer reaches the shop, he or she will have that little print-out with the code numbers on it, along with a list of parts they have just purchased from the same youngster at the parts store. All of this is based on the fact that a certain part was mentioned in the description of the said code. This is where the separation between code reading and code evaluation begins.

Instead of dwelling on the characteristics of the person reading and interpreting the code, let's take a look at the differences between a code reader and a scanner, and how both are important.

CODE READERS

A basic code reader typically only supports generic trouble codes. Those are codes that have a first numeric digit of "0." If a code is specific to one manufacturer, the first digit will be something

other than "0," such as a "1" or "2," etc. A generic code is a good place to start, and in most cases that's where the capabilities of a lot of the low-end code readers end. Some may offer a short explanation as far as the description of the code, but I've not seen many that can offer real diagnostic information, other than just a basic generic code name or a short version of the code description.

Code readers are popping up everywhere. They are very inexpensive, small and compact, and are generally very reliable in performing the duties they are programmed for. But, be aware they have limitations.

David Bradley, senior product category manager for automotive at Harbor Freight Tools, says, "As vehicles become more sophisticated, so do the repair requirements for those vehicles. While many of the basic diagnostic repairs can be researched using a code reader, the more challenging repairs will require a scanner with good aftermarket vehicle coverage to determine the repairs that are necessary."

While a code reader can help technicians research basic diagnostic issues, more challenging repairs will typically require a scanner with additional features and aftermarket vehicle coverage.

The return on investment associated with a code readers will largely depend on how many diagnostic jobs a shop encounters regularly, and the amount charged for the services. The cost to maintain and/or update the tool

as new procedures are developed is also something to take into consideration. In general, the cost of a code reader may come in anywhere between \$100 and \$1,000, with most code readers falling in the \$300 to \$400 range. Prospective buyers should consider variations on the tool as well, as some are wireless, some are pc-based updatable, and still other code readers work directly with your smartphone.

So, why would a professional shop want to invest in a more basic product to do the work of the expensive scanner with all the bells and whistles on it? That's easy — speed. Let's say it's an early morning and the cars are starting to pile up at the front door. How are you going to sort out which cars should go to which technician, and which car needs to be checked on the scanner for further diagnostics (we're assuming they are not DOA or a repair issue unrelated to code retrieval)? It's simple, check the codes first. Send out your latest fry cook graduate with the code reader and see what you find out. Call it 'triage' for the repair shop.

I asked Autel's Michael Flink, commercial sales manager and trainer for North America, about comparing cost to functions, and this is what he said: "Where cost is a concern, obviously the OE scanners are out. To be able to diagnose [2010 and newer] vehicles will require a top level aftermarket scanner."

He continues, "While they will not 'need' to go as far as one with programming features, they are still going to need all the bidirectional controls and special tests. In most brands this will be one step below their top tool. Dropping down to mid-level scan-

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AUTEL

ners just sacrifices too many abilities needed to diagnose and fix cars in the 'CAN' era."

The use of a preliminary inspection/diagnostics scanner is also a new trend we're finding in the automotive scanning world. These scanners don't exactly code the car and spit out numbers that have no meaning to the average customer. They are merely a great way to quickly scan the vehicle and tell the customer in plain English whether or not any further work with a more specialized scanner is needed. These newer devices can be tied into the shops' existing POS system, and can speed up the process of getting the job sorted out to the right technician in the service bay, as well as offer a timely way of keeping the front office and customer informed of ongoing service.

SCANNERS

There is no doubt today's vehicle repairs almost always involve a scanner for one reason or another. The most common issues are the relearn or flash procedures that need to be carried out after a new part or component has been installed. Another common reason to use a scanner is for the PIDs (parameter Identifications). These PIDs can come in handy for several reasons, such as to check the status of a component or switch, or to evaluate the voltage or current levels.

Another great feature is the 'BIAS' control ability found on a lot of scanners. This allows the user to manually turn a function on or off as needed while performing a test, or as part of a diagnostic procedure.

Now, will a scanner read a code? Most certainly ... and a lot more, too. Some scanners have every function that a code reader will have, but with greater dexterity and control. The ability to go online and connect the scanner to the manufacturer's site for the purpose of finding out a bit more information or programming information is just part of today's ever-evolving scanner capabilities.

Elbert Chen, operation director at

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Electronic Specialties
Code Buddy+ Code
Reader, No. 901
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Bosch Diagnostics
ADS 625 Scan Tool
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Zurich
ZRPRO Professional
OBD-II Scanner
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Autel
MaxiCHECK MX808
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FCAR Tech USA, said it like this: "All the aftermarket professional scanners have their own features. That is why shops [frequently] have more than one scanner. None of the scanners on the market can cover all the makes on a 100 percent, OEM level. Some of them cover GM's better, some cover Ford's better. One-level scan is only working on basic emissions-related diagnostics. Pre- and post-scan reports are

a perfect example; most data in the report is from OBD, but it still needs to have manufacturer-specific data."

You probably already know the major differences between a scanner and a basic code reader. What I think is really important to note is the value in the various types of tools and how you can best utilize them to your advantage and increase your productivity without breaking the bank.

CROSSOVER SCANNER/ CODE READERS AND SPECIAL CONSIDERATIONS

For the professional technician and repair shop there are some crossover code readers/scanners out there that have better than average capabilities. These tools can enhance your first line of diagnostics and speed up the process of getting the right car into the right technician's bay.

Crossover type scanner/code readers have limited capacity and limited access to factory information. But, in a lot of instances you're not after that factory direct information. Maybe all you need is an oil change reset, or perhaps a window initialization procedure. That's where these crossover type scanners are cost effective and perform the job very well.

Of course, the difference in price tags from a basic code reader to a crossover scanner, and then the full-on scanner, can vary widely. What you'll need to do is research the tool you're considering and see if it fits your needs.

A couple of other things to consider are the update and refresh rates on some of these tools. No doubt the cheaper you go the less updates you'll have, if any at all. I prefer the online updatable type. That way, each time I use the tool it has the latest software already loaded and ready to go.

I asked Autel's Flink, "How likely and cost effective is it to maintain the equipment and/or update it as new procedures are developed?"

He said, "[That's] another misunderstood idea. Updates in today's world are not just for new vehicles. With CAN, the car is a network. OE vehicle manufacturers are adding tests and functions to scanners for older vehicles. On top of that, scan tool manufacturers are enhancing and improving their software regularly. This includes not only fixing 'holes' or coverage issues, but making them faster, improving the interface to be simpler, and adding bonus features for easier access or displaying information. Keeping your scanner up-to-date is vital to making it pay off."

Flink says technicians simply cannot

work on vehicles today without a decent scanner. "Think this through carefully: if you don't keep up with the scanning issues in today's vehicles and the needs of today's customers, you're risking an 'Out of business' sign on the door without the investment."

He adds, "A full repair shop must have at least one OE-level aftermarket tool. They can supplement with other good level tools. A shop specializing in under-car work [brakes, tires, front end, etc.] can get away with a good level scanner if it has the bidirectional functions for their specialty [electronic parking brake resets, steering angle reset, ABS bleeding, etc.]. A code reader is only good for quick checks or verification."

Flink says the Autel MX808 is a good example of a multi-purpose tool that can handle a very wide range of tasks. The MX808 or TS608 AutoVIN/AutoSCAN can provide service plus a way to print diagnostic reports.

Service and warranty issues should be considered, too. Buy from a reputable supplier, one you know can make a big difference if any problems arise with the tool. Also, should you encounter any cord or software issues, find out ahead of time whether the supplier or manufacturer can help.

One more thing to add: Those out-of-date scanners still have some value. A lot of times they can be used as a trade-in on a newer model or as a backup scanner. For years I kept an old Monitor4000E around just for those older vehicles that seemed to show up now and then. It was very useful and still worked perfectly, but the cars, well... age and time had put an end to the need for that tool. The cost of repairs versus the condition of the vehicles basically said it was time to shelve that scanner.

All in all, having a handheld code reader, a crossover scanner, and a full-on scanner will make your job a lot easier. Having a variety of these tools also reduces the wear and tear on your main scanner (which, can be a real issue if you only have one and it gets damaged in some way).

What can each level of diagnostic tool offer you and your customers? **PD**



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2 ALL SYSTEM DIAGNOSTICS



AUTOSCAN ALL MODULES

3 TPMS STATUS SCREEN



VIEW ALL SENSOR INFO

TS608 SERVICE RESETS

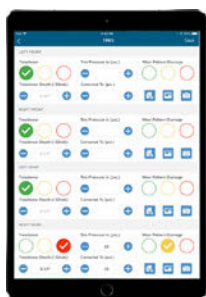


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START VEHICLE INTAKE AND INSPECTION RIGHT AT THE VEHICLE

The **Mitchell 1 SE ProSpect** is a mobile vehicle inspection and

check-in application integrated with the Manager SE shop management software. It is designed to take the system beyond the walls of the auto repair shop to start the vehicle intake and inspection processes right at the vehicle. The user-friendly design makes it easy to find a customer or enter a new customer into the system, then add jobs and perform digital visual inspections with notes and photos, and have those inspections available on the Manager SE work order screen in the office.

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PROVIDES COMPLETE SAE J2534-1 AND J2534-2 CAPABILITIES

The **Drew Technologies CarDAQ-Plus 3** provides complete SAE J2534-1 and J2534-2 capabilities as well as functionality for all vehicle makes and models. Additions to existing device capabilities include faster processors; four CAN channels, including the required three CAN channels to support some 2015 and newer Chrysler applications; and all 2018 and newer applications for R2R Diagnostics as well as future protocol/technology needs such as CAN FD. The CarDAQ-Plus 3 allows aftermarket shops OE level capabilities including Emissions Control Modules for all brands. Dealer-level support includes module configuration, live data display, immobilizer and security tools, non-emission module programming and new module replacement.

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UPGRADED OPEN ANDROID SYSTEM WITH 10.1" TOUCHSCREEN DISPLAY

The **Matco Tools Maximus 3.0 Diagnostic Scan Tool**, No. MDMAX3, is designed to be the fastest and strongest member of the Maximus family. Once technicians scan a vehicle, the information needed to get to the fix can be found in Matco's MaximusFix database. Users will have access to technical service bulletins, flow charts, and wiring diagrams. The unit runs on an upgraded open Android system on a 10.1" touch screen display, so multiple applications can be utilized simultaneously at high speeds. Perform wireless diagnostics with dual-band Wi-Fi and enhanced dual-mode Bluetooth, including read/clear trouble codes, view/graph and record the PID, bi-directional test, coding, and reset.

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INCLUDES "REMOTE TECHNICIAN" FUNCTION

The **CanDo C-Pro Scan Tool** offers full functionality with bidirectional controls, special test functions, and a full suite of activations and service resets. The C-Pro is packaged in an 8" open Android tablet with Bluetooth and Wi-Fi. The tablet is designed to be intuitive and easy to use, and also includes the company's Remote Technician function at no additional charge. This scan tool covers European, Asian, and Domestic passenger cars and light trucks.

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AUTEL MAXISYS MS908S DIAGNOSTIC INTELLIGENCE

The **Autel MaxiSys MS908S** and **MS908SPro** tablets offer hardware upgrades and smarter software coverage to provide faster fixes with detailed repair tips. New features like Pre-SCAN / Post-SCAN Reports and ADAS Calibration Procedures are built to support new industry service in the shop.

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To see a video demo of this product, visit: VehicleServicePros.com/21031634

FEATURES SUPPORT ON DEMAND APP

The **Autoland Sciencetech iscan 3** is designed to make day to day repairs easier, the company says. This tool gives users full control of their scanner for remote guidance, training, or support. The Support On Demand app in the main menu provides support for the user, with a remote pass-through device when licensed OE software is necessary but not available in the shop. When equipped with OE software, the built-in, patented IMS2 and J2534 pass-thru functionality offers expanded coverage.

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DESIGNED FOR ANDROID MOBILE PHONES

The **AutoEnginuity Giotto Android** is a full-featured OE-level scan tool designed for Android mobile phones. The Giotto Android version offers the same features and coverage as the Giotto Windows platform. This tool allows users to scan vehicles with just their smartphone--no dedicated tablet or handheld needed. Giotto Android uses gestures and adopts mobile user interfaces. With the tool's Vehicle Health Mode, the user only needs to tap the start button, and the vehicle selection process is automated with VIN retrieve. If the VIN is not stored on the ECM, the user can use the camera on the phone to decode the barcode. The Giotto Android will completely automate, pulling all the controllers and post that report to a PDF or use JSON output to the secure server.

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AUTOMATED PRE AND POST SCAN REPORT SYSTEM

The **Launch Tech USA Roxie** is a **Pre/Post Scan Robot** that automatically scans all makes, models and modules and emails a Pre/Post scan report to five emails at a time. No human interaction is needed other than plugging it into the OBD II port. Roxie loudly speaks as she calls out each module as it is being scanned.

Roxie utilizes an integral plug and play cellular toggling technology that seeks out the strongest signal from two providers. Roxie doesn't require any Wi-Fi, Bluetooth pairing or Smartphone connection. Roxie is the perfect solution for collision shops requiring a Pre/Post scan report without the need of a trained scan tool technician or reoccurring remote diagnostics service, according to the company.

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COVERAGE FOR MORE THAN 25,000 VEHICLE SYSTEMS

The **Mac Tools MDT 10** is an ergonomically-designed vehicle diagnostic tool that features best-in-class coverage for more than 25,000 vehicle systems. The device features an optically-bonded screen, a rear camera with flash, front camera, dual speakers, and HDMI output to an external monitor. It comes in a rugged tablet that's balanced specifically for one-handed operation. MDT 10 includes a charging/docking station that

allows the technician to work away from the vehicle. Other features include top reported DTC fixes, drive cycles and maintenance reset procedures. MDT 10 is built into an Android chassis. Its 10.4" screen comes standard and provides high visibility even in direct sunlight.

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OEM COVERAGE FOR HYUNDAI AND KIA

In addition to OE coverage for Kia and Hyundai makes, the **G-Scan 2 scan tool**, available from **CAS of New England**, also offers in-depth domestic and European coverage, for coverage on a total of more than 50 vehicle manufacturers. Features on this tool include the integration of an optional five-channel digital scope plus J2534 programming, a 7" 'sun-readable' LCD screen, screen capture, memo function, and fast graphing. The G-Scan 2 has a truly 'integrated' four-trace scope that allows techs to view databus CAN signals directly off the DLC connector cable feeding into the scan tool without the need for a secondary scope or break-out box. The tool also allows for direct measurement of the CAN lines resistance through the DLC cable. Also included are a multimeter and resistance functionality to tie back into troubleshooting of CAN bus network issues for all car lines. The GScan 2 is also fully compliant for reprogramming Hyundai/Kia vehicles via integrated J2534.

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URNS A TABLET INTO A SCAN TOOL

ALLDATA Diagnostics turns any tablet into a scan tool. ALLDATA Diagnostics has a Vehicle Connection Interface (VCI) that attaches to the vehicle's OBD-II port and links wirelessly via Bluetooth to an Android or Windows 10 tablet. This scan tool has ALLDATA Repair or Collision built in, which allows codes to link directly to relevant OEM-direct articles, including interactive color wiring diagrams. Technicians can retrieve and clear manufacturer P, B, C, and U codes. The tool also reads and displays PIDs, providing live sensor data from all modules and vehicle systems, and offers bi-directional component control. ALLDATA Diagnostics offers full system pre- and post-DTC scan reporting with PDF exports, and includes coverage for domestic, European, and Asian vehicles. The tool enables technicians to access system tests, relearns, resets, initializations, and calibrations as supported by the manufacturer. Users can also utilize Drive Test mode to access diagnostic features without being connected to the Internet.

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 - 855-5A - 7" Universal Flat Blade Puller
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 - 855-12A - 6" Double Male 1/2-20 to 5/8-18 Thread Connector
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PRELOADED WITH TWO NEXIQ SOFTWARE APPLICATIONS

The **NEXIQ Pocket HD handheld scan tool** comes preloaded with two NEXIQ software applications: LMT 2016 (for light and medium duty trucks) and the Heavy Duty Standard & OBD II Suite (which supports both J1708 and J1939 communication). Additional Pocket HD software applications are also available for purchase separately. These include the ABS Software Suite, providing support for Bendix ABS systems, as well as support for tractor and trailer brake systems from Meritor WABCO, Wabash National, Eaton, and Haldex. The NEXIQ "All Makes" DPF Regen application (HD/LMT DPF Regen) is also available, giving technicians the ability to run the essential diesel particulate filter (DPF) regeneration procedure for a wide range of manufacturers.

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SAE 1708, 1939 AND OBD GENERIC PROTOCOL SUPPORTED

The **Cojali Jaltest RP1210** standard functionality allows users to utilize the Jaltest Communication Interface hardware with the manufacturer's software. The tool is SAE 1708, SAE 1939, and OBD Generic protocol supported. Upgrades to the Commercial Vehicle Kit can be done through the same VCI, allowing the tool to evolve based on the customers needs. The interface allows entry level technicians to get into diagnostics and then go into full bidirectional controls through the upgrade. The kit includes all necessary connectors and the software.

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FIXING CARS WITH OTC DIAGNOSTICS

The OTC Evolve includes wiring diagrams, available directly on the tool, for vehicles 1986 and newer. The tool also features more than 30 million repairs based on year, make, model, engine, and code. OTC diagnostic tools work with vehicles 1986 and newer with OBD I and OBD II ports. OBD I may require special adapters. Powered by Bosch.

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To see a video demo of this product, visit: VehicleServicePros.com/21034184



IDENTIFY NOISE AND VIBRATION CONCERNS

The **NVH Kit** from **Pico Technology** works with PicoScopes to quickly identify the source of noise and vibration concerns. Sophisticated software quickly pinpoints the source of the problem and the kit can be enhanced with accessories to also allow on-vehicle driveline balancing, according to the company. The NVH Kit is available in the following options based on user needs: Starter Diagnostics Kit (No. PQ126), Standard Diagnostics Kits (No. PQ129), Advanced Diagnostics Kit (No. PQ120), Essential Starter Kit (No. KP249), Essentials Standard Kit (No. PQ123) and Essentials Advanced Kit (No. PQ109).

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GORILLA GLASS SCREEN

The **TEXA USA Axone Nemo** is a proprietary display device that was fully developed in-house, according to military standards for ruggedness and water resistance.

The device runs a full open version of Windows 10 Pro as its operating system allowing additional programs and services to be loaded thanks to magnetic expansion modules. The operating system is supported by an Intel Quad Core processor, 256 GB SDD hard drive, 8 GB of RAM, and boasts two 5MP cameras, in a complete sealed rugged outer shell and topped of with a 12" Gorilla glass screen.



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REPAIR GUIDANCE SOLUTIONS

The **Noregon NextStep** is a troubleshooting and repair guidance solution. NextStep is available as an add-on module for the company's advanced in-shop diagnostic and repair tool, JPRO Professional, or as a

standalone web portal containing searchable repair information. When integrated with JPRO, NextStep allows functions such as viewing live vehicle data, clearing faults and initiating bi-directional tests directly from the application.

NextStep utilizes a component-based database to make repair information immediately available for new vehicles containing components with pre-existing coverage. NextStep provides detailed color-coded wiring diagrams, troubleshooting tasks, and more to improve accuracy of repairs and expedite the overall process.

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DIAGNOSES LIGHT AND COMMERCIAL VEHICLES

The **MAHLE Service Solutions TechPro Diagnostic Systems VDS Combo Kit** includes components to diagnose and repair both light and commercial vehicles. The Combo Kit offers two diagnostic systems in one package, and includes the TechPRO Commercial Diagnostic System, No. VDS1000HD, from MAHLE Service Solutions, powered by JPRO. The VDS1000HD provides more than 54,000 heavy and medium-duty fault codes with detailed OEM level component and trailer descriptions. The second unit is the TechPRO Automotive Diagnostic System, No. VDS1000, a software-based tool that helps analyze, diagnose, and repair light vehicles to maximize technician productivity.



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COVERS ALL MAJOR TRUCKS

The **FCAR Tech F506 HD Code Reader Pro** is designed for truck repair, fleet management, and maintenance staff to have quick and easy access to vehicle electronic control units and all supported sensors. This code reader can read and remove fault codes, analyze live sensor data, and save or export into an Excel spreadsheet. This code reader covers all major trucks, with imported truck OEM level coverage for Isuzu, UD, Hino, Fuso, and OBD-II for all passenger vehicles, the company says.



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GLOBAL OBD-II VEHICLE COVERAGE

The **Zurich ZRPRO Professional OBD-II Scanner** is designed to offer sophisticated diagnostics in an easy-to-use, affordable tablet. The ZRPRO offers Bluetooth wireless connectivity to the vehicle and a fully-functioning Android tablet that includes a high-resolution camera. Other notable features include global OBD-II vehicle coverage that includes most U.S., Asian and European vehicles built after 1996; full health system reporting and live graphing; Auto VIN scan; bidirectional controls; OEM special functions including battery reset procedures, electronic brake caliper release, key fob relearns and more; and built-in DTC code search. The tool is Wi-Fi enabled, with an 8" IPS touchscreen display and convenient web browser that allows users to download third-party apps. The scanner comes in an impact-resistant case



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OFFERS 98 PERCENT COVERAGE

The **AirPro Diagnostics AirPro Scan Tool** uses both OEM and independent proprietary software to wirelessly connect to a shop's existing Wi-Fi or cellular hotspot to help deliver dealership-level pre- and post-repair scanning. The AirPro scan tool connects directly to the vehicle's DLC port. Then, the AirPro ORION Diagnostic Management system can be used to submit scan requests, track and maintain scan reports, and request and store related invoices. This remote diagnostics, calibrations, and programming tool offers 98 percent coverage for vehicle years 1996-2018, according to the company.

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SCANS EVERY MODULE OF THE VEHICLE IN MINUTES

The **CarMD Pro Scan Tool** is a turnkey aftermarket business solution that offers full network scan capabilities. This tool allows users to scan every module on the vehicle in minutes. When the scan is complete, a CarMD Pro Scan report displays an overview of freeze frame, I/M status, network scan results, OBD-II codes, pending DTCs, possible causes, upcoming maintenance, and predicted diagnostics. Dashboard and reporting options allow shops to customize the customer reports with their logo, and offer coupons for upcoming maintenance and service needs. This solution includes Pro 14 hardware, mobile app syncing to transfer data to the repair shop portal, and real-time data with customizable reports.

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CATEGORY SPOTLIGHT

Diagnostic Test Equipment

FEATURES MULTI-LINGUAL MENUS AND INTERFACE

The **Electronic Specialties Code Buddy+ Code Reader**, No. 901, is designed to work with all 1996 and later OBD-II/CAN compliant vehicles. This code reader features multi-lingual menus and interface, and the unit is compact and easy to use. Code Buddy+ can retrieve and clear hard trouble codes and pending codes, display I/M and emissions readiness status, and display MIL status. It features a backlit LCD display and adjustment menus that allow users to set English/Metric measurements, language, and screen contrast.

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TECH TIP



ENABLE WI-FI ON COMPATIBLE DIAGNOSTIC TOOLS TO MAXIMIZE YOUR INVESTMENT

Snap-on wants to ensure that customers who own tools that offer Wi-Fi, including Apollo D8, ETHOS Edge, MODIS Edge, MODIS Ultra, SOLUS Edge, VERUS Edge, VERUS Pro, VERDICT, and ZEUS, have turned it on to receive the full value from their diagnostic tool investment. Instructions for enabling Wi-Fi access are available at www.snapon.com/diagnostics/us/UserManuals, listed under 'Instruction Sheets.' "A Wi-Fi-enabled tool is a powerful tool," said Leian Wunderlich, software marketing manager for Snap-on Diagnostics. To read the full article, visit:

VEHICLESERVICEPROS.COM/21021751

ASK THE EXPERT



HOW TO CHOOSE THE RIGHT SCAN TOOL FOR YOUR SHOP

While scan tools can vary in features,

brands, and price range, vehicle coverage is the foundation. It is important to recognize the types of vehicle models you work on the most and which scan tools best cater to those vehicles. The Bosch ADS tools have best-in-class OE-specific enhanced and global OBD II coverage for the top vehicle manufacturers for cars sold in the U.S. This includes Domestic, Asian, and European brands. Module and system coverage include engine, transmission, ABS, body control, airbag, park assist, traction control, HVAC, instrument cluster, security, and more. To read the full article, visit:

VEHICLESERVICEPROS.COM/21077193

VIDEO



INNOVA PRO FAMILY OF TOOLS

In this video, Innova provides an overview of the Innova Pro family of tools. It features the Innova 5160 CarScan PRO. To watch the video, visit:

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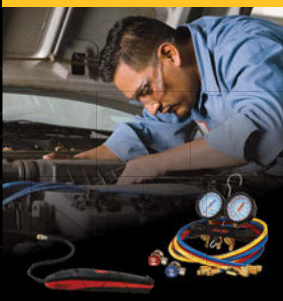
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Sparing no expense

A custom built toolbox for a state-of-the-art facility.

by Stefanie Von Rueden, Assistant Editor

When Boris Said, Owner of BMW of Murrieta, was building his state-of-the-art facility, he knew he needed a top-notch toolbox to fit the space.

"We built a new building, a \$25 million dollar facility," Said says. "We wanted to have the best workshop in America, so we spared no expense when we built our 46-bay workshop."

After researching the different toolbox options available, Said went with a custom built Sonic Tools box specifically designed to fit his shop. The custom workstation is approximately 14' wide and 7' tall.

For Said, this toolbox choice really came down to quality and functionality. "We liked the look, the efficiency, and the amount of storage we could get with this toolbox," Said says. "It's state-of-the-art with rolling carts, and there's a place for everything."

OWNER:

Boris Said

BMW of Murrieta
Murrieta, California

"The rolling cart fits flush with the rest of the box and looks really nice," he adds. "All the other boxes I saw like that didn't have the same quality."

The toolbox is well organized, with like tools grouped in each drawer. Said utilizes Sonic Tools' foam inlays to keep everything neat and tidy. He appreciates the efficiency this system offers, and that it is easily apparent when a tool is out of place. "All of the tools go into custom cutout foam trays," Said says. "Every tool has its own place in the foam."

Said has owned this toolbox for two months, ever since his business moved to the new facility. The business does everything from taking out and rebuilding



▲ Said keeps his toolbox organized, with like tools grouped in each drawer.

motors to changing oil. With a toolbox this size, Said has no plans to upgrade in the future.

"You really can't expand it," he says. "You don't need to expand it."

Sonic Tools recently redesigned and rebuilt their automotive toolboxes, Said says. "Now that they've bought into the auto dealer big toolboxes, I think they've built, first pass, the best one," he says. "And they were really easy to deal with, nice people."

For Said, upgrading his tool storage while upgrading his facility made sense, and he appreciates the organization and overall aesthetic his Sonic Tools box offers. **PTEN**

Want to see more photos of Said's box?
Visit: VehicleServicePros.com/21078409



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