

# PROFESSIONAL DISTRIBUTOR

SEPTEMBER 2022  
VOL. 30 NO. 8

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ENDEAVOR  
BUSINESS MEDIA

## A SAFE BET

In the wake of COVID-19, mobile tool dealers can benefit from having some personal protective equipment on their trucks alongside their usual tools and equipment.

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Most Wanted Page 14

Show Me Your Truck Page 32

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Kevin Vernon, GEARWRENCH distributor

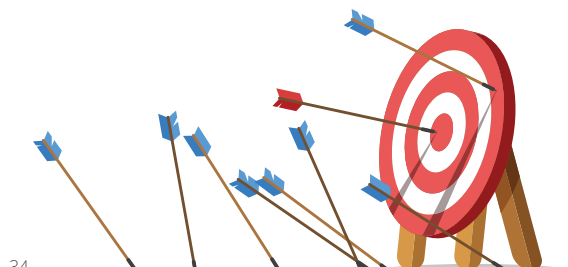
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Learn why independent mobile tool dealer Angelica Platero loves this business and her customers.

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## Is safety top of mind for you?

Staying safe and selling safety can benefit you, your business, and your family.

No, it's not sexy, it's not cool, and it's definitely not the most popular item on your tool truck, but safety is probably one of the most important things you sell. Let's start with the most obvious: Masks and other personal protective equipment (PPE). If nothing else, COVID-19 made us realize the importance of staying safe in our personal lives and especially on the job for essential workers (including automotive technicians). Most of you had masks, gloves, and maybe other PPE on your truck during the pandemic, and this might be a good opportunity to keep some of those items in stock.

It seems like every tradeshow I attend has more and more gloves and steel-toed boots on display. There's also work gear that's breathable, lightweight, and great for hot summers. Plus, many products you sell take safety into account, from ergonomic pliers to toolboxes that reduce physical motion. These are items your customers need. In this month's cover story on page 20, we talk about some of the latest PPE that other mobile tool dealers have had success selling to their customers and offer some useful sales tips.

The article also talks about the importance of ensuring your personal safety on the job as well. This is something that absolutely cannot be overlooked. As I am sitting here writing this, melting in the

hot summer heat, I can't help but think about you all driving around from shop to shop in this weather. Make sure you stay well hydrated (with water, not energy drinks!) and make time for rest stops where you can take a break in a well-air conditioned space (which unfortunately, might not be your truck). Heat stress is a very real concern and can quickly lead to heat stroke if precautions are not taken.

Your safety on the road needs to be a top priority. You work alone, you drive all day, and you are often in remote locations. Someone should always know where you are and where you are heading, so they can seek help if needed. I recently chatted with a mobile tool dealer who told me his customers are always looking out for him. He shared the story of how, not long ago, he was pulled over in a parking lot on the side of the road – not a usual stop – and more than one customer saw him and drove over to make sure he was ok. Now, those are the types of customers we all need.

On a personal note, this is my last issue as editorial director of *Professional Distributor*. Thank you all for welcoming me into the tool dealer world and always being so happy to chat with me at tradeshow. My next adventure is with a non-profit safety association, so please, stay safe out there, for your customers, yourself, and your families. **PD**

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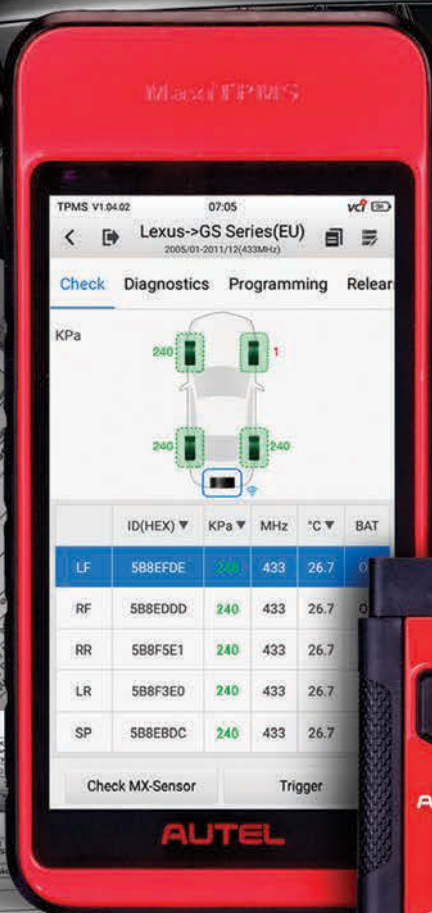
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## Welcome to Sneak Peek!

This section features recently introduced automotive tools and equipment. See new products even before automotive technicians read about them in *PTEN* magazine.



### ADJUSTABLE IN FIVE STAGES

The **Tire Mechanics Resource Air Operated Elevating Heavy Duty Tire Spreader** uses shop air to easily lift and repair large truck tires. The pneumatic lifting table can raise the tire to the ideal inspection and working height. By adjusting the clamp arms and rollers as well as the pneumatic lift table allows the operator to repair all tire sizes (passenger, small and large truck) to perform tire inspection, cutting, buffing, cleaning, patching, and more. The tire spreader is adjustable in five stages with a maximum enlargement at 13.8". It has a maximum elevating height of 26", and features an adjustable light, a movable tool rack, and adjustable clamping arms and tire rollers. ■

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### FOR BOTH WET AND DRY APPLICATIONS

The **Makita 40V Max XGT Brushless Cordless 2.1 Gallon Wet/Dry Dust Extractor/Vacuum**, No. GCV01Z, is designed to provide a cordless solution for a range of applications. It functions in both wet and dry applications, with 148 cfm and 92" water lift for efficient performance. It's powered by one 40V XGT battery, but the two-battery bay will accommodate a second 40V battery for extended run-time. The vacuum has a variable speed control dial for power run-time and includes a 1-1/4" by 5-1/2" anti-static hose, a crevice nozzle with onboard storage, and an aluminum telescoping wand that adjusts to user height and collapses for storage. ■

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### BUILT-IN REGULATOR FOR CONTROL

The **AIRCAT 812-RW 3/8" Impacting Ratchet** provides 80 ft-lbs of maximum torque to handle a wide range of applications. Features include: a 350 rpm run-down speed with a built-in regulator for control, an internal impact mechanism that eliminates torque reaction and risk of finger trapping, and a composite handle grip to increase operating comfort. Additionally, it uses patented muffler technology that operates at 79 dBA, has a push and lock forward/reverse switch, and is made with needle bearing construction for reliability. ■

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### INCLUDES SIZES 6MM TO 21MM

The **CTA 17-pc Deep Metric Socket Set**, No. 1189, includes sizes 6mm to 21mm. With a 120mm length and depth, the sockets provide access to recessed areas with extra long bolts found on valve cover bolts (7mm), diesel glow plugs (10mm, 12mm, 17mm), Benz C-Class (W204) rear bumper covers (10mm, 12mm), BMW N54 twin-turbo valve cover bolts (12mm), BMW E90/92 lug nuts (17mm), BMW spark plugs (14mm), BMW E90/92 clutch bleeder valve (11mm), and Ford 7.3L glow plugs (10mm), and more. Sockets 8mm to 18mm include a 3/8" square drive and sockets 19mm to 21mm include a 1/2" square drive. The set includes two drive adapters: 1/2" to 3/8" and 3/8" to 1/4". ■

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### ABILITY TO TRACK THE TRACTOR AND TRAILER AS SEPARATE ASSETS

The **Hunter Engineering WinAlign 17.1 Software Update** provides two benefits for Hunter Quick Check Drive and Quick Check Commercial unmanned inspection system customers. First, it bridges the gap between passenger vehicle and heavy duty inspection systems by measuring those trucks too heavy or wide for the passenger tread system, but not tall enough for the full HD system. The new configuration allows for medium duty vehicles, such as bucket trucks, to be accommodated on Hunter's Quick Check Drive unmanned inspection system. Secondly, its dual license plate capture gives fleet customers the ability to track the tractor and trailer as separate assets. ■

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### DESIGNED TO HOLD SCREWS, WASHERS, NUTS, AND BOLTS

The **Matco Tools 2-pack 6" Magnetic Collapsible Cups**, No. MM6HCUP2, are designed to hold screws, washers, nuts, and bolts. Features a soft magnet bottom base that holds parts inside the tray, as well as holds the tray to ferrous surfaces. The modular clips allow trays to be connected together in order to create sets for larger projects. The cups are collapsible and expandable for easy storage, are dishwasher safe, and come in a green, red, or orange color. ■

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### ADDED SUPPORT FOR MODEL YEAR 2022 VEHICLES

The **Bartec TPMS Software Update 64.0** is available for Tech500, Tech300Pro/Pro C, and Tech400Pro tools, and software version 4.0 is for Tech450Pro, Tech550Pro, Tech600Pro, and TechRITEPro tools. The latest version offers added support for model year 2022 vehicles, RITE-SENSOR coverage for Hyundai and Kia vehicles, BartecXD coverage (new Ford and GM OBD-II protocols), 902 MHz coverage for key fob testing, and more placard coverage, including coverage for the new Ford pickups. Additionally, it includes Bartec's TPMS Retro Fit Kit setup functionality. ■

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### DEFLECTS AND ABSORBS IMPACTS

The **Magid T-Rex Flex Series Lean Impact Glove**, No. TRX449, is designed to deflect and absorb impacts. It features a machine knit cut A4, 13-gauge Hyperon shell for breathability, comfort, and cut protection. The crinkle latex palm coating offers ideal wet and dry grip, ideal for conditions where oils and liquids might be present so workers can switch from one task to another without changing their gloves. The flat para-aramid reinforced thumb saddle enhances durability at a critical wear point. It also features the Flex Series Lean M-Force Defense System for back-of-hand protection. The glove is touchscreen compatible and machine washable. ■

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### HEAT-TREATED FOR STRENGTH AND DURABILITY

The **ATD Tools 4-pc 1/2" Drive Impact Extension Set**, No. ATD-4864, has been heat-treated for strength and durability. Manufactured using quality chrome-molybdenum alloy steel, the set meets or exceeds ANSI specifications. The 4-pc set includes a 3", 6", 7", and 10" impact extension. ■

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### CUTS, GRIPS, AND TWISTS STAINLESS STEEL WIRE

The **Titan Professional Tools 6" Automatic Safety Wire Twisting Pliers**, No. 60793, are designed to quickly cut, grip, and twist wire to ensure parts stay where they belong. Features a heavy duty return spring and chromed spiral mechanism that twists and tightens wire when pulled. The induction hardened cutting edges slice through stainless steel wire up to .060 gauge, and the locking grip and cross-serrated jaws hold wire securely while twisting. The pliers have precision ground and tapered jaws for easy use in tight spots. ■

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### FEATURES FOUR OUTPUT MODES

The **Milwaukee Tool Redlithium USB Stick Light with Magnet**, No. 2128-22, features four output modes: Front, back, dual, and inspection. Designed with 220 degrees of vertical light head rotation and paired with a slim light blade design and inspection light, the light is ideal for tight spaces, such as working around the engine. The Stick Light is IP54 rated for protection from most chemicals, and is impact resistant for drops up to 6'. Additionally, the light emits 550 lm on high with a run-time of two hours and 250 lm on low with a run-time of five hours. ■

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Watch this product in action here:  
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## PROTECTS WORK AREA FROM MESSY OIL SPLATTERS

The **Lisle Corporation No Splatter Pad with Supports**, No. 38800, protects work areas from messy oil splatters. The porous material of the splatter pad allows fluid to quickly pass through into the pan. The pad material resists engine oil, transmission fluid, coolant, brake fluid, brake cleaner, gear oil, and other solvents. The pad is not for coolants or fluids that will be recycled in the vehicle. Material fibers of the splatter pad may contaminate the fluid. ■

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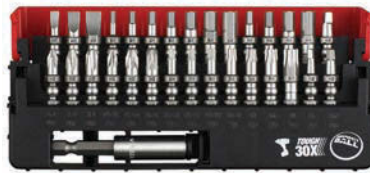


## IDEAL FOR WORKING ON MOST EUROPEAN VEHICLES

The **OEMTOOLS Triple Square Bit Socket 10-pc Set**, No. 22711, is ideal for working on most European vehicles, including BMW, Mercedes, VW, Audi, and Porsche. Bit sizes include M4, M5, M6, M8, M9, M10, M12, M14, M15, and M16. The hard wearing bits are made of heat-treated alloy steel while the reinforced chrome vanadium steel sockets are designed to give extra turning power. The bits have been treated with zinc oxide to prevent rust and corrosion. This set exceeds ANSI standards and comes in a sturdy blow molded case for convenient and organized storage. ■

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**CUSTOMER REVIEW:**  
“This is a high-quality set, with a nice sturdy feeling case. The case slides apart slightly giving better access to the two levels of bits.”



## COMES IN A SLIDE CASE

The **Vessel Tool IMPACT BALL Torsion Bit 30+1-pc Set**, No. IB31P02U, comes in a slide case. The product includes +1, +2, +3, SL4, SL6, SL8, SQ1, SQ2, SQ3, T10, T15, T20, T25, T27, T30, T40, PZ1, PZ2, PZ3, H3, H4, H5, H6, H3/32, H7/64, H1/8, H9/64, H3/16, H7/32, H1/4, and 1/4" hex bit holders with C-ring retainers. The set also features magnetized tips, high wear-resistance, durable bits made from VoHA material, and the highest hardness (62 HRC) created by in-house optimum heat treatment. ■

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## AVAILABLE IN SHORT AND STANDARD DESIGNS

The **Ascot Supply 20-Ton Air/Hydraulic Bottle Jacks** feature a thick base to provide ideal support and stability in severe conditions. The quick connect feature on the air valve allows for an easy disconnect and connection of air hose. The bottle jacks come with compact storage and a 9-3/8" handle. Available in both a short and standard design. The short style has a lift range from 7" to 12-5/8", while the standard style has a lift range from 10-1/8" to 19-7/8". Includes a one-year limited warranty. ■

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## FEATURES A 360-DEGREE, FULLY ADJUSTABLE SIDE HANDLE

The **Ingersoll Rand 2955 Series 1-1/2" Impact Wrench** is designed to deliver heavy duty power, durability, and productivity. The 2955 Impact Wrench produces 4,500 ft-lbs of maximum reverse torque powered by a finely-tuned, warm-forged twin-hammer impact mechanism. Steel hammer case with aluminum motor housing and handle provide durability, while steel endplates resist wear. The auxiliary handle allows the tool to be configured for the operator or application. The handle is fully adjustable to any orientation around the hammer case body, allowing the tool to reach into confined bolt locations or fit to the most user-friendly position, reducing operator fatigue. ■

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## ATTACHES TO ANY POWER-DRIVEN TOOL

The **Ken-Tool Rust Rhino Hub Cleaning Tool**, No. 30267, attaches to any power-driven tool (pneumatic, electric, or battery). It's capable of accepting a 1/2" square drive and has a maximum rotation of 4,000 rpm. The tool is designed to quickly clean the lug stud and mating surfaces of truck wheel components, ensuring proper torque can be applied and proper clamping force is achieved. The kit includes one additional Rust Rhino Cleaning Head and one extra inner cleaning brush attachment. ■

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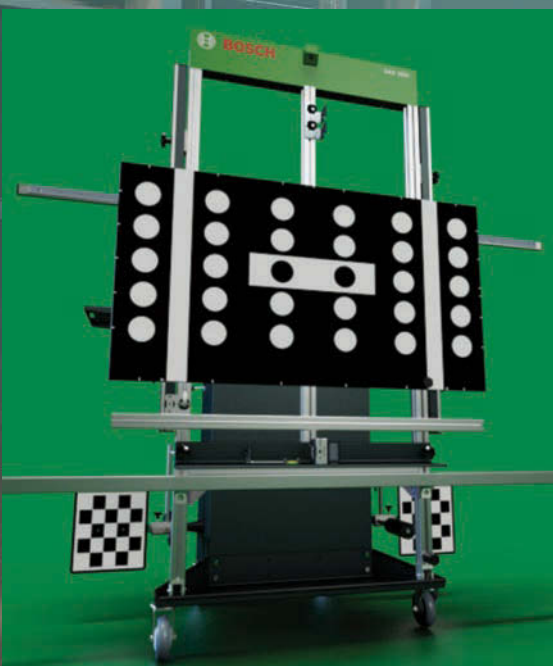


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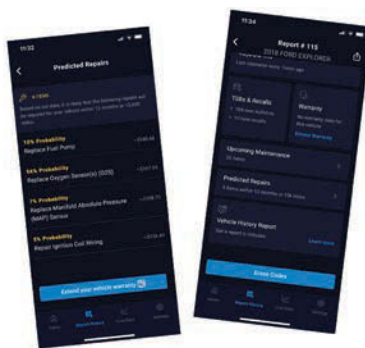
Test, analyze and diagnose your vehicle electrical and mechanical systems.



## EACH TOOL MEASURES 5" IN LENGTH

The **Mayhew Tools 4-pc Micro Hook and Pick Set**, No. 31098, includes a straight pick, 90-degree bent pick, dual angle pick, and a micro hook. Made in the U.S.A. and backed by a lifetime warranty, the hook and picks measure 5" in length, making them ideal for easy access into tight spaces and/or providing leverage in close quarters. Each tool features a handle made from high-tensile strength Nylon 6 material, enabling them to withstand abrasions and damage. With their small size, the tools can easily maneuver around obstacles and retrieve various components, such as hoses, moldings, clips, clamps, seals, O-rings, cotter pins, and gasket. ■

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## OFFERS FUNCTIONALITY FOR NON-TOOL OWNERS

The **Innova RepairSolutions2 App Update** now offers functionality for individuals without Innova OBD-II scan tools. Users without an Innova scan tool can skip the "pair tool" function and just enter the vehicle's VIN and mileage. For users with an Innova scan tool, the user experience has been updated, including easy-to-understand error code data and updates to the live data information. The updated app also features icons with brighter colors to indicate vehicle status; an option to quickly change which vehicle is being viewed; and a more customizable dashboard. The app can be downloaded for free from the Apple app and Google Play stores. ■

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](http://VehicleServicePros.com)



## INCLUDES SEVEN ENERGY-EFFICIENT MODELS

The **Cool Boss Portable Evaporative Air Coolers Line** includes seven energy-efficient models designed to cost-effectively keep workers cool and safe from heat-related injuries. All Cool Boss air coolers are equipped with oversized pumps and fan motors, as well as automatic low-level shutdown valves to prevent pump burn-out. The Cool Boss lineup consists of two series. The four COOLBREEZE portable air coolers are compact and feature automatic swing louvers to provide complete control over where the chilled air goes. The larger COOLBLAST commercial-grade models have fixed louvers for precise directional cooling. All units have a soft-touch LED control panel. ■

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](http://VehicleServicePros.com)



Watch this product in action here: [VehicleServicePros.com/21276966](http://VehicleServicePros.com/21276966)



## FITS THE PALM OF A USER'S HAND

The **Bosch 12V Max Brushless 3" Angle Grinder**, No. GWS12V-30N, features a compact design to make quick, difficult cuts in tight spaces. It produces 19,500 no-load rpm at 1.5 lbs (not including battery). The grinder was engineered to fit the palm of a user's hand, for ergonomics and control. Its spindle-lock design provides fast wheel change; simply pull the locking clip and unscrew the spindle screw. The grinder has restart protection to help prevent accidental start-up and overload protection to reduce the risk of the motor overloading or overheating. It also features fast braking time, stopping the wheel after the grinder is turned off. ■

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](http://VehicleServicePros.com)

**CUSTOMER REVIEW:**  
 “Awesome little tool, very lightweight and easy to use. Only downside is no LED light, so a bit sub-optimal for low light conditions. Nice powerful, brushless motor and nice pivoting guard too.”



## INSTALLS THE FRONT SEAL AND WEAR SLEEVE

The **OTC Front Seal Installer**, No. 5863, is designed to install the front seal and wear sleeve on select Navistar VT and MaxxForce engines. Includes a seal installer cup and pilot, a hex nut, a washer, a thrust bearing, and two socket head cap screws. The products dimensions are 7.2" width by 5.8" depth by 5.8" height, and weighs 4.5 lbs. Made in the U.S.A. ■

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](http://VehicleServicePros.com)



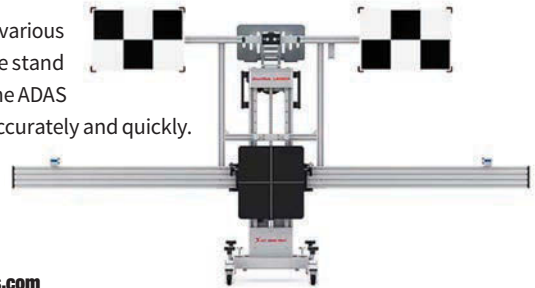


FOR MORE INFORMATION ABOUT ANY  
OF THESE PRODUCTS, CLICK ON  
"PD E-INQUIRY"  
at [VehicleServicePros.com](https://VehicleServicePros.com).

### USES LASER POSITIONING AND RANGING

The **Launch Tech X-431 ADAS Pro Plus** is designed to support the calibration of various ADAS systems in passenger cars from more than 50 vehicle manufacturers. The stand is made of lightweight, aluminum alloy material that is resistant to oxidation. The ADAS Pro Plus uses laser positioning and ranging, allowing the target to be placed accurately and quickly. The stand's main bracket can quickly fine-tune the position of the target in the horizontal, front/rear, left/right directions, with high precision and simple operation. The equipment adopts a modular design concept, and the stand alignment to the vehicle doesn't need a skilled technician to operate. ■

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](https://VehicleServicePros.com)



### ABLE TO LIFT EVS



The **BendPak QuickJack 6000ELX** is a portable car lift that is able to lift EVs for maintenance, service, and detailing. The 6000ELX is a compact, frame-engaging scissor lift with an open-center design for complete access to the vehicle's undercarriage, and has a lifting capacity of 6,000 lbs. Its extra-long frames provide access to lifting points between 47-1/2" to 76". Features pendant controls for one-handed operation, dual-position automatic safety locks, and durable urethane wheels that facilitate rolling the lift where it's needed and putting it away when it's not. When not in use, the lift collapses to 3-1/2" and can hang on a wall or slide under a toolbox. ■

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](https://VehicleServicePros.com)

# MOBILE TOOL NETWORK

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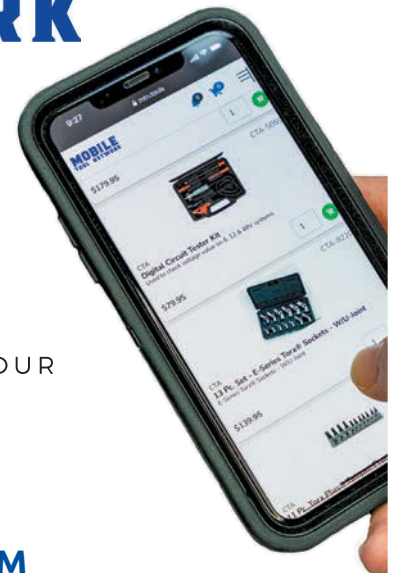
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## AVAILABLE IN FIVE, SEVEN, AND EIGHT DRAWER CONFIGURATIONS

The **RSC24 Mobile Roller Cab** from **Beta Tools** features a reinforced ABS worktop designed with eight holes for screwdrivers and is able to support top boxes. The Beta RSC24 evolved from the C24S toolbox, bringing racing character and high performance to the shop. It offers removable drawers, protective rubber mats, two swivel and two fixed casters, and a front centralized safety lock. Additionally, it has a 1,763 lb static load capacity and all drawers roll on ball-bearing slides. Available in different color combinations and in five, seven, and eight drawer configurations. Optional accessories include: perforated tool panel, computer bracket, document file holder, side mount folding shelf, paper roll holder, and a wooden worktop. ■

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](https://VehicleServicePros.com)

## AVAILABLE IN FOUR SIZES

The **ProMAXX PlierPull Locking Plier Adapters** are designed to produce greater pulling power thanks to their quick slide hammer connectivity. They're ideal for repairs where a high level of force is needed, such as for popping out cotter pins, pulling bushings, seals, and other applications. The adapters are available in four sizes (3/8", 5/8", 5/16", and 7/16") to easily attach to the most common varieties of locking pliers and slide hammers. The adapters are lathe-turned and knurled from hardened steel and black oxide coated to protect against corrosion and wear. Made in the U.S.A. ■

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](https://VehicleServicePros.com)



## SAFELY TRANSPORTS DISABLED VEHICLES

The **Body Buggy Chassis Roller** from **Dent Fix Equipment** is designed to quickly and safely transport disabled vehicles, allowing shops to easily roll the vehicle onto a frame rack, into a paint booth, or out of the way when waiting on parts, inspections, or other delays. After a simple five minute installation, the unit essentially becomes part of the vehicle, negating the need to employ any unstable or dangerous lift points. The device can be installed on the front or rear of most any vehicle using the cradle or sub-frame mounting points and hardware. Available in 4' and 5' sizes. ■

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](https://VehicleServicePros.com)



Watch this product in action here: [VehicleServicePros.com/21275302](https://VehicleServicePros.com/21275302)



## BUILT-IN POWER BANK

The **Davinci 8000 Rechargeable Flashlight** from **NEBO Tools** is constructed from anodized aircraft-grade aluminum, and emits up to 8,000 lm. The rechargeable light is IP67-rated and has a built-in power bank to allow users to charge their phone or other USB devices. Featuring optimized COB technology, the DAVINCI 8000 has five light modes, including: Turbo (8,000 lm), high (4,000 lm), medium (2,000 lm), low (80 lm), and strobe. It also offers Smart Power Control, Smart Temperature Control, and a magnetic mode select dial to easily cycle through all the modes. It also has an adjustable 4x zoom to go from a floodlight to a spotlight and vice versa. ■

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](https://VehicleServicePros.com)



## ABLE TO TEST SEVEN DIFFERENT 12V RELAYS

The **Electronic Specialties Super Relay Buddy**, No. 194, is designed to provide an indication of the general health and functioning of the most common 4/5 pin 12V relays. It cycles the relay several times while loading the switch contacts to detect any excessive resistance. The tool incorporates a full 7A load into the automated test sequence and is able to test seven different 12V relays. In addition to displaying green for good and red for fail, the Super Relay Buddy has a third test result, yellow for caution. ■

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](https://VehicleServicePros.com)



## INCLUDES 1", 3", 6" AND 10" EXTENSIONS

The **Toolsol 8-pc Removable Hex Bit/Square Drive Extension Set**, No. 1010894, from **LDS Industries** includes 1", 3", 6" and 10" extensions in both 1/4" and 3/8" drive sizes. The set enables removable bit use with standard hand and power ratchets. Magnetic retention allows for quick bit changes. The 3/8" drive extensions feature a durable powder coated black finish while the 1/4" drive extension have a zinc finish. Also available as a 4-pc 1/4" Drive Set, No. 1010892 and 4-pc 3/8" Drive Set, No. 1010893. ■

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](https://VehicleServicePros.com)



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# MOST WANTED

## Do YOU stock it?

The following products are among the most requested tools and equipment from recent issues of *PD's* sister publication, *PTEN*. Perhaps you've already received requests about some of these items. Take a closer look at stocking them.

### A Includes a built-in nail brush

The **Eppco Tiger Grip Hand and Nail Brush** assists in maintaining clean hands and fingernails. Its heavy duty, two-sided design features a built-in nail brush, ideal grip, and long-lasting bristles.

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](http://VehicleServicePros.com)



B

### B Features 10 OBD-II test modes

The **TOPDON ArtiLink400 OBD-II Code Reader** features 10 OBD-II test modes, reads and clears DTCs, and records and freezes frame data. With a built-in LED flashlight, the streamlined diagnostic tool can be used during nighttime repairs. The ArtiLink400 comes with a lifetime of free software updates.

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](http://VehicleServicePros.com)



### C Delivers up to 3,500 lbs of striking force

The **Mayhew Tools 3-pc Hammerless Set**, No. 89021, includes a prick punch/center punch combo, a pin punch/hammer combo, and a cold chisel/hammer combo. Available in a convenient pouch for easy storage and quick accessibility. The spring-powered tools are safe to use while also delivering extreme force and precision while marking, cutting, punching, starting, and/or setting, without the need for a traditional hammer. Ideal for use on wood or metal surfaces, these tools deliver up to 3,500 lbs of striking force. Simply place the tool directly on the work surface, pull back the spring, and release.

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](http://VehicleServicePros.com)



C

D

### D Switching speeds of 1/25,000 sec.

The **TRANSLIGHT 555 + Premium Auto Darkening Helmet** from **Jackson Safety** features the company's 370 series Easy Grip Turn ratcheting mechanism and a 12.47 sq. in. viewing area. The viewing area offers switching speeds of 1/25,000 sec. to increase comfort and keep eyes less fatigued. It also has a True Color ADF 1/1/1/1 optical clarity rating and four arc sensors to provide ideal coverage when welding out of position. The helmet's proprietary external shade adjuster finely tunes in .2 increments or +/- 1 full shades for visual precision. Additionally, it has an external grind button to allow users to switch modes with ease.

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](http://VehicleServicePros.com)



### E Ergonomic non-slip handles

The **Century Drill & Tool Extended Reach Nut Drivers** feature an extended reach hollow shaft that allows removal of nuts from protruding studs. The nut drivers are made from chrome vanadium steel for strength and durability, and have ergonomic non-slip handles for comfort and higher torque. Available in sizes: 1/4", 5/16", 3/8", 7/16", and 1/2". Also available in a 5-pc set.

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](http://VehicleServicePros.com)



## F Can be used on most domestic and imported vehicles

The **VIM Tools Hub and Stud Cleaning Kit for Cars**, No. HSC100, includes the HSC1 Hub and Stud cleaning tool with a 1/4" hex to 1/2" square adapter, the HCP15 4-pack 15mm hub cleaning pads, and SCB14 4-pack 14mm stud cleaning wire brush. The HCS1 can be used with a drill or impact wrench and has a quick-lock system for switching heads easily. The HCP15 removes rust and grime from the wheel hub surface and helps prevent brake rotor warping. The SCB14 also removes rust and grime from wheel studs and can prevent lug nuts from seizing and cross threading. The set can be used on most domestic and imported vehicles.

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](http://VehicleServicePros.com)



## G D2 blade steel for ideal edge retention

The **CRKT M16-03DB Folding Knife** is a mid-size flipper with a 3.58" spear point blade. It features D2 blade steel for ideal edge retention and includes an adjustable clip for left or right hand tip-up carry. The aluminum handle is lightweight and strong. The Deadbolt lock, developed by Flavio Ikoma, provides blade security and intuitive, simple and safe disengagement, while Ken Onion's fast assisted opening feature works in tandem with another Flavio invention, the IKBS ball bearing pivot system, to provide the M16-03DB with smooth and quick deployment.

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](http://VehicleServicePros.com)

## H Accommodates AWG20 to AWG12

The **OTC Angled Wire Stripping Tool**, No. 5950D, is designed with the stripping dies on the angled tip, above the pivot point, to give users the right angle to neatly strip or cut wires in tough-to-reach places. The proprietary design allows for a better view for those tasks done in tight spaces, ideal for wiring service under dash, inside panels, and in the engine compartment. The tool accommodates AWG20 to AWG12.

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](http://VehicleServicePros.com)



## I All-in-one vehicle detailing kit

The **WeatherTech Ready to Wash Bucket System** is an all-in-one vehicle detailing kit that offers the tools needed to easily wash cars, SUVs, or trucks in comfort. The system includes a sturdy bucket, a Roll and Wash dolly, a vented lid seat, an insert for preventing debris from making its way to vehicle surfaces, and a wash mitt holder.

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](http://VehicleServicePros.com)



## J Includes 86 individual tweezers

The **KNIPLEX Line of Tweezers** includes 86 individual tweezers and five sets. The four main categories of tweezers include positioning, stripping, cutting, and gripping. Constructed with a variety of materials such as titanium, premium stainless steel, stainless steel, steel and plastic, these tweezers offer corrosion-resistance, anti-magnetic and chemical-resistant properties. Other notable features include tweezers that are rated up to 1000V, plastic dip insulated handles, and thumb guards to prevent slipping. The line includes electrostatic discharged tweezers; some have replaceable tips that help prevent transfer of electricity when working with sensitive electronic components.

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](http://VehicleServicePros.com)



FOR MORE INFORMATION ABOUT ANY OF THESE PRODUCTS, CLICK ON "PD E-INQUIRY" at [VehicleServicePros.com](http://VehicleServicePros.com).

# INGERSOLL RAND

## 3/4" Impact Wrench

The 3/4" Impact Wrench has an easy, ergonomic design that is ideal for a broad range of work environments.



### APPLICATION

The Ingersoll Rand 3/4" Impact Wrench, No.2146Q1MAX, has an easy, ergonomic design that is ideal for a broad range of work environments such as light commercial where applications include maintenance on tires, brakes, and suspension, and general industrial applications where technicians work on pipe and flange fittings or bolt clamps.

### ORIGIN

Ingersoll Rand developed the 2146MAX Series of impact wrenches to deliver power and durability without sacrificing comfort and ease of use. These impact wrenches combine a quiet, efficient motor with a pressure gauge that lets users know it's delivering optimized airflow and pressure. An onboard gauge that measures air pressure above and below 90 psi ensures proper use and extends the tool's life. Its enhanced ergonomic design includes an ergonomic pistol grip, combined with a feather-touch trigger provides maximum control and maneuverability, making it a tool users can use all day, every day.



To watch a video demonstration the 3/4" Impact Wrench, visit:  
**VehicleServicePros.com/21270876**

**VEHICLESERVICEPROS**

### SELLING POINTS

Possessing enough power to do almost any job, the 2146Q1MAX 3/4" Impact Wrench brings maximum performance, comfort, and durability to heavy equipment, industrial, and light commercial applications. The built-in pressure gauge helps prevent operation below and above the recommended 90 psi air pressure – helping it last longer and operate more reliably. Less stress on the tool allows users to work more and spend less. With its cold-forged twin hammer impact mechanism, motor, and hard anodized endplates, the impact wrench delivers 2,000 ft-lbs of nut-busting torque.

The 2146Q1MAX 3/4" is built to last. Every part of the 2146Q1MAX, from its pistol grip design to the patented one-hand forward-reverse function has been designed for comfort, reliability, and maximum control. Ingersoll Rand's Quiet Technology helps reduce the sound of the tool, sparing your ears without sacrificing power.

### STORAGE AND DISPLAY

The tool can be purchased in several configurations with different anvil options, including:

- 3/4" short anvil
- 3/4" x 3" anvil
- 3/4" x 6" anvil
- 1" short anvil

### FEATURES AND BENEFITS

- The 2146Q1MAX delivers 2,000 ft-lbs of nut-busting torque and 1,450 ft-lbs of maximum reverse torque through its feather-touch trigger, making it a flexible and powerful tool that is ready to handle almost any application.
- **The built-in pressure gauge ensures optimal performance, and that excessive pressure does not cause premature wear on the tool. Conversely, it lets the technician know when the tool is underpowered. This helps preserve the life of the tool and minimizes lifetime service costs. The easy-to-read 3-color gauge indicates the different pressure zones: red zone for over 90 PSIG, which may cause excessive wear on the tool; green zone for optimum torque and tool life; and yellow zone indicates the tool is underpowered.**
- Everything on the tool has been rigorously tested, and the steel hammer case can withstand the drops and everyday abuse from the most demanding work environments.

### MANUFACTURING SPECS

The 2146MAX Series impact wrench is available in numerous configurations, including two drive sizes: A 3/4" pistol (square, ring) and 1" pistol (square, ring).

The 2146Q1MAX is assembled in Southern Pines, N.C., and weighs 7.8 lbs. The 2146Q1 has a two-year warranty.

**\$ SUGGESTED RETAIL PRICE**  
\$989

**i FOR MORE INFORMATION**  
Visit [ingersollrand.com](http://ingersollrand.com) or contact your local sales representative.





FOR MORE INFORMATION ABOUT ANY  
OF THESE PRODUCTS, CLICK ON  
"PD E-INQUIRY"  
at [VehicleServicePros.com](https://VehicleServicePros.com).

# K-TOOL

## Thermal Imaging Camera

The K-Tool Thermal Imaging Camera uses hot or cold temperature measurements to troubleshoot potential repairs and problems in engines, tires, and heating components.

### APPLICATION

The K-Tool Thermal Imaging Camera uses hot or cold temperature measurements to troubleshoot potential repairs and problems in engines, tires, and heating components.

### SELLING POINTS

- The thermal imaging camera is perfect for a wide range of customers and can usually be shipped to distributors within a couple of business days which makes stocking it easy.
- It's a cost-effective alternative to similar thermal cameras from well-known brands while offering the same ease of operation and high-quality imaging.
- The XD in K-Tool XD means quality and innovation are applied to this product.

### ORIGIN

Automotive diagnostic and repair require the ability to easily locate a variety of issues including leaks and overheating. Getting to the next step quickly to determine either the next diagnostic need or to fix the problem is important. This easy-to-use diagnostic tool was developed to measure temperatures on surfaces that may be too hot, hazardous, or hard to reach.

### DEMONSTRATION

Demoing this product for customers is super easy, make sure that the unit is charged then turn it on, point it at an object (known hot or cold objects are best), and show the customer.

### STORAGE AND DISPLAY

Each individual unit is boxed for retail sale with standard accessories: 6GB microSD card, wrist strap, type USB-C cable, and wall adapter.

### FEATURES AND BENEFITS

- The KTIXD Thermal Imaging Camera works for automotive, industrial, HVAC, and home inspections. With the KTIXD Thermal Imaging Camera, users can see in detail the thermal resolution to determine the area needed for better diagnostics and problem-solving.
- Temperature Range -4 degrees F to 752 degrees F (-20 degrees C to 400 degrees C)
- **Trigger-operated laser pointer and image capture**
- Six color palettes: White Hot, Iron Red, Hot Iron, Arctic, Rainbow 1, Rainbow 2
- Eight plus hour operating time and 2-hour fast charge
- Easy-to-transfer data of over 90,000 stored images to a PC

### MANUFACTURING SPECS

- 240x320 pixel color LCD visual image resolution
- 120x90 at 17µm IR resolution
- 25Hz frame rate
- Weight: 5.0 lbs in package
- Made in China



**\$ SUGGESTED RETAIL PRICE**  
\$510.82

**i FOR MORE INFORMATION**  
Contact Jeff Fuson at  
[jeff.fuson@isnweb.com](mailto:jeff.fuson@isnweb.com).

# STREAMLIGHT

## BearTrap

The BearTrap serves as a multi-function worklight, offering bright white light in spot and flood modes and multiple handsfree options for illuminating hard-to-reach places.



### FEATURES AND BENEFITS

The unique design of the BearTrap allows it to clamp to virtually any flat, round, or irregular surface to illuminate hard-to-reach places, such as under the hood of a car. The versatile spot and flood beams allow technicians to focus on a specific work area or illuminate larger areas with up to 2,000 lm of bright, white light. It adjusts for easy positioning and with its rubberized construction prevents scratches when clamped to surfaces like a car hood. And because it uses a rechargeable lithium-ion battery, the BearTrap also offers extremely low operating costs and reaches places that other corded lights may not.

### SELLING POINTS

- High-power work light that delivers up to 2,000 lm.
- **The light can rotate 270 degrees in its frame and clamps to any surface or stands on its own for hands-free illumination.**
- Its rubberized construction prevents scratches when clamped to the surface of a vehicle.
- Offers six output modes with three spot and three flood settings.

### MANUFACTURING SPECS

- Constructed of tough thermoplastic
- Measures 7.62" long, 6.5" wide, and 3.12" thick
- Weighs 2 lbs, 3 oz.
- Lens is impervious to the most common automotive chemicals and is gasket sealed
- IPX4-rated design for water-resistant operation and impact-resistance tested to 1m
- Assembled in the U.S.A.

### APPLICATION

The Streamlight BearTrap serves as a multi-function worklight, offering bright white light in spot and flood modes and multiple hands-free options for illuminating hard-to-reach places, such as under a vehicle or when troubleshooting equipment repairs. Weighing only 2 lbs, 3 oz., the light can also be easily stowed for making roadside repairs.

### STORAGE AND DISPLAY

The product is shipped in a standard pack of six in a 4-color printed box that could be displayed on a shelf. It would also be recommended that a unit be clamped, or magnetized, to a spot inside the truck and a supply of boxed products be stored on the shelf.

### ORIGIN

The light was developed to provide a single worklight that would serve multiple needs. The light rotates 270 degrees in its frame and clamps to virtually any surface, or stands on its own, giving the automotive professional a worklight that adapts to any automotive repair, work, or rescue situation.



To watch a video demonstration of the BearTrap worklight, visit:  
**VehicleServicePros.com/21270857**

**VEHICLESERVICEPROS** UNION

**\$ SUGGESTED RETAIL PRICE**  
MSRP range: \$240-\$255

### **i FOR MORE INFORMATION**

Contact Streamlight at 610-523-7488 (phone), 610-220-7007 (fax), or [cs@streamlight.com](mailto:cs@streamlight.com).



FOR MORE INFORMATION ABOUT ANY  
OF THESE PRODUCTS, CLICK ON  
"PD E-INQUIRY"  
at [VehicleServicePros.com](https://VehicleServicePros.com).

# DENT FIX EQUIPMENT

## Glue Puller Xtreme, No. DF-GPX

Designed to perform repairs on major panel damage with a minimum of tear down, prep, clean up, and damage to the vehicle.

### APPLICATION

The Dent Fix Equipment Glue Puller Xtreme, No. DF-GPX, is capable of both aluminum and steel pulling. It utilizes large glue pads with heavy duty glue to pull and straighten damaged areas on external sheet metal. A pulling device is needed which most shops will have or can be sourced separately to increase the order value.

### FEATURES AND BENEFITS

- Performs repairs on major panel damage with minimum tear down, prep, clean up, and damage to the vehicle.
- Allows the user to pull panels without removing paint or other parts.
- Won't damage OEM corrosion protection coating.
- **Eliminates the need to weld pull tabs onto the vehicle.**
- Enables users to glue tabs and pull without the high temperatures of welding which can be ideal when working with heat sensitive ultra-high strength steels.

### STORAGE AND DISPLAY

The unit is shipped in a box with one kit. The blow molded case holds the tabs securely to the upper lid so it can be closed during transport and opened when presenting to a body shop.



### SELLING POINTS

- Glue Pulling Repair (GPR) is one of the fastest growing sales sectors in the collision shop industry, according to the company.
- This unit is one of Dent Fix's best sellers this year.
- Pairs great with Dent Fix's MAXI Steel Dent Repair Station, No. DF-505/220V, for repairing steel panels.
- Additional add-ons include MAXI Bridge Puller, No. DF-505BP, and 9-Finger Bear Claw Attachment, No. DF-505BP/09.

### ORIGIN

During the repair process, it's crucial to save as much of the OEM corrosion protection coating to the steel panels applied by the manufacturers because this coating is difficult to replicate outside of the factory. When the damage is in an area of the vehicle with no access to the backside of the panel, Dent Fix determined performing a glue pulling first would be a safe and efficient way to complete the repair. This repair method decreases the amount of heat put into the panel, saves as much of the protective coating as possible, and reduces the risk of corrosion to the repair area in the future.

### MANUFACTURING SPECS

- Glue gun: 12V
- Glue type: heavy duty
- Five-ring tabs: four
- Four-ring tabs: four
- Three-ring tabs: four
- Two-ring tabs: three
- One-ring tabs: three
- Knock down tool: four heads

**\$ SUGGESTED RETAIL PRICE**  
\$846.94 MSRP

**i FOR MORE INFORMATION**  
Contact [info@dentfix.com](mailto:info@dentfix.com).



To watch a video demonstration of the Glue Puller Xtreme, No. DF-GPX, visit:  
[VehicleServicePros.com/21267261](https://VehicleServicePros.com/21267261)

**VEHICLESERVICEPROS**





Kevin Vernon, a GEARWRENCH mobile tool dealer, stocks safety glasses, ear protection, gloves, and footwear on his truck.

# A SAFE BET

In the wake of COVID-19, mobile tool dealers can benefit from having some personal protective equipment on their trucks alongside their usual tools and equipment.

By E. Lisa Moses

For more than a decade, Kevin Vernon has been in the driver's seat of his own tool distribution business, and while sales are his reason for being a mobile dealer, he's mindful of the importance of health and safety – both on the job and in life.

"I always have to think about my own environment and where I'm going because I can only keep serving customers and helping my family if I stay safe," says the 38-year-old GEARWRENCH distributor. Having built good relationships with his customers, he knows the safety protocols at their premises and sticks to them. He wears gear such as slip-resistant shoes in case of water or oil spills and carries his own safety glasses.

To work with clients on their safety practices, Vernon carries a selection of personal protective equipment (PPE).

"The four main things we stock are safety glasses, ear protection, gloves, and footwear," he says, pointing out that he can easily supply respirators, hard hats, and other PPE on request.

His top seller is Microflex Diamond Grip Gloves by Ansell, which come in boxes of 100. He sells about 800 to 1,000 boxes a week. He also carries the Blue Tongue line of footwear from Redback Boots, both steel-toe and regular, that are oil- and slip-resistant. Rounding out the mix are face shields and welding helmets from Jackson Safety, and a number of SAS products.

Vernon points out that working around hybrid vehicles and their

high-voltage components requires some specialty products. For example, shops might stock insulated rescue hooks to safely retrieve staff who in rare instances are injured or trapped around electrical hazards, and those technicians would need insulated rubber gloves as well.

In addition to safety gear, Vernon carries all the basic tools such as screwdrivers, wrenches, and sockets because they can be used in almost any kind of repair business and turn around quickly. For body shops and heavy duty agricultural shops, he stocks some basics such as saws and clamps and orders giant specialty tools as needed.

## PIONEERING PPE PROVIDERS

Suppliers of safety gear use – and often invent – new technology to create next-generation PPE that meets the expectations of not only safety regulators, but also shop owners and workers who have to wear it.

The process of developing new products includes looking at where they'll be used, asking questions about what workers need, and dealing with regulators. This results in PPE that is engineered to meet or exceed

safety codes, stand up to any hazards in shops, and provide occupants with comfort and flexibility. It has also led to some exceptional innovations.

Here are some advanced products from three suppliers that are ahead of the game.

### Coast Products

No matter how well vehicle repair shops are lit, there are always dark spaces that require task lighting for technicians – Coast's specialty. Whether they work under the hood, under a lift, or under a chassis, they need to see clearly in the dark.

Recognizing that each work sector needs different lighting to be safe, Oregon-based Coast Products has developed lighting safety solutions for all types of tasks. According to David Brands, owner/CEO of Coast, many studies over the years have shown how important good lighting is to safer work and fewer workplace accidents.

"Whether auto technicians prefer a headlamp, lighted safety glasses, pen light, or small work light to illuminate the area they are working on, safety improves with the quality of light," he says.

To that end, Coast has developed Lighted Safety Gear, which Brands points out is the biggest innovation to hit the market in years.

"Our Lighted Safety Gear is rechargeable, uses no exposed wires, ➡

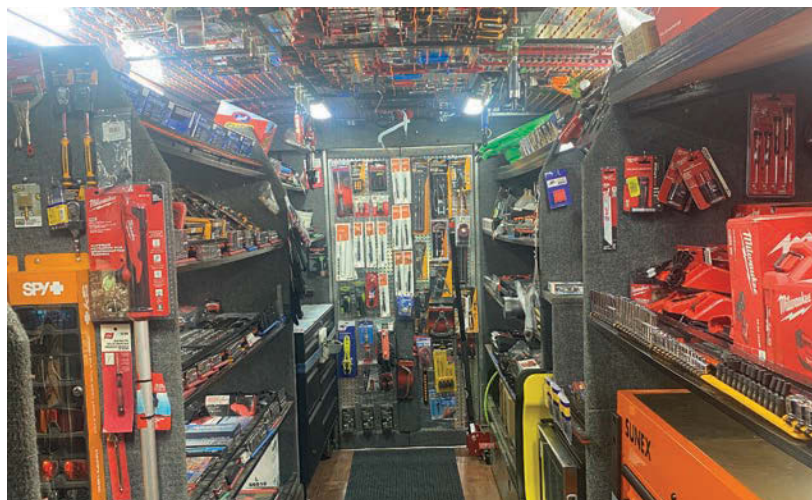


is durable, and will last for years,” he says. “And while Coast now offers lighted safety vests, safety glasses, and safety helmets, we will continue to push the technology envelope to provide products that keep workers safe on the job.”

## Magid

With its new technologies, Magid has created a full line of gloves, sleeves, and clothing that protect up to the highest ANSI cut levels in materials that are light, cool, and comfortable – and allow incredible dexterity.

“For example, innovations like Magid’s AeroDex Technology creates cut-resistant gear up to ANSI A9 protection that’s so cool and comfortable, we’ve had people say they forget they have it on,” says Jacob Angel, Magid corporate account executive. “The material is so light that workers can



*The four main PPE items Vernon stocks are safety glasses, ear protection, gloves, and footwear.*

pick up very small parts like nuts and bolts without taking off their gloves.”

Auto shops tend to work with a lot of oil. Safety solutions like Magid’s TriTek Palm Technology for gloves absorb oil on the outside so workers maintain a solid grip in oily conditions, yet also use an inner layer

that repels oil to keep workers’ hands dry and comfortable, and it does all of this without sacrificing dexterity or comfort.

Another ground-breaking innovation is Magid Cool Powered by Mission that battles heat stress by keeping coverings such as towels, neck bandanas, and skull caps cool for hours. It relies on the natural power of evaporation rather than chemicals to cool down as low as 30 degrees below average body temperature in about 60 seconds, and it can be reactivated throughout the day with any water temperature, so workers can save their cold water for hydration and refreshment.

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## Steel Blue

Foot protection is one of the biggest areas of focus for auto technicians. Up there with eye protection, a pair of high-quality work boots can protect them from sharp objects, oily or wet surfaces, foot fatigue, falling objects, and electrical hazards.

Footwear absorbs up to twice a person’s body weight in force every day. The correct safety boots help reduce body fatigue, raise productivity – and protect the wearer’s health.

Steel Blue boots are designed with that in mind. Safety advances include Trisole Comfort Technology, a multi-layer soling system that cushions ➔



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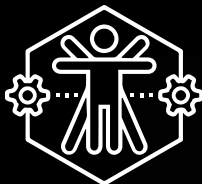
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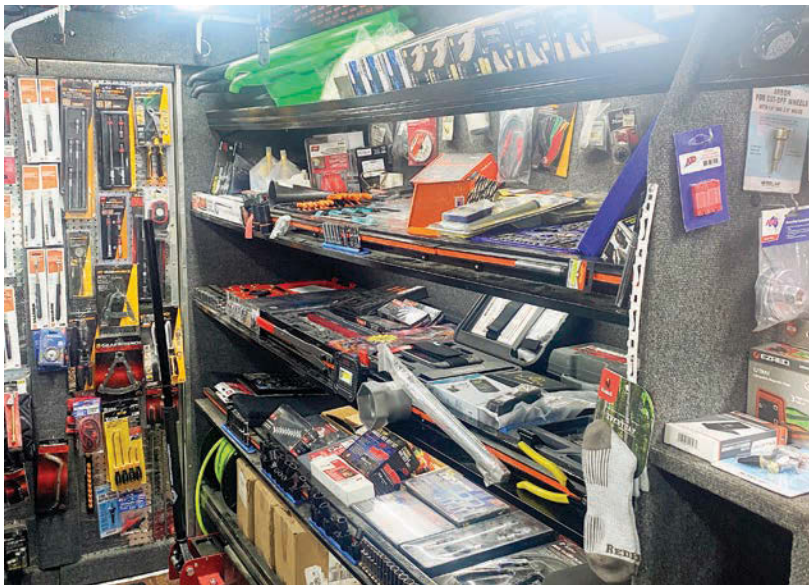
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*Vernon's truck has a dedicated row at the top for selling safety gloves.*

the feet and absorbs shock. Steel Blue has set the benchmark across the safety industry by using PORON within that technology. They have also collaborated with leading manufacturers to design custom pieces for their safety boots such as anti-chaff lining.

Their lightweight, premium materials protect feet, ankles, knees, hips, and lower back from shocks and stress-related injuries. Overall, they increase comfort and wellbeing so technicians can focus on the job.

The company has also improved standards across the board by earning USA Safety Footwear Certification ASTM F2413 and European Safety Footwear Certification CE EN ISO 20345 on their boots. In recognition of their contribution to health and safety, Steel Blue has been awarded the American Podiatric Medical Association (APMA) Seal of Acceptance.

## THE DAY-TO-DAY

Vernon started out at a franchisee, but in 2019 realized that being an independent mobile tool dealer was a better fit. Since then, he has flown the GEARWRENCH flag and operates a fleet of three trucks

that service more than 900 customers across Maryland. These are primarily automotive repair and auto body shops but include some boatyards and big farm production operations with their own repair facilities.

Vernon's 50'x50' warehouse in Stevensville houses his trucks, inventory, office, and a small gym. Around 7:30 a.m. every morning, Vernon meets his two other drivers there to load up their vehicles and discuss any special needs or issues arising that he can help them with. These might be finding specialty tools, dealing with back orders, or discussing how best to approach customers who are behind in their payments. They're on the road by 8:15 a.m. and when they return to the facility at the end of the day, all three drivers review reports, follow up on customer concerns, and identify items that need Vernon's attention.

Road safety is also a consideration for mobile dealers. For Vernon, that includes being on the alert for dangerous winds on the 17-mile-long, 186-foot-high Chesapeake Bay Bridge, which he criss-crosses daily from his base on Kent Island. When the forecast

is stormy enough to threaten his big truck, he'll substitute his personal SUV or pickup truck to ensure that he still fulfills customer orders.

## KEEPING THE WHEELS TURNING

While the business landscape constantly evolves with new customers, vehicles, and technology, Vernon continues to capitalize on tried-and-true marketing and merchandising methods. The personal touch never fails: Relationship selling, knowledgeable service, trusty tool warranties, and personal visits to customers every week.

The techniques Vernon learned during his successful years in retail management and sales for Sears and Bosch still work.

"I keep the trucks organized and well-displayed, and change up the merchandise every couple of weeks," he says. "I have so much stock that buyers can't see everything unless it's out front."

For example, if he flips the locations of power tools and oil-change tools, they'll notice items they missed before.

A must-have marketing tool is home-made treats for customers.

"My wife and mom cook up a mess of cookies, cupcakes, and brownies on weekends. On Mondays, they give me a week's supply of goodies for all three trucks," adds Vernon. "Sometimes if a technician has missed his favorites one week, he'll ask about them the next time."

Looking ahead, Vernon will also continue to rely on proven methods for growing the business while harnessing new technology and building better systems. He'll continue to stay on top of industry trends and respond to customers' needs in a timely fashion. And eventually, he'll hand his wheel over to another driver so he can focus more on fine-tuning and operations. All while continuing to keep himself, his family, his team, and his customers in a safety state of mind. **PD**



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**PTEN**

## Putting the 'A' in ADAS

A Rav4 case study highlights some of the challenges with repairing these advanced systems.

By **Scott Brown**, *PTEN Technical Editor*

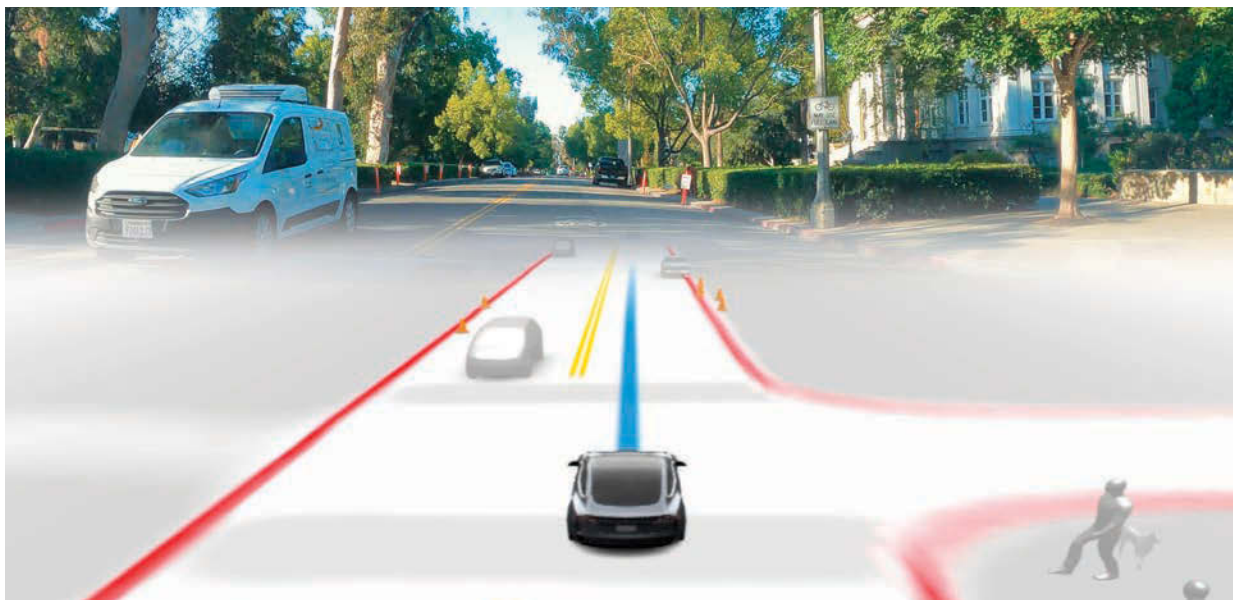


Figure 1 – Onboard DAS puts a high priority on vulnerable road users.

**D**AS, driver assistance systems, have been a part of the automobile going back many years with the introduction of such systems as ABS (antilock braking system), TC (traction/stability control), TPMS (tire pressure monitoring system), etc. Looking back, these systems had an impact on service because of the required product knowledge and oftentimes the adoption of new tooling to competently service such vehicles. Today, the common acronym we see is ADAS, which added the term “advanced” based upon the new features that either augmented the current DAS, or introduced brand new vehicle capabilities.

Many of these systems support active safety and go a long way towards preventing collisions and/or reduce the injuries received from a vehicular accident. In this article, you’ll learn about these systems, service challenges, and opportunities.

### CAMERA SYSTEMS

Cameras found on today’s vehicles naturally provide visual support not only for the vehicle operator but may support

operations such as lane keeping, collision avoidance, and more. When you start to think about how these cameras work within these systems, you need to drop the assumption the camera sees exactly what humans see. Machine vision science is extremely sophisticated, and there’s a lot more than just photon detection going on behind the scenes. For many vehicle systems, it’s likely that the camera system is providing parallel layers of vision support simultaneously.

For example, a camera may be tasked with performing lane monitoring operations where a special filter is applied to the signal for processing lane markings and measurements as they relate to the vehicle they’re mounted on. At the same time, there may be another service running that performs object detection and classification, and there may be a pose-detection program running tasked with estimating/predicting human movement around the vehicle. Humans on foot and on bicycles are considered vulnerable road users (VRUs) and are a high priority within the onboard DAS (**Figure 1**).

Cameras mounted high and center behind the windshield are mostly used for lane keeping and object detection/

classification. However, I recently had a 2014 Nissan Rogue in the shop with lane departure warning (LDW) without a windshield area mounted camera. Service information revealed this system will not work below 45 mph and is supported by the camera located at the rear of the vehicle. This is a SAE J3016 Level 0 vehicle, which means the system will only provide visible and/or audible warnings to the driver.

The rear camera is also used to support blind spot warning (BSW) as well. Since this is a critical input for the proper operation of both systems, the camera is supported by a washer and blower system aimed at keeping the camera lens clean. In the event of low washer fluid, both systems will be temporarily disabled until the fluid reservoir is refilled. When calibrating the rear facing camera, please refer to bulletin NTB14-072 titled: "2014 Rogue; Target board placement for rear camera calibration." Under the notes section, you will find the following statement about operation:

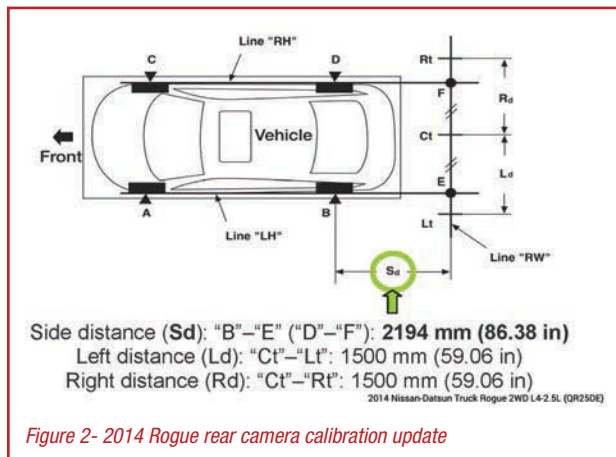
"The Rear-View Camera monitors the traveling lane. It transmits the camera image signal to around view monitor control unit for the Lane Departure Warning (LDW) system."

The bulletin states the distances listed in the service manual are incorrectly supported by the following graphic (Figure 2).

## RADAR SYSTEMS

Radar sensors use electromagnetic radio waves to sense the distance to objects within its cone of rays by measuring the time of flight (ToF), and the incident angle between the transmitting (Tx) and receiving (Rx) antennas. Typically, the radar sensors used for adaptive cruise control (ACC) operate in the 77-81 GHz range. What this means is these radio chirps are being transmitted in the order of 77-81 billion times per second.

There are highly complex algorithms (usually taking place within the sensor) before its data is shared with other systems on the vehicle. The radar sensors used on the rear corners of the vehicle mostly operate at lower frequency ranges (24 ➡



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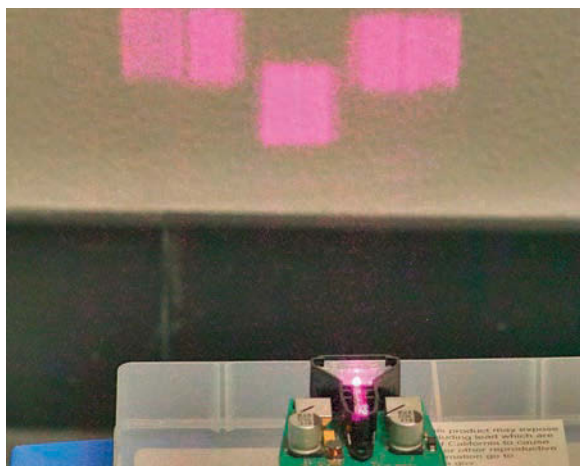


Figure 3- Mazda Smart City Brake LiDAR sensor in operation



Figure 4- Mazda short range LiDAR sensor

GHz). Radar sensor that resides behind body panels are tuned specifically for that environment, so any changes to the body, repair, paint, etc. could negatively affect its operation. Consult service information for more information.

Additionally, these sensors are very delicate and most have a statement on the body stating they should be discarded if dropped. If you find yourself addressing one of these sensors that has been in a collision where the sensor and/or surrounding area suffered an impact equaling the shock from a drop, then a new sensor should be installed and properly initialized and calibrated.

## LIDAR – LIGHT DETECTION AND RANGING

LiDAR works like radar, as it's using ToF of the near infrared light beams scattered out in front of the sensor. Since infrared is outside of the human's visible spectrum, it's hard to

visualize what is happening in these wavelengths. **Figure 3** shows a blended image I was able to acquire using special filters and camera techniques.

Essentially, the systems are attempting to produce a spatial 3-D point cloud to establish where any hazards may exist. Although wide use of lidar is currently not the norm, there are several vehicle manufacturers who have adopted some form of LiDAR on their vehicle. One popular sensor can be found on Mazdas, Toyotas, and Volvos (**Figures 4 and 5**). (I recently published a video detailing a live view of two different LiDAR sensors utilizing the Oculus which can be found here: <https://youtu.be/K7NRdwpqaAI>)

## LIMITATIONS – ODD AND OEDR

Today's systems have numerous limitations, and as these systems evolve, their capabilities will improve. Service professionals should always refer to both the vehicle owner's manual and service information before evaluating any complaints about system operation. The limitations may mirror the system complaint, which one would then need to review with the consumer. Just because one vehicle can respond to a road condition doesn't mean all vehicles have the same capabilities.

## DIAGNOSTICS AND CALIBRATION

Many of the skills one needs for electrical and/or engine performance will serve well when addressing ADAS complaints and/or service requirements. If one wishes to gain a high level of competencies, then they should pursue training. Depending on the carline, you may have all the tools needed to address most diagnostic and service requirements.

Some vehicle manufacturers require special tooling such as static targets. Entering this market trying to become



Figure 5- Mazda short range LiDAR sensor; Smart City Brake support



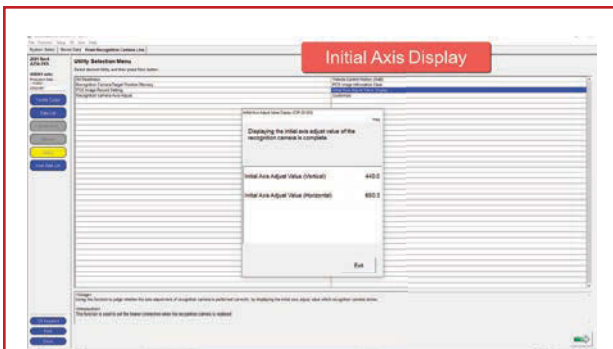


Figure 6- Initial axis values on the lane camera

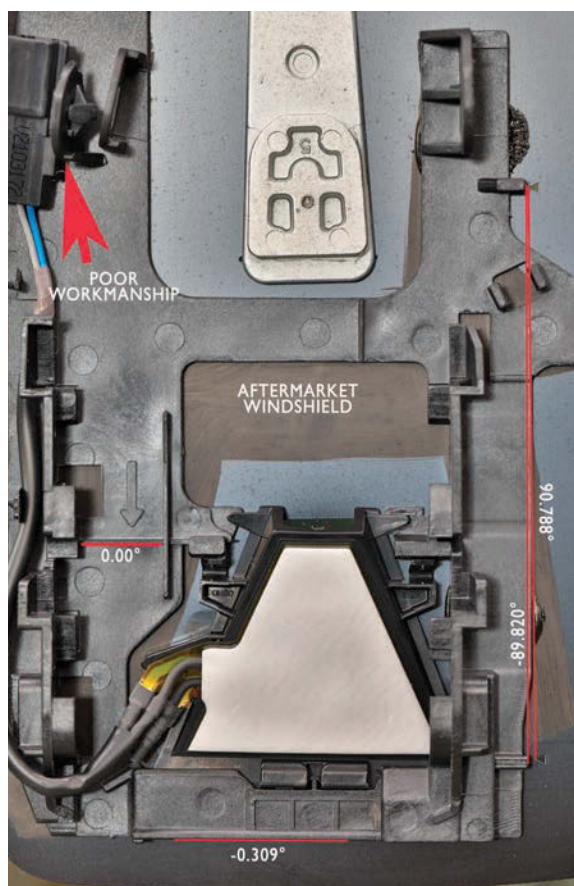


Figure 7- Toyota Rav4 windshield aftermarket bracket

service-ready on every carline will be extremely challenging, but if you do your homework and find your addressable market, you'll be on your way to creating a business plan. However, there are a few items you should be aware of.

The primary consideration is workspace. Some operations such as static camera/radar calibrations require a large amount of workspace with an extremely level floor. Additionally, when static camera calibrations are required, certain lighting conditions may present challenges. Reference service information ➡

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Figure 8- Factory Toyota Rav4 windshield OEM bracket

for best practices around static camera calibration best practices. There are a number of aftermarket tooling solutions available. Personally, I have used the Autel Complete Solution (Red Frame w/cameras), the Bosch DAS3000, and others such as the John Bean EZ-ADAS. All three of these systems have focused on making the technician more productive without sacrificing accuracy. But beware, you should get in the habit of making sure that the target sizing aligns with what the manufacturer originally specified.

## CASE STUDY – 2021 TOYOTA RAV4

My shop had a client inquire about the behavior of their lane keeping system. Specifically, the lane tracing assist (LTA) system was allowing the vehicle's right-side tires to cross over the right-side lane lines. When in the lane keep assist (LKA) mode, the vehicle would warn the driver about approaching the left lane line about what one would expect, but for the right side, it was all happening well after the right-side tires passed over the lane lines. During the intake, we discovered the vehicle had recently had a replacement windshield installed, and this is when the symptoms surfaced. We commenced with analyzing the vehicle data by performing a complete health check, where there were no DTCs stored in any of the systems related to the complaints.

Using Toyota Techstream, we looked at the vehicle control history and could see that the vehicle recently had the

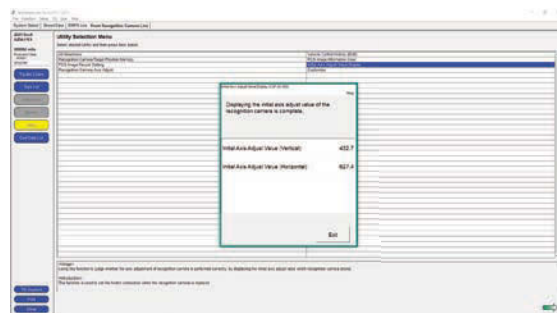


Figure 9- Axis values after new windshield and lane camera calibration

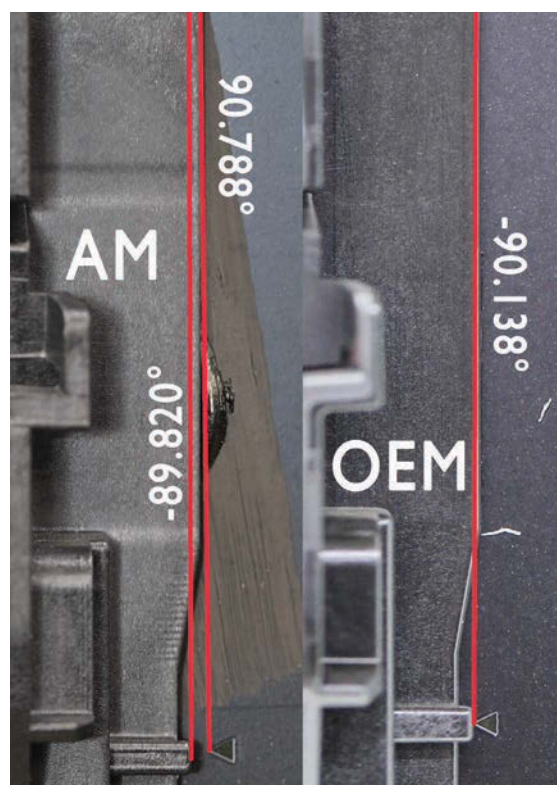


Figure 10- Toyota 2021 Rav4 windshield: OEM vs. aftermarket closeup

camera calibrated, and the calibration process had completed. We then looked at the initial axis value that was recorded during that calibration and saved a copy (Figure 6). Looking at horizontal axis value had me concerned.

From my understanding, this is a pixel value used in establishing the baseline relationship to the imaging sensor with a known vehicle datum reference such as the vehicle centerline. The windshield mounted camera on this vehicle is vehicle centerline. I usually see these vehicles with that horizontal number in the ~630 range.

My next inspection was to look at the windshield branding. I found the windshield was from the same supplier as the OEM, but it was missing the OEM naming. I then decided

to take a closer look at the camera mount, which is glued in place to the windshield to see if there were any noticeable challenges, and this is when I decided we were going to recommend a factory windshield. **Figure 7** shows the mount wasn't properly indexed to the exact coordinates designated by the diamond shaped markers on the windshield.

If you look along the right side of the camera mounting bracket, you'll see two vertical lines that were used to measure the angles after establishing the reference line at 0.000 degrees at the horizontal line indicated by the arrow on the left side of the bracket. Also, you can see where the camera heater had to be transferred from the old windshield, which still had part of the broken camera mount attached to the harness at the top left.

We received approval to install a new OEM windshield and when we received it, I took an image of it for comparison (**Figure 8**).

After installation and camera calibration utilizing our Autel Red-Frame system, we recorded the initial axis values using Toyota Techstream, which produced expected results

(**Figure 9**). A thorough road test and performance analysis was performed on the LDW/LKA and found their operations well within the vehicle's ODD. **Figure 10** shows a side-by-side comparison of the two camera brackets.

The current state of DAS will eventually lead us to automated driving systems (ADS). The suite of sensors on any given vehicle can be impacted by service operations. It's in your best interest to gain a high level of situational awareness to ensure the vehicles passing through your service bays are receiving the proper care and attention the OEM intended to happen. ❌



**SCOTT BROWN** is an ASE Master Certified L1 Technician and has over 37 years of professional service industry experience. He is an independent shop owner in Southern California and is engaged at various levels within the industry. He has a deep understanding of the challenges technicians experience at the service level and is continuously striving to move the industry forward through education and networking. Brown found Diagnostic Network (diag.net) after 22 years of service at iATN, where he is retired as company president in 2018.

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# A new truck without the shine

This Cornwell distributor likes being different by rolling up in his all blacked-out ride.

By Kayla Oschmann, Associate Editor

Cornwell Quality Tools distributor Mark VanSchaick (a.k.a. Squeaks) has had his eye on a new truck for years. So, when his 2006 GMC C5500 started giving him problems, he decided to pull the trigger. In November 2021, he purchased a custom built 2022 22' Freightliner Business Class M2.

The mobile tool dealer of over 12 years in the lower Bucks County, Pa. area has been enjoying his new, all blacked-out truck. Everything from the cab, box, steps, bumper, grill, exterior trim, to the aftermarket wheels are black.

"It's pretty blacked out," VanSchaick says. "It's definitely different."

Why all black? "I'm not a fan of shiny or chrome," he says. "I like to be different. I don't like it when you pull up somewhere and you look like everybody else."

Due to supply shortage, he couldn't get the stacks that he wanted, but he said he most likely will for his next truck.

The black theme continues throughout the inside as well. Everything is black except for the trim, which is Cornwell blue.

## TWEAKING THE LAYOUT

VanSchaick made a few tweaks to the original layout of the truck such as removing some display sections and moving others. One that he removed was the cordless tools display.

"I don't like taking cordless tools out of the box," he says. "Where are you going to put the extra batteries, chargers, and the bags? To me, that's more I have to figure out where to store on the truck. And then when you sell the kit, I have to look for everything that I took out."

In place of the cordless tools display, he put in a creeper display that was originally in the back and then expanded the shelves to show more merchandise.

He also added space for a microwave to eat a little healthier, along with a fridge for Bang energy drinks and a beef jerky display – both are popular hits with the customers.

## SPIC AND SPAN

VanSchaick is known to spend nights and weekends keeping his truck clean and rearranging product, noting that "it pays off."

"The following week guys will think you just spent a ton of money buying new product," he says.

On certain shelves, he'll stand tools up on end, so techs have to grab it to look at it, while other items he likes to lay down to allow customers to easily see what it is. He will then rotate these items from time to time.


"It's new scenery, so it's not always the same stuff," he says.

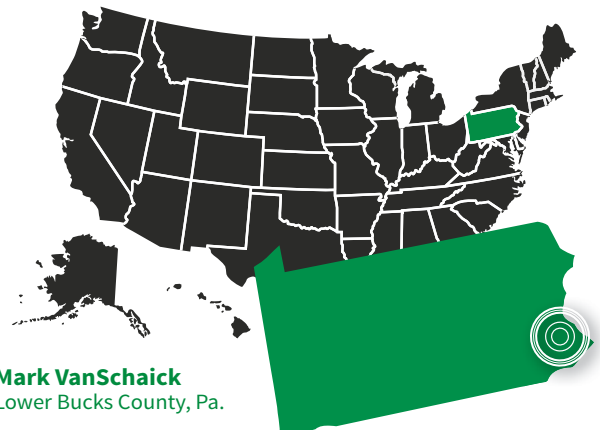
## FUTURE PLANS

"Keep going and keep growing," VanSchaick says, looking to the future. "You can always improve and change."

To help grow his business, the mobile tool dealer is looking to hire an assistant to accompany him on the road. This person would help with not only paperwork but also to run his Facebook page because as he admits, he's not an active user or even likes to email for that matter. He's more of a "phone call kind of guy."

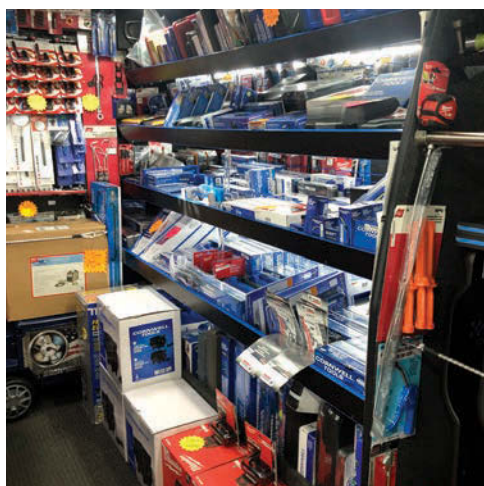
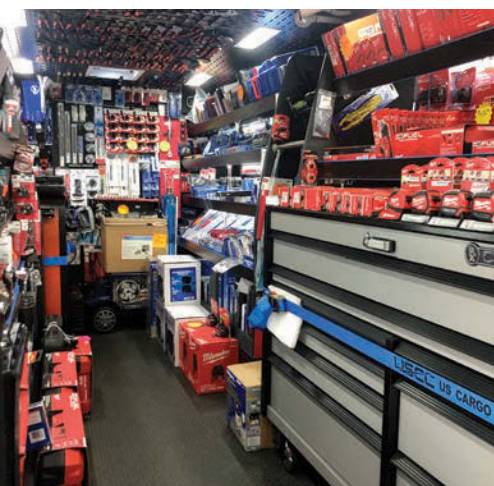
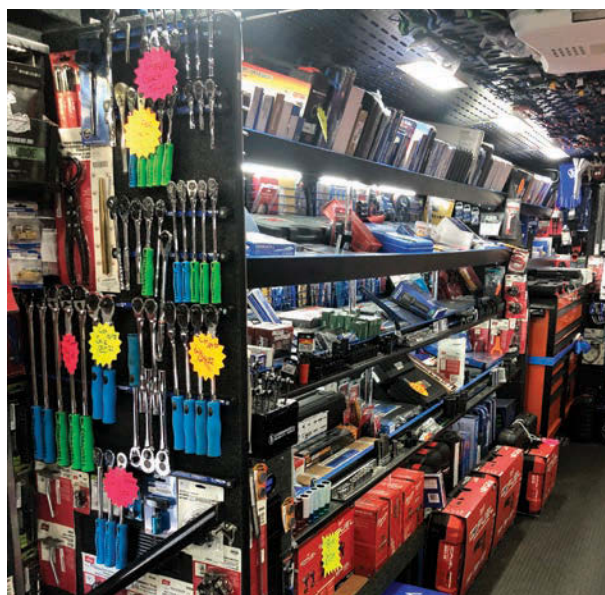
He also already has his eyes set on a new truck. Originally, he had wanted to go with a wide body cab. It wasn't until after he purchased his current truck that he heard Kenworth came out with a new cab and chassis that he would like.

"They say it's going to take a year to get the truck anyway," he says sounding hopeful. 



To view more photos of VanSchaick's truck, scan here.





**Top Left-** Cornwell Quality Tools distributor Mark VanSchaick purchased a custom built 2022 22' Freightliner Business Class M2 in November 2021. **Top Right-** VanSchaick doesn't like to display cordless tools out of the box, mainly because he doesn't know where to store the boxes. **Middle Left-** The ceiling is not as full as he would like at the moment as many products are on back order. **Center-** VanSchaick likes to keep his truck looking neat at all times. **Middle Right-** Tools are rotated on a monthly basis. **Bottom Left-** VanSchaick likes to always have two toolboxes onboard and full of tools. **Bottom Center-** VanSchaick will often spend his nights and weekends cleaning and rearranging his truck. **Bottom Right-** Rearranging tools on a regular basis "pays off", the tool dealer says.

## Show us your truck

Recently upgraded your truck? Have a product display or demonstration area for customers? Share it with us!

Contact us at [Editor@VehicleServicePros.com](mailto:Editor@VehicleServicePros.com) for your chance to be featured.



# Be the Best

In sales, just like all professions, it's important to keep honing your skills for increasingly better results.

By **Alan Sipe**, *Contributing Editor*

I grew up in a rural area outside a small steel town in Latrobe, Pa. For a small town, we had some pretty famous residents: The golfer, Arnold Palmer, and Fred Rodgers of "Mister Rogers' Neighborhood." We brewed Rolling Rock Beer. Latrobe is the preseason training camp home of the Pittsburgh Steelers. And most importantly, David Strickler, a 23-year-old druggist apprentice at Tassell Pharmacy in Latrobe, invented the banana split ice cream treat in the summer of 1904.

As kids, we would watch Palmer practice his golf shots for hours on end, and even though he was the best golfer of his time, he practiced every day. Palmer was one of those people that when he talked to you, for that moment in time, you were the only person on earth. No distractions; just you. He made you feel special. Additionally, during his prime, Tiger Woods, probably the best golfer of all time, was known to play 18 holes in a tournament, and then practice for four or five hours into the evening to fine tune his game for the next day.

We would also go to Saint Vincent College to watch the Steelers training camp as they prepared for the season ahead. Again, here was, at that time, the best football team on earth, practicing the basics, over and over again.

Heck, even my dad, who was a real-life Marcus Welby country doctor making house calls every day, took the time

to study the Journal of the American Medical Association (JAMA) each month.

The point of this bit of Latrobe history is that to be the best at whatever your chosen field is, in addition to the daily work routine, it requires continuous learning, practice, and perseverance. So, how about you?

Selling is a profession that no matter how long you've been at it, and how successful you are, you could always do better – and better increases your revenue and paycheck.

I typed "selling skills books" into Google and got 175,000,000 hits in 1.4 seconds. I typed "selling skills videos" into Google and received a whopping 304,000,000 hits. There is no lack of sales skills training material available to you and much of it is free.

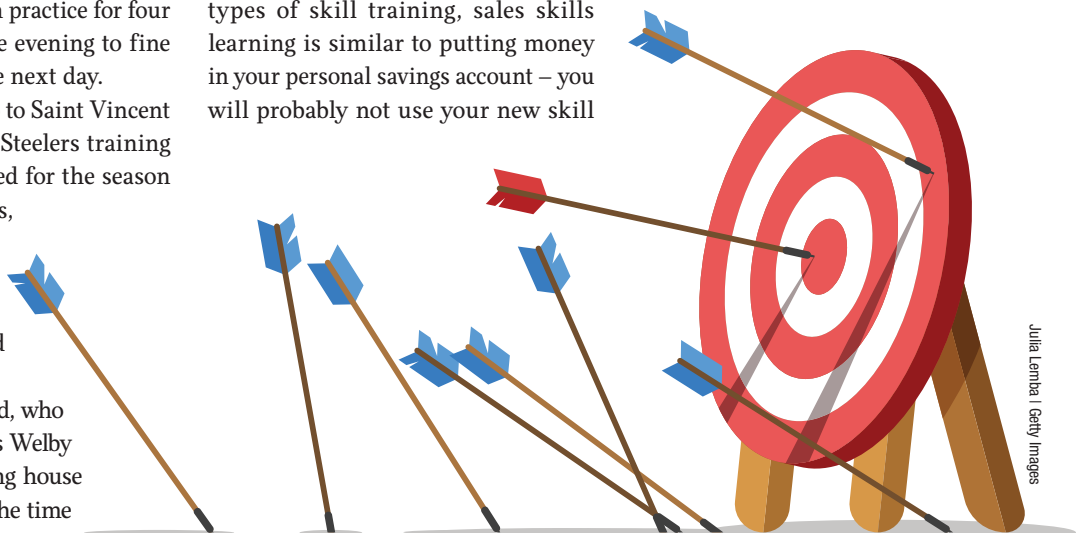
Invest some time and effort in your career, pick up a few new closing skills, learn and develop your social media presence, or just figure out how to make one extra profitable stop per day.

Remember though, unlike many types of skill training, sales skills learning is similar to putting money in your personal savings account – you will probably not use your new skill

all the time. It will sit in your mind percolating until just the right selling situation comes up, and you bring it out it to make the sale.

Here's some ideas:

- Boost buyer engagement by bringing your existing product presentations to life. Develop your presentation skills in a way to get your prospect involved from the very start. Asking specific questions about product applications usually works to perk their attention and interest in your product: "Do you find it annoying when your greasy hand slips when you're turning a screwdriver?", or "Does it cut into your productive time when you have to wait to use the company scope since you don't have your own?"
- Learn the "puppy dog close." Just like taking your kids to the animal shelter and saying, "Ok, we will not take the first puppy you see." Yet, the first puppy your kids play with is it, and off you go with your new



dog. It's the same with tools. If at all possible, allow a squeamish buyer the opportunity to keep and use that new tool for a week, and it's a sale.

- A high percentage of the readers of Professional Distributor magazine carry one of the major brand's logos on their trucks. All the major brands are deep into using a broad-based social media program. What I mean is that the weekly email I receive from the major brands is the same email thousands of others receive at the same time. This is good marketing, but you individually, have the opportunity to take it one financial step farther. Start your own simple weekly email to your customers. Show pictures of your customers standing by their new tool storage unit or using their new

grinder. Mention something about you or your family to help bond your personal relationship, and adding something about a customer like a birth or wedding also adds a personal touch. End with a picture of something you are promoting or maybe even a used tool you have for sale. An hour a week invested will reap significant long-term results.

- Learn the "now or never" close. Normally, the promotional periods for the major mobile jobbers last four to six weeks. If it is getting near the end of a promotional period, and you have a buyer on the fence, a simple sentence like, "I know you're still deciding on this new tool, and I'm not here to push you, but the promotion is over, and I don't want you to be upset when the

price goes back up. Should we go ahead and get this deal done?"

- Finally, set a personal goal to read at least one sales skills book every two months to keep up with the latest selling skills and increase your income.

Now, go sell something! **PD**



**ALAN W. SIPE** has spent the last 42 years in the basic hand tool industry including positions as president of KNIPEX Tools

North America, senior vice president of sales and marketing at Klein Tools, manager of special markets at Stanley Tools, and sales manager at toolbox manufacturer Waterloo Industries. Currently, Sipe is the owner of Toolbox Sales and Consulting, a company specializing in sales strategy, structure, development, and training.

[alansipe@gmail.com](mailto:alansipe@gmail.com)

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# DRIVING SALES

Diagnostic Test Equipment

## Diagnostic Test Equipment

To diagnose a vehicle quickly and efficiently, technicians and shops are no longer recommended to have a selection of tools to properly test the vehicle – they must have those tools. As vehicles continue to advance, it's not just a matter of what tool, but which tools to use. Whether testing EVAP systems, evaluating a battery's state of health, inspecting brake calipers for sticking, or checking for electrical faults, here's some diagnostic test equipment worth checking out to make your customer's job a little easier.



### USES INFRARED AND SURFACE REACTION SENSORS

The **INFICON AST Leak Detector Line** is designed for leak detection in any automotive air conditioning system, from R-134a and R-1234yf to CO<sub>2</sub> and hydrogen forming gas applications. The AST (Automotive Service Tools) line includes a UV inspection light to help verify the leak source in systems where fluorescent dye is present. AST300PPM and AST200IR Leak Detectors are certified to both SAE J2791 and SAE J2913 requirements and include a quick check refrigerant gauge to verify refrigerant levels in a R-1234yf system. The AST100FG uses hydrogen forming gas, saving technicians on cost while reducing environmental impact compared to leak checking with traditional refrigerant, the company says. ■

**For more information, click on "PD e-inquiry" at VehicleServicePros.com**



### FOR ELECTRIC AND HYBRID VEHICLES

The **EV Battery + Coolant Leak Detector** from **Redline Detection** is designed to test the integrity of battery enclosures in electric and hybrid vehicles. Durable and compact, the unit connects to the battery enclosure on or off the vehicle, giving audible and visual progress and precise pass/fail indication, specific to that battery and vehicle type, when testing is complete. Data logging and reports can be accessed remotely and the machine is programmable for future battery configurations. ■

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### PROVIDES QUICK, HIGH-ACCURACY TESTS FOR EV BATTERY PACKS

The **E-XTEQ E-VLT Leak Tester** is designed to provide quick, high-accuracy tests for EV battery packs, electric motor cavities, and gearbox housing/cooling systems. E-VLT is equipped with three different test options which include hydrogen, smoke, and snoop test. It utilizes Argos cloud-based system for job traceability, test parameters, and threshold updates. ■

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### EASY-TO-USE INTERFACE

The **Mongoose-Plus** from **Opus IVS** is designed to offer J2534 Pass-Thru technology enabling diagnostics, reprogramming, and security functions for dealerships and independent repair facilities. The compact device provides an easy-to-use interface that allows users to repair complex vehicles with OE applications. Mongoose-Plus is engineered to work with each OEM's J2534 applications for Chrysler, Ford, GM, Nissan, Toyota, and VW/Audi. New Bluetooth options are available as well as new hardware features such as rugged and ergonomic enclosure and detachable USB cable for easy field replacement. ■

**For more information, click on "PD e-inquiry" at VehicleServicePros.com**



### GIVES A VISUAL CHECK OF SPARK ENERGY

The **Lisle Corporation Inline Spark Tester with Coil-on-Plug Wire**, No. 20580, is designed to give a visual check of spark energy for coil-on-plug or standard ignition systems. Simply connect the tool between the spark plug and the plug wire. The short wire is double ended to offer a straight boot and a 90-degree boot on one tool. With the engine running, the tool flashes a mirror image of the ignition spark. The additional 7" extension plug wire is used on coil-on-plugs that are recessed and hard-to-reach. ■

**For more information, click on "PD e-inquiry" at VehicleServicePros.com**





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



### ABLE TO MEASURE, RECORD, AND PLAYBACK COMPRESSION READINGS

The **OTC Deluxe Digital Compression Tester Kit**, No. 5605-DG, is designed to help determine the mechanical condition of the engines' cylinders. The digital gauge is easy to read and can display pressures in psi, kPA, bar, and kg/c. It also can measure, record, and playback compression readings on up to 12 cylinders, for quicker testing and diagnosis. Specialized adapters work on both flat and tapered seat plugs. A convenient push-button side release valve relieves pressure for repeat testing. The kit includes standard and specialty adapters, including the deep well connector used on recessed plug well style heads and the Ford Triton engine adapter using 16mm thread plugs. ■

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#### CUSTOMER REVIEW:

“The gauge is nice and large, so it's easy to read and it has good grip. The extra connecting parts make the tool really useful for different engines.”



### 1,000V AC/DC VOLTAGE AND 10A AC/DC CURRENT

The **Lang Tools CAT IV Digital Multimeter**, No. 13811, is a handheld professional multimeter that can measure up to 1,000V AC/DC voltage and 10A AC/DC current. It can also measure resistance, diode, continuity, and mx-Pulse/duty cycle. The multimeter features auto ranging, data hold, and is CAT III 1000V and CAT IV 600V rated. The multimeter includes test leads, batteries, a temperature probe, and a manual. ■

For more information, click on “PD e-inquiry” at [VehicleServicePros.com](http://VehicleServicePros.com)



The Battery Chargers Professional Technicians TRUST

## ESS6100 Smart Charger



#### JUDGES COMMENTS:

“Great charger/maintainer that will keep a battery charged whether it is being stored, or is low and needing a charge. Works to keep a vehicles battery level where it needs to be during diagnostic procedures, or module programming.”

“Very versatile small charger.”



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**CUSTOMER REVIEW:**  
The scanner is very easy to use and the touchscreen is a plus. The set up of the scanner is very simple to navigate through. Setup is so easy, even if you've never used a professional battery tester, you'll be up and running in minutes.

## SMART SYSTEMS DETECTION

The **OTOFIX BT1 Battery Tester** provides a comprehensive battery diagnostics and repair solution that fits in the palm of the user's hand. Featuring a smart 5.5" touchscreen, the BT1 is able to examine battery and electrical systems as well as register a new battery. The battery tester also features OTOFIX's cloud services to access the latest support issues and solutions, advanced testing methods, BMS reset, and smart systems detection. It has a voltage range from 1.5V to 36V and a CCA range of 100 to 3,000A. ■

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## DYVO CAN COMPARE TWO CIRCUITS AT THE SAME TIME

**DYVO** is a circuit and component tester designed for automotive circuits and all other 12V systems. It can easily find opens, shorts, and resistance issues. Its automatic load test identifies wire and circuit problems. DYVO can quickly compare two circuits at the same time and offers technicians to see live battery voltage during testing. It will also alert users if the battery voltage drops too low or goes too high (overcharging). It features a computer safe mode as well as bright colored LEDs with pass/fail indication. ■

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### 194 Super Relay Buddy®

- Full 7 Amp load during the test
- Relay voltage drop monitored
- **Ten second test!**
- Test results displayed as red, green or yellow for caution



- Tests 7 different 12 volt relays
- More effective test finds intermittently bad relays

### 195 Super Relay Buddy® Pro Kit

- Kit includes adapters for expanded test coverage - **10 different 12V relays**



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### SUPPORTS CANFD PROTOCOL

The **Thinkcar THINKDIAG 2** is a diagnostic device that supports CANFD protocol, providing fast and accurate diagnostics. With added vehicle model support, the device offers OBD-II full functions, full system diagnostics, 15 reset functions, remote diagnostics, real-time data stream, automatic VIN reading, actuation tests, reads fault codes, and clears fault memory. It also features a soft rubber sleeve made from ABS+ silicone with double-sided indicators that allow users to directly observe the working status of the product under any circumstances. ■

For more information, click on "PD e-inquiry"  
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Watch this product in action here:  
[VehicleServicePros.com/21276730](https://VehicleServicePros.com/21276730)



### FEATURES A TWO-WAY PIVOTING 5.5MM PROBE CAMERA

The **Oasis Scientific Vividia VA-455i USB Flexible Smartphone Two-Way Articulating Inspection Camera Borescope** is an ideal diagnostic inspection camera for auto mechanics and technicians. It features a 5.5mm diameter, 1m long flexible probe that is covered with a durable and waterproof polymer tube. The VA-455i has bright LEDs, a two-way pivoting 5.5mm probe camera, and can be directly connected to an iPhone, iPad, or Android phone or tablet via a USB data cable. The inspection camera is suitable for many applications, such as looking into engine cylinders, behind instrumental panels, or inside brake systems. Note: some Android devices may not work due to the restriction of the Android developers. ■  
For more information, click on "PD e-inquiry"  
at [VehicleServicePros.com](https://VehicleServicePros.com)



### WORKS WITH ALMOST ANY DIGITAL MULTIMETER

The **Electronic Specialties LOADpro and Back Probe Kit**, No. 187, is designed to help technicians diagnose electrical problems. The kit includes LOADpro test leads, LOADpro tip adapters, flexible silicon back probes, spoon probe curved back probes, large crocodile clips, and push-on alligator clips. The test leads allow users to instantly load the circuit to see if current can flow and can work with almost any digital multimeter. LOADpro is able to find high corrosive resistance, shorts to ground, and open circuits quickly and easily by simply just reading the voltage, the company says. ■

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# DRIVING SALES

Diagnostic Test Equipment

## INTEGRATES BATTERY TESTING AND VEHICLE DIAGNOSIS

The **BST880D Handheld Tool** from **Launch Tech** can test battery and charging systems in addition to OBD system access. It's equipped with AUTOVIN detect and live data monitoring, able to diagnose four systems, and supports CCA, BCI, CA, MCA, EN, JIS, DIN, IEC, SAE, GB battery standards, gel, AGM, and lead acid battery types. It also includes six service functions: TPMS reset, oil reset, brake reset, ABS bleeding, electronic throttle relearn, and battery reset. ■

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Watch this product in action here: [VehicleServicePros.com/21276719](http://VehicleServicePros.com/21276719)

## AVAILABLE IN SEVEN DIFFERENT KITS

### The FLIR VS80 High Performance Videoscope

is outfitted with a 1024 by 600 high resolution 7" touchscreen display and is available in seven different kits with the option to purchase waterproof, ultra-slim probes that can be easily swapped in and out. Probe options include a 4.5mm diameter two-way articulating probe; a four-way articulating probe; a plumbing spool probe with a 25m cable; single HD and dual HD visible camera probes; a standard definition probe; and a general-purpose thermal camera probe. ■

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## A UNIVERSAL DIAGNOSTIC LIGHT TESTER FOR TRAILERS

### The Innovative Products of America Smart MUTT

X, No. 4105, is a universal, remote-controlled, diagnostic light trailer for all North American



trailers. The unit is ideal for semi, RV, utility, boat, and horse trailer-type connections. It's able to test five of the most common trailer types, including 7-way flat (spade), 7-way round, 6-way round, and 5-pin and 4-pin connections. The Smart MUTT X is microprocessor controlled and can be electronically switched to different trailer-type modes. Each mode optimizes system programming by pin type to simplify and speed up inspections. It includes a large processor for future expandability and a 12-button remote. ■

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](http://VehicleServicePros.com)

## ABLE TO TEST SINGLE, TWIN-TURBO, AND SUPERCHARGED VEHICLES

### The K-Tool International Turbo Smoke Machine

No. KITXD600T, is designed to locate leaks fast on regular and light trucks. With the push of a button, it can be switched to turbo mode to test single, twin-turbo, and supercharged vehicles. With built-in air compressors, the unit

is portable. It has dual testing modes: smoke mode and air mode. It includes two redesigned bladder blockers and has a built-in flow meter (determines a leak amount as small as .10"), vacuum, and pressure decay gauge. The unit runs on ordinary mineral oil or baby oil. ■

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## BUILT-IN INTERNAL COMPRESSOR FOR MOBILE REPAIRS

The **Mastercool Dual EVAP/ High Pressure Diagnostic Smoke Machine with Truck Adapter Accessory Kit**, No. 43070, is designed for EVAP, turbo/intake, and heavy duty truck testing, offering complete automotive smoke detection testing in a single unit. With an internal compressor, mobile repairs are made possible. The unit doesn't need the use of shop air, but has the ability to utilize shop air and inert gases if and when needed. The smoke machine kit includes all the adapters for EVAP, high pressure, and heavy duty truck testing. ■

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](http://VehicleServicePros.com)



## FOR EV TECHNOLOGY AND SYSTEM DESIGNS

The **Tracer Products POE-Based EVA/C Dye Complete UV Leak Detection Kit**, No. TPOPUV20EV, is engineered for EV technology and system designs. It's compatible with R-134a and R-1234yf systems and is manufactured with specialized OEM-grade compressor oil for EVs. It also maintains system resistivity with a concentrated formula. The kit includes single-dose Mini-EZ dye cartridges, a TPOPUV OPTI-PRO UV flashlight, solid-brass swivel-type R-134a coupler, R-1234yf

adapter, GLO-AWAY Plus, TP9940 glasses, and a medium blue carrying case. Individually sealed in foil packaging to protect against moisture. ■

For more information, click on "PD e-inquiry" at [VehicleServicePros.com](http://VehicleServicePros.com)

## CAN MEASURE AND INDICATE EXACT VOLTAGE

The **Power Probe Volt Tester**, No. VT750LCD, is a compact automatic voltage tester up to 750V. It can measure and indicate the exact voltage (AC/DC); phase indication and phase rotation; and continuity, RCD, and resistance via an LCD. It features 2,000



count digital display, 2,000 ohms resistance range, a 1,000 Hz frequency counter, an integrated single pole test for phase detection, and IP65 for outdoor use. The operation time is 30 seconds, and the recovery time is 240 seconds. ■

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# All in the family

The entire Meyers family embraces the Mac Tools business with enthusiasm.

By E. Lisa Moses, Contributing Writer

Every year, 34-year-old Cameron Meyer, his wife Bridget, and their four daughters drive to the Mac Tools Tool Fair from their home in Pierce, Neb. for their vacation. They like the family-friendly destinations the company chooses for these events, so everyone can have a good time and still do business.

"When we're at these tool shows, Bridget just soaks everything in, and the girls learn a lot, too," Meyer says.

Their eight-year-old, McKenna, gets to practice the sales pitches she learns from him when she hitches a ride on his route.

A multi-route franchisee, Meyer covers Northeast Nebraska with two trucks. He and his other driver service about 850 customers in the city of Norfolk and every town within a 70-mile radius. Meyer's territory is mainly Norfolk, where he spends Mondays at Northeast Community College with students in the automotive, autobody, and diesel technician programs. At the college, students flock to the truck, where he showcases new products, distributes flyers, and provides educational sessions and demonstrations.

"It's a big thing for our Kansas-Nebraska Mac Tools district, and we're always the No. 1 district for student technicians," he reports, adding that these are also his future customers.

Meyer's history and background were a perfect fit for this career choice.



*Cameron Meyer spends every Monday at a community college demonstrating new tools and fostering future business.*

Before becoming a mobile tool dealer seven years ago, he sold parts in a variety of enterprises. He's also been exposed to the auto industry since before he was born. His father owned an automotive repair shop for 45 years.

At one point when Meyer's multi-route driver quit, Bridget took a break from being a stay-at-home mom and jumped in. She trained on his truck for two days and hit the road the following week.

"She serviced the route for two months until I had the next driver hired and trained," he says. "Bridget really understands the business, and now knows the route and the customers."

Meyer is also a "dad" to his customers, who know he will take care of them and figure something out if they're in a jam or need something quickly. He keeps a large selection of tools on his truck, including specialty items such as timing tools, so he's often their first call. If he's out of stock, he'll find another Mac distributor and have them drop-ship the item.

Meyer's bestsellers include Mac's exclusive RBRT sets, cordless electrical tools, and air tools. Mac Tools updates him regularly on new developments, and

he is constantly searching websites and magazines to see what's out there.

"This helps me sell to technicians who have been around for a long time, and think they don't need anything more, but when they see the benefits of a cool new tool, they'll probably buy it," he says.

As for sales tools, Meyer believes that social media is one of the most important vehicles for distributors. He's a huge Snapchat user, with about 500 business contacts. He reports that any time he takes something in on trade, he'll post it on his account, and it will usually be gone before he gets to his next stop.

In looking to the future, Meyer can't envision doing anything else.

"I truly love what I do, and it doesn't feel like work to me."

His family would agree. **PD**

## FUN FACTS:



### **Favorite hobby**

Dirt-track racing an IMCA Northern SportMod.



### **Music for the road**

Racing podcasts are music to his ears.



### **Can't live without on the truck**

Internet and cellphone – his lifeline.



### **Biggest sale ever**

About \$18,000 for a giant toolbox with tools.



### **Favorite snacks**

Goldrush beef jerky, Mac Tools candy mix, and Monster Energy drinks.

### **What's your story?**

Share the ups and downs of life on the road with us at [Editor@VehicleServicePros.com](mailto:Editor@VehicleServicePros.com) and you could be featured in our next Tales from the Road column.



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# FRAME

# Body Buggy



## CHASSIS ROLLER

### DF-BB104 & DF-BB105

*Rack time is expensive, free up your rack in minutes!*

## APPLICATION

Quick and safe method to transport disabled vehicles off a rack. Vehicle is secured and easily moved around the shop. Roll onto a frame machine or into a paint booth.

## FEATURE & BENEFITS

- **FREE UP RACKS** - Quickly move disabled vehicles off the rack when waiting on parts, inspections, or other delays.
- **HIGHLY MOBILE** - Move the vehicle by hand over speed bumps, dips, or uneven pavement.
- **VERSATILE** - Install on the front or rear of most any vehicle with the wheel assemblies placed on either side of the mounting point.
- **MADE IN THE USA** - Design & manufactured in California for the utmost in quality.

## DESCRIPTION

The patented **Body Buggy** makes the difficult task of moving a disabled vehicle simple and safe. After a simple five minute installation, the unit becomes "part of the vehicle", negating the need to employ any unstable or dangerous lift points. The included spacer kit allows for the use of original fasteners, alleviating the need for any additional fastener inventory. When installed, the vehicle is easily rolled onto a frame rack, into a paint booth or to storage, out of the way of production. The device can be installed on the front or rear of most any vehicle using the cradle or sub-frame mounting points and hardware.

For more information, click on PD e-inquiry at [VehicleServicePros.com](http://VehicleServicePros.com)

**WWW.DENTFIX.COM**



**Kit Includes:**  
Main Beam, Wheel Assemblies, Sliding Lock Collars, Mounting Brackets (2 Pairs of different heights), Hitch Pins & Clips, Fitment Pin Spacer, Storage Crate, and 10 pc Spacer Kit.



## IN ACTION



### ROLLS ANYWHERE:

Load vehicles onto the tow truck or anywhere in the shop. Easily roll the vehicle into the paint booth too!



### BECOMES PART OF THE VEHICLE:

No need to employ any unstable or dangerous lift points. Mounts to the sub frame or cradle using the original mount points and hardware.

## CONFIGURATIONS

