

HOW FLEETS
CAN BENEFIT
FROM TODAY'S

6x2 axle configurations

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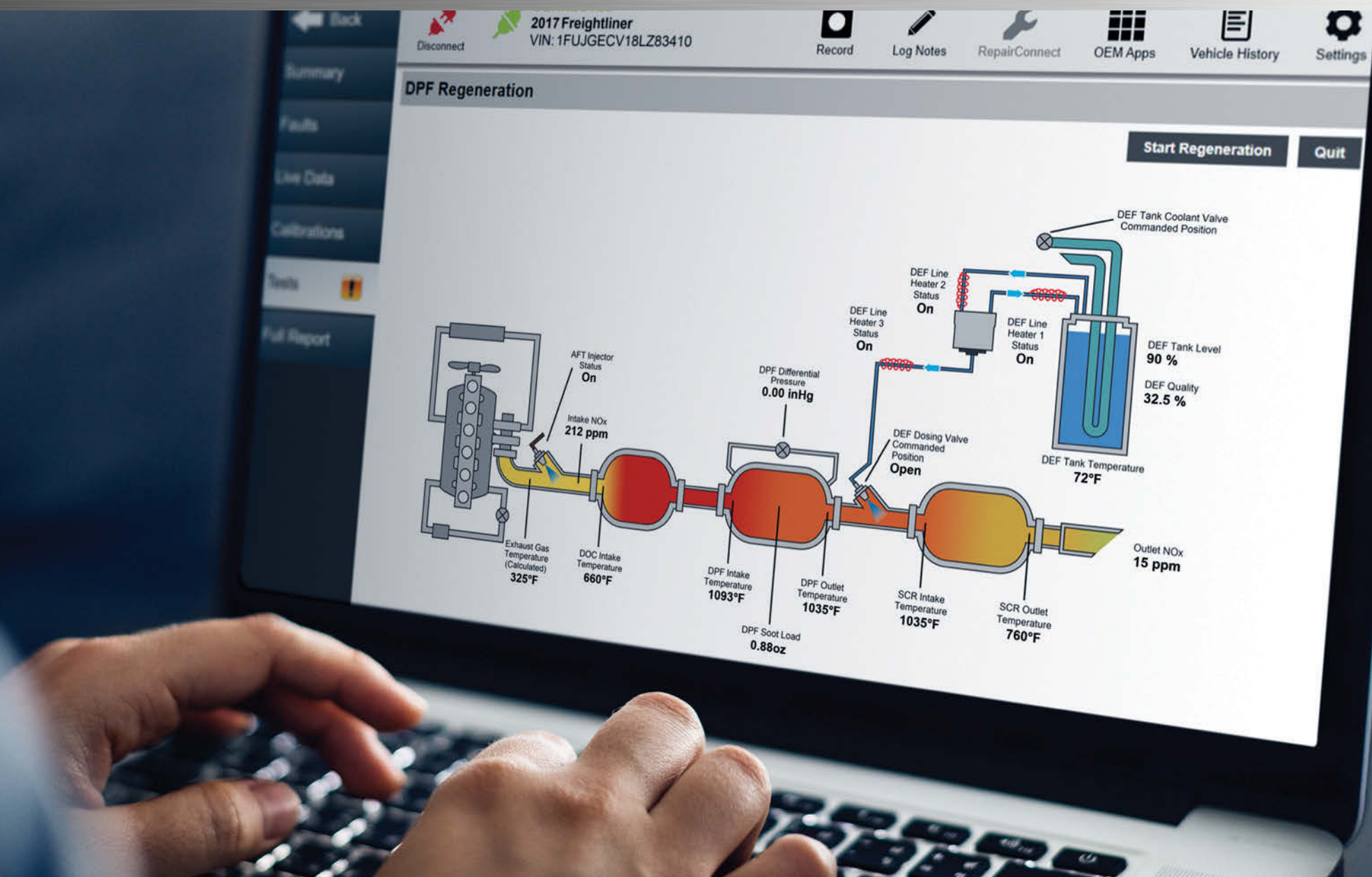
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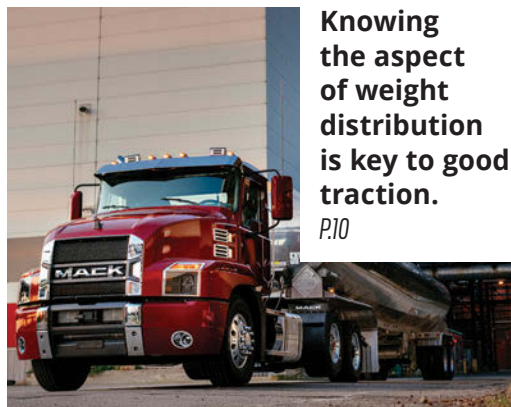
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→ **On the cover:** Photo courtesy of Blaine Brothers

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DIAGNOSTICS



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Look for online exclusives on hot topics in the fleet maintenance management industry inside each issue of *Fleet Maintenance*.



UPTIME UPDATE

Episode 39: Benefits of hot oil changes

Carrie Hasinoff, marketing director at No-Spill Systems, discusses differences between hot versus cold oil changes, and products available that can help assist technicians with this service.

VehicleServicePros.com/21128847

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Cummins ETREE ride along

The Class 6 Cummins Electric Truck with Range Extending Engine project vehicle is a series hybrid, with a diesel engine powering a battery system and an electric traction motor driving the wheels.

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Vehicle service providers considered essential businesses

"You need technicians just as much as you need drivers to make sure the truck is moving," says Robert Braswell, executive director for TMC.

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TMC to review recommendations on cleaning and sanitizing truck cabs

TMC task force proposes RP 443 update to provide additional details on cleaning and sanitizing truck cabs in an effort to help prevent the spread of illnesses like the COVID-19 virus.

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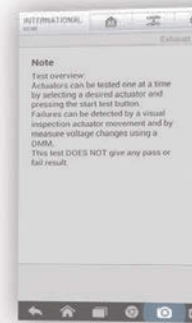
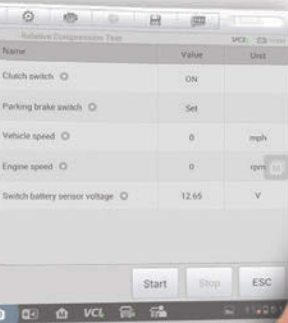
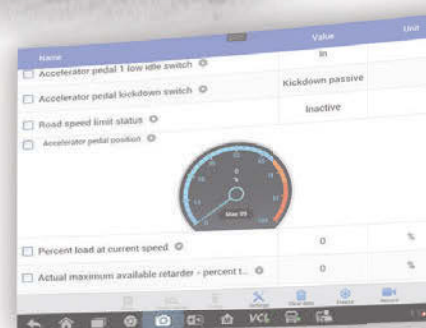
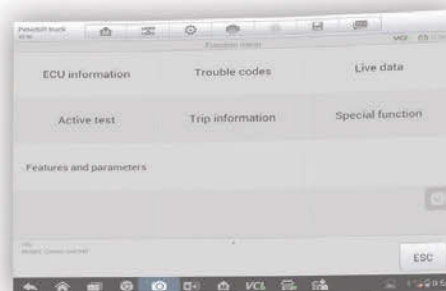
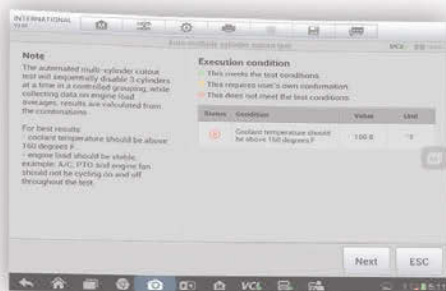
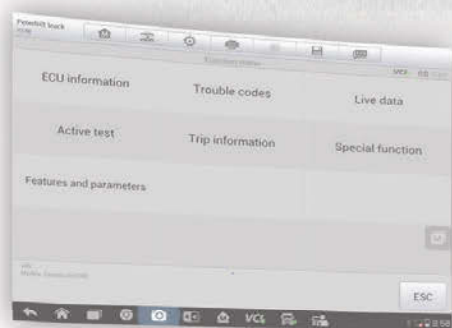
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The responsibilities of being an essential business

What it means for the trucking industry to be on the front lines in the face of the current pandemic.



By Erica Schueller
Editorial Director

.....

@CV_ESchueller



In light of the abrupt and drastic changes caused by the COVID-19 novel coronavirus, we have all faced a number of challenges both at home and at work. Through it all, the trucking industry has continued to power the U.S. economy.

Maintenance facilities, by virtue of their responsibilities to ensure fleet vehicles stay running, are considered essential businesses. The service and repair of vehicles, and the assurance that preventive maintenance continues to be completed in order to avoid vehicle downtime, would not be possible without an open maintenance facility.

The impact

While being an essential business during the time of a national crisis means an operation continues to run, it does not do so without changes in the day-to-day processes.

With additional potential risks of COVID-19 exposure to essential employees, many fleets have taken additional steps to limit the exposure and adhere to social distancing guidelines. Things like staggered lunch shifts and breaks are being practiced, as well as introducing alternative methods to limit physical contact like foregoing handshakes and not sharing writing utensils. Some maintenance operations have even opted to create more distance between working employees by keeping alternating bays empty. All of these practices have placed added steps to the entire maintenance process.

That's not to mention the additional cleaning and disinfecting necessary to limit the risk of exposure to COVID-19. Some fleets have created hygiene kits for drivers, while others have set up additional hand sanitizer kiosks throughout the building.

Part of the challenge is the general shared areas of not only the shop, but inside the truck cab.

A Technology & Maintenance Council (TMC) task force within the S.4 Cab & Control study group expedited the finalization of an update to RP 443 In-Cab Cleaning and Deodorizing Guidelines in order to provide steps to clean and disinfect truck cabs. The updated RP was already in development as an alternative method to mitigating bed bug infestations, but it had been discovered the processes being explored for this alternative method, using chlorine dioxide, also help to safely and effectively sanitize and disinfect the truck cab. This means the process can also be employed to stop the spread of the COVID-19 virus. To read more about the development of the updated RP to clean and disinfect truck cabs, head to VehicleServicePros.com/21131730.

Speaking of TMC, the organization also conducted a survey in late March to understand members' concerns and the anticipated impact the coronavirus may have on maintenance operations. Nearly half of respondents (48 percent) indicated they already had an operational disaster mitigation plan in place, per directives outlined in TMC's Recommended Practice (RP) Disaster Recovery for Vehicle Maintenance Operations – which presumably was enacted in response to the pandemic.

This survey specifically addressed the staff preparation and the potential impact on the supply chain for shop supplies, like gloves and uniforms, as well as fluids such as fuel and lubricants. Respondents indicated that they had seen no impact, or a minor impact, on these shop supplies currently. Respondents indicated, however, that they do anticipate the impact could become more moderate through the month of April.

The main issue – pandemic or not – has been the recruitment and hiring of technicians. Respondents noted this pressing industry challenge may be compounded due to the national response to the COVID-19 outbreak.

TMC plans to conduct a follow-up survey in April.

Looking to the future

The resilience of our industry has proven itself time and again, whether that's through challenges such as the 2008 recession, or the impact on the economy after the September 11, 2001, terrorist attacks. Situations like these can have a direct impact on the economy, which also has a direct impact on our industry. The challenges will always be there, but it's how we face them and the attitude we keep that can make the difference on how we come out on the other side of this.

Know that our editorial staff is working hard to ensure information gets to you. We will continue to provide updates on how the COVID-19 pandemic has been directly impacting the trucking industry. Be sure to check back for updates regularly at VehicleServicePros.com/covid-19.

I am always interested to hear how events like this, as well as any other challenges (and successes) may be directly impacting your fleet. As you take notes to reflect on how your business has dealt with these current events, I'd like to know how you're facing the change. I look forward to continuing the conversation with each of you. ▀

Fleet Maintenance promotes David Brierley to editor



I am very excited to announce that David Brierley has been promoted to editor of Fleet Maintenance. He brings 10

years of professional publishing experience to this role. Most recently he has served as managing editor for the Endeavor Vehicle Repair Group, which includes Fleet Maintenance. He has a proven passion for this industry, and I have no doubt he will excel in this new position. I look forward to working with him to continue to drive the development of useful and engaging content for our readers.

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How fleets can benefit from today's 6x2 axle configurations

Improved designs and increased availability of liftable pusher axles are making the 6x2 a more viable option for fleets.

By Gregg Wartgow

[AXLES]

The 6x2 axle configuration has been around for decades. Just ask Joel Morrow. His family's trucking business has been using both 6x4s and 6x2s for 40-plus years. Nowadays, Morrow has come to prefer a 6x2.

"I have learned all the little quirks over the years," says Morrow, senior driver and head of research and development for Ploger Transportation in Norwalk, Ohio. "Now I prefer 6x2s, even in snowy weather. You can actually

get better traction as long as you understand the aspect of weight distribution."

Traditionally though, traction has always been one of the generally accepted downsides of a 6x2, notes Morrow. With a 6x4, both rear axles are powered axles which helps with traction, whereas a 6x2 has only one of the rear axles powered. Additionally, a 6x4 provides more power and torque since both rear axles are receiving power.

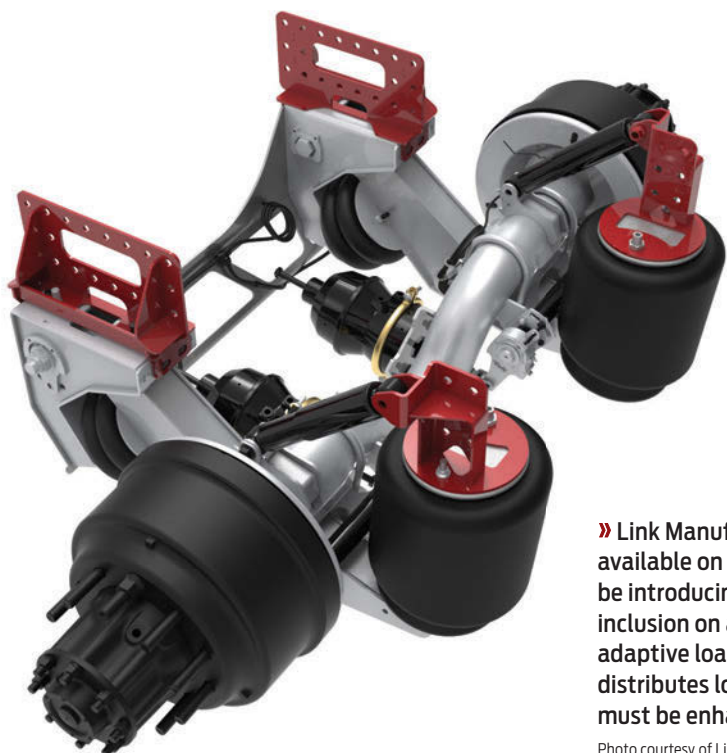
Resale value is another reason why some fleets have shied away from 6x2s. Since 6x4s continue to outsell 6x2s by a wide margin, there isn't a terribly large market for used 6x2s.

All of those factors have continued to thwart the more widespread adoption of 6x2 axle configurations. However, 6x2s offer a couple of unmistakable benefits where many fleets are placing higher levels of importance: fuel economy and weight. Additionally, new design approaches and the leveraging of technology are making certain 6x2 configurations more functional, versatile, and cost effective.

"For fleets that really pay attention to the details and work with OEs and tire manufacturers to get the best configuration for their

» Link Manufacturing's 6x2 liftable axle is commercially available on Volvo and Mack trucks. The company will be introducing its own version later this year for possible inclusion on additional brands. This 6x2 pusher features adaptive loading technology which automatically distributes load to the drive axle in instances where traction must be enhanced; no driver intervention is needed.

Photo courtesy of Link Manufacturing



» There are two general types of 6x2 axles. A tag axle is where the rear-most drive axle is non-powered. A pusher axle is where the forward-most drive axle is not powered.

Photo courtesy of Mack Trucks

operation, the 6x2 axle is a real opportunity going forward," says Joel Van Den Brink, senior engineer for Link Manufacturing, a manufacturer of suspension systems including lift axles for commercial vehicles.



6x2 axle configurations

There are two general types of 6x2 axles. A tag axle is where the rear-most drive axle is non-powered, also referred to as a free-rolling or dead axle. A pusher axle is where the forward-most drive axle is not powered.

The tag axle has been the most common. It is generally perceived to have traction issues in challenging conditions. Tire wear can also be an issue. All four rear tires are on the road at all times. Since

The type of 6x2 configuration that makes the most sense for a fleet will depend on what the tractor-trailer is transporting, where the load is being transported, and how often the truck travels with a less-than-full load.

only two of those tires are powered, they can tend to wear faster.

A 6x2 pusher axle helps reclaim some of those downsides. First of all, the powered drive axle remains in the far back which aids traction. Secondly, due to the fact that it is positioned upfront, a pusher axle can be lifted when not needed, which helps reduce tire wear.

According to Steve Mastroianni, senior manager of product planning for axles at Dana, a leading drivetrain and propulsion systems provider, a tag axle is more than adequate in areas south of Interstate 40, which runs east to west from northern Arizona through North Carolina. That is because those southern environments present minimal scenarios where traction is significantly compromised due to weather conditions.

When operating in more northern environments, Mastroianni says a pusher configuration becomes more favorable. “A pusher definitely has some advantages in places where there is inclement weather,” Mastroianni says.

“With a pusher axle, drivers can sort of ‘stretch the wheelbase’ by applying power far back behind the fifth wheel where they’re probably going to have more of a weight loading,” says Scott Donnelly, aftermarket training and senior quality engineer for Dana.

Conversely, with a tag axle, power is applied at the forward axle.

“The rear axle of a tag is still going to provide stability and load-carrying capability,” Donnelly points out.

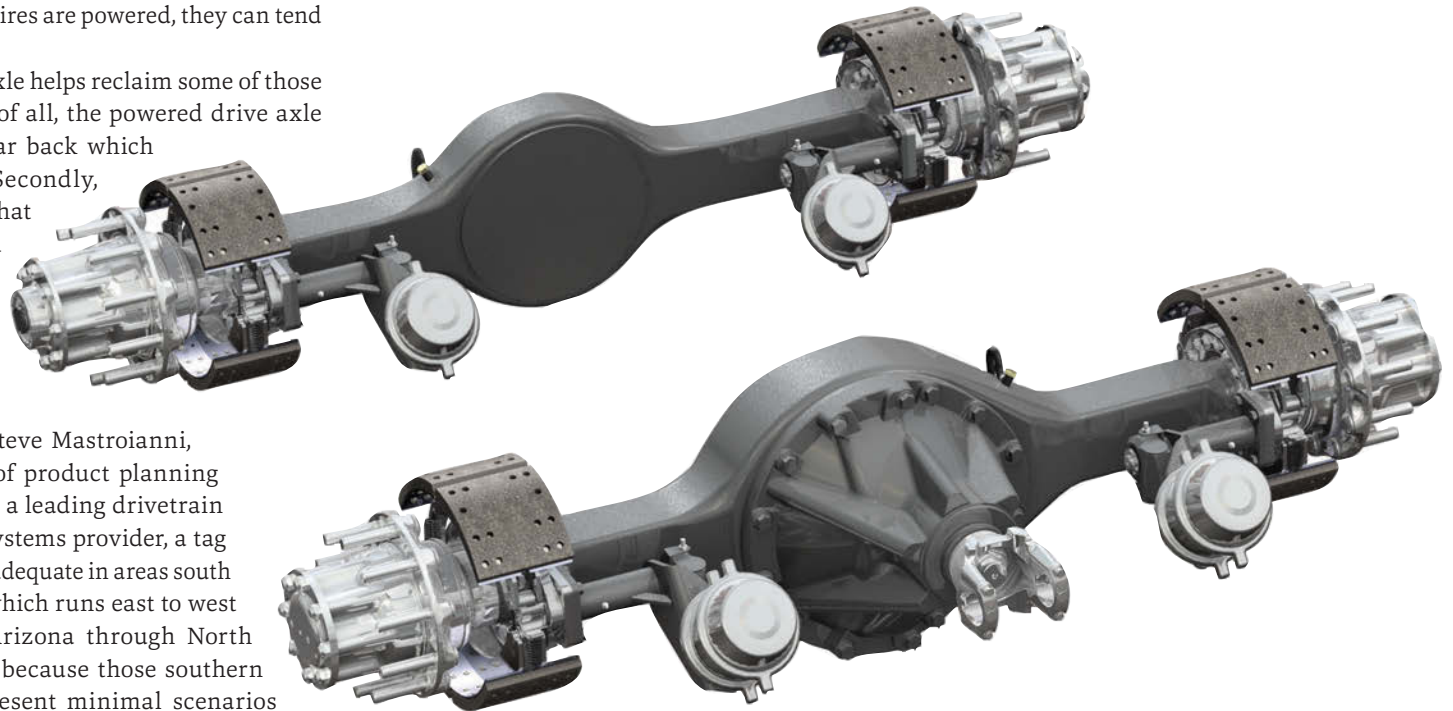
The type of 6x2 configuration that makes the most sense for a fleet will depend on what the tractor-trailer is transporting, where the load is being transported, and how often the truck travels with a less-than-full load.

Benefits of 6x2 axles

The primary benefit of using a 6x2 axle is improved fuel economy as only one of the rear axles is powered. When the non-powered axle is liftable in the pusher position, the fuel savings can be even more impactful.

“A liftable pusher axle reduces rolling resistance which further improves fuel economy,” says Michael Hof, vice president of business development for Link Manufacturing which offers a 6x2 liftable pusher. “Some fleets that are more experienced with 6x2 pushers are getting anywhere from 10 to 12 miles per gallon.” Data on Link Manufacturing’s website suggests a 3 to 5 percent improvement in fuel economy compared to a 6x4 axle.

Roy Horton, director of product strategy for Mack Trucks, a manufacturer of heavy duty Class 8 trucks, engines, and transmissions, notes that depending on the application, 6x2 pusher axles can provide substantial cost and time savings to a fleet.



» Dana’s EconoTrek 6x2 tandem axle consists of the S175 front drive axle and a unique rear tag axle. The tag axle has a square-edge banjo housing design for enhanced durability. The tag axle is also optimized for electronic-controlled load distribution air suspension systems.

Photo courtesy of Dana

“Some fleets prefer wide-base singles while others prefer dual tires. Some like torque-reactive suspensions while others do not. There are all kinds of tweaking fleets can do with 6x2s to get the most favorable vehicle dynamics they are looking for.”

Steve Mastroianni, senior manager of product planning for axles, Dana Inc.

“Applications involving light loads or driving empty on one leg of a route are good examples,” Horton says.

Mack’s Liftable Pusher Axle features weight sensors in the truck that can detect an empty, partially full, or full trailer and automatically raise or lower the pusher axle to help maximize fuel efficiency.

“The system also automatically distributes weight between the pusher and rear axle to enhance traction,” Horton says. Drivers can manually override the system as needed.

Hendrickson, a manufacturer of truck, tractor, bus, and recreational vehicle suspensions, axles, and other products, manufactures its own liftable pusher axle.

“Our Optimaax forward liftable axle lifts when the tractor is lightly loaded or in a bobtail for additional fuel economy,” says Mark Williamson, on-highway segment manager for Hendrickson.

Reduced weight is a second benefit of 6x2 axles. As Link Manufacturing’s Van Den Brink points out, since the non-powered axle doesn’t need internal gearing or a driveshaft, it can shed several hundred pounds. This can be an important benefit to fleets that are especially concerned about weight and cargo-carrying capacity.

Hendrickson’s Williamson says a 6x2 pusher is ideal for a fleet with diminishing load applications such as bulk haulers, grocery, livestock, beverage, or applications experiencing empty back hauls.

Fleets can also reduce their tolls with a liftable pusher axle.

“Lifting an axle reduces axle count,” Van Den Brink says.

As touched on earlier, Williamson says a common complaint from drivers who have run 6x2s is lack of traction, especially when backing under a trailer. However, when a tractor is config-

➔ Continued Page 14

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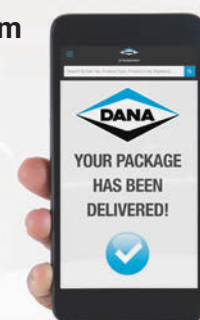
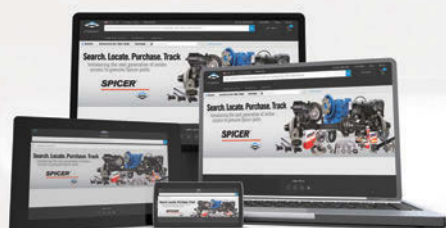
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How electric axles can further enhance fuel efficiency with 6x2 configurations

Electric axles, known as e-axles, could be used in conjunction with tag or lift axles pending application needs, say experts at driveline and brake supplier Meritor.

As the industry continues discussion around vehicle electrification, e-axles are a means to electrify a system on a traditional diesel engine while providing better fuel efficiency and less moving parts. The same design used on a hybrid truck can also be spec'd on a fully electric drivetrain.

An e-axle system consists of an electric motor, transmission, and a drive axle. How does it work?

"An e-axle uses an electric motor to assist or be the source of propulsion of the vehicle," Meritor experts say. "The electric motor takes the place of the ring gear and associated gearing in the axle housing contained as one power-dense package."

This design provides flexibility and a more seamless integration for truck manufacturers when spec'ing e-axles like Meritor's eCarrier.

In a conventional powertrain, the torque comes from the engine, passes through the transmission and driveline, and travels up to the axle and wheels, enabling the vehicle to propel. With an e-axle, an electric motor and a transmission with fewer gears take the place of the conventional engine and transmission.

» Hendrickson's Optimaax liftable forward (pusher) axle design automates the lowering and lifting of the axle by sensing load capacities; no driver intervention is needed.

Photo courtesy of Hendrickson

ured with a 6x2 pusher such as Hendrickson's Optimaax, traction can be improved.

"We have also heard from our fleet customers that the ride is better, especially when lightly loaded or in a bobtail," Williamson says.

As Van Den Brink explains, the drive axle remains behind the fifth wheel in a pusher configuration, which increases tire friction. Then, when the tractor has the right control system, the driver can maximize load on the single drive axle. "Users of our 6x2 pusher have actually told us they get better traction than a 6x4 because they are getting that maximum load on one drive axle," Van Den Brink says.

Ploger Transportation's fleet includes both 6x4s and 6x2s on Volvo and Mack trucks. Morrow says the weight distribution logic that is part of the Volvo system has made all the difference.

"Not only does the system know when it's time to lift the axle, but it also has an algorithm to help bias weight to the drive axle," Morrow says. That's how a 6x2 liftable pusher axle can provide enhanced traction.

With a tag axle, on the other hand, the drive axle is in front which makes it difficult to achieve optimum weight transfer.

"Traction and tire life really suffer," Morrow adds.

Speaking of tire life, liftable pusher axles can also reclaim some of that negative stigma associated with 6x2 tags. Weight transferring, as Morrow just explained, is an important part. The other part is that with tag axles, all four rear tires are on the road at all times, whereas liftable pushers take two tires off the road when not needed, therefore

increasing the life of those tires. Additionally, data from Link Manufacturing and Mack Trucks shows that tire life with a 6x2 liftable pusher can be improved by up to 20 percent compared to a 6x4.

6x2 specification advice

All in all, with the correct logic and torque, Morrow believes a 6x2 liftable pusher axle is on par or better than a 6x4 in just about any on-highway application. Fuel economy has been the biggest benefit.

"We're getting another half-mile per gallon at least," Morrow says.

Some of Morrow's fuel savings used to go right into tire replacements. Now he has figured out how to reduce wear and extend life so that isn't necessary.

"We've learned to avoid using wide-based tires on 6x2s because all the power and torque are going through just two tires," Morrow explains. "Instead, we use tires with moderate rolling resistance and more traction."

Along with tires, Morrow says he has learned a few other lessons about how to properly specify a tractor-trailer with a 6x2 pusher axle:

- Since the goal is to get the lift axle off the ground as much as possible, go with a heavier (i.e. 14,000 lbs) front steer axle.
- Pay attention to engine size and weight. An 11L or 13L engine can provide power and torque on par with a 15L engine, and the lighter weight engine will help when it comes to weight transfer and lifting of the axle.
- With a 6x2, numerous oil and gear sets are eliminated, therefore power transfer to the drive axle is more efficient. Thus, 450hp will pull just as well as 500hp.

Morrow says it is also a good idea to consider a transmission with a crawler gear — even if you're in a general freight application.

"You need 25 percent of gross combination vehicle weight on the drive axle to maximize traction," Morrow explains. "It's easy to do that when you're light and the pusher axle comes up. But when you're heavy and need to maintain legality on the axles, the axle drops, and you have a hard time meeting that 25 percent on the drive axle. Maybe you only get 18 percent. To compensate, a crawler gear will help you get started on slippery surfaces with a heavy load."

Dana's Mastroianni says fleets often develop their own preferences on how they like to specify their vehicles for 6x2 axles.

"Some try to lightweight the upfront area of the truck, maybe going with a slightly smaller engine, just to balance things out more favorably so they aren't as front-end heavy," Mastroianni relates. "Some fleets prefer wide-base singles while others prefer dual tires. Some like torque-reactive suspensions while others do not. There are all kinds of tweaking fleets can do with 6x2s to get the most favorable vehicle dynamics they are looking for."

In the case of Dana 6x2 axles, Mastroianni says the company offers various features that help support a truck being configured in the right way to maximize traction. Examples include wider axle housings to provide the right track width to support the vehicle and thicker wall housings to accommodate various weight ratings.

“Those features are really important because you don’t want to just make everything wider and thicker,” Mastroianni points out. Doing so could end up offsetting any weight savings the 6x2 axle provides.

Another feature from Dana is the driver-controlled wheel differential lock.

“This becomes a highly used feature for those fleets concerned with traction,” Mastroianni says.

Maintaining a 6x2 axle

Hendrickson’s Williamson says servicing the company’s Optimaax liftable pusher axle is really no different than a 6x4, except for the additional lift air bags to inspect when maintaining the tractor.

“As with a 6x4 tractor, the shocks and air springs should be checked for leaks,” Williamson points out. “Also, it’s important to check that the bolted joints are still at the proper torque per the OEM recommended intervals. One difference is the type of tires that are used on the Optimaax axle. Trailer tires should be used instead of drive axle tires for optimal savings.”

Link Manufacturing’s Van Den Brink says maintenance is generally simplified with a 6x2 because there are fewer driveline components.

“One thing to keep in mind is that a non-drive axle can be susceptible to brake shoes freezing or rusting to the drum since they are not driven all of the time,” Van Den Brink points out. “Drivers should make sure the wheel ends rotate during their pre-trip inspections.”

Prospects for adoption and growth

The 6x2 axle is still a bit of a niche product, currently embraced by roughly 5 percent of the long-haul and line-haul market. Van Den Brink points to applications like fuel hauling where the tanker is often running at half-load and both rear axles are not always needed. Another well-suited application is bulk haulers where an extra 400 lbs of cargo-carrying capacity can be a huge help.

Link Manufacturing’s Hof believes adoption of the 6x2 axle will increase as fleets come to understand their options. “A liftable pusher axle eliminates many of the downsides of the traditional tag axle many fleets have come to know,” Hof says.

Any kind of significant upward momentum with fuel prices could also increase demand for 6x2s.

“The only thing I see holding demand back is suppressed fuel prices,” Hof says. “Most trucks are not maxed out in weight, so they don’t need all axles on the ground at the same time. When you’re often running with less than a full load, a 6x2 with a liftable pusher makes a lot of sense.” ■

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With greater voltage comes greater responsibility

Understanding the implications of higher voltages on heavy duty trucks is paramount to successfully navigating changes in commercial vehicle electrical systems.

By Tyler Fussner

[ELECTRICAL SYSTEMS]

An overwhelming majority of Class 8 commercial vehicles in North America operate on a 12V electrical system throughout both the tractor and trailer. In some instances, a 24V electrical system is in place. However, there is a potential shift looming in the not-so-distant future to higher voltages.

How this transition occurs is up for debate, but some would say that a gradual progression into higher voltages will occur through a combination of varying voltages throughout a single combination tractor-trailer. Though 12V systems and components are not going away anytime soon, higher voltage systems, such as 24V and 48V, may become more widely integrat-



» Fleet must remain aware of the impending voltage changes on the horizon and the subsequent changes to maintenance practices.

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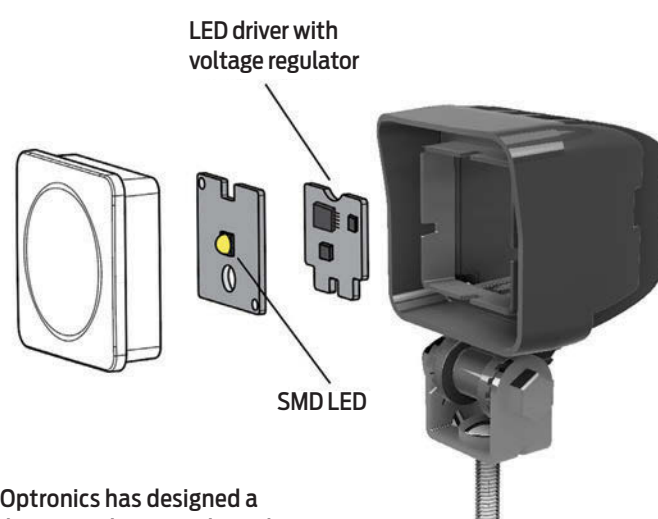
ed and adopted as the industry pushes toward efficiency and attempts to obtain the ever-increasing and ever-present demand for more power.

Built on 12V

North American commercial vehicles on the road today, for the most part, are utilizing a 12V electrical system.

“For our current production vehicles, the electrical system is primarily supplied with electrical energy via 12V direct current (DC) lead-acid batteries, with two or more connected batteries dependent on the energy requirements for the vehicle configuration,” says Ash Makki, product marketing manager, Volvo Trucks North America, a global truck and engine manufacturer.

The electrical system contains a series of batteries to provide electrical power throughout the vehicle. The number of batteries in a series varies from vehicle-to-vehicle; vehicles equipped with electrical power units (EPUs) may have a series of up to eight batteries. EPUs are present on



» Optronics has designed a voltage regulator inside each light in order to regulate incoming voltage to the proper level.

Image courtesy of Optronics



» Organizing wiring throughout a vehicle to indicate specific voltages per wire may alleviate issues when implementing new componentry.

Image courtesy of USA Harness

vehicles attempting to prevent idle time and/or that have sleeper cabs with additional system and component electrical demands.

“Some of our commercial vehicles, mostly trucks with living (sleeper) environments, also provide an inverter that would convert the 12V DC battery energy to 110V [alternating current] (AC) for use in the living environment to provide energy to items like TVs and other conventional 110V power sockets,” Makki continues.

The electrical needs of a vehicle vary depending on the integrated components, devices, and systems present. Lighting and stereos are universally installed on all tractor-trailer combinations. However, the power needs go beyond the truck, with added electrical demand from the trailer when connected to the tractor. The industry has proven capable of providing adequate electrical power to these various components and devices through the use of a 12V electrical system. But as more technology is introduced to the commercial vehicle, electrical power demands have increased. Though most additional technology seems to be readily integrated into a 12V system, there are other demands the industry is seeking to obtain – most commanding of which is improved fuel efficiency and reduced emissions.



“We’ve really maximized what we can do at 12V. As we try to get more and more efficient [and] reduce emissions, some of the things the industry is wanting to do is get rid of engine-driven accessories because they are a constant drag.”

Larry Rambeaux, service application engineer, Purkeys

As the industry seeks to create efficient internal combustion engines and minimize emissions, an opportunity presents itself to move select vehicle systems and components relying on engine-driven electrical power onto battery-supplied electrical power. Additionally, the industry will see improvements to the vehicle’s electrical system itself. With the industry seeking optimization and efficiency, it is through these opportunities that the possibility of higher voltages and multiple voltages integrated into a single vehicle be actualized into the evolving commercial vehicle’s ecosystem.

voltages into heavy duty vehicles, the primary of which is supporting increased power demands.

“We’ve really maximized what we can do at 12V. As we try to get more and more efficient [and] reduce emissions, some of the things the industry is wanting to do is get rid of engine-driven accessories because they are a constant drag,” says Larry Rambeaux, service application engineer, Purkeys. Purkeys, part of Mission Critical Electronics, is a commercial trucking industry electronics brand.

Rambeaux provides an example through the power steering system. A shift from hydraulic to electric power steering pumps would allow the power steering system to utilize electrical power to operate the system only when power steering is needed. This means the electrical system would deliver power to the power steering system at lower speeds and during backing the vehicle but would not use electrical power at highway speeds, whereas the hydraulic system is a constant draw on the engine.

“That [would be] a great reduction on the engine and save fuel,” Rambeaux says.

Converting systems such as power steering pumps or air conditioning compressors, for example, to electrically powered systems would

What would higher voltages deliver?

There are several reasons to support integrating higher

» Customized harnessing can organize wiring in a multi-volt environment.

Image courtesy of USA Harness

greatly reduce the demand on the engine and the subsequent burning of fuel. In order to achieve that, however, the vehicle would require a higher voltage electrical system – most likely 48V.

Another major reason to push to higher voltages is the potential cost savings. Electrical systems no longer dependent on the engine's power would not only provide fuel savings but would also help to reduce engine maintenance. Engines could potentially operate for longer intervals with fewer maintenance demands should they not have to power as many systems.

Higher voltage systems may also aid in reducing the overall weight of the vehicle. As voltage increases, current decreases. If a system went from 12V to 48V, there would be four times greater voltage; that increase in voltage would, in turn, result in one fourth less current.

"If our amperage goes way down, then we can use much smaller wiring," Rambeaux says. "There's a lot of cost savings if you go from say, a 10-gauge wire to a 16-gauge wire, which also is a big weight savings."

Smaller wiring can help reduce the vehicle's overall weight. A lighter vehicle provides cost savings through aiding in improved fuel efficiency and allowing for a higher vehicle freight hauling capacity. While wiring for one system may not seem like much, an incremental weight savings may be achieved as components, devices, and systems are transitioned to higher voltages, and subsequently smaller wiring.

Furthermore, additional integration of higher-voltage components, devices, and systems are less impactful in regard to weight compared to those operating on lower voltages and heavier wiring.

"Think of the autonomous functions we're seeing, or the high-speed communication functions we're seeing. These multi-voltage systems, there's a lot of benefits to having them and so there's going to be a bit of urgency to try to do it," says Fred Kelly, director of R&D for the Americas, Prysmian Group, in regard to implementing higher and multiple voltages on a commercial vehicle. "[Higher-voltage systems] will have

efficiency, will save weight, will provide more power capability, and really, fundamentally, try to help us achieve some of these fuel and emissions goals that we have as well." The Prysmian Group manufactures electric power transmission and telecommunications cables and systems.

Optimized battery life is yet another benefit resulting from the implementation of higher volt-

age electrical systems.

"We can also secure more energy reservation in the batteries and as a result, reduce the alternator charging requirements that allow for less load on the engine accessory drive and improved fuel consumption," says Makki. "With more energy reservation in the batteries, we can also improve engine startability and battery life."

COMPLETE YOUR SPRING MAINTENANCE CHECKLIST

WINDSHIELD WIPERS

Extreme temperatures, snow and ice can tear apart windshield wipers. Be ready for spring showers with fresh wiper blades.

LIGHTS

Check your lights for dimly lit bulbs. This might be an indication of resistance in the circuit.

ALTERNATOR

Pay attention to your alternator. It has been working overtime to keep your lights on for longer periods of time all winter.

BATTERIES

Listen to your battery. Months of cold starts and thick oil place a high amperage demand on batteries that could lead to longer cranking times.

ELECTRICAL SYSTEM

Check for exposed connections or wires that have been subject to harsh roadsalt solutions. Keep a close eye on butt connectors – they should have heatshrink to keep acidic chemicals out.

INFLATION

Spring temperature swings can affect the inflation of a tire. For every 10 degree change in air temperature, your tire pressure can change by one to three PSI.

TIRES

Inspect your tires closely. Snow and ice can hide pot holes and road hazards that result in deep cuts in tire tread and/or sidewalls.

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Multi-voltage vehicles

Successfully implementing multiple voltages throughout a heavy duty vehicle will require innovation in order to deliver the different, and proper, voltages to select components. For example, consider vehicle lighting. Commercial vehicle lighting supplier Optronics has designed a voltage reducer that is inside each light in order to address this need in a multi-volt environment.

“Say there are 48V coming in and the light only needs 12V to operate; it will go through a component [such as a voltage reducer] to step that voltage down to the 12V that it actually needs to run that light,” says Kyle O’Dell, director of engineering and new product development, Optronics. “Most LED lights are running off [of a] lower voltage than even 12V. So really, you’re stepping the voltage down anyway ... If you design a light for a 48V system, it’s just like designing a light for a 12V system. You’re just going to use different circuitry on the front end to get that voltage to the correct output for the LEDs to function properly.”

Currently, Optronics delivers voltage reduction capabilities in their lighting to the Australian commercial vehicle market, a market that is already operating in a multi-voltage reality with 12V and 24V systems on single vehicles throughout the country. O’Dell confirms the company is working to develop voltage reduction within their lighting capable of operating in a 12V to 48V range for the North American market.

Potential problems may arise when components are added to multi-voltage environments with varying degrees of wiring. Organizing and designating wiring throughout a multi-voltage vehicle to indicate and set aside specific voltages per wire may help to alleviate potential issues when implementing new componentry.

“One thing you need to caution people on is when they do reduce wire gauge size, they need to make sure that they’re not going to add accessories to it in the future that would overload that system,” O’Dell warns. “No matter what the voltage system is, you need to be careful on your harnessing to size it properly for anything that you would add in the future as options to those vehicles.”

Another option aside from voltage reduction capability per component would be custom harnessing per vehicle. USA Harness manufactures custom power distribution centers (PDCs) to accommodate vehicles with varying voltage requirements. USA Harness is a division of Optronics.

Custom PDCs can negate the guessing game that may come with installing components into a multi-voltage vehicle. Different vehicles have varying electrical demands. O’Dell speaks to the range of electrical demands required of an armored courier and the solution USA Harness delivers in such an instance through the creation of custom PDCs.

“In the case of armored couriers, there are over 100 circuits,” O’Dell explains. “We build custom power distribution centers where we break down voltage for certain things and leave voltage higher for other components. We can tailor that design where you can have multi volts [with dedi-



» Vehicles operating with larger air compressors, additional hydraulic systems, and other electrical demands benefit from the organization custom power distribution centers and harnessing offer.

Image courtesy of USA Harness

cated connection sections], where one section is a 12V [and] another section is 48V. On the PDCs for these armored cars, there are actually four different fuse block sections, so you could run on four different voltages.”

USA Harness also sees the utilization of custom PDCs viable in car carriers, heavy duty tow vehicles, and work trucks; vehicles operating with larger air compressors, additional hydraulic systems, and other electrical demands benefit from the organization custom PDCs offer. As commercial vehicles further integrate technology and electrical systems, customized PDCs may offer efficient, safe, and simple installation options. Creating designated areas of connection for varying degrees of voltage helps to navigate the installation and maintenance of electrical components and minimize the risk of issues, such as: installing components to wiring that deliver improper voltage, damaging components that do not feature voltage reduction capability should they be installed into a wire delivering too high of a voltage, overloading wiring with voltage demands, and more.

Maintenance considerations with higher voltages

When it comes to higher voltage and multi-voltage systems, the procedures, practices, and tools used in electrical maintenance will be changed to ensure safety and efficiency.

Prysmian Group’s Kelly serves as the chairman of the Society of Automotive Engineers (SAE) Cable Standards Committee, as well as the chairman of the SAE Truck and Bus Electrical Systems Committee.

“At the SAE Truck and Bus Electrical Systems Committee, we are analyzing all of the old documents, reviewing what should stay 12 [volt], what should be updated to include the multi voltages, and what needs to be written that hasn’t been

written yet,” Kelly says. “And we’re on the path. We actually developed a roadmap; we had a multi-voltage task force that was created that identified all the needs, [and] gave advice and recommendations [on] how to get there. We’ve taken that roadmap and we’re beginning to follow it and beginning to do that work.”

Kelly is also sponsoring a proposal, titled SAE J3176.

“It’s cable marking for circuit identification and multi-voltage power distribution systems ... We need to communicate to the technicians clearly so that they know what they’ve got and how they can quickly analyze and go after repair. Part of the goal ... [is] to standardize this regardless of truck brand,” Kelly says.

The proposal determines standardizing cable coloring to represent different voltage levels. Red cables would indicate 12V, yellow cables would indicate 24V, and blue cables would represent 48V. Orange cables would indicate 60V or higher, signifying high voltage. The idea is to eliminate any misinterpretation of the voltage a technician would be handling when servicing electrical wiring. The proposal also sets forth color standardization for the grounds. 12V, 24V, and 48V will have black and white-colored grounds; the differences per voltage will be indicated through striping patterns.

Kelly is also working with the Technology and Maintenance Council (TMC) to develop new Recommended Practices (RPs) for handling multi-voltage system maintenance procedures.

Purkey’s Rambeaux speaks to the TMC RPs already in place that are more important now than ever as vehicles transition into a multi-voltage environment.

“For example, in TMC, we have RP 129, which is voltage drop testing from batteries of the starter or from the alternator cables back to the battery. You can have the best battery in the world, the best [vehicle] in the world, and the best alternator in the world; if you don’t have good cables, nothing’s going to work right,” Rambeaux says. “Very few fleets do those tests now. If we went to 48V, we get to make those battery cables a lot smaller. It’s going to become even more important because now if instead of a 2W battery cable, [you] maybe [have] a 1W cable; that is a lot less cable, and when it does

get corroded, you're going to lose performance that much faster."

With smaller wiring, the effects of corrosion become exponentially more impactful. One way to avoid corrosion issues in the wiring is through proper maintenance and testing methods. Rambeaux suggests eliminating the use of test lights when diagnosing electrical systems.

"Truck and trailer OEMs spend millions of dollars to make all this as weather-tight and weatherproof as possible, and the first time a technician stabs it, all that went out the window," says Rambeaux, of using a test light. Instead, Rambeaux suggests relying on tools such as multimeters when diagnosing electrical wiring. However, more training on electrical systems and the proper use of multimeters is paramount.

"Two years ago, our station at TMC for SuperTech had 100 of the nation's best of the best [technicians]. Our average score was only 64 percent," says Rambeaux, of the multimeter testing station for the national technician skills competition station. Rambeaux says fleets need to invest in training on the electrical systems, multi-voltage systems, the tools used to handle maintenance, and regularly perform proper electrical system maintenance procedures. "So many fleets don't do those tests, [stating], 'We don't have time.' That's not an option anymore."

Another major consideration from a maintenance perspective will be maintaining batteries. In a multi-volt or higher voltage environment, vehicles will most likely be using four 12V batteries in series. Improper battery connections may cause significant system issues when dealing with higher voltages. Technicians must ensure connection and disconnection sequences are done in the correct order, as well as keeping battery packs clean, to help avoid electrical system and safety issues.

Conclusion

Upcoming emissions regulations have the industry searching for answers on how to optimize vehicle efficiency.

In order to create an operating environment in which a vehicle can do its job as efficiently as possible, innovation and reimagination of vehicle systems and components will drive changes to the entire design of the truck and trailer. A reasonable expectation is a truck and trailer combination with multiple voltages throughout, ranging from 12V to 48V.

Fleets and maintenance personnel must remain aware of the impending changes on the horizon, as the introduction of higher and multiple voltages bring with them implications to maintenance and component integration practices. ■

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H O W T O M A N A G E

UNANTICIPATED **ROADSIDE EVENTS**

Handling the before, during, and after of an unexpected heavy duty vehicle tow or recovery.

By Erica Schueller



[SAFETY & HEALTH]

Downtime is the antithesis of productivity for a fleet operation. When that downtime is unexpected, or becomes an emergency situation, it is even more integral to have a plan in place to efficiently and effectively respond to issues, so the problem does not get exponentially worse.

When an emergency roadside situation occurs, a safe and organized response is crucial. Adhering to these critical steps can minimize not only the loss or damage of cargo but also protect and potentially save the lives of the driver and others on the road who may be in jeopardy.

Having a plan in place to handle the before, during, and after of an unexpected tractor tow or vehicle recovery can help fleets to better plan for these events.

Prep when possible

In preparation for the unexpected, fleets should first vet and select one or several towing and recovery service providers that best suits their needs. When selecting a service provider, review the network they serve. There may be instances where a fleet runs outside of the network, or a fleet may require a nationwide network to provide service.

Once a service provider is selected, the fleet should apply to be added to the towing and recovery company's account base. Information such as the main fleet contact, purchasing agent, accounts payable staff, and fleet manager should all be provided to the tow compa-

ny, says Randy Resch, tow operator expert and owner of Randall Resch Training.

Additionally, consider if the towing provider also offers their own mobile maintenance services. There are benefits and drawbacks to this.

A service provider offering both mobile maintenance and towing/recovery service can expedite the process to make it more seamless and better communicate between the two departments. Blaine Brothers offers this type of service.

➔ Continued Page 24

» More tow operators than trucks will likely be on scene working as riggers, then also spotters, during the lift of a heavy duty vehicle, for the safest and most efficient recovery scenario.

Photo courtesy of Day & Nite Towing





» Recovery air cushions are needed to upright a reefer loaded with produce to help maintain the structural integrity of the trailer.

Photo courtesy of Day & Nite Towing

“Our guys do work together quite well and know what our capabilities are together,” says Mike Lamphier, towing service advisor for Blaine Brothers. “If you are working with another service provider, it’s just a little bit more work to make sure that you’re coordinating your efforts. We certainly like to have our own guys working together out there [whenever possible].”

Blaine Brothers operates 10 facilities throughout the Midwest to provide 24/7 towing and recovery services, on-site and mobile maintenance and repair service, and parts sales.

“The benefits are a reduced number of service provider relationships required in serviced markets and the ability to shift from a roadside breakdown to a tow without having to contact another provider,” advises Jeffrey Godwin, vice president, software solutions for FleetNet America. FleetNet America provides vehicle repair and emergency road services throughout North America.

One consideration is that a full-service provider offering both maintenance and towing may be better suited or trained in one over the other.

“Those towing companies who dip their toe ... in the pool and add a service vehicle may not have adequate inventories or highly trained mechanics who might prefer to work in a more mechanically intensive environment,” Godwin suggests. “For mobile mechanical providers who simply add a tow truck, they are generally also the operator of the repair shop. This can be good, but the towing operator may be more of a mechanic tasked with towing rather than a trained professional tow operator.”

Brian Riker suggests dedicated mobile maintenance providers may specialize in certain vehicles



» The recovery cushions do not lift the compromised trailer alone but assist the heavy duty wrecker (or wreckers) on-scene with a safer lift.

Photo courtesy of Day & Nite Towing

or systems, while dedicated towing service providers who also provide some mobile maintenance services may likely offer more general services. Riker is president and chief compliance specialist for Fleet Compliance Solutions, a transportation compliance consulting company for the commercial vehicle market.

Additionally, “they may be more inclined to tow the breakdown into their shop rather than repair it roadside,” Riker advises.

He adds that service providers will also take into consideration how quickly their tower can get off the side of the road.

“On average, a tower or mobile mechanic is struck by a passing vehicle once every six days in the U.S.,” Riker says.

“For those [fleets] who do not use a full-service solution such as FleetNet America, having a network of service providers and a relationship with those providers who serve the areas where

you operate is very important," Godwin says. "Whether this is simply an account with established rates or a closer relationship likely varies depending on the size of your operating area."

During the event

Steps taken during an emergency service event can vary. It may be the vehicle is disabled on the roadside requiring a mobile maintenance call and quick service.

As soon as the truck is disabled on the side of the road, so long as there is no imminent danger to the driver or other passengers, the driver should be sure to gather and place the appropriate safety equipment to alert other motorists. Safety is imperative – for the driver, the tow or recovery expert, and any other individuals who may be on-hand during the response call.

In much more challenging circumstances, the vehicle could be blocking traffic, leaking hazardous fluids, or have been part of an accident. In this instance, a tow or vehicle recovery may be necessary.

A tow or recovery contractor responding to a service call requires as much information as possible to ensure a safe and quick response. This means clear and concise communication between the driver and the fleet should already be established, with a standard process in place including a point of contact for the fleet to coordinate with the service provider.

"Knowing the exact nature of the service request helps improve response time and ensures the correct information is brought out the first time," Riker advises. "Making available copies of the bill of lading or load manifest, especially if hazardous materials are present, will give the tower or clean-up contractor a guide to the potential material handling needs as well as the urgency for protection of the environment."

"The fleet's company dispatch should already have on-hand the information of the disabled, stuck, or wrecked truck to be passed onto the tow company's dispatcher," Resch says.

He suggests providing the exact location of the vehicle including landmarks, mile-

post markers on the highway, and load dimensions, if they're available. The towing company will also need the driver's phone number to reach them on-site. A backup contact number is helpful in the event the driver does not answer.

"Ensure accurate location information can be gathered from your fleet when a breakdown occurs along the roadway," FleetNet's Godwin

says. "This can be done with a telematics system, or simply by training your drivers on how to get their location information from their phones."

The driver or fleet should be able to also provide the year, make, and model of the vehicle as well as the engine type and transmission type, Riker says.

"Advising the responding contractor of the condition of the vehicle and load, with pictures



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if available, will allow them to be best prepared for what they will find on scene,” he adds. “The way a tow approach a recovery, cleanup, or even a routine breakdown tow varies based on the vehicle type, load, condition of the vehicle, and location.”

Resch agrees photos from the scene can expedite the process of towing or recovery. He suggests the driver or any other person on-location use a smartphone to take a photo or two of the vehicle to send back to the towing company. This can provide additional details on the requirements of the recovery or tow.

“Training the fleet driver to take pictures and having an easy method to transfer them to the company official in charge of managing the response also helps prepare the responders for what they will face long before they arrive on scene,” Riker says. “These photos also help prepare an accurate picture for the insurance claims adjuster.”

Providing all of this information before the towing or recovery contractor heads to the location expedites the process.

“Certain situations call for different equipment,” Blaine Brothers’ Lamphier says. “It’d be good to know that ahead of time before arriving on-site, versus getting onsite and waiting for more equipment to show up.”

Law enforcement involvement

When law enforcement responds to an accident or a disabled vehicle blocking traffic, the fleet may no longer have a say in the towing or recovery service provider. Depending on the location of the incident, law enforcement may have a single provider for their jurisdiction or will rotate through a list of set providers. Service rates are set between that provider and the law enforcement agency.

“Even if the trucking company is a long-haul truck line, most have support services they use on a call-out basis,” Resch says. “There’s nothing to say that the semi-truck’s driver can’t discuss the tow or recovery with the officer who’s on-scene. If a requested tow company is local and quick response can happen, the officer may allow the semi’s driver to call their own provider.”

“Often the owner’s requested provider must be able to respond within a reasonable amount of time, typically 30 to 60 minutes, depending on the situation,” Riker adds. “If the driver is not incapacitated, they should always ask the officer if they can call the provider of their choice as soon as it becomes apparent a tow is required.”

“When public safety becomes the issue, law enforcement generally will take the lead,” Resch says. “Any officer may make an estimated determination of danger and road blockage based on their experience and on-scene factors.”

Examples of these factors may be a broken or damaged trailer, hazardous leaks, or an active fire.

Additionally, if the law enforcement officer believes the crash may have been due to a driver’s poor decision or issues with the equipment, special towing services may be called.

“The scene may be deemed an evidence investigation where a designated ‘evidence tow contrac-



» Multiple heavy wreckers may be needed on-scene lifting together, depending on the recovery scenario, especially with a fully loaded trailer.

Photo courtesy of Day & Nite Towing

“When service is needed in an unknown area, it may be beneficial to contact other fleets in that market. Also keep a file of all service providers used in the past to be used as reference when possible.”

Jeffrey Godwin, Vice President
Software Solutions, FleetNet America

tor’ will be called to handle the recovery, removal, and ultimate storage,” Resch says. “In any scenario where evidence is considered, the trucking company has no say as to who can recover or tow their vehicle and trailer.”

In the event a fleet does not have the option to work with their selected contracted towing service provider, Riker recommends sending someone else from the fleet out to the scene as soon as feasible to monitor the situation.

“When dealing with a non-consent situation, the fleet should try to get their own representative on-scene as soon as possible,” Riker says. “This can be either a local company manager, representative from their insurance company, or even a third-party claims management company. This person will act on behalf of the fleet to take pictures, authorize recovery/cleanup plans, and make arrangements to secure and protect the salvage value of the equipment and cargo.”

“In cases where law enforcement calls a service provider, unless the fleet has a preferred provider who may be able to assist in the situation, it is best to begin contact with the service provider [called on by law enforcement] as early as possible to be a part of the process,” FleetNet America’s Godwin says.

It will not always be possible to work with a known service provider. Riker advises to



confirm as much information ahead of the service, if at all possible, such as certifications, licensing, and permits. Additionally, confirm payment options up front. This includes storage and disposal fees.

Riker suggests another question to verify as well: “How much of the job [will they] be handling in-house versus sub-contracting? This can drastically affect the price for service if a tower must sub out a large portion of the job; it may be more economically feasible to hire a different contractor, if the time and situation allows.”

Ahead of the service, Riker also says to verify where the truck, trailer, and cargo will go after tow or recovery.

“If at all possible, the fleet should make arrangements to have the vehicle delivered to their own facility and pay the charges due upon delivery,” he says. “This allows the fleet manager to maintain control over the salvage value of the cargo – if it’s a wreck or spill clean-up – or quickly assess and return [the vehicle] to service.”

In the event the driver is the only fleet representative present, Riker says drivers can help on the fleet’s behalf.

“Have them take as many pictures as possible, but remind them not to say or sign anything,” Riker says. “Things to document include the different pieces of equipment the responders brought to the scene, how it was used, the extent of the wreck or spill, and the time on scene from start to finish.”

Recovery options

“Recovery is not exact science,” Resch explains. “The process of winching, lifting, and in-line rolling may inflict further ground-gouging or cause leaks from the casualty beyond the [towing] operator’s control. The property owner should be made aware of that possibility where the tow company is not held responsible for damages beyond [the service provider’s] control. In some cases, the tow company may be certified in ‘return to normal’ site restoration which may be billed as a separate fee of its own.”

If the service call requires vehicle recovery, providing a short verbal or typed reasoning as to how the vehicle ended up in the situation can better assist the service provider, suggests Resch.

He offers the following detailed examples: “The driver was backing out and went rear wheels into a ditch and is high-centered on a rock,” or “The truck was dumping its load of sand and tipped over onto its driver’s side.”

“A visual evaluation of on-site hazards is necessary, especially those surfaces where heavy wreckers must drive,” Resch adds.

When providing details, fleets should note obstacles such as difficult-to-access driveways or roadways, fire hydrants, exposed pipes or culverts, etc. Also note power lines are a hazard for heavy wreckage recovery vehicles, particularly those which require the use of raised booms.

“High-voltage energy is capable of arcing as far as 10 to 20 feet onto metal sources where electrocution is possible,” Resch advises. “When working near overhead power lines, a spotter is required.”

When the tow or recovery truck arrives, the driver of the disabled vehicle should provide the vehicle’s keys to the tow operator. In general, the driver should not assist with the towing hook-up process but still provide input and answer questions regarding what happened to the vehicle and the load details including items hauled and estimated weight of freight.

“The preferred location for the semi driver is to be seated in the tow truck with their seatbelt on,” Resch says. “Keep in mind that the attachment process can take upwards of 30 minutes. If not seated in the [tow] truck, another place of safety might be forward of the tow truck’s location, on the backside of the guardrail, or up an embankment if safe to do so. Stay away from the traffic side of [the scene].”

The cleanup process

For recovery requiring additional cleanup services, the process can become even more extensive. Some towing and recovery operations have certifications necessary to handle this. Otherwise, an additional service provider that specializes in environmental cleanup may be required.

“Full-service tow and recovery companies are required to be licensed, permitted, and experienced in capturing, retaining, removing, and transporting hazardous materials,” Resch says. “They work in dangerous, harsh environments that demand calculated safety and precision necessary to not allow or cause run-off, downstream pollutants, additional damage, or create further risk to the public.”



» Heavy duty wreckers, from Day & Nite Towing and Siewert’s Garage in northern Wisconsin, rig to the underside of a rolled semi.

Photo courtesy of Day & Nite Towing

Provide as much information as possible

During an unplanned roadside event – whether it’s a minor issue or a major accident – collect and share critical details to expedite the vehicle tow or recovery.

“Determine the situation, location, and as much detail as possible about the complaint that has caused the request for service,” says Jeffrey Godwin, vice president software solutions, FleetNet America.

Questions to consider:

- Is the driver safe?
- Where is the disabled vehicle located?
- What class of vehicle? (Ensure the appropriate service truck is dispatched)
- What is the year, make, and model of the vehicle?
- If a tire incident occurred, what is the position of the tire? Brand or type?
- If law enforcement has been contacted, are they sending a service provider? Do you have the option of sending your own provider?
- Is the vehicle blocking a roadway or in a hazardous situation?
- Is the vehicle leaking fluids? If so, are the fluids potentially hazardous?

“Get the best description of the known issue before contacting the service provider to keep from having to play the telephone game,” Godwin says. “Knowing the vehicle won’t start is one thing and knowing it stopped running while driving is even better. Knowing any indicators of an issue before the breakdown or signs of problems observed now are helpful.”

-Information provided by Jeffery Godwin, FleetNet America

This certification is known as Hazardous Waste Operations and Emergency Response Standard, or HAZWOPER.

“Services at this level are billable,” Resch advises.

Additionally, this cleanup will be included on the itemized bill. Photo or video capturing capabilities may be employed to accompany the bill. It is important to note that a thorough cleaning is integral to the safety of the motoring public to avoid any secondary accidents from occurring, such as remnant or leftover fluids or debris which could cause follow-up crashes by other vehicles once the originating accident is cleared.

“Fleet managers oftentimes contradict the fact that the recovery scene requires extensive cleanup caused by a single incident,” Resch says. “And, when they are not on-scene to see the extent of what cleanup requires, [fleets] easily refute the tow company’s invoice. When a fleet’s truck is involved in a hazmat scenario, it’s recommended that the fleet manager responds to the scene to personally see what is entailed in working the scene.”

Insurance considerations

“It’s recommended that you contact your [insurance] agent beforehand to see what is and is not covered by your policy,” Resch advises.

Once an incident does occur, the fleet must work with the tow service provider and the insurance company to alert both parties of the accident.

Resch suggests providing an insurance claim number and the insurance agent’s contact information to the towing or recovery service provider. The fleet should also have the insurance provider send an estimator to the tow facility to assess damage and make arrangements to have the vehicle or debris removed from storage.

“It’s important the fleet manager notifies their insurance provider as to the incident and soon-to-



» Having a plan in place to handle the before, during, and after of an unexpected tractor tow or vehicle recovery can help fleets to better plan for these events.

Photo courtesy of Blaine Brothers

come tow bill so to speedily get the claim process started,” Resch adds. “Doing so will help to lessen daily storage rates from climbing.”

“When dealing with a totally destroyed semi-truck or trailer, don’t let the insurance company walk away if they have responsibility to the insured’s property,” Resch says. “It’s been my practice to send the invoice to both the trucking company and the insurance provider. Keeping a level of pressure on the insured oftentimes helps in the negotiations or settlement of an invoice.”

Insurance coverage can vary widely depending on the response needed for the disabled vehicle. Riker says towing and recovery riders are available through most commercial vehicle insurance providers.

“Most of the accident response and cleanup is covered by the public liability or cargo portion of a fleet’s insurance policy,” Riker adds. “My best recommendation is to make sure their cargo policy will cover cleanup under the conditions they operate their fleet.”

He says some examples may include all company equipment, owner operator or contractor, and trailer interchange.

Understanding the invoicing

Towers and recovery companies have a responsibility to provide an itemized bill with clear and thorough descriptions of services rendered. Fleets should approach a dispute with courtesy and ask questions to get explanation or clarification on any unclear information.

“A well-written tow invoice will have all regulated fees detailed to explain the work, time on-scene, portal-to-portal travel time, personnel and trucks on-scene, and all costs of that work,” Resch says. “A well-presented tow invoice should include photographs, ground-based video, or overhead drone coverage of the recovery.”

Towing and recovery service providers cannot provide an estimate for a job ahead of time, due to the many variables for any response situation.

“A wrecked truck, trailer, and its debris will ultimately require a second tow from the tow yard to a repair facility or salvage yard. For a slightly reduced rate, consider using the same company that towed the vehicle/truck in the first place.”

Randy Resch, Owner,
Randall Resch Training

However, a fleet can confirm the hourly rates and fees for some services such as lifting, up-righting, mobile service, tire changes, heavy winching, off-decking, etc.

“One thing that we pride ourselves on is that we hope to be able to communicate all of the reasons for the cost to the customer; whether it’s pictures, a good detailed write-up of what was going on, and offloading time or applications with the job, make

Itemized billing checklist

Look for these detailed items on the towing company’s invoice.

“For semi-sized tow bills, ask and receive a complete written invoice that breaks down individual components of services,” advises Randy Resch, owner of Randall Resch Training. These may include:

- Delivery and storage of wrecked vehicle
- Towing/recovery company’s time on-scene
- Commercial rate or law enforcement hourly rate
- Stand-by time
- Number of tow operators present
- Number of tow trucks required
- Use of special equipment
- Labor to off-load
- Crane use
- Hazmat remediation
- Application of spreader bars
- Dive team
- Travel and delivery
- Days wrecked vehicle is kept in storage

sure that we keep track of all that so that we can relay the information to the customer to justify the bill," says Dean Dally, president and CEO of Blaine Brothers.

When questions arise or the fleet wishes to dispute a charge, they should remain calm and talk through any concerns.

"Stay calm and be reasonable while the investigation is being made," Dally says. "We will get calls at times where the first thing you hear is somebody very angry and quite vocal. It's not nearly as productive of a discussion when the person is taking that stand."

"It is certainly within a fleet's rights to request an itemized invoice and that should be expected," FleetNet America's Godwin says.

Another option may be to get another opinion from a trusted source, Riker suggests.

"If this is a company that you do not normally deal with, such as a non-consent tow or recovery, ask one of your trusted service providers to give the invoice a review," he says. "They can often help you understand what the other company did, why they did it, and if it was justified."

Note the itemized invoice may include separate billing for the tractor and the trailer load.

When following up on a tow or recovery, ask for the invoice soon after the event. This can help to expedite the process and ensure both parties conduct a respectful transaction.

"If you pay a tow bill immediately and their service was reasonable, timely, and with minimum loss and additional damage, the tow company will appreciate your timely payment and be most willing to help you in the future," said Resch.

"It is in the fleet's best interest to secure the quick release of the vehicle and cargo, especially if the vehicle is repairable or the cargo is perishable," Riker adds. "Preserving salvage value will help control the total negative effects of the loss."

Once the full service is completed and the bill is settled, fleets would do well to review the process and ensure the response was as expected, Riker suggests. He advises to keep records of both the good and bad service providers, and to make adjustments to the

response plan if needed.

"Document everything," Riker says. "Telematic records, dash cam[era] footage from responding [law enforcement] agencies, and other resources can help paint a better picture of what happened, why, and when, so as to educate the fleet managers how to better respond."

"Every situation is different and reviewing the

event after the fact may allow insight into preventive maintenance that may have avoided the cause," Godwin says. "The key is to not only review the problem and the solution, but to identify what led to the issue and to mitigate where possible." ■

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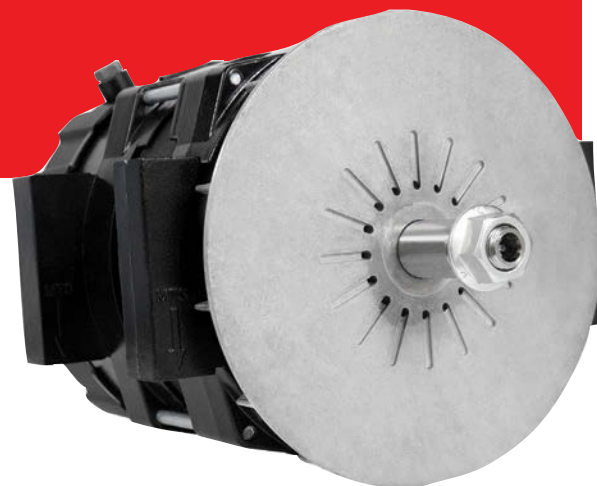
Amping up the voltage

A look at how higher voltage electrical systems will impact the design and service of starters and alternators.

By Emily Markham

Over the years, the role of the starter and alternator in heavy duty vehicles hasn't changed. The starter converts the energy from the alternator to start, or crank over, the engine, while the alternator plays two roles. The first is to provide power to the vehicle's electrical functions such as the stereo or lights. Secondly, the alternator keeps the battery charged. Though the basic function of the starter and alternator has remained the same, improvements have been made to these components.

Improvements such as higher output and remote sensing for the alternator, and an attached relay for the starter, as well as better life expectancy and a smaller and lighter design for both systems – while maintaining or reducing costs of the equipment – have been added, notes Orlando Braga, supervisor, electrical components engineering, Denso Products & Services Americas, Inc. Denso produces thermal, powertrain, mobility,



» Future designs of alternators may incorporate an additional cooling loop to address the needs of 48V electrical systems.

Photo courtesy of Prestolite

electrification, and electronic systems for vehicles.

The industry is constantly looking for ways to upgrade equipment and systems for better performance, reliability, and power. While improvements made to starters and alternators have done just that, the industry is continually looking for further improvements and a way to meet the increasing demand being put on vehicles' electrical systems. Specifically, the next step may be an increased vehicle system to 48V, and possibly higher.

48V systems, coming soon?

At this point in time, the United States transportation industry uses mainly 12V electrical systems in their vehicles, with some vehicles using a 24V system. Increasing the electrical systems from 12V and/or 24V to 48V is not as simple as, say, turning the knob to increase the volume on a radio. Changes to system voltage will have an impact

on other vehicle systems and processes, including updates to maintenance procedures, additional technician training, and new service equipment. Before any of this can take place though, the minds of the fleets must change.

“There is a resistance in trying to get the industry to move to the higher voltages, and it all revolves around cost. [S]omebody needs to eat the cost to make the change, and nobody wants to be the guinea pig,” says Clive Harley, vice president of engineering, Prestolite Electric, Broad-Ocean Motors, a global manufacturer and supplier of alternators, starters, electrical equipment, and services to the transportation industry. “The only way those kinds of things change is with legislation. [W]hen the government steps in and says, ‘You will go forward,’ or ‘You will do this, otherwise you will incur penalties.’”

Though there currently is no legislation specifically for transitioning to a 48V system, Harley believes the greenhouse gas emissions standards could be the push the industry needs to stop talking about 48V systems and make them a reality.

“[B]y going to a 48V system, specifically on trucks, there are huge, huge cost savings that can be benefited,” Harley says, “... and those cost savings should offset the cost to change from the 12V systems to the 48V, or the 24V to 48V.”

Cost savings is just one of the benefits fleets could gain from transitioning to 48V electrical systems in their trucks.

“The purpose of creating higher voltage electrical systems is primarily for the ability to achieve higher requirements from the vehicle,” say Rodney Spangler, application engineering manager and Matthew Hedges, senior application engineer at BorgWarner, a supplier of vehicle engine and drivetrain components and parts. “Higher vehicle efficiencies will be the biggest benefit we will see in the new technology.”

As discussion continues on the implementation of higher voltage systems, there has been some talk about the future design of starters and alternators.

The components within the electrical system such as the starter and alternator are likely to have a smaller and lighter weight design. This is in part due to thinner wires, notes Denso’s Braga.

“When you increase the voltage,” Braga says, “you reduce the current, hence thinner wire.”

Using a thinner wire is also more environmentally friendly. Less wire being used for those components means less usage of finite resources such as copper, Harley points out.

While internal structure may change, Spangler and Hedges suggest the size of the systems will remain similar to today’s starters and alternators.

“Physical size of both the starter and the alternator will stay roughly the same,” they suggest. “However, internal components will change depending on the voltage required.”

At this point, however, any changes in design are only speculation. Every OEM seems to have a different strategy on what the future holds for electrical systems, notes Harley. Some aren’t looking to make any changes while others are looking to go beyond 48V systems to 300V, or even 700V systems. Just implementing and designing the

electrical components (starter, alternator, etc.) could take years or even decades, notes Braga.

“The major drawback for truck and component manufacturers and their customers would be the cost [of] changing to a higher voltage system,” Braga says. “Designing and testing new components would be expensive for customers buying new trucks with a higher voltage system while keeping older trucks with 12V system[s]. There may also be a difficulty in keeping and buying replacement parts and training their technicians.”

Along with updating maintenance training for technicians on these higher voltage systems, safety training will need updating as well. The higher the voltage system, notes Harley, the more dangerous it becomes for the technicians maintaining these systems.

The role of the technician

As technology changes, it makes sense that technicians adapt along with it. That means when the industry does implement these higher voltage systems to meet the increased demand on vehicles’ electrical systems, technicians must be properly trained and have the correct tools and equipment necessary to service and maintain these systems.

Training

Training for technicians on how to service starters and alternators in higher voltage systems mainly centers on safety.

According to Technology & Maintenance Council’s (TMC) Recommended Practice (RP) 1511, “There are three primary hazards associated with electricity: shock, arc, and blast. Shock is generally considered a hazard when working with voltages in excess of 50V. Arc and blast are generally considered a hazard when working with very high power, low-impedance power sources (e.g. utility substations).”

Though a 48V system is a bit below the shock hazard, that doesn’t mean technicians should take their safety lightly. Tools specific to electrical work and personal protective equipment should be used at all times when work is being done on an electrical component.

Additionally, when servicing high-voltage electrical systems, TMC’s RP 1511 notes technicians should use any lock-out or tag-out systems, tools,

In addition to safety, technicians will require training on proper maintenance and procedures for starters and alternators in higher voltage systems.

and processes. RP 1511 defines a lock-out as “the placement of a device on a piece of equipment to ensure that the unit cannot start-up unexpectedly,” and a tag-out as “the placement of a device on a piece of equipment to warn others that the machine or hazardous energy sources must not be operated under present conditions.”

In addition to safety, technicians will require training on proper maintenance and procedures for starters and alternators in higher voltage systems.

“For the starter, the most important maintenance is maintaining a clean and proper torque at all electrical connections. Moving to a 48V starter does not have any impact on this,” BorgWarner’s Spangler and Hedges say. “For the alternator, the inspection of the electrical connections, battery tests, visual inspections for debris, [and] pulley clamp loss (or proper belt tension) are essential for maintaining the life of the alternator.”

Additionally, they note, “for 48V systems, some alternators will require additional cooling, and for this, there will likely be an additional cooling loop to maintain.”

Maintenance for the starter and alternator will also depend on the design of the electrical system OEM’s decide on. It is possible there may be more electrically driven components than mechanically driven components in the 48V system, Spangler and Hedges say, meaning technicians will need a greater electrical knowledge.

It should also be noted, Denso’s Braga says, “When you increase the voltage system, components will experience greater electrical stress and will likely wear out faster. Technicians will likely have to change their service interval and check the start/charge system more frequently.”

Tools and Equipment

As for the tools and equipment necessary for maintenance of the starters and alternators in higher voltage electrical systems, there, again, may not be too much of a change from the tools and equipment needed to service current voltage systems.

“For 48V systems, there may or may not be new tools required to properly troubleshoot depending upon the complexity of the system,” Spangler and Hedges say. “Most handheld [digital multimeters] and amp clamps are capable of reaching 48V, but there will definitely be a shortage of automated diagnostic tools designed to troubleshoot 48V systems.”

Ultimately, as long as the technician’s tools are capable of reading and analyzing the electrical components within the higher voltage system, they should be able to properly service this equipment.

Conclusion

Overall, the future of starters and alternators within higher voltage electrical systems remains uncertain. The best way for fleets to prepare for the potential shift to higher voltage systems is to stay aware of the conversations happening throughout the industry and keep their technicians up-to-date on all safety and maintenance procedures for the systems, as well as provide them with the necessary tools and equipment for servicing. ■



» Consider completing fuel injection system service and repairs when a fuel injector or fuel pump needs to be replaced to avoid contaminating the injectors.

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Getting the most out of fuel injection systems

How to spot when there's a problem, address it, and maintain a fuel injection system for peak performance.

By Kayla Oschmann

As the drive to lower emissions and improve fuel efficiency continues, proper maintenance of the fuel injection system is essential for optimal fleet engine performance. The fuel injection system is responsible for delivering fuel to the cylinders of an engine. To operate correctly, the timing and amount of fuel used during the injection process must always be precise and controlled.

When a fuel injection system issue arises, it can lead to poor vehicle performance. To avoid any inconveniences, fleets can educate themselves on some of the latest technologies, signs that indicate when there is an issue and the equipment needed to address it, as well as how to maintain fuel injection systems.

Latest technologies

Cylinder deactivation, or CDA, is a technology used to reduce fuel consumption and vehicle emissions, especially at low speeds and/or low loads.

CDA disables cylinders (can be one or more) by deactivating the intake and/or exhaust valves, closing them off completely. As a result, the reduction in the number of cylinders firing reduces fuel demand to improve fuel economy, and the remaining active cylinders will operate at a higher temperature. This design can also help to improve the efficiency of the aftertreatment system by allowing the system to reach the optimum operating temperature for a passive diesel particulate filter (DPF) regeneration.

All diesel engines require a fuel injection system because of how fuel and air mix to initiate the combustion process. Common rail fuel injection is the type of fuel injection system found in all modern diesel engines. Fuel is dispersed to each injector using a high-pressure rail where the electronically controlled injectors can allow multiple injections at any pressure at any time. Higher injection pressures allow for better fuel atomization, which produces more power and fewer emissions.

With high injection pressure and control over injectors, the common rail injection system offers reduced emissions, noise, and vibrations, as well as increased fuel efficiency and engine performance.

Manufacturers have taken the common rail fuel injection system technology even

further by making modifications to increase its performance.

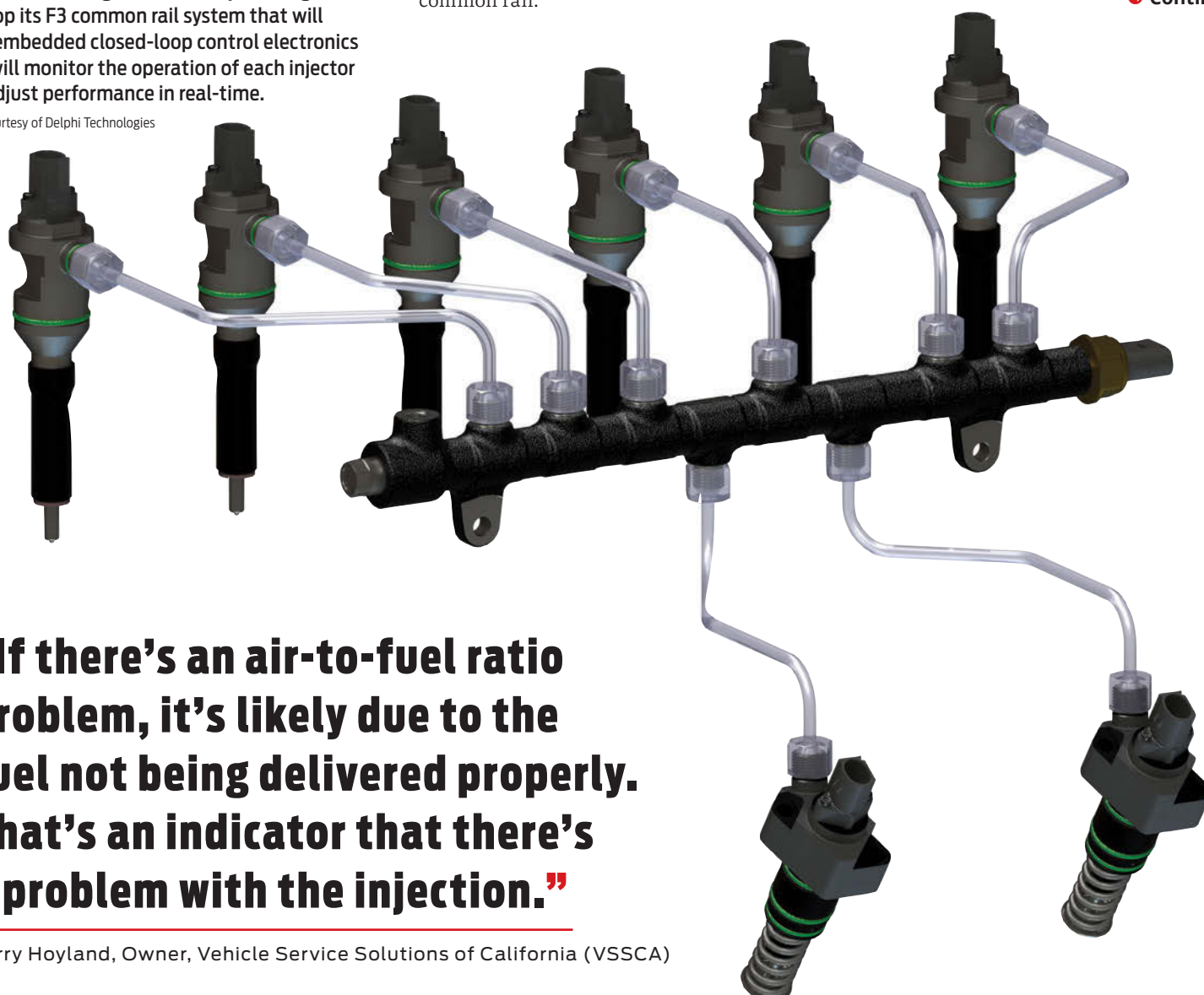
According to Dave Needham, diesel product engineering director at Delphi Technologies, the company's F2 common rail system includes low static injector leakage and dynamic leakage features. The company is currently working to develop the F3 generation that will feature a DFI 21 injector. The DFI 21 injector will be fitted with a 1mm diameter nozzle control valve to reduce leakage and allow for higher injection pressures. The F3 system will also offer embedded closed-loop control electronics that will monitor the operation of each injector and adjust performance in real-time.

Volvo Trucks' common rail system is completely contained under the valve cover and consists of three pumping and three non-pumping injectors, says John Moore, product marketing manager at heavy duty original equipment manufacturer Volvo Trucks North America. The three pumping injectors are directly connected to a rocker arm that rides a double lobe cam, allowing for two pumping sequences for each injector during every full rotation of the camshaft.

This design not only optimizes the efficiency of the pumping injectors due to less surface area on pumping surfaces but also lowers the clamping load on the injector from the rocker. Pumping twice per revolution of the cam enables a smaller

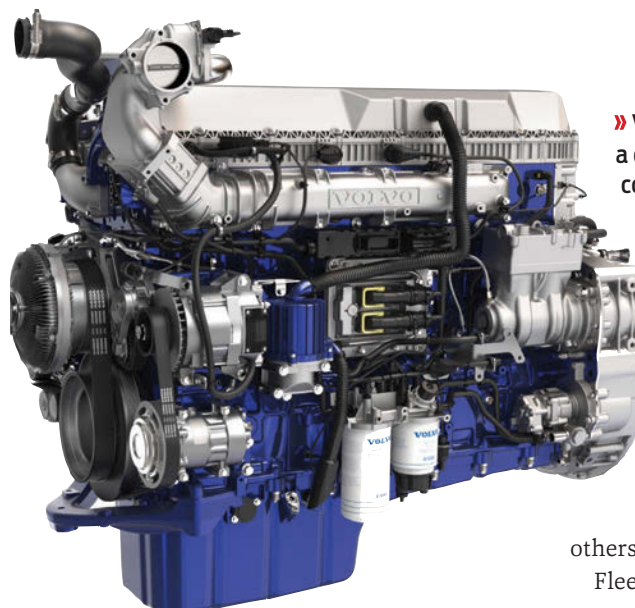
» Delphi Technologies is currently working to develop its F3 common rail system that will offer embedded closed-loop control electronics that will monitor the operation of each injector and adjust performance in real-time.

Photo courtesy of Delphi Technologies



“If there’s an air-to-fuel ratio problem, it’s likely due to the fuel not being delivered properly. That’s an indicator that there’s a problem with the injection.”

Barry Hoyland, Owner, Vehicle Service Solutions of California (VSSCA)



» Volvo Trucks' D13 engine features a common rail fuel injection that is completely contained under the valve cover and consists of three pumping and three non-pumping injectors.

Photo courtesy of Volvo Trucks North America

Determining when there's an issue

There are several different ways to verify whether there is an issue with the fuel injection system, some more visual than others. One such way is to track fuel economy.

Fleets that monitor each of their vehicle's fuel consumption and mileage will notice when there is a fluctuation in fuel economy.

“Say you have a fuel injector that is leaking or delivering more fuel than it should be, you would track that if you were tracking fuel economy,” says Mike Cleary, owner and ASE master heavy truck technician of Cleary Automotive. Cleary also manages and teaches courses for Automotive Technical Support Services (ATSS), a training organization offering technician training for drivability and electronics diagnostics.

Another indicator of a fuel injection issue is checking the air-fuel ratio by using a scan tool. If the air-fuel ratio is running too rich or too lean –

➔ Continued Page 34

meaning there is too much fuel or too little fuel, respectively – this can cause the combustion process to be less efficient.

“If ‘X’ amount of air goes in the engine, the fuel is supposed to match that depending on the load that is being delivered,” says Barry Hoyland, owner of Vehicle Service Solutions of California (VSSCA), a repair center that specializes in emissions and diagnostic services. “If there’s an air-to-fuel ratio problem, it’s likely due to the fuel not being delivered properly. That’s an indicator that there’s a problem with the injection.”

Hoyland also provides consulting services for fleets and government agencies to improve their operational efficiencies.

Visible and audible signs that indicate fuel injection system issues include an illuminated malfunction indicator lamp (MIL), sometimes referred to as a “check engine” light; rough or loud vehicle idling; hard starting, engine misfires, visible smoke, acceleration issues, and/or loss of performance. Additionally, increased emissions, engine oil dilution, or fuel in the engine crankcase would also indicate a fuel injection system issue.

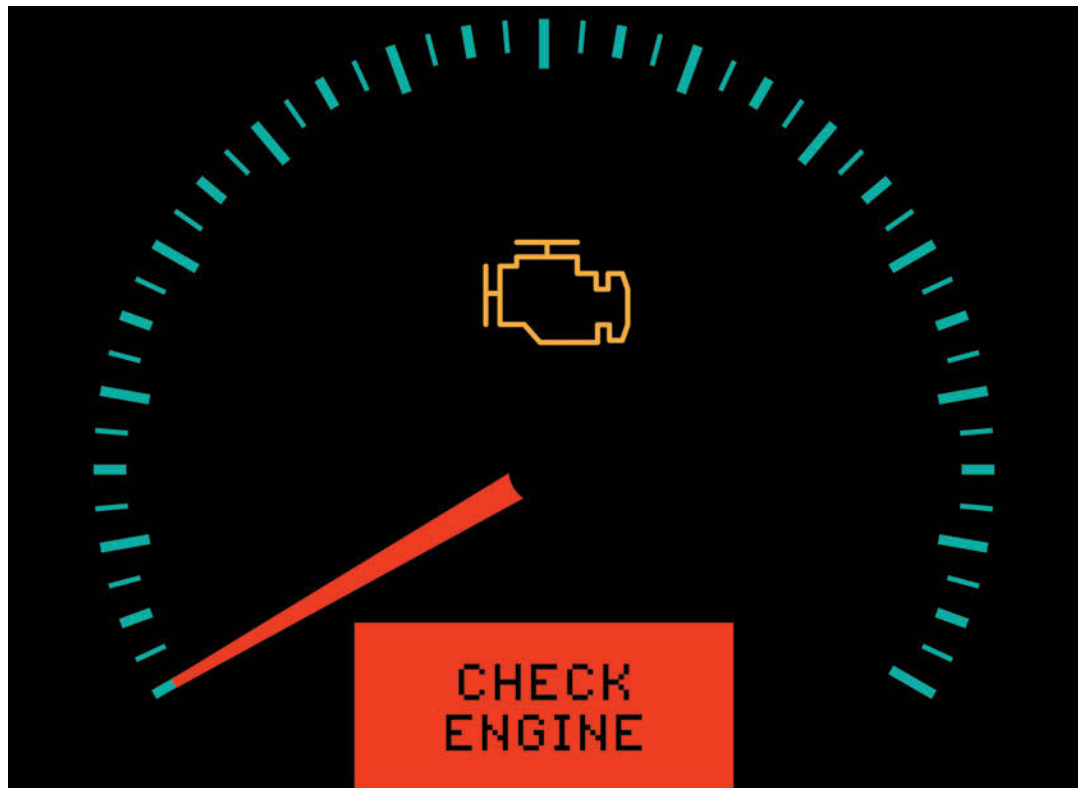
When one or more of these signs are noticed, it is important to inform the fleet’s technician to properly check and diagnosis the issue.

In late-model trucks with aftertreatment systems, if the issue is too severe the truck will derate and eventually shut down, Hoyland notes.

Equipment needed to diagnose

Technicians may use a variety of tools to diagnose issues with the fuel injection system, depending upon the symptoms the vehicle is showing and the model year of the vehicle.

Vehicles built before 2000 generally don’t have



» A visual sign that indicates a fuel injection system issue could be an illuminated “check engine” light.

124455342 | Rumess | Dreamstime

extensive vehicle computer technology, whereas models manufactured after 2000 do. These newer vehicles allow technicians to use a modern-day scan tool, VSSCA’s Hoyland says.

In addition to a scan tool, to test fuel injection issues technicians may need an oscilloscope, digital voltmeter, and thermal imaging camera, as well as exhaust gas sampling and fuel pressure and volume testing.

A scan tool with bidirectional control allows technicians to perform a cylinder balance test, but a cylinder cutout test would be most useful, Hoyland says. These tests allow the technician to disable, or cut out, a cylinder while the engine is running at a specified rpm to find the one that has a fault.

“Some scan tools will actually give you a cylinder contribution all the time so you can see how each cylinder is operating,” Hoyland says. “[The scan tool] does that by measuring crankshaft speed. If you have one cylinder that is not contributing as much, then the crankshaft actually slows down after that cylinder is fired, so you can see what cylinder is misfiring based on crankshaft revolution.”

A thermal imaging camera enables the technician to look at the exhaust manifold and each cylinder at the exhaust port. The tool measures the temperature of the exhaust coming out. If a cylinder is being

“The major cause of failure on [fuel injection] systems is lack of maintenance, or some kind of self-induced failure where [technicians] were changing the fuel filter and debris entered the system.”

Mike Cleary, Owner, Cleary Automotive, and ASE master heavy truck technician

over- or under-fueled, the thermal imaging camera will indicate a difference in temperature.

In addition to equipment, using the vehicle’s information such as wiring and repair diagrams as well as fuel pressure requirements is also important to review, Hoyland adds. This information is available through the engine and/or truck manufacturers, as well as many repair information sources.

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Maintaining fuel injection systems

"Maintaining the [fuel injection] system can result in reduced operating costs," says Simon Lynch, diesel aftermarket sales manager at Delphi Technologies. "Also, preventive maintenance reduces unexpected downtime that can result in dissatisfied customers."

It is important for fleets to adhere to best practices when maintaining fuel injection systems, not only to follow a standard routine but to keep each vehicle running at peak performance.

Both Hoyland and Cleary agree that the two most important aspects to proper fuel injection system maintenance are using clean filters and quality diesel fuel.

"Change the primary and secondary fuel filter with a premium filter every time the oil is changed," Volvo Trucks' Moore recommends. "Replace the fuel tank ventilation filter every two years and run overhead-valve adjustments at proper intervals."

For diesel fuel, make sure the fuel is from quality sources, and ensure there are no contaminants or moisture in the fuel.

If using biodiesel, fleets should inspect the storage tanks and filters for algae contamination regularly, Moore adds.

"The major cause of failure on [fuel injection] systems is lack of maintenance, or some kind of self-induced failure where [technicians] were changing the fuel filter and debris entered the system," Cleary says.

When handling any kind of fuel injection system, Cleary advises technicians "need to, as best as you can, make sure you're working in a clean environment because these systems are very, very intolerant of debris."

Hoyland also suggests completing fuel injection system service and repairs when a fuel injector or fuel pump needs to be replaced to avoid contaminating the injectors.

"If [what you're replacing has] got a supply line to it, make sure that there's no rust or anything going through the

fuel lines that can contaminate the new injectors," he says. "It's doing a complete repair to make sure that you're not going to continue a problem after a specific repair."

Another best practice is to train new drivers on proper techniques for refueling and the proper use of fuel additives.

Fuel additives should be used at the ratio

recommended by the manufacturer. Keep in mind there may be differences in additives for diesel and biodiesel as well.

"Every now and then I hear of a driver that accidentally adds DEF solution into the diesel, which really wreaks havoc on the fuel injectors," Moore says. ▀




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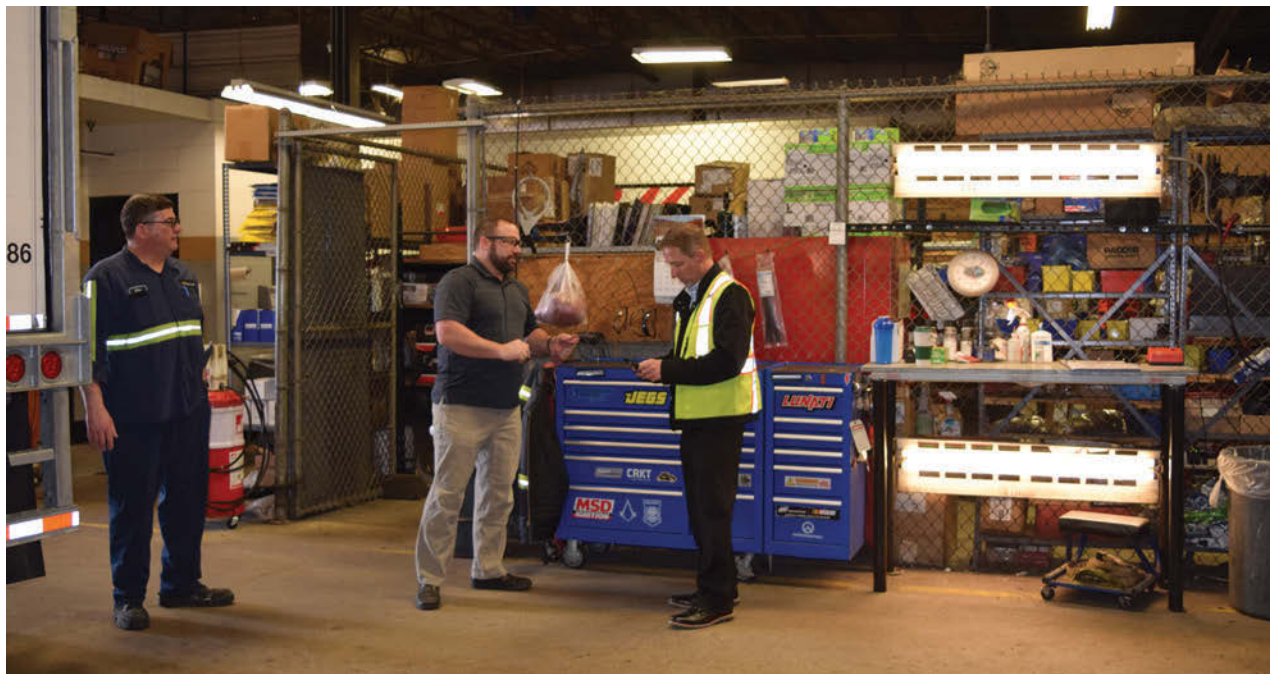
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Do you sabotage success?

Direction must come from the top of the company hierarchy in order to allow supervisors to thrive as managers, and as leaders.

Do we cripple our supervisors by imagining their role to be leaders and managers? Could it be there are expectations placed on supervisors to fill the “leader” role in the absence of leadership and management from the company hierarchy? Let’s examine the role and responsibilities for successful supervision, and if our companies sabotage success.

To have successful maintenance, you must have a realistic view of supervision. To have successful maintenance, you must give the supervisor the tools, authority, and support they need. To have successful maintenance, you must have respect for what the supervisor contributes.

In the maintenance field, the supervisor is the critical player running the team. At a

basic level, the supervisor is accountable for the quality, safety, security, and productivity of the maintenance effort. If you read articles about modern supervision, you will see quite a bit of discussion on the supervisor as a leader and the supervisor as a manager. If you read between the lines, you understand that supervisors should be great leaders, efficient managers, and focused on getting the work done.

This expectation is nothing new. The supervisor will play multiple roles for the good of the company and of their group.

Defining the roles

So are supervisors leaders, managers, or just supervisors? What exactly do we hire supervisors to do? I think there is some confusion about what we want from supervisors; perhaps we are seeking a miracle worker or magician to make up for the lack of our company’s leadership and management. Before we can discuss this, let’s define these terms.

Leader: A leader is a person who leads or commands a group, organization, or country. A leader will provide a roadmap and set goals for the team to achieve, as well as monitor progress to ensure those goals are met. According to online career development platform Mindtools.com, “Leadership is about mapping out where you need to go to ‘win’ as a team or an organization, and it is dynamic, exciting, and inspiring.”

Manager: A manager is responsible for controlling or administering all or part of a company or similar organization. A manager organizes and facilitates business activities in order to achieve defined objectives.

» To have a successful maintenance department, you must give the supervisor the tools, authority, and support they need.

Photo courtesy of Transervice

Roles in the maintenance world

Much of our impression of leadership is from war movies and TV shows. We ask for leadership to take the next mountain, the next bridge. In that kind of leadership, is it okay to sacrifice the leader and their “troops” to take that hill or bridge? That is an idealized version of leadership.

In maintenance, the “supervisor leader” calls forth the best work from their team members. The leader looks out for their people, tries to protect them from bad decisions of upper management, gets them training, provides recognition, and takes the heat when there are mistakes. Leaders also protect the employees from their tendencies to take shortcuts, be unsafe, or compromise when it comes to environmental or health issues.

The company can either support or undermine the supervisor’s leadership through the allocating of funds for training, tools, and support systems, as well as purchasing the right equipment.

In the same way, the idea of management comes from images of a relentless cost-cutter, efficiency expert, or strictly a “numbers” person. The idealized manager has no time for soft skills, soft people, or for anything that doesn’t directly impact the value stream.

Good supervisor managers start early to ensure, as far as possible, technicians have everything they need to do their jobs. The maintenance manager makes sure the other groups are ready so that the task can proceed smoothly. They chase after their team members to ensure all work has work orders and technicians record all hours, all parts, and all other elements of the job.

The company will support or undermine the supervisor’s management by allocating adequate funds for maintenance management software, proper planning, and scheduling (including the issuance of permits and cleaning of equipment before the work is to start). The company supports their management by insisting that everyone adhere to the schedule. The company agrees to the importance of the predictive maintenance (PM) efforts and the adherence to the PM schedule. The company also provides adequate support in the form of parts, staffed warehousing, reliability, and maintenance engineering.

I visit organizations all the time that stand behind their supervisors as managers and promote supervisors’ leadership.

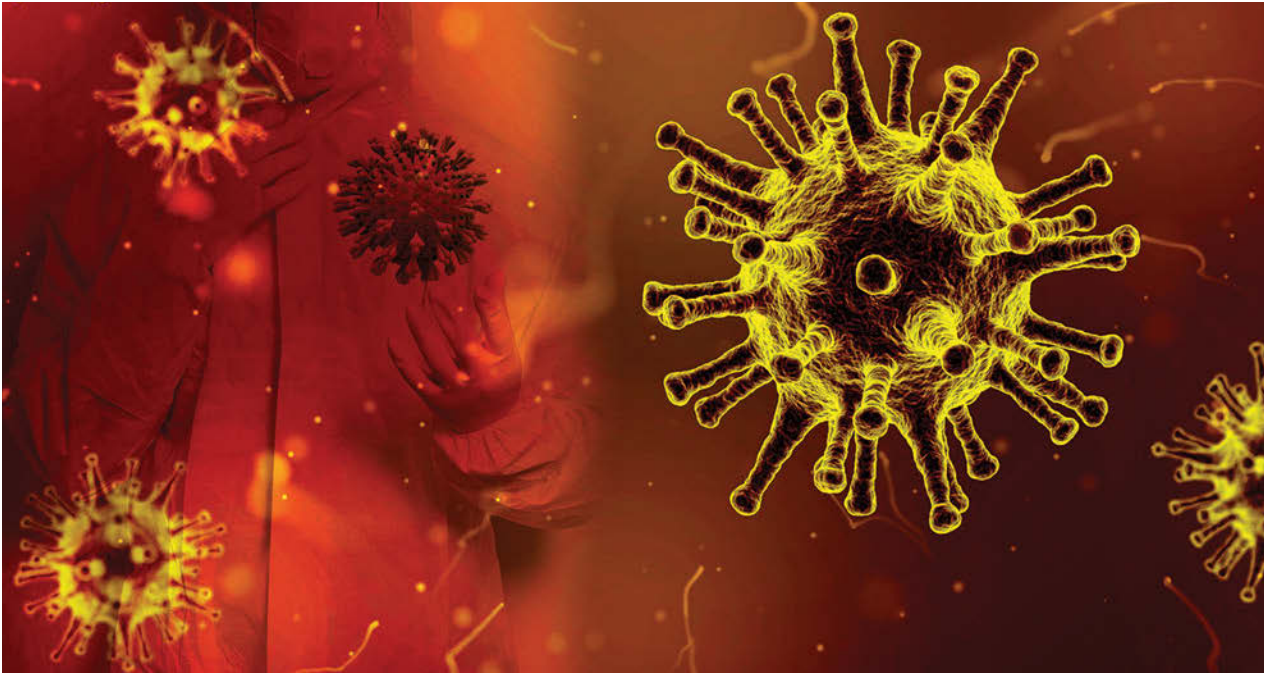
Unfortunately, I also visit organizations that give lip service to leadership and proper management. I think that attitude costs them real money by increasing turnover, increasing mistakes, lowering morale, and having leaders who do not lead, managers who do not manage, and supervisors who do not supervise. ■



By Joel Levitt

PRESIDENT, SPRINGFIELD RESOURCES

Springfield Resources (maintenancetraining.com) is a management consulting firm that services a variety of clients on a wide range of maintenance issues. Levitt is the president of the company and has trained more than 17,000 maintenance leaders from more than 3,000 organizations in 38 countries. He is also the creator of Laser-Focused Training, a flexible training program that provides specific, targeted training on your schedule, online for one to 250 people in maintenance management, asset management, and reliability.



» The first priority is to listen to the experts, epidemiologists who study these health matters.

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The size, speed, and scope of the effects of the pandemic exceed the predictive ability of any honest analyst.

Dealing with a natural disaster

The recent COVID-19 outbreak makes it nearly impossible to predict the pandemic's aftermath on the U.S. economy.

Editor's Note: Due to the unprecedented global events caused by the COVID-19 novel coronavirus outbreak, Bob Dieli submitted this updated piece close to press. We understand the global pandemic situation is fluid and news changes daily.

A few weeks ago, the Fleet Maintenance editors asked us to prepare a piece on what we thought the current and prospective conditions of the trucking industry would be in April. Needless to say, the onset of the COVID-19 pandemic was not part of that piece.

The size, speed, and scope of the effects of the pandemic exceed the predictive ability of any honest analyst. Since we would like to count ourselves in that group, we are not going to make any forecasts here. But we will tell you what we are doing to gain an understanding of

the situation so that we can begin the analysis that will facilitate the process of recovery.

Considerations to recover

The first priority is to listen to the experts. In this case, the experts are epidemiologists who study these health matters. No significant progress was made on the construction of the Panama Canal until management listened to the epidemiologists who figured out that mosquitos were the vector of contagion for

the yellow fever that was killing the workforce. Once the disease was controlled, the rest of the engineering problems could be solved.

Next, remember that this is a natural disaster and not a financial event. Our first response, and responsibility, is to deal with the human aspects of the event. The financials will take care of themselves later.

We should be prepared for the recovery from this event to take longer than we think it might. While we will be able to reopen our offices, restaurants, and other businesses quickly, refilling the supply chain – which have been stretched in ways we did not anticipate – is going to take time.

Finally, let's not forget the crucial role the trucking industry will play in all aspects of this effort. While I can work remotely to rewrite this piece, the soup that I am going to have for lunch today had to spend some time in a truck.

So, to all those who are moving the goods and to those who help them do that, thank you.

Stay safe. ■

» The trucking industry will play a crucial role in the recovery effort from this pandemic.

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By Robert Dieli
ECONOMIST, MACKAY & COMPANY AND PRESIDENT, RDLB, INC.

Mackay & Company specializes in market research for commercial trucking, construction equipment, and agriculture machinery. The company provides strategic research and analyses to vehicle and component manufacturers, distribution and service channels, industry associations, and private equity firms. With a long career managing portfolios and coordinating domestic economic forecasting programs, Dieli began RDLB, Inc. in 2001. In this role, Dieli serves as an advisor to many firms in the truck, consulting, and financial services sectors. He is also an economist with Mackay & Company.





FLEET PARTS & COMPONENTS

What's new in products for more efficient fleet operation.



» Features a 7.8kW output for faster cranks

The **LoadHandler Power Products L42 24V Starter** is designed for diesel engines up to 16L and is specifically engineered for motor coaches, construction equipment, and other extreme-use applications. LoadHandler L42 24V starters offer consistent, high-powered cranks in critical environments. It features a 7.8kW output for faster cranks and a more efficient power source, a heat-treated shaft to protect components, a sealed nose housing that adds service life and protects internal components, and a rotatable flange to optimize service flexibility and inventory concerns. It is available in 11 and 12 tooth models and has a one-year parts warranty.

➔ For more information, visit VehicleServicePros.com/21129011



» Available in three tank sizes

The **Western Global TransCube Cab** is designed for increased uptime, safety, and security on job-sites. The mobile refueler is mounted to a galvanized steel trailer that protects from rust and corrosion. The trailer comes equipped with backlights and electric brakes. The tank is double-walled and features a 100 percent fuel containment design with a weather-proof secondary containment, ensuring a safe and environmentally compliant transport. In addition, the TransCube Cab features a large, lockable equipment cabinet. The refueler's all-steel construction and accessible manway enable durability and easy access to the inner tank. The TransCube Cab is available in 258 gallons, 483 gallons, and 727 gallons.

➔ For more information, visit VehicleServicePros.com/21129360

» Features Volvo T-Ride suspension

The **Volvo VHD Vocational Series** trucks have been redesigned and upgraded to be more versatile and reliable, as well as increase driver productivity, safety, and comfort. The series is ideal for applications

such as dump, mixer, roll-off, logging, snow plow, crane, and many other specialty vocations. Some notable upgrades include an updated exterior, LED high/low beam headlights

with de-icing capabilities, Volvo Dynamic Steering (VDS), Volvo Active Driver Assist (VADA), bumper featuring a heavy duty 45mm tow pin rated for a full 80,000 lbs, relocation of the ignition to the lower left-hand side of the dash, Volvo I-Shift transmission with crawler gears, Volvo T-Ride suspension, remote programming, and remote diagnostics.

➔ For more information, visit VehicleServicePros.com/21129523



» Folds for easier transport and storage

The **LiftWise Single Man Folding Basket** is for service cranes to provide fall arrest and fall protection, while helping to eliminate the need for ladders or climbing on equipment. When not in use, the basket's space-saving design folds for easier transport and storage. Featuring a large open area for increased productivity, the Single Man Folding Basket has a full-sized floor to accommodate workers and materials. The floor is also slotted to allow water to drain, while the upset holes offer skid resistance. An inward-opening gate provides easy entry into the basket, while minimizing space needed. The basket weighs 230 lbs and has a 350-lb capacity.

➔ For more information, visit VehicleServicePros.com/21121633



» Maximizes fuel efficiency

The **Goodyear Fuel Max RTD Tire** is designed to improve the operational efficiency of regional and urban trucking fleets, balancing fuel efficiency with traction and long miles to removal. Compliant with Phase 2 Greenhouse Gas Emissions and Fuel Efficiency Standards, the tire also contains a low rolling resistance compound and is complete with a Three-Peak Mountain Snowflake certification. The tire is ideal for straight trucks, day cabs, box trucks, heavy duty pickups, utility vehicles, and any regional truck that requires extra traction in all weather conditions. The Goodyear Fuel Max RTD line is currently available in OE sizes 11R22.5 (Load Ranges G and H) and 255/70R22.5 (Load Range H).

➔ For more information, visit VehicleServicePros.com/21124096



» Able to withstand shock and vibrations

The **J.W. Speaker LED Signal Light**, No. 272, is available as a combined turn signal and warning light, stop and tail light, or center high mount stop light. It is ideal for use in transport, bus, and industrial vehicles. As part of a 360-degree lighting solution, the light features a compact design and high-quality camera for additional driver visibility. The camera can be connected to reverse lights to display anytime the vehicle is put in reverse and it is adjustable to allow for various mounting heights. It meets all safety standards and is DOT/SAE compliant.

➔ For more information, visit VehicleServicePros.com/21129533



» Prevents fuel from gelling

The **Rislone Hy-per Diesel Fuel System Treatment**, No. 4740, is designed to improve the quality of diesel fuel by increasing its cleaning ability, boosting cetane, adding lubrication, removing contaminants, fighting corrosion, and helping to prevent the fuel from gelling and going bad. It also eliminates black smoke, clogged injectors, rough idle, and hard starts. It works with ultra-low sulfur diesel, regular diesel, and biodiesel fuel blends, as well as direct-injected, indirect injected, turbo direct-injected, high-pressure common rail, and turbocharged engines. It features a patented disposable spout that is designed to fit only diesel fuel tanks, preventing the product from being accidentally installed in a gasoline system.

➔ For more information, visit VehicleServicePros.com/21124093





» Single-cylinder hydraulic system

The **Tommy Gate Tuckunder Series TKL Liftgate** features a single-cylinder, power-down, and high efficient design. The hydraulic system accommodates bed heights from 33" to 47" and stores underneath the vehicle bed. Lightweight and durable, the TKL combines sleek, modern engineering and 2,500 lbs of lifting capacity. It also has a thermally protected motor, fixed toggle control, and applications to fit all major flatbed, stake, and van bodies.

For more information, visit VehicleServicePros.com/21128712



» Detects a moving vehicle in the passenger-side lane

The **Wabco OnSide ADAS Retrofit Kits** enable fleets to enhance the safety of existing equipment by adding blind spot detection technology. This radar-based system supports drivers in all visibility conditions by providing a warning when it detects a moving vehicle within a 160-degree arc in the adjacent passenger-side lane. The retrofit kits are for major OEM vehicle applications and are now available for several additional applications.

For more information, visit VehicleServicePros.com/21123833

» Available in two finishes

The **Alcoa Ultra ONE Wheel** features a light weight of 39 lbs and large handholes for ease of valve stem access. The wheel is offered in two high-quality finishes: high polish and mirror polish. It comes with the company's proprietary Hub Bore Technology, reducing the hub-to-wheel contact area for less surface area for corrosion to form. The aluminum wheel is 22.5" by 8.25" and is available with Alcoa's Dura-Bright and Dura-Black surface treatments.

For more information, visit VehicleServicePros.com/21129528



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» Improves fatigue resistance

The **Accuride Accu-Lite 38 lb Aluminum Wheel**, No. 43644, is the newest addition to the Accu-Lite Aluminum Wheels line. The combination of Accuride's unique manufacturing processes with the performance of Quantum 99 alloy allows Accuride to control the grain structure through the wheel and improve fatigue resistance. This technology also helps make the wheel stronger and maintain the wheel's service life while also lightening the wheel to help improve fuel savings. The 43644 is 22.5" by 8.25" and has 10 bolt holes. The 43644 aluminum wheel will be available third quarter 2020.



➔ For more information, visit VehicleServicePros.com/21125630



» Monitors wheel end vibration and temperature

The **SKF TraX Wheel End Monitor (WEM)** is designed to intelligently monitor wheel end vibration and temperature to detect any potential issues on heavy duty vehicles. It notifies fleets and the driver in advance via wireless communication of any potential wheel end condition that could compromise performance and safety. The TraX WEM is integrated with existing Truck-Lite Road Ready telematics systems via its SmartBridge Integrator (SBI). Commercial vehicle customers who are not using telematic providers may download and subscribe to the SKF TraX app to check wheel end status and receive alerts on their iOS-based mobile platforms.

➔ For more information, visit VehicleServicePros.com/21122226



» Heats water up to 210 degrees F

The **Mi-T-M Hot Water Mini Trailer** is compact and offers a 4,000 psi pressure washer package that is ideal for remote cleaning jobs. The industrial belt-drive pressure washer utilizes a 12V Beckett burner to heat water up to 210 degrees F. The package comes complete with an insulated dual lance and trigger gun, including four quick connect nozzles, and a 50' industrial steel wire-braided hose. A 10-gallon diesel fuel tank allows for up to eight hours of cleaning. The mini trailer features a durable powder coated steel frame and rear locking storage area. It is certified by the NATM, DOT approved, and can be towed up to 65 mph.

➔ For more information, visit VehicleServicePros.com/21121813

» Prevents lights from flickering

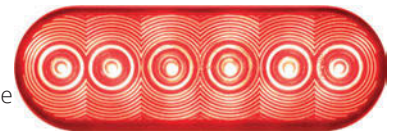
The **Sure Shim Pigtail Plug Safety Shim** is designed to fit over the trailer plug to prevent lights from flickering and turning off, protecting the drivers, equipment, and freight in tow. When the plug is plugged into the trailer receptacle with the sleeve shim, it is seated firmly without any movement. The prongs won't wear and a solid connection can be expected, the company says. The safety shims are made of a proprietary blend of polypropylene with additives that protect from UV rays, corrosives, and temperatures down to -25 degrees F.



➔ For more information, visit VehicleServicePros.com/21118555

» Available in five LED lamps

The **Optronics Smoke-Lens LED Lamps** are designed to blend into a vehicle's body contours, presenting a clean, non-invasive, and stylish look. The Smoke-Lens series includes 6" oval and 4" round stop, tail, turn lamps, a 6" oval backup lamp, a 3/4" PC-rated clearance marker lamp, as well as a 20" Smoke-Lens version of the company's Thinline series surface-mount LED stop, tail, turn light bar. The lamps, lenses, and housings are made of polycarbonate material and employ a solid-state, surface-mount device (SMD) design that protects their electronics against moisture, shock, and vibration. The lamps meet FMVSS and CMVSS 108 photometric requirements for visibility and safety.



➔ For more information, visit VehicleServicePros.com/21128812

» Permanent or hardwired remote control options

The **Golight GT Series** has been updated to provide a higher torque drivetrain, more precise tilt control, and increased ingress protection from dust and water. The remote control spotlights feature 10 high flux LEDs, 360-degrees rotation, 135-degrees tilt, and a maximum beam distance of 4,839'. The spotlights can be mounted permanently using a 14 gauge stainless steel mounting bracket or can be portable by an industrial strength magnetic grip. They can also be wireless or hardwired. The resistance levels associated with shock, vibration, and impact have also been enhanced. The GT Series comes with a three-year limited warranty.



➔ For more information, visit VehicleServicePros.com/21129897

» Haul up to 9.75 cubic yards of concrete

The **International Truck Lightweight HV50B Mixer** package removes over 1,000 lbs of weight from the vehicle with engineering optimizations that allow drivers to haul up to 9.75 cubic yards of concrete while staying under 66,000 lbs GVW. The HV50B was designed specifically for saving pounds that don't affect the integrity of the vehicle and features an all-aluminum, lighter bumper that is used on the International HX series. In addition, the front suspension components allow for a lower hood height which provides increased visibility for the driver and improved safety on the work site.



➔ For more information, visit VehicleServicePros.com/21129290

» Driven by a 48V electric motor

The **American Eagle 30P-E Electric Compressor** is driven by a 48V electric motor and controller in lieu of a traditional hydraulic system. This allows the compressor to be paired with work trucks that are built on an electric hybrid chassis platform. Whether the work truck is a van or a traditional service body, the compressor is designed to provide an air source for pneumatic needs. The compressor's small footprint, along with its weight of 225 lbs, makes it an ideal addition to a hybrid work truck where higher air consumption is needed. The 30P-E produces a maximum air output of 30 cfm and up to 150 psi of air pressure.



➔ For more information, visit VehicleServicePros.com/21129003

» For long-haul and regional service

The **Bridgestone M713 Ecopia Tire** is a SmartWay verified and California Air Resources Board (CARB) compliant drive tire designed for tandem-axle applications in long-haul and regional service. Engineered with proprietary compounds and an innovative design, the tire offers fleets enhanced performance through an 8 percent improvement in rolling resistance and a 15 percent longer tread life, the company says. In addition, the tire casing is specifically designed to pair with a fuel-efficient Bandag FuelTech retread to help extend tire life and further lower the total cost of tire ownership. The M713 Ecopia tire is available in size 295/75R22 and 11R22.5, with sizes 295.75R24.5 and 11R24.5 available soon.



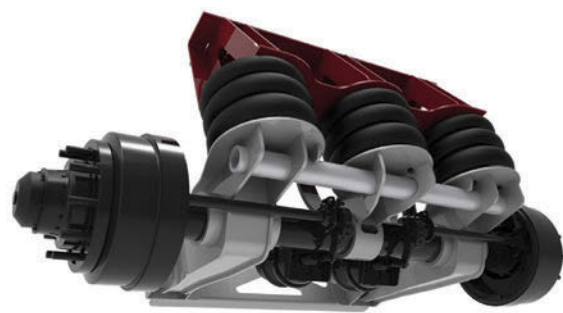
➔ For more information, visit VehicleServicePros.com/21125623



» Provides video coverage before, during, and after an event

The **NexTraQ Dashcam** is a high-definition vehicle incident camera system configured for NexTraQ with 4G LTE connectivity. The camera provides downloadable videos, real-time alerts, and live GPS location for use in applications such as transportation, temperature-controlled vehicles, construction and rental, agriculture, oil and gas, and more. Dashcam also provides HD-video coverage of the moments before, during, and after a vehicle event. With its 4G LTE capability, it offers benefits including HD video with wide-angle lens, optional second camera for in-cab view, nine infrared LEDs for night-time recording, real-time incident alerts with video and GPS location via email, and downloadable incident videos transmitted via LTE connectivity.

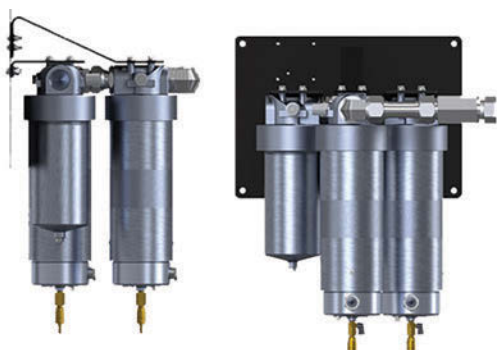
For more information, visit VehicleServicePros.com/21117556



» Features three high-capacity air springs

The **Link Manufacturing TR50-HDT Heavy Duty Off-Highway Air-Ride Suspension** is engineered specifically for off-highway and mining trailer applications and is designed to reduce axle and trailer stress, overall weight, and maintenance costs. Designed for a 17" ride height with +/- 4" of travel, the suspension is also available in other ride heights upon request. The TR50-HDT's maximum axle spread is 60" at its 50K capacity, and can operate at up to 40 mph. Each TR50-HDT features three high-capacity air springs and the shocks help mitigate the dynamic forces that can damage trailers, axles, and wheel ends.

For more information, visit VehicleServicePros.com/21129348



» Available in two standard configurations

The **Schroeder Industries Bulk Diesel Filter Series Gen. 2** is designed to provide single-pass filtration for applications requiring fuel dispensing and fuel transferring. The Bulk Diesel Filter (BDF) Series Gen. 2 includes Schroeder's patented, quality-protected, GeoSeal element filtration. It comes in two standard configurations: a two-filter fuel-water separator and particulate filter configuration (BDF1) or in series with two fuel-water separators and particulate filter configuration (BDF2).

For more information, visit VehicleServicePros.com/21129788

» Features a self-cleaning design

The **Continental Conti HDC 3 Tire** is a heavy truck, drive, construction tire that delivers significant benefits over its predecessor, HDC1, with an estimated 15 percent improvement in life expectancy, the company says. The new tread pattern delivers lateral traction throughout tire life, and features a self-cleaning design to prevent stone drilling. The tire has a broad, even-pressure footprint for improved wear, traction, and cut resistance. The Conti HDC 3 is an intelligent tire, equipped for Continental's digital tire monitoring solutions to help maximize traction through proper air pressure. The tire has a 30/32" tread depth and is currently available in sizes 11R22.5 LRH and 11R24.5 LRH.



For more information, visit VehicleServicePros.com/21109815

» Features dual 50W solar flex panels

The **Go Power! Dynamo Solar Generator System** is a silent, fuel-less solar-powered auxiliary power system engineered for utility vans and work vehicles. It is designed to run equipment without the need for generators or truck idling. The Solar Dynamo system is made up of rugged, purpose-built components, including dual 50W solar flex panels, 20A MPPT solar controller, IC-2000 inverter charger, and lithium battery technology. The system is an ideal solution for work trucks, hydro rigs, and communications providers servicing telephone lines and fiber optic installations. The low profile panels can curve up to 30-degrees and the inverter charger is a three-in-one system with a built-in charger and transfer switch.



For more information, visit VehicleServicePros.com/21129895



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» Effective against carbonaceous deposits

The **Lucas Oil Diesel Deep Clean** is designed to keep injectors clean, maintaining good flow, and free of plugging. The company states Diesel Deep Clean eliminates the risk of forced regens by removing up to 32 percent of harmful soot and other particulate matter before building up inside the particulate filters and making a vehicle inoperable. It will also improve diesel particulate filter (DPF) regeneration efficiencies. Additionally, Diesel Deep Clean can stop exhaust backpressure, allowing diesel engines to run smoother and cooler. The diesel fuel detergent also helps restore engine performance, and is effective on nozzle deposits and internal diesel injector deposits (IDID).



➔ For more information, visit VehicleServicePros.com/21121635



» Customizable solution for up to 10 different fluids

The **Thunder Creek Equipment Service and Lube Trailer (SLT)** is a customizable solution for heavy equipment fleets. The SLT offers up to 10 different fluids, which are all managed out of the SLT's streamlined Utility Box, and include fresh oil, reclaimed oil, grease, antifreeze, reclaimed antifreeze, high-flow oil, diesel fuel, and diesel exhaust fluid. Fluid volumes are configurable in 25-, 55-, and 115-gallon tanks, depending on the customer's needs. All fluid maintenance systems are plumbed into the trailer's utility box, which features a streamlined control panel that is color-coded to match nozzles, making it easy to use for operators.

➔ For more information, visit VehicleServicePros.com/21128681

» Features scrub resistance

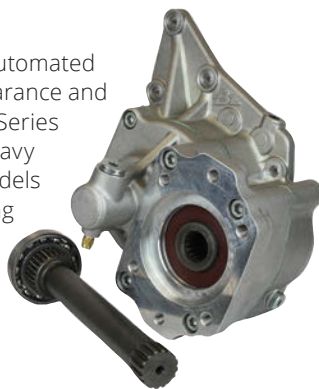
The **Continental Conti HSR 3** is a regional steer tire designed to deliver excellent mileage with scrub resistance. It will replace the HSR2 in regional steer usage, delivering higher mileage than its predecessor. The Conti HSR 3 is built on the Conti 3G casing for improved durability and retreadability, essential elements for delivering the lowest overall driving cost to regional fleets, says the company. With engineering improvements, the Conti HSR 3 withstands highly concentrated pressure and increases penetration resistance. Built for increased stiffness, it reduces heat buildup for improved wear and longer mileage.



➔ For more information, visit VehicleServicePros.com/21114110

» For Detroit DT12 automated transmissions

The **Eaton Bezares 120X Series PTO** for Detroit automated transmissions is designed to improve mounting clearance and ease of installation. The heavy duty, two-gear 120X Series PTO is built from an aluminum housing, coupling heavy duty strength with a lightweight design, and fits models DT12-DA/14.93-1.0 and DT12-OA/14.96-1.0. Featuring internal ratios from 1:1 to 1:1.8, the 120X PTO Series integrates with the auxiliary systems of the DT12 transmission and offers four different output options. A lube pump flange is included with the PTO, simplifying ordering and installation.



➔ For more information, visit VehicleServicePros.com/21124437

» Accommodates 10' to 26' typical van bodies

The **Mack Trucks Mack MD6 Low Profile Truck** is designed for ease of street loading and vocations that require lower chassis height, such as towing and recovery. The Mack MD6 Low Profile brings heavy duty levels of driver comfort and functionality to medium duty trucks to keep drivers comfortable and safe all day. Tilt/telescoping steering column, air suspension driver seat, and all controls within reach keep drivers in control. Other features include 19.5" low profile tires, steel powder coat disc wheels, 50-gallon fuel tank, 34" assembled frame width, flat back-of-cab and clear body platforms for easy body upfit, and accommodates 10' to 26' typical van bodies.



➔ For more information, visit VehicleServicePros.com/21125760

» Removable grille for easy access to internal components

The **Carrier Transicold Line of Supra Diesel-Powered Truck Refrigeration Units** offers cooling choices for small to large box trucks. The design reduces sound output by as much as three decibels relative to earlier models, making the Supra series especially well-suited for nighttime urban deliveries, the company says. Supra models S7, S8, and S9 provide solutions for trucks ranging from 10' to 28' in length and use 50 percent less refrigerant, providing greater cooling capacity than prior models. The Supra line features the company's APX control technology as well as integrates with their eSolutions telematics offering.



➔ For more information, visit VehicleServicePros.com/21125947

» Custom-molded floor mat kits

The **Minimizer Medium-Duty Floor Mats for Peterbilt 337 and 348 Models** are laser-measured to ensure an exact fit, and their tray system features a raised edge that keeps everything on the mat. The tray system is designed to be removed easily for quick cleaning. The floor mats have a textured surface, ensuring a solid grip. Made out of a proprietary thermoplastic, the Peterbilt Floor Mat models are designed to hold up to the daily use of the heavy duty trucking industry and will not break or crack under extreme conditions. They are backed by a lifetime manufacturer's warranty.



➔ For more information, visit VehicleServicePros.com/21124143

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TOOLS & EQUIPMENT

A roundup of the latest tool and equipment offerings.

» Powered by compressed air

The **Zendex Gojak Air** is a lifting system designed to replace hydraulic floor jacks that may not last, the company says. Gojak Air is powered only by compressed air and specifically built with Gojak durability for maximum lifecycle value. It features a patent pending cantilever design, reinforced 1/2" steel frame, and reliable air springs. Additionally, it includes eight strategically placed grease fittings that will keep Gojak Air running smoothly for years, according to the company. Gojak Air is made in the U.S.A.



For more information, visit VehicleServicePros.com/21126062



» Lightweight and comfortable

The **Galetton Trax Safety Glasses** are designed to provide the user with excellent coverage and comfort. The lightweight safety glasses wrap around and feature flexible rubber temple ends to keep from slipping. Available in clear (No. 13421) and smoke lens (No. 13422). The smoke lens blocks over 99 percent of harmful UV-A and UV-B rays. The safety glasses meet ANSI Z87.1-2015.

For more information, visit VehicleServicePros.com/21126063

» Waterproof pistol-grip spotlight

The **Streamlight Waypoint 300 Rechargeable Spotlight** is a lightweight, pistol-grip spotlight that emits 1,000 lm with a far-reaching 1,039m beam.

The light is portable and offers three modes: high, medium, and low. On high, the light emits 1,000 lm and has a run-time of 3.75 hours. On medium, it emits 550 lm and has a run-time of 7.5 hours, and on low, it emits 35 lm with a run-time of 87 hours. The spotlight uses power LED technology and a deep-dish parabolic reflector for long-range targeting with optimum peripheral illumination. It also features a rugged polycarbonate lens, is waterproof, and is impact-resistant to 1m.



For more information, visit VehicleServicePros.com/21126301

» All-aluminum filter to reduce weight



The **Schroeder Industries Bulk Diesel Filter Cart 3rd Gen.** has been redesigned as a complete fuel filtration package for diesel fuel storage, polishing, and/or transfer applications. The all-aluminum filter assemblies, Schroeder GHPF and GHCF, allow for overall weight reduction and a more compact footprint, enabling the cart to be more user-friendly and ergonomic. Built with a 1.5hp and single-phase motor, the BDFC 3rd Gen. can process fuel at either 14 or 25 gpm. In addition, servicing is easier by requiring only a strap wrench to service both filter assemblies, the company says.

For more information, visit VehicleServicePros.com/21126851

» Features a 20,000-lb capacity

The **ML-220 Two-Post Heavy Duty Vehicle Lift** from **Mohawk Lifts** is designed for lifting points of medium duty work trucks or for retracting to service short wheelbase vehicles. The lift has a 20,000-lb capacity and comes standard with three-stage swing arms that can reach the furthest lifting points. With a direct-drive, all-hydraulic lifting system and no overhead cable covers, the ML-220 ensures technicians can fully lift high-profile vehicles. The ML-220 comes with Mohawk Lift's 25-year warranty and is 100 percent U.S.A. made. The ML-220 includes full sets of truck adapters for servicing all vehicles.

For more information, visit VehicleServicePros.com/21126103



» Tapered tip for secure grip

The **OEMTOOLS 6-1/2" Heavy Duty Snap Ring Pliers Set**, No. 25397, features two heavy duty pliers with a patented tapered tip design to securely grip snap rings. This set includes one internal snap ring pliers and one external snap ring pliers. The patented tapered tips have three adjustable settings: straight, 45 degrees, and 90 degrees, and are constructed with durable coated steel. The tip sizes include 0.8mm, 1.2mm, 1.4mm, and 2mm. Handles are spring loaded for easy operation.

For more information, visit VehicleServicePros.com/21125749



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» Features built-in jack stands

The **Bendpak QuickJack** is a portable car lift that makes vehicle repairs safe and efficient while allowing unrestricted access to the middle of a vehicle's undercarriage. It handles the lifting and safe-keeping of vehicles with the simple push of a button. Each of the two frames feature automatic locking bars that are essentially jack stands built into the sides. Ideal for suspension work, oil changes, tire swaps, exhaust system swaps, auto detailing, and other repair work. QuickJack is easy to lower and store when not in use.

➔ For more information, visit VehicleServicePros.com/21129777



» Angled tips for hard-to-reach areas

The **Lisle 35-Degree Long Reach Universal Hose Clamp Pliers**, No. 17370, provide an extra-long reach and 35-degree angled tips to access hard-to-reach hoses. Cross-cut tips are designed to grip most hose clamps from multiple angles. A ratcheting lock mechanism holds the clamp in an open position for handsfree use. The pliers feature dual material grips for improved comfort.

➔ For more information, visit VehicleServicePros.com/21118377

» Features sliding storage drawers with rollers

The **Ascot Heavy Duty Tire Repair Cabinet** is built to withstand heavy use. The cabinet has three storage levels and features two convenient sliding storage drawers inside with rollers for ease of use. An optional shelf is available for an additional storage level. The two inside doors are equipped with two tool hook sets for easy and quick access to tools. The cabinet also features a convenient switch-to-open handle on the front. The cabinet is 19.6" by 10" by 26" in size and weighs 36 lbs.



➔ For more information, visit VehicleServicePros.com/21031495

» Available in three sizes

The **Magnetic Tool Mat** from **Master Magnetics** is designed to securely hold small handheld tools and small metal parts while working in the garage, workshop, or warehouse. While magnetic on both sides, the ceramic magnets are encased in a flexible, heavy duty vinyl cover, and will attract to any ferrous metal surface, including cars and toolboxes. The flexible design allows the Magnetic Tool Mat to attract to itself when wrapped around non-ferrous items such as wood or aluminum items. The mat is available in three sizes: 7" by 12.5", 7" by 17.5", and 8.5" by 20". It also comes with reinforced grommets and a sewn-in fabric handle for additional mounting options.

➔ For more information, visit VehicleServicePros.com/21113380



» Sound level of 85 dBA during operation

The **Mighty Seven 1/2" Drive Flex Head Air Ratchet Wrench**, No. NE-488, features a 1/2hp motor with 60 ft-lbs of maximum reverse torque and provides a 25-degree arc between each position. It is ideal for hard-to-reach applications. With the end user in mind, M7 designed a comfortable cushioned handle and an OSHA standard approval sound level of 85 dBA during operation at 90 psi. This versatile tool is backed by a three-year warranty.

➔ For more information, visit VehicleServicePros.com/21123114



» Installs into the gear case

The **OTC Cam Gear Retaining Tool**, No. 5884, is designed to properly hold the cam gear stationary while removing or installing the cam gear retaining bolt without damage. The tool installs into the gear case, engaging one of the lightening holes in the camshaft drive gear. Use two of the access cover bolts to secure the tool to the gear case. The tool is for use on Detroit Diesel Series 60.

➔ For more information, visit VehicleServicePros.com/21114948



» Capable of welding materials up to 3/8" thick

The **Miller Electric Syncrowave 300 TIG Welder** is designed to increase productivity for welders by utilizing preset parameters and delivering a stable arc. Equipped with AC/DC TIG, DC pulsed TIG, and DC stick capabilities, the welder is ideal for general fabrication TIG applications. The Syncrowave 300 is capable of welding materials up to 3/8" thick with an output rating of 300A and 22V at a 30 percent duty cycle. The welder weighs 178 lbs and features a simple setup and intuitive interface designed with the user in mind. Its Pro-Set technology helps eliminate the guesswork when setting TIG welding parameters.

➔ For more information, visit VehicleServicePros.com/21120678



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» Increases speed with the push of a button

The Wera Tools Kraftform Turbo

features a part time universal gear integrated in the handle to increase the working speed. The construction allows for four times the screwdriving speed without electricity, the company says. If required, the turbo function can be activated by simply pressing a button. Turning it off is recommended for loosening or for fine adjustment and final tightening of the screw with a high torque. The robust steel design is maintenance-free and ensures a long product life. The Kraftform Turbo can be used with conventional 1/4" bits due to its Rapidaptor bit holder, an interchangeable blade system.

For more information, visit VehicleServicePros.com/21130038

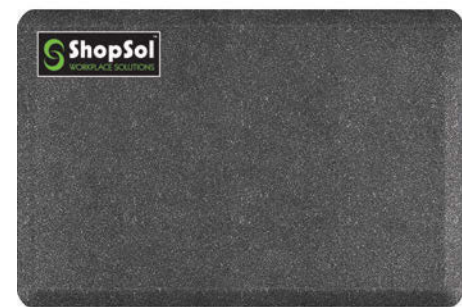


» Silent and emissions-free

The Klein Tools 546Wh Portable Power Station, No. KTB5,

provides professionals a silent, emissions-free alternative to gas-filled generators. Its pure sine wave power supports on-site electronics, lights, fans, battery chargers, and small battery-operated tools. At 14 lbs, the power station features two AC outlets, two USB-A, and two USB-C ports so technicians have what they need wherever they need to plug in. The portable power station also offers a digital display with real-time telemetry for input, output, and battery details, as well as collapsible carry handles to allow for stacking.

For more information, visit VehicleServicePros.com/21116793



» Provides comfort while standing

The **ShopSol Supreme Anti-Fatigue Mat** is designed to create a healthy barrier between the technician and the floor. The Supreme series makes standing more comfortable by reducing back, neck, leg, and foot fatigue associated with long-term standing. The mats are offered in three sizes: 5' by 3', 6' by 2', and 3' by 2'. All are 3/4" thick and feature non-slip top and bottom surfaces. They are also available in four colors: mosaic steel, black, gray, and black with a yellow border.

For more information, visit VehicleServicePros.com/21116553

» Provides before- and after-service vent temperatures

The **Robinair Wi-Fi/Temperature Probes Master Add-On Kit, No. 80211TMP,** is designed to provide feature and performance enhancements to all existing new platform A/C recovery machines (NI, NI-H, and AC1234-4). The kit is equipped with an SD card that enables Wi-Fi functionality and over-the-air machine software updates. It features two Bluetooth temperature probes and is designed to be placed in side, defroster, and face vents to capture duct temperature. The kit communicates with compatible Robinair A/C recovery machines to assist technicians with service capabilities. The kit adds before- and after-service vent temperatures to maintenance reports, allowing the customer and shop to see that a proper repair was performed.

For more information, visit VehicleServicePros.com/21115786



» Industrial alternative to a manual wash

The **ISTOBAL HW'Intrawash** automatically cleans and disinfects the interior of trailers and box containers, reducing water and chemical usage. Internationally patented and easy to use and install, the HW'Intrawash provides a professional interior wash and an Food Safety Modernization Act (FSMA) compliant disinfection of refrigerated and dry van trailers, as well as shipping containers. The machine can clean a 53' trailer interior in as little as three minutes and clean and sanitize in six minutes, the company says. It applies bactericide chemicals and offers a safe and controlled sanitation by using a high-pressure pumping system and a highly accurate chemical dosing system. It also washes out and collects dirt and debris inside a hopper.

For more information, visit VehicleServicePros.com/21111734



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» Capable of heating aluminum and steel

The **Induction Innovations ALFe 3.5 Induction Heating System** is designed to deliver precise, safe, and reliable heat all while saving time, consumables, and salvaging parts normally discarded in the repair process. It's ideal for jobs that require high-end heat levels to release seized parts and panel bond adhesives from steel or aluminum, including bolts, graphics, auto glass, and stress relieving frame rails, and in fabrication. The ALFe 3.5 features 230V/16A/P1, nine-minute duty cycle, LED indicator, and a safety shut-off.



For more information, visit VehicleServicePros.com/21121156



» Offers a burst pressure of 22,000 psi

The **Lumax Extended Heavy-Duty Quick-Release Grease Coupler**, No. LX-1403-XL, is designed with a proprietary locking and quick-release mechanism, which creates a leak-proof seal, says the company. The design enables the quick release coupler to firmly latch onto the grease fitting, enabling handsfree greasing. If a fitting becomes pressurized, technicians can depress the thumb lever and release the coupler. The coupler has an integrated 1/8" NPT connection and is suitable for use on most hand, battery-powered, or air-operated grease guns and bulk grease pumps. The coupler is 5" long by 1.2" high and has a burst pressure of 22,000 psi.

For more information, visit VehicleServicePros.com/21122191

» Leaves a protective film on metal surfaces

The **Lawson Products Drummond Engage High Tech Lubricant with PTFE** is a multipurpose lubricant formulated with PTFE which provides ideal lubrication over a wide temperature range. Engage penetrates through rust and water to coat and lubricate metal surfaces. It leaves a protective film on metal surfaces to resist debris and control corrosion. Engage features a high dielectric strength of 2.5mm and a temperature range of -70 degrees F to 480 degrees F. It also spreads out quickly to coat and protect even the most intricate parts and machinery.



For more information, visit VehicleServicePros.com/21121642



» Multi-purpose spray lubricant

Hot Shot's Secret Never Rust Lubricant from **Lubrication Specialties** is designed to protect metal parts from rust and corrosion. The multi-purpose, 100 percent synthetic spray protects any metal surface and is ideal for use on metal nuts and bolts, cables and chains, metal tools, automotive parts, door hinges, locks, and more. Engineered to be effective in extreme temperatures with an operating temperature range of -65 to 300 degrees F, Never Rust can be used in any climate. It is resistant to water washout and will not dry out, separate, or bleed on equipment, the company says. In addition to rust prevention, it can be used to remove gummy labels, tape, or stickers.

For more information, visit VehicleServicePros.com/21127203

» Cuts up to 16 gauge sheet metal

The **Dent Fix Equipment Panel Saw**, No. DF-PS36, is designed to quickly and cleanly cut through up to 16-gauge sheet metal panels. Its lightweight, compact design reduces user fatigue and increases stability around tight areas. Its double grip handle allows for control and power in a comfortable ergonomic design, and its side guide allows for a precise cut in a straight line. Other notable features include 3/4hp, 90 psi, 1,000 rpm, and edge control. The kit includes one steel blade. An aluminum blade is also available.

For more information, visit VehicleServicePros.com/21122969



» Ready to go right out of the package

The **Coilhose Pneumatics Flexeel CoBlo** combines the company's Flexeel Air Hose in hi-viz orange and the CoBlo Coupler Blow Gun into one product. The Flexeel Air Hose is constructed of lightweight and durable polyurethane and has a 200 psi working pressure. The CoBlo is a high-quality six-ball coupler with a built-in blowgun. The CoBlo has a 120 psi working pressure. With the CoBlo and industrial connector always on, the hose is ready to go out of the package. It works with the tool connected or disconnected.

For more information, visit VehicleServicePros.com/21117210



» Cutting capacity up to 3/4" 18 gauge rolled steel

The **AIRCAT Flex Head Cut-Off Tool**, No. 6530, features a powerful 1/2 hp motor, AIRCAT patented silencing technology, and a three-position indexable head design. The tool is designed to make angled cuts in tight spaces. The cut-off tool features 18,000 rpm, 360-degree rotational guard, and has a cutting capacity up to 3/4" 18 gauge rolled steel. It also offers a quick slide locking sleeve design for fast flex head position change and a rotational rear exhaust with internal silencing to reduce noise level to 90 dBA. The tool weighs 2.6 lbs and is 8.8" in length.

For more information, visit VehicleServicePros.com/21122917



» Features a 300-lb capacity

The **Ascot Tire Dolly with Casters** is ideal for moving tires around the shop or for convenient tire storage. The tire dolly features four swivel, non-marking, smooth 3" casters, including a brake on one caster. With its 300-lb capacity, the tire dolly can accommodate a heavy load and transport multiple tires with ease, preventing accidents and injuries from tire handling and transporting. It features a built-in compartment and stackable design to utilize the space and store tires efficiently. The dolly measures 25.2" length by 25.2" width by 4.33" height.

For more information, visit VehicleServicePros.com/21121802



» Features a large LCD display

The **Bartec Digital Tread Depth Gauge**, No. TDG50, is able to fit in a pocket and features an easy-to-read LCD display. The TDG50 reads out in millimeters, inches, decimals, and fractions. The range of measurement is zero to 1-1/32" and a working temperature of zero to 104 degrees F. It also features a zero reset at any position and a manual off and on button.

➔ For more information, visit VehicleServicePros.com/21120725

» Attaches securely to most hand tools

The **Lumax Magnetic LED Light**, No. LX-1436, attaches securely to most hand tools and is ideal for use on grease guns, screwdrivers, wrenches, pliers, ratchets, and more. The company says the strong magnets hold onto the tool securely during operation and will not fall off. The compact, lightweight design makes it easy to store and put in a toolbox. The Magnetic LED Light has a long-life lithium battery that lasts up to seven hours of continuous use. Batteries are included.



➔ For more information, visit VehicleServicePros.com/2112055

» Available in belt-driven or direct-driven models

The **Champion Oil Lubricated Fixed Speed Rotary Screw D and DRS Series Compressors** feature an integrated airend design that reduces connection points, enhances reliability, and promotes serviceability. The reduced component concept extends beyond the airend into the oil and air cooler, resulting in a reduction in energy consumption, low discharge air temperatures, and an increase in overall system reliability. The D Series compressors are ideal for demanding environments where dry, clean, continuous-use compressed air is required. The series yields noise levels as low as 64 dBA. The compressors are available in fixed or variable speed models, belt-driven or direct-driven models, as well as in base-mount (5-200hp) or air stations, tank-mounted with a dryer (5-30hp).

➔ For more information, visit VehicleServicePros.com/21124367



» Offers resistance to punctures and tears

The **MCR Safety NitrShield Gloves with MAXBio Technology**, No. 6041, contain no latex proteins and offer resistance to punctures and tears. According to the company, they are three times more puncture resistant than rubber and can be used to offer superior resistance to many types of chemicals. The 6041 is an industrial-grade powder-free green nitrile glove that measures 4 mil in thickness and is 9.5" in length. It is biodegradable and comes in fully recyclable packaging. The gloves also have a rolled cuff and textured grip. There are 100 gloves included per box.

➔ For more information, visit VehicleServicePros.com/21125364



» Designed to fit into a small space

The **Hofmann 12K 4-Post Alignment Lift System** is versatile, yet compact in size, and can be used with any vehicle from compact cars to heavy duty pickups. The lift system is designed to fit into a small space while providing up to 12,000 lbs of heavy duty lifting capacity. Offering users four-wheel alignment capabilities that cover a full range of vehicle requirements, its 20.5" wide Pro-Style runways help save time when loading vehicles onto the lift, and the closed front end design maintains a steady, shake-free lift for advanced alignment equipment measurements.

➔ For more information, visit VehicleServicePros.com/21127855



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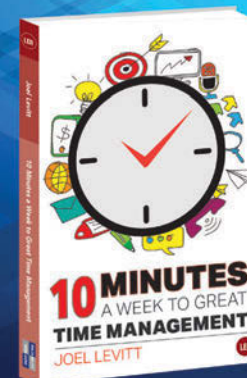
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» Offers low sparks, odor, and debris

The **Innovative Products of America 3" 3-in-1 Diamond Grinding Wheel**, No. 8151, is designed for grinding, deburring, surface prepping, cutting sheet metal, fiberglass, and more. With three different cutting areas on each wheel, the 3-in-1 Diamond Grinding Wheel grinds, cuts, and undercuts, providing access and versatility for many applications. Through the use of a unique core bonding technology, the grinding wheel offers low sparks, odor, and debris. It is available in three sizes: 4.5", 3", 2". The grinding wheel is for 1/4" and 3/8" arbor die grinders.



➔ For more information, visit VehicleServicePros.com/21129298

» Wireless charging compatibility

The **Saber 500 Lumen Wireless Charging LED Pocket Light**, No. 80205, features an automatic shut-off and overcharge protection to prolong battery life. The pocket light offers two settings to provide varied brightness and run-times. It emits 500 lm on high and 250 lm on low with run-times of two hours on high and four hours on low. It also features heavy duty anodized aluminum housing, a swivel hook with a magnet to allow handsfree use, and a SMD LED top light to offer an additional 150 lm flashlight function. The light has wireless charging compatibility (wireless charger not included).



➔ For more information, visit VehicleServicePros.com/21108723

» Remove broken exhaust manifold studs

The **ProMAXX Mikey II ProKit** is capable of removing broken exhaust manifold studs in both current GM LS engines 5.3L, 6.0L, and 6.2L (2014-2020) and previous generation engines 4.8L, 5.3L, 6.0L, and 6.2L (1999 to 2013). The ProMAXX patented design facilitates machine grade tooling that utilizes hardened steel threaded bushings that can be placed anywhere to deliver consistent and repeatable results without moving the ProPlate. The stainless steel fasteners are precision turned to bring Mikey II into alignment without the error associated with less expensive slip-fit components. Manufactured in the U.S.A. For use in Chevrolet Silverado and Suburban, GMC Sierra and Yukon, and Cadillac Escalade 1999 to present.



➔ For more information, visit VehicleServicePros.com/21114362

» Fits most tool drawers

The **GEARWRENCH Flex Foam Universal Tool Storage System** is designed to provide a tool storage solution without having to customize to each individual tool. The universal pattern holds most tool shapes, its low profile fits in most tool drawers (2" deep and up), and the 16" by 22" dimensions can be segmented to fit unique drawers. Available as a four-piece set, the Flex Foam Universal Storage System's material and pattern are strong enough to keep tools in place without rattling around inside of a mobile cart. The foam material resists tearing and is solvent resistant.

➔ For more information, visit VehicleServicePros.com/21113736



» Twist-to-zoom action to adjust the width of beam

The **Clore Automotive Light-N-Carry 120 Max Lumen Work/Torch Light**, No. LNC312, provides versatile illumination in a compact, easy-to-carry package for technicians in need of a light that is reliable and tough. Each model features a 120 lm work COB LED mode with a dimmer feature, plus twist-to-zoom action to adjust the width of the beam. The line also features a rugged aluminum housing for durability and a clip for convenient storage. It has a protected micro-USB charging port and a magnet mount for storage or hands-free use. Includes a charging cord and a 10580 rechargeable lithium battery.

➔ For more information, visit VehicleServicePros.com/21123743



» Easy to clean without disassembling

The **Kershaw Mixtape Knife** is designed to provide an ideal mix of all the qualities one would want in a lightweight, easy-to-carry pocketknife, the company says. To keep the weight down, the handles feature cutouts in the front and back, and the handle scales are glass-filled nylon. A secure inset liner lock reduces weight even more by eliminating the need for a full internal liner. The Mixtape's open construction is easy to clean without disassembling the knife. The stonewashed blade is just over 3" and is opened using the built-in thumb disk. The knife weighs 2.7 oz.

➔ For more information, visit VehicleServicePros.com/21107515



» Certified to 1,000V AC or 1,500V DC

The **Wiha Tools Insulated Sockets 1/4" Drive** features protective insulation molded directly onto the socket. Each socket is individually tested to 10,000V and is certified to 1,000V AC and 1,500V DC. The sockets meet ASTM F1505, EN/IEC 60900, NFPA-70E, CSA, and VDE insulation specifications. The sockets have high-visibility coatings, double covered insulation red over yellow, and are forged and oil-hardened.

➔ For more information, visit VehicleServicePros.com/21123870



» Features three length shafts

The **SP Tools Universal Quick Change Hammer Set**, No. 15400, features three different length shafts, a quick change head design, and is made from different materials that are each suited for impacting various components on a vehicle. Technicians can choose between a nylon (soft), brass (medium), or steel head to ensure no damage is done to the surface. The set includes 6", 9", and 18" long shaft drivers. The universal design works with all air hammer brands.

➔ For more information, visit VehicleServicePros.com/21115096



» Able to use with a ratchet or wrench

The **Mayhew Tools' Dual-Drive 11-Pc Torx Bit Set**, No. 16003, offers a wide range of sizes, giving users the ability to fasten or unfasten Torx screws. The set includes a convenient storage rail that keeps all bits organized and easily accessible. The set features a titanium coating that enhances the strength and durability of each piece, along with a low profile dual-drive design to allow use with a ratchet or 11mm wrench. The popular 1/4" drive has an overall 3/4" length and is backed by a lifetime warranty. The set is assembled in the U.S.A.

➔ For more information, visit VehicleServicePros.com/21123551



» Wipes away smoke films, grease, and other soils

The **Kent Automotive Glass Kleen Plus** is an easy-to-use aerosol glass cleaner that leaves surfaces streak- and smudge-free with no hazy film. Simply spray the cleaning foam that stays in place and wipe away dirt, fingerprints, smoke films, grease, and other soils with a lint and film-free cloth, towel, or rag. Ideal for cleaning glass, mirrors, and stainless steel, Glass Kleen Plus has a light, fresh fragrance and no CFCs.

For more information, visit
VehicleServicePros.com/21129404



» Features a 14,000-lb lifting capacity

The **AMGO PRO-14 Four Post Lift** offers a 14,000-lb lifting capacity and is built to commercial-grade standards. The PRO-14 also features 1/2" aircraft quality cable, a skid-proof diamond platform to prevent slippage, and high-quality cylinders to ensure no leakage. The lift can also fit the company's RJ-8A Rolling Jack in case technicians need to lift the car to do wheel work.

For more information, visit
VehicleServicePros.com/21115734



» Specially-designed casters reduce rolling resistance

The **Snap-on Flat-Oval Adjustable Creeper**, No. JCW67MAX4, has a flat-oval tubing design that eliminates sharp corners, making it more comfortable. The vinyl cover hides the plywood core with high-density 80-lb foam padding. The hinge mechanism provides one-handed adjustment of height and the four-position headrest.

For more information, visit
VehicleServicePros.com/21120468

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NASTF steps into the world of heavy duty

Heavy duty technicians have a resource for requesting access to OE repair information.

For almost 20 years, the National Automotive Service Task Force (NASTF) has served as a cooperative effort among the automotive service industry, the equipment and tool industry, and automobile manufacturers. In keeping with that spirit of cooperation, NASTF is requesting industry participation as it expands its heavy duty capabilities.

Why now?

NASTF has seen great success as the go-to source of repair information for aftermarket technicians by continuously correcting gaps and working to proactively improve delivery systems.

While NASTF's mission of ensuring access to service information remains the same, the types and delivery systems for that information

have been modernized. In the coming months, NASTF will be rolling out a redesigned website. The new site will allow members to customize their user experience, focusing exclusively on information relevant to their business.

NASTF has engaged with the heavy duty industry since its inception but now has the opportunity to build out its capabilities with the new, personalized site interface. This means that heavy duty technicians will only see information relating to the specific brands, makes, or models that they service.

What will it look like?

NASTF will post a similar offering like its light duty side. It is expected that there might be some variations as it may have websites for components like powertrains and braking systems that are not brand-specific. The NASTF web team will determine an effective way to display the information once some feedback from NASTF's Heavy Duty Team is received, which consists of representatives throughout the heavy duty industry.

NASTF is a hyperlink farm for the most part. This means NASTF will be providing URLs that lead directly to the information source the user is looking for, wherever possible. NASTF will also host online forums for heavy duty repairers to "crowdsource" the solutions to common

» NASTF's mission is to ensure heavy duty technicians and shops have access to the repair information they need to service vehicles.

Transervice

NASTF is requesting industry participation as it expands its heavy duty capabilities.

repair issues where aftermarket experience can be invaluable to technicians as well as manufacturers who seek better ways to respond to customer needs.

How will this help the fleets?

By allowing aftermarket heavy duty repairers the same access to diagnostic and repair information as the dealers, the vehicle or fleet owner will have more options when it comes to service locations. Vehicle owners will no longer be tied to a single repairer and will likely see reduced costs and downtime from a more competitive marketplace. This will also streamline the repair process by consolidating the links to the manufacturers' web portals.

In addition, NASTF regularly receives service information requests (SIRs). An SIR is a tool that allows a NASTF member who is a vehicle service professional to submit a piece of repair information or tool gap for review by participating OEMs. A gap issue is a situation where service, collision, vehicle security, tools, or training information is available to a franchise dealer but not available outside of the OEM's franchise network; or, in many cases, is needed but not available to anyone.

NASTF foresees this being particularly helpful for smaller or mixed fleets. In addition, OEMs that support the independent aftermarket have seen increased value on resale and higher levels of customer satisfaction due to the increased repair options and subsequent flexibility.

How can I get involved?

The NASTF Heavy Duty Team is seeking volunteers from the heavy duty repair and OEM sectors to assist NASTF in ensuring that their service information links are up to date. Accuracy and clarity are of particular importance for independent heavy duty repairers as, in addition to the challenge of servicing various makes, models, and years, heavy duty trucks can consist of components from several different manufacturers.

If you are interested in assisting NASTF with developing and maintaining its heavy duty resources, please contact Managing Director Holly Wolfe at hwolfe@nastf.org. ■

By Holly Wolfe

MANAGING DIRECTOR, NASTF

The National Automotive Service Task Force, or NASTF, is an industry organization that works on behalf of vehicle repairers to ensure access to the necessary vehicle repair information needed to service and maintain vehicles efficiently and effectively. A former Capitol Hill staffer, Wolfe got her start in automotive policy at the Automotive Service Association (ASA), serving as legislative analyst and government affairs manager. During her tenure, Wolfe advocated for the independent repair industry at the federal and state level. She joined NASTF in 2019, as the managing director.



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