TRUCKTECH

CANADA'S FLEET MAINTENANCE MAGAZINE

WINTER 2018

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Maintenance challenges with specialty trailers

Forward March
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KEEPING CONNECTED

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TRUCKTECH
CANADA'S FLEET MAINTENANCE MAGAZINE

is written and published for owners, managers and maintenance supervisors of those companies that operate, sell and service trucks, truck trailers, and transit buses.

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Vice President, Editorial
Rolf Lockwood
rolf@newcom.ca • (416) 614-5825

Contributing Editors
Derek Clouthier, James Menzies, Jim Park, John G. Smith, Sonia Straface

Managing Director
Trucking and Supply Chain Group
Lou Smyrlis
lou@newcom.ca • (416) 510-6881

Creative Director
Tim Norton
tim@newcom.ca • (416) 510-5223

Production Manager
Kim Collins
kim@newcom.ca • (416) 510-6779

NEWCOM

NEWCOM MEDIA INC.
5353 Dundas Street West, Suite 400
Toronto, ON M9B 6H8
416/614-2200 • 416/614-8861 (fax)

CHAIRMAN AND FOUNDER
Jim Glionna

PRESIDENT
Joe Glionna

VICE PRESIDENT, PUBLISHING
Melissa Summerfield

CHIEF FINANCIAL OFFICER
Peter Fryters

DIRECTOR OF CIRCULATION
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Power sources and their related connections require more attention than ever before to support electronic and electrical systems.

COVER STORY

KEEPING CONNECTED

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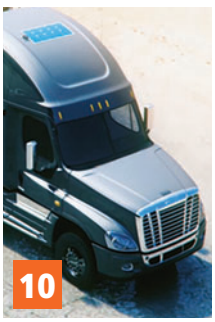
Departments



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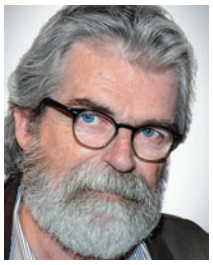


Diagnostics - Now and Then

Things became mighty complex.
Then simpler. On a good day.

By Rolf Lockwood

Diagnostics took a while to become a high art, and you could easily argue that it's no longer a human activity at all. Just look at how much can be accomplished by digital gizmology that can tell you who made a lousy shift in truck #6554 two Wednesdays ago, just east of Regina, at 3:19 in the afternoon. If you ask.

Things were different back in the days of horses and buggies, when hauling freight was a somewhat simpler mechanical enterprise than it is now. You could see every single part of your trailer, and when something broke it didn't take a zillion hours of shop time to figure it out.

And, best of all, it was never a wiring issue.

Your one-horse engine – maybe you hauled heavy and needed two – wasn't really a whole lot different. When the nag pulled up lame you probably just needed a new shoe. Simple enough.

Diagnostics was easy as pie.

Then, for a very long time, it was the era of The Stare. Once engines began to be made mostly of iron instead of equine flesh and bone, and we multiplied their paltry power by means of steel gears, the art of mechanical diagnostics was born. Really, from that point until the advent of the electronic engine, mechanics were often to be found standing 10 feet away from the failed truck and staring at the darned thing. Sometimes they huddled in groups, as if ingenuity could be expanded by piling one befuddlement on top of another. And with furrowed brows they ... well, pretty often they just continued staring. As strategies go, it was rarely effective.

"Ironically, our trucks are almost as transparent now as our horse-drawn wagons were."

In the first few decades of that second era, the art of engine diagnostics began with desperately simple questions like, is it getting fuel? And in the case of gas motors, is it getting spark? Now we ask those same questions in very different ways.

There were many who just stared a lot back in the day, but diagnostics really did become an art. For some folks, anyway, the intuitive ones with imagination. And the guys – always guys – who took it to its highest level were themselves elevated to star status in the shop, maybe even in the town at large.

Truck Whisperers. Legends.

Things got progressively more complicated, as you know all too well, so we devised another means of multiplying ingenuity amongst mortals. We began calling mechanics technicians. It was a brilliant stroke in theory, the logic being that the moniker made the mechanic more confident and thus better matched to any problem's complexity.

When electronically controlled engines rolled onto the scene in the mid-1980s, some of them sputtering, dashboards awash with mysterious twinkling lights, some operations went so far as to equip their shops with computers. Never mind that they were usually tired old machines that the front office had butchered for a few years before sending them out back to the poor old maintenance lads.

The technicians out there could finally live up to their names. Except that many of them spent as much time diagnosing desktop computer glitches as they did fooling with engine parameters and figuring out their faults. We've made enormous progress since then.

Today, nothing's as obvious as it could be in those buggy-wheel and earliest-mechanical years, but the diagnostic art has changed radically and become easier than ever. The nature and very concept of complexity is re-defined every day, as are the related tools.

Ironically, our trucks are now almost as transparent as the horse-drawn wagons of yesteryear. They're wildly complex machines, but the vast array of data streaming out of them makes the diagnostics task no harder than seeing the bad spoke on a wooden wheel. In theory.

On a good day. TT

Blitz grounds 14.1% for brake defects

Inspectors in Canada and the U.S. grounded 14.1% of vehicles for brake-related defects from Sept. 16-22, recognized as Brake Safety Week.

There were 35,080 commercial vehicle inspections overall, the Commercial Vehicle Safety Alliance (CVSA) reports.

Specific to units with antilock braking systems (ABS), 8.3% of air-braked power units and 12.5% of trailers had ABS violations.

Brakes remain a top source of out-of-service violations during other blitzes like June's 72-hour Roadcheck event as well.

The 2.38 million inspections conducted for this fiscal year, as of Sept. 28, yielded 1,045,335 brake-related violations – accounting for seven of the Top 20 vehicle violations overall.

CTEA heads for the Hill

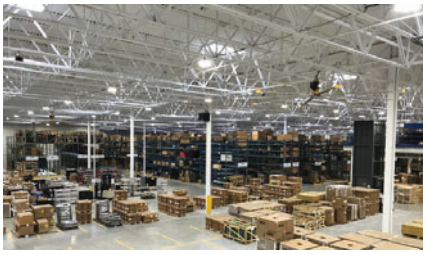
The Canadian Transportation Equipment Association (CTEA) has a new home closer to Parliament Hill, with the opening of an Ottawa office.

It's hoped that having an office "close to the action" will improve the access to federal officials, the association says in a related release. "The last number of months has shown how national and international issues – like trade – can move very quickly and requires continuous attention."

Earlier in November, for example, CTEA director of government and industry relations Don Moore met with MPs and representatives from Canadian Manufacturers and Exporters (CME) and the Canadian Manufacturing Coalition (CMC), focusing on issues including investment and business tax reform, skills trades shortages and immigration, and steel and aluminum tariffs.

More details on the move are expected in the months to come, but those trying to reach the group are now asked to use the new address at 116 Albert St., Suite 200 and 300, Ottawa, Ont., K1P 5G3.

Paccar Parts opens new PDC



Paccar Parts has opened a new 160,000 sq.-ft. parts distribution center in Toronto, supporting customers across Eastern Canada.

Features of the new facility include voice-activated picking, an automated banding conveyor, optimized pick paths, and custom inventory zones.

The location complements another facility in Montreal, which opened in 2014.

"The strategic location of the Toronto PDC equips us to increase our next-day deliveries," said Laura Bloch, assistant general manager – operations. "We will increase customer uptime by adding a greater breadth of product and increasing our availability to service customers within 24 hours."

Association pitches Drive Clean changes

Ontario is reworking its Drive Clean emissions program to focus on heavy vehicles, and the Ontario Trucking Association (OTA) has some ideas of what it would like to see.

The province's largest trucking lobby is opposing a lengthy onboard diagnostic test, and wants instead to see a focus on those who tamper with emissions systems and speed limiters. It also wants the heavy-duty Drive Clean Program itself phased out because the overwhelming share of tested trucks pass.

Wabco opens new HQ site

Wabco Holdings has officially opened its new Americas headquarters in Auburn Hills, Mich.

The new US$20-million facility features an open, transparent design that includes office space on two floors, as well as Wabco's Customer Experience Center, a vehicle test lab, training center, and other amenities.

The 102,000 sq.-ft. building also brings Wabco's engineering, quality, sales, marketing, and corporate functions together in one location.

Natural gas truck sales lose steam

Natural gas truck sales in the U.S. and Canada had declined 28% this year as of August, according to ACT Research.

Said Ken Vieth, senior partner and general manager at ACT Research: "With the narrowed fuel price spread between diesel and natural gas, it really isn't surprising that sales of natural gas units softened. That said, it is important to remember that the conversion of a fleet from diesel to natural gas doesn't rest entirely on the savings of fuel. Natural gas offers more consistent fuel pricing and is one way fleets can meet more stringent environmental requirements."

Hiway/Eskimo acquires Chill Tech

The recently merged Hiway/Eskimo Refrigeration has now acquired Chill Tech Reefer Services.

Chill Tech, an independent transport refrigeration service, had been operating in the Calgary area for 16 years.

The acquisition adds to the company's service capabilities as a dealer for Carrier Transicold in Alberta, as well as B.C. and Saskatchewan, providing sales, parts, and service of temperature-controlled equipment, auxiliary power units, gensets, and telematics.

Electric trucks show promise in medium-duty

A new report on the viability of electric-powered medium-duty trucks found they are a "real solution, for some specific applications."

Mike Roeth, executive director of the North American Council for Freight Efficiency (NACFE), said when releasing the group's latest confidence report that more miles are required to answer certain unknowns about electric medium-duty trucks. However, he also said "they're not a fad."

"You hear people saying, 'The batteries are way too expensive,'" he said. "But in some shorter, mild duty cycles, they're telling us they are very near cost parity now."

Mack, Volvo expand OTA programming

Mack and Volvo have both announced expanded over-the-air (OTA) software and vehicle parameter update capabilities.

They've also created a simple portal to allow customers to register their trucks for any of the over-the-air updates.

New parameter updates allowed over-the-air include performance, balanced, or economy modes, Mack announced. OTA updates are available on GHG17 model year Mack and Volvo engines. They're available in the U.S. and Canada, wherever a cellular connection is available. TT

Brandt Group adds Camex

Regina's Brandt Group of Companies has plunged into the specialty transportation equipment sector by purchasing Camex Equipment Sales and Rentals.

Camex, an Edmonton-based company, has been in the custom truck rigging and on-highway specialized trailer business for more than 25 years. Its products include those for the oil and gas, mining, pipeline, infrastructure, municipal, and environmental sectors.

The acquired company will operate as Brandt Truck Rigging and Trailers.

Solar panels mounted to the roof fairing or trailer roof can be used to power liftgates.

SPECIALTY TRAILERS, SPECIAL CHALLENGES

Tackle the unique maintenance challenges of liftgates, tankers, and live-bottom trailers

BY JAMES MENZIES

Maintaining a fleet of trailers is complicated enough, but specialty trailers pose their own unique challenges. The more complex a trailer design is, the greater the potential for maintenance-related headaches.

We caught up with maintenance professionals to find solutions to common problems encountered by operators of tankers, liftgate, and live-bottom trailers.

Tanker troubles

Asked what maintenance items are most frequently overlooked on tanker trailers, Mike Trianos, director of fleet services and procurement with Transcourt Tank Leasing, is quick to cite poorly greased fifth wheels and fifth wheel compensators, especially on B-trains.

"B-trains are not uncoupled regularly, and making sure they are properly greased is important and should be a part of a regular PM inspection," Trianos said. "The other is undergreased king pins on liftable steer axles. Repairs to the king pins can cause unnecessary downtime and are expensive repairs if neglected, especially when seized due to a lack of grease."

The key to quickly identifying maintenance-related issues on tanker trailers is to keep them clean.

"Dirt, salt, and road grime, if left to build up, will cause grease to dry prematurely on moving parts in contact with each other," Trianos explained.

Dirt and mud can also obscure potential defects, requiring the attention of the maintenance department. And dirty tankers also project the image of a poorly maintained fleet.

"Tank trailers should be washed on the exterior often to keep them clean, making it easier to identify leaks and maintenance issues," Trianos advised.

Interior washes between loads are equally important, but Trianos said the industry does a good job at interior tank cleanliness.

Trianos also emphasized the importance of proper brake, tire, and gasket inspections and maintenance.

"Brakes is an obvious one, however, proper tire air pressures and gaskets should get the same attention," he said. "Liquid tank trailers are designed right from the specification stage to haul the maximum payload available. Properly inflated tires not only maximize fuel mileage, but can also prevent blowouts and premature tire wear. Gaskets on a tank trailer are an integral part of containing sometimes dangerous or flammable liquids from leaking into the environment."

Trianos suggested tanker fleets refer to detailed preventive maintenance inspection lists, which are customized for each tanker type of application.

"There are different types of tank trailers. We gear our PM inspections to-

wards each type of trailer. We don't have a blanket PM sheet for all trailers. Each individual specification of trailer has its own PM inspection list," Trianos said.

Power problems

The biggest struggle in maintaining a fleet of liftgate trailers – or for that matter, straight trucks with liftgates – involves keeping the batteries powered. More fleets are taking advantage of the sun to take care of this task.

Speaking at the FTR Transportation Conference in Indianapolis, Ind., in September, Jeff Kauffman of Tahoe Ventures urged fleets to consider how solar power can be harnessed to power liftgates. He said the cost of solar panels are decreasing, providing fleets with a payback of one to two years.

"One to two years on a truck asset of five to six years is not a big deal," he said. "On a trailer asset of 12-15 years, that's very big. With credits, break-even comes to under one year. You can save US$3,000 to $10,000 per year bringing in solar."

A 100-watt solar panel (measuring 4x2 feet) can reduce liftgate battery failures, maintain the truck batteries' charge, and run the truck's telematics. A 300-watt panel, which fits neatly on the tractor's roof fairing, can power the liftgate, extend non-idle HVAC time by three to four hours, and maintain the truck's primary batteries.

Solar panels can be mounted to the tractor or the trailer. But ensure you purchase solar panels designed for transportation applications, urged Paul Kroes, power solutions business development manager for Thermo King.

"The more moving parts there are, the more maintenance that's required."

–John Rogasky, Arne's Welding and Trailer Sales

"Customers go out there, go online or to Canadian Tire, and get a panel for $100 that looks like it's going to do the job. It comes down to the design for the environment," Kroes warned. "The solar industry only ever designed for stationary applications. They never had to worry about going down the road, vibrating, 70-mph winds, rock debris, tree limbs, corrosion. All that stuff destroys your standard solar system very quickly and a lot of people don't understand that."

Choosing a solar solution not designed for mobile applications can cause more maintenance headaches than it resolves. Thermo King's solar panels are designed to last the entire 15 to 20 years a trailer may remain in service.

Solar panel installation is simple, and once installed, no further maintenance is required. Kroes said demand for solar solutions is increasing.

"As these operations get more sophisticated and efficient, they realize the cost of a failed battery isn't just the cost of replacing the battery. It's the service call-out charges, which at 3 a.m. are fairly expensive, the cost of the downtime, the risk they run of spoiling a load," he pointed out. "Their horizon has expanded now to the point they realize it's not just the battery they are protecting."

Live-bottom trailer operators must regularly inspect the belt and seals to ensure there are no tears.

For tanker trailers, cleanliness is essential to ensuring defects don't get overlooked.

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Tanker trailers are versatile, and PM schedules should be tailored to the commodity they are hauling.

Stayin' alive

Live-bottom trailers, with all their moving parts, present their own set of challenges and headaches to maintenance departments. But the trailers continue to gain popularity, primarily because of their safety advantages over traditional end dumps, and are a requirement on certain job sites.

Customers appreciate the versatility of live-bottom trailers, but must also keep in mind their unique maintenance challenges.

"Basically, this is not a normal trailer. It's a machine on wheels," said John Rogasky, dealer sales support manager for Trout River dealer Arne's Welding and Trailer Sales. "You have to keep that in mind, and this machine has lots of moving parts. The more moving parts there are, the more maintenance that's required. When we are looking to sell these products to customers, we are very sure to point out that maintenance is high on these things."

The chain used to move product out the rear of the trailer needs to be lubricated every day. While live-bottom trailers have onboard lubrication systems, the driver must remember to turn the lubrication system on and to run the belt twice before each shift.

Live-bottom trailers can access facilities end dumps cannot.

A series of crossmembers supports the chain, and must also be inspected regularly, Rogasky explained.

"These are built of T1 steel, but they can be damaged," he said. Bent crossmembers distort the distance between the chains, putting higher tension on the chains. Trout River trailers have crossmembers that are easy to replace as they're bolted in rather than welded.

The belt, which carries the product, must also be inspected regularly.

"You have to watch for tears or rips on the belts and seals," noted Rogasky. Even so, the belt and chain will likely have to be replaced after five to seven years of use.

Live-bottom trailers should be thought of as machines on wheels.

"The key is to keep the maintenance as high a level as possible," Rogasky said.

And while much attention must be given to a live-bottom trailer's belt and chains, it's equally important to maintain the more conventional trailer components.

"You can't forget about the undercarriage," said Rogasky. "The wheels, tires, slack adjusters – make sure they're greased and lubricated as well."

With live-bottom trailers, a thorough pre-trip inspection is crucial. "Check things like oil leaks, gate seals, and rubber seals all around these things," Rogasky advised. TT

KEEPING CONNECTED

Each connection counts when caring for lights, loads, and high-tech systems

BY JOHN G. SMITH

Things have changed since Brian Screeton first began working on trucks. "It was easy to become an engine guy, or a brake guy, or a transmission guy," recalls the Bendix supervisor of technical service training.

Those days appear to be coming to an end.

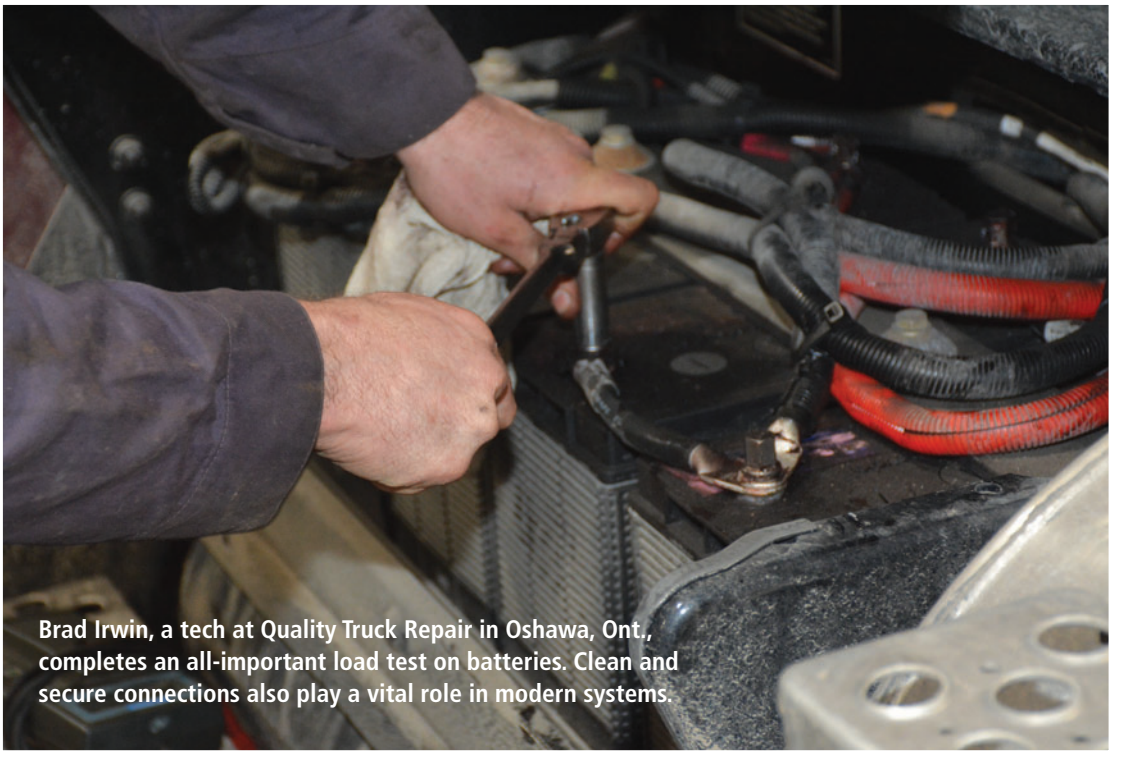
The ever-growing number of sensors and electrical systems mean vehicle components are more interconnected than ever before – adding a layer of complexity to troubleshooting efforts, and requiring a broader approach to diagnostic procedures.

Evolving driver assistance systems offer a perfect example.

"They're all relying on each other to be in the functional state, or relying on the different sensors that the different systems have," says Nick Broyles, engineering supervisor for driver assistance systems at Bendix.

Just one failing sensor can have a cascading effect. The same wheel speed sensor needed for a brake controller can trigger a fault in a driver assistance system mounted further up the vehicle, or trigger problems with engines and transmissions that rely on the sensor for a reference vehicle speed. Screeton has come across brake electronic control units and radar units logging fault codes after an engine was recalibrated during a regular service interval – interfering with the required signals in the process.

It all places an increasing emphasis on tackling electronic and electrical-related maintenance challenges by



Brad Irwin, a tech at Quality Truck Repair in Oshawa, Ont., completes an all-important load test on batteries. Clean and secure connections also play a vital role in modern systems.

looking across an entire vehicle. And it leads Broyles to recommend looking beyond individual fault codes and pulling an ECU report from every electronic control unit on the vehicle.

Traditional approaches of relying on things like a specific component's blink codes will also be less telling than updated diagnostic software that's ready to interface with any ECU on the vehicle, Screeton adds.

"I really try to drive technicians to just get going to the software for whatever part they're looking at," he says.

"With lighting you've always got to stick to the basics. You've got to have a good ground and power and current going through the bulb."

– Jeff Burdzinski, Philips Lighting

Of course, some of the most frustrating moments emerge when chasing intermittent problems – the so-called ghosts in the machine. This is where a logical, methodical approach will make a difference. Gathering as much information as possible from a driver's report, and combining that with the most recent service information, is a good place to start.

"Troubleshooting is just a process of elimination. You get down to the one thing you can't eliminate and that is most likely your problem," Screeton says. "You need to get to the point where you can turn an issue on and off."

This all emphasizes the need to take care when mounting and remounting any related sensors, too.

"On a driver assistance system, the radar and camera need to have the proper field of view to be operational," Broyles says as an example. Corrosion-related issues that emerge can often be traced to someone using the wrong seal or harness during a repair, ultimately breaking the all-important connections.

The power source

Other issues with problem connections on a vehicle can involve the same power source that trucks have relied on for years.

"A lot of what we see has to do with the connections to the batteries," says Dale Henningson, chief research engineer with Purkeys Fleet Electric. "If those terminals aren't clean and tight, we see issues there. At any place there's a connector or a cable termination, it becomes a possible point for the connection becoming loose, or corroded, or dirty, which leads to corrosion."

He recommends checking such connections every six months, or even every three months if that can be fit into a preventive maintenance regime. "If

'Tis the Season for Battery Checks

Nothing sends a chill up a driver's spine quicker than a "no-start" condition. And when there is a no-start, the driver "no go".

Ongoing checks of vehicle batteries will help to ensure that engines crank as temperatures drop.

"It's a really good time of year to be proactive and test your batteries," says Dale Henningson, chief research engineer with Purkeys Fleet Electric, noting how heat and time are a battery's biggest enemies.

It seems strange to hear that heat is the issue, given that trucks are more likely to face starting troubles in cold weather, but the batteries face a heavy workload in the summer.

"The heat is what kills them, but it's the cold where it shows up," Henningson explains, stressing the importance of seasonal inspections.

He recommends disconnecting the batteries to test them individually, using a BCI load test. Just keep in mind that requirements will also vary depending on whether the battery is an absorbent glass matt (AGM) or traditional flooded model.

"With an AGM battery, we recommend that you get the battery charged and then do three consecutive BCI load tests to verify that, not only do you have cranking ability, but also capacity," he says. In a flooded battery the cranking ability and capacity will taper off together, but in an AGM the cranking ability might be maintained while capacity diminishes.

While AGM batteries have a higher purchase price, Henningson says they can be worth it. "The AGM does have some very good advantages. It's a sealed battery and the construction makes it so that it holds up better in vibration. They have better cranking capabilities as well as cyclability. You can cycle them more times, so there are a lot of advantages. It really comes down to the application and use."

No matter what style of battery is selected, however, there will need to be enough cold cranking amps (CCAs) for the job at hand, requiring a close look at an engine manufacturer's particular recommendations. Even the choice of lubricant can make a difference here – a fluid that maintains its viscosity in colder temperatures will require fewer CCAs.

But that figure isn't the only consideration.

"Where people often falter in spec'ing a battery is thinking that more cold-cranking amps is better, and that's usually not the case," Henningson says. "If you go higher, you're sacrificing other characteristics."

The battery with a higher CCA will require more thin plates. This reduces capacity, the resistance to vibration, and cyclability, he says. "Instead of going higher on the CCA, just get what you need and then specify a battery with fewer plates and thicker plates so you get the cyclability."

The battery's weight can offer a bit of a guide here. Heavier models typically have the thicker plates.

Those who are responsible for maintaining the batteries should be armed with a tester with a heavy load that will push the battery up to hundreds of amps, Henningson adds. While carbon piles were able to offer such tests in the past, the results could vary depending on a mechanic's skills.

"The electronics testers are much more repeatable and precise, and they prompt the operators and technicians through the test," he says. TT

they're dirty at all, clean them up good and make sure they're secure and tight."

Battery terminal sprays and dielectric grease can help to tackle troublesome corrosion, and most OEMs already apply plenty of grease on the terminals and connections before new trucks roll off an assembly line. Sure, it's messy, but it works.

Shining a light

Probably the most obvious type of broken electrical connection will come in the form of failed lighting.

"With lighting you've always got to stick to the basics. You've got to have a good ground and power and current going through the bulb," says Jeff Burdzinski, product application manager with Philips Lighting.

The solutions to recurring problems tend to emerge when replacement parts are stocked, because not all bulbs are created equally.

The sources of such components usually seem questionable from the outset. Burdzinski refers to websites that have become dumping grounds for everything from counterfeit lighting to designer purses. Some of the bulbs even come marked with fake DOT compliance stamps and brand names, he says. But to create a brighter bulb the counterfeiter might up the wattage over factory recommendations, even to the point of melting headlamp lenses and wiring harnesses.

Meanwhile, vehicle lights face challenges at the best of times.

The filament in an incandescent bulb can be one of the weakest links in an electrical system, he says, noting how they face the common threats of over-voltage – particularly during cold weather when so many vehicle accessories are drawing power.

"When that happens, typically over 18 volts, the filament acts like a fuse," Burdzinski says. It becomes so hot that the filament melts, leaving a tiny metal ball at the end of the lead.

Some bulbs are better equipped to withstand the attack than others. Original equipment LED bulbs, for example, come with better driver boards, resistors, and capacitors.

Still, installation procedures play their own role in protecting against these electrical issues.

"You never want to touch the glass [on a bulb]. The oil on the skin can create other contaminants," Burdzinski says as an example. And a dropped bulb should be discarded whether it looks like it's working or not. Even if it glows at first, the gas surrounding the filament will leak through the slightest cracks.

Proof can be seen with the smoky residue inside the glass. A white smoke will be a sign of a quick leak, but black smoke will indicate a slow leak.

It's just another example of the way everything is connected. TT

GIVING BACK

4 ways to reward your technicians

BY SONIA STRAFACE

Recruiting truck technicians can be just as difficult as recruiting longhaul truck drivers these days. At times it can seem even more difficult.

So it's crucial for maintenance managers to do everything they can to ramp up recruiting efforts, but also make sure they are creating a happy, rewarding, and stimulating work environment for the technicians already on staff.

We spoke with a handful of maintenance managers to discuss what they offer to reward and motivate technicians.

1. The gift of gift cards

By and large, the most common form of reward comes in the form of a gift card. Many managers find the cards offer an easy-yet-powerful way to offer technicians some thanks for going the extra mile.

Marcel Boisvenue, the fleet maintenance manager for Kriska Transportation, said he'll reward techs for their hard work with a Tim Hortons or gas gift card.

"In this industry, a driver has to make money by moving," he said. "So if a driver comes in and your guys clock out right at 7 p.m. and say, 'Sorry, we'll see you tomorrow,' that will never get you anything. The guys who work until 8-9 p.m. stand out to me and will be rewarded, because they know if the driver doesn't make money, we don't make money. There's guys who are waiting for the clock and they stand out, but not in the right way."

When he was the area maintenance manager with Penske Truck Leasing, Lloyd Demerchant used cards to recognize the shop's best technicians.

"We would give the best tech a gift card and a special parking space," he explained. "I know a parking space doesn't sound like much, but the techs liked it. He wouldn't have to walk around the building to get in."

2. A good old-fashioned shout out

Being a truck technician is often a thankless job. So, hearing a "job well done" can go a long way for many of them.

Ryder System, for example, spotlights its exceptional technicians for a number of reasons in its monthly online publication *Tech Tips*, which is also printed quarterly.

"This is a publication that our technicians look forward to," said Renee Fisher, Ryder's director of maintenance learning. "In there, we will recognize technicians for their tenure, anything they've done that's exceptional, like going above and beyond for a customer. We'll spotlight those people," she said. "If a technician comes up with a best practice or discovered something, we will feature that technician and whatever they discovered in there. So it's not only a way for them to be recognized by their peers locally, but by the greater organization because it is a company-wide publication."

Ryder CEO Robert E. Sanchez also personally phones technicians and employees who hit their 40th anniversary with the company.

"A lot of times we know about that call, and we'll put it on speaker phone

in the shop," Fisher said, adding that technicians and employees alike look forward to receiving the call.

"It goes to show that we are very proud of the tenure and employee loyalty that we have here at Ryder."

3. A safe and clean workspace

Having technicians work in a well-lit, clean and safe shop goes a long way, said Adam Wolk, Challenger Motor Freight's director of maintenance.

"Make sure when you create or update a facility, you don't forget about the technicians," he said. "Often times, when renovations are in the cards, the shop isn't given the consideration that it should. Technicians are a valuable commodity in this business and we need to make sure we are doing everything we can to keep them."

4. Give them a challenge

Instead of just rewarding its hard-working technicians with gift cards and monetary rewards, Ryder has produced its high-profile Top Technician Recognition Program for North America. Better known as "Top Tech," the program has the company's best technicians compete for the top prize through a series of tests and hands-on challenges.

Ryder says the annual competition was designed to identify, recognize, and reward the top-performing maintenance technicians.

"It really encourages our technicians to be lifelong learners, and they get to display their talent on a large platform," said Ryder's Fisher, referring to the successful model.

"Usually (technicians are) behind the scenes...they're the heroes, but they don't get seen. So this is a way for them to show off that talent on a grander stage in front of leadership, sponsors, and suppliers. Top Tech is a good opportunity for those technicians to display their pride and their craft."

Fisher said the prizes for Top Tech are "life changing" as well, so technicians are really motivated to do their best and try out to compete.

"We haven't announced this year's prize, but the past two years it has been a cash prize of US$50,000, which we do gross up," she said. "Prior to that, we gave away a Corvette. And before that we gave out tricked-out pick up trucks.

"We believe, as a company, this competition provides us with a competitive advantage for us. It increases morale, certainly motivates the workforce, and improves retention. We went back and looked over the 11 people who have won over the past 17 years since the competition has been in place. Nine are still with us, and two retired at retirement age. So not only do these winners stay with us, but they influence the people in their location. Many of these winners have influenced those in their own shops to compete as well. It really does ripple through the organization." TT

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AIR CARE

Regulators prepare to tighten GHG emissions, but manufacturers are already making gains

If anyone was expecting to see the Trump Administration backpedal from the previous government's emission reduction standards for heavy-duty trucks, they were in for a surprise Nov. 13.

The U.S. Environmental Protection Agency (EPA) announced its Cleaner Trucks Initiative – an effort to further cut greenhouse gas (GHG) emissions from heavy-duty vehicles that use diesel.

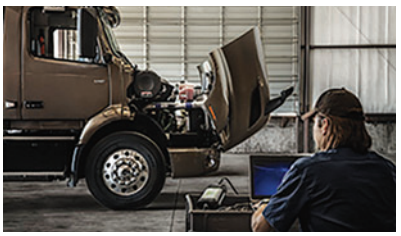
A proposed rule is to be published in early 2020, and the EPA says it will also simplify the certification process for heavy-duty trucks and engines.

"Areas of deregulatory focus will include onboard diagnostic requirements, cost-effective means of reassuring real world compliance by using modern and advanced technologies, the deterioration factor testing process, and concerns regarding annual recertification of engine families," the EPA noted in a release.

"The U.S. has made major reductions in NOx emissions, but it's been nearly 20 years since EPA updated these standards," said acting EPA administrator Andrew Wheeler. "Through rulemaking and a comprehensive review of existing requirements, we will capitalize on these gains and incentivize new technologies to ensure our heavy-duty trucks are clean and remain a competitive method of transportation."

Canadian vehicle emission standards have traditionally mirrored those in the U.S.

"As an industry engaged in interstate commerce, ATA strongly favors a single national emission pathway as opposed to a patchwork of state standards," said American Trucking Associations (ATA) vice-president Bill Sullivan. "Clean air and a healthy environment are important to all of us, and the trucking industry has repeatedly demonstrated that it can work proactively and in partnership with the federal government in achieving these aims. We look forward to working with the EPA in developing a standard that achieves nationwide air quality improvements across the country, while maintaining a strong and robust economy."



Manufacturers have slashed NOx emissions by more than 90% and particulates by 98%. (Photos: Volvo)

The Truck and Engine Manufacturers Association (EMA) was also among voices to support the initiative, noting how manufacturers have in the past 20 years slashed NOx emissions by more than 90% and particulate emissions by more than 98%.

"Our members continue to increase fuel efficiency and lower greenhouse gas emissions in line with standards that will continue to challenge us through the next decade. EMA members are ready to build upon these successes to achieve even greater reductions," said association president Jed Mandel.

NOx emissions in the U.S. dropped by more than 40% between 2007 and 2017, but heavy trucks are expected to account for 1/3 of the transportation sector's NOx emissions by 2025.

Ongoing work

Truck manufacturers are hardly sitting idly by, and continue to make advances in the fuel efficiency that helps the environment, the industry's bottom line, and trucking's public image.

Mack, for example, has added a common rail fuel injector system that more precisely and accurately injects fuel in its GHG17 engines. A reshaped piston surface, known as a wave piston, reduces friction and improves combustion efficiency. And a two-speed coolant pump reduces parasitic losses on select engines.

Some gains have been realized through enhanced aerodynamics.

"We are looking for improvements at the engine, powertrain, and vehicle levels – but also how these sub-systems interact"

– Carl Hergard, Paccar Technical Center

The MP8HE builds on all that, making further gains.

"It utilizes Mack Energy Recovery Technology to capture energy that would otherwise be wasted, convert it to torque, and feed it back into the engine crankshaft to help 'relax' the engine," explains Scott Barraclough, technology product manager for Mack Trucks. "This not only improves fuel efficiency, but also extends the life of key engine components. Customers have indicated that it performs very well and is achieving the expected efficiency improvements compared with the base MP8 engine."

Daimler Trucks North America (DTNA), meanwhile, continues to enhance its Detroit powertrain by optimizing combustion, fuel injection, charge air, and exhaust sub-systems, while also reducing friction and parasitic losses, says Rakesh Aneja, head of powertrain engineering for DTNA.

Such efficiencies are realized through high-efficiency aftertreatment systems and engine components that can withstand high peak firing pressures and combustion temperatures, he says.

"The engine and the rest of the powertrain are also optimized for peak full-vehicle efficiency on the road," said Aneja, "which is enabled by DTNA's vertical integration structure."

Carl Hergart, director of powertrain and advanced engineering at the Paccar Technical Center, stresses that a system-wide approach is needed to realize further GHG cuts.

"That means we are looking for improvements at the engine, powertrain, and vehicle levels, but also how these sub-systems interact," he said. "For example, a cooling system optimized around the engine is of little use if it can't be packaged into an aerodynamic design."

Aneja refers to tools ranging from a full-scale wind tunnel to computational fluid dynamics that are being used to further advance aerodynamics research. Those have played a role in helping DTNA improve fuel economy

Wind tunnels used in the efforts include this site near Ottawa.

Engines and powertrains are optimized through vertical integration.

by 30% over the past decade, with over 25% of that improvement linked to better aerodynamics.

But the low-hanging fruit has been picked. The gains to come will have to be anchored in the way pieces are connected.

"Even more careful attention to the details in all facets of the engine, exhaust gas aftertreatment, transmission, and overall powertrain is required," Aneja said. "We are paying increasing attention to the proprietary details of the integrated powertrain and vehicle package."

Integrated powertrains can be optimized by right-speeding the engine, matching torque and power ratings with an efficient transmission, an appropriate axle ratio, and increasing the use of optimized predictive cruise control.

In vehicles, future gains will come by optimizing existing designs and increasing the penetration of existing fuel-saving technologies, he added.

Then there's the option of alternative energy sources, ranging from electrification to alternative fuels.

"We recognize that alternative fuels may play a significant role in reducing GHG emissions," Hergart said, noting how Paccar engines will accommodate biodiesel content of up to 20%.

The challenge here can be the quality of the available fuel. Aneja says DTNA research continues to find issues with biofuels in some areas of the U.S.

"Improving the quality of biofuel and continued customer education regarding the adverse impact of poor quality fuel remains a significant opportunity for our collective industry," he said.

Aneja does believe, however, that the EPA's GHG regulations provide much-needed certainty to the industry, giving OEMs the chance to plan and time their investments so they can deploy products that benefit the environment and customers.

"Having this regulation apply across the whole continent, including in California and in Canada, has allowed us to spread investments broadly," he said. "The regulation has also solidified a global awareness for GHG and its close sibling fuel economy, even though fuel economy has always been a focus for most North American heavy-duty markets."

"While it has taken significant investments and the dedication of substantial global resources to meet current and upcoming EPA emissions standards," Barraclough said, "customers will reap the benefits of improved fuel efficiency and reduced emissions as we continue to optimize the performance." TT

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NOW IN WINNIPEG

Mining Technology

Norwegian pit to use autonomous trucks

Volvo Trucks will be providing an autonomous transport solution to Bronnoy Kalk AS, a mine operator in Norway.

The mining trucks will be used to transport limestone from an open pit mine to a nearby port. Six autonomous Volvo FH trucks will operate on a five-kilometer stretch through tunnels between the mine itself and the crusher. Testing has been successful, Volvo announced, and the fleet will be fully operational by the end of 2019.

Instead of purchasing the trucks themselves, the mine is buying the "transport solution" from Volvo, which will operate the vehicles. The customers pays for the services by tonne delivered.

"This is an important step for us," says Raymond Langfjord, managing director of the mine. "The competition in the industry is tough. We are continuously looking to increase our efficiency and productivity long-term, and we have a clear vision of taking advantage of new opportunities in technology and digital solutions. We were searching for a reliable and innovative partner that shares our focus on sustainability and safety.

Going autonomous will greatly increase our competitiveness in a tough global market."

"We are proud to be able to present an autonomous solution, which will meet the challenges of our customers both in terms of safety, reliability, and profitability," adds Claes Nilsson, president of Volvo Trucks. "The global transport needs are continuously changing at a very high pace and the industry is demanding new and advanced solutions to stay ahead. Our aim is to be the leader of the development of products and services to respond to these demands." TT

Nikola claims $12 B in orders

Hydrogen truck maker Nikola says it has raised another US$210 million and now boasts US$12 billion in pre-orders.

About $380 million of those were for the recently announced Nikola Tre European cabover.

"Once the Nikola Tre arrives in Europe, diesel will finally be on its way out," said CEO Trevor Milton.

"Now that we are funded and oversubscribed, we are kicking it into high gear and preparing for Nikola World 2019. At Nikola World, you will see the USA Nikola Two prototype in action and be able to step foot in our European Nikola Tre. We also have a few surprises for the show from our powersports division and other new product announcements."

The company says it will have hydrogen coverage in the U.S., Canada, Europe, and Australia by 2028. TT

Electric Delivery

Ryder places record electric vehicle order

Ryder System has placed the largest commercial electric vehicle order in the U.S.

The company ordered 1,000 medium-duty electric panel vans from Chanje Energy, and will supply FedEx with leasing and preventive maintenance services through its ChoiceLease program. The fleet will be deployed through California over the next two years, Ryder announced.

"With our focus on innovation and technology, combined with our entry into the EV market more than a year ago, we've made it easy for customers such as FedEx to adopt sustainable, advanced vehicle technologies," says Dennis Cooke, president – global fleet management solutions for Ryder. "We continue to see broadening interest in EVs from businesses of various sizes and industries looking to outsource – especially in the final-mile delivery space where a smaller, more environmentally friendly vehicle is required."

Ryder will support the vehicles through its network of 800 facilities. The Chanje vehicles can haul up to 6,000 lb. and carry 675 cu.-ft. of cargo, with a 240-km range on a single charge. TT

Forward, March

Platooning tests take to Canadian roads

Platooning trucks maintained a 20-meter following distance and covered about 1,000 km in regular traffic. (Photo: PIT Group)

Truck platooning has been successfully demonstrated on Canadian public highways for the first time.

The tests took place between Oct. 29 and Nov. 2, and were conducted by PIT Group, Transport Canada, Auburn University, and Minimax Express Transportation. Highways around Montreal, La Tuque, Trois-Rivieres, and Blainville, Que., were used for the demonstration.

The trucks were driven in a convoy, linked by a computer system that maintained the desired following distance between the trucks. The computer also controlled braking and acceleration, allowing the trucks to travel closely together to reduce fuel consumption.

"We're very pleased with the preliminary results and we're convinced they will lead to other breakthroughs," said Edouard Proust, a PIT Group engineer.

The technology used in the test was developed by Auburn University's mechanical engineering department. A minimum following distance of 20 meters was maintained, while the platoon disassembled at highway interchanges and covered about 1,000 km in regular traffic.

"We've driven the trucks under different weather conditions before but this was a first for us driving in a combination of rain, ice, and snow," said James Johnson, a research engineer at Auburn University. "The automated braking and acceleration worked well in the weather conditions and we're pleased with how the trucks performed throughout the testing."

"This is a great achievement. It's a little soon to make a conclusion on the data that was gathered, but the system reacted properly to vehicle cut-ins and to road conditions," he noted.

Eventually the following trucks may be entirely autonomous, but that eventuality is still some time away, PIT Group stressed. The hope is that platooning can someday not only save fuel, but also assist with the driver shortage, or even attract younger tech-savvy individuals to the profession.

"We've been in business for the past 28 years and the issue of recruiting drivers has never been so real," added Yves Poirier, president of Minimax Express Transportation. "We've had to refuse business opportunities due to a lack of drivers."

> **"We're very pleased with the preliminary results and we're convinced they will lead to other breakthroughs in this field in the near future"**
>
> – Edouard Proust, PIT Group

On Nov. 1, the same group demonstrated the technology on forest resource roads in Southern Quebec. That day-long test used logging trailers and was conducted in Riviere-aux-Rats, Que., along resource roads between a Resolute Forest Products logging site and its sawmill 75 km away.

"These forestry platooning tests are an accomplishment for FPInnovations, regardless of their outcomes," says Francis Charette, the lead forestry engineering scientist with FPInnovations – PIT's parent. "To the best of our knowledge, no other company has tested platooning in a forest environment."

Specifically, this test marked the first time platooning technology was tested under a thick forest canopy or used to control trucks on gravel roads, FPInnovations says.

"The forestry industry has to be innovative to compete globally – and the concept of automated platooned trucks following one lead truck driver can help us improve our efficiency," said Resolute Forest Products director of forestry operations Jonathan Perron. "We also believe that this type of technology will help us attract a new generation of forestry workers."

Those trucks traveled at 70 km/h at a following distance of 20 meters .TT

COMMERCIAL GRADE

International CV Series of trucks ready to get to work

BY JOHN G. SMITH

The CV Series emerges through a collaboration with General Motors.

It seems somewhat appropriate to give a series of work trucks its own CV. Sure, the letters can stand for curriculum vitae – the document most of us refer to as a resume – but International Truck has taken that a step further by stamping the letters onto its new CV Series of Class 4 and 5 vehicles.

And these trucks with gross vehicle weight ratings of up to 22,900 lb. are clearly designed for an array of jobs.

"We've designed, built and tested the CV Series to deliver the commercial-grade power, reliability and practicality that growing businesses require, along with the comfort, safety features and easy drivability that drivers appreciate," said Michael Cancelliere, Navistar's president – trucks and parts. "We are backing it up with the expertise of the International dealer network – the only network in this category 100% dedicated to commercial vehicles."

Stressing "commercial grade" attributes during a launch event in Chicago, International referred to features including a gear-driven transfer case with no chains to stretch, a low-alloy steel frame rail with a 50,000-psi yield strength, and a painted chassis to help combat threats like corrosion.

Tucked under the three-piece, forward-tilting hood with an integrated safety latch is International's 6.6-liter engine delivering 350 hp and 700 lb-ft of torque. And depending on which transmission is selected, the truck can boast a gross combination weight rating of 37,500-lb.

The CV comes with 1700, 1750, or 2700 Series six-speed Allison transmission, with a power takeoff (PTO) available for auxiliary equipment. Available vocation codes include the Highway Series (HS), Rugged Duty Series (RDS), Emergency Vehicle Series (EVS), or Motorhome Series (MS).

The truck itself is a product of more than one company alone. The CV emerges through a collaboration with General Motors that taps into Navistar's experience with chassis configurations and manufacturing, along with GM's experience in commercial components and engines. GM, meanwhile, will offer its version of the truck as a Chevrolet Silverado.

"GM is a partner, so they are a supplier, they are a customer, they are a competitor, but we have a great relationship," said Chad Semler, Navistar's director of product marketing. "Basically the product is almost identical. There's only a few differentiators such as their OnStar system, which we don't have. But we have our On Command system."

International also has a dealer network that is clearly focused on commercial users, with more than 700 service locations across North America and more than 1,900 diesel technicians in Canada alone. And the company is quick to note that it has more dedicated commercial truck bays than Ford, Chevrolet or Ram.

Ford might have locations, for example, but a utility truck wouldn't fit into an automotive service bay, Semler stressed. "All these trucks are going to have a body. It's not a pickup truck."

As a 4×2, the CV's gross vehicle weight ratings (GVWR) range from 16,000 to 22,900 lb., while 4×4 models deliver 17,500 to 22,500 lb. The 4×2 can come with a 6,000-, 7,000, or 8,000-lb. Dana Spicer front axle, while the 4×4 comes with a 7,500-lb. model. Dana Spicer axles ranging from 10,000 to 15,500 lb. round out things at the rear.

Maneuverability comes courtesy of a 50-degree wheel cut, while visibility can be enhanced with an optional rearview camera and heated side mirrors that feature LED turn signals and rear-facing LED lights to shine on cargo and equipment.

For those exposed to particularly challenging job sites, the CV features 4×4 capabilities and Meritor's gear-driven transfer case. A skid plate is also available, while the front end, grille and radiator can be further protected with a four-inch bumper extension. And there's the option of a Dana Spicer Truetrac torque proportioning limited slip differential.

The stopping power comes courtesy of a Hydromax braking system, Bosch Split system with traction control, four-channel antilock braking system

The truck's true capabilities are realized through the work of body builders – now eased with several features.

(ABS), diesel exhaust brake, and trailer brake controller.

It was all tested in environments from -40 to 46 Celsius, and at altitudes up to 12,000 feet. Those who face some of the colder temperatures among them have the option of a 120-volt, 800-watt block heater to get things moving, too.

Building bodies

For many users, of course, the truck's true capabilities emerge through upfitting by body builders. Their work is eased with straight frame rails that have no rivets on the top flange, ensuring a clean area stretching from the cab to the axle when mounting bodies. HuckBolt chassis fasteners, also found on other International trucks, deliver their clamping forces without requiring re-torquing. The front frame includes standard holes for a snow plow mounting bracket as well.

A dual battery box is mounted under the cab, while an optional third battery is also available for mounting, and there are multiple fuel tank options including a 40-US gallon version mounted after the frame and behind the rear axle, a 25-US-gallon saddle tank, or dual tanks. The diesel exhaust fluid (DEF) tank has even been mounted by the passenger door to help ensure the right fluid goes into the right port.

Wheelbase options that range from 141 to 243 inches, as well as optional exhaust outlets, are all suited for different tasks.

Comfort and interiors

Another option comes in the form of the uAir International air ride suspension

Available infotainment systems include Apple CarPlay and Android Auto.

with an engine-mounted compressor, which can be used to adjust heights and ride alike. That suspension, available only in 4×2 configurations, is rated at 12,000 to 15,500 lb.

But this is not the only way driver comfort is enhanced.

Inside the cab, available infotainment systems include an eight-inch color touch screen with navigation and – for the first time in an International truck – Apple CarPlay and Android Auto. (The touch screen in classic trim packages measures seven inches.)

Classic trim packages include a 3.5-inch monochromatic display featuring warning messages and vehicle information, while Diamond trim designs go bigger with a 4.2-inch color display.

Other controls across the dash have been designed to be worked while wearing gloves. Built-in switch packs control various functions, and up to four auxiliary switches are available depending on the trim level.

A floor-mounted center console is available with moveable cup holders, cell phone storage, 12-volt charger, a pair of USB ports and hanging file folder, depending on the configuration. And the three-across seating includes a center seat back that can be lowered and used as an armrest and beverage holder, while the seat bottom cushion offers extra storage.

Trim packages include a classic in a soft touch vinyl or cloth, or a Diamond trim with cloth. In each case the color is a dark ash or black. Diamond features in the crew cab include things like a leather-wrapped steering wheel, 10-way power bucket non-suspension high back driver's seat with headrest and power lumbar, and non-suspension high back passenger seats with six-way power adjustments and power lumbar.

Said Cancelliere: "The CV has been compared to a field office with perks."

No matter which vehicle is spec'd, buyers will be able to access Truck Specialty Centers available to other International truck users. "The CV Series is the only truck in the segment that can take advantage of this level of customization," he added. "No one has more experience at body integration than International Truck." TT

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Shell offers free training academy

Shell Lubricants has introduced a new training academy for maintenance managers, technicians, and owner-operators.

ProAcademy has been under limited release, and was fully rolled out at the American Trucking Associations' Management Conference and Exhibition.

The web-based training platform offers modules covering everything from lubricant selection to how oils affect truck performance.

It was launched after a survey revealed 89% of responding fleets had unexpected downtime, and more than half of those said some type of lubricant misapplication contributed to the issue. The majority also said they didn't realize how contamination increases maintenance costs.

Managers can track the completion of the modules by their technicians, and those who take the courses can earn My Miles Matter reward points.

The first two modules are available for free and the remaining modules can be unlocked by agreeing to speak to a Shell representative. The program is available to customers and those who use other brands.

FlowBelow aero device verified

FlowBelow's new Trailer AeroSlider Stage 2 system has been verified through the U.S. Environmental Protection Agency's (EPA) SmartWay program.

Fuel economy tests demonstrated a 1.93% fuel savings, exceeding the minimum requirement for EPA SmartWay verification. These tests confirmed an additional 0.70% fuel savings when compared to FlowBelow's Stage 1 AeroSlider System, too.

The AeroSlider consists of Quick-Release Wheel Covers, fairings positioned between and behind the trailer wheels, and aerodynamic mud flaps behind them. Instead of attaching to the trailer's body, the system is mounted directly to the sliding trailer suspension and travels with the suspension.

The system is designed to complement other trailer-mounted aerodynamic devices such as trailer skirts and tails, and offers additive fuel savings depending on the combination of devices.

FlowBelow Aero also announced that its fuel saving Quick-Release Wheel Covers are now offered as a factory option on all International LT and RH Series trucks.

The FlowBelow wheel covers will also be included on International's new MPG Package, which includes bumper effects, chassis skirts, and wheel covers. The wheel cover design provides instantaneous and tool-free access to the wheel end via a patented "push and turn" quick-release latching system.

A locking aero wheel cover

Deflektor has introduced a locking mechanism for its Hardspot aerodynamic wheel cover, and a trailer mounting system.

The Hardspot aerodynamic wheel cover for tractors was introduced last fall. Since then, it has been deployed on all new Schneider and NFI trucks. The Deflektor cover has also recently been seen on the Tesla Semi.

The trailer mounting system comes pre-assembled for a fast initial installation, and like the tractor mounting system it uses the identical Hardspot Cover that offers instant, easy access.

McLaren rolls out Insul-Lite doors

McLaren Doors' Insul-Lite roll-up truck doors combine the company's Streamline Series of doors with a standard truck door hinge, ensuring it can drop into tracks made by competitors.

The external hinge allows for faster roller and panel replacements when the

Cooper Severe series for mixed-service use

Cooper Tire has added to its Severe Tire Series with the Mixed Service Drive (MSD) premium drive tire.

Designed for mixed use, such as off-road and on-highway conditions, the MSD has a 32/32nd tread depth.

It comes with triangular tie bars in the outside shoulder to help promote traction, while also mitigating heel-toe wear.

The tire's highly engineered, durable casing is designed to reduce the total cost of ownership, and includes stone ejectors to ensure multiple retreads beyond the original tread life, the company says.

MSD tires also include chip guard technology, using compounds and tread designs to meet harsh performance requirements.

The tire is offered in two sizes – 11R22.5 (LRH) and 11R24.5 (LRH).

equipment is damaged by forklifts, the company said.

The Insul-Lite doors are made of PVC and reinforced with aluminum that keeps the door from sagging and supports the hinges.

The final doors tend to be 25% lighter than a standard reefer door and offer anti-microbial protection, the company says. Panels have also been engineered to keep dirt and debris from falling through the cracks as the door operates, helping to prevent contaminated cargo.

The insulation comes in the form of a polyurethane foam, and the panel ends are sealed with rubber to help keep out water that would otherwise increase weight and sacrifice thermal efficiency.

The door kit comes standard with four rows of galvanized hinges and can be easily upgraded to stainless steel hinges on request. There are also 6200Z sealed bearing rollers with a 4.5-inch stainless steel shank, and stainless steel mono-bolts.

ArcticPro A/C systems updated

Mahle Service Solutions has redesigned its lineup of ArcticPro A/C handling systems.

The ACX2180, ACX2180H, ACX2150, and ACX2120H recover, recycle, and recharge vehicles equipped with R134a refrigerant. But two new units – the ACX2280 and ACX2250 – can service vehicles that are factory-filled with the new R1234yf refrigerant.

They're smaller than previous models, and a hinged cabinet service door offers easy access to internal components. There's also a seven-inch capacitive LCD touch screen.

Each unit is fully automatic and an LED indicator light on the top of the unit will shine when service is completed. There's also a smartphone app that allows technicians to remotely mirror A/C service sessions and receive push notifications.

Impact wrench combines power and control

Ingersoll Rand's IQV20 Series W7152 ½-inch cordless impact wrench delivers up to 1,500 foot pounds of torque and 1,000 foot pounds of maximum reverse torque.

There are four power and control settings overall. Max power delivers 1,000 foot pounds of torque for tightening bolts on things like brake calipers. Half power drops that to 530 foot pounds for spring bolts and exhaust work. Lighter still is the wrench tight setting that will pre-tighten bolts at 35-110 foot pounds, while the hand-tight setting turns slowly to start lug bolts or secure parts like splash shields.

Measuring 8.1 inches long, it highlights work with a 360-degree shadowless task light and features a composite housing and steel-reinforced frame. Its 20-volt battery is compatible with Ingersoll Rand's IQV20 Series system.

Wi-fi capabilities ensure software remains up to date.

The new ACX models can also log and monitor services.

The ACX2280 includes a built-in refrigerant identifier to ensure the proper refrigerant is being serviced, while an internal identifier with a separate sample hose is available on the ACX2250.

Decisiv launches two new offerings

Service management platform Decisiv has announced two new product offerings – Fleet Mobile and Explore.

Fleet Mobile collects information supplied by Decisiv and delivers it through a mobile app. It's targeted at smaller fleets, which may not have dedicated maintenance managers sitting in the back office. It has taken all the service management capabilities – including preventive maintenance tracking, diagnostics, and identifying trucks requiring service – and delivers it through an Android or iOS app.

Meanwhile, Explore allows users to create their own graphs and reports to visualize data from a large pool of vehicles. Users can, for instance, determine how long assets are out of service with a particular provider, or the costs related to specific repairs. It is aimed at fleets, service locations, and dealer groups – or even manufacturers that have regional managers who want to aggregate data around a region.

LoadHandler unveils brushed alternators

LoadHandler Power Products has unveiled a variety of brushed alternators for high power output and efficiency.

The alternators are available in 150-, 160- and 200-amp versions for 12-volt systems.

Each drop-in replacement unit is available in J180 and pad-mount configurations and includes a heavy-duty bearing, rectifier, and diode for increased service life and optimal performance in extreme operating environments, the company said.

The 150-amp L22 weighs 14.1 lb. and is rated to 200 F (93 C). Its 160-amp counterpart, the L24, weighs 16.2 lb. The 200-amp L28 weighs in at 18.7 lb. and can support remote sensing.

The 160-amp and 200-amp models also feature a dual internal fan design that maintains bearing temperatures in the name of minimizing heat damage.

Each alternator comes with a one-year parts warranty.

Centric disc pads designed to perform

Centric Parts, a division of APC Automotive Technologies, has unveiled a line of premium performance disc brake pads.

Posi Quiet Pro has been designed to address service issues including brake fade, weak braking response, excessive noise, and time-consuming break-in procedures, the company said.

It features Centric's Mu500 friction coating, which promises to condition the rotor's swept area and eliminate the need for break-in procedures. It also quickly removes Geomet or thermal paint from the face of a fully coated rotor.

The pads are positive-molded, post-cured, and scorched in the name of long-term stopping power. Multi-layer, mechanically attached shims are incorporated to eliminate noise and shim migration, and precision-cut backing plates are used to ensure a proper fit and smooth operation.

The Opti-Check Early Warning System embedded on the pads offer a visual indicator of pad service life.

Each set of pads is packed by a one-year roadside assistance guarantee.

A quieter compressor

Gardner Denver's new Hydrovane compressor has been designed for the demands of hybrid-electric and fully electric vehicles, delivering an optimized weight-to-air output ratio.

Traditional compressors are heavier and noisier, and rely on a larger-capacity cooling system, the company said. This version has an optimized rotary vane technology that can be customized for individual vehicle requirements.

This TX02 runs at variable speeds up to 3,000 rpm, with pressure ranges of 7.5, 10 and 13.5 bar, and a volume flow of up to 450 liters per minute. The total package weighs less than 35 kg.

Ridewell updates suspension line

Ridewell Suspensions has revised and expanded its 233-20K truck and trailer product lines to include galvanized components, while trailer drum brake models have been given a new cross-channel and hanger design.

Also included in the truck suspension family are expanded options for a factory-integrated and pre-plumbed air tank kit. And the 233-20K roll-off product line now includes a narrow option for an easier fit onto the vehicle frame.

New to the 233T-20K trailer product line is a bridge between the air springs to simplify installation, as well as Huck fasteners.

A cross-channel and hanger design for drum brake models highlight new pivot connection hardware as well, reducing the number of fasteners needed per suspension.

All models that require air springs to be placed away from the frame will include a bridge.

Meritor axles ready for extreme duty

Meritor is supporting severe-duty applications with the new MX-610 front drive axle and MZ-610 tridem rear axle.

The MZ-610 tridem offers wide-ranging axle ratings and a high ground clearance, as well as a gross axle weight rating of 60 tons and gross combination weight of 210 tons.

The MX-610 is designed to fit Elsa disc brakes in a double-caliper configuration to offer high-rated torque in a compact package, Meritor said. The product can mount 20-inch wheel rims and offers a steering angle up to 42 degrees. A detachable tandem is optional.

Meanwhile, a new proportioning inter-axle differential delivers even torque between the three axles to maximize traction, load capacity, and drivetrain longevity. The MZ-610 also has five differential locks and hardware for optional central tire inflation systems.

The MZ-610 tridem offers the vehicles operating in extreme conditions a ratio coverage from 4.11 to 7.21 inches with standard drum or disc brakes. The faster ratios support downspeeding.

Meritor's Elsa brakes go hydraulic

Meritor is offering optional hydraulic actuation on all Elsa disc brakes for applications that require hydraulic disc brake variants.

The traditional mechanical, pneumatically operated brake housing is replaced by a hydraulic single- or twin-piston variant. The bridge, carrier, and slide pin arrangements remain the same. Pads are available with 107-226 sq.-cm. pad areas.

The new option covers brakes for wheels measuring between 17.5 and 25 inches. Rotor diameters vary from 324 to 500 mm. TT

Training Track

Babine technician says training is the key to keeping up with changing tech

BY ERIC BERARD

Dan Orser's family has a long history in transportation. Just about everyone on his father's side of the family is a railroader or in trucking. His dad, Ed, maintained train engines for 35 years.

The younger Orser ultimately decided to focus on trucks instead of trains. But it's here that a commitment to train*ing* has ensured he can keep up with the ever-changing technologies that appear in the service bays of Babine Truck and Equipment in Prince George, B.C.

Sure, electronics were part of the landscape when the 35-year-old began his career, but they continue to evolve and play an increasing role in the equipment and related diagnostics he has come to love.

"It's getting more and more prevalent every year," he says, referring to the Volvo and Mack units he maintains. "It adds a lot of cost and complexity to the truck, but it also adds a lot of functions to it. You're not just working with a switch that's turning on and off. You're working with networks, electronics."

Transmissions that were predominantly manual models when he earned his first job are now almost all automated, combining the electronics and mechanical elements. It's here that he encountered the biggest diagnostic challenge during his time in the shop.

He recalls the story of an engine brake that would activate or cut out for no apparent reason. "It wouldn't do it every day. It wouldn't even do it every week. It was once in a while," Orser says. "I can't even remember how many different parts we tried and how many hours went to it."

The issue was ultimately traced to a faulty connection.

"It turned out to be a wiring connection inside the transmission from one of the shaft speed sensors that very, very intermittently would get a poor connection," he says. "The sensor speed would drop out, so the computer thought that the transmission had popped out of gear and it would shut the engine brake off, without ever triggering a fault code."

It still sticks in his mind because of the amount of time everyone invested in finding a solution.

"When we did finally find it, it was kind of an 'aha' moment," he says, saluting the work of the broader team. "I can't take all the credit for it because we definitely did have Volvo engineering helping us out."

The focus on teamwork, meanwhile, played a central role when the dealership took part in the worldwide Volvo VISTA and Mack Masters technician competitions. And the same logical approach to troubleshooting was applied to every task.

"You never know everything," Orser says of the learning experience that the competition offered. "It may have opened our eyes a bit to being more efficient at finding service information. Not so much the base-level skills, but maybe actually finding the information."

"You never know everything."
– Dan Orser

He is committed to spreading such lessons in his role as an informal mentor for newer technicians.

"I try to push training. I'm not sure that I could do an instructor job yet, but as far as playing a lead role, I do enjoy that. I do enjoy helping guys learn a lot better than doing it for them," Orser says.

But he doesn't yet know if he'll have the chance to convey such lessons to his children Averie and Morgan, another potential generation for the transportation sector. At the ages of three and five, they have their minds set elsewhere.

"Right now," Orser says with a chuckle, "my son is all about [being a] policeman and firefighter."

He'll continue to fight the fires of a different sort at work. TT

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