

TRUCK TECH

CANADA'S FLEET MAINTENANCE MAGAZINE

FALL 2016

Trailer Tricks

7 strategies to
keep your trailers
on the move

ENGINE OILS

How the new classification
impacts your fleet

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TRAINING

Why apprenticeships
are worth the investment

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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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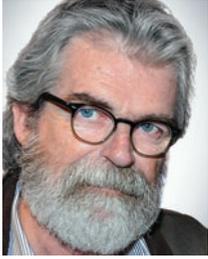
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Fix it fast, fix it right

Training technicians properly will make a big difference in your shop's efficiency

By Rolf Lockwood

Training has probably never been more valuable in the shop than it is right now. Added to the traditional obligation of getting trucks and trailers in and out of there faster than humanly possible, the fleet-maintenance chief has seen the burden of compliance change radically -- and grow enormously -- in recent years.

The bedraggled shop super has what are often competing priorities. Fix it fast but make darned sure you fix it right. No more educated guesses. No more saying 'Yeah, OK' to a screaming dispatcher even if you'd like to hold that trailer for just half a day longer.

Given the risk of a failed on-the-road inspection -- or worse, an accident -- that dispatcher should be hearing 'No can do' a lot more often nowadays.

Training technicians is also where a big difference can be made in your shop's efficiency. Not just in terms of clearing jobs quickly, but ensuring that those jobs don't come back 500 lousy miles later because the thing wasn't fixed right the first time.

"One thing for sure," retired brake expert Ron Gervais once told me, "is that it's less expensive to provide training than it is to allow an untrained employee to perform a task he or she knows little about."

The reality is that you probably don't have enough techs in the first place, which means each of those you do employ is crucial. And their skills levels equally so. The answer is continuous,

up-to-date training.

Remember too that for every four technicians retiring this year, most estimates say that, as an industry, we're only recruiting one. Retention is thus an issue as well, and training plays a role in



that context. There's general agreement that mechanics appreciate the opportunity to learn and will be more likely to stay where that option is open to them.

So, if your training regime is going to expand and actually mean something, what comes first?

The experts will tell you, start by deciding what you need. Meaning, take a look from 30,000 ft and assess your team's strengths and weaknesses. Do you need to improve performance? Specific product knowledge? Maybe a return to the fundamentals?

Really, it's a question of looking at your people and working backwards from there. Talk to your technicians, find out where they feel they're falling short. Many managers do the opposite,

looking to see what training is available and blindly assuming it will fit. Wrong. Start with conceiving the result you want and only then go shopping.

You'll likely find that their needs actually differ quite a lot from one mechanic to the next, which demands defining the training process before you start. As much as needs differ from one person to another, so will their ability to absorb training in the first place. Language competency and basic literacy will come into play here too, though they're often ignored, the latter especially.

You'll also find that many of the vendors you deal with, from truck-makers to lighting suppliers, are only too happy to customize their training tools to meet your needs.

Everyone has time and budget constraints these days, so your company's capacity to create a useful training program has to be realistic. Can you afford to send people offsite for a day or two at a time? How many people are you going to be training? Are they spread out geographically or are all in one place? If you're looking to buy CD/DVD-based programs, do you buy off-the-shelf material or can you afford to have it custom-designed? Are your techs sufficiently disciplined that they can handle self-managed online training without a live instructor?

The questions are endless, really, and choosing the means of training delivery will be as important as decisions on content.

We'll examine delivery options in our next issue. ■

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Don't give in

The pressure to cave in to short-term thinking is great. Now's the time for leadership.

By Lou Smyrlis

Every time we go through an economic slowdown, as we are now, uncertainty rises and the pressure on maintenance departments peaks. There is pressure to abandon maintenance practices that deliver sound performance over the long haul in favor of short-term thinking that cuts costs now with little thought for the problems it creates for the future.

I'm sure 2016 will prove no different. You've likely been feeling the heat from the cost cutting hawks in your company.

What short-term thinking fails to take into account is that fleets are under the microscope. Accountability matters, even when shippers themselves are adding to the pressure to cut costs through their own short-sighted RFP practices. With competition as intense as it is, enforcement as tight, and shipper expectations so high, the margin for error is razor thin. You simply can't afford to screw up; and your maintenance and equipment purchasing practices simply can't let you down.

Our own annual research has been examining the transportation buying habits of more than 2,000 shippers across Canada for more than a decade. It examines what shippers consider when choosing one carrier over another. We track 8 key performance indicators. I can tell you that what you do as maintenance managers DIRECTLY impacts three of the top four KPI's – on time performance, quality of equipment and operations, and competitive pricing.

Quite simply, your fleet has no chance to meet high customer expectations without your help, without a commitment to excellence in the maintenance department.

How thorough is your preventive



maintenance program? What's your strategy for having fast-moving items such as lights, filters and brake chambers readily available so trucks can get back on the road quickly? When you do have to go to your parts supplier for a part how closely do their delivery schedules match your needs and your shop hours? If your regular parts supplier can't get a particular part fast enough, how much research have you put into your alternatives?

This kind of preparedness and flexibility makes a difference. And to get there – and stay there -- will require leadership on your behalf during these uncertain economic times. Expect your budget to come under attack. Do your homework, understand your cost structure, be ready to explain and defend your spending plans.

At the same time, push for intelligent cost control practices.

Have you come under pressure to change your new truck purchasing

plans? How will deferring those truck renewal plans impact your maintenance costs? Our research shows a large number of small carriers are once again holding back on renewing their fleets. That saves money today but at what cost over the long term?

Is everything that happens in your shop tied to repair time? Every minute wasted in a repair shop is worth something. Do your technicians have the space to work as efficiently as possible? Is your shop clean and organized?

How proactive are you in tracking things that could be costing you money? Are you tracking past orders and flagging any concerns? Maybe a new starter was installed on the same vehicle just two months ago. Is your data collection and monitoring good enough to bring that to your attention? Are you maximizing the use of your warranty coverage?

Are you able to capture variation in the work completed across your technicians and your shops? Sometimes your vehicles will need to be serviced while on the road, and some shops will try to take advantage of your asset being stranded so far from home. Does the order from that shop trigger automatic payment or a phone call to explain the higher repair cost?

Inventory is a killer on the balance sheet. Do you have an effective way of knowing just the right amount of inventory to keep? Do you have the supplier relationships necessary to trust the supplier to keep the right inventory for you?

Just a few of the many things you need to be considering.

Leadership and accountability are always important but never more than during uncertain economic times. **TT**



Bendix Issues Recall Repair Kit

Bendix has released a free repair kit to fix its SR-5 trailer spring brake valves included in a voluntary safety recall campaign.

Vehicle owners can work through Original Equipment Manufacturers or an authorized Bendix parts outlet to obtain the related repair kit, depending on how each manufacturer elects to administer the recall.

The recall covers about 200,000 Bendix SR-5 trailer spring brake valves produced between January 1, 2014 and March 4, 2016, including those sold in Canada.

“Under a combination of a unique set of circumstances, it is possible (though not probable) for an internal leakage to develop in the SR-5 unit, resulting in slow-to-apply spring brakes when parking the trailer. The leak is heard or observed at the supply (red) gladhand when uncoupled from the tractor – or, if coupled, from the exhaust of the park control valve,” Bendix reports.

More information can be obtained from Bendix at 877-345-9526 or SRFcampaign@bendix.com.

PACCAR’s New Distribution Center

PACCAR Parts recently celebrated the opening of a new \$32-million distribution center in Renton, Washington.

The 160,000 square-foot facility began operations in April, serving 92 dealerships in Western Canada and the Northwestern U.S. It is one of 17 such Distribution Centers worldwide, and can store 38,000 aftermarket parts for all makes of trucks, trailers and buses.

The facility features include hydraulic lift tables, a custom parcel conveyor and spiral conveyance, and environmentally friendly features including LED lighting and an energy management system.



U.S. Issues Phase 2 Rule for Fuel, Emissions



U.S. regulators have issued a Phase 2 final rule governing greenhouse gas emissions and fuel economy for medium- and heavy-duty trucks, with the Environmental Protection Agency (EPA) calling the rule a more “technology-forcing approach” than its Phase 1 predecessor.

Jointly developed by the EPA and the Department of Transportation’s National Highway Traffic Safety Administration (NHTSA), Phase 2 of the proposed U.S. standards aim to lower trucking’s CO2 emissions by about 1 billion metric tons, cut fuel costs by \$170 billion, and reduce oil use by up to 1.8 billion barrels over the lifetime of the vehicles under the program, all by 2027.

The changes will be implemented in three stages through 2027, which is the target year for improving tractor fuel efficiency and cutting CO2 emissions, both by 25%. Trailers are also part of the Phase 2 focus, with the EPA expecting the industry to find fuel and emissions improvement somewhere between 3% to 9% by 2027.

The EPA states that tractor efficiencies will primarily be found through technologies around the engine, transmission, driveline, aerodynamics, tire-rolling resistance and idle performance. The EPA notes that most of these technological enhancements currently have a low adoption rate in the industry.

Glen Kedzie, American Trucking Associations (ATA) vice president and counsel for energy and the environment, responded that “while the potential for real cost savings and environmental benefits under this rule are there – fleets will ultimately determine the success or failure of this rule based on their comfort level purchasing these new technologies.”

The ATA also noted that while today’s fuel prices are more than 50% lower than 2008 levels, fuel is still one of the top two operating expenses for most trucking companies. Despite fuel savings from technological enhancements, the EPA estimates that Phase 2 could cost the industry more than \$25 billion in upfront costs to buy more fuel-efficient vehicles.

The ATA says it hopes the 10-year phase-in period for the newly-approved regulations will not be “unduly disruptive” to fleets and manufacturers.

Cdn. Wins Ryder Tech Event

Darek Mowinski, of Windsor, Ontario, took home a cash prize of \$50,000 as the winner of the 15th annual Ryder System Inc. Top Technician competition event held in Washington, D.C. on July 28.

Ken Bilyea, of London, Ontario finished second.

While a Canadian has never won the Ryder Top Technician honor, in 2015 four Canucks were among the top eight from Ryder’s team of more than 5,000 U.S. and Canada-based technicians.

“The competition itself is always exciting, challenging and fulfilling,” Mowinski told Ryder prior to his win.



TruckPro Reaches 116

Canada’s largest network of independent heavy vehicle repair centers has added three new members to its TruckPro network, now featuring 116 service centers.

The latest additions are MoBoots Ag Mechanicals in Fort Macleod, Alberta; True Diesel Truck and Trailer in Lethbridge, Alberta; and Camion Granby (1995) in Granby, Quebec.

Parts Cross-Reference Feature

Mack and Volvo have added integrated parts cross-reference features for their SELECT Part Store e-commerce platforms, giving users a web-based tool that automatically updates part

numbers that have been replaced or superseded, providing real-time inventory availability.

“Mack SELECT Part Store has experienced an average of 60% growth in volume each year since the platform launched in 2010, and we’ve kept the bar high to give our customers the parts purchasing power they demand and deserve,” announced Chad Johnson, director of aftermarket marketing for Mack Trucks.

Prior to the introduction of the new cross-reference tool, users had to conduct independent, often extensive searches, for equivalent parts and also for updates to part numbers that had recently changed, said Chris Buss, Volvo manager of aftermarket service marketing.

Trailcon Grows in West

Trailcon Leasing has acquired Stewart Trailers, a welding, mobile service and trailer repair facility in the Greater Vancouver area.

The move strengthens Trailcon’s presence in Western Canada and continues its expansion in the area after the purchase of Hubs Trailer Service in Calgary.

The new facility is located on the South Fraser Perimeter Road, north of the Trans-Canada Highway on Hwy 17.

PIT Group’s Biggest Energotest

PIT Group hosted its biggest-ever Energotest at the Transport Canada test track operated by PMG Technologies, where a number of aerodynamic devices underwent testing.

Cleaner Diesel Working

The introduction of more advanced diesel truck engines, innovative emissions control systems, and cleaner diesel fuel over the past decade have resulted in major improvements in air quality and fuel efficiency, according to new research compiled by The Martec Group.

According to the data, the four million cleaner heavy-duty diesels introduced from 2007 through 2015 have saved US consumers: 29 million tonnes of CO₂; 7.5 million tonnes of NO_x; 218,000 tonnes of particulate matter (PM); 2.9 billion gallons of diesel; and 69 million barrels of crude oil.

Some 42% of all medium and heavy-duty diesel commercial trucks (Classes 3-8) in operation in the U.S. – four million of 9.5 million diesel trucks – are now equipped with newer technology clean diesel engines; up from 38% last year.

Low-viscosity Lubes an Easy Option

Class 8 over-the-road fleets can realistically expect fuel savings from low-viscosity oils, states a new report from Trucking Efficiency, an initiative under the North American Council for Freight Efficiency.

Fleets can expect fuel savings in the range of 0.5% - 1.5% by switching from 15W-40 to 5W/10W-30 engine oil, either CJ-4 or CK-4, the report found.

The savings from switching to the fuel-efficient FA-4 variant, available after December 2016, can be expected to add a further 0.4–0.7% of increased fuel efficiency.

“While these efficiency gains are modest relative to some other technologies, this is one of the rare instances where an efficiency technology can be implemented across the entire fleet very quickly, does not require an upfront investment, and does not require any changes in operation or maintenance practices,” state the authors of the June 28 report.

Since 2003, fleets have invested in lower-viscosity lubricants with adoption rates for engine oils reaching 40% among the largest, most efficiency-conscious fleets. However, adoption rates are much lower in the industry as a whole at 20%, the report states.



Of particular focus at the 16th edition of the event was the fuel efficiency, splash reduction and durability of several mud flap designs under looming GHG Phase 2 standards.

PIT uses members’ trucks for Energotest to ensure testing works with its own vehicles and drivers. PIT Group director, Yves Provencher, says the rigorous testing accelerates implementation.

Detroit Virtual Technician Milestone

Five years after its launch, Detroit is celebrating a key milestone for the Connect Virtual Technician remote diagnostic system developed in partnership with Zonar Systems Inc.

The Michigan company recently

installed its 200,000th unit of the hardware into a Freightliner Cascadia Evolution truck for Penske Truck Leasing Co.

When Virtual Technician was introduced in 2011, parent company Daimler Trucks North America was the first truck OEM to deliver a remote engine and aftertreatment diagnostic service. Today, Virtual Technician serves as the foundation of the Detroit Connect suite of connected vehicle solutions. The hardware is now standard on all Freightliner and Western Star trucks equipped with Detroit heavy duty engines.

New Quebec Maintenance Center

For the second time in six months, Andy Transport has acquired a new maintenance center, this time in Boucherville, Quebec.

The more than 96,000-square-foot, 18-bay location is the third to be strategically placed in the proximity of Andy Transport’s terminals in Salaberry-de-Valleyfield, Montreal, and now in Boucherville, each running at full capacity and providing 24-hour full service maintenance.

Andy Transport has also entered into a partnership with Le Centre du Camion Ste-Marie, a distributor of Mack, Volvo and Isuzu.





On the job training

Cultivating new talent in the shop is expensive and there are no guarantees apprentices will stick around. But service manager **Marc Poland** believes apprentices represent the industry's future and the only viable way to address the technician shortage. Here's his case for investing in apprentices. **By James Menzies**

Marc Poland is passionate about developing apprentices. The service manager for Sheehan's Truck Centre in Burlington, Ont. feels strongly that it's a maintenance leader's responsibility to help cultivate new talent rather than simply poach from within the industry.

This, even though the cost of developing an apprentice can tally roughly \$80,000 and there's no guarantee they'll remain with the company any longer than a seasoned technician.

In fact, Poland has found the exact opposite is true - that apprentices are more likely to leave the job than experienced technicians.

Still, Poland's view is that developing apprentices should be seen as an investment in the company's - and the industry's - future.

"The old adage that if you're not part of the solution then you're part of the problem definitely holds true," Poland says. "Many employers complain that there are no technicians available but aren't doing anything to try and overcome the issue."

We sat down with Poland to discuss why leaders in the truck and trailer maintenance segment of the industry need to commit to developing apprentices.



Truck Tech: *Marc, you're a big proponent of developing apprentices, but it's an enormous investment to make, requiring about 6,000 hours and four years of on-the-job training. What are the benefits to developing apprentices rather than hiring licensed technicians?*

Poland: If you're hiring someone who shows up at your door as a licensed technician, you're running the risk of hiring someone else's problems. It could be someone who's

being forced out the door, is not happy where they are or maybe they're a low performer and then you find out two, three, six months later that the person isn't working out.

I find it's better to grow your own technicians from the ground up. That way you can teach them the way you want things done. They learn your business, they learn your customers, they learn your equipment. It's a longer route, obviously, but I think the end result is a lot better.

Truck Tech: *How do you develop your pipeline of apprentices and what skills do you look for in a potential apprentice?*

Poland: I look for the ones who are interested in the trade and want to be in the trade, rather than the ones that are just looking for a job. My youngest recruits are in high school, so I work with the different school boards in the area.

We bring them here on a co-op basis and see if they're showing up on time and if there's a genuine interest there. Are they listening? Are they productive while they're here? If so, we'll offer them a part-time position a couple evenings per week and on Saturdays - as long as they keep their marks up. I found I've been successful with that.

Truck Tech: *What skill set are you looking for in young prospective apprentices?*

Poland: They need to have a grasp of some sciences, mathematics, be mechanically inclined and have a good work ethic. Because you're typically on a punch clock and you're scanning onto jobs and off of jobs, you really need to have a good work ethic.

Truck Tech: *What effect does your developing of apprentices have on shop profitability? You're paying them to learn on the job but often you're also paying a licensed technician or journeyman to show them how it's done, so you're effectively paying two employees to do a single job.*

Poland: Yes, but an apprentice can also do productive work that a dealership or a shop can bill, so you end up with a larger differential between your bill rate and what you're paying the technician. If it's a tail light, a basic brake job or something that an apprentice can do, then you're looking at the difference of between \$20 an hour (for an apprentice) and \$35 an hour. So your profits are a lot higher.

When he is assigned to a new task that he or she is unfamiliar with, the journey-person must spend time explaining and demonstrating how the task is to be performed. But while the task will obviously have more labour hours on it, you can still bill for the work performed.

Shops should look at an apprentice

as part of their business that will reduce the amount they pay for labour for most common tasks (ie. oil changes, brake jobs and PM work). Apprentices should be viewed as an investment in the business's future. They are the next generation of a business and will work the way that you train them.

Truck Tech: *Once you've made this enormous investment in developing new talent, how do you ensure they stick around?*

Poland: You need to be conducting wage surveys to make sure you're paying them what you need to be paying them. We offer employer-paid benefits, free tool insurance, a tool allowance that's incremental up to \$350 a year, a boot allowance, uniforms are provided and we also offer flexible work shifts, RRSP contributions, a profit-sharing program and technician incentives as well, that go anywhere from 50 cents an hour to more than \$10 an hour for a high-performer.

Truck Tech: *When you factor all that in, what are your top technicians earning?*

Poland: They're pushing a hundred thousand dollars a year. Parents say 'Woah, wait a minute, I didn't realize you could make that type of money doing this sort of work.'

Truck Tech: *Is your retention rate better for licensed technicians hired off the street or apprentices you've developed in-house?*

Poland: We have a better retention rate with licensed technicians versus apprentices.

Truck Tech: *Really? Even making such a substantial investment in your apprentices' futures, they still leave more readily than licensed techs?*

Poland: They're fairly young. A lot of these kids, they finished school at 17. Maybe the trade's not for them. Maybe it's not what they thought it was coming in.

Or they meet a girl. 'Oh well, she lives in Toronto, I've got to move there.' And then they're out that way looking for work.

It's always a gamble when you hire somebody and more so when you're



INVEST IN THE FUTURE: Apprentices take work to develop but they are the next generation of a business and will work the way you train them, says Marc Poland.

hiring somebody who's younger, who could be more easily tempted by a dollar or a 50 cent an hour raise and not take the whole equation into consideration.

Truck Tech: *What is the right balance to aim for in regards to the mix between licensed, seasoned technicians and apprentices?*

I find it's better to grow your own technicians from the ground up.

Poland: I don't know if there's a number you can put to it. You need to figure out how many technicians are going to be retiring, how many you have coming in and what the growth of your business is going to be.

As a dealership, we're finding that as trucks get more complicated there are more repairs the average jobber shops can't do. So, then we get more work coming in at the dealerships. And with increased repair costs, we're seeing more trucks sold with extended warranty coverage and that's more work that is going to come into the dealers as well.

So, I don't think you can just say it's going to be X percent. I think you

need to be cognizant of the fact you're going to be growing your business and losing technicians to retirement and you need to also make sure you have your finger on the pulse of the industry in regards to getting people coming in, getting them interested, getting them into the trade and hopefully keeping them.

Truck Tech: *You must have had seen some real success stories in developing apprentices here?*

Poland: Absolutely. We have one guy right now who's not licensed yet, but he started out here as a co-op student. Somebody called me and said 'Hey, I've got a great kid here, can you take a look at him?' So he came in here and started out doing co-op.

We hired him part-time and then he came on in the summer full-time. He worked through into the fall and I spoke to him about the modified apprenticeship program and he went through that successfully.

Now, all his schooling is done, he's just here doing hours. He's working a lot more independently now and he's a good all-around technician. He's got a good head on his shoulders and works well with everyone. He's a great fit for us.

Truck Tech: *Is there some extra gratification, when you've developed someone like that from scratch, than hiring even a very good technician who shows up at your door fully licensed?*

Poland: Yes, absolutely. **TT**

Outside the box

Seven maintenance tips that extend trailer life and reduce downtime

By James Menzies

Chris Sousa doesn't understand why trailers often receive less attention than power units from maintenance departments.

"In transportation, the trailer takes the brunt of the work," says the operator of Ontario-based Sousa Truck Trailer Repair. "Yes, the truck is pulling the load but it's the trailer that you put all your product in."

A thorough preventive maintenance program for trailers can significantly extend their life while also reducing service calls and costly roadside repairs.

"We've got some trailers in our fleet that, believe it or not, are from 1970 and still going," says Dave Pastega, service supervisor for Trailer Wizards in Vancouver. He says there's no reason a well maintained van trailer can't provide a 15- to 20-year life cycle.

On the other hand, neglecting trailer maintenance is a short-sighted way to save a few bucks, according to Robert Pahanich, vice-president of procurement

and maintenance for Transcourt Tank Leasing, and unfortunately, that's what many fleets are doing.

"The downward turn in the economy cuts off some of the things that typically get done in any maintenance program," he says.

1) Keep it clean

Many of the maintenance issues that arise with trailers can be avoided by simply keeping the units clean, Pahanich points out.

"One of the simplest things you can do is just keep any unit clean," he explains. Not only do frequent washes keep contaminants from working their way into crevices where they can form rust, but cleanliness also helps technicians and drivers to identify problems that should be fixed before they get worse.

This is especially important for tanker trailers that are used to haul messy product. Pahanich said Transcourt recently dealt with a unit that required

\$8,000 in sandblasting and painting, which could all have been avoided if the unit was rinsed between loads.

2) Keep it greased

Lubrication is one of the most effective ways to keep parts functioning properly and in good shape.

"Make sure the dolly legs and everything is well greased," Sousa explains.

However, he adds overgreasing equipment such as slack adjusters and dolly legs can be harmful as well.

"Some guys keep pumping until the grease comes out of the slack adjuster and next thing you know you've got a big buildup of gunk and grime," Sousa says. His rule of thumb is to not grease the inner dolly leg, as the grease can act as a conduit through which debris travels into the dolly leg. "When you have grease on there and you go through a dusty yard, that's going to bring all that dirt and grime into the leg," he says. "It jams up the leg."



STAY VIGILANT: Replacing a tire in the shop is always preferable to doing so on the side of the road, so mechanics such as Trailcon's Matt Watters advise keeping a close eye on inflation pressures and tread depths.

"A lot of guys miss the simple things, the rivet heads, especially on composite trailers."

3) Keep the lights on

Lighting systems are one of the biggest sources of issues for technicians and usually it's because of a lack of lubrication.

"Every time you replace a light, make sure there's a well lubricated connection," says Sousa. He says even pre-lubricated connections should receive a little extra lube.

"With winter ahead of us, I really get much deeper into wires," says Pastega. "We're looking at wiring and wiring harnesses and pigtail ends, especially on exposed wiring. We'll pull the pigtail right off, make sure that the socket that the light is going into is clean - because a lot of times you'll find a little bit of green corrosion starting there - and we'll clean those pigtails and we'll put

a dielectric grease on them to prevent corrosion from starting. We do that on all exposed lighting."

Too often electrical tape is used to seal connections, which is insufficient and will cause problems down the road. Sousa Truck Trailer Repair doesn't even keep electrical tape in its shops.

"Electrical tape is just a band-aid," Sousa says. "It doesn't keep moisture out of the product. We use heat shrink tubing."

4) Know when to pull them

Replacing a tire in the shop is always preferable to doing so on the side of the road, so technicians should be vigilant about monitoring inflation pressures and tread depth. Pastega says he starts giving

tires some extra attention when the tread depth reaches about 5/32nds. At that time, he often rotates the tires, moving them to the center axle in a tridem configuration or placing them on lower-mileage local units. At 3/32nds in B.C., it's time to pull them from service, he says.

Matt Watters, a mobile trailer mechanic working for Trailcon Leasing, says tread depths and inflation pressures are measured at every preventive maintenance interval, usually every 90-120 days. He pulls tires when they've reached a tread depth of 4/32nds even though they're still legal.

On tanker trailers, pull them earlier, suggest Pahanich.

"Between 7/32nds and 8/32nds is typically where we're looking to move pieces out," he says.

5) Keep it zipped up

When a trailer comes in for service, Sousa suggests checking the rivets to ensure there is no potential for unzipping, when the lower rail



Tips for Improving **FUEL ECONOMY**

Lubrication can play a key role
in enhancing fuel economy potential.

In fact, compared to conventional, mineral-based lubricants, “using low viscosity, synthetic lubricants in the engine crankcase, rear axle, and transmission can improve fuel economy potential by about 3 percent, saving nearly 485 gallons of fuel and eliminating five metric tons of greenhouse gas emissions from a typical combination truck each year,” says the U.S. Environmental Protection Agency Smart Way Program.

Many successful fleets across Canada, like Danfreight Systems (DFS), have also seen first-hand how Mobil Delvac™ synthetic lubricants can help enhance fuel economy and deliver other benefits.

However, lubrication is just one way to help enhance fuel economy potential. Following these other tips can help, too:

Watch your speed:

At slow speeds, there is little air resistance. However, air resistance typically increases at a rate of nearly double the increase in your vehicle's speed. For example, doubling your truck's speed from 40 miles per hour (mph) to 80 mph takes four times more power.

If you can prevent it – ‘don't idle':

It's estimated that every hour of idle time in a long-haul operation can decrease fuel economy by 1 percent because you're burning fuel and not moving.

Proper tire inflation:

Fuel economy is typically reduced by 1 percent for every 10 psi that a truck's tires are underinflated, according to estimates from the Federal Motor Carrier Safety Association (FMSCA), a unit of the United States Department of Transportation.

Don't roll down the windows:

Open windows create excess drag on the vehicle, forcing your engine to work harder – often using air conditioning is a more efficient way to stay cool.

Visit mobildelvac.ca to learn more about how Mobil Delvac™ synthetic lubricants can help your fleet optimize drain intervals and enhance fuel economy potential.

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becomes detached from the sides. This is especially problematic with trailers used in the automotive industry.

“A lot of guys miss the simple things, the rivet heads, especially on composite trailers,” says Sousa. “Then you get a lot of unzipping of trailers. Sometimes the rivet heads get sheared when they’re loading trailers or bumping another trailer. You’ll get just one rivet starting to come undone and then they’ll all go. If you’re not looking for it, it is something you can miss but it’s a very simple repair.”

6) Attack corrosion before it starts

What’s more difficult than preventing corrosion? Stopping it from spreading once it has set in. Technicians suggest taking preventive measures to prevent corrosion from forming in the first place. Keeping surface areas painted and clean is a good measure, and cleaning parts before reinstallation.

“When we take wheels apart, for example, we actually sand down the two wheels in between and paint them and then reinstall the wheels,” explains Sousa. He also uses Mylar tape between metals to prevent corrosion.

Pastega said fleets can help the maintenance department keep corrosion at bay by spec’ing the right materials in the first place, including corrosion-resistant paints and coatings.

“Spec’ing the right type of base, steel protection, corrosion inhibitor and paint seems to be your best choice,” he says.

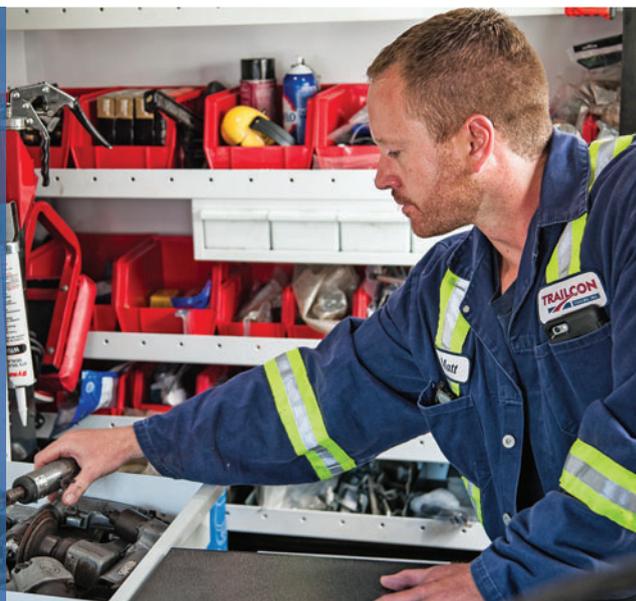
This holds true with tanker trailers as well.

“We’ve put more stainless on the trailers,” Pahanich says. “We’ve added more stainless steel legs and braces, stainless steel hangers and galvanized hangers. The stainless steel and the galvanized really stand up so we’ve removed a lot of the maintenance costs that used to get gobbled up in painting these units every three to four years. Better metals in the more abused areas allow the trailer to age gracefully without paint or metal fatigue.”

7) Prep before you park

If a trailer is going to be parked for an extended period of time, it pays to invest in gladhand screens, according

LIVE LONG AND PROFIT: There’s no reason a well-maintained van trailer can’t provide a 15- to 20-year life cycle, greatly enhancing the return on investment, our maintenance experts say.



to Watters.

“If it flies, it gets in there,” he said of insects that will climb into the gladhands and build nests. If an obstruction is noticed, Watters said to apply air to the front of the trailer, disconnect the lines at the back in front

of the bogie and flush it out.

Parked trailers can also develop seized clevises and cams as well as contaminants in the air lines. Watters suggests every six months to air the trailer up and lubricate the clevises on parked units. **TT**

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ENVIRONMENT

A Diesel Particulate Filter (DPF) is the last line of defence in the battle against dirty exhaust. Without such components, commonplace since the rollout of post-2007 engines, tiny bits of ash and soot would belch from stacks, darken trailers, and burrow into unsuspecting lungs.

But sooner or later the filter itself needs to be cleaned. All the collected ash, which is a mixture of oil additives and wear metals, just sits there. Any captured soot is, at best, transformed into carbon dioxide and that very ash – through a passive regeneration that leans on an engine's typical operating temperatures, or the active and parked regens that require a bit of fuel and a revving engine.

“The ash is mostly mineral in content and it doesn't burn off, and it piles up there in a linear manner very predictably,” observes R. Drew Taylor, director – global sales at FSX Equipment, which produces DPF cleaners. And if drivers fail to heed warning lights, maybe to avoid the delay of a parked regen that can take 30 minutes or more, soot begins to set into the walls of the DPF's ceramic substrate.

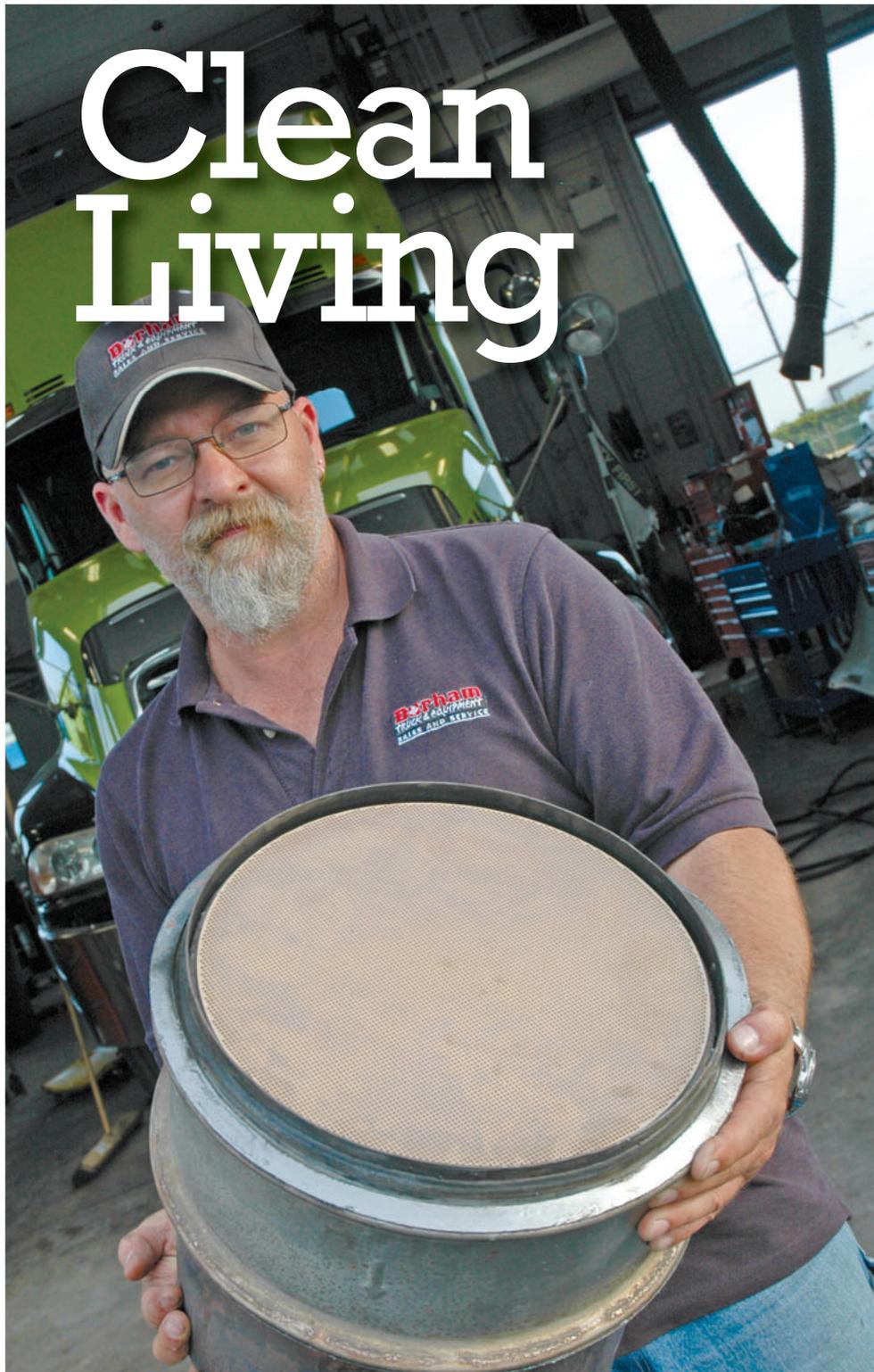
As the filters fill, backpressures rise. Sensors trigger engine electronics. Engines de-rate. Tow trucks are called.

It isn't the only reason to clear away the contaminants as early as possible. The ash hardens like concrete if left in a filter too long, Taylor says, suggesting the components should be cleaned at 150,000 miles (240,000 kilometers), depending on duty cycles. Early on, the ash is still pliable and will easily blow free. Left too long, it will form a hardened “ash island” that forces air through smaller areas of the filter, causing spikes in back pressure. “It sits there 400-500 degrees cooler than everything around it,” he explains. “You'll get it to crack right there at the gradient between the ash island and rest of the media.”

The financial return

Some shops leave the actual cleaning process to third parties. Technicians simply pull off an ash-and-soot-laden filter, exchange it for a reconditioned

Clean Living



Diesel Particulate Filters clean the exhaust, but does your shop have what it takes to clean the filters?

By John G. Smith

model, and send the dirty component away for the cleaning procedures established by Original Equipment Manufacturers.

But other operations – particularly shops that service a high volume of DPFs – opt to tackle the cleanings themselves.

There may be more of these shops than you think. FSX equipment alone can be found in more than 1,000 locations across North America, using the same tools applied in Cummins remanufacturing operations and approved by PACCAR.

“It’s both a convenience and a financial incentive,” says Gary Simons, Donaldson Company’s engineering director – exhaust emissions, referring to why shops make the underlying investments. His company’s cleaning equipment was even caring for the DPFs installed in bus and transit fleets long before they became commonplace in the trucking landscape.

Such equipment can pay for itself in as little as 50 to 100 cleanings, depending on the systems that are selected. Many shops can reach those targets in as little as a year depending on oil consumption, engine models, and equipment age, adds Taylor. “They build engines real tight, but they don’t stay tight. They get loosey goosey pretty fast.”

No matter what equipment is selected, however, the goal is ultimately to reclaim as much of the available filter space as possible.

“We can get pretty close back to the original, what we call the birthweight of the filter,” Simons insists.

The first step in any cleaning is an inspection to ensure the filter has not been physically damaged. Some shops go so far as to rely on ultrasound equipment to look for internal cracks. Others, however, limit themselves to a visual inspection. “You can kind of tell there’s a crack when you first take it off a truck, because on the clean side of the ceramic there will be soot,” Taylor says, adding that technicians can check for that by dragging gloved fingers across the filter’s surface.

Any signs of soot should trigger investigations into upstream repairs,



SAVE MONEY, SAVE TIME: DPF cleaners are both a convenience and a financial incentive, says Donaldson’s Gary Simons

involving such things as fuel injectors and turbochargers.

Filters need to be protected from external damage, too. Simons refers to the need to ensure housings and flanges remain intact when the units are removed for cleaning and also when they’re reinstalled. “Make sure you don’t drop the thing on the floor or decide to bang the thing so hard you bend the flanges,” he says.

The cleaning process

The actual cleaning process typically involves two distinct steps. Equipment is designed to blow the ash free, or cook off any residual coolant, fuel or soot. (In an Original Equipment Manufacturer’s operation, a third step involving a liquid cleaning may also be included.)

Each family of tools will take a slightly different approach to such work, ranging from the way filters are loaded in place, to the sensors that monitor the cleaning, the way a process is conducted, and the ultimate disposal of any ash.

Before choosing any cleaning system, shop managers will need to consider the type of filters to be cleaned, particu-

larly because the filter sizes can vary widely. Donaldson equipment, for example, accounts for the differences with a series of adaptors, each designed for a specific model of filter. In contrast, the FSX equipment relies on a ring set that can handle diameters ranging anywhere from six to 20 inches, while fingertip controls adjust to heights between six and 36 inches.

That isn’t the only way the equipment differs.

The Donaldson systems combine a “pulse” cleaner with a thermal regeneration process. In the pulse cleaner itself, air builds up in an accumulator and then blows through the filter about once per minute. “It’s like a ‘kaboosh,’” Simons says, describing the way the air is fed into the filter at once, with the controlled blasts protecting the cordierite media inside.

FSX has opted for a pair of “air knives” that move from cell to cell, working against both ends of the filter. The bottom air knife breaks up the ash, while the top kicks the material out of the filter. Each cell is addressed every seven minutes until the DPF is free of ash. That helps to ensure the air

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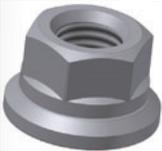


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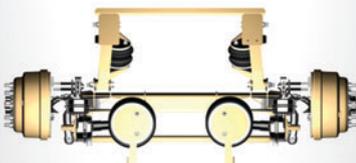
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DIFFERENT APPROACHES, SAME GOAL: Cleaners vary in their approaches to cleaning the ash, whether the air is delivered in pulses across the filter, or with individual air knives that work cell by cell.

doesn't simply follow the path of least resistance during the cleaning process, Taylor says. Nothing is overlooked.

The time to clear away the ash will vary, depending both on the style of the cleaner and the condition of the filter itself. Some will be cleaned in as little as five minutes, but others can take 10 times that long, Taylor says.

There are even differences in the way the filters collect the unwanted ash. Donaldson, a filter producer, has opted for a filter that should be replaced after 20 cleanings. The FSX system collects the ash in a five-gallon bucket that, outside of jurisdictions like California and New York City, can be disposed in a landfill.

Remember, though, that the ash is not the only material to be cleaned out of a heavily clogged filter. Any hydrocarbons will hold tight until they are oxidized under the high heats generated in a thermal cleaner. Filters that are first allowed to cool to ambient temperatures are loaded into these purpose-designed ovens, turning soot into a final layer of ash that will itself have to be blown clean.

The goal, of course, is to clear away as much as possible. Donaldson actually recommends weighing the filter, and comparing this to an original "birth weight" recorded for the component. If the cleaned filter differs from that too

much, something is clearly wrong.

But weighing the filters can present a challenge, Taylor counters. "The DPF will load up with moisture as fast as the dew point changes." He stresses the value of sensors and monitors in the cleaning equipment itself.

Most of the cleaning systems come in the form of cabinets that have a permanent home in a shop. Donaldson's models, for example, would have to be moved with floor jacks. Simons even questions whether truly portable systems would present another challenge to address. "Some of the air quality districts get very interested in how these systems are installed in shops, making sure they're properly vented outside," he explains. "We don't see that as something that would be beneficial to rolling around a shop."

Like any other shop tool, the cleaners themselves require care of their own – particularly in the form of clean, dry air from a shop compressor. Donaldson equipment even includes a small filter and dryer on the inward side of the cleaners to keep out any unwanted contaminants. Cabinet doors themselves also require an occasional check to ensure that they remain pliable.

But with a little care, the additional equipment can help any shop manager to breathe easy. **TR**

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Decision time

New category engine oils will bring benefits, but also some additional complexities in the shop

By James Menzies

Fleet operators will soon begin enjoying the benefits of better performing heavy-duty engine oils, but the technicians who service those vehicles are about to have some additional complexities to manage. Proposed Category 11 (PC-11) engine oils are a proposal no more; they'll hit the market this December as CK-4 and FA-4 motor oils.

CK-4 is a straight replacement to today's CJ-4 category engine oil and will be fully backwards compatible with existing engines. FA-4 is a low-viscosity oil designed for additional fuel economy, which boasts lower high-temperature high-shear (HTHS) properties. HTHS is a better indicator of fuel economy than viscosity grade alone but it's not yet clear, even now, months before the launch of the new category, to what extent - if any - FA-4 will be allowed in older engines. This is for the engine manufacturers to decide and technicians may have to wait until the 2017 engines hit the market before seeing which oils they recommend and whether or not they'll approve FA-4 oils in older engines.

It seems likely that fleets wanting to use FA-4 oils for maximum fuel economy may have to adopt a two-oil strategy: CK-4 for older engines and FA-4 for new ones.

"Having OEMs mandate the use of FA-4 would be a big help in terms of the acceptance of that product," Matt Urbanak, HDEO technology manager with Shell, said when the company introduced its new CK-4 heavy-duty engine oil portfolio this summer. Shell replaced its CJ-4 oil with CK-4 in August, but can't label the oils as such until December.

At least one major Canadian fleet is taking its chances after extensive testing of FA-4 prototype oils in its legacy engines.

"I can tell you we've been testing multiple different oils that will comply with PC-11 and we are very comfortable that as a backwards compatible product it will be fine," said Chris Iveson, director of maintenance with Challenger Motor Freight. "We are going to a single oil strategy."

He was less bold when it came to the heavy-haul fleet, which he said may stick with CK-4 due to the higher engine temperatures generated.

It's those higher engine temperatures expected to be generated by 2017 engines that drove the introduction of

"What that equals, to a lot of fleets, is the opportunity to better extend drain intervals."

the new standard. That, and the fact CJ-4 has been around for 10 years now, an unusually long time period for any previous oil category. Engine manufacturers wanted to see how oil companies could contribute to greater fuel economy and help them achieve their greenhouse gas emissions reduction mandates.

Oil companies haven't yet provided hard numbers on the type of fuel economy improvement fleets will see if they select FA-4 over CK-4 oils, but it's widely accepted that lower viscosity engine oils produce better fuel economy.

"Directionally, there is a fuel economy benefit," said Len Badal, global Delo brand manager with Chevron. "Whether the fleet actually sees it in the

field, that's the challenge. Even today, trying to measure fuel economy between a 10W-30 and a 15W-40 is tough."

While difficult to measure the fuel savings over the road, due to the many variables that influence fuel economy, the incremental gains do add up, said Dan Arcy, global OEM technical manager with Shell. He said a business case can be made for adopting more expensive FA-4 oils based on those modest fuel savings. He said Shell's testing has indicated customers will see about a 0.5% improvement in fuel economy if running a 10W-30 FA-4 oil versus a CK-4 of the same viscosity grade. Fleets that are still opting for

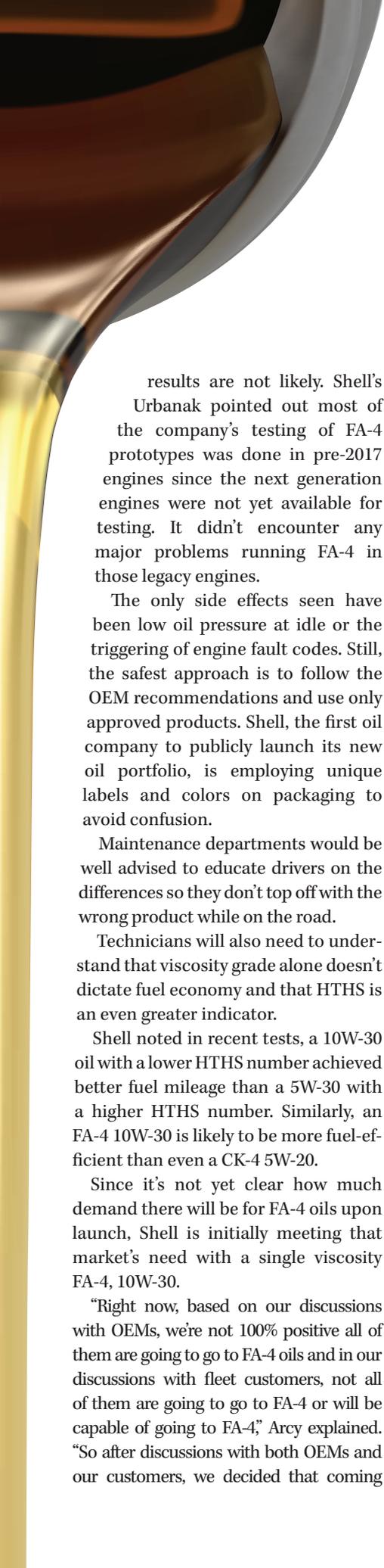
15W-40 oils could see a more noticeable 2% improvement if switching to a 10W-30 FA-4.

All oil companies have proven there's no compromise in engine wear or longevity when using low viscosity 10W-30 oils but many fleets and owner-operators cling to

the belief that a 15W-40 offers better protection. CK-4 will continue to offer the full scope of viscosity grades to meet the needs of those customers.

There will be some improvements in the CK-4 oils, especially in terms of oxidation stability, aeration control and shear stability. It will be an overall better performing oil than CJ-4 as it has to meet higher performance standards to be worthy of the API CK-4 donut on packaging.

Technicians that are juggling two types of oils in order to get the fuel economy benefits of FA-4 in new engines will have to be cautious to prevent misfills, though if the wrong product is used, catastrophic



“ Having OEMs mandate the use of FA-4 would be a big help in terms of the acceptance of that product. ”

results are not likely. Shell's Urbanak pointed out most of the company's testing of FA-4 prototypes was done in pre-2017 engines since the next generation engines were not yet available for testing. It didn't encounter any major problems running FA-4 in those legacy engines.

The only side effects seen have been low oil pressure at idle or the triggering of engine fault codes. Still, the safest approach is to follow the OEM recommendations and use only approved products. Shell, the first oil company to publicly launch its new oil portfolio, is employing unique labels and colors on packaging to avoid confusion.

Maintenance departments would be well advised to educate drivers on the differences so they don't top off with the wrong product while on the road.

Technicians will also need to understand that viscosity grade alone doesn't dictate fuel economy and that HTHS is an even greater indicator.

Shell noted in recent tests, a 10W-30 oil with a lower HTHS number achieved better fuel mileage than a 5W-30 with a higher HTHS number. Similarly, an FA-4 10W-30 is likely to be more fuel-efficient than even a CK-4 5W-20.

Since it's not yet clear how much demand there will be for FA-4 oils upon launch, Shell is initially meeting that market's need with a single viscosity FA-4, 10W-30.

"Right now, based on our discussions with OEMs, we're not 100% positive all of them are going to go to FA-4 oils and in our discussions with fleet customers, not all of them are going to go to FA-4 or will be capable of going to FA-4," Arcy explained. "So after discussions with both OEMs and our customers, we decided that coming

out with a 10W-30 in December would be an appropriate product to have to meet those requirements at this time. But if the market requires a 5W-30 FA-4, we'll have that available."

While oil companies have been espousing the benefits of low viscosity engine oils for years, and an estimated 40% of the largest, most fuel economy-conscious North American fleets are now using them, new research has verified the benefits. The North American Council for Freight Efficiency (NACFE) recently released a Confidence Report that indicated the fuel economy savings are tangible.

NACFE found through its study that fleets can expect fuel savings in the range of 0.5%-1.5% when switching from a 15W-40 to thinner viscosity 5W-30 and 10W-30 oils. When the new FA-4 engine oil category is launched in December, a further fuel savings of about 0.4%-0.7% will be attainable, NACFE reports.

"The arrival of new categories of engine oils will help raise awareness of the fuel efficiency benefits of the large range of oils available," said Mike Roeth, operation lead, Trucking Efficiency.

"Lower viscosity engine oils deliver fuel savings, and concerns over lower engine protection are simply not valid anymore," added NACFE study manager, Yunsu Park.

Technicians, of course, would like to see the new category engine oils bring extended drain intervals, a benefit that would be as significant as - if not more so than - any fuel economy improvements. Since both CK-4 and FA-4 oils will offer better piston deposit control and improved oxidation stability as well as better wear protection, it seems likely extended drains will be achievable when supported by an oil

analysis program.

"What that equals, to a lot of fleets, is the opportunity to better extend drain intervals," Chevron's Badal said of the improvements. "Or if it's a fleet that tends to keep its trucks and engines for longer periods of time, some extension on engine rebuild life."

Hasan Zobairi, marketing controller with Castrol distributor Wakefield Canada, said the introduction of the new oils is a good opportunity to revisit drain intervals and overall maintenance practices.

"We think this is going to be an ideal opportunity for fleets to really re-evaluate their entire maintenance practices," he said. "Look at it as an opportunity not just to lower your fuel costs, but your maintenance costs as well. Every time in the past when an API specification changed it was for lower emissions, but higher costs to the fleet in terms of more expensive oils. This time around, the benefit is going to be very clear in terms of fuel economy and also lower maintenance costs in terms of longer drain intervals."

Stephanie Jaworski, field technical advisor with Imperial Oil, pointed out the same factors that made fleets successful before the arrival of the new oil categories will continue to be equally important in the future.

"The fundamentals and best practices of the industry won't change with PC-11," she said. "What's working well to drive successful fleets today will be the same as after PC-11. A proactive approach to maintenance, using rigorous data-driven approaches if doing drain extension programs or other engine performance work, those fundamentals that are helping successful fleets differentiate themselves are going to be the same after PC-11." **TT**



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Take no chances

The pros outline their best practices for warranty procedures

by Harry Rudolfs

A fleet manager with a potential warranty claim has much to consider. If a repair is to be done in-house, will the labour be covered? Some OEMs will reimburse shops for their repair time, while others will not pay for outside labour.

“A lot depends upon the urgency,” says Challenger Motor Freight’s national fleet manager, Chris Iveson. “If it’s Sunday afternoon and you’ve got a loaded truck ready to go to Vancouver and the dealer won’t be open until Monday, you do what you have to do and worry about collecting on the warranty later. But if one of our technicians notices a problem during a service, we get it to the dealer right away. We don’t waste time trying to fix things.”

Marcel Boisvenue, fleet manager of Kriska Transportation in Prescott, Ont., takes a similar view. “If it’s a small thing like a sensor, we can fix it in our shop if we follow their procedures. The dealer

will deliver the part, we give them the old one, and in some cases we get a small credit for the labour,” he says. “But if it’s anything bigger than that we send it to the dealer and let them fight it out with the OEM.”

“There is some stuff they question like intermittent problems”

Heavy truck warranties can be complex. Beyond the basic one year/160,000 km bumper to bumper package offered by most OEMs, extended warranties can be purchased

on anything from towing to engines, some of which are covered by the truck manufacturer and others which are backed by the parts supplier. For example, AC Delco offers an extended life battery package but this is supplemental to the coverage offered by the OEM.

As fleets like Kriska continue to modernize their equipment, warranty terms are getting shorter. “The amount of coverage depends on the length of the lease,” says Boisvenue. We used to lease a truck for five years so we wanted to get coverage up to 60 months. These days the leases are 36 months, so that’s how much coverage we need.”

Typically fleets will beef up the warranties on components that they might expect to fail or develop problems. Extended warranties on engines and EGR systems are popular. “We look closely at the math and where and when we expect parts to fail,” says Iveson. “It’s not



EXPECT THE UNEXPECTED: Some unwelcomed surprises as the vehicles in your fleet age are to be expected. Extended warranties are a type of insurance against unforeseen expenses but you have to balance that against the possibility you may be buying more protection than you will ever need.

like buying a car. If you buy a PACCAR product, the menu for extended warranty options is 15 pages long.”

Extended warranties are a type of insurance against unforeseen expenses. Some OEM’s provide extended coverage which can be added within the first year of purchase, but charge a premium. One nagging fear is that you might be buying more protection than you will ever need.

“You never want a part to fail,” says Ryan Blackwood, national fleet manager for Mackie Transportation of Whitby, Ont. “But when you’re getting near the end of the warranty you’re kind of hoping something goes wrong so that you know you’re getting some value for your money. But you’re shooting yourself in the foot if you don’t get the extended coverage on

“You’re shooting yourself in the foot if you don’t get the extended coverage on the emissions system.”

the emissions system. You might need coverage for expensive things like DEF pumps, emissions components and NOX sensors.”

Blackwood keeps a careful record of services and part failures. If something unexpected arises, he suggests that

the more documentation you have available, the better off you are when it comes to policy claims. “If you have one truck of a certain model and age coming down with some issue, then there’s a strong possibility that your other trucks that you purchased at the same time will have that problem.”

Buzz Bezanson, parts manager for Easson Transportation of Kentville, N.S., provides an example where the dealer came through on a policy issue. “We were getting chaffing on the wiring harness from the emissions sensors. But they only misfired when the weather was wet,” he says. “We’d take them in and they couldn’t find the problem. So in the end they gave us 40 wiring harnesses. We have to install them ourselves, but that saved us thousands of dollars.”

But how much coverage is enough? “It’s a numbers game,” according to Bezanson. “We noticed we were getting rad failures after about a year, so with the next group of trucks we bought the extended rad warranty. And guess what? No rad failures. It’s the same with buying the towing warranty. Is it really worth it? The \$500 coverage barely gets you off the road. I don’t think I can get a truck towed from Halifax to our garage in the Annapolis Valley for \$500. And you’ve got to pay another unit to pull the trailer, because you can’t leave the trailer by the side of the road.”

But Bezanson takes issue with some of the fixed labour costs that the warranty will or won’t pay. “They’re not going to pay you what you’ve got invested in time,” he says. “They allow you 1.2 hours to change a starter, and you know it’s going to take longer than that when you see the mechanic going to get the torch. I’ve seen one seized starter take four hours to replace. The same with electrical problems. You might have a taillight or signal out and it could take you an hour and a half to trace it back to a sensor on the Chassis SAM unit. Who’s going to pay for that?”

No Fault Found, or NFF is often a bone of contention. This happens when a problem with a part cannot be replicated by the warrantor and the claim is refused. “There is some stuff they question like intermittent problems,” says Easson’s service manager Derek Drew. “There might be a flat spot on the starter or the truck won’t start sometimes beside the hot engine. So we change it for the driver. But when they test it, it starts every time. So the claim comes back NFF. In that case, you get the dealer to fight for you, and our people do a pretty good job. Usually they can find some way to make an adjustment.”

With a fleet of 1,300 late model trucks from a variety of manufacturers, it’s no surprise that Challenger has a full-time warranty manager, Blake Kennedy. He, in turn, has a full-time assistant whose job it is to enter warranty information and part numbers into a computer data base.

Kennedy suggests that an internal

system should be robust enough to capture the failures before they become a big headache. “It’s important to catch the warranty problems during regular maintenance services. This can save you a lot of trouble down the road,” he says.

“Then it’s just as important to make sure you keep the failed parts for

inspection, and the proper documentation that goes with them. Lastly, it’s crucial to have a great relationship with your dealer based on honour and integrity. Yes, bigger fleets might have more clout, but it should be the same for all of their clients. They should never want to leave you disappointed.” ■



Core Tracking: getting the most for your core returns

Cores are basically any part or component that can be re-manufactured and recycled. This covers a myriad of items from rads to brake shoes to alternators to engine components and also includes the engine block itself. Think of the core charge as a kind of deposit you pay when you buy the truck or replacement part.

Parts suppliers like Meritor and Eaton are so anxious to get their parts back, they will provide the software and help a fleet set up a proprietary tracking system. Reimbursement is typically based on a sliding scale depending on the condition and amount of wear on the product.

A well-run core management program is crucial to make sure you’re getting full value for your returns. Shop staff have to be made aware of the program and proper handling of the parts. Leaving cores lying around a shop floor without any documentation could result in those parts ending up in the scrap bin or getting damaged.

Blake Kennedy, warranty manager for Challenger Motor Freight, explains that his company’s standard practice is to label parts at the time of purchase with a warning sticker that a core credit exists for that part. When the part is installed, the replaced part is put back in the box and placed in the warranty cage. After examination, the part is shipped back to the dealer or parts vendor for a core credit.

“The part and core have separated part numbers in our system, so our staff can visibly see that core charges are made and claimed,” he says. “Fortunately, most parts which have cores on them are the ones that are normally repaired at OEM dealerships anyway—so about 90% of the time we are credited for the core right then anyway.”

Telematics Refined

By Carroll McCormick

Imagine a crystal ball that tells you when to replace truck parts, just before they fail, instead of suffering a breakdown in the wrong place at the worst time. This is one of the emerging feats of telematics - the use of wireless communications to send and process engine data.

Original Equipment Manufacturers (OEMs) are also getting better at making repair recommendations on the fly, based on rapid analyses of diagnostic trouble codes (DTC) or fault codes.

And, of course, there is the well-established use of telematics to turn mileage information into shop maintenance to-do lists. "We can, in real time, see every piece of equipment on the road, including seeing problems with trucks, flagged by fault codes. It helps us with ongoing repairs and maintenance. The [Infosite Technologies] program flags when to do 50,000-kilometre oil changes, six-month preventative maintenance work and yearly safety inspections," says Oleg Belchuk, service manager, Concord, Ontario-based Highlight Motor Freight.

That crystal ball hasn't been invented yet, but Navistar, manufacturer of International trucks, is on the case. Since 2013, it has been building and mining a huge database of service information for patterns of parts failures with a remote diagnostics system called OnCommand Connection (OCC).

"We call it predictive maintenance: scheduling parts replacements based on an optimal time predicted by the model," says Dan Pikelny, vice president of analytics, Navistar. "We can do predictive modeling based on the history of all the vehicles with OCC and signal fleets where there is a likelihood of failure or issue, and have the truck come in for servicing before the [failure] happens, and eliminate downtime when it is not acceptable."

OCC collects engine data and fault codes and transmits, analyses and organizes them for easy use in an Internet-based dashboard, and for smart phone access. What makes OCC particularly powerful is that it collects engine data from any Telematics Service Provider (TSP).

"What differentiates us is that the rest of the OEMs have picked one TSP, where Navistar's OCC is open to all of them. We can read not only our codes, but competitors' codes too," says Andy Minter, director of IoT [Internet of Things] analytics and machine learning, Navistar.

At last count, 225,000 trucks were using OCC. By crunching data on such a large number of failure codes and correlating them with parts

failures (more data generally means better predictions) Navistar can determine, with a degree of confidence high enough to act on, the likelihood of a given part failing after a given number of kilometres, or even in certain operating conditions.

Take, for instance, a low core temperature fault. It can portend an engine failure, but with early notification, replacing a small part can avoid a huge failure later. The advice is not perfect, as it is an exercise in probabilities, but it will only get better as the number of OCC users increase.

This economy of scale is available to every OCC user, even a one-truck operation. They all, says Minter, "... get the benefit of the collective experience."

OCC also helps fleets respond appropriately to rolling mechanical crises. "A fault code is passed through OCC. Logic in OCC checks whether it needs to be addressed immediately or if it can wait. That notification goes to the fleet manager. He can see whether the driver should stop, or if he can continue to his destination. The remote diagnostic happens in OCC," Minter explains.

OCC can also remind users of regular maintenance tasks such as oil changes.

Minter offers another example of what mining such a huge database of fault codes can reveal. "We have used models to segment vehicles into different categories based on how they are used. We found that one group had a higher failure rate for an after-market part. We could target which fleets were likely to have this problem [and] tell the fleet to do a planned replacement before it ever became a problem. That is where I see this going more and more. There will be fewer problems that result in unplanned downtime.

"One customer experienced a 28% decrease in the down days and a 31% decrease in repairs. Another customer, Royal Trucking, actually eliminated breakdowns in most weeks and reduced maintenance costs to 3-4 cents/mile during a typical week. The industry average is about 15 cents/mile."

All this is a vast improvement on the old days, when fault codes were simply emailed, unprocessed, to fleets. "Without intelligent processing by the OEM or by very specialized third-party software, for the most part diagnostic trouble codes were ignored because they filled up people's email boxes with basically spam. [They] happen all the time in the normal course of using a commercial asset or truck; it's only when you filter them and look for specific patterns of behavior that they become useful," says Michael Riemer, vice-president, product and channel marketing, Decisiv.

The company, which provides Service



Relationship Management software, focusses on connecting the people, process, systems, and technologies required to better maintain and service commercial assets.

“Over the past five years, processing power, increased memory and “computer on a chip” technology has enabled simpler and less expensive ways to capture significantly more data and, most importantly, [do it] when the asset is in motion. As OEMs were able to capture more run time data (DTCs and snapshot data) they were able to use analytics to identify patterns of behavior that had extremely high correlation to specific, severe events,” Riemer says.

“[Telematics] has evolved to the point where we as an OEM can apply our expertise ... to the diagnosis delivered to our customers to give them the information they need to make the best decisions possible in whether to keep the truck rolling or to pull into a service location. The connectivity services delivering remote diagnosis will soon deliver deeper vehicle performance insights to customers ... allowing them to interact with the data more proactively,” says Greg Treinen, sales and marketing manager, connectivity, Daimler Trucks North America (DTNA).

One DTNA solution is Virtual Technician, introduced in

2011. A feature of its Detroit Connect suite of connected vehicle services, Virtual Technician takes, in the case of select, severe fault code events, vehicle performance data from just before, during and after faults, and transmits that recording to the Detroit Customer Support Center. There, the data are interpreted and diagnoses offered. The Detroit Customer Support Center can even recommend the nearest shop that has the parts required to effect repairs.

This fall DTNA will introduce the Detroit Connect portal, which will enhance Virtual Technician, Treinen says. “[It] will give Detroit Connect customers additional information about overall fleet health, as well as enable them to take a deeper dive into specific fault events communicated via Virtual Technician.”

And at the shop level, where the high-powered PC-based diagnostics has always taken place, Riemer comments, “In the not too distant future, the shop tech will know as much information about the truck before it arrives without the need to even plug in any shop tools. This will significantly decrease triage/diagnostic time and eventually enable the parts to be pre-pulled, the bay set up and the technician ready to start a repair even before the truck arrives.” **TT**

Feed the Speed

A combination of strategies is slashing repair times on Mack & Volvo tractors: Certified Uptime Centers that handle smaller repairs without delay, a shared Volvo/Mack Uptime Center in Greensboro North Carolina where fault codes are dealt with, and a faster approach to warranty repairs. A common thread is the better exploitation of telematics.

Just this year Volvo designated its first seven Certified Uptime Centers, defined, in part, as Volvo dealers that dedicated a certain number of bays to repairs under four hours. Travis Brown, director of service operations for Vision Truck Group of Mississauga, Ont., hatched the idea in 2013 as a local strategy. Volvo was impressed and went continental with it.

“I was concerned that trucks could come in, and it could be days or weeks before they got into the shop. I saw trucks sitting for days that only required a 30-minute repair. I copied the grocery store express lane concept,” Brown says. Vision Truck Group’s Mississauga branch dedicated four of its 22 bays as “rapid repair bays,” for anything less than four-hour-long repairs.

“We look at the trucks within 10 minutes of their arrival. We tell the driver whether it is a large job or a small job. That allowed us to get an average of 16 more trucks done a day because small jobs were not stuck behind large repairs,” Brown says.

Volvo/Mack launched the Uptime Center in September 2014. Vehicle fault codes are sent here and specialists analyse them and contact owners with repair advice. “The Uptime Center calls me on my cell if they see any problems that require immediate attention. It also sends emails to my team. Many times, the Uptime Center has seen problems with a truck even before it has appeared on the dashboard,” says Oleg Belchuk, service manager with Concord, Ontario-based Highlight Motor Freight.

Brown adds, “It is responsible for opening cases and getting information to the dealers. Parts are ordered and sent to the closest dealership. The individuals at the Uptime Center quarterback the whole process.”

Volvo/Mack has also changed how dealers handle warranty repairs. Kerry Haslett, service manager, Vision Truck Group, explains: “In the old days a truck could arrive in the shop, the technician would look at the fault codes, and after two to four hours of diagnostics, determine that it was a faulty oil sensor. The technician might feel right initially that it was the sensor, but Mack/Volvo required us to prove the sensor faulty.

“Now, Volvo/Mack is looking at statistical diagnostics. So if 90% of the time a sensor is associated with a fault code, we are immediately directed to replace the sensor, clear the fault and release the vehicle. This reduces the repair time from many hours to perhaps a few minutes.”

Brown adds, “Now that we get so much data, we can go straight to the most likely problem. Today it is fine-tuned so that they hit the nail on the head. If you really want to show where telematics is leaping forward ... We can have the bay ready and the parts ready.”





Accuride releases three-part installation and maintenance video series

Accuride Corp. has released a series of how-to videos aimed at helping fleet maintenance technicians install and service the company's steel and aluminum wheels, Gunite-brand brake drums and automatic slack adjusters (ASA).

The new three-part service series uses animation, technical diagrams and step-by-step instructions to walk through the procedures to install and maintain the components.

Accuride's wheel service video provides instructions for wheel installation and maintenance, covering single-piece rims and wheels, providing steps for wheel removal by both hand and machine, how to complete a visual inspection, wheel end cleaning and preparation, tubeless tire installation and proper mounting of the tire and wheel assembly.

The second video – Gunite brake drum service – also provides instructions on proper installation, inspection and maintenance

for genuine Gunite brake drums, which will help maximize their service life and ensure brake drum system performance during daily over-the-road use.

In addition, the Gunite video shows how to establish a periodic brake drum maintenance program, which Accuride says will help users identify common symptoms and make necessary corrections to restore the brake drums' performance.

Rounding out the three videos, the Gunite automatic slack adjuster service video, offers guidance on how to properly install, remove, inspect, adjust and maintain the Gunite automatic slack adjusters, which will help

ensure the device's peak performance.

Accuride customers can access the video series on the company website, its mobile app and YouTube channel.

Visit accuridewheelendsolutions.com for more information.



Road Choice expands its parts categories

Now offering more than 40 parts categories in its product line, Road Choice Truck Parts has grown its portfolio to include more choice when it comes to wheels, filters, anti-freeze and coolants, hydraulic bottle jacks and jack stands, DEF, grilles, spray paints and fan belts.

"We plan to continue to increase the Road Choice product portfolio to provide owners of second- and third-generation trucks the in-demand parts they need at

competitive prices," said Anders Granberg, marketing manager for Road Choice.

Owners of trucks that are no longer under warranty can find options for parts at value prices covered by a minimum one-year warranty with Road Choice.

This past June, the company had announced it had expanded its product line effective Jan. 1, 2016 to include 35 all-makes parts categories.

Road Choice's truck and trailer products

were launched in 2013 in an effort to improve its customers' total cost of ownership by providing parts at competitive prices, which are available at more than 500 dealer locations in Canada and the US.

Parts can also be ordered online at the Select Part Store, 24 hours a day, seven days a week every day of the year, and can either be delivered or picked up at a nearby dealer location.

Visit www.roadchoice.com for more information.

Eaton extends warranty on manual transmission and clutch

New Eaton truck customers who acquire either a RTLO 13-speed or 18-speed transmission, a Solo Advantage clutch and Eaton-approved lubrication will now receive an additional 12 months on their warranty.

Extending the warranty to a seven-year/750,000-mile for the transmissions and five-year/500,000-mile for the clutch, the Eaton promotion was introduced July 1 and will remain until June 30, 2017 for all makes and models of new trucks sold in Canada and the US.

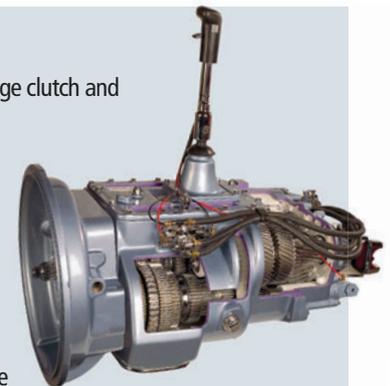
The RTLO transmissions feature a mainshaft without splines, with helical gears in the auxiliary section and optimized lubrication systems in select models.

The clutch stays in constant adjustment by maintaining bearing release position and has advanced vibration control technology.

The extended warranty promotion applies regardless of application, but does exclude convertible 9/13 speeds.

Eaton said there are four steps to getting the free extended warranty: select an Eaton RTLO-13 or RTLO-18 speed manual transmission; choose an Eaton Solo Advantage clutch; use Eaton-approved lubricant, PS-386 synthetic transmission fluid; and finally, register your purchase by completing an online form.

Visit www.roadranger.com/rr/performance-bundle/index.htm to download the application for the extended warranty and to learn more about the promotional offer.



Protect your equipment with centralized fleet fluid maintenance systems

FLO Components, in a new partnership with RPM Industries, now sells and installs a complete line of centralized fleet-fluid maintenance systems. With the made-in-America RPM product line added, the company has a range of engine pre-lubrication and fluid-evacuation technologies that automate routine maintenance of heavy equipment.

"Routine maintenance has become anything but routine", said Mike Deckert, vice-president of FLO Components. "Keeping your fleet in peak operating condition can be difficult and time consuming. Machines sit idle for hours

during 'simple' oil changes. Technicians risk injury removing hot oil filters and climbing under or around the machines. There is also the problem of oil spills causing environmental contamination."

The heart of the new product line is the QuickFit system, said to be a simple and effective way to change oil, transmission and hydraulic fluids from a single, ground-level connection, without taking too much time or risking unnecessary injury and environmental fines.

The system incorporates the 'PERT' process to: **1)** Purge the filters with compressed air so that old filters can be

removed and clean filters can be installed cleanly and safely with no spills or burns; **2)** Evacuate the sump directly to the final waste container; **3)** Refill the engine via its new filters and **4)** Time-stamp the service to automatically document the maintenance event.

With just one fitting per compartment, the QuickFit system allows users to service most machines in less than 30 minutes. Because the process is repeatable, the company says, it's easier to schedule and plan routine PM services.

Visit www.flocomponents.com for more information.

Bendix continues to add new parts to its Formula Blue line

Expanding coverage of its Formula Blue hydraulic brake parts line, Bendix Spicer Foundation Brake (BSFB) recently added 100 new part numbers and plans to introduce additional parts every quarter.

Formula Blue is BSFB's comprehensive line of hydraulic brake parts for light- and medium-duty import and domestic vehicles ranging from Class 1 to Class 6. The expansion increases Formula Blue's medium-duty lineup by adding import and bus applications. In addition, BSFB added a value line of hydraulic brake pads.

The new parts cover a range of nameplates, including Blue Bird, Ford, Freightliner, Hino, IC Bus, Kenworth, Mitsubishi Fuso, Navistar, Peterbilt, Thomas Built Buses, UD and Workhorse.

BSFB has also made it easier to access the Formula Blue product line by introducing a new resource. Customers can now go online to view the new 2016 Formula Blue Illustrated Parts Identification Guide, an extensive, user-friendly catalog that includes product photographs, dimensions and application information for brake pads, shoes, drums, rotors, wheel cylinders, master cylinders and calipers. The Illustrated Parts Guide was previously a printed supplement to the Formula Blue master catalog.

The Formula Blue line – more than 6,000 parts strong – features a range of applications and provides a solution for fleet-oriented light- and medium-duty vehicles. Products include new and remanufactured brake calipers, premium rotors, and full lines of pads, shoes, brake hardware, drums, master cylinders, and clutch hydraulics.

Visit www.foundationbrakes.com for more information.



Ryder offers new flexible maintenance packages

Ryder System has introduced what it claims to be the industry's most flexible leasing and maintenance solutions, Ryder ChoiceLease.

The new offerings include two new lease products, designed to provide more flexibility, choice and control for fleet managers.

Previously, Ryder's full-service lease offered just one option for maintenance. Now, through Ryder ChoiceLease, customers can choose from full-service, preventive and on-demand maintenance packages.

The scalable model allows customers to choose the terms of their lease alongside a level of maintenance they prefer, Ryder announced.

Ryder's full-service package offers bumper-to-bumper maintenance coverage for new and pre-owned tractors and trailers, with 'all maintenance always covered,' including tires and brakes, which the company said is often considered wear-and-tear equipment.

The preventative package, for new and pre-owned trucks, tractors and trailers, provides needed regularly scheduled maintenance and gives the customer the choice to decide when and where to go for any repair work.

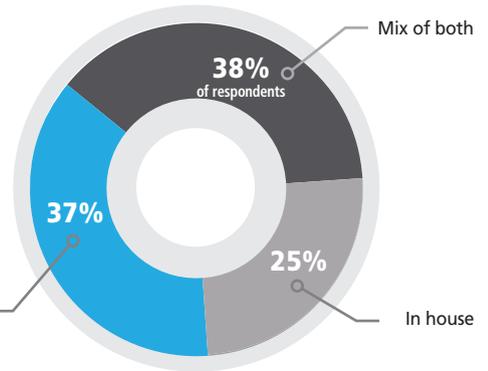
For Ryder's on-demand maintenance service, customers are encouraged to contact the company to find out details on available options.

IN THE HOUSE

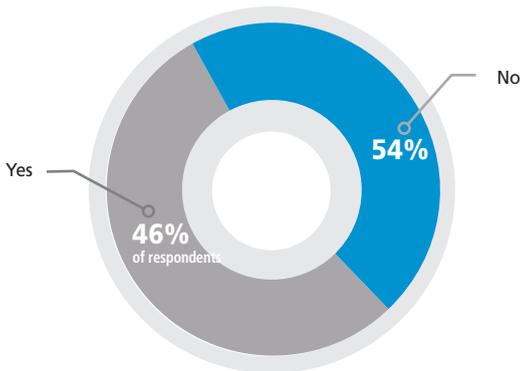
When fleets turn to their own staff for tire work and why



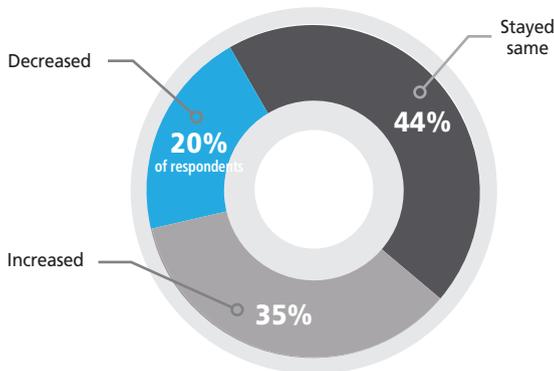
Tire service location



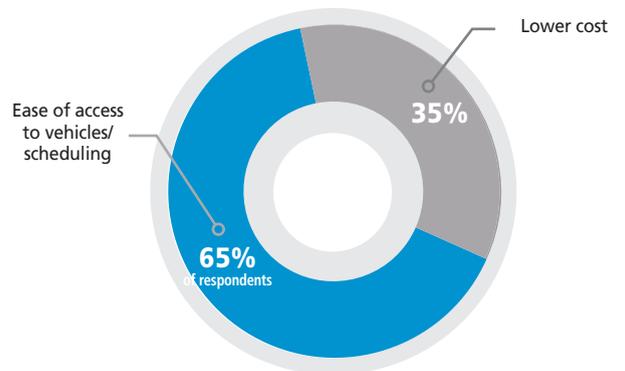
Have dedicated tire staff



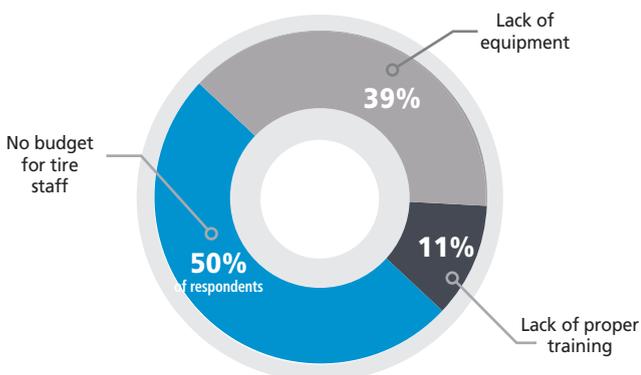
Trend in tire work done in-house past five years



Main reason for doing tire work in-house



Main reason for doing tire work at servicing dealer



Services performed in house

Mount/dismount	52%
Tire balancing	19%
Retorquing	77%
Wheel recondition	16%
Tire pressure check	85%
Fleet inspections	66%
Tire tracking	75%
Tire inventory management	78%
Scrap analysis	41%
Casing management	43%
Preventive tire maintenance	76%
Alignment	28%
Recycling	30%

Source: Tire Buying Trends Survey 2015, Newcom Trucking Group Research

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