

» Penske started utilizing a voice-directed preventive maintenance process in 2017, which vocally guides a technician through the inspection process. The process is designed to improve inspection accuracy and consistency while eliminating paperwork. Since it is handsfree, it also improves technician safety.

Photo courtesy of Penske



Secrets of fleets with **STELLAR SAFETY RATINGS**

[SAFETY & HEALTH]

Establishing a true safety culture requires accountability, empowerment, and airtight communication — as well as a clear understanding of the common causes of roadside inspection violations.

By Gregg Wartgow

An initiative to update the way fleets are scored on highway safety was expected to be completed by the end of 2020. Given the sudden turn of events with COVID-19, it appears as though that effort is stalled. Regardless, it's always a good time for fleets to take a look at their safety protocols and determine if they are doing everything necessary to avoid safety inspection violations. Compliance, Safety, Accountability (CSA) is the Federal Motor Carrier Safety Administration's (FMCSA) program that holds fleets and drivers accountable for safety. A fleet's safety information comprises a combination of roadside inspection data, accident history,

and the results of any safety investigations that were necessary. A fleet's safety ratings appear online through the FMCSA's Safety Measurement System (SMS), which is updated monthly.

The effort to update the rating methodology seeks to shift emphasis from "crash risk" to "safety culture." It makes sense. Crash risk is nearly impossible to predict. Safety culture, on the other hand, speaks to all of those recurring attitudes and behaviors that help reduce the risk of an accident or other safety violation.

Maintaining trucks is a cornerstone of any approach to building a safety culture. Just look at roadside inspection data from one year ago.

The U.S. and Canada Commercial Vehicle Safety Alliance (CVSA) International Roadcheck, conducted June 4-6, 2019, resulted in 45,568 inspections using a 37-step procedure. Roughly 21 percent of those vehicles were placed out of service. Among the most common vehicle conditions were:

- ➔ Braking systems – 28 percent
- ➔ Tires and wheels – 19 percent
- ➔ Lighting – 11.5 percent

Many inspection failures can be controlled by the fleet maintenance operation. First of all, fleets must make it clear that drivers must take the time to complete their pre- and post-trip inspections and communicate thoroughly with the maintenance staff.

"With the technology we are using, we have a maintenance program that tracks both mileage and time for the purpose of keeping fleets current with their inspections," says Larry Olson, director of field maintenance for the West Region at Ryder, a provider of transportation and supply chain management products. "There are also inspection requirements based on the component and specific OE. To stay out of trouble in inspection stations, fleets then need a combination of good maintenance at the right intervals and a good communication process with their drivers on their condition reports so technicians can stay on top of even minor issues."

Brakes

"Since brakes are one of the hardest-working components on a vehicle and have the highest safety ramifications, they are one of the top maintenance-related violations," says Tony Ryan, technical services and training manager for SAF-Holland, a provider of brakes, axles, fifth wheels, tire management products, and more.

Ryan says following the brake manufacturer's maintenance and service intervals is the first step to successfully passing on-highway inspections. Additionally, brake product training for technicians should always be on a fleet manager's agenda. Another priority should be the establishment of standard operating procedures that confirm successful braking system repairs.

"Look for the root cause of the issue, not just the symptom," Ryan recommends. "If it's a brake wear issue, don't just change the brake pads and linings; inspect them to confirm what is causing the issue, such as air leaks, leaking chambers, faulty valves, kinked air lines, calipers, et cetera. I can't tell you how many call-outs I've been to

» When inspecting brakes, it's important to look for root causes of issues, not just symptoms. For example, brake wear could be caused by air leaks or kinked air lines, among other things. Pictured is SAF-Holland's latest air disc brake, the P89.

Photo courtesy of SAF-Holland



where the customer claimed a faulty brake caliper, only to find out that all four wheel ends have the same wear patterns — and the root cause is a controlling issue from something else further upstream."

Ryder's Olson says brakes are one of the more common points of inspection failure for multiple reasons:

- ➔ Air lines between the tractor and trailer are subject to things like jackknifing
- ➔ Air leaks can emerge at any time, especially in rough operating environments
- ➔ Moisture can get into air lines

"We do a lot around regular program maintenance to help prevent any buildup of water, oil, or sludge," Olson says. "But when operating large fleets, things can still happen."

For Olson, analyzing past failures is a big part of creating a safety culture.

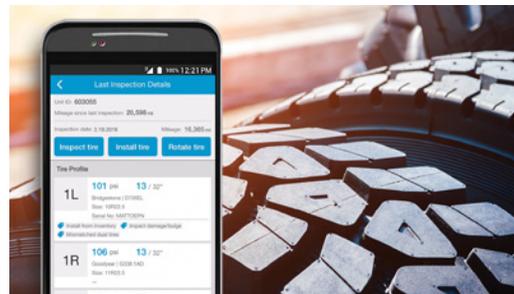
"We look at common items which are then designed into our inspection forms," Olson explains. "By paying attention to the details of past failures, you can hopefully catch the next failure prior to it happening. A driver or technician could catch it on a pre- or post-trip inspection. You could also establish a mileage interval where historical data suggests a failure is about to happen."

Lighting

A good example of where historical data can come into play when improving safety is with a truck's lighting system.

"Fleets must track what shows up as failures, and then try to determine if certain vehicles or components have repeated issues," Olson says. "That can be designed into the inspection process at certain intervals. A plug or other component could be taken apart and inspected at a certain interval."

Lighting is perennially one of the top areas of maintenance-related violations.



» Rhombus TireAnalytics from Dana is a mobile app that allows technicians to ditch pen and paper when inspecting tires, recording measurements, and capturing notes. The result is faster, more accurate data that allows fleets to make more timely decisions.

Photo courtesy of Dana

Maintaining trucks is a cornerstone of any approach to building a safety culture.

"I've been doing this a long time," says Chuck Pagesy, director of safety for Penske Transportation Solutions, which includes truck leasing and rental, logistics, transportation systems, and vehicle services. "Year in and year out, 25 to 30 percent of the maintenance-related CSA violations [are] inoperative or defective lighting. It's important to catch as many lighting-related issues as possible during pre-trip inspections."

The U.S. Department of Transportation (DOT) requires a heavy duty trailer to be inspected every 12 months. But some lighting companies recommend a more frequent schedule.

"With an average service life of only 2,500 hours, fleets should replace any incandescent lighting with LED lamps which provide a service life of 100,000 hours," says Kyle O'Dell, director of engineering at Optronics International, a manufacturer of vehicular safety lighting products and accessories. "The use of LED lamps alone will significantly reduce the chance of lighting failures."

O'Dell says fleets should then follow a four-point approach as a foundational method to conquering safety inspections:

- ➔ Start corrosion protection on the day the fleet takes possession of a vehicle
- ➔ Train drivers on proper pre-trip inspections
- ➔ Train everyone on the team to look for corrosion
- ➔ Stick to a regimented preventive maintenance (PM) schedule based on OE and TMC recommendations

According to Al Anderson, vice president of sales and marketing for Peterson Manufacturing, there are several levels on which lighting systems can fail. Older vehicles that still use incandescent lighting see a combination of bulb burn-out and corrosion in the wiring harness. On newer vehicles with LED lighting, many have an inadequate harness-to-light connection, which allows corrosion into the harness. Peterson Manufacturing is a producer of vehicle safety lighting, mirrors, reflectors, antennas, and related products.

“The best defense is a good offense,” Anderson says. “Specifying the most secure harness-to-lamp connection possible, which we believe to be an AMP connection, and keeping moisture out of the system are the best things to do. Routing and clipping of wiring harnesses is also important.”

Anderson points to one other essential best practice: Technicians must avoid probing wires with a test light.

“Even those small intrusions through wire insulation can allow moisture into the harness and start the corrosion process,” Anderson says.

Tires

Tire issues are also high on the list of common roadside inspection violations.

“Most of the time, tires are the first component a law enforcement officer will look at when inspecting a vehicle,” says Paul Tatarchuk, business-to-business network special services coordinator at Michelin North America, a leading tire manufacturer.

Low tread depth and damaged sidewalls can be prevented by good pre-trip inspections. “It is pretty rare for tires to wear out on one trip,” Pagesy relates.

As important as the pre-trip inspection is, do not overlook the importance of the post-trip inspection.

“When drivers can finish their routes and immediately report any service issues, technicians have time to get that vehicle ready to go out the next morning,” says Tony Popple, senior director of maintenance vision, Penske Truck Leasing, a provider of leasing and maintenance services to fleets.

According to Michelin’s Tatarchuk, fleets that are on top of things have a tire policy that is clearly communicated to drivers.

“The driver is the focal point,” Tatarchuk says. “The driver is responsible to perform a walk-around inspection before the unit leaves on a trip, so preventive maintenance really starts with the driver. Additionally, drivers should be expected to know minimum fleet tread depth and recommended steer, drive, and trailer inflation pressure.”

Drivers should feel comfortable reporting “bad news” with their vehicles.

“Drivers must be assured that they are not going to be chastised for stopping a unit from leaving that needs attention,” Tatarchuk says.

Successful fleets have technicians who periodically walk the yard to look at tires. They also take advantage of new tools that improve their tire management skills.

For example, Rhombus TireAnalytics from Dana is a cloud-based platform that provides insights into tire condition.

“Customers are reporting up to a 49 percent reduction in unscheduled tire repairs by using Rhombus,” says Chuck Avery, national sales manager of applications for Dana, a leading drivetrain and propulsion systems provider. “Real-time alerts as a truck is being inspected allow for proactive responses to issues. Feedback from customers has shown that these notifications have definitely helped with regulatory compliance.”

Rhombus TireAnalytics is a mobile app that allows technicians to ditch pen and paper when inspecting tires, recording measurements, and



» Newer vehicles with LED lighting must have an adequate harness-to-light connection to help prevent corrosion from entering the harness.

Photo courtesy of Peterson Manufacturing

Analyzing past failures is a big part of creating a safety culture.



» Michelin Tire Care offers various program solutions to help fleets identify and address tire issues before they lead to safety risks. Tire inspections include the six critical factors that lead to poor tire performance, including mismatched tread depths. The 2020 North American standard out-of-service criteria from the CVSA says tires on the front steering axle must have 4/32" tread when measured in any two adjacent major tread grooves at any location on the tire.

Photo courtesy of Michelin

capturing notes. And since everything is done on a smartphone, technicians can also take photos. The result is faster, more accurate data that allows fleets to make more timely decisions.

Additionally, by analyzing historical data and failure patterns, Rhombus can help fleets adopt more of a “predictive maintenance” approach that can help thwart roadside inspection violations and

downtime. For instance, utilizing a fleet’s actual historical tire data, Rhombus can automatically calculate miles per 1/32” of tread, which could help the fleet predict when other assets could see tire failures.

Whatever the case, Rhombus TireAnalytics can be another tool in a fleet’s tire management toolbox.

“I was skeptical when told we would probably trigger alerts on 25 percent of our units,” says Bryan Larkin, director of Idealease at RWC Group, a truck lease and rental company with a fleet of more than 45,000 trucks, tractors, and trailers. “But on our first day [using Rhombus], we triggered alerts for half the units we’d inspected. That confirmed we had more extensive issues than we realized.”

Tire issues themselves can be just the tip of the iceberg at a roadside inspection.

“Out-of-service violations that pertain to tires are so easy to spot that they can be considered the low-hanging fruit when a vehicle is inspected,” Tatarchuk says. “Authorities then know there are undoubtedly other things that are not acceptable with the tractor-trailer that warrant a closer look.”

Stellar communication solidifies the safety culture

In the unfortunate event of being issued a CSA warning or fine, SAF-Holland’s Ryan says a fleet can turn it into something positive.

“Obviously, the source of the warning or fine has to be rectified,” he says. “But it should also serve as a learning opportunity for fleet managers. They need to ask: Does this affect other vehicles in my fleet? What did we miss? What can we do better?”

A safety culture results in a mindset change.

“We don’t train fleets to just pass safety inspections,” Ryan says. “We train fleets to make their vehicles safe, allowing technicians to sleep at night, knowing there won’t be a critical safety issue after one leaves. This includes functionality checks of components such as caliper slides and adjusters, rather than just basic visual inspections.”

Penske’s Popple says it is important to develop PM programs around the specific vehicles in the fleet. Yes, the common DOT items are essential. Beyond that, the vehicle’s specific make and

model, as well as componentry, need to be examined with respect to recommended maintenance intervals, as well as historical failure data the fleet has experienced with similar vehicles.

With any sound PM program, the key continues to be people.

“Technicians need the proper training, the proper tooling, and the proper time to complete the service,” Pople says.

Penske started utilizing a voice-directed PM process in 2017. Leveraging technology from Honeywell, this process vocally guides a technician through the inspection process. The process is designed to improve accuracy and consistency while eliminating paperwork. Over the past few years, Penske Truck Leasing technicians have conducted 3.7 million voice-guided inspections.

“This process has enabled us to provide the right maintenance on the right vehicle at the right time,” Pople says. “For the longest time in this industry, the PM forms were all the same, whether you had a brand-new vehicle or a vehicle that was five years old. Our voice-guided process allows us to create what we call a dynamic PM. For example, on a new vehicle, we might want to look at things like wire routing and hose clamps.

“For an older truck, our analytics might point to a propensity for rollers to start failing at the 32-month mark,” Pople adds. “We could build that into our inspection process at the 28-month mark. If the technician answers the voice-guided inspection in a certain way, a job to replace those rollers could be triggered so we remain on a proactive footing.”

Like any aspect in life, communication is key.

“Sometimes you can do that electronically, and sometimes you can still use paper if you have people who are intimidated by technology,” Penske’s PAGESY relates. “But technology has helped us foster communication between the drivers and our shops. If a driver notices a problem with his truck, he can go to his onboard device, input that note which is sent to our system, and our system then sends a note to our customer [fleet].”

Ryder’s Olson says the most critical items in establishing a safety culture are communication and expectation.

“Anytime a fleet is hit with a safety violation, the service team must look at the inspection and preventive maintenance processes and fine tune them accordingly,” Olson says.

Every fleet is different in terms of makes,

models, and operating environment, as well as all of the idiosyncrasies that go with that.

“The only way to keep on top of things is to maintain open communication between drivers and the repair facilities,” he adds. ■

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