



White Paper - Maintenance

# Reactive to Preventive Maintenance



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# Reactive to Preventive Maintenance

Every trucking fleet aims to avoid unplanned vehicle downtime. Yet no matter how safety-conscious a carrier strives to be, it is simply impossible to completely avoid equipment maintenance and repair issues. However, the many impacts these inevitable problems have on your entire operations can be blunted with the aid of technology and advanced planning.

In the past, fleets operating without telematics usually reacted in triage mode—after a vehicle has already broken down. Paperwork was generally handled manually, and the result was a maintenance program that was highly unpredictable, extremely costly, and potentially a safety risk to drivers. Today, technology is available to help trucking fleets monitor critical information in real time, and better leverage long-term data trends to make informed decisions.



## Tech connects fleets to preventive maintenance

Modern commercial vehicles are impressive machines, with capabilities considered unimaginable just a few years ago. It is not a stretch to view today's heavy-duty trucks as "rolling computers," since they capture almost infinite amounts of data and diagnostic codes. This includes details on the overall health of the vehicle and about the driver's performance.

However, all the information flowing off a truck is useless if you are not able to zero in on the most critical issues and act on them in a timely manner. Conversely, when these trucks are equipped with the right technology, such as the ISAAC solution, the result is a fleet running at peak performance. That means less downtime, higher fuel economy, better safety ratings, lower insurance costs, and more on-time deliveries.

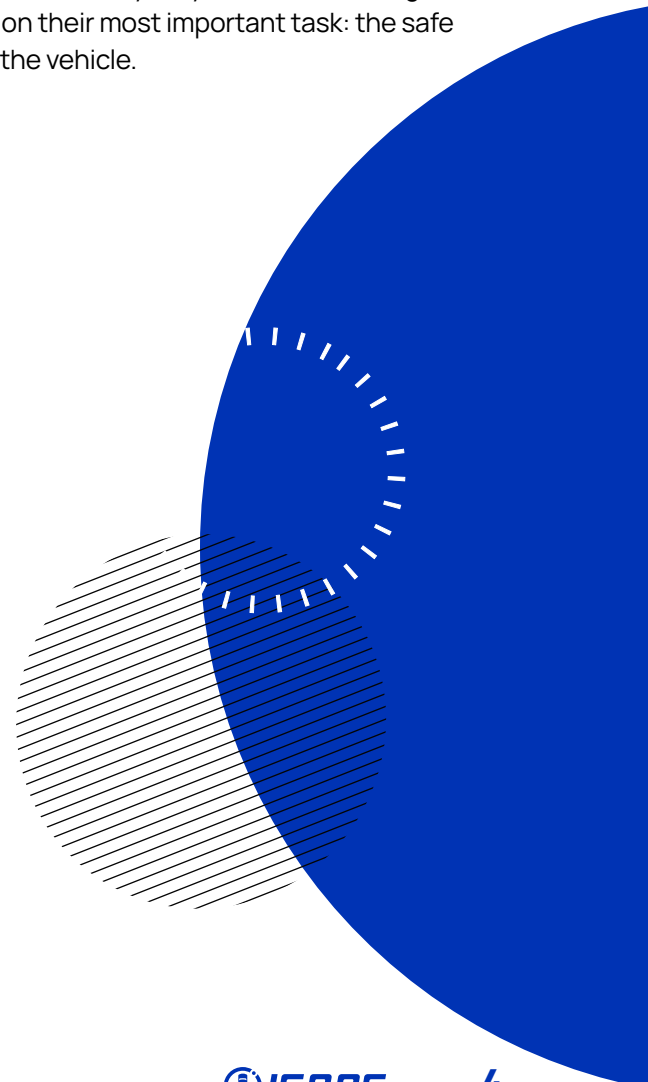
Transforming your maintenance program from a reactive to a proactive approach that anticipates vehicle requirements helps you avoid preventable equipment failures and costly emergency repairs. In addition to getting driver and technician feedback, maintenance managers are immediately notified of problems through the ISAAC solution and receive help prioritizing fault codes.

## Data helps fleets identify vital maintenance trends

Besides more rapidly uncovering emerging vehicle problems, data lets you target the vehicles most in need of service, and identify maintenance trends—both fleetwide, or for individual vehicles—which minimizes unplanned maintenance activities and catastrophic failures.

Telematics can also help create the right data-driven maintenance schedule for your fleet, based on the actual utilization of vehicles. This technology also helps prevent the over-maintenance of lightly used vehicles while supporting proactive repairs and upkeep. It leads to faster repairs, while ensuring regulatory compliance and smoother roadside inspections.

In short, the right technology keeps the wheels turning and removes uncertainty for your drivers, letting them concentrate on their most important task: the safe operation of the vehicle.





# Meet the ISAAC Smart DVIR

**While your maintenance staff is ultimately responsible for keeping equipment in optimal condition, drivers play a critical role in identifying potential equipment problems during pre- or post-trip inspections.**

Smart driver vehicle inspection reports (DVIRs) from ISAAC sync to a fleet's back-end systems and alert managers to any potential problems in real time. This ensures minor issues are fixed before they turn into more significant problems. In Canada, drivers are required to complete and file a DVIR each day. U.S.-based drivers are also mandated to complete a DVIR, but they do not have to be formally filed if no defect is found.

ISAAC's Smart DVIR allows drivers to fill out their reports with only a few clicks on a tablet. Fleets can customize inspection points in a driver's electronic logging device (ELD). This ensures all points are covered and saves drivers from having to use a paper list.

Fleets that use ISAAC's customizable Smart DVIR report are seeing a significant increase in the number of notifications from drivers of possible equipment issues. With ISAAC's tablet, drivers can transmit photos with comments directly to the home office to show the maintenance team exactly what is going on with the vehicle and the issue at hand.

With this real-time information, your maintenance team can immediately begin to diagnose the severity of the problem. Management can decide, with direct

input from the maintenance team, whether to have the driver pull into the nearest truck stop or complete the delivery and then return to a terminal for maintenance. Dispatch can also quickly make any required delivery alterations, while technicians can prepare for the vehicle's arrival to minimize overall downtime.

Similarly, if the driver needs to declare an en route defect because of a problem discovered while on the highway, the system ensures that the home office is notified right away. Of course, with a preventive maintenance program in place, drivers will file defect-free vehicle inspections most of the time. As soon as a report is filed by the driver, managers can receive a notification the task has been completed. Likewise, the ISAAC solution automatically flags vehicles that are missing inspection reports



## Prompt repairs anywhere, anytime

A breakdown far from home is particularly problematic for fleets. For starters, there's the cost of downtime, which can vary from \$400 to \$800 a day when a truck is undergoing repairs at home in your shop. Those figures can shoot up dramatically when the truck is down far from its home base.

Industry research has found that fleets with best-in-class maintenance practices have lower costs than competitors. By performing regular maintenance—and catching small problems before they grow larger—they are able to cut the frequency of emergency repairs and prolong the life of vehicles.

This is of growing importance to the many fleets holding their equipment longer due to lingering supply shortages related to the COVID-19 pandemic. Maintenance costs tend to increase during a vehicle's lifetime, as parts begin to break down more frequently. But vehicles that receive consistent and high-quality maintenance, guided by telematics, are sure to have a lower total cost of ownership.

Of course, the headaches that come with unplanned downtime are more than just financial. Drivers can often feel forgotten and frustrated when they've experienced a breakdown while out on the road. And that's a risky proposition in a time of an unprecedented driver shortage and high turnover rates.

Telematics have changed that dynamic considerably. Today, drivers stranded far from home can count on fast support from their fleet, nearby dealers and even the truck manufacturer itself when a breakdown occurs. Real-time updates can be transmitted through the ISAAC tablet, and keep drivers connected throughout the repair process, no matter where they are stranded.

## Added safety: wheel retorque reminders

Another safety-focused maintenance advantage of the ISAAC solution is the ability to issue automatic wheel retorque reminders. This can save lives and avoid a potential nuclear verdict from an at-fault accident if there is a wheel separation on the road.

This free feature electronically records tractor and trailer wheel changes, and the in-cab ISAAC tablet displays a reminder after traveling a specified distance. Additionally, mechanics and safety managers can manage wheel retorquing across the entire fleet directly in the ISAAC InRealTime web portal or via their integrated maintenance system.

Wheel retorquing is particularly important during the winter months, when statistics show a higher number of wheel separation incidents. Colder temperatures cause fasteners to expand and contract more frequently, while snow and ice built up on the wheels could mask warning signs. Even in cases where trailer wheels are not equipped with odometers, the solution can calculate the trailer's piggy-back distance based on the distance the tractor has traveled.





# Breeze Through Roadside Inspections

**It's hard to imagine anything truck drivers dread more than unexpected roadside inspections. Much of this concern has to do with peace of mind: could they have missed a problem during their most recent pre-trip inspection? Or could a technician have delayed repairing a minor issue that a law enforcement officer will now notice?**

Drivers and fleet managers using ISAAC's customizable DVIR can increase the success rate of roadside inspections. Inspectors who see the ISAAC 'seal of compliance' on the side of a truck have a clear indication that your fleet's solution complies with regulations.

When an inspection is required, drivers can electronically transfer their ELD records or show them on screen using the ISAAC tablet, making it faster and easier to show compliance and get back on the road.



# Take Your Fleet Maintenance into the Future

**Looking into the future, one goal of telematics will be to identify tractor-trailers that need replacement parts or maintenance work before actual problems materialize. Advances in predictive maintenance are slowly being accomplished through artificial intelligence (AI) and the better analysis of existing data.**

Despite advances on the horizon for efficient fleet maintenance, it would be a mistake to wait until some future date to invest in technology. A new era in maintenance is already here and the benefits and capabilities of current technology are only in the introductory stage. The advantages offered by self-diagnosing vehicle components, combined integrated telematics, a Smart DVIR, and real-time communications are impossible to ignore.

ISAAC is 100% dedicated to trucking and understands the needs of your business, your maintenance department, your technicians, and especially your drivers. And ISAAC is proud of its reliable, easy-to-use solution that is helping more and more fleets modernize their maintenance programs.





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we **simplify**  
trucking

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