

Azuga Fleet Maintenance



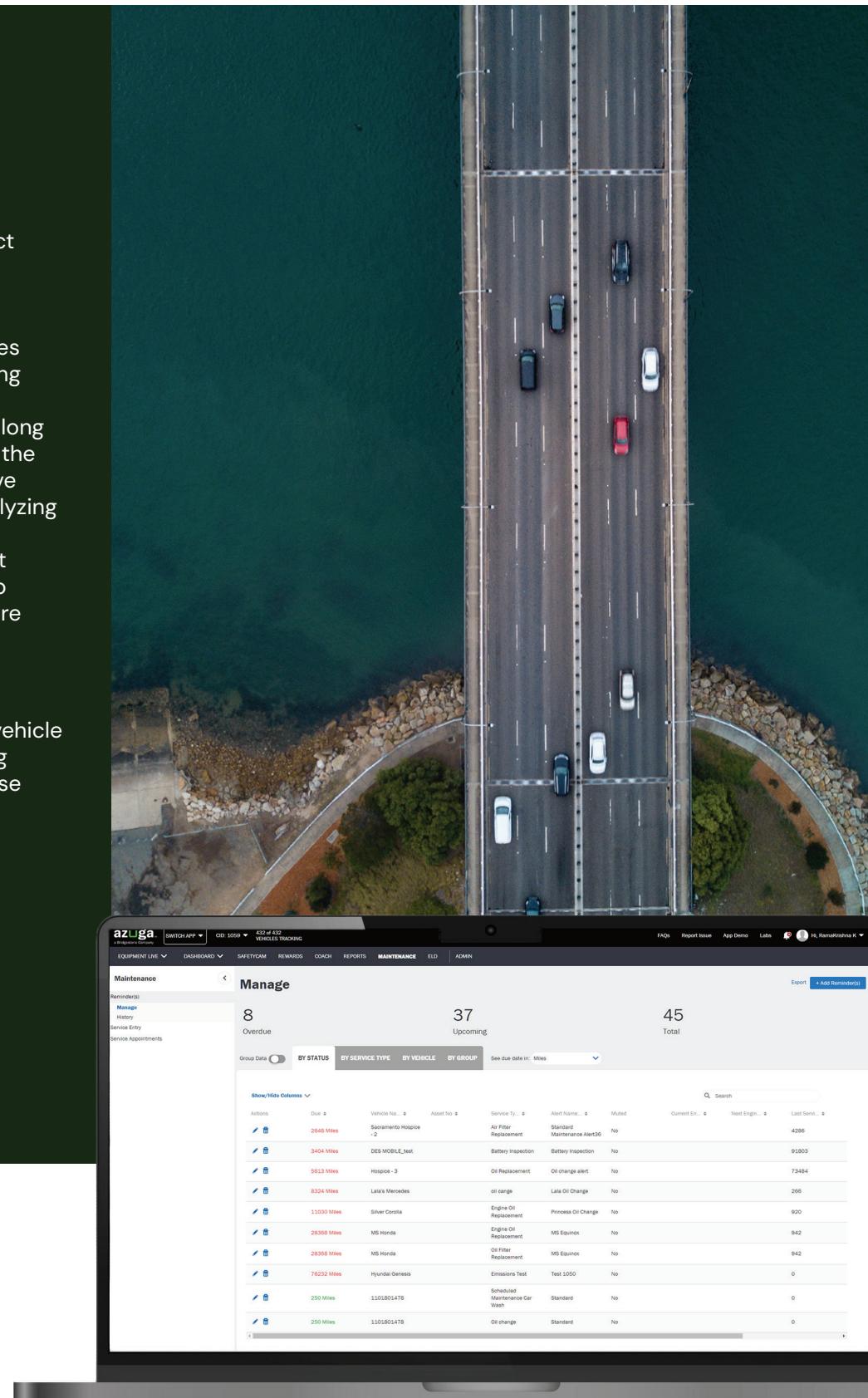
azugaTM
a Bridgestone Company

Summary

The fleet condition has a direct bearing on its operational efficiency. It is a challenge for any fleet manager to ensure that fleet maintenance receives enough attention while avoiding cost over-runs and wrong investments. Planning goes a long way in curbing costs – hence the current emphasis on predictive maintenance. Periodically analyzing maintenance data and acting in time on alerts from the fleet tracking solution can also help reduce costs and develop more fleet efficiencies.

The right approach to fleet maintenance ensures longer vehicle life and continuous monitoring of vehicle health. In this concise discussion, we look at:

- a) Accident protection**
- b) Fuel savings**
- c) Breakdown cost**
- d) Aging fleets**
- e) Simple checks every day**



The image shows an aerial view of a bridge spanning a body of water, with several cars visible on the road. Below the bridge, there is a rocky shoreline and some greenery. The screenshot of the azuga software interface shows the 'Maintenance' section. At the top, it displays '8 Overdue', '37 Upcoming', and '45 Total'. The interface includes filters for 'BY STATUS', 'BY SERVICE TYPE', 'BY VEHICLE', and 'BY GROUP'. A table below lists maintenance tasks with columns for Actions, Due, Vehicle Name, Asset No, Service Type, Alert Name, Muted, Current Eng., Next Eng., and Last Serv. The tasks listed include various vehicle services like oil changes, battery inspections, and engine oil replacements for different vehicles and asset numbers.

| Actions | Due | Vehicle Name | Asset No | Service Type | Alert Name | Muted | Current Eng. | Next Eng. | Last Serv. |
|---------|-------------|-----------------------|----------|--------------------------------|------------------------------|-------|--------------|-----------|------------|
| | 2648 Miles | Sacramento Hospice -2 | | Air Filter Replacement | Standard Maintenance Alert36 | No | | | 4286 |
| | 3404 Miles | DES MOBILE_test | | Battery Inspection | Battery Inspection | No | | | 91803 |
| | 5813 Miles | Hospice -3 | | Oil Replacement | Oil change alert | No | | | 73484 |
| | 8324 Miles | Lala's Mercedes | | oil change | Lala Oil Change | No | | | 266 |
| | 11030 Miles | Silver Corolla | | Engine Oil Replacement | Princess Oil Change | No | | | 920 |
| | 28368 Miles | MS Honda | | Engine Oil Replacement | MS Equinox | No | | | 942 |
| | 28368 Miles | MS Honda | | Oil Filter Replacement | MS Equinox | No | | | 942 |
| | 76232 Miles | Hyundai Genesis | | Emissions Test | Test 1050 | No | | | 0 |
| | 250 Miles | 1101801478 | | Scheduled Maintenance Car Wash | Standard | No | | | 0 |
| | 250 Miles | 1101801478 | | Oil change | Standard | No | | | 0 |

Avoid losses

Drivers are not always at fault for accidents.

It is important to have a maintenance plan in place to:

- a) to avert equipment failure such as an engine fault or failing brakes
- b) ensure the safety of your drivers and others on the road

Many accidents are preventable with attention to maintaining proper vehicle health.

Cargo could be in peril too. An accident can cause extensive damage to your customers' goods. Besides having to compensate them, your reputation takes a hit.

Proactive vehicle maintenance improves safety and reduces risk of:

- **Unplanned Outages**
- **Vehicle Safety**
- **Extraordinary Expenses**
- **Customer Dissatisfaction**



Fuel savings

Vehicles that operate more efficiently save on fuel, reduce fleet operating cost, and can help achieve the targeted number of customer visits in a day.

- Low tire pressure can risk 3% in fuel efficiencies
- According to the Department of Energy, replacing an oxygen sensor can improve gas mileage as much as 40%
- Alternators work harder, requiring more gas when battery cables are corroded
- By using the manufacturers recommended oil grade, cars run more efficiently over time



Off-the-road cost

A quality preventive maintenance program ensures your equipment does not malfunction during the intervals of daily business. There are other business reasons why commercial fleets must be right on top of their vehicle maintenance.

- Disruption or delay in service due to a vehicle problem hampers efficient delivery of products and services
- Frequent disruptions blunt your edge in customer service
- Emergency maintenance (repairs) can cost 3–9 times as much as scheduled maintenance.
- Unplanned vehicle down time/mechanical incidents can increase your vehicle maintenance expenses by 53%
- Reactive maintenance also leads to higher production losses, and 'good enough' fixes that do not address the root problem

There are other important decisions related to maintenance. Through a detailed record of maintenance activities it is easier to assess when to opt for replacing a vehicle or a major component. In the absence of such a record, your fleet could be carrying out uneconomical repairs.

Maintenance records also help when you want to sell a vehicle. If you have a record of when each maintenance and repair was carried out along with the odometer reading, it's informative and adds value for the buyer.

Azuga Maintenance lets you set up service reminders based on three parameters: engine hours, mileage, and days.

Regular alerts include :

- **Engine light notification**
- **Any off-hours use of vehicle**
- **Reminder emails about scheduled maintenance**
- **Reports on engine status and other diagnostics.**



“ Predictive maintenance keeps fleets highly available and running, providing service, and generating revenue. It helps fleets keep vehicles utilized for longer without buying a new truck. Managers now have the ability to be proactive instead of reactive within their fleets. The ability to track a vehicle's health, location, driving habits, and fuel usage are well-known.

A proactive approach also helps in scheduling the work around periods of lower utilization for drivers, calendaring it, and also for extracting deals and discounts.”

Ananth Rani
CEO, and Co-Founder, Azuga.



Aging fleets

Preventative maintenance is even more important for fleets with a larger number of older vehicles. Supplementing to the regular schedule can reduce overall downtime in the weeks or months ahead.

Maintenance planning needs to be suited to the fleet's current status and level of operations, and should not be based on some general averages and estimations. You can set a custom Azuga alert on aging vehicles, based on odometer mileage or apply other triggers. Other highly useful Azuga alerts are the daily emails on any DTCs (Diagnostic Trouble Code) seen.

The frequency of DTCs can help you make a decision about a particular vehicle. You can spot engine trouble as soon as it happens, giving your team ample time when an issue arises.



**Simple
checks
every
day**

Drivers tend to neglect to do a post-trip inspection. This helps identify issues before they become serious. Before and after a trip, they should look at the lamps, brakes, tires, steering axle, fluid levels, suspension, and the power train. Regular checks are important for safety and also help in controlling maintenance costs.

- Assess your fleet's actual maintenance needs based on its usage, composition, and age
- A rigorous schedule of inspections and timely repair is necessary for the fleet's efficiency
- Mileage drops by about half a percent when a single tire's pressure is short by 2 psi. Over all four tires, it adds up to a significant reduction.

Fleet managers recognize that a powerful maintenance module is an integral part of any complete fleet management suite.

About Bridgestone

Nashville, Tennessee based Bridgestone Americas Tire Operations is the U.S. subsidiary of Bridgestone Corporation, the world's largest tire and rubber company offering a wide range of Bridgestone, Firestone and associate brand tires. BATO maintains wholesale and original equipment sales operations across a broad line of products, including passenger, light truck, commercial truck and bus, agricultural, motorcycle, kart and off-the-road tires.

Additional US subsidiaries include Bridgestone Retail Operations which operates the largest network of company-owned automotive service providers in the world – nearly 2,200 tire and vehicle service centers across the United States – including Firestone Complete Auto Care, Tires Plus, Wheelworks and Hibdon store locations. Bridgestone authorized dealers consist of independent tire retailers that are authorized to sell and service Bridgestone or Firestone products. BATO's Commercial Solutions Group also has an extensive dealer network that also includes Truck, Bus, Radial Division. In summary the Bridgestone network consists of approximately 5,400 service locations for tire, automotive and fleet solutions.

Below is a complete list of links to our products for Commercial, Retreads and Consumer tires.

Bridgestone Brand

Alenza, Blizzak, DriveGuard, Dueler, Ecopia, Potenza, Turanza
Bridgestone Consumer product
website: <https://www.bridgestonetire.com/>
Bridgestone Commercial product
website: <https://commercial.bridgestone.com/en-us/index>

Firestone Brand

All season, Champion, Destination, Firehawk, Transforce, WeatherGrip, Winterforce
Firestone Consumer product
website: <https://www.firestonetire.com/>
Firestone Commercial product
website: <https://commercial.firestone.com/en-us/index>

Bandag Retread

website: <https://www.bandag.com/en-us/index>

About Azuga

Azuga, a Bridgestone company, is a leading global connected vehicle platform, helping our customers turn data about vehicles and their use into intelligence that improves operations and safety while reducing costs and risk. Azuga provides reliable end-to-end solutions for commercial fleets, government agencies, insurance companies and automotive industry suppliers, encompassing hardware, the Azuga One platform, award-winning fleet applications and data analytics. Azuga is headquartered in Fremont, California.

Our award-winning Azuga Fleet solution is used by thousands of customers –from the small fleet of one or a few vehicles up to several thousand—and is lauded by our customers for its ease-of-use, robust features and affordable pricing.



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