



AUTOMOTIVE ENGINEERING

FACT SHEET



Preventive Maintenance

BACKGROUND & METHODOLOGY

A leading provider and pioneer in roadside assistance since 1915, AAA serves over 55 million members and services nearly 30 million roadside assistance calls every year, making it the largest roadside assistance provider in the world. Data related to roadside assistance is collected and analyzed in an effort to better understand how to provide value to our members. The data in this research report represents approximately 29 million roadside assistance service calls during the 2014 calendar year.

Roadside breakdowns are largely avoidable with preventive maintenance, however AAA research found that more than one third of Americans skip or delay vehicle service or repair, leaving their vehicles more vulnerable to roadside trouble.

To understand how proper maintenance prevents vehicle breakdown, AAA pursued three lines of inquiry:

1. What are the top reasons members contact AAA for roadside assistance?
2. What vehicle maintenance can be performed to prevent breakdowns?
3. Do American drivers currently perform enough routine maintenance on their vehicles?

KEY FINDINGS

- In 2014, the majority of AAA roadside assistance calls (17 million) were due to:
 - 1: **Battery-related issues**, including discharged batteries, corroded or dirty battery terminals and dead batteries.
 - 2: **Flat tires**, including damaged tires and tires with low air pressure.
 - 3: **Keys locked inside the vehicle**. Despite the rising popularity of Passive Keyless Entry systems, AAA has not seen a significant reduction in the number of calls related to drivers being locked out of their vehicle in the last decade.
- **AAA towed more than two million vehicles due to engine-related issues** and nearly 600,000 vehicles for transmission failures. More than 235,000 vehicles were towed due to brake system failures.
- While most modern vehicles are equipped with low-fuel warning lights, **AAA provided gasoline fuel delivery to more than half a million vehicles in 2014.**
- Due to members **misfueling their gasoline-powered vehicle with diesel fuel**, or the reverse, AAA towed more than 13,000 vehicles to repair facilities.

AAA RECOMMENDATIONS

To avoid roadside trouble, AAA recommends that vehicle owners follow their automakers' recommendations for preventive maintenance.

Once your vehicle battery reaches three years of age, have it tested annually by a qualified repair facility.

Tire pressure should be checked at least once a month to ensure proper inflation, which affects tire wear and vehicle handling. Tires should be rotated based on the manufacturer's recommended schedule for your vehicle.

To avoid fuel system damage, and to help prevent running out of gas, always fill your tank when your fuel level drops below $\frac{1}{4}$.

AAA recommends replacing a tire when tread depth reaches $\frac{4}{32}$ ", which can be tested by placing a quarter upside down in the tread groove. If the top of Washington's head is visible, the tire tread is worn below AAA's recommended minimum.

If the "check engine" malfunction indicator light (MIL) is illuminated on the dash, have the issue checked out as soon as possible, rather than waiting for the problem to worsen.

Vehicles equipped with locking lug nuts should have the lug nut key stored with the spare tire or in the glove box so it can be used in the event of a flat tire.

Battery terminals should be inspected for corrosion when the vehicle is in for service and should be cleaned if any corrosion is found.

If your vehicle is equipped with a tire inflator kit in lieu of a spare tire, know where the kit is located and how to use it before trouble strikes.

If planning a road trip, have a multi-point inspection performed on your vehicle by a qualified repair facility, such as a AAA Approved Auto Repair shop.



American Vehicle Maintenance Habits

Among U.S. adults who drive:

- **Two thirds (65 percent) say they have never had their car battery tested** prior to their vehicle failing to start.
- **Six in ten (60 percent) do not check the air pressure in their vehicle's tires at least once a month.**
- **One third (35 percent) have skipped or delayed maintenance or a repair that was recommended by their mechanic** or specified in the factory maintenance schedule.

A survey of AAA Approved Auto Repair and Club-Owned Repair facilities revealed:

- Six in ten (62%) repair shops say more than half of the vehicles they service are **behind schedule for routine maintenance services.**
- Three-quarters (77%) of repair shops estimate **customers who forget or ignore manufacturers' recommended maintenance could save, on average, \$100 or more per visit** if they properly maintained their vehicles.