



ADAS Guidebook

Explaining ADAS features and calibrations to customers and insurers.



Your car sees more than you think.

ADAS is not a single feature: it's a network of sensors and cameras working together, each mounted in a precise location and aimed at a specific zone around the vehicle.

Rear bumper

Cross-traffic and blind spot radars detect vehicles approaching and alert you to hazards.

Windshield

Front-facing camera that read lane markings and monitors traffic ahead.

Wheels

Speed sensors that track individual wheel rotation for stability control.

Steering column

Steering angle sensor that monitors driver input and vehicle direction.

Front bumper

Radar sensors that power emergency braking and adaptive cruise control.

No warning light doesn't mean no problem.

A sensor that's out of calibration won't always trigger a dashboard alert. Routine services can shift a radar's aim by changing the vehicle's ride height, altering what a camera or radar is pointed at, or physically moving the sensor from its original location.



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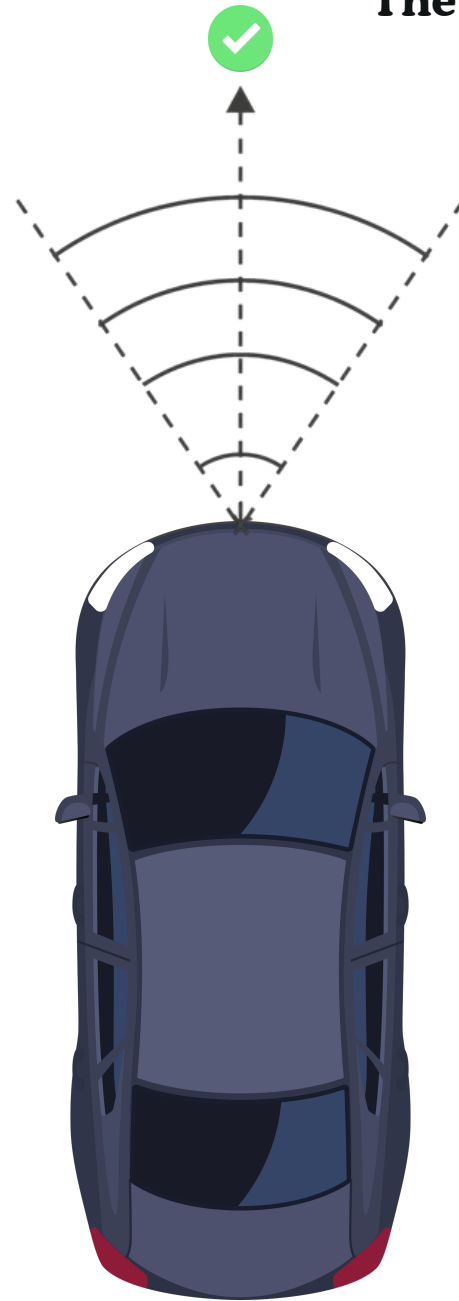


Even **1° of sensor misalignment** means the safety system is not functioning as intended.

At 60 ft, a forward-facing camera or radar that's off by 1° is tracking 1 ft to the side of where it should be. At 180 ft, that error grows to 3 ft off-target, wide enough to place an obstacle in a completely different lane.



Before Calibration



After Calibration

The margin for error is smaller than you'd expect.

At highway speeds, your car has very little time to respond. A sensor that's even slightly off can mean the difference between whether your safety systems prevent an accident or not.

Recalibration restores each sensor to factory specifications, so the measurements your vehicle is detecting are feeding correct information to its safety systems.

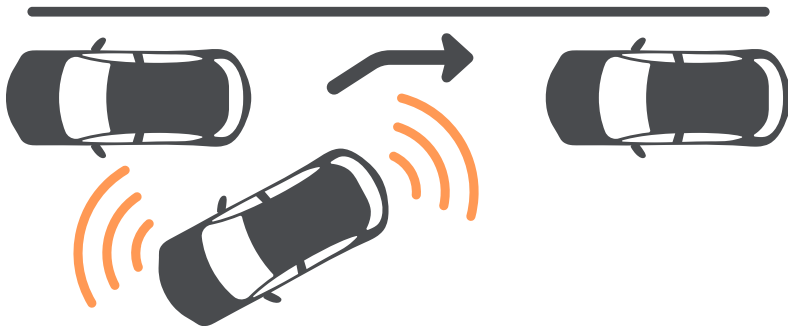


ADAS Explained in 30 seconds or less

Your vehicle has built-in safety features like blind spot warnings and automatic emergency braking that use cameras and sensors. When certain repairs are done, those sensors can shift slightly. Calibration resets them, so they work exactly how they're supposed to, to keep you safe while driving.

Common ADAS features (2013 and newer):

- Automatic Emergency Braking
- Blind Spot Monitoring
- Adaptive Cruise Control
- Forward Collision Warning
- Parking Assist
- 360° Camera Systems



Why do I need this if the car seems fine?

Sensors can be off without any visible signs. The system may appear to work but respond too slowly (or not at all) in an emergency.

Does insurance cover this?

Most policies do. We will document that OEM procedures were followed, which insurers require.

Will this delay when the car gets delivered?

Lightning Auto Service offers same-day calibration and programming service. If anything changes, we'll let you know upfront before we begin.

How do I know if the car is equipped with these features?

We will check your vehicle's specs by VIN and confirm exactly what's on board.



Manufacturer Requirements

Many vehicle manufacturers now require certain safety systems to be checked and recalibrated, even if the repair work seems unrelated to ADAS features, and regardless of any pre-existing warning lights or DTCs. Lightning Auto Service will gladly provide documents **directly from these manufacturers** to support the need for calibration.



Audi / Volkswagen

After alignment or rear suspension adjustment, the following ADAS calibrations are required:

- Front radar
- Rear/360 camera
- Windshield camera



Ford / GM

Windshield camera and front radar calibrations are required after:

- Alignments
- Minor front-end work



Subaru

EyeSight camera calibration is required after the following collisions or repairs:

- Small front-end impacts
- Windshield replacement
- Minor structural or suspension changes



Toyota

Even if no warning lights are present, SafetySense cameras and millimeter wave radar calibrations are still required after:

- Windshield replacement
- Alignments
- Front-end repairs



Honda

Newer models require an OEM-mandated wheel alignment, and these calibrations are required after bumper repairs and collisions:

- Front radar
- Windshield camera



Nissan

After minor collisions and suspension or alignment work, the following calibrations are required:

- Front radar
- Windshield camera



Questions?

Call, text, or email us.
Your customers' safety is our highest priority.



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