

FAQ

Working Safely with ADAS

Advanced driver assistance systems — more commonly known as ADAS — are creeping into even the most basic repairs you are seeing in the shop. In this FAQ with Mitchell 1, you will learn where to go to understand the scope of work required, the space needed to carry out repairs and calibrations, tool and equipment options available, and potential liability issues when your shop takes on these repairs.

Q : 1. Can shops avoid impacting ADAS by just sticking to routine maintenance and repairs?

A : It's getting harder and harder for shops and technicians to avoid working on ADAS. Even regular servicing of an A/C system might require a bumper cover to be removed, requiring a recalibration of the sensors located in the bumper cover.

Many repairs and services that we've been performing forever are now much different because of the ADAS integration. Anything we may do to the vehicle that would change how it "sees" the world around us means we need to be extra careful. Even simple alignments — "set the toe and let it go" — are a thing of the past.

The thrust angle of the vehicle is very important now. It establishes what the ADAS systems are expecting of the vehicle — straight down the road. Accuracy is so important. Off by a little can be off by a lot when you're talking about 60+ feet. Being off by 3-4 degrees on a long-range sensor means the sensor is looking in the adjacent lane instead of straight ahead.

Q : 2. What is the liability to a shop owner if they return a vehicle with improperly repaired or calibrated ADAS systems?

A : Unlike other systems on a car that set codes when they are not functioning correctly, ADAS components don't "know" if they are pointing the wrong way. If they are working, the vehicle presumes they are also pointing in the correct direction. So shops have to be extra careful.

Now more than ever a shop and the tech need to know what they are taking on before starting the job. Anybody can take something apart. Can you put it back together and make it work correctly and safely? That's the real skill. It's critical to look up the vehicle in professional service information and understand if the work that you are going to do might affect an ADAS system. Remember, it's not just high-end cars. Almost every one of today's modern vehicles has some sort of ADAS system on it. When in doubt about potential liability issues, shops should always seek professional legal advice.

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In your shop, at your side

Q : 3. How can technicians know when a vehicle repair or service will impact an ADAS-related system?

A : More and more vehicles have some sort of ADAS componentry on them. The ADAS QuickLink in ProDemand auto repair information software from Mitchell 1 provides instant access to a list of the ADAS systems and components that could be on the car. Selecting the one you think might be affected and looking at the After Repair information will provide the content and the repairs affecting the ADAS component, the procedures to repair them, special equipment required and if any calibrations are needed. See Figure 1.

Components	Jobs Possibly Requiring Calibration	Special Tools Needed	Scan Tool Needed
Anti-Lock Brake Traction Control Module	-	-	-
Blind Spot Information Buzzer	-	-	-
Blind Spot Monitoring System	-	-	-
Blind Spot Sensor	Replace Blind Spot Sensor	Y	Y
Cruise Control Systems	-	-	-
Exterior Lighting	-	-	-
Forward Looking Radar Sensor	Replace Forward Looking Radar Sensor	Y	Y
Headlight	-	-	-
Lane Recognition Systems	-	-	-
Lighting Sensor	-	-	-
Front - Outside View Camera	Calibrate Outside View Camera	Y	Y
	Replace Outside View Camera	Y	Y
Rear - Outside View Camera	Calibrate Outside View Camera	Y	Y
	Replace Outside View Camera	Y	Y
Outside View Camera System	Calibrate Outside View Camera	Y	Y
Park Assist Buzzer	-	-	-
Park Assist Sensor	Replace Park Assist Sensor	Y	Y
Parking Aid Module	-	-	-
Parking Aid Systems	-	-	-
Traction Control Sensor	-	-	-
Yaw/Acceleration Sensor	-	-	-

Fig. 1. The ADAS quick reference in ProDemand provides an overview of ADAS features on the vehicle and instant access to repair and calibration information.

Q : 4. When ADAS will be impacted, where can shops go to understand what work will be required?

A : Once a shop or technician decides they are going to do a job that possibly requires calibration of an ADAS component it's critical to consult their service information, like ProDemand. You simply select the component that will be affected by the work being performed and look at the R&R or After Repair information to see if a calibration is needed. ProDemand puts all this information just a few clicks away in the 1Search™ Plus dashboard of search results.

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Q : 5. If shops are tackling ADAS in house, what kind of space requirements must they meet?

A: This can vary by vehicle and the job being performed. Some vehicles require as little as six feet, but some require more than 20 feet in front of the vehicle. Add in the length of the car and you could need almost 40 feet. There is also a distance of up to 13 feet from left to right. This means a pretty big footprint in the shop. See Figure 2.

Forward Camera ADAS Recalibration: What sort of space do I need in front of and to the sides of a car?

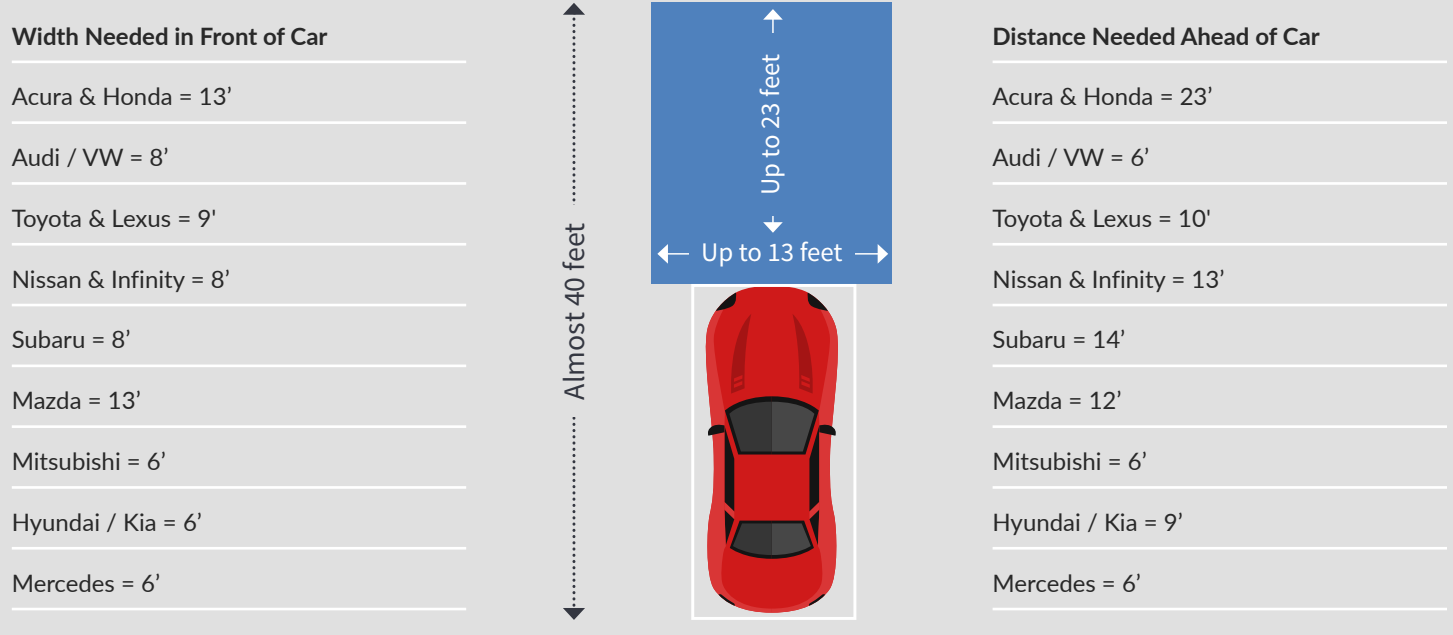


Fig. 2. Space needed to perform ADAS calibrations can vary by vehicle.

Q : 6. What ADAS tool and equipment options are there for shops with limited space?

A: It may take some ingenuity to create space in the shop. Some even perform calibrations outdoors in their parking lot, as long as the surface is flat. There are also mobile ADAS calibration services appearing. And outsourcing is another possibility. Shops that have created dedicated spaces are becoming the go-to shop for other shops in the area. One national body shop chain sends the calibration off to the dealership.

Q : 7. What should shop owners take into consideration when looking to purchase ADAS tools and equipment?

A: First and foremost, how much ADAS-related work are you doing? Some of the target rigs cost more than \$30,000. Your scan tool should have the latest software, as well. It can be considered an investment in your business, but you must consider the ROI. Also, is this the sort of work your technicians can handle, or should you sublet it out?

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