

Understanding the Technology Behind ADAS

[Advanced Driver Assistance Systems](#) (ADAS) aren't new to this industry. To some degree, the technology has been around for decades. Yet I feel like it's promoted everywhere now more than ever. If you scroll through social media, listen to podcasts, or follow industry publications, you'll see that ADAS is one of the hottest topics being discussed right now. Equipment manufacturers are talking about calibration systems and special tools. Techs are discussing resets and calibration procedures. Shop owners are weighing the investment. What makes me curious is that there are still a large number of independent repair shops that have not yet invested in ADAS equipment. Others have mixed opinions about utilizing the technology or have anxiety about whether they can achieve a reasonable ROI. So, why the hesitation?

My take is that many shy away from embracing new technology and equipment because they don't quite understand it the way they would like to.

The automotive industry has been discussing ADAS for years. We cover the systems, the equipment, the special tools, and the procedures. But I don't think we communicate enough about how the systems on the vehicle actually work or how equipment is used to service them. And that's where I believe one of our biggest knowledge gaps exists. Technicians are learning how to complete ADAS resets and calibration procedures in the shop. That's important. But do they understand what the equipment is actually looking at? Do they understand how it takes measurements, communicates with the vehicle, and makes decisions?

Knowing how to follow a procedure is one thing, but understanding the theory behind those instructions is another. These systems aren't just another scan tool function that a tech can click through and move on from. They are far from fundamental. ADAS operations need precision. That's why training is more critical than ever.

Although ADAS equipment started really rolling into bays in the 2010s, I've noticed that some shops today still struggle to find technicians who have already been exposed to or received training in ADAS. If it has been around for that long, why are so many technicians and shops still hesitant to take it on? Part of the answer may circle back to that knowledge gap. I think everyone in the service department would benefit from taking an in-person, hands-on ADAS class. There's something different about physically working with the equipment and incorporating multiple vehicles that need a reset or calibration.

My engines professor from college taught me that if you get your senses involved, it helps you retain the information better. (Since a lot of us industry folks are tactile learners, it definitely checks out.) It truly helps provide more in-depth understanding of what the tools and equipment are doing.

Techs can see how the equipment takes measurements, understand what it's "looking" at in the live plane, and apply that information to what they're doing to the car's ADAS-equipped systems. Learning the differences between static and dynamic resets is also a key learning opportunity. Most importantly, they can understand why taking the time to set up and using precision is non-negotiable. An improper execution of a procedure could potentially create an unexpected over-the-road event or a safety risk.

Training Builds Customer Trust

There's another benefit to ADAS training that we can't overlook—better conversations with customers! When a technician or shop professional is comfortable talking about the technology and features, they can explain it to the customer in a way that actually makes sense to them.

Our customers may have questions about why an ADAS procedure is necessary, what the system does, or why the repair requires additional work after a component has been repaired or replaced. Bridge that gap! Doing so means building trust and lifelong customers.

Technicians and shop employees don't have to know everything about every ADAS system overnight, but understanding the theory of operation and having hands-on experience with the equipment can make all of it feel much less intimidating. Maybe that's one of the biggest hurdles the industry needs to overcome.

The Business Case for ADAS

We know training isn't the only hesitation. Shop owners are also asking whether they should invest in the equipment in the first place. It's a fair question! ADAS tools and equipment are an investment and something to consider when identifying if it makes financial sense for their business.

But there's another side to that equation—if a shop invests, it potentially eliminates the need to sublet the work anymore. Sure, subletting can be a great way to build a network of relationships with other professionals and a support system, but it can also be really inconvenient having to wait to finish a customer's car because you can't get the reset done. Investing also means opening the door to new customers that need those services. It becomes an additional opportunity for revenue back into the business.

"ADAS can be a phenomenal money maker for technicians and a shop once they get past the apprehension of using the calibration equipment and buying the equipment," says James, a technician and instructor.

He adds: "A good technician could make a week's worth of hours in two days pulling body shop tickets."

Not Everyone Is Convinced

The mixed opinions surrounding ADAS aren't just limited to shop owners. Technicians have their own perspective. For example, Kitt, a diagnostic technician, mentioned one of the obvious benefits of ADAS to me. "I like that ADAS can potentially save lives in the event of an emergency. If you aren't paying attention—it will."

While safety is a positive argument for the technology, not everybody trusts it yet.

"I don't trust it fully enough personally to engage it," says Joshua, another technician. "I think most drivers don't fully trust it either, especially after using it a bit. The key is to see how it can be used to make your travel safer."

It's important to understand that you don't have to view ADAS as something that replaces driver inputs; rather, it's trying to be your co-pilot to keep you safe. It also gives technicians the opportunity to expand their skill sets.

Sarah, a parts manager and technician, sees ADAS as that type of opportunity.

"Working on ADAS pushes mechanics into advanced electronics, networking, and software-based diagnostics," she points out. "Better troubleshooting accuracy with live data (camera angles, radar targets, etc.) means you can see exactly what the system sees, making it easier to pinpoint faults compared to older systems."

An Opportunity to Move Forward

As the automotive industry continues to become more electronically advanced, this is part of that evolution. For techs willing to learn, it will help propel their diagnostic skills forward.

It's important for us to question whether we understand the technology well enough to make informed decisions about it. There will always be anxiety and unknowns around equipment costs, workflow, training, and return on investment. Those are valid concerns for anybody, but apprehension shouldn't be the only reason a shop avoids embracing the equipment and the jobs.

Understanding might be the key. When we understand how the systems work, how the equipment thinks, and how important precision and accuracy are, it all becomes less intimidating. When the opportunity is seen, the investment anxiety changes. And when our teams are informed and can translate these technical operations to our customer base, it all starts falling into place.