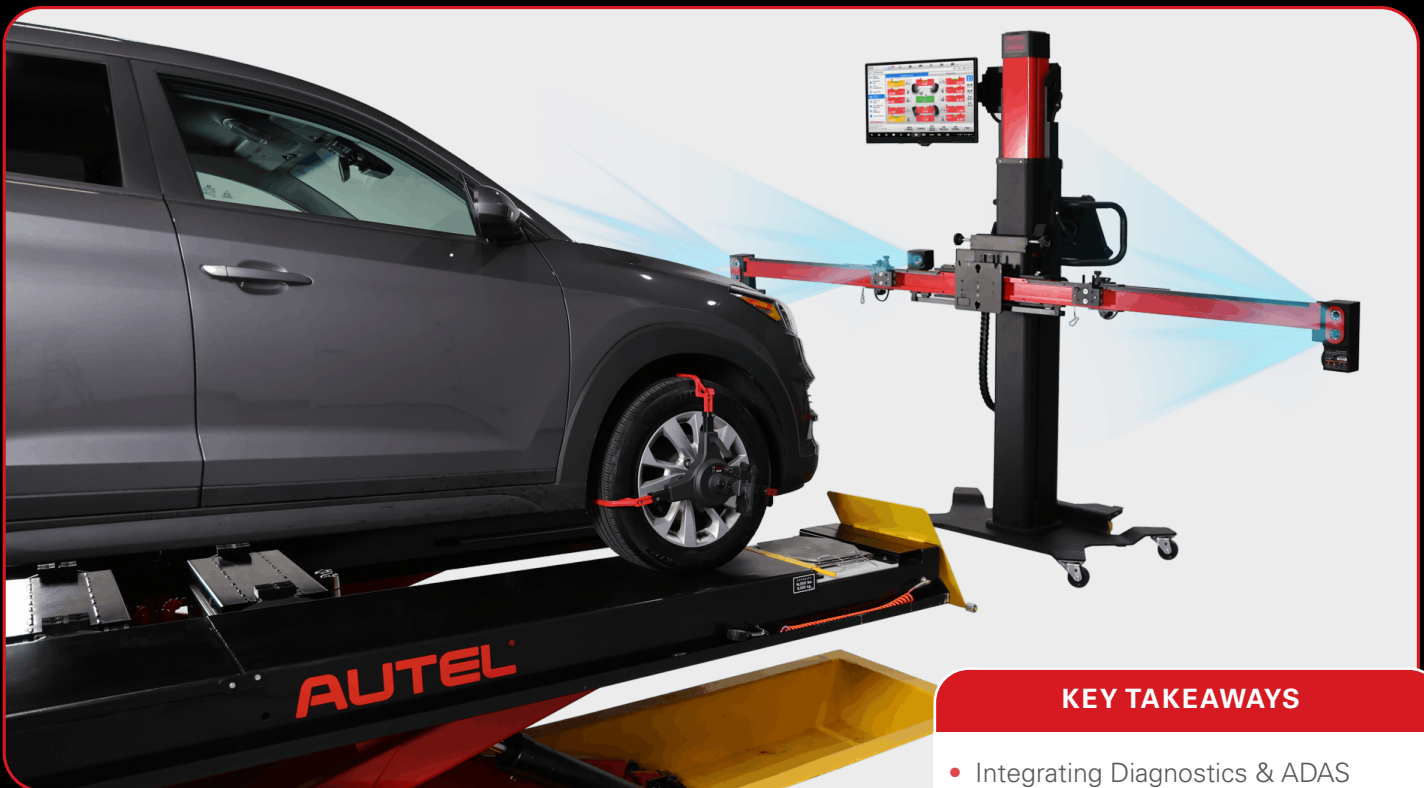


One Process, Two Services: Streamlining Wheel Alignment & ADAS Calibrations

**Presenters:**

Stew Peregrine, Senior Executive of ADAS Sales, Autel

Eric Sponhaltz, Director of Sales for ADAS, Autel

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KEY TAKEAWAYS

- Integrating Diagnostics & ADAS Calibration into your wheel alignment process ensures the vehicle is repaired correctly and ensures customer safety.
- Precise alignment is critical for ADAS safety systems, unlocking new revenue with advanced tools.
- Detailed reporting and clear communication with customers to ensure safety, build trust, and support liability protection.

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One Process, Two Services: Streamlining Wheel Alignment & ADAS Calibrations

This executive summary offers key insights from the Autel webinar, [“Wheel Alignment as a Business Opportunity: One Process, Two Services— Streamlining Wheel Alignment and ADAS Calibrations”](#) presented by Autel ADAS Calibration Experts, Stew Peregrine and Eric Sponhaltz, who outline how Autel’s integrated approach—combining diagnostics, wheel alignment, and ADAS calibration into one seamless workflow can transform shop efficiency and open substantial new revenue streams.

INTRODUCTION

The traditional automotive wheel alignment, often viewed as a low margin “loss leader” service, has evolved into a significant and highly profitable business opportunity for mechanical repair shops. This transformation is driven by the proliferation of Advanced Driver-Assistance Systems (ADAS) in modern vehicles, which are intrinsically linked to a vehicle’s alignment. A four-wheel alignment, suspension repair, or even front bumper removal now frequently triggers an Original Equipment Manufacturer (OEM) requirement for ADAS calibration to ensure safety systems function correctly.

By leveraging advanced, automated equipment like the Autel IA1000, shops can enhance efficiency, guarantee accuracy through robotic positioning, and generate comprehensive documentation. This documentation is critical for justifying services to customers and insurers, educating vehicle owners on the necessity of these procedures, and mitigating liability. A significant market gap exists, as many mechanical shops are currently performing alignments without the subsequent, necessary ADAS calibrations, presenting a major opportunity for equipped and trained facilities to capture new business and ensure vehicles are returned to the road safely.

The Paradigm Shift: From Loss Leader to Profit Center

The role of wheel alignment in a modern repair shop has fundamentally changed. Previously considered a “necessary evil,” it now serves as a gateway to high-value diagnostic and calibration services.

- **Historical Context:** Wheel alignment was often treated as a low-profit service, a “loss leader” to attract customers for other, more profitable repairs.
- **Modern Reality:** The integration of ADAS has made alignment a critical prerequisite for the proper function of safety systems. This link transforms the alignment bay into one of the most potentially profitable areas in a shop.
- **Revenue Expansion:** A standard alignment service, typically billed around \$100 to \$120, can be combined with ADAS calibration services that range from \$250 to \$350 or more, depending on the number of systems. This dramatically increases the revenue generated per vehicle. As stated in the presentation, “you’re taking this \$120 job...and bringing this car back to its proper state and making a considerable amount of money.”

“We live in a very distracted world, and so we expect those systems to operate as they’re intended.”

– Eric Sponhaltz, Autel

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The Critical Link: Wheel Alignment and ADAS Calibration

ADAS sensors, such as forward-facing cameras and radar, rely on the vehicle's physical orientation to interpret the world correctly. The wheel alignment directly determines this orientation.

- **Foundation of ADAS Function:** To perform as designed, these safety systems depend on two core assumptions: the steering wheel is pointed straight ahead, and the vehicle is driving straight down the center of the lane (thrust angle). If the alignment is incorrect, the sensors' perception of the road is skewed, compromising safety functions like adaptive cruise control and lane departure warnings.
- **Common Triggers for Calibration:** OEM service information mandates ADAS calibration following numerous common mechanical repairs, including:
 - Four-wheel alignments
 - Suspension repairs
 - Removal of the front bumper or grille (e.g., for A/C condenser work)
- **Routine Maintenance Argument:** Sponhaltz references an Ascential Technologies report entitled, "The importance of ADAS calibration for collision prevention and road safety," which found significant ADAS misalignments on a relatively new Nissan after only 17,000 miles of normal driving. This suggests that calibrations may be necessary even as part of routine maintenance because of road conditions like potholes.

"Whether you just started today as a tech or you've been doing this for 30 years, we want the outcomes to be the same. Technician success is everything."

– Stewart Peregrine, Autel

Identifying the Need to Perform an ADAS Calibration

Educating customers and justifying the service requires clear identification tools. The presentation outlined a three-tiered approach for shops to determine when a calibration is required.

- **OEM Service Information:** Direct lookup from the vehicle manufacturer's official documentation.

Pro: The most accurate and authoritative source ("the best way").

Con: Can be extremely time-consuming and difficult to navigate. One example cited 750 pages of service information for a single collision job.
- **Autel Lookup Guide:** An integrated tool on the diagnostic tablet and available on the Autel website.

Pro: Fast and easy to use; provides a "green light" indicator if calibration is required or recommended by OE post alignment.

Con: Described as a "90%" solution that covers most common scenarios.
- **Third-Party Tools (e.g., Revv):** Autel has partnered with Revv software which enables shops and technicians to generate comprehensive workflow-oriented reports to identify every required calibration.

Pro: An "easy button" that uses a conversational, checklist-style process to quickly generate a report based on OEM information.

Con: A third-party service, purchased separately

Tip: For shops just starting to introduce ADAS calibration, it is important to educate customers about what the systems are and why they are important. For example, with recurring customers, take time to point out where the safety systems live on the car and share documentation about their function and purpose.

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The Autel Integrated Workflow: A Step-by-Step Analysis

The presentation demonstrated a seamless workflow using the Autel IA1000 system, which is built around a diagnostic platform to ensure no steps are missed.

1. Pre-Scan & Health Check:

- a. The process begins by creating a repair order and running a full-system, all-module scan.
- b. This “module health check” is extremely fast (e.g., ~5 seconds on a 2025 Hyundai Kona) and identifies Diagnostic Trouble Codes (DTCs), even without a visible check engine light.
- c. This initial scan serves as a “scene of the crime” report, providing a baseline of the vehicle’s electronic health and uncovering additional service opportunities.

2. Digital Vehicle & Chassis Inspection (DVI):

- a. The software prompts for pre-repair photos to document existing damage.
- b. It includes integrated checklists for inspecting tires (tread depth, pressure), suspension, brakes, and steering components.
- c. Information from Autel’s TPMS and tire tread depth tools (ITS600/TBE200) can be automatically populated on the display screen via Bluetooth.

3. Wheel Alignment:

- a. After a rolling compensation, the system displays live alignment readings.
- b. The user interface provides graphical results, detailed parameter descriptions (e.g., camber, toe), and advanced diagnostics like symmetry values to detect cradle misalignments and rolling diameter to identify mismatched tires.
- c. An “alignment guide” provides step-by-step instructions on the proper adjustment sequence for non-experts.

4. ADAS Calibration:

- a. The tool identifies all ADAS systems on the vehicle and provides preparation instructions, including the precise space required for the procedure.
- b. The robotic IA1000 frame automatically positions itself to the exact OEM specifications for distance, height, pitch, roll, and yaw. This automation ensures “speed, accuracy and repeatability.”
- c. The system guides the technician through the entire process, including multi-step procedures like the near-and-far calibration required for the demonstrated Hyundai Kona.

5. Post-Scan & Comprehensive Reporting:

- a. A final scan is performed to confirm that all systems are clear of codes, and the work was completed successfully.
- b. A detailed PDF report is generated, which includes:
 - i. Before-and-after scans of all vehicle modules.
 - ii. Pre-repair photos and inspection results.
 - iii. Graphical alignment results.
 - iv. Tire data and chassis inspection notes.
 - v. Proof of successful ADAS calibration, including the measured parameters and the OEM specified values.
- c. This comprehensive report can be shared instantly with customers or insurers via QR code, text, or email.

One Process, Two Services: Streamlining Wheel Alignment & ADAS Calibrations

Key Technology: The Autel IA1000 System

The IA1000 system is designed to maximize efficiency and accuracy through several key features.

- **Integrated Diagnostic Core:** The system is built around Autel's flagship Ultra S2 diagnostic tablet, providing full capabilities including bidirectional controls, an oscilloscope, and a J2534 pass-thru programming device.
- **Robotic Frame:** The entire frame moves automatically to achieve perfect positioning for calibration, eliminating manual adjustments with tape measures or plumb bobs and ensuring technician success regardless of experience level.
- **Digital Target Boards (system option):** These monitors feature ambient light sensors that automatically adjust brightness to match shop conditions, which is crucial for achieving 100% calibration accuracy, especially on vehicles with multi-camera systems (e.g., Subaru).
- **Six-Camera System:** A combination of cameras tracks the wheel targets; measures distance and enables compensation for unlevel floors during ADAS calibration.

Figure 1: Targeted wheel clamps aid the IA1000 to perfectly position camera pattern to vehicle for precise calibrations



- **Mobility:** Unlike traditional aligners bolted to the floor, the IA1000 is on wheels, allowing a shop to perform an alignment in one bay and roll the system to another for calibration, maximizing space utilization.

Market Opportunity and Business Strategy

The webinar concluded by emphasizing the substantial business opportunity available to forward-thinking shops.

- **Underserved Market:** Many of the 180,000+ mechanical shops in the U.S. still lack ADAS calibration capabilities, leaving vehicles improperly serviced and creating a sizable untapped business opportunity.
- **Customer Education and Transparency:** Success requires educating customers who are often unaware of the safety systems on their vehicles. Using detailed reports to show the work performed and prove its necessity is a powerful sales tool.
- **B2B Service Provision:** Shops equipped with this technology can solicit calibration work from other automotive repair and service businesses, including collision centers, glass replacement shops, and other mechanical shops that lack the necessary equipment.
- **Liability and Documentation:** In an increasingly litigious environment, performing and documenting required calibrations is a crucial liability protection measure. The comprehensive reports provided by the Autel ADAS Calibration system provide definitive proof that the vehicle was repaired correctly according to OEM standards and specifications.
- **Training and Support:** Autel offers training classes in multiple U.S. locations (New York, St. Louis, Detroit, California, Florida) and has a dedicated ADAS and alignment technical support team that can remotely access your tool to assist technicians.

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Alignment Capabilities:

The Autel IA900 and IA1000 provide advanced four-wheel alignment capabilities for modern vehicles with ADAS. Both systems deliver precise alignment measurements for camber, caster, toe, and thrust angle, achieving accuracy within 0.02° . They feature high-resolution cameras and robotic or automated positioning to ensure exact sensor placement, live guidance for adjustments, and automated compensation for unlevel floors. Comprehensive pre- and post-scan reports document alignment parameters and ADAS calibrations, enabling shops to perform OEM-compliant services efficiently while supporting customer transparency and liability protection.

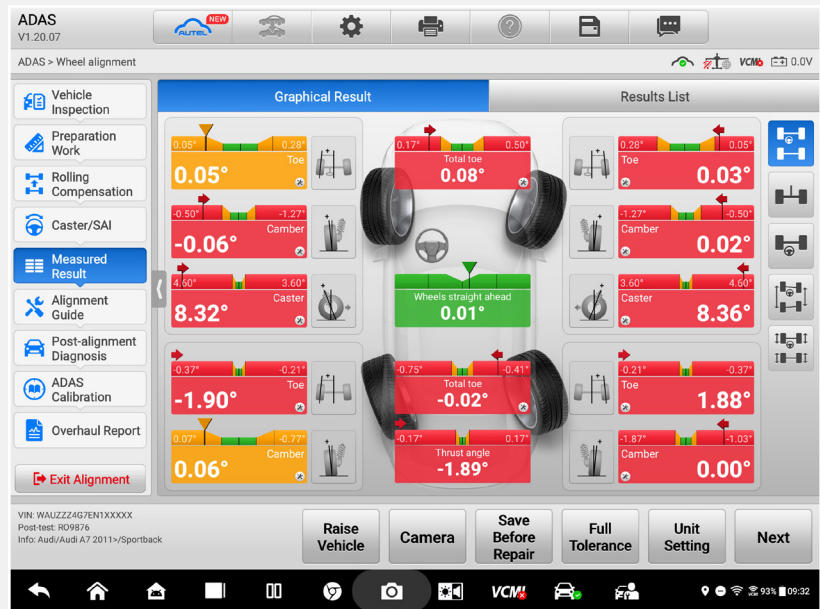


Figure 2: Wheel alignment visual results

ADAS Calibrations:

Using targeted wheel clamps and six-high resolution cameras, the IA1000 positions itself in the exact location needed to calibrate the vehicle's ADAS components. With minimal human intervention, the IA1000 automatically calibrates ADAS systems to a degree of accuracy within OE-guidelines.

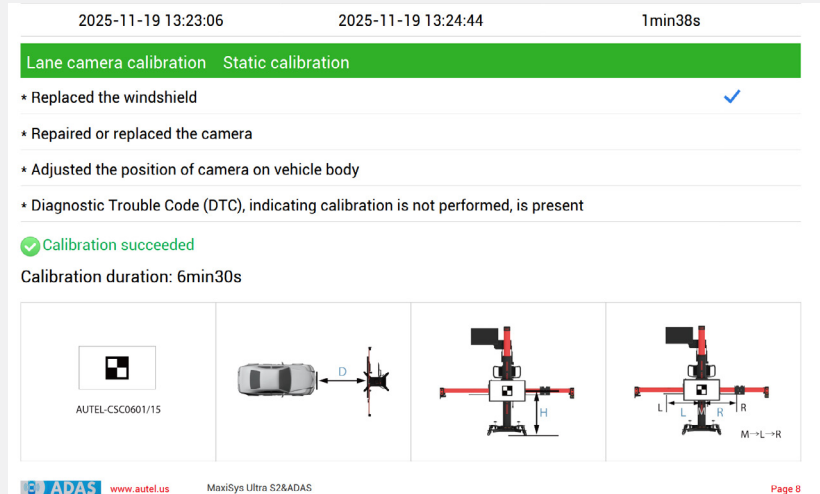


Figure 3: Detailed reports document calibration success with Measured Values

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Autel IA1000: Streamline Diagnostics, Alignment, and ADAS Calibration

The Autel IA1000 delivers a complete vehicle health check—from tires to chassis components—while combining wheel alignment and ADAS calibration in a single, seamless process. Its purpose-built interface simplifies diagnostics, speeding workflow and improving accuracy. Detailed Autel reports also help sell services upfront, at the very start of the repair process.

Adding ADAS calibration labor to routine services generates significant revenue, particularly as OEMs increasingly require technicians to perform calibrations for general maintenance and after any repairs that affect sensor alignment. Autel's ROI calculator, on

Autel.com, uses national average service prices to help shops understand potential returns. Many IA1000 users have uncovered new revenue opportunities, offering not only direct benefits to their customers but also post-repair alignment and calibration services to partners in the glass and collision industries.

To get technicians up to speed quickly, Autel provides in-depth training nationwide and a dedicated tech support team specializing in ADAS and alignment, ensuring your staff can perform calibrations efficiently, confidently, and to OE standards.

BIOGRAPHIES



Stew Peregrine

Senior Executive of ADAS Sale
Autel

Stew is an automotive industry leader with over 30 years of experience, dedicated to shaping the future of ADAS by driving product development rooted in customer needs and expectations. He leads efforts at Autel to pioneer solutions that streamline workflow efficiency while delivering innovative, market-leading technologies designed to set the standard in the ADAS category.



Eric Sponhaltz

Director of Sales for ADAS
Autel

Eric is a results-driven sales leader with a proven track record in business-to-business sales management, marketing, and account management growth. He has well-rounded experiences in the automotive aftermarket, industrial, and construction industries.

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Precision That Builds Trust

Every scan, every alignment, every calibration is an opportunity to showcase your shop's expertise. Reinforce these quick tips with your technicians and service advisors to ensure consistent accuracy, elevate service quality, and build the confidence your customers rely on.

Top Tips for Smarter Diagnostics

1. Always Start with a Pre-Scan

Perform a complete diagnostic scan before beginning any maintenance or repair. A pre-scan identifies existing system faults, establishes a clear baseline for the repair process, and helps prevent costly comebacks. It also enables better communication with customers by providing transparency about vehicle conditions from the start.

2. Use Diagnostic Reports as Selling Tools

Share pre- and post-scan reports with customers to reinforce transparency and justify recommended services. Most customers don't understand complex vehicle systems, but a clear, visual report helps turn technical data into trust—and trust into sales.

3. Integrate Diagnostics into Every Workflow

Diagnostics shouldn't be treated as a standalone task. With advanced platforms like the Autel Ultra S2, alignments, calibrations, coding, and resets all operate from a single diagnostic hub, streamlining workflow while improving precision and productivity.

4. Keep Software Current

Regular updates expand coverage for the newest makes, models, and ADAS systems. Keeping diagnostic software up to date ensures your shop performs every task using the latest OE-compliant data and procedures.

Top Tips for Accurate ADAS Calibrations

1. Calibrate Whenever Alignment Is Done

After performing any front-end repairs, suspension work, or ADAS calibrations, a wheel alignment should always be conducted. These procedures can alter the vehicle's geometry, affecting tire angles, handling, and sensor performance. Completing an alignment afterward ensures proper tire wear, accurate steering response, and that all ADAS systems operate as intended, providing both safety and reliability for the driver.

2. Control the Environment

Lighting, floor level, and distances all affect calibration accuracy. Digital target boards with ambient light sensors, such as those available as an option with the IA1000 system, enable technicians to accurately calibrate camera systems regardless of the shop's lighting environment. Camera-based targeting setup systems, such as the IA1000 and IA900 systems, can compensate for uneven floors to achieve consistent results. Most standard service bays are large enough to accommodate advanced ADAS equipment, including platforms like the Autel IA900.

3. Take Advantage of Mobility

Unlike traditional aligners bolted to the floor, the IA1000 is on wheels, allowing a shop to perform an alignment in one bay and roll the system to another for calibration, maximizing space utilization. Mobility saves setup time and allows calibrations in standard bays.

4. Document and Share Results

Autel systems prioritize documentation. Built-in reporting tools automatically capture results, helping your shop demonstrate accuracy and professionalism. Clear documentation not only supports transparency with customers but also protects your business if questions arise. Showing how and why calibrations were performed builds confidence and reinforces your reputation for precision.

5. Invest in Technician Training

Autel systems are built for precision, but accurate results depend on skilled technicians. Ongoing training keeps your team current with evolving ADAS technologies and reinforces the importance of following OE procedures exactly as prescribed. By understanding not just how to perform calibrations, but why OEM standards matter, technicians deliver safer, more reliable repairs—and elevate your shop's reputation for excellence.

ADDITIONAL INFORMATION

To learn more about ADAS or the tooling and equipment to make diagnostics and calibration possible in your shop, visit [autel.com](https://www.autel.com)