















MINNESOTA STATE
Transportation Center of Excellence

ADAS RECOMMENDED TOOLS AND EQUIPMENT

Basic ADAS Tools			
Image	Item	Link *Preferred	Cost
	Plumb Bob -Recommend two but one will work	Amazon Grainger	\$10-20
	String -Used to string plumb bob and a straight line for static target placement	Grainger Amazon	\$7-12
	Metric/Standard Tape Measure -Recommend two but one will work	Grainger Amazon	\$25-30
	Masking Tape -Reach out to TCOE. We have you covered on this.	Grainger Amazon	\$5-7

	<p>Laser Level</p> <p>-Recommend green lasers due to being more visible with 3 planes</p>	<p>Amazon* Zoro</p>	<p>\$100-320</p>
	<p>Digital Angle Guage</p> <p>-Used to diagnose radar mounting and floor-level -Toyota Tool Kit Part # 11815-00009</p>	<p>Grainger Amazon</p>	<p>\$26-175</p>
	<p>Digital Protractor</p> <p>-Used to measure angles for blind spot radar calibration</p>	<p>Grainger Amazon*</p>	<p>\$35-90</p>
	<p>Large L Square (optional)</p> <p>-Useful for some forward-facing camera calibrations</p>	<p>Amazon*</p>	<p>\$37</p>
	<p>Combination Square (optional)</p> <p>-Useful as a target for the laser</p>	<p>Grainger Amazon*</p>	<p>\$11-20</p>
	<p>Tool Bag (optional)</p> <p>-Keep your ADAS basic tools in one spot</p>	<p>Grainger Amazon*</p>	<p>\$26-75</p>

Equipment

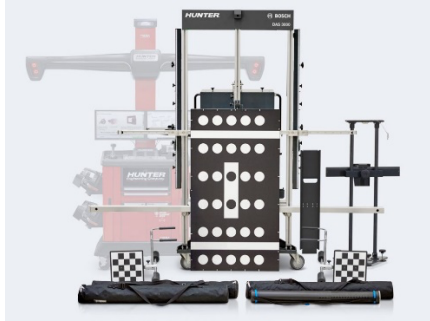

Image	Item	Link *Preferred	Cost
	<p>Battery Maintainer</p> <p>-At least 100-amp battery maintainer</p>	<p>Grainger Amazon*</p>	<p>\$420-900</p>
	<p>OEM Factory Scan Tool</p> <p>-Recommend OEM factory scan tool for the ADAS vehicle you plan on working on.</p> <p>-OEM scan tools will always have the most functionality compared to aftermarket.</p> <p>Example: Toyota TIS TechStream.</p>	<p>Toyota-TechStream</p>	<p>\$6,330</p>




Static ADAS Calibration Fixtures

Image	Item	Link	Cost
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There are many different ADAS static calibration fixtures on the market today, each with its pros and cons. Some are designed to integrate with your existing alignment machines, while others are designed to be used as a stand-alone after the alignment is completed.

Below are some kits from different manufacturers.

	<p>Hunter DAS 3000</p> <ul style="list-style-type: none"> -Integrated with Hunter Hawkeye Aligner -Comes with ADASLINK-associated diagnostic scan tool -This is the Bosch system integrated into the Hunter alignment system 	<p>Hunter</p>	<p>\$30K-40K</p> <p>*These are estimates of costs found on the internet, not including education discounts</p>
	<p>TopDon Phoenix Mobile ADAS Basic Package</p> <ul style="list-style-type: none"> -Stand-alone -Mobile design for space savings -Scan tool not included <p>Phoenix Elite Scan tool</p> <ul style="list-style-type: none"> -Full-functioning scan tool -Compatible with the fixture to perform ADAS calibrations <p>DNR Sales (MN State Vendor), Bruce Dodson Cell:612-275-9438 Email: bmd@dnrsales.com</p>	<p>TopDon</p>	<p>Fixture \$8K-10K</p> <p>Scan tool \$1,700-2,000</p> <p>*These are estimates of costs found on the internet, not including education discounts</p>

	<p>Autel MA600CORE2- ADAS-Package</p> <p>-Stand-alone -Comes with the associated scan tool</p>	<p>AESWave</p>	<p>\$9K-12K</p> <p>*These are estimates of costs found on the internet, not including education discounts</p>
	<p>Bosch BOSDAS3000-1</p> <p>-Stand-alone -Comes with the associated scan tool</p>	<p>Bosch Grainger</p>	<p>\$30K-40K</p> <p>*These are estimates of costs found on the internet, not including education discounts</p>
	<p>TEXA RCCS 3EVO</p> <p>-Stand-alone -Does not come with a scan tool *Cool feature: Loads camera targets on monitor so no need to store some physical targets</p> <p>TEXA NEMO 2 Scan Tool</p> <p>-Full-functioning scan tool -Able to connect to cars, trucks, motorcycles, and off-road equipment</p>	<p>TEXA</p>	<p>FREE- Available as a "Can I Borrow That?" on our website.</p> <p>Fixture \$35K-40K</p> <p>Scan tool \$15-20K</p> <p>*These are estimates of costs found on the internet, not including education discounts</p>



Other options....

Image	Item	Link	Cost
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If purchasing a complete ADAS fixture with all targets isn't feasible, consider focusing on one vehicle. Buy the associated targets for that specific vehicle and use the factory scan tool. This approach will provide students with the basic skills and understanding of performing a calibration without the significant overhead of acquiring all targets for every make and model.

For example, the following targets are commonly used for most Toyota vehicles.

*Check service information for the correct target number and size.

	<p>Aftermarket Radar Target</p> <ul style="list-style-type: none"> -Compatible with Toyota, Honda, Ford, GM, Mazda, Kia and Hyundai -Will calibrate front and side radars -Toyota Part #: Stand: 09870-60000 Radar Target: 09870-60040 	<p style="text-align: center;">Amazon</p>	<p style="text-align: center;">\$80</p>
	<p>Aftermarket Forward-facing Camera Target</p> <ul style="list-style-type: none"> -Toyota Part #: Stand: 09870-60000 Stand Support: 09870-60060 Target Board No.1: 09870-61100 Sequential Target: 09870-62100 One-time Recognition Target: 09870-62200 	<p style="text-align: center;">Amazon</p>	<p style="text-align: center;">\$225</p>

Other things to think about...

Proper shop space is essential for accurate static calibration. If you're designing a dedicated space for stand-alone ADAS static calibration, keep the following in mind:

- Level floors: Most manufacturers require no more than 0.4 inches of slop over an 8-foot span.
- Recommended clear space: 45 ft by 30 ft (minimum of 34 ft by 25 ft).
- Avoid direct sunlight, as it can cause glare on camera targets.
- Ensure no distracting backgrounds, such as checkered patterns or high-contrast designs.



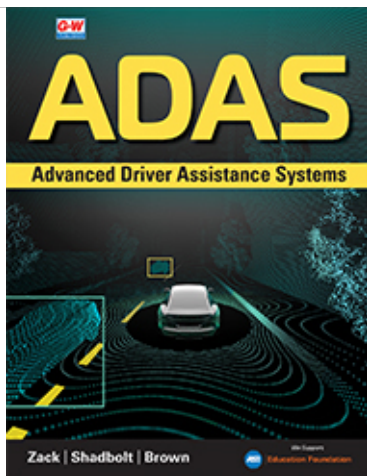
[Consulab EV-360](#)

Consulab EV-360 ADAS Trainer

A great tool for demonstrating the ADAS perception systems (front camera, front radar, side radar, ultrasonic, backup camera, and lidar) to your students in a compact design.

For a quote, contact Mike Seegar at First Technologies Inc.

Mike.Seegar@firstteched.com



[G-W ADAS](#)

ADAS Textbook

G-W's Textbook by Steve Zack, Kurt Shadbolt, and Scott Brown is a great resource to sharpen your skills in the ADAS world, everything you need to know to pass the ASE L4 ADAS advanced level specialist certification.

Contact Gail Worthman for more information:

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