AECS
AUTOMOTIVE DIAGNOSTIC
TRAINING & EQUIPMENT

Advanced Driver Assist Systems

European Vehicles ADAS1-1
Asian Vehicles ADAS1-2

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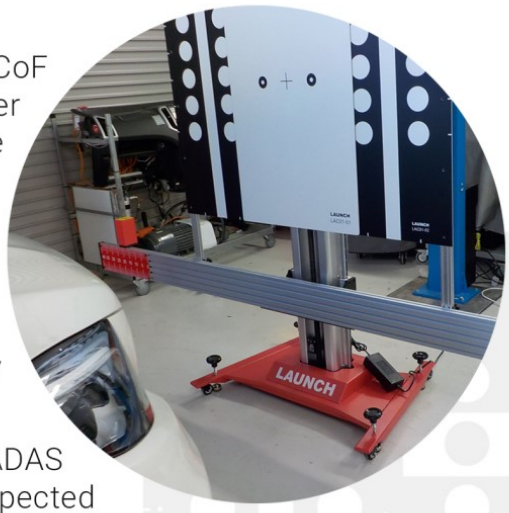
ADVANCED DRIVER ASSIST SYSTEMS
EUROPEAN AND ASIAN VEHICLES

COURSE ID:
ADAS 1-1 EUROPEAN
ADAS 1-2 ASIAN

SO WHAT IS ADAS?
I am certain that you would have heard about ADAS and know what it does. Some of you would have driven cars with some form of ADAS, be it a simple auto headlight dimming function, or full self-drive cars.

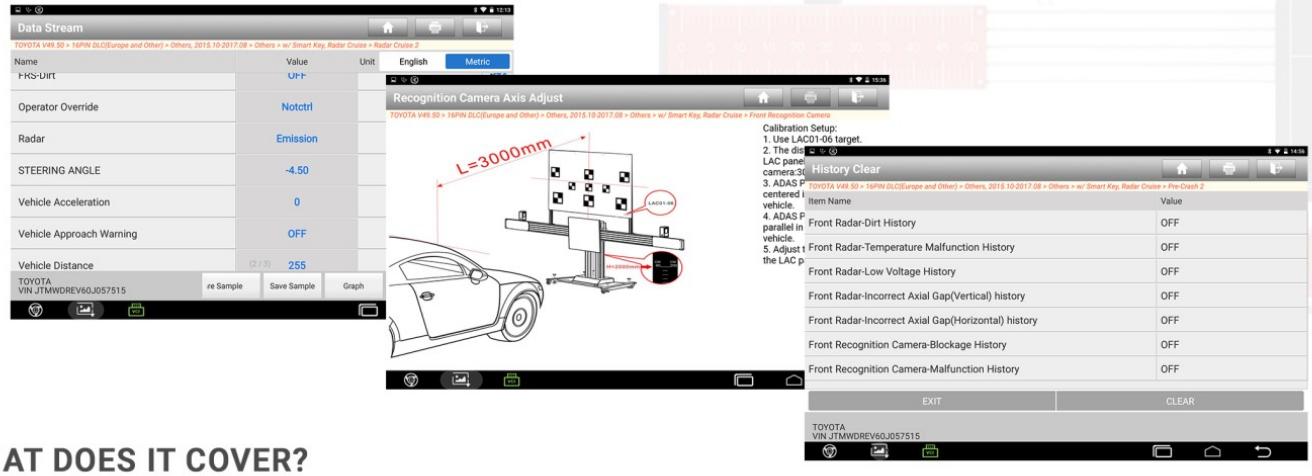
ADAS stands for Advanced Driver Assist System. It is not the name of a new type of ECU or something. It is simply a combination name of one, or several control units that assist the driver.

WOF | COF?
ADAS is a safety function, one I expect to become part of WoF and CoF soon. Just imagine that a person has a radar distance controller on their truck (or car). After a job on for example the radiator, the bracket that holds the radar unit just behind the grill is out by a mere millimetre. You would possibly not even notice and without fault codes or warning lights, to let you know. The angular change of the radar reflection is now such that for example a motorbike not driving exactly in the middle of its lane would not be located by the radar distance controller so the motorbike and its rider could be simply squashed.



Reported, for example, an oncoming vehicle with an uncalibrated ADAS system, driving perfectly in its lane will trigger a totally unexpected emergency braking action in the vehicle equipped with ADAS, causing a head to tail collision with the car following the ADAS car. It's only a matter of time before the authorities are catching on that ADAS is necessary to be working correctly.

WHO IS DOING WHAT?
So, what are we as an industry doing about it? Are we just waiting to be told what we need to do? The team at AECS have made the proactive step to distribute one of the most advanced ADAS calibration systems in the world. We sought out training overseas and developed training further than what we learned. Keeping in mind this is not your very average 2 minute Youtube promotional/instructional video, this is a very in-depth set of seminars where you can learn as much as you want about ADAS.



SO WHAT DOES IT COVER?
We start with simply covering what the names of the various ADAS systems are on a particular vehicle and what their functions are. We deal with several vehicles in detail. After we have covered the basics, so you are comfortable knowing the difference between for example MFK, DTR and BSM to name a few, we deal with the calibration of individual units. We deal with both static and dynamic calibration.
Lastly, we deal with simple diagnostics.

DYNAMIC OR STATIC
Some industry 'experts' seem to think and teach that dynamic or static calibration is optional, that most systems you simply need to drive around with and then they 'self calibrate'… Yeah right!

Let me put that straight, some systems can only be calibrated statically, that is in a specially laid out workshop with dedicated equipment like the often advertised camera targets, or with radar reflectors or various shapes and sizes (you hardly see those in advertisements as they do not look sexy).

Some systems can only be calibrated dynamically. Dynamic calibration is in some cases a specific two-car affair where a certain set of precise rules need to be followed, sometimes it is as simple as driving around for 15 minutes at 30 km/h.

SIMPLE DIAGNOSTICS

Now, this is where things become interesting for us at AECS. With simple diagnostics, we mean dealing with your customer complaints.

• Your customer comes in after the windscreen has been replaced. The complaint is that at night with high beam on (auto), the 'black area' around the car in front of you is too big and not following the car properly.

• Your customer comes in and tells you to "remove that #$^% beeper from the dash" as every time when they are about 50 mm away from the precise centre of their lane the beeper goes off, and after about 5km driving the dash tells him that he needs to take a break.

• When following the car in front while in cruise control mode, my car only brakes when I am about 10cm away from the bumper of the car in front of me.

• In auto steering mode the car is swerving like I am drunk and frequently crosses the centreline before it pulls back into its lane again, to overshoot into the berm, "it is unusable!".

• The light in the wing mirror keeps flashing orange, we cannot turn it off.

• When we drive through town through narrow streets the beeper in the car keeps going off warning me of something. No, it's not the parking sensor warning, that sounds different.

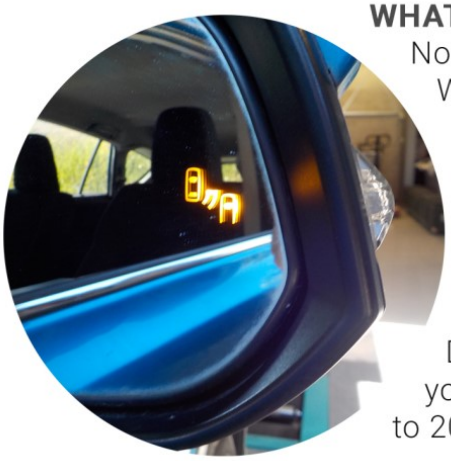
• When we reverse, we cannot see what happens on the RH side of the car on the overview monitor. We have already hit some obstacles as a result.

The above is only a small list of complaints we have dealt with indirectly through tech support. What would you do when this comes your way?

Do you shrug your shoulders and tell your customer "I don't know", or "just turn the system off every time you start a trip"? Are you the automotive 'go-to' expert? Or are you there to tell your customer to go somewhere else?

SIMPLY TRAINING!

Simply start with our unique and comprehensive training. You will learn how to answer and deal with each of the complaints outlined above and a lot more. Our training helps you to determine first of all in which system the problem is, second of all it will teach you if you can calibrate the complaint away, or if you need to realign items. You will be taught how to measure if ADAS items are out, or still in calibration's 'reach'.



WHAT EQUIPMENT AND HOW MUCH?

Not everybody is going to want to spend big $$ on equipment straight away. Well, do not let that hold you back! Our training will teach you exactly what you need and for what type of job. For some calibrations, you simply need a decent scan tool, for some jobs you need ADAS calibration equipment. Start with the simple diagnostic and calibration jobs if you are on a budget, and let the market determine what you need to purchase next. Let us guide you through the steps.

Do you simply work with strings and marker to draw lines on the floor or are you working with laser accuracy reducing your calibration time from 4 hours to 20 minutes?

There are too many sales people telling you what you need, shortly after that the sale is completed, the equipment is just sitting in the corner doing nothing. You are left untrained or with a link to Youtube videos and unsure why you ended up with equipment that doesn't work for you, not to mention the risks you are putting your customer in.

FIRSTLY TRAIN

Make informed decisions when purchasing capital equipment, there are many differences between various brands of ADAS calibration gear. Some ADAS calibration gear works with strings and weights. Our gear works with 5 lasers (no mirrors) as we deal with workshops where it is sometimes windy and dusty, and most of all because as an automotive engineer I like it! Do the training first so you are knowledgeable before you buy.

TRAIN...ANYTIME... ANYWHERE

Our Training Academy is now online, and you will be able see available training seminars which includes our ADAS training. We are adding more weekly across our other training seminars.

ADAS1-1 EXAM

During MFK test driving why do you have to have the "steering pilot function" and the "lane keep assist function" switched on?	Because these are some of the functions that need to be tested. Because that will automatically turn the radar distance control on. Because the cornering lane keep assist only needs to be tested. Because the functions will turn the Auto head light function on.
When the MFK camera is calibrated with the target set too high, what are the effects for the driver?	The corners will be taken too early (undershoot), the lighting system will be unaffected. The corners will be taken too wide and the lighting system is dipping too soon. The corners will be started too soon (undershoot), and the lighting system will leave large areas black behind the followed car. The corners are unaffected, the lightning system will blind oncoming and followed traffic.
MFK Calibration with the target set 100mm too low will cause:	No effect. A fault code will be set, the camera can not adjust up 100mm. The corner will be overshoot (too wide) and the lights will dip too late (blinding traffic). The corner will be undershoot (turning too early) and the lights will dip too late (blinding traffic).

Submit Answers

EXAM QUESTIONS FOR ADAS1-1 ONLINE TRAINING

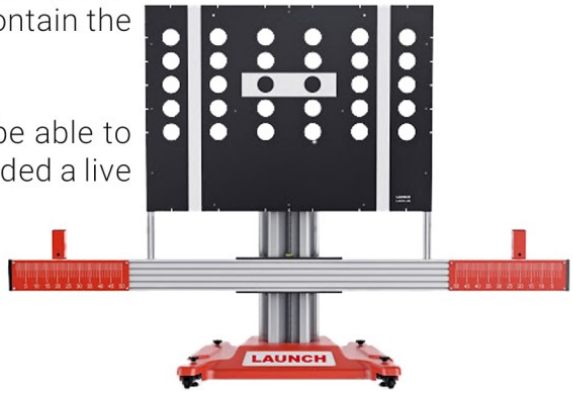
With our ever-growing list of training seminars, you can start learning now 2x ADAS training.

Which is ADAS Euro (ADAS 1-1) and Asian cars (ADAS 1-2).

The exam at the end will generate an achievement certificate with your score (if you are good enough to pass).

COSTS

Our pricing structure is simple. Choose your training seminar of choice, pay for it online as you would normally come to one of our training seminars. You will get the same material presented, keeping in mind that it won't be hands-on or contain the practical aspects of our training seminars that we are known for.



Since with video training you won't be able to interact with us or be able to ask questions compared to our face to face training, we have included a live online and interactive training seminar (webinar) which will be held at set intervals (you will need to enrol). This is all included in the purchase of your online training. To do this, we will be using the popular Zoom Meetings software.

We highly recommend enrolling in our practical ADAS training seminars which we deliver throughout New Zealand as per normal. This will reinforce what you've learnt online and give you further experience in calibrating ADAS systems. The only extra cost that you will have when attending the AECS practical training is a small fee to cover our travel and conference room costs.

NEXT STEPS

Below are links (click on the circle) to get started watching and learning more about ADAS Systems. You will be able to see a short overview of the training seminar by watching the trailer.

We look forward to seeing you online and at our next practical training seminar.

Herbert

Herbert Leijen
AECS Director

ONLINE ACADEMY
[ALL TRAINING]

ADAS1-1
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ADAS1-2
[WATCH TRALIER]

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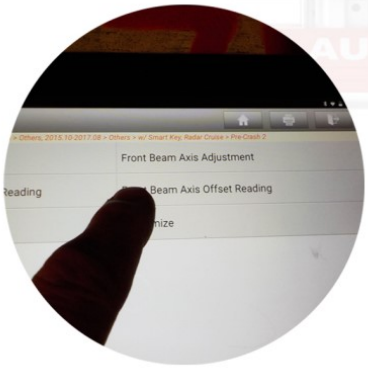
[WEBSITE]



Using paper and not a pdf? Use the following links in your web browser.
Online Training Academy: aecs.net.nz/academy
ADAS Training: systems.aecs.net
AECS Website: aecs.net