

Diagnostic Proficiency

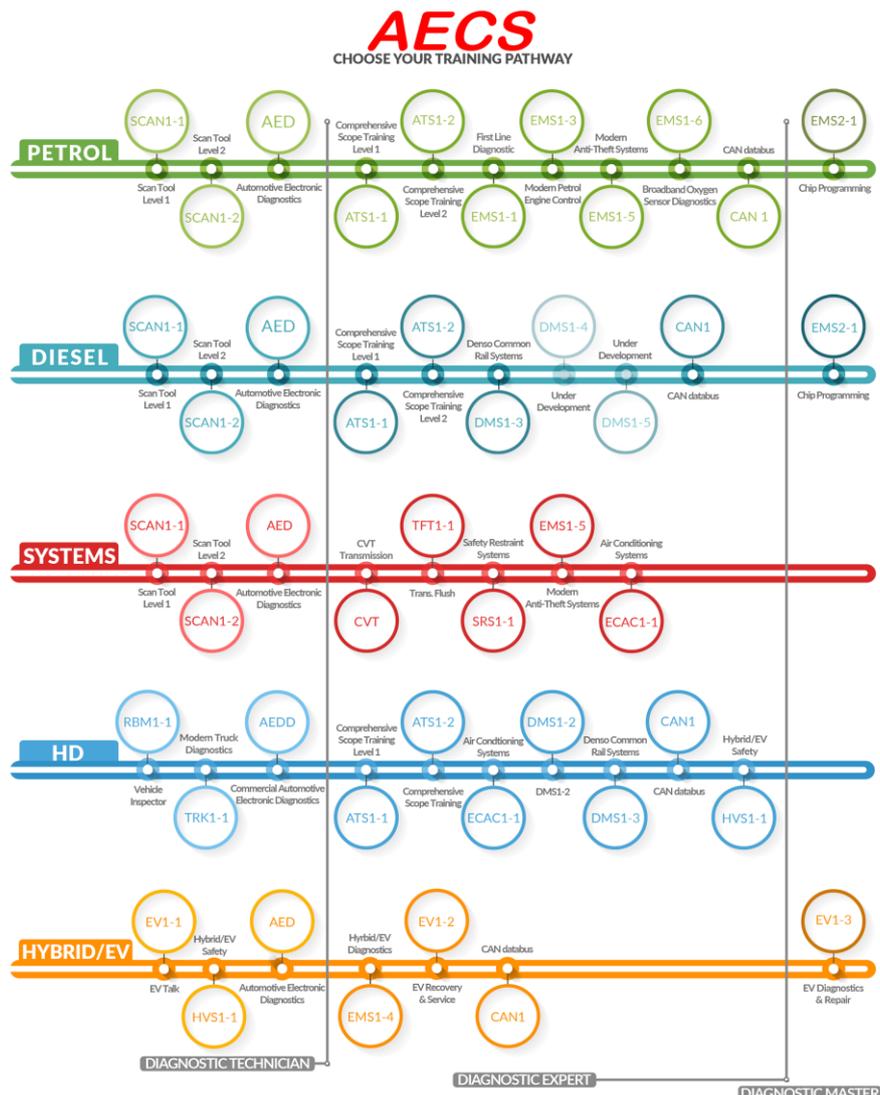
AECS has been providing leading diagnostic training seminars to the Australasian automotive market since early 2001. Our statistics show that the number of trainees attending our courses has been steadily rising over the past 10 years. 2017 saw tremendous growth, we had over 700 automotive diagnosticians attending our training throughout the country.

Since Paul and Peter joined the team at AECS in 2011 it has allowed us to train in multiple locations simultaneously throughout the year delivering training when and where it suits you best. AECS is constantly updating and revising existing trainings adding more relevant information and experiences to the training courses as the technology in the automotive fleet increases. This year we have already scheduled 144 days of training on our calendar with more still to be added.

However, the basics remain the same; the ability to know what to expect in electronics is still the most valuable skill every diagnostician must learn.

Fresh Training Pathway

In 2018 we are launching 3 diagnostic skill levels that we would like to see you achieve and maintain throughout your career they are: Diagnostic Technician, Diagnostic Expert and Diagnostics Master across 5 areas of expertise. These are illustrated below in the training pathway.



AECS training flow chart showing diagnostic skill levels and areas of expertise.

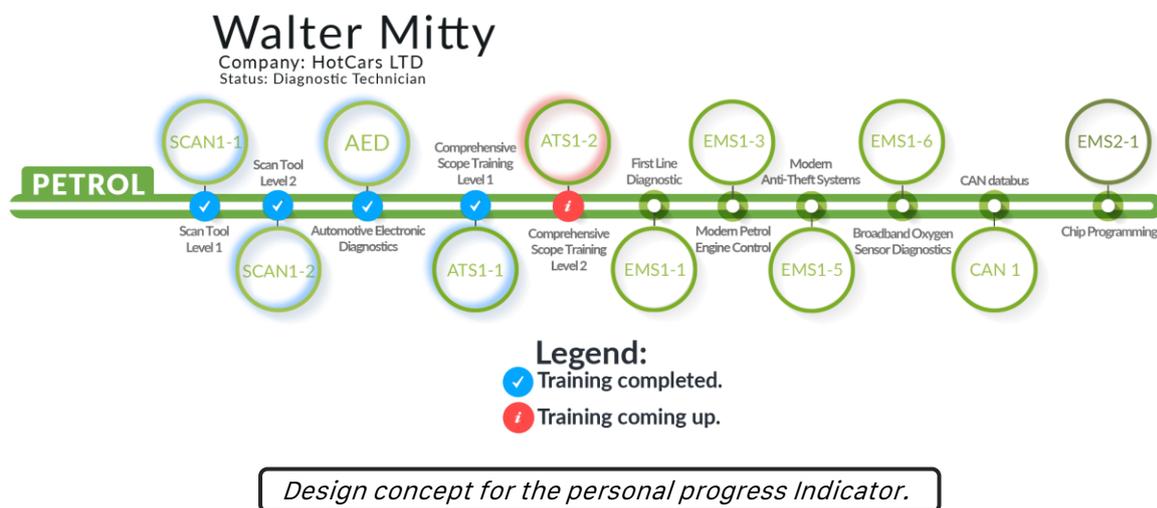
Our team, believes that every workshop should have at least one technician that has achieved AECS diagnostic technician status in one or multiple fields. Diagnostic technicians will have gained enough knowledge on how to operate and make diagnostic conclusions based on measurements made with a scantool (Scan Tool Level 1 & 2) and voltage prediction through basic circuits (Automotive Electronic Diagnostics - AED) from here the technician will progress into the higher-level courses where oscilloscopes (entry or top level) become a must-have.

Training Progress Indicator

As a result of the sheer amount of different trainings we have available (25 seminars at the time of writing), we had to redesign our training pathway. If you visit the training pathway on our website you can click on the training names to get to the descriptor. ([see here](#)). We are currently working on a live map of NZ which shows your area with the seminars that will be available and when they are going to be held.

As a part of our training pathway you will be able to access your personal training progress indicator. We have kept records of all trainee's training data since 2004. This is being loaded onto our website behind a username and login. It will very soon be possible to login and get your own personalised training pathway. The amount of people that have asked for this is very high, so we are slowly working through the issuing of usernames and passwords.

If you are interested, we will put you on the list. We are just happy to make choosing the next training easier for you, but you will have to allow us some time to catch up with putting everyone on. (Email training@aece.net for early access).



Fresh for 2018

CVT Transmission

We have created an awesome Continuously Variable Transmission (CVT) diagnostic seminar, which was originally created specifically for a large dealer organisation. In return for their extensive assistance we had promised to delay the public release of this training. This gave us plenty of time to hone our own skills on diagnosing CVT's. It has also created some additional material for the training which is all good for diagnostic technicians who run into CVT problems.

The training deals with ratio diagnostics versus hydraulic control effort diagnostics. Ratio diagnostics is essential in CVT or any other form of transmission diagnostics, as it is quick and instant. Simply hook up your scope to two sensors, drive, record, and you will quickly have a conclusive answer.

Interpreting the hydraulic effort, the ECU demands to try to 'shift gears' is essential in determining the cause and effect of the erratic ratio changes, i.e. the ECU is trying to shift erratically or not.

This two-day seminar is really worthwhile. You get to learn about CVT in ways you did not expect. You will learn about transmission hydraulics, mechanics and electronics. You cannot separate one from the other. The two-day training is called the CVT Transmission (CVT1).

Electric Vehicles (EV)

We have been hard at work during the holiday! We do love our jobs here at AECS so our brains never rest. We are always thinking up and developing new seminars. There is so much to learn, technology is developing so fast, we just love it!

EV cars are out there, not yet in huge numbers, I know, but the technology in them is just lovely! Do you remember when you first learned how a two-stroke engine worked, and later a 4-stroke engine? Yes, I do remember, my dad taught me. No, he was not technical and he did not have it quite right either, but it did make sense.

So how does a three phase **AC electric motor** work in an EV, running from a **380Volt DC battery**? We will help you make sense of this. Making sense of the electric motor, makes it easier to understand how regenerative braking works.

A decent part of the training is what maintenance you need to do on the EV's. Some people seem to think that there is no maintenance required on an EV. There is oil in an EV, also they have brakes, Aircon, wheel alignment, tyres, and most, if not all batteries do require service plus a whole lot more.

Let AECS teach you how to get rid of the myths amongst your customers and assist them in getting the most out of their battery life, longevity, and importantly how to do it safely.



We truly have some very interesting information for you. We will even show you how to reset the HV battery gradual loss of capacity indicator, so you or your customers will not fall foul of the smart fraudsters out there. Fraudsters who will always make hay when something new enters the industry.

Commercial Vehicle Training

This year will see AECS push further into commercial vehicle training courses. For the past few years we have been busily working away on training focused specifically on the commercial diesel industry which ranges from trucks, buses, agricultural machinery and plant equipment.

The growth of technology in these areas of our industry has been phenomenal and it shows no sign of letting up anytime soon. The offshoot of this is that the level of equipment now required to perform vehicle diagnostics effectively now needs to be as advanced as the vehicles themselves.

As a leading supplier of cutting edge diagnostic tools, we quickly realised that to provide this kind of equipment without a full training program available, did not allow our customers to reach their full potential with their equipment that they had bought through us.

This is simply unacceptable, so we set about making available courses to meet the ever growing and changing needs of our customers. The latest diagnostic equipment available through us for this sector is at the very forefront of commercial vehicle technology.

What this also now means is, as a technician you also require a greater level of background knowledge and skill to get the most out of the tools, but once explained and importantly supported into the future as we do here at AECS, the sky's your limit. We work very closely with manufacturers of this kind of equipment (Launch, Jaltest, TiePie, Brainbee and Manatech) to make sure you stay ahead of the competition, and we will continue to strive to keep you the best trained technician in the industry.

We introduced Modern Truck Diagnostics (TRK1-1) training just a few years ago and we now have 10 commercial vehicle courses covering scantools through to diesel specific oscilloscope training, air-conditioning, CANBUS and brake tester training which we feel best reflect the needs of the modern commercial vehicle workshop.

2018 will also see the introduction of our new Commercial Vehicle AED training (CAED). Automotive Electronic Diagnostics (also known as AED) is considered by many to be the most essential course for all modern technicians. CAED training will look to make complex diesel electronics simple to understand and diagnose. Your first step to becoming a Diagnostic Master. With new courses still under development this continues to be one of the largest growth areas for us.

Automotive Diesel Training

Two new training seminars are in the pipeline with the first to be possibly launched in August 2018 for a private group. The trainings are based around a 2014 Mercedes Sprinter engine and will cover common-rail pressure control with pressure dump and suction control valve, dual series-parallel turbo control, advanced CAN data bus, diesel particulate filter control, regeneration, regeneration requirements, variations of diesel particulate filter arrangements, modern ABS wheel speed sensors with direction control.

Fast Track Training

In October 2018 we will be running our first ever "Fast Track" training. In this intensive two weeks we will cover the essentials of both (petrol) diagnostic technician and (petrol) diagnostic expert levels. The following four seminars will be covered during the two weeks where each 4-day theory block will be followed by a day of guided, practical hands on, workshop training:

- Automotive Electronic Diagnostics (AED)
- Comprehensive Scope Training - Level 1 (ATS1-1)
- First Line Diagnostics - Petrol (EMS1-1)
- Modern Petrol Engine Control (EMS1-3)

The Fast Track training will be held at AECS Training Centre in Hastings and will be limited to a class size of 14 people so register your interest now! This event will only be held once this year.



Herbert - Training at AECS HQ



Peter - creating a training simulator

Fresh Conversations

We look forward to bringing you fresh and relevant training for 2018. If you have any questions about the new training, or even want advice on your own training pathway we are always here to help, by all means email or call.

Our highly skilled team of 7 are here to assist with not only technical training, but also equipment supplies and knowledge back-up. We're only a conversation away. We look forward to working with you this new year. We wish you and your family all the best for 2018.

From the team at AECS.

 06 874 9077  info@aece.net  aece.net

Did you know....?

AECS has become the authorised supplier of Manatec Equipment. The first of our equipment recently arrived. This is the Manatec - Tyremate 200TL. You can read more about it below.



Image Credit: General Motors

GM has ripped out all driver controls (steering wheel and pedals) of their Chevy Bolt. GM has spent a reported US\$600 million on cruise automation, to bring a fleet of vehicles that are driverless. The thought behind this is to bring a taxi like service by next year, some where in the US.

On our recent trip visiting workshops, we have come across a UV Dye (for AC Service Equipment) that contains UV Dye and in part Stop Leak. We're still looking into where this product has come from and the manufacturer. It's important when purchasing AC accessories and service equipment that you go with a reputable distributor. As a note, if you have purchased AC equipment through AECS we suggest (for the time being) to use AECS supplied UV Dye until we find a resolution.



AECS Hybrid UV Dye

AECS and YES Group have recently been approved for funding through the EECA (Energy Efficiency and Conservation Authority) to develop EV training modules and provide a customer experience and familiarisation of EV's. The EECA is one of the initiatives in the NZ Government's Electric Vehicles Program, which has a target of doubling the number of EV's every year to reach 64,000 by end of 2021.



AECS Research EV's

AUTOMOTIVE TRAINING

FEBRUARY - APRIL 2018

06 874 9077 training@aeecs.net aeecs.net

AECS
AUTOMOTIVE ELECTRONIC
DIAGNOSTIC TRAINING

Location	Course Name	Course ID	Date	Duration	Time
February 2018					
Hamilton	Hybrid/EV Safety	HVS1-1	20 February	3 hrs	1pm-4pm
Hamilton	Hybrid/EV Diagnostics	EMS1-4	21-22 February	2 days	9am-5pm
Auckland	Hybrid/EV Safety	HVS1-1	27 February	3 hrs	1pm-4pm
Auckland	Hybrid/EV Diagnostics	EMS1-4	28 February – 1 March	2 days	9am-5pm
March 2018					
Whanganui	Auto. Electronic Diagnostics	AED	6-7 March	2 days	9am-5pm
Whanganui	First Line Diagnostics	EMS1-1	8-9 March	2 days	9am-5pm
Wellington	Auto. Electronic Diagnostics	AED	13-14 March	2 days	9am-5pm
Wellington	Modern Petrol Engine Control	EMS1-3	15-16 March	2 days	9am-5pm
Greymouth	Modern Truck Diagnostics	TRUCKSCAN1-1	6-7 March	2 days	9am-5pm
Christchurch	Commercial AED	CAED	12-13 March	2 days	9am-5pm
Christchurch	Air-Conditioning Systems	ECAC1-1	14-15 March	2 days	9am-5pm
Christchurch	Hybrid/EV Diagnostics	EMS1-4	19-20 March	2 days	9am-5pm
Christchurch	DMS1-3	DMS1-3	21-22 March	2 days	9am-5pm
Christchurch	Hybrid/EV Safety	HVS1-1	23 March	3 hrs	9am-12pm
April 2018					
Whangarei	Modern Truck Diagnostics	TRUCKSCAN1-1	4-5 April	2 days	9am-5pm
Whangarei	Safety Restraint Systems	SRS1-1	6 April	1 Day	9am-5pm
Whangarei	Commercial AED	CAED	9-10 April	2 days	9am-5pm
Tauranga	Auto. Electronic Diagnostics	AED	10-11 April	2 days	9am-5pm
Tauranga	Modern Petrol Engine Control	EMS1-3	12-13 April	2 days	9am-5pm
Hamilton	Auto. Electronic Diagnostics	AED	17-18 April	2 days	9am-5pm
Hamilton	First Line Diagnostics	EMS1-1	19-20 April	2 days	9am-5pm

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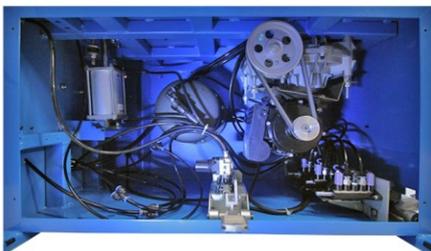
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TYRE CHANGER

TYREIMATE 200TL BY MANATEC

- Fully automatic.
- Designed for normal, low profile & runflat tyres on car and LCV.
- Four jaw self centering chuck.
- Alloy wheel plastic protector for jaws.
- Pneumatically operated tilting type vertical column.
- Pneumatically operated twin cylinders for firm clamping.

TECH SPECS:
Rim clamping from inside: 12" - 24" (305 mm - 610 mm)
Rim clamping from outside: 10" - 20" (254 mm - 508 mm)
Max. wheel diameter: 1041 mm
Max. wheel width: 3"-12" (76 mm - 305 mm)
Operating pressure: 6 - 8 bar
Bead breaker force: 2500 kg
Power Supply: 240V AC, Single phase, 50Hz
Bead seater tank: 18 ltrs/8 nozzles



\$4,950.00 +gst

Introductory 24 month warranty (back to base).

MANATEC
TYREIMATE 200TL

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LAUNCH AUSCAN

• INTUITIVE • EASY TO USE • DEAD ACCURATE •
\$3,250 +gst



- Scans over 100 brands, each vehicle fully covered.
- Talks to every module such as - engine, transmission, ABS, SRS, door control, intel. key, IPDM, ETACS and many more.
- Print/email reports directly from the AUSCAN to your customer.
- Easy 1 click updates (36 mths included*).
*for a limited time
- Re-programme modules, code injectors and keys, fast live data and accurate graphing.
- Code troubleshooting and advice directly from the tool.
- 12-months AECS technical support (Optional).
- AECS Technical support database directly accessible from the tool.

BRAINBEE 8500

\$9,087 +gst



- Fully automatic operation, with colour touch screen.
- UV dye injection and built-in printer.
- 20lt refrigerant capacity.
- 4.5m hose length.
- Software guided temperature linked pre/post service pressure check.
- Class 1 gauges.
- 14cc Compressor.
- Upgradable to R1234VF.
- Hybrid vehicle kit (option!).

BRAINBEE 6000

\$6,185 +gst



- Semi-Automatic operation, super easy to use.
- Eco Lock® zero-loss quick couplers.
- Monochrome graphic display.
- Built-in printer.
- 12lt refrigerant capacity.
- Non-condensing vent (manual).

AECS

AECS FOR ALL YOUR DIAGNOSTICS
TOOLS AND TECHNICAL SUPPORT.