

A blue Ford SUV is shown driving on a road, with a blurred background suggesting motion. The car is covered in water droplets, and the background features a vertical column of binary code (0s and 1s) on the left side. The overall scene is set against a light, hazy sky.

# UNCODED

## DPF ERROR

**AECS**

AUTOMOTIVE EQUIPMENT & TRAINING  
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# UNCODED DPF ERROR

VEHICLE: NISSAN NAVARA 2009  
D40 2.5 TURBO DIESEL YD25

This diagnostic article takes you through the process our technical support team use with problematic vehicles. We look at the issues involved and share how we resolved the problem. This an inside look, from the profound to everyday issues automotive workshops encounter.

## **Problem presented from the workshop to our Technical Support Team:**

We have this Nissan here with the DPF light on. The Launch Eurotab we purchased from you does not want to start the regeneration process, can you pls assist?

Oh yeah... we have a fault code in the engine management system "injector compensation code error". The customer bought this car not so long ago, so we do not know anything about its history.

## **Scan**

An engine management ECU which contains a fault code related to the fuelling is not going to do a regeneration, that is common knowledge, so we first had to find out why the fault code was present and how we could get the situation rectified. When looking at live data we could find data lines showing micro adaption learning values all on zero, but we could not see if the injectors were coded correctly.

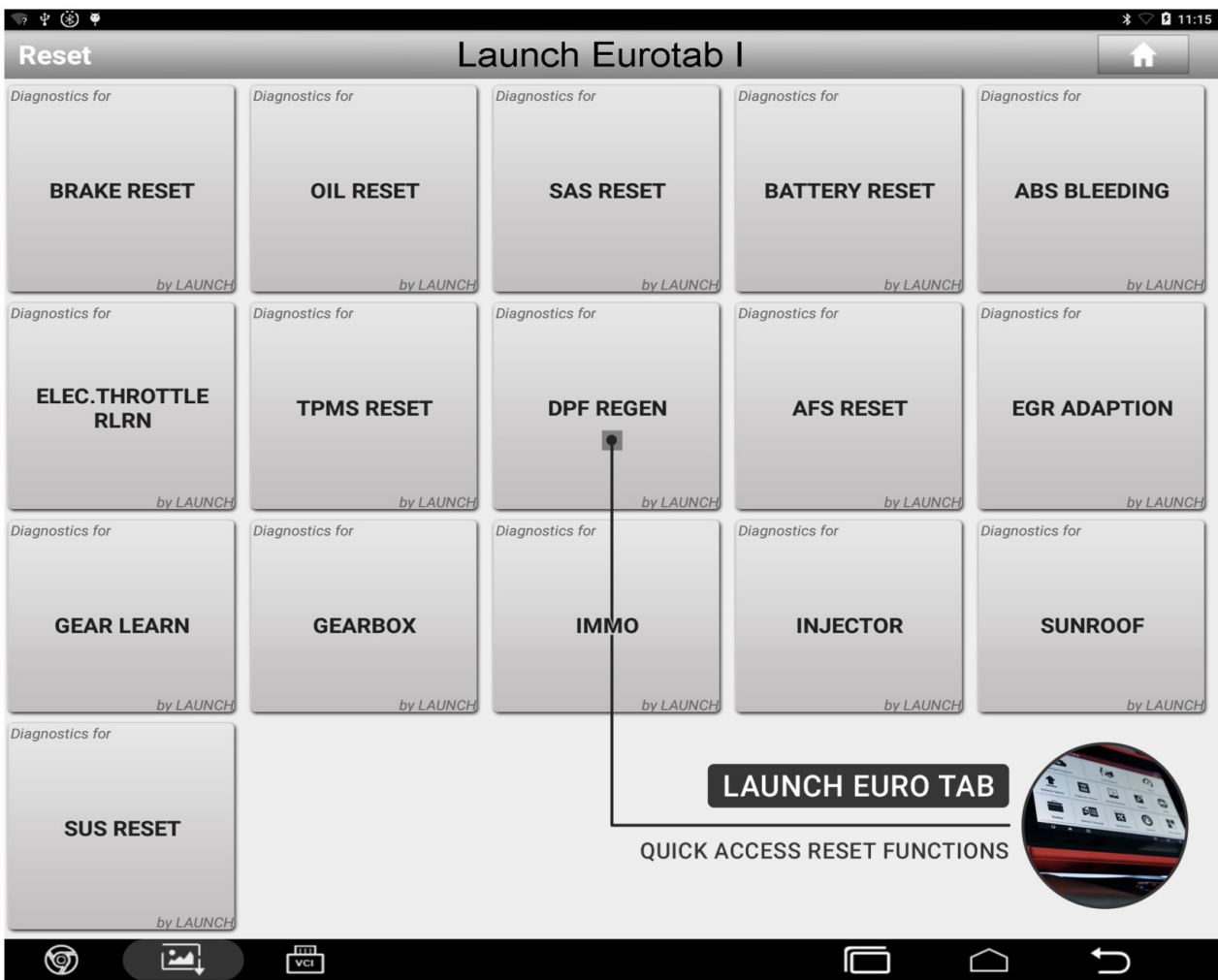
Micro adaption values are not being learned when for example the injectors are not coded. On a vehicle of 11 years old that should not be a problem, surely the injectors will be coded into the system, or were they?

## **Reset Function**

Launch has tried to make it easy for technicians, commonly used functions are all grouped in the software section called RESET. This is where you can find functions such as service reset, DPF regen and many more. This is created to assist the technician trying to find for example, in which ECU of the vehicle the oil service interval is stored, I can name across many brands, 15 different names for ECUs that store and calculate the oil service interval. For steering angle sensor or suspension reset/relearn this is even trickier, with them all topped by immobiliser coding. In some Mercedes, the immobiliser data is held with rolling codes in the engine ECU, the transmission ECU and the electronic ignition switch.



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## Search the Codes

So, in the reset function of the Euro Tab we found "injector", where we had to select Nissan after which the tool searched the correct ECU and the injector coding function in that ECU. This got us to the following page with the most amazing find we did not expect!

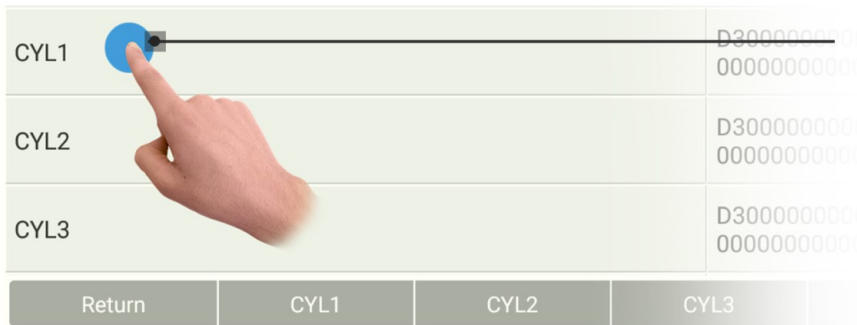
| Active Test  |      |                              |      |                  |       |
|--|------|------------------------------|------|------------------|-------|
| INJECTOR V10.90 > NISSAN > ENTER INJCTR CALIB DATA |      |                              |      |                  |       |
| Name   |      | Value                        |      | Unit             |       |
| ENTER INJCTR CALIB DATA                            |      |                              |      |                  |       |
| MONITOR  |      | CURRENT STORED INJECTOR DATA |      |                  |       |
| CYL1   |      | D3000000000000000000         |      | 00000000000000D3 |       |
| CYL2   |      | D3000000000000000000         |      | 00000000000000D3 |       |
| CYL3   |      | D3000000000000000000         |      | 00000000000000D3 |       |
| Return   | CYL1 | CYL2                         | CYL3 | CYL4             | Start |
| INJECTOR   |      |                              |      |                  |       |

We found four identical injector codes. To find any Engine with 4 identical injector codes is possible I suppose, but I have never seen one yet, in all my 40 years in automotive diagnostics. Then to see injectors coded with almost all zeros did not make sense to me at all. This had "uncoded injectors in a replaced ECU" written all over it. No wonder why the regeneration would not commence. Also remember that the history of this car is unknown, we could not establish if this car had a replacement ECU fitted or simply had the codes accidentally reset with an inferior scan tool.

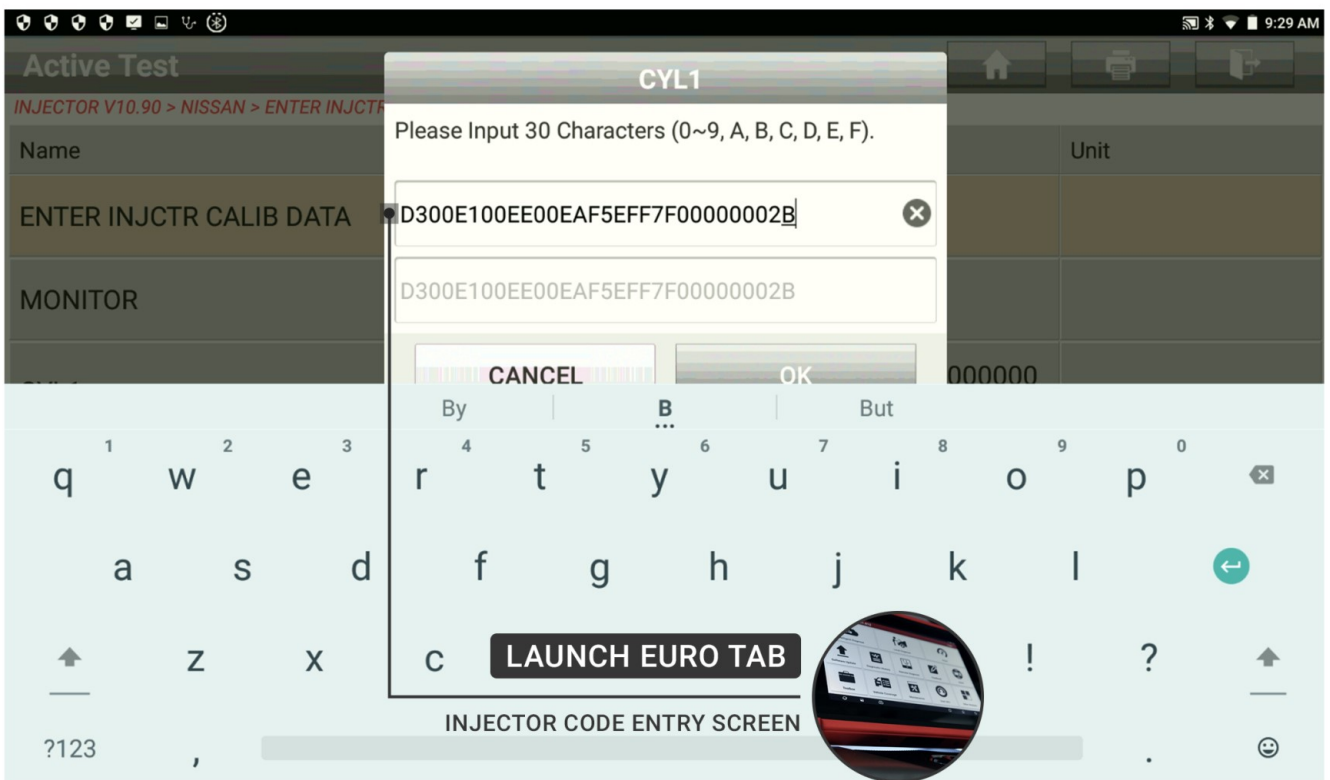
Why would a garage let a car go without the injectors being coded? It is a mystery to me! I can only assume that the last job was done with a substandard scan tool that simply did not have the injector coding function or a technician without much knowledge that had not done for example our Denso Common Rail Systems (DMS1-3) training where we explain in detail what the function of the injector codes is. At AECS we still come across a surprising number of technicians who think that the coding of injectors is simply not necessary or that "they sort themselves out".

### Coding

The working method from here is contact the customer to let them know that the job is not simply a forced regeneration. Coding injectors is a chargeable job. So, let's go through the job. After connecting to a ripple-free 20 Amp power supply on a fully charged battery the job can be started. Please note that these power supplies are available from any electronics store for under \$300.

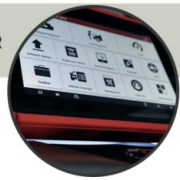


Firstly tap on the "CYL1" (left). That brings up the next page where you can enter the code printed on the top of the factory new injector (be a little careful with some remanufactured injectors).



Once the code is entered (only characters between 0 and F are permitted), hit the okay button. That gets you to the next screen:

| Name      | Value                                | Unit |
|-----------|--------------------------------------|------|
| CYL3      | D300000000000000<br>00000000000000D3 |      |
| CYL4      | D300000000000000<br>00000000000000D3 |      |
| Set Value |                                      |      |
| CYL1      | D300E100EE00EAF<br>5EFF7F00000002B   |      |
| CYL2      | D300000000000000<br>00000000000000D3 |      |



THE SCREEN THAT SHOWS CONFIRMATION THAT CYL1'S INJECTOR DATA WAS ENTERED AND ACCEPTED BY THE ECU.

Carry on doing the exact same thing for injectors 2 to 4.

When the last injector code had been entered, the screen will show the stored values as confirmation.

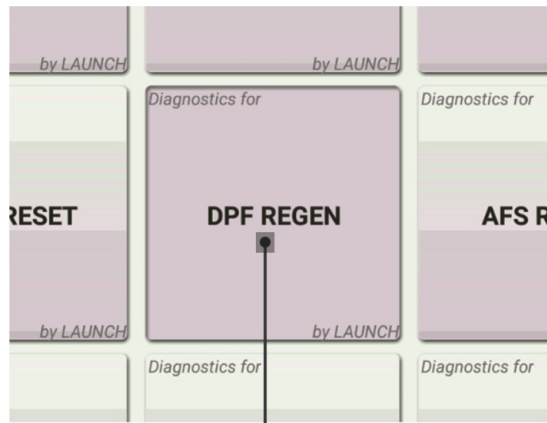
| Name      | Value                               | Unit |
|-----------|-------------------------------------|------|
| Set Value |                                     |      |
| CYL1      | D300E100EE00EAF<br>5EFF7F00000002B  |      |
| CYL2      | D300000000009FE1<br>004070400000033 |      |
| CYL3      | D3CFADFB413FE1<br>50C0D0A0000005D   |      |
| CYL4      | D300000000000000<br>0000A07000000DE |      |



ALL INJECTOR CODES ENTERED

## Back to Reset

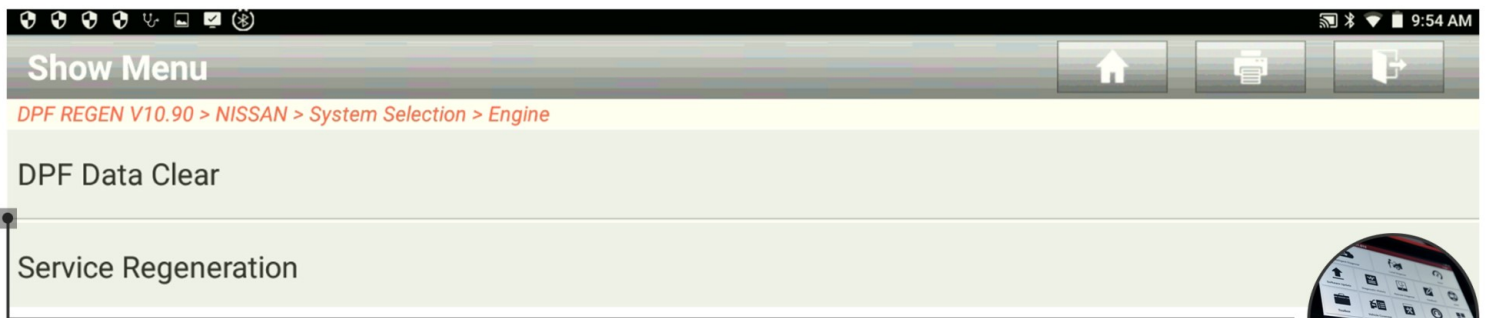
Now back to the reset menu, we still had to regenerate the DPF (Diesel particulate filter).



QUICK LINK TO THE DPF REGENERATION FUNCTION ON THE EURO TAB



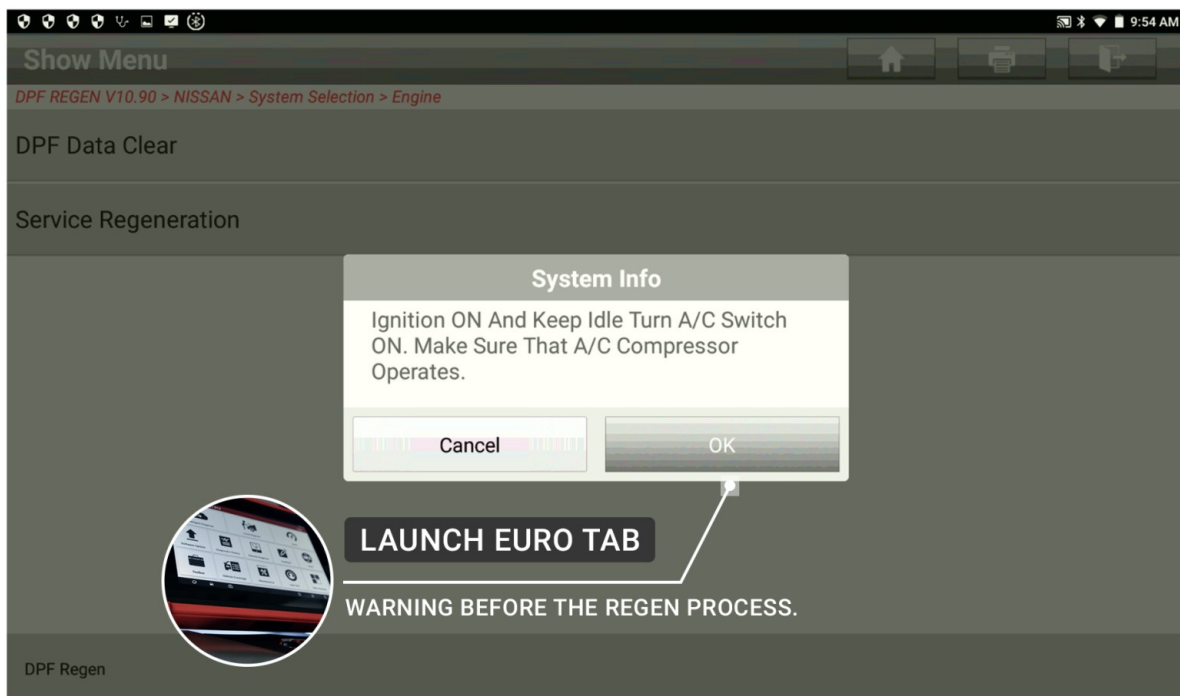
Once the DPF function was selected and then selecting Nissan, we had to select "service regeneration".



ELECTION SCREEN WHERE YOU CAN CHOOSE BETWEEN TEACHING THE ECU THE FLOW RESISTANCE OF A NEW DPF OR WHERE YOU CAN START THE DPF REGENERATION FUNCTION.

## Actual Regeneration

From here on the actual regeneration process is started, remember that is the job where the car actually came in for.



LAUNCH EURO TAB

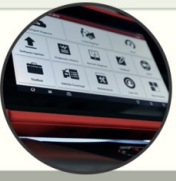
WARNING BEFORE THE REGEN PROCESS.

What the screen does not mention (expected common knowledge) is that the engine has to be up at operating temperature before the process can begin. The engine stays at idle and there is no indication that the regeneration process has actually begun.

**Active Test** Home Print Share

*DPF REGEN V10.90 > NISSAN > Service Regeneration*

| Name            | Value        | Unit |
|-----------------|--------------|------|
| Current Status: | Regenerating |      |
| MONITOR         |              |      |
| REG TIME RMN    | 0            | min  |
| CKPS-RMP(TDC)   | 753.86       | rpm  |

  
 SCREEN WITH THE ENGINE IDLING  
 (ENGINE COOL)

Return Start


DPF Regen

After hard accelerating the engine several times to get the temperature to increase we entered the function again and now with more success. The engine revs increased to about 1800 RPM without touching the accelerator.

**Active Test** Home Print Share

*DPF REGEN V10.90 > NISSAN > Service Regeneration*

| Name            | Value        | Unit |
|-----------------|--------------|------|
| Current Status: | Regenerating |      |
| MONITOR         |              |      |
| REG TIME RMN    | 75           | min  |
| CKPS-RMP(TDC)   | 1802.18      | rpm  |


  
 THE ACTUAL REGENERATION  
 PROCESS HAS BEGUN

From the timer in the regeneration screen, it is clear this is going to be a lengthy procedure. Please be aware that when the vehicle is moved during this process, that the process stops, for it to have to start all from the beginning again. So do not park the car inside the workshop, it is a good idea not to start the job just before you want to go home, while the customer is waiting, or in high traffic areas!

| Active Test                                      |              |      |
|--|--------------|------|
| DPF REGEN V10.90 > NISSAN > Service Regeneration |              |      |
| Name   | Value        | Unit |
| Current Status:                                  | Regenerating |      |
| MONITOR  |              |      |
| REG TIME RMN                                     | 53           | min  |
| CKPS-RMP(TDC)                                    | 1795.43      | rpm  |

**LAUNCH EURO TAB**

SCREEN DUMP AFTER 22 MINUTES OR REGENERATION



Since the regeneration process injects a lot of extra Diesel in a low-pressure combustion chamber the engine oil will be diluted and its level will rise. All that is left is to change the oil and filter and job done!

### Or Was It???

The technician recorded after the regeneration at idle DPF pressure differential fluctuations from 10hPa up to 300hPa! The sensor tubes and sensor values were checked and found to be perfect. Next the DPF had to be removed and inspected for loose material. An ominous rattle was heard as soon as the DPF was unbolted. Inside there was evidence that the substrate within the DPF had begun to fall apart.

Ultimately a new DPF had to be installed at \$4,500. Was the DPF failure caused by uncoded or incorrectly coded injectors? It's certainly possible, but we will never know for sure.

### Conclusion

How easy can it be to earn good money with diagnostics! Make sure you purchase quality equipment that is supported by engineers that understand your work. Engineers that face NZ automotive technicians almost daily through our sound and high-value training seminars.

Thank you for reading!

Herbert Leijen  
**Director AECS**



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## AUSCAN 3 + 3YRS OF UPDATES

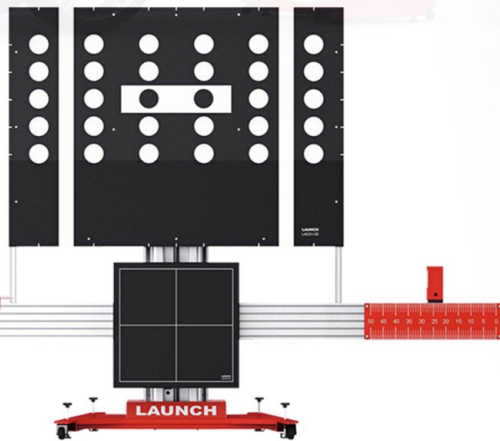
Due to a shipping delay you can still get the the new AUSCAN 3 with 3 years of updates (normally 2 years) save \$1100. Only \$500 deposit to secure you Auscan 3. Offer expires Monday 5 July 2021. [Use this link for more info](#)

### LAUNCH ADAS PRO

ADAS PRO functions as a multi-calibration tool for vehicle ADAS camera & radar systems.

Easy to calibrate, with instructions from the scan tool. Modular structure and accessories enable you to configure the tool to the best way to suit your workshop.

PRICE FROM: \$9,485.00 + GST



### AUSCAN 3

Auscan 3 makes its competition high-end scan tools look low-end in comparison. Auscan 3 is roomy, with larger internal storage for 125+ brands, and an increase in memory and processing power.



AUSCAN 3 has a huge ability. Includes special functions such as:

- Immobilizer/key coding
- Electronic throttle relearn
- Door control re-learn
- ETACS adapt
- Transmission re-learn
- Actuator tests

PRICE: \$3,866.00 + GST

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## AECS TRAINING

| Location         | Course Name                                 | Course ID        | Date            | Time               |
|------------------|---|------------------|-----------------|--------------------|
| <b>July</b>      |   |                  |                 |                    |
| Tauranga         | Air-Conditioning Systems                    | ECAC 1-1         | 6 Jul - 7 Jul   | 9:00 AM - 5:00 PM  |
| Hamilton         | Air-Conditioning Systems                    | ECAC 1-1 (c)     | 13 Jul - 14 Jul | 9:00 AM - 5:00 PM  |
| Hamilton         | Diesel Electronic Diagnostics               | DED (c)          | 15 Jul - 16 Jul | 9:00 AM - 5:00 PM  |
| Rotorua          | One day Automotive Electronics              | AED1 (c)         | 17 Jul          | 9:00 AM - 5:00 PM  |
| Wellington       | EV Battery Diagnostics & Repair             | EV3-1            | 22 Jul - 23 Jul | 9:00 AM - 5:00 PM  |
| Wellington       | One day Automotive Electronics              | AED1 (c)         | 24 Jul          | 9:00 AM - 5:00 PM  |
| Hastings         | Hybrid/EV Safety                            | HVS1-1 (c)       | 30 Jul          | 9:00 AM - 12:00 PM |
| <b>August</b>    |   |                  |                 |                    |
| Christchurch     | Automotive Electronic Diagnostics           | AED (c)          | 3 Aug - 4 Aug   | 9:00 AM - 5:00 PM  |
| Christchurch     | CAN databus                                 | CAN 1 (c)        | 5 Aug           | 9:00 AM - 12:00 PM |
| Christchurch     | Hybrid/EV Safety                            | HVS1-1 (c)       | 5 Aug           | 1:00 PM - 4:00 PM  |
| Christchurch     | Air Conditioning HV Service & Repair        | ECAC 1-2 (c)     | 6 Aug           | 9:00 AM - 5:00 PM  |
| Hastings         | online EV Diagnostics & Maintenance: Part 1 | EV21 Webinar (c) | 9 Aug           | 1:00 PM - 2:00 PM  |
| Hamilton         | Comprehensive Scope Training - Level 2      | ATS 1-2 (c)      | 23 Aug          | 9:00 AM - 5:00 PM  |
| Hamilton         | CAN databus                                 | CAN 1 (c)        | 24 Aug          | 9:00 AM - 12:00 PM |
| Hamilton         | Yes Meeting                                 | Yes Meeting (c)  | 25 Aug          | 9:00 AM - 5:00 PM  |
| Hamilton         | Diesel Exhaust after treatment              | DMS 1-4 (c)      | 26 Aug - 27 Aug | 9:00 AM - 5:00 PM  |
| Christchurch     | Air-Conditioning Systems                    | ECAC 1-1 (c)     | 31 Aug - 1 Sep  | 9:00 AM - 5:00 PM  |
| <b>September</b> |   |                  |                 |                    |
| Christchurch     | Diesel Electronic Diagnostics               | DED (c)          | 2 Sep - 3 Sep   | 9:00 AM - 5:00 PM  |
| Wellington       | Air-Conditioning Systems                    | ECAC 1-1 (c)     | 7 Sep - 8 Sep   | 9:00 AM - 5:00 PM  |
| Wellington       | Automotive Electronic Diagnostics           | AED (c)          | 14 Sep - 16 Sep | 9:00 AM - 5:00 PM  |