

ISSUE 110: 2012

DIESEL TORQUE

OFFICIAL MAGAZINE OF THE ASSOCIATION OF AUSTRALASIAN DIESEL SPECIALISTS INC. (AADS)



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President's Report



Well we are now well underway and the dates are out for our 2013 Convention. The hotel is booked and we are off to the Gold Coast. We have been to the Marriott on the Gold Coast before and had a great time so I am sure it will be a great weekend in March next year

once again. Rubbing shoulders with others within your industry.

We have a special General Meeting in early November in New South Wales. We are holding this along with their normal get together. The main thing on the Agenda is the new constitution, by now you will have all read the new document and I hope you have put in your postal vote if you are not attending the meeting. The Board have put in a lot of effort into this as you have seen and we feel it is the best way forward for our Association. Please make sure you vote.

Lloyd and Walter from Queensland have been out and seen the new TAFE Skills Tech Facility just South of Brisbane. They met with Chris Kroehn and were very impressed with what they were shown. Chris is very happy to help us out with our apprentice training, so we will be looking to them to put a program together and get this underway. I am sure we will be able to cover all the States in Australia apart from NSW and we will be able to support New Zealand from here as well.

We will need to hold a meeting and put some people onto this to get it underway. We must always remember that training younger people in our industry is our future. These are the people that will give all of us guys with grey hair a way out at the end.

Although I didn't attend due to another meeting on the same weekend, I have been told that New Zealand had a great weekend in Wellington, when the members got together last month. Once again Dave put on a great program. From that weekend you will find that the New Zealand Branch now has a Facebook page which is up and running and reporting new information. So if you are a Facebooker then please make sure you have a look and push the "like" button.

That is all for now. I am looking forward to the Gold Coast and also remember this year is election year so please have a look at you own Branch people and next year you will be voting on a New President.

Mike Hurley
AADS President

DIESEL TORQUE

OFFICIAL MAGAZINE OF THE ASSOCIATION OF AUSTRALASIAN DIESEL SPECIALISTS INC. (AADS)

Editorials Required

Diesel Torque is your magazine. Currently most articles are submitted by your respective State Chairmen and members of the National Committee.

We would encourage the members to submit any articles of interest that everyone would enjoy reading. It does not necessarily have to be technical, diesel or turbo oriented. We are looking for articles of interest across the board to all who read our magazine. Write an article of interest, find an article that you think would help others and submit it to your State Chairman for publication.

- All submissions can be sent to the following email address
aads@theassociationspecialists.com.au
- All pictures should be sent separate from text, preferably in jpg format and all articles written in Word.
Do not embed images into the word document.

Help yourselves to your own magazine and think how you can contribute to make it something that is of interest to your fellow members. This is your association, make it a success. We look forward to receiving your contribution for the next publication.

**Help Yourself,
It's Yours.**



AADS 2013 CONFERENCE
Save
The
Date
13 - 17 MARCH 2013

Surfers Paradise
Marriott Resort
& Spa
QLD, Australia



After the recent success of the 2012 Conference in Fiji we have now locked in some dates for you to mark your diaries for the AADS 2013 Conference.

The conference will be held on 13 – 17 March, 2013 at the Surfers Paradise Marriott Resort & Spa, QLD, Australia.

Watch our website for details about the conference, including social program, speakers, accommodation and also the online registration facility.

Further Information

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E: aadsconf@theassociationspecialists.com.au

see you on the
Gold Coast in
March 2013!

Check the website for
updated information
www.aads.com.au





Fuso develops heavy-duty hybrid truck

Fuso has introduced a heavy-duty hybrid truck in Japan. The new vehicle concept will have its official show premiere at the Tokyo Motor Show from 30 November to 11 December 2012. However, first tests of the Super Great HEV have already demonstrated significant fuel efficiency improvements over conventional diesel-only vehicles.

The hybrid heavy-duty truck development is a further milestone in the development efforts of the Global Hybrid Center (GHC) located in Kawasaki. The development centre synchronises and controls Daimler Trucks' global hybrid activities.

"We want to be leaders in green technologies," says Dr. Albert Kirchmann, Fuso President and CEO, on the occasion of the product presentation. "Our development of a long-haul hybrid truck represents a significant expansion of our hybrid activities and shows our focus on bringing cost-effective, low-emission commercial vehicles for a wide spectrum of applications. We will continue to promote advanced technologies to reduce emissions and increase fuel efficiency."

Andreas Renschler, member of the Daimler Board of Management responsible for Commercial Vehicles, adds: "Fuso's activities in the area of alternative drive systems are an important component of our global commitment to environment-conscious, sustainable transport solutions. Daimler Trucks is very well prepared for future requirements with its current green product portfolio."

The newly developed hybrid heavy-duty truck is based on the technology of the Canter Eco Hybrid, around 1200 units of which have been sold since it was introduced in 2006 and which has proved itself in numerous applications worldwide. The Fuso Super Great HEV now presented features a conventional diesel engine; electric motor/generator; lithium(Li)-ion battery; and related control software.

It utilises a parallel hybrid system. That means power to drive the vehicle comes from the vehicle's electric

motor, the diesel engine or both. Fuel efficiency and emissions reduction are achieved by using them separately or in combination with each other according to driving conditions. When slowing down or braking, the electric motor functions as a generator to brake the vehicle. The generator converts brake energy into electric energy and returns it to the lithium-ion battery.

The first tests performed under real-life conditions show an impressive increase in fuel efficiency by as much as ten percent versus conventional diesel-only powered vehicles. Testing was conducted on motorways in Japan, in representative conditions.

"Evaluation so far shows that hybridisation can indeed benefit heavy-duty trucks in typical long-haul operations," explains Gustav Tuschen, Fuso's Vice President of Product Engineering. "The conventional thinking is that hybrids best fit trucks like the Canter Eco Hybrid involved in short-radius distribution operations, since such operations involve many stop-and-go situations. Braking energy can be continuously recaptured this way. But heavy-duty highway trucks in long-haul operation clearly benefit as well."

Long-haul trucks recover and store energy as they move up and down hills. In addition, they tend to run much longer distances than light commercials; therefore, the benefits of hybrids accumulate. The hybrid system of the Fuso Super Great is optimised so it can capture energy even when the truck is going down very slight grades. The parallel hybrid system ensures that energy loss is minimised.

by Truckin Life | October 31, 2011

Denco Diesel & Turbo Lead the way with Prestigious Award



In recognition for outstanding dedication to sales & service, the team at Denco Diesel & Turbo has been named Borg Warner Distributor of the Year for Asia Pacific.

Denco Diesel & Turbo took out Distributor of the Year ahead of 25 other Borg Warner distributors in the Asia/Pacific Region. www.dencodiesel.com

The award was presented to Paul Taylor, National Sales Manager of Denco Diesel & Turbo, by Garry Shields, Regional Sales Manager at Borg Warner, during a surprise visit from Malaysia at the end of July.

This is the first time Denco Diesel & Turbo have received the prestigious award.

"This award is a great honour. I'm extremely proud of our team and it means a great deal to everyone here to be considered a key distributor by a leading name in the turbocharger industry, and the first Australian company to receive this award. It is proof we are moving in the right direction, and will continue to drive improvements in our business to deliver world class services and products to our customers" said Paul Taylor, National Sales Manager, Denco Diesel and Turbo.



"This award is a great honour. I'm extremely proud of our team and it means a great deal to everyone here to be considered a key distributor by a leading name in the turbocharger industry, and the first Australian company to receive this award."

Denco Diesel and Turbo have been distributors for Borg Warner for over 25 years, one of only three distributors in Australia, and over 450 worldwide.

"Denco Diesel ticks all the boxes for us. With outstanding dedication to sales and service coupled with a large inventory holding, they are leading the turbocharger Aftermarket in Australia. This ensures that our customers can obtain BorgWarner products both quickly and cost effectively. Their continued progression into e-commerce has kept them ahead of the industry in a rapidly changing world of business." said Garry Shields, Regional Sales Manager at Borg Warner.

Denco Diesel & Turbo are industry experts in fuel injection and turbochargers. Authorised agents of Honeywell by Garret, Holset, Borg Warner and stockists of Mitsubishi Heavy Industries and IHI. With close to 40 years company experience, Denco Diesel & Turbo are committed to excellence and offer an exceptional level of service.

Climate change and vehicle emissions



Climate change is a big political issue right now and there's a lot of pressure on manufacturers to reduce vehicle emissions drastically. In many countries, owners of efficient fleet vehicles enjoy tax incentives that their gas-guzzling friends don't receive. This demand for "green" vehicles has resulted in equipment manufacturers producing more and more precisely engineered injectors to minimise wastage.

The E3 injector from Delphi targets this niche and offers performance and economy together. Described by Delphi as "one of the world's most advanced production diesel injectors", the E3 is being fitted to more commercial vehicles all the time .

The innovative dual coil arrangement provides some significant advantages over a standard EUI. The first coil controls the spill valve and, therefore, the EUI internal pressure (as in the standard arrangements with previous EUI's such as the A series or E1).

The second coil provides the real innovation by working in a similar way to a Common Rail Injector through operating a Nozzle Control Valve (NCV) which manages the nozzle lift, allowing for multiple injection events per cycle.

This method of control results in significantly lower emissions - indeed, vehicle manufacturers have been using the E3 in production now for about 5 years. However, testing these injectors has not been possible as there has been no solution that provided the ability to control both coils during the testing phase and service for vehicles fitted with these injectors has been via replacement only.

Due to this advanced technology, replacement of multiple E3 injectors can be expensive with many customers questioning replacement costs. This has led to a strong demand for an authorised test solution which has grown steadily since the E3's inception.

This was discussed at last year's AADS conference where Hartridge departed from its normal presentation to discuss Research and Development initiatives and the products we predicted would impact the diesel injection market in the near future. Following a great deal of interest Hartridge announced it was developing a test solution for the E3 injectors.

Following this, Hartridge is now pleased to announce that the E3 test kit is now available to order – indeed one of the very first models released is now in Australia for extensive field trials.

The E3 is an add-on for the AVM2-PC, comprising software updates, a modified cambox and a twin solenoid controller and amplifier. This joins the family of add-ons for our flagship product which provides AVM2-PC owners with the widest range of authorised test solutions for a single product.



If you'd like to expand your workshop capabilities and take advantage of the latest diesel market opportunities, find out more about the AVM2-PC and its ground-breaking E3 test solution by contacting Diesel Distributors at www.dieseldistributors.com.au



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SUBARU CAM

This article is a true description of an AECS technical help desk problem and how it was solved.

Vehicle: 2001 Subaru Legacy twin turbo

Problem presented to the Helpdesk

Sometimes the problem presented to the help desk is not so difficult at all. It is often the story behind the fault presented which is difficult to understand.

It is not comprehensible to us at AECS why it can take a sometimes-long series of events before a simple problem is found and repaired.

In this help desk case we dealt with some time ago, the car was presented with a persistent cam shaft sensor fault code.

The first garage who owned a scan tool replaced the sensor with a second hand sensor.

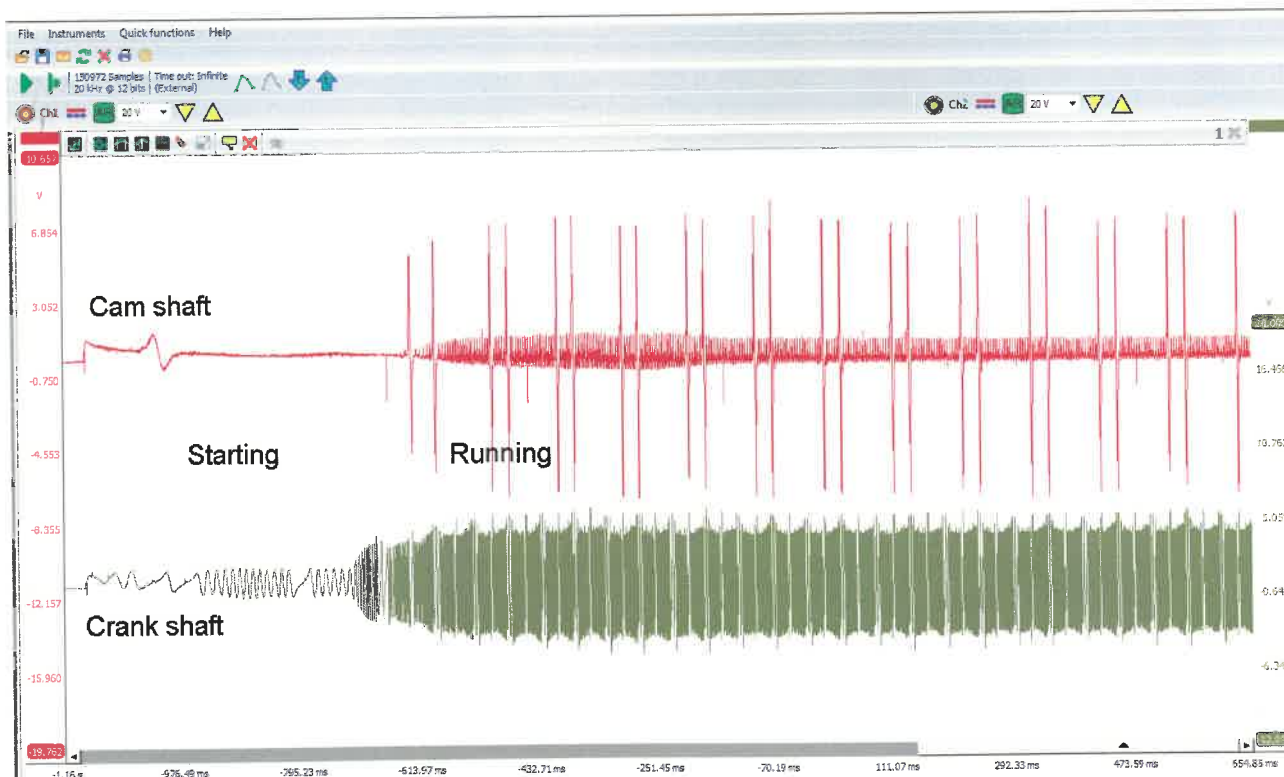
The check engine light stayed on and the fault code did not disappear. The sensor was replaced for a new one, with the same outcome.

Auto sparky

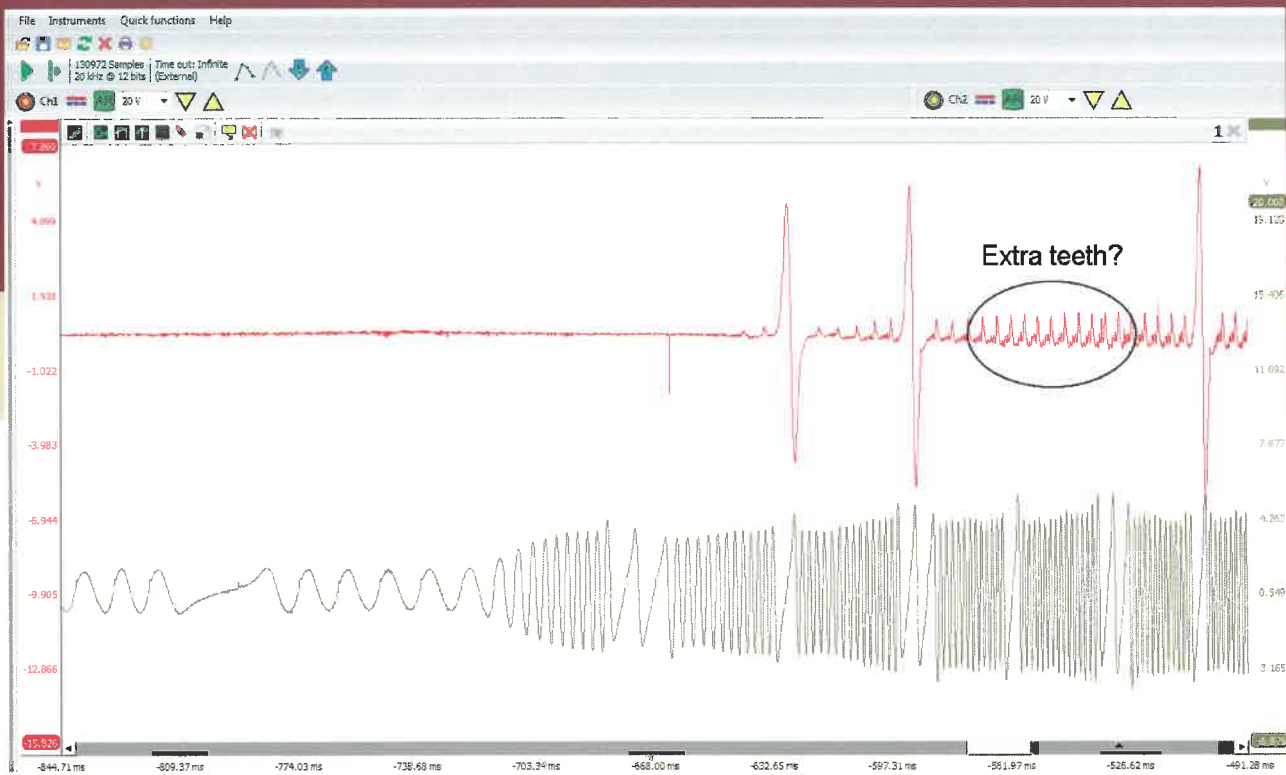
The car was passed on to the auto sparky, who proceeded with pulling two new wires between the cam sensor and ECU, after again a new sensor was tried.

No effect, the fault code stayed and the check engine light stayed on.

The sparky told the garage that it could be the cam timing, which was checked and found to be correct. Please do the maths.



ATS 5000 scope recording made when the engine started and fired up.



Zoomed in on the transition between winding over and firing up.

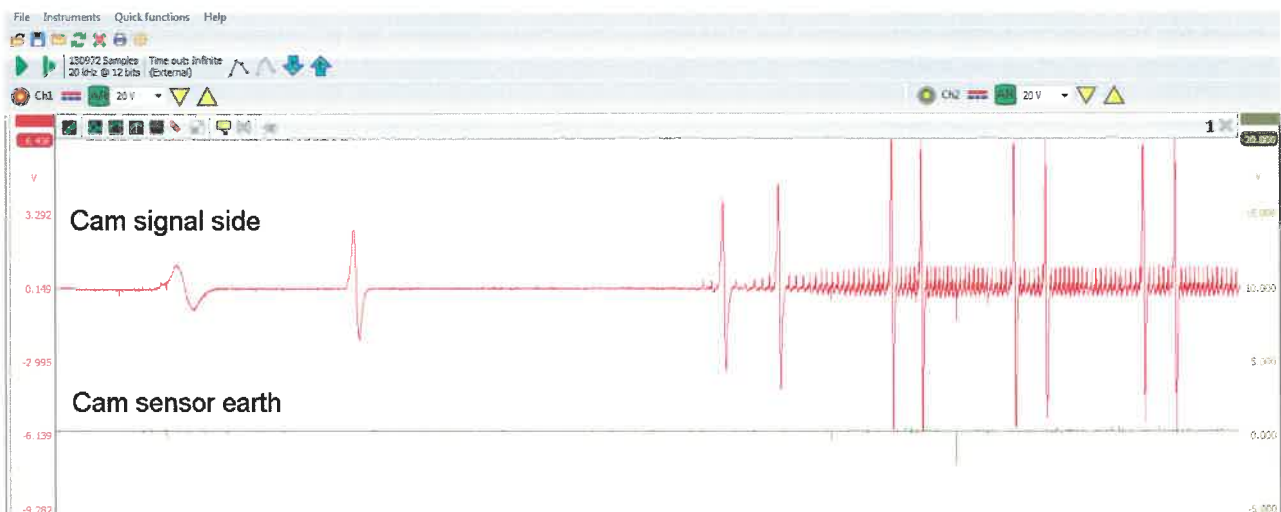
ATS scope owner

The vehicle then got passed on to a diagnostician who owns an ATS scope. The diagnostician recorded the cam and crankshaft signals to see if the signals were correct and in phase.

The diagnostician has a lot of Subaru experience and mailed the pattern to the help desk, as he did not recognise the signal as a common Subaru set up.

The recording needed to be zoomed in to fully see if there were any problems in the signal or if the phase offset was fluctuating.

Scrolling through the pattern, no phase offset was found indicating for example a loose timing belt, but zooming in we did see extra pulses between the pulses of the tone wheel. These pulses were not familiar to the diagnostician.





ATS scope recording of camshaft sensor vs. ignition trigger.

The pulses were substantial as the peaks are at 1.1 V and the troughs are at -0.2V

We also noted that the signal was very clean before the camshaft came up to speed (winding over).

We expected to find a bad earth on the camshaft sensor as the crankshaft sensor was clean, so this was recorded during starting:

The earth of the sensor was clean, so back to the drawing board.

Arm and Fire

Any technician who has attended the AED training course will know from looking at the signal that the arm and fire levels of the ECU are well exceeded by the extra pulses between the teeth of the camshaft tone wheel. But why?

Induced noise

We suspected induced noise from a high current source; the best is to start by dual channelling the bad signal with all your high current sources, one by one.

To start we scoped the cam sensor signal vs. the ignition coils trigger.

There was no correlation between the ignition system and the noise on the camshaft sensor, the coil was

already switched before the induced noise climbed high enough to go past the arm and fire point in the ECU.

Next smart move of the diagnostician was to remove the fan belt disabling the alternator. I must honestly say that I would not have done that just yet. I would have done a recording of the cam vs. injectors or gearbox solenoids first. Alternators often do not give trouble.

Smooth

This instantly made the pattern smooth! The alternator was removed and a new rectifier was fitted.

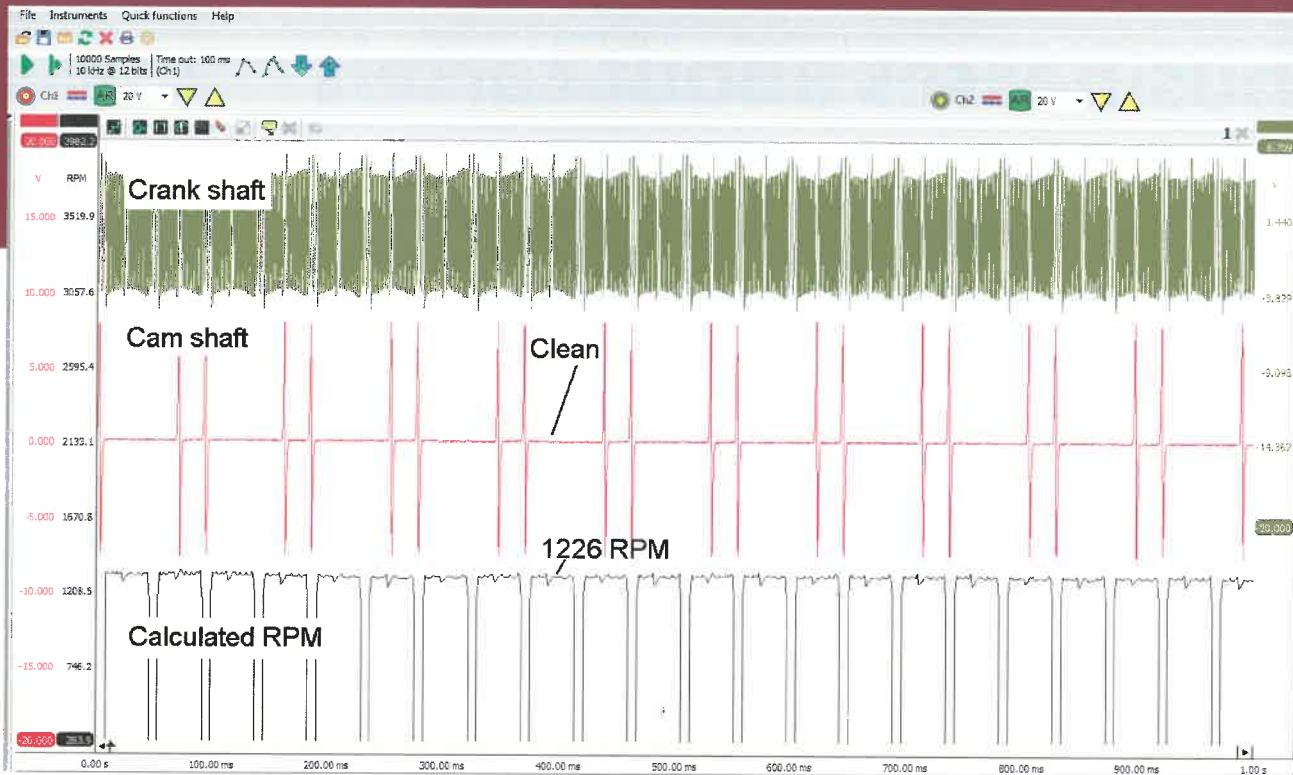
The diagnostician sent me the recorded pattern after the alternator was fixed.

Fixed!

Usually I promote to measure ignition vs. injection as a first port of call. In this case this was not warranted as the engine ran fine. The car went to the garage because the check engine light was on.

It must be noted that the battery voltage was measured before the repair with a multimeter at a perfect 14.61Volt.

A simple alternator job did the trick!



2 channel ATS scope recording of crank shaft sensor vs. cam shaft sensor after repair.

The RPM trace is made with the math function of the scope, the math function is normally used to detect misfire.

Conclusion

The whole job took only about 2 hours labour including the removal of the alternator.

The irritating thing is how to explain this to the garage who passed the job on to the diagnostician. They simply did not understand how the alternator could be responsible for setting a camshaft sensor fault code.

Anyone who has attended the AECS AED course would understand the explanation.

Anyone with a dual channel scope could have found this fault.

Training, support and proper recording equipment was the key to a speedy resolution of this job.

for AECS Ltd:

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New ACCC short film warns businesses about cartels

Did you know that under Australian law, it is a criminal offence for competing businesses to make agreements to fix prices, rig bids, share markets or restrict outputs or supply?

The Australian Competition and Consumer Commission (ACCC) has made a short fictional film called *The Marker* to engage people at all levels of business and educate them about the devastating impact that cartels can have on the people involved.

Sometimes businesses that would normally compete with each other enter into secret agreements with the intention of stifling competition to maintain or increase their profits.

Cartel activities can force prices up for consumers and others in the supply chain, reduce product choices and suppress innovation. They can make it difficult for other businesses to survive and ultimately damage the economy.

The ACCC is responsible for detecting cartels and taking legal action to stamp out cartel activity. The ACCC also has a responsibility to educate businesses about the illegal nature of cartel activities and the potential consequences of engaging in such behaviour.

Businesses engaging in cartel behaviour risk fines of \$10 million or greater, and individuals risk jail sentences of up to 10 years along with hefty fines.

This film is the latest initiative in the ACCC's awareness raising campaign which was inspired, in part, by Melbourne University research showing gaps in business awareness of the illegality of cartel conduct.

The film shows how cartel activity can ruin relationships, careers, reputations and long term financial security, and may land guilty parties in jail. It also sheds light on the ACCC's immunity program, which provides successful applicants with immunity from court proceedings in exchange for cooperation with ACCC investigations.

The ACCC encourages industry bodies, businesses and their staff to view the film as a way of promoting awareness and discussion about what constitutes cartel

conduct, some of the consequences of cartel conduct and how the ACCC's immunity policy works.

The short film and a trailer are available at the ACCC website (www.accc.gov.au/cartels) along with messages from ACCC Chairman Rod Sims and Qantas CEO Alan Joyce. A DVD version of these films can be ordered at no charge via the ACCC Infocentre on 1300 302 502. Further information about cartels is also available on the ACCC website.



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2011-02



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Stage 8 Locking Header Bolts or Nuts are easy to use and they are real assurance against horsepower loss or gasket failure created by loose nuts or bolts. The unique patented and trademarked functional design is just three pieces: a bolt (4130 Alloy Steel), a locking retainer and a spring clip. The header bolt kits are application specific as either hex head with a 3/16 recessed allen head or 12 point, USA or metric. The turbo bolt kits are application specific as either metric hex head 6 point or metric nut. All Stage 8 Locking Header Bolt Kits are sold with all of the necessary hardware for your application. *GCG Turbochargers has been appointed the Australian Distributor for the range and now have stocks ready to purchase.*



STAGE 8 LOCKING HEADER BOLTS NOTE: DHH = DOUBLE HEX HEAD BOLT, INCLUDES 3/16 RECESSED ALLEN HEAD

Application	Part #	Description
Turbo Kit (4) 8mm-1.25 nuts	3950	(4) 8mm-1.25 nuts
Turbo Kit (4) Bolts	3902	(4) 8mm-1.25x 25mm bolts 6pt
Turbo Kit (4)10mm-1.25 nuts	3951	(4) 10mm-1.25 nuts
Turbo Kit (4) Bolts	3903	(4) 10mm-1.25x 25mm bolts 6pt
Turbo Kit (4)10mm-1.50 nuts	3952	(4) 10mm-1.50 nuts

FOR MORE INFORMATION OR SEE MORE OF THE RANGE VISIT www.stage8.com or www.gcg.com.au

SkillsTech Australia

First graduates for National Apprenticeship Program (NAP)



Two SkillsTech Australia graduates will help combat skills shortages in the resource sector after receiving their formal qualifications today at the institute's Acacia Ridge Training Centre.

SkillsTech Australia Institute Director Mary Campbell said the innovative Queensland created program saw the two adult apprentices complete their qualifications well ahead of time and offered employment in the resource sector.

"The National Apprenticeships Program (NAP) is a unique program which skills Australian workers by rigorously assessing their knowledge and abilities, then filling in gaps in training to enable completion of a trade qualification, potentially within 18 months," Mrs Campbell said.

"Today, we congratulate our first two graduates both with AngloAmerican Metallurgical Coal: 35-year-old, Chris O'Brien who completed his diesel fitting apprenticeship within 10 months and 30-year-old, Ben Anderson who has also completed his electrical apprenticeship within 10 months."

"As Queensland's largest trade and technician training TAFE institute, SkillsTech Australia is proud to be the National Training Coordinator for this ground-breaking initiative."

"The National Apprenticeships Program (NAP) is a unique program which skills Australian workers by rigorously assessing their knowledge and abilities, then filling in gaps in training to enable completion of a trade qualification, potentially within 18 months"

Chris O'Brien applied to NAP in May 2011 and at the time was employed as a shift coordinator for a Brisbane bus service; he was a licenced small engine mechanic.

"I had spent two years as a diesel technician in the UK, I could weld, fabricate and repair vehicles, but just never had the opportunity to become a qualified diesel fitter in Australia," Mr O'Brien said.

"I applied for NAP, completed the Recognition of Prior Learning

process with SkillsTech Australia and I'm now employed by AngloAmerican Metallurgical Coal on their coal mine sites in Central Queensland as an apprentice.

"I am now a fully qualified diesel fitter employed by AngloAmerican Metallurgical Coal, which would not have happened without this program.

"I would like to take this opportunity to thank all those involved in NAP and SkillsTech Australia for helping me to fulfil my dream."

Applications for NAP must be submitted online at www.nationalapprenticeships.com.au.



The lead TAFE institute in trade and technician training

New \$25 million Engineering Trade Building opens



SkillsTech Australia continues to combat the national skills shortage with the official opening of its new \$25 million Engineering Trade Building at the Acacia Ridge Training Centre.

SkillsTech Australia Institute Director Mary Campbell said the opening marked the completion of the Engineering Automotive Precinct at Acacia Ridge.

"The new 8000 square-metre Engineering Trade Building offers flexible delivery workshops, 18 classrooms, two purpose-built laboratories and numerous workshop areas," Mrs Campbell said.

"This new facility is home to engineering trades, including fabrication trades in boilermaking, welding and sheetmetal work, mechanical trades in machining, diesel fitting, and fitting and turning, and Advanced Diploma engineering courses.

"More than 1000 students at any one time can be catered for within the state-of-the-art facility.

"The new building offers technology enhanced instruction, simulators, a modern learning environment and sustainable design initiatives.

"It was also wonderful to welcome John-Paul Langbroek, Minister for Education, Training and Employment today and other dignitaries from industry and government.

"This is the completion of the \$200 million capital works program committed by the Queensland Government funded through the Queensland Skills Plan.



"The new 8000 square-metre Engineering Trade Building offers flexible delivery workshops, 18 classrooms, two purpose-built laboratories and numerous workshop areas"

"The world-class facilities at SkillsTech Australia will ensure the TAFE institute is a provider of choice for trade training in Queensland."

For further information about training opportunities available at SkillsTech Australia, please phone 1800 654 447 or visit www.skillstech.tafe.qld.gov.au

New California Study Finds More Particulate Emissions from Charbroiled Burgers than Diesel Trucks



"For comparison, an 18-wheeler diesel engine truck would have to drive 143 miles on the freeway to put out the same mass of particulates as a single charbroiled hamburger patty."

BILL WELCH, Principle Engineer,
University of California-Riverside

WASHINGTON, Sept. 21, 2012 /PRNewswire-USNewswire/ — The major advancements in clean diesel technology have been highlighted in a new and unique study by the University of California-Riverside that found commercially cooked hamburgers emit more particulate matter than 2007-2010 model year clean diesel trucks.

The UC-Riverside study was funded by the South Coast Air Quality Management District and the San Joaquin Valley Air Pollution Control District. The study was first reported by CBS-TV Los Angeles.

"While the primary focus of this new study was on emissions from commercial charbroilers, this comparison clearly illustrates the significant

improvements from clean diesel technology on California's air quality. In fact, the study also found that the particulate matter (PM) inventory from commercial cooking is more than double the inventory from heavy-duty diesel trucks," said Allen Schaeffer, the Executive Director of the Diesel Technology Forum.

"I will say this is an extremely unusual comparison. Generally, clean diesels are matched up against natural gas, hybrids or electric vehicles for emissions or fuel efficiency tests. This is the first time we've gone head-to-head against fast food," Schaeffer said.

"But more of these kinds of comparisons are likely, especially in California, where clean diesel technology has been such a success story. Today in California the

majority of particulate emissions come from brake and tire wear, with diesel emissions making up small and declining fraction."

New technology has reduced diesel particulate emissions by 99%

"In the United States, emissions from heavy-duty diesel trucks and buses have been reduced by 99 percent for nitrogen oxides (NOx) – an ozone precursor – and particulate emissions. A key part of reducing emissions has been the shift to ultra-low sulfur diesel (ULSD) fuel that has been available since 2006. This change in fuel specification reduced sulfur emissions by 97 percent – from 500 PM to 15 PM – and enables the use of advanced emissions control technologies. Similar advancements are taking place in off-road engines and machines," Schaeffer said.

"Across the U.S. emissions of particulate matter from diesel engines are declining and make up less than six percent of all particulate emissions.

"Because of the investments in new technology it now takes 60 of today's technology trucks to emit the same level of PM emissions as one truck built in 1988. In addition, new farm tractors and construction equipment of all shapes and sizes are now at, or are moving toward, near-zero emissions for particulate matter."

2012 Studies highlight advancements and importance of clean diesel technology

Schaeffer said several recent scientific and academic research studies have highlighted the important advancements in clean diesel technology:

- On August 2, 2012, a new report was released – "Advancing Technology for America's Transportation Future" – which was authored by the National Petroleum Council (NPC) for the U.S. Department of Energy. The NPC report states: "Diesel engines will remain the powertrain of choice for (heavy duty) vehicles for decades to come because of their power and efficiency. There are, however, opportunities to improve the technology. Significant fuel economy improvements in diesel powered trucks are possible. Indeed, the fuel economy (mpg) for new Class 7&8 HD vehicles, which consume more than 70% of the fuel in the trucking fleet, could be doubled."
- In a special presentation on May 24, 2012 to the California Air Resource Board (ARB) in Sacramento, California, leading international scientists discussed

the key short-lived agents black carbon (soot) and methane. Findings presented to the ARB indicated a 50 percent reduction of black carbon in ambient air over the past 20 years. Mary Nichols, Chairman of the ARB stated: "It is encouraging to see that ARB's diesel regulations, while designed to improve public health are also addressing climate change."

- A study released on April 12, 2012 by the Health Effects Institute (HEI) provides important new insights into the emissions and health effects of the new diesel, known as the Advanced Collaborative Emissions Study (ACES). These and related findings were recently presented at a CARB Research Seminar.
- In its March 2012 Report to Congress on Black Carbon (BC), the U.S. Environmental Protection Agency (EPA) stated: "[T]he United States will achieve substantial BC emissions reductions by 2030, largely due to controls on new mobile diesel engines." The EPA report also recognizes the challenges in reducing emissions from both mobile and stationary diesel engines in these developing countries since they typically do not have ready access to cleaner low sulfur fuels that are required for most advanced emissions control technologies.
- New research released April 23, 2012 from North Carolina State University – "Real-World Measurement and Evaluation of Heavy Duty Truck Duty Cycles, Fuels, and Emission Control Technologies" – shows that federal requirements governing diesel engines of new tractor trailer trucks have resulted in major cuts in emissions of particulate matter (PM) and nitrogen oxides (NOx). Trucks in compliance with newer standards showed a 98 percent decrease in NOx and 94 percent reduction in PM emissions.

About the Diesel Technology Forum

The Diesel Technology Forum is a non-profit national organisation in the United States dedicated to raising awareness about the importance of diesel engines, fuel and technology. Forum members are leaders in clean diesel technology and represent the three key elements of the modern clean-diesel system: advanced engines, vehicles and equipment, cleaner diesel fuel and emissions-control systems. For more information visit www.dieselforum.org.

Source: Diesel Technology Forum

Branch Updates



Neil Quick *NSW Chairman*



We held our last meeting in a restored old country house in the western town of Dubbo hosted by Brian Pears from Dubbo Diesel. Very relaxing atmosphere for our meeting with homemade scones and jam for morning smoko and attended unfortunately by a small

group of shops. The meeting consisted of talk about the revamped constitution and whether we should be expanding to allow more verified trades to join the AADS e.g. Auto Electricians. It was generally decided to remain as is for the present.

The second part of our meeting consisted of a general discussion on any technical matter that people were interested in and mainly was about Toyota D4D and their problem with knocking on cold start up. Some useful information was thrown around and helped everyone understand this problem a little bit better. This is one of the objects of the association – to help each other as a member.

One announcement that had everyone surprised for a while was made by Mario Pappalardo that quote “B & M had sold” unquote. We sat in silence for a minute and then my question was does Laurie know - thinking we would be seeing a new member. But Mario was having us all on when his next statement was “B & M had sold - the TATA”. Now anyone who knows Mario and his love affair with the TATA would be shocked to think that he would ever part with it – but there you go.

The afternoon was spent visiting Dubbo jail which is a fascinating historical place and had us grateful that we live in this era and not the past. Once again I would like to thank Brian and his family for organising the weekend which was enjoyed by all.

Our final meeting for the year is the November 3rd meeting/AGM at Penrith Panthers and as this is a voting year very one should have received their nomination forms for the new committee. Do not be afraid to nominate yourself. I hope to see a good rollup at this meeting.

People born before 1946 were called
The Greatest Generation.

People born between 1946 and 1964 are called
The Baby Boomers.

People born between 1965 and 1979 are called
Generation X.

And people born between 1980 and 2010 are called
Generation Y.

Why do we call the last group - Generation Y?

Y - should I get a job?

Y - should I leave home and find my own place?

Y - should I get a car when I can borrow yours?

Y - should I clean my room?

Y - should I wash and iron my own clothes?

Y - should I buy any food?



FUEL INJECTION FOR THE BODY AND SOUL

Leonie's Rice Salad

This is a summer meal for those watching the waistline who don't want to compromise flavour. No mayo or dressings that pile on the calories. It can be made as a large take anywhere dish by altering the quantities without too much drama or a small serve for lunch boxes. You only have to have rice, cold cooked on hand and the rest is a five minute job.

INGREDIENTS

- 2 cups cooked rice
- 2 cups rough chopped baby spinach
- ½ cup cold cooked chicken or 2 slices smoked salmon or small tin tuna. All work well for this recipe
- 1 heaped T/spoon, chopped fine, pickled ginger. This is the key ingredient which takes it from an ordinary salad to an amazing dish. You can purchase this in any store in the Chinese food section.
- ½ a Lebanese cucumber, chopped
- ¼ red capsicum, diced
- 1 Stalk finely chopped celery
- 3 T/spoons soy sauce

METHOD

Toss and serve!

The life of this dish is only one day.

Mmmm.

Walter Vrbancic *QLD Chairman*



Hi everyone, you are probably all wondering what's happening in Queensland as we have been quiet as of late. Our last meeting was November last year and we will shortly have another one which I will let you know of shortly. This will be my final year

as the state chairman. Please get yourselves organised to take over from me in this role. There have been a few new membership requests that have come in this year and we will deal with them at the meeting.

We propose to have the next meeting at the Diesel Distributors branch here in Brisbane. We will advise you of a time and place shortly. The format will be that of a meeting and then we will be conducting a training course with your own scan tools so we will encourage you to bring them with you for the course.

Work wise and business wise times have been very up and down. We have had a change of government which has caused some instability in the economy, although at the moment the economy seems to be growing slightly.

Next year the national convention is being held in Queensland and we hope to have a part in the organising as we have done in the past.



Remanufactured Electronic Unit Injectors

In some way shape or form, heavy commercial vehicles are part of every day life for all of us. From cement trucks to car transporters, container trucks to refrigerated transport, trucks remain the life blood of Australian industry. In recent years there has been a steady increase in the number of vehicles registered on Australian and New Zealand roads. The Australian Vehicle Census Report 2011 shows an average yearly increase of 2.1% and 3.8% for Heavy Rigid and Articulated trucks respectively on Australian roads since 2006. Compare this with a 2.3% yearly average increase in passenger vehicle registrations and it is obvious that trucks are playing a major influence in our method of goods transportation.

As we all know, Australia is still playing catch up with Europe with respect to our percentage of diesel vehicles versus petrol registrations. Across the board, in 2006 diesel vehicles made up 10.6% of all registrations (including passenger, light and heavy commercial), in 2011, this number had risen to 14.7%. But getting specific to heavy commercial, the percentage of diesel powered vehicles is dramatically higher, estimated to be closer to 90% and with an average vehicle life of 7+ years (and increasing), the diesel repair industry is on the verge of a demand surge.

Diesel Distributors is now pleased to offer a range of Direction Plus Remanufactured Electronic Unit Injectors to suit popular on-highway and off-highway engines for Caterpillar, Cummins Celect and Detroit Series 60 applications. This market segment has long been dominated by the Original Equipment Manufacturer. Traditionally, the remanufacture of these items has circumnavigated the Australian diesel industry and directly been sent off shore for repair.

Since its inception, the Direction Plus brand has had one focus, to deliver the highest possible quality at a price which allows the Australian and New Zealand markets to compete on the world stage. With over 130 part numbers already ranged and access to another 2200 part numbers, it is easy to see that the program is not an attempt to enter the EUI market, rather it will be a revolution.

Australian and New Zealand transport segments are highly subject to diesel price fluctuations. In the same way, the cost of repair is sometimes seen as prohibitive for smaller operators who may only operate one truck as an owner/driver. In the same vein, compare this to a large fleet operating in excess of 100 vehicles and yearly R&M cost would be a figure to concern any bank manager. The Direction Plus reman EUI program offers an alternative to costly OEM branded product. The Diesel Distributors / Direction Plus remanufactured EUI program is designed to give the ANZ Diesel Fuel Injection industry a vehicle to gain market a share of the \$AUD 100 billion dollar commercial vehicle industry.

All units are remanufactured in ISO 9001:2008 certified facilities and every remanufactured injector is functionally tested for fuel delivery, fuel Injection Pressure and timing. A true testament to the quality comes in the form of the best warranty available on the market today. All units are covered by a market leading 18 month unlimited kilometre warranty.

The Australian and New Zealand catalogue is now available from Diesel Distributors. For your PDF copy of the catalogue and more information contact Diesel Distributors today.



GCG TURBOS

We are pleased to announce the release of the first comprehensive Passenger Vehicle & Light Commercial Turbocharger applications catalogue here in Australia, after months of research and collating the 61 page catalogue is now available for free distribution.

This catalogue references all OE Manufacturers with turbocharged vehicles from A-Z, indicating year, horsepower, engine size and model, and of course the applicable turbocharger found on the OE application. This is a useful guide for every work shop in Australia, and will be seen as the Bible for the industry over the coming years.

FREE copies are available by contacting GCG Turbo's on 1300TURBOS or sales@gcg.com.au

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Common Rail Pump—DFP1 Australia

AG Diesel — Melbourne
B and M Fuel Injection — Sydney
Cornell Fuel Injection and Turbo Service — Melbourne
Diesel Australia — Brisbane
Diesel Centre Gold Coast — Southport
Diesel Specialists — Brisbane
Fremantle Fuel Injection — Fremantle
Hi Tech Diesel — Kilburn
Lismore Diesel — Lismore
MTQ Engine Systems - Brisbane
MTQ Engine Systems - Melbourne
MTQ Engine Systems - Sydney
Sydney Diesel Centre — Sydney
United Fuel Injection — Perth
West End Diesel — Sydney

Common Rail Pump—DFP3 Australia

AG Diesel — Melbourne
Cornell Fuel Injection and Turbo Service — Melbourne
Hi Tech Diesel — Kilburn

Common Rail Injector C2i Euro III

AG Diesel — Melbourne
Diesel Australia — Brisbane
Diesel Specialists Pty Ltd — Brisbane
Cornell Fuel Injection and Turbo Service — Melbourne
Hi Tech Diesel — Kilburn
United Fuel Injection — Perth
West End Diesel — Sydney

Common Rail Injector—C3i Euro IV

AG Diesel — Melbourne
Diesel Australia — Brisbane
Diesel Specialists Pty Ltd — Brisbane
Cornell Fuel Injection and Turbo Service — Melbourne
Hi Tech Diesel — Kilburn

Electronic Unit Injector—A and AO Series Australia

AG Diesel — Melbourne
B and M Fuel Injection — Sydney
Cornell Fuel Injection and Turbo Service — Melbourne
Fremantle Fuel Injection — Fremantle
Lismore Diesel — Lismore
MTQ Engine Systems - Brisbane
MTQ Engine Systems - Sydney
Sydney Diesel Centre — Sydney
United Fuel Injection — Perth
West End Diesel — Sydney

Electronic Unit Injector—E1

AG Diesel — Melbourne
Cornell Fuel Injection and Turbo Service — Melbourne
Lismore Diesel — Lismore
MTQ Engine Systems - Brisbane



Electronic Unit Injection—E3

Lismore Diesel — Lismore

Common Rail Pump—DFP1 New Zealand

Alltech Diesel — Auckland
Diesel Progress — Palmerston North
Diesel Services — Auckland
Diesel and Turbo — Wellington

Electronic Unit Injector—A and AO Series New Zealand

Diesel Progress — Palmerston North
Diesel Services — Auckland
Diesel and Turbo — Wellington
Raglan Diesel — Raglan



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