ISSUE 119: JUNE 2015



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

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President's Report by Craig Mills, President

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Welcome to another edition of Diesel Torque and the first edition with the new 2015-2017 National Committee.

Photos from Sydney Conference

This is my first President's report having been voted into this position at the AGM in Sydney in March and I would like to thank you all for the support you have shown me already and for entrusting me to lead your committee for the next 2 years. For those of you that haven't been keeping track, I'm the 4th Kiwi President in a row. I would like to acknowledge and congratulate the past committee on what I feel can be described as a successful past term. Many boundaries have been broken and new inroads have been formed. While there is still a lot of work to do, many strategies have been formed and work is underway. Wayne has a lot of work for the AADS and I would especially like to thank him for his leadership and the energy he put into our association. My feet feel far too small for the boots he has left me to fill!

National Committee

I am excited to work with the new National Committee and to face the challenges in front of us. Elsewhere in this edition of Diesel Torque you will find a list of the new committee and over the next few issues you will learn more about them. We have a very talented team on committee with a great mix of youth, enthusiasm and experience. Already Stuart Pascoe has attended strategic planning meetings within the automotive training organisations and has made some strong inroads to ensuring that our industry is very much a part of training programs in Australia. In New Zealand Marty Kemp is working on a similar programs with aims of aligning training and improving recognition between the two countries.

Sydney Conference

The recent conference in Sydney can only be described as a thoroughly enjoyable and successful event. I have taken a lot of feedback from this event and it's very pleasing to hear what you all thought of it. Most of the negatives are small and easily fixed for next year. It gives us a great deal of direction for next year's conference. We discussed going to Christchurch NZ next year but having carried out some research on this as a venue, it doesn't look like it's going to be possible as the rebuild post-earthquake has not progressed as much as I had hoped. We will keep you updated. More on the Sydney conference can be found on the AADS website and Facebook pages.

It's no secret that profitability of our businesses is a primary concern and one that is increasingly challenged form many different angles. This affects our association as well and is just one of the many tasks in front of us over our term as committee and will be a large part of the agenda at our upcoming committee meeting in June.

I would like very much to hear from you about anything related to our association and I welcome emails, phone calls or personal visits. While I may not have the answers to your questions or a solution to your concerns, I will do everything within my powers to assist in any way possible. I welcome all feedback and constructive criticism, and will do what I can for the association with the information I am armed with.



A little about me

I started working with Turbochargers in 1996 when I joined what is now Turbochargers NZ Ltd to service the large frame turbochargers found mostly on fishing vessels and container ships. Today the business revolves around small frame turbochargers as most of you will be more familiar with. I feel I have an understanding of Diesel Fuel Injection and the systems in service around Australasia for one with no formal training in the field.

One of the biggest things I have learnt is that this industry is constantly changing and meets new challenges daily.

I am happily married to Stephanie, my wife of 15 years and have 3 school aged children, Ruben, Katie and Thomas. We call Nelson our home and are very lucky to have natures playground all around us!

I am heavily involved in the local motorcycle club where we cater for all sporting disciplines (mostly off road) and I still enjoy getting out on a bike when I get the chance.

E: craig@turbochargersnz.com

PRESIDENT'S REPORT



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@aads.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.

for AECS Ltd: H.P. Leijen (trainer/research) Web: www.aecs.net Email: info@aecs.net Tel: 06 8749 077

Aching Actros

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



Vehicle: 2006 Mercedes Actros 3, WDB 934 EDC MR2 V8 Unit pump engine

Problem presented to the Helpdesk

This V8 truck arrived at the workshop (who owns AECS diagnostic equipment) running on 4 cylinders.

The diagnostician used the Jaltest truck scantool as the check engine light was on with the fault codes indicating that the injection system on cyl. 2, 4, 5, 6 was faulty.

By clicking on the fault code "unit injector 6" the above wiring diagram appeared on the scan tool's laptop with the offending solenoid valve highlighted (CY11).

By clicking on the injector a picture pops up with the component and its location highlighted. Clicking on that picture an in-depth description of the component with its measuring data comes up.

The injection system used in this engine, is a unit pump system. The camshaft pushes a plunger in a single plunger Diesel injection pump. The plunger pressurises Diesel which gets pumped to only one injector fitted in the cylinder head. On the side of each pump is a high current solenoid valve, which is activated by the ECU and controls the fuel quantity to the injectors.

What shall we do?

Replace or Measure

Four pump units failing at the same time??

That is only theoretically possible, I am sure everyone agrees with that. It is time to measure. It's worth it as new pump units are not cheap. Replacing all four units is just irresponsible.

The Jaltest datasheet states that the coil of the pump should be 0.6 Ohm. The resistance was checked on the faulty and good valves. All resistances were the same.



ATS 500XM scope recording, Ch1 connected to injector #1 (not faulty) power supply, and Ch2 connected to the injector current control wire.





Scope time

Let's look with a scope at the injector patterns on a non working cylinder and an operational cylinder and compare the two.

ATS 500XM scope recording, Ch1 connected to injector #1 (not faulty) power supply, and Ch2 connected to the injector current control wire.

TECHNICAL HELP DESK

On injector#1, Channel 1 the power supply to the injector switches up nice and sharp as soon as the valve needs to be activated. On Channel 2 the current through the 0.6 Ohm valve gets up very high very soon so current limiting (fast switching) sets in almost immediately.

In the recording on injector #4 it is visible that the power supply does not switch up to full system voltage, and that the current control side does not start controlling the current by fast switching immediately. The injection duration is also much shorter (660usec) on the faulty injector #4, while injector #1 had 1.87msec injection duration.

What is common on the 4 faulty pump unit solenoids?

Let's look at the Jaltest wiring diagram again. CY10 (cyl5), CY7 (cyl2), CY9 (cyl4), CY11 (cyl6) all share the same power supply, linking back to the ECU pin 9. This immediately made the power supply coming from the ECU suspect.

Since ECUs hardly ever fail we asked the diagnostician to record with the scope the 2 separate power supplies to the ECU and see if they were collapsing under the load of the injectors 5,2,4, and 6.

The power supplies to the ECU were perfectly flat lining.We asked the diagnostician to jump a new wire from the ECU pin 9 to one of the faulting pump coils, while all other coils were disconnected. This jumper wire made no difference, the pattern was still as bad as it was before.

TECHNICAL HELP DESK



ATS 500XM scope recording, Ch2 connected to injector #4 (faulty) power supply, and Ch1 connected to the injector current control wire.



Jaltest ECU location picture and connector pin numbering.

As a last test, before we would condemn the ECU, we asked the diagnostician to disconnect a bad coil and jump the wiring from the bad coil's connector to a good coil. The good injector would now also not produce a proper signal making the engine run on 3 cylinders out of 8.

ECU

It is time to have the ECU repaired at or replaced, without a shadow of doubt. After a discussion with the owner it was decided to send the ECU away for repair.

A faulty power supply switch was found inside the ECU, and replaced.

The ECU was plugged in and the truck was on the road about one hour later. The repaired ECU did not needed any coding with the Jaltest scanner, saving time. It did needed resetting all fault codes, introduced and relevant fault codes.

Conclusion

Hind sight is a beautiful thing, but should we have gone for the ECU straight away? Or should we simply have followed the codes and replaced the 4 pump units? ECUs fail seldom so that should really be a last resort.

The equipment this workshop has (Jaltest truck scantool and ATS 500XM scope) enabled the diagnostician to prove without doubt that the fault was in the ECU, before the ECU was pulled out. Imagine how you would feel, faced by "is it the ECU or have I missed something".

Also this case proved that sometimes ECUs do fail, despite us telling you in training that they seldom fail.

Please select your equipment, and technical support provider carefully. There are many equipment providers, but can they really assist you comprehensively when the going gets tough?

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What's in store for 2015?

Do you know what is in store for you this year ahead?

None of us has a crystal ball, but rest assured that the problems entering your workshop will be more of an electronic nature than last year.

Are you going to pass a portion of that work on to a specialist yet again? Or are you going to tackle more of those electronic faults in your workshop to make a decent profit.

Electronic diagnostics is highly profitable when you do it well. For electronic diagnostics you need to be skilled, have the correct equipment and have technical back up, there are no two ways about it. Skilled people are hard to find a fact I am all too aware of.

People with good diagnostic skills are like gold, they need to be treated with respect (yet they will still make mistakes). These diagnosticians are the money makers in the industry, they don't settle for "it's 99% fixed", or "see how it goes". These diagnosticians produce clear chargeable results.



One of the recordings of a surging vehicle with CVT trans, as used in our CVT training. It might not look simple now, but at the conclusion of the training it will be simple and quick. You will understand the mechanical, hydraulic and electronic control of the CVT transmission, plus what went wrong during for example this recording.

When a diagnostician becomes unsure, you have to be on guard! It very quickly can become very expensive for the vehicle owner or the workshop.

This is the point for the diagnostician and for any manager, NOT to push for results.

You need to analyse the situation you are in;

- Is there a lack of training?
- Is all diagnostic equipment needed for the job available and updated?
- Is the technical back up in place?

Don't leave analysing the situation till it has gotten out of hand! There is no shame in realising that a situation has the potential to bite, early on, it is just being smart.

Just imagine that your shop is the one known for fantastic results amongst your customers and their friends and family. Even late model electronic controlled vehicles are not a problem for your shop!

Yes, good customer skills, personal and shop appearance are important, but none of these are the reason why the customer comes back to you! It is your ability to deal with their modern technology vehicle, which makes you (not your shop) attractive to them.

Have you ever gone to a doctor because he has a nice looking surgery, glossy adverts in the paper, a good website or comfortable waiting room? It's the doctor's skill and equipment that you need to trust.

Why are you not going to build on your own skills this year?

Don't be afraid, you are never going to unlearn anything when you come to our training, you are only going to build on top of your own, very important, skill set.

We at AECS are working very hard to have really nice and effective diagnostic training seminars available throughout the country. Every year we try to create new seminars, responding to demand by looking at technical support cases we deal with.

We are a team of highly skilled, energetic engineers, ready to provide real technical back up to our customers (you).

To work through issues with you, assists us in figuring out where we can improve our training seminars, and what brand/type equipment would perform best in each individual case. Just imagine the skills and experience we have acquired here at AECS after 14 years of this, on top of our own individual education and skills.

None of the equipment we distribute is not applicable to what we deal with each and every day. We have very close ties with the factories, which produces the diagnostic equipment we sell. If we believe that a certain modification to a piece of equipment would serve a purpose in the workshop, we tell the engineers in the factories. In almost all cases we have seen modifications executed as a result of our feedback.

THE YEAR AHEAD

It is only possible for us to spot room for equipment improvement when we assist you with technical issues, and when we are developing new technical training seminars.

These are particular advantages that AECS as a technical company offers their customers on a daily basis. Not one other company that just sells boxes (or sells via the internet) can offer this kind of service and products.

Sales assistants don't do problems (to hard).

It takes technical people in a technical world to make everything work (you and us at AECS).



Secondary CVT pulley parts.

Just as a bit of a heads up, the training seminar we are working on this summer is CVT (continuous variable transmission) diagnostics.

For our research we have built a simulator that can pick up the signal the ECU sends to the valves in the CVT transmission and modify it. NICE!

It is truly beautiful to be able to drive a near new car with a perfect transmission and being able to introduce faults that we regularly get to diagnose as engine faults! Unlike in the real world we can switch the fault on/off with our simulator. Perfect for training R&D purposes.





Believe me, we can make the car behave as if it's got an engine misfire, EGR fault, warped brakes, just by modifying the signal to one solenoid at the time. I am sure that these faults would even fool the feeling of the most experienced technician.

We have developed some really easy and quick measurements to instantly determine where the fault is, making diagnosing CVTs merely a few minutes work!



This is how the CVT should work, nice and smooth!

It is the gaining of all the background knowledge that precedes the reading of the measurements, like the one above, that determines the skill and value of the diagnostician. That is what we provide during the training seminars.

We are still building the training simulator, so we can show the same behaviour as above, in front of the class room, so that all the background knowledge can be made visible for hands on training.

Get skilled up with AECS, obtain that status in your community as a highly able and trusted technical centre!

The future is just around the corner!

For AECS Ltd Herbert Leijen 06 8749 077 www.aecs.net



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- *Golf Challenge Cup

Registration Forms available soon www.aads.com.au



More details to be announced soon

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	DELPHI EUI AN Repair Stock	D COMMON RAIL ISTS	EUI – A / AO	EUI – E1	EUI – E3	DFP1	DFP3	DFI1 C2i	DFI1 C3i		No.
	NSW										
	Auburn	B & M Fuel									
	Smithfield	Sydney Diesel Centre	•	•	•	•					
	Wetherill Park	MTQ Engine Systems									4
	Wetherill Park	West End Diesel	•			•		•	•		9
	Lismore	Lismore Diesel Service						•			
	QLD										
	Coopers Plains	MTQ Engine Systems		•							
	Slacks Creek	Diesel Australia				•	•	•	•	_	
	Virginia	Diesel Specialists						•			
	Southport	Diesel Centre Gold Coast				•				2	
	SA										
	Kilburn	Hitech Diesel				•	•	•			
	VIC										
	Clayton South	A G Diesel Pumps and Injector	•	•	•		•	•		2	
	Dandenong	MTQ Engine Systems				•				2	
	Sunshine	Cornell Fuel Injection and Turbo	•	•	•	•	•	•		5	
	WA										
	Redcliffe	United Fuel Injection	•	•	•	•	•	•	•		
	Fremantle	Fremantle Fuel Injection	•			•					
2	NEW ZEALAND										
	Auckland	Alltech Diesel				•				1	
	Auckland	Diesel Services	•			•		•	•	٢,	
	Palmerson Nth	Diesel Progress	•			•				2	
	Raglan	Raglan Diesel	•								
	Wellington	Diesel and Turbo	•			•					
	FIJI									1	
	Nadi	West End Diesel					•	•			







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EVOLUTIONISING THE DELEVERY OF DIESEL FUEL NJECTION PARTS AND SERVICES.



DPF Really Faulty?

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

Vehicle: 2012 Mercedes ML 300 V6 3.0L Turbo Diesel 66.000 kms

Problem

On this vehicle, the engine check light comes on intermittently. The fault codes code logged is:

≡	Diagnostic Trouble Code	
MERCEDES > Diagnostic Trouble Co	ode	
DTC	Description	State
118D00	Component B28/8(Differential pressure sensor(DPF)) has a plausibility error.	Stored

Launch Pro3 scantool fault code screen shot.

Ouestions

We at AECS get lots of questions about Diesel Particular Filters (DPFs). In our DMS 1-3 common rail Diesel training we spend a lot of time on what goes on and what goes wrong with DPFs. We also deal with what you can do to rectify DPF problems.

From this perspective, I thought that it would be a good idea to look at one particular case a little bit more in depth.



DPF 2014 Sprinter

Background

Firstly, a DPF is an actual filter fitted in the exhaust of a modern Diesel engine. Like any filter after a period of time it gets blocked. Unlike any filter, you do not replace a blocked filter, as they range from a mere \$1000 to some at \$12,000! This filter is not an item you replace just quickly when you think it might be faulty.

The ECU has got the ability to sense that the filter is partially blocked, through a pressure differential sensor. When it deems necessary through the pressure differential sensor or as a result of distance/time travelled, it will initiate a regeneration of the filter.

Regeneration of the DPF is in almost all instances done by injecting an excess of fuel into the engine or directly into the exhaust, together with an excess of air through wide open throttle on this Diesel engine.

Same on this Mercedes. Regeneration can be noticed by a slightly higher RPM at idle and a clear wide open throttle sound from under the bonnet. This V6 has under normal running conditions the throttle nearly shut, to reduce energy losses from compressing unused air.

Also the exhaust temperature just in front of the DPF measured by the ECU is normally around 350°C. When the engine is regenerating the DPF the temperature of the burning Diesel (with the excess of air) raises that temperature to about 600°C.

	ata Stream List	AECS.
Name	Value	Unit
Ash content of diesel partic	culate filter 1	g
B16/14(Exhaust gas recircu temperature sensor)	ulation 0	degree C
B19/11(Temperature sense of diesel particulate filter)	or upstream 586	degree C
B19/11(Temperature sense of turbocharger)	or upstream 412	degree C
B28/8(Pressure differential sensor(DPF))	54	mbar
B60(Exhaust back pressure	e sensor) 1321	mbar

Screen dump DPF temp recording while regeneration takes place.

The heat burns the carbon soot particles caught in the filter, combining C (carbon particles) with O2 (oxygen from the air) and turning it into CO2, which is a gas that passes through the filter.

When air flows through a filter the restriction of that filter will cause a pressure difference, the pressure on the intake I am sure there are more conditions but this will do for now. of the filter should be higher than the pressure on the outlet of the filter. Also; a low exhaust gas flow is hardly History affected by a filter, a high gas flow will have a higher During the last service the air filters had been replaced pressure difference as result. The ECU 'knows' what is should (about 1 year ago), ever since this service the engine did an be. This is also why it is so hard to replace on some cars the automatic regeneration about every 50 km's or so. This is DPF with an aftermarket unit.

Back to the car

So on the Mercedes the fault code indicated NOT that the DPF was faulty, nor that the differential sensor was faulty, just that the signal from the sensor was not plausible. Nice!

What does that mean?? What would be implausible pressure in your mind, if you had to write the software?

I can name a few;

- · Pressure on the outlet of the DPF higher than on the inlet (negative pressure difference), for example hoses on the sensor back to front.
- Pressure difference constant, while the air mass has increased, for example hoses removed from DPF, or DPF removed from exhaust.
- Pressure difference too low or too high under all circumstances. The ECU looks at airmass and fuel, as that combination determines the flow through the DPF. This can be caused by for example power supply voltage to the pressure differential sensor being too high or



Contaminated air filters

too low, airmass sensor signal too high or too low, or calibration error in ECU

Pressure difference signal outside acceptable limits, for example as a result of interference (hash) on the signal wire.

rather subtle, but shows up when you are idling (rpm 950 instead of 850), and you can hear that both the throttles are wide open, rather than almost shut. Also during driving it does not shift into 7th gear (rpm are a little higher during cruise) when regenerating) On the scantool the DPF temp sensor shows >500° C. A few weeks before the service the check engine light came on several times, code: "118D00 DPF pressure differential sensor plausibility error" is stored.

During the service this time, the awful small air filters were partially blocked again and replaced.

With the Launch Pro3, the faults got cleared and "Resetting air filter learned values after air filter replacement" function was performed.

We had never noticed this function before, and frankly I am unsure of why there would be such a function. I guess that it is to let the ECU adapt to new airmass sensor values when the engine is running. In my mind the function "reset values for HFM drift compensation" (airmass sensor relearn) would nicely take care of this. You need to note that this V6 engine has two airmass sensors and two air filters.

TECHNICAL HELP DESK



 Data Stream
 AECSPROTHREE

 MERCEDES > Data Stream
 Name
 Value
 Unit

 B28/8(Pressure differential sensor(DPF))
 3
 mbar
 Data Stream

 B60(Exhaust back pressure sensor)
 1101
 mbar
 Data Stream

 Current kilometer reading
 66518
 km

 Driving distance since last successful particulate filter regeneration
 0
 km



Air filter relearn function.

After the fitting the new filters and performing the adapt to new airmass sensor function there was an immediate effect; no more auto regen every 40 or 50 km's, and the fault code has only reappeared again once over a period of 2 months.

This was enough to have a look at the sensor's signal, after all it could be faulty.



Signal sensor

The above signal was measured when everything was fine, so inconclusive.



Press diff sensor location

Data lines showing at idle no real differential pressure (3mbar).

Also the life data indicated no real problems:

It was decided to perform the function "pressure differential sensor adaption", to see if that would solve the issue. Till now no codes have been logged anymore in a period of two months driving.



Press diff sensor learn function

Conclusion

Even late model vehicles have faults. No, you should not shy away from such vehicles, as long as you have the equipment, knowledge and backup to see you through. Equipment like the Launch is not expensive, yet it does give you full access to all these functions on late model upmarket cars. These cars do not get any younger, so very much sooner than later problems like this will arrive at your door step. Are you going to tell the person who has been trusting you for years with their work, to go away to another garage, just because you have not kept up? Will they ever come back once you have caught up?

I know the effort we at AECS put into keeping up (and in some cases ahead). We are happy to share this knowledge with you through our training seminars throughout NZ and Australia!

Cyber Liability

What is it and who needs it?

Every business that operates a website or holds customer's personal or professional data, such as names, addresses, email addresses, payment information, vehicle details or licence numbers, faces an exposure to either malware attack or database ransom in the current digital world and these attacks are becoming more prevalent and increasingly sophisticated.

Third party data is valuable and you can be held liable if you lose it. Increasingly, consumers are also seeking legal redress in the event that a business loses their data. The recently updated privacy laws mean that you could face an inquiry from the privacy regulator and face a fine of up to \$1.7m for a company and \$340,000 for each individual.

Workshops also face the additional risk of loss of reputation that they have worked for years to build with key local clients and the general public in their local area.

What does cyber liability cover?

Cover Type	Summary of Covers
Immediate expenses	Covers Include crisis management costs, hiring a public relations firm to manage a data breach incident, a forensic IT expert to identify how it happened and where it came from.
Breach of Privacy Laws	Covers the significant costs associated with providing a breach notice to every individual who has been affected by the data breach, including legal representation and costs.
Damage to Digital Assets	Provides expenses to repair and restore computer systems and replace loss of business income resulting from the incident
Legal Costs & Statutory Fines & penalties	Covers costs to defend claims from third parties and eventual claim settlements, the costs of regulatory investigations and cover for fines & penalties
Cyber Extortion	Provides expenses to deal with a cyber extortion threat and reward payments, includes cover for expenses for payment of a ransom
Internet media liability & professional indemnity	Provides cover for defamation or breach of copyright, which results from your electronic publishing.

EXAMPLE 1

After a work-function, an employee of a mortgage broking firm left their laptop on the train on the way home. The laptop contained financial and personal information of the firm's clients, including some credit card details.

Cyber Liability Insurance Covered:

- 1. Assistance in dealing with the possible privacy breaches, including possible notification to the Information Commissioner;
- 2. Contacting the affected clients;
- 3. PR expenses in dealing with media coverage;
- 4. Credit monitoring services for the affected clients;
- 5. Liability for any losses suffered by clients as a result of the possible malicious use of the credit card information;
- 6. Forensic accounting to ascertain whether and to what extent the laptop and the information it contained had been used to access the firm's systems and network.

Total claim costs \$490,000

CYBER LIABILITY

EXAMPLE 2

A not-for-profit organisation was engaged in a bitter, high profile dispute with a government body. The government body applied for an injunction ordering that the not-for-profit organisation remove certain information about the government from its website, issue a correction and refrain from future publication of such information.

The not-for-profit organisation made a claim under its traditional liability policy which, as is typical, covered legal fees for claims for damages. However, in this case, the government body was not seeking damages, but was seeking an injunction regarding the publication of information on the organisation's website. As such, the organisation had no cover for its legal fees.

Total claim costs \$90,000

EXAMPLE 3

A financial services company started a blog to convey information to clients and the public.

The blog contained a logo/image that was similar to a design that had been copyrighted by another entity. That entity sent a cease & desist letter to the insured demanding that the insured remove the image from the blog. Discussions between the parties failed to reach a mutually satisfactory result and civil proceedings commenced.

Total claim costs \$3,230,000

Why Austbrokers ABS Motor Trades?

Recently published statistics show that 1 in 3 small businesses have experienced a cyber ransom or malware attack on its database. The fact that big business spends so much money on database protection and security systems means that small businesses with finite resources are more vunerable than ever.

Cyber hackers are targeting small businesses at an alarming rate. Cloud base or data warehousing solutions are not immune to cyber attacks.

Could your business survivea cyber attack or ransom? How would your business cope with having topay a ransom of \$10,000 and/or, pay for legal costs and fines of over \$60,000 and/or Loss of/or the reputational damage that goes with your customers details being taken.

Austbrokers ABS Motor Trades can arrange cover to protect you and your reputation from this type of attack, we have exclusive policy wordings with our Insurer partners that provide increased limits and covers.

For a free quote and risk review Phone: 1300 512 769 Email: Stephen.jones@absyd.com.au



- All entries must be from a current financial member or an employee of a financial member of the AADS. All
 entries must be received by the AADS no later than close of business, 31/08/2015.
- The winning concept is subject to AADS committee approval and is subject to additional development at the discretion of the Association.
- All submissions are considered the property of the Association of Australasian Diesel Specialists and while initial recognition will be given to the winning entrant, all future displays of the logo and or slogan are at the sole discretion of the AADS committee.
 The AADS committee reserve the right to use elements of any entries submitted in the development of a final logo/ slogan. The final
- The AADS committee reserve the non-to-base elements of any entries submittee in the development of a man logor slogan. The man artwork/ slogan(s) will be registered trademarks of the AADS.
 All entries are to be submitted either electronically to aads@aads.com.au or mailed to: PO Box 576 Crows Nest NSW 1585.
- All entries are to be submitted either electronically to add/gadds.com.au or mailed to. PO Box 376 crows Nest NSW 1585.
 The winner acknowledges that their name, employers business name and image(s) may be used post this promotion. The winner will be notified and a suitable time and place to deliver the prize will be decided on. The decision will be final and no correspondence will be entered into.

Motor Trades Package Insurance

What is it and who needs it?

A Motor Trades insurance policy covers your basic physical business assets, and income (if chosen) against a range of insurable perils.

The policy will also cover you against claims made by third parties for property damage or personal injury, relating to your business operations and the products you use.

Anybody operating in the Motor Trade or Aftermarket industry should have a specific Motor Trades policy rather than a generic Business package insurance as the cover is tailored to the industry and has enhanced policy coverage and benefits.

Why Austbrokers ABS Motor Trades?

Austbrokers ABS Motor Trades is a specialist division within the Austbrokers network that focusses soley on the Motor Trade and Aftermarket industry. We are recognised as a leading Motor Trades Insurance Broker and are endorsed by Bosch Automotive network.

We have a dedicated team of industry experts that know the risks you as workshops face on a daily basis and have designed our policy in conjunction with our underwriting partners to ensure you will be fully covered in the event of a claim.

We have our own dedicated claims team that works for you and not the insurer, and our insurer partners have leading assessors on hand to protect you from any claims made against you such as allegations of faulty workmanship.

Why Austbrokers ABS Motor Trades & BOSCH policy enhancements

- Faulty workmanship cover up to \$50,000 payable on rectification and resultant damage (industry standard policy wording is \$20,000)
- Free employee tools cover up to \$20,000 per employee
- Work on watercraft up to **12 metres** in length (industry standard policy wording is 8 metres)
- Accidental damage cover up to \$250,000 automatically included
- Cover for parts and engines shipped between workshops
- Driving risk cover for any workshop employee, the policy will also cover vehicles driven without test plates if every effort has been made to check if the vehicle was registered

\$150

Cover Type	Summary of Covers		
Fire and Perils	This covers damage to property insured at the situation caused by defined events such as fire, storem, water and wind, impact and accidental damage and includes a number of automatic additional benefits and an optional flood cover.		
Business Interruption	This covers consequential loss of income and/ or profits or revenue from the interruption to your business caused by defined events and provides a number of automatic interruption and additional benefits and optional benefits.		
Theft	This covers loss of or damage to property insured at the situation buy defined events relating to theft including customer vehicles.		
Money	This covers loss of money or transferable including money in transit, money contained on the premises, money in your personal custody and safes or strongrooms		
General Property	This covers damage to property insured caused by theft or damage whilst outside your premises		
Glass	This covers you for accidential breakage of glass at the situation and provides a number of additional benefits		
Public and Products Liability	This covers you for amounts you are legally liable to pay as compensation for personal injury and/ or public and property damage occurring as a result of an occurrence or allegation relating to the operation of your business or the products used. It also provides a number of automatic supplementary covers.		
Employee Dishonesty	This covers you against loss of property insured (including money) due to the fraudulent or dishonest conduct of an employee for their own gain or financial benefit		
Machinery Breakdown	This covers damage to your insured electrical, electronic and mechanicla machinery		
Computer/Electronic Equipment	This covers loss of, damage to or breakdown of your insured computers and/or electronic equipment computer		
Transit	This covers damage to property insured whilst in transit anywhere within the territorial limits		
Tax Audit	This covers the professional fees reasonably and necessarily incurred in connection with an audit of your tax audit business/ financial or tax affairs by the Australian Taxation Office		
Professional Indemnity	This covers you for claims you are legally liable to pay as compensation due to a breach of your professional duty in the conduct of your business. Cover is extended to Blue and Pink slips and pre-purchase reports		
Customer Vehicles	This covers you for certain damage to your customers' vehicles. Whilst test driving or moving		
Business Vehicles	This covers you for certain damage to your vehicles used in your business. Cover extends to loan vehicles.		
For a free quote and risk review Phone: 1300 512 769 Email: Stephen.iones@absyd.com.au			

Branch Updates



Marty Kemp NZ



Plans are well underway for the New Zealand Branch Conference in September this year. The 2015 conference will be held in Tauranga at the Trinity Wharf Hotel and Conference Centre in central Tauranga. It is perched right on the waterfront with spectacular views

and only 800 metres from Tauranga city centre. We have received word from a number of key suppliers confirming they will be attendance with excellent trade display stands. Bosch RBAU have confirmed they will have their key diesel people in attendance, Honeywell-Garrett will also have a technical rep from Australia joining us this year and the Motor Trade Association will be in attendance to bring us up to speed on their recent changes and give an overall look at the Automotive industry moving forward. There is sure to be a good range of the latest test equipment and tooling on display and technical staff on hand to answer your questions. The Saturday evening dinner function venue should make for an interesting and entertaining night, to be held at the Classic Flyers Aviation museum in amongst the restored classic and military aircraft form aviation history.

The New Zealand Diesel apprenticeship review meetings have finally been set down for mid July where the new apprenticeship curriculum will be thrashed out amongst industry and MITO representatives. The current curriculum is well overdue for an overhaul with many pumps and governor units now considered obsolete. We will keep you updated.

Congratulations to Craig Mills of Turbochargers NZ taking on the AADS Presidents role following on from Wayne Dunning who followed on from Mike Hurley. Bit of a pattern developing here, three Kiwis in a row putting their hands up for the top job, where are the Aussies hiding these days? Craig is very committed to the role and I have no doubt he will do a great job.

Well the cricket world cup final didn't quite go our way, but the Kiwi league team are on a roll, giving our Aussie cousins a lesson three games in a row now. Bring on the rugby world cup, see you all in Tauranga.

Neil Quick NSW



This is my last report as outgoing Chairman of the NSW branch committee. I would like to say that I did enjoy my 6 years as chairman and 4 as vice-chairman and would like to thank the other committee members that assisted me in my various roles. Namely Warren Soares who has done

a fantastic job for a good many years now as Secretary/ Treasurer, John Jamison also a past Chairman and Ross Worgan the current Chairman who willing stepped up to the plate.

I'm sure the new board of Ross Worgan, Colin Naveau and the old war horse Warren Soares will do a great job moving the branch along. NSW had training last year and are again organising training this year but it is not only for NSW members. The more the merrier and less costly.

I am still involved with the National committee that is largely new and under the guidance of our Kiwi President Craig Mills, hopefully will progress over the next two years in a positive direction for the Association. But as we have said in the past it is your Association and life will be easier if people don't sit on their hands but pitch in and give good positive help when the committee is asking for it.

Owners should think seriously about their younger staff members coming along to state meetings and yearly conventions and joining in with the network that the older members enjoy. Matthew Fletcher is the Young Guns organiser and has some good ideas for these blokes to enjoy in the pipe work. Also Diesel Torque is the magazine for members but it is left up to one or two people to run and edit and they really need your help. We have constantly asked for reports or articles or if you don't have one but would like to see a specific article let them know and they may be able to find and publish it. Also think about promoting your business with the discounted advertising rates or put a short bio/promo about yourself, your work premises and staff or just your family. I'm sure there are a lot of parents out there that would be proud to share a moment in life or sport that their children have excelled in.

I for one have a date coming up were my son is getting married on 31st October this year. So far I haven't heard it is fancy dress but am really looking forward to his bucks night in Sydney with his mates and ex navy mates.

Well I hope everyone is enjoying a prosperous time with work at the moment and hope to see more of you at our next convention.

VAN GOGH'S FAMILY TREE

His dizzy aunt Verti Gogh The brother who ate prunes Gotta Gogh The brother who worked at a convenience store Stop N Gogh The grandfather from Yugoslavia **U Gogh** His magician uncle Where-Diddy Gogh His Mexican cousin A Mee Gogh The Mexican cousin's American half-brother Gring Gogh The nephew who drove a stage coach Wells-Far Gogh The constipated uncle Can't Gogh The ballroom dancing aunt Tang Gogh The bird lover uncle Flamin Gogh An aunt who taught positive thinking Way-to-Gogh The little bouncy nephew Poe Gogh A sister who loved disco Go Gogh And his niece who travels the country in an RV Winnie Bay Gogh I saw you smiling there ya Gogh What about his cousin Indi Gogh?

BRANCH UPDATES

Winter Casserole



Here is a must have recipe for all those winter nights when filling up with warm foods is a necessity!

Gravy beef or good quality it doesn't matter what you pay for your meat with this recipe. It will all come out so tender and delicious.

You may as well keep the pennies for a good bottle of red to accompany the meal!

INGREDIENTS

500g beef, cubed, small bite sized pieces

- 1 full clove of garlic smashed
- 2 potatoes, 2 carrots, skin on, cubed
- 2 large sticks celery, sliced and chopped
- 1 Large onion, chopped and diced
- 1 cup of red wine (for the pot)
- 4 tomatoes chopped and diced

METHOD

- 1. Place all ingredients in casserole dish together, in any order. Sit overnight.
- 2. 4 Hours before needed, place dish in a slow oven and cook. Stir occasionally.
- 3. Serve with chunky bread and red wine straight to the table from the oven.

Management Liability

What is it and who needs it?

This product covers you as a business owner, and the responsible officers of your company such as your workshop manager and lead mechanics for the way you run and operate your business.

It provides cover to you, protecting your personal assets, which can be exposed to claims made against you from actions brought by Employees, Regulators, Workcover Authorities, Competitors and clients, and can extend to cover fraudulent acts by employees.

Where covers such as Motor Trades Insurance & Professional Indemnity Insurance covers the 'activities' of the company, Management Liability Insurance focuses on the 'act of running a company

What does Management Liability cover?

- Damages and claimant costs awarded against you
- Defence (i.e. legal) costs
- Investigation costs
- Civil fines & pecuniary penalties.

What can bring action against a company, its directors, officers and employees?

- Regulators (e.g. ACCC, ASIC & the ATO)
- Employees
- Competitors
- Creditors
- Shareholders (especially minority shareholders)
- Clients
- Liquidators/Administrators

Cover Type	Summary of Covers
Directors and Officers Liabilities	Will protect the past, present and future directors and officers plus anyone else involved in the management of a company for claims alleging a wrongful act and for which the company does not grant indemnification to such person. Employees can also be covered.
Employment Practices Liabilities	Provides cover to the company, directors, officers and employees for claims made by current, past and prospective employees for issues arising from employment practices, including harassment, unfair dismissal, bullying and other employment issues.
Statutory Liabilities	Covers certain individuals and the company for fines and penalties from operating the business including fines related to workers compensation and occupational health & safety.
Crime Cover	A comprehensive crime section provides cover to the company for loss arising from dishonest acts such as theft and fraud by employees including theft of stock.
Corporate Entity Liabilities	Extremely relevant for companies that are owned by the directors this cover provides indemnity to the company for actions arising from managerial matters. A claim against the company will cause the same financial hardship to the owner, therefore this cover is extended to provide protection to the company. Many of the same claims against the directors and officers will, typically be brought first against the company.
Legal Representation Costs	Legal representation costs that are incurred by directors/officers and the company for attendance at official investigations or inquiries are covered.
Other Covers – Tax Investigation / Public Relations / Crisis Containment	Additional management exposures can also be insured against under management liability insurance, to reimburse the company for certain costs, incurred during a tax investigation by the ATO or to engage professional assistance in a crisis.

Management Liability Claims examples – Small Business

EXAMPLE 1

A former director was sued by the company for breaches of his duties. The company alleged negligence in relation to poorly kept accounts, failed sales and production. As the director's assets had been frozen, assistance was also given in the form of Deprivation of Assets Expenses.

The matter settled for \$700,000 plus defence costs of \$250,000

EXAMPLE 2

A company and its directors were sued by a competitor for misleading advertising which allegedly caused damage to that competitor. Defence counsel were appointed for both the company and the directors and the company was able to successfully rebuff the allegations the costs totalled \$70,000, however a further complaint was made to The Australian Securities and Investments Commission, who commences an investigation into our Insured company's record keeping.

It requests production of documents, the documents requested include email and computer records and the Insured must review and produce hundreds of documents. The documents need to be reviewed by legal counsel to preserve legal professional privilege.

The costs of the review are over \$100,000

EXAMPLE 4

A driver climbed on top of the truck to check the load, he slipped because the ladder was damp. He suffered a minor cut and bruise to his left hand and lost no time off work. The owner was prosecuted for failure to provide a safe system of work.

The workplace had no OH&S policy for checking damp rungs on ladders or requirement to wear tread on boots or for carrying a towel for drying the ladder rungs when wet.

> Company was fined \$50,000 plus legal costs of \$60,000

EXAMPLE 5

A company had its identity cloned. The fraudulent company arranged access to necessary information and passwords and sent seemingly legitimate instructions for transfers to the company's bank.

The company was faced with a loss of \$800,000

Why Austbrokers ABS Motor Trades?

Something to think about!

In the current economic climate – we have seen an increase in:

- 1. Business failures
- 2. Regulatory investigations
- 3. Employment practices claims
- 4. Employee theft
- 5. Regulatory actions

The potential for the severity of loss grows as revenue in the company increases, not only can directors be held personaly liable (exposing personal wealth) but also managers and employees are exposed.

As the regulatory environment changes, directors are often unaware of their full responsibilities at law and Directors are responsible for the risk management of their company. Workcover Authorities and ASIC have been on the front foot, putting directors on notice.

A company's reputation and solvency can be damaged if they are investigated, by the ongoing legal costs to defend claims.

It is an absolute necessity that in today's current legislative minefield that you carry a Management Liability policy.

Austbrokers ABS Motor Trades can arrange cover to protect you as the Owner or Director of your company along with your employees, we have exclusive policy wordings with our

Insurer partners that provide increased limits and covers.

For a free quote and risk review Phone: 1300 512 769 Email: Stephen.jones@absyd.com.au

DIESEL PUMPS & INJECTORS



The explosive growth of dieselpowered passenger and commercial vehicles in the Australian market, coupled with a combination of compromised fuel has seen a spike in the number of diesel-powered vehicles turning up at service centres.

Such repairs can be expensive, usually involving the replacement of the fuel pump, common rail, injectors, associated fuel lines and cleaning of the tank. Previously, nearly all of these items had to be replaced with new components, resulting in expensive repair bills – sometimes up to 50 per cent of the value of the vehicle.

Now, a more viable repair option is available for repairing DENSO common-rail systems. DENSO Australia has introduced a remanufacturing program to offer economical repairs for such cases. This program is supported by the extensive DENSO service network that spans around Australia – in particular DENSO Premium Service Dealers (PSDs) that are factory trained, fully equipped and authorised to diagnose and repair vehicles and fuel pumps with genuine DENSO parts.

Use of Genuine Parts

DENSO controls the flow of these inner parts and components to ensure the pump repair is carried out by an authorised DENSO Service Dealer.

The injectors are a different story. The stringent emission controls that vehicle manufacturers now have to meet has resulted in higher injection pressures, around 2000 bar or 29,000psi. This has resulted in the injector design becoming much more complex, with finer tolerances than previously mechanically operated injectors, making them far more susceptible to contaminants.

Consequently, the repair process for these high-tech injectors has to also be stringently controlled and the genuine parts are required to ensure vehicle integrity with respect to performance, emission control and longevity is maintained after the repair event. Nozzle retaining nuts and locking pins are 100% replacement items, and where specified, DLC nozzles are also utilised.

DENSO Remanufactured Injector Program

DENSO Australia has partnered with local company CFI Australia to manage the remanufacturing process and distribution of DENSO remanufactured common-rail injectors throughout Australia, New Zealand and the Pacific Islands.

To ensure that remanufactured units will meet the factory specification, a strict remanufacturing process has to be followed. Below are the examples of the main steps:

SORTING OF INJECTOR CORES

- The injector core is sorted with all external unusable items such as copper gaskets, O-rings and packaging being removed and sorted into appropriate recycling bins.
- The injectors are then scanned to produce a data sheet that is unique to each injector and will follow the unit through the whole remanufacturing line as part of the quality-control process.
- A pre-inspection test and a visual check to identify any unrepairable injector. Damaged injectors will be removed from the process at this stage and scrapped.

CLEANING AND FLUSHING

- The injectors are capped (inlet, leak-off and terminals) prior to going into a high-pressure, hot-water stainless-steel wash to ensure they are free from all external contaminants.
- They are then tested on Hartridge IFR-50s, which serve a dual purpose of a flush and a pre-test for obvious faults such as a high leak back value and/or solenoid faults.

DISMANTLING THE INJECTOR

- Parts are carefully inspected for damage and/or excessive wear. Non-conforming parts are scrapped before further cleaning.
- The re-usable injector parts are ultrasonically cleaned at different frequencies and temperatures to ensure all contaminants are removed.

ASSEMBLY PROCESS

- The assembly process is done in a positive-pressure cleanroom. The cleanroom is designed in such a way that filtered air is pumped in under a positive pressure to ensure dust levels are more or less nonexistent.
- The usable parts are then assembled with other Genuine DENSO parts.

TESTING AND CODING

 Hartridge AVM2-PC test benches that are specially set up with a factory supplied DENSO controller and hardware are used to test and record the injector performance parameters at various flow rates, temperatures and pressures.



- An ID code which contains the injector performance characteristics is then affixed to the injector that passed the bench test.
- The test data pertaining to each injector is kept on file for quality control purposes and warranty evaluation if it is required.

PACKAGING AND BRANDING

• Each of the remanufactured injector is then packed the into a specially marked DENSO Remanufactured Injector packaging.

As you can see, DENSO spares no expense and cuts no corners when it comes to remanufacturing its products. This ensures that the remanufactured product meets the required specification set by the vehicle manufacturer. Failing to meet this specification can potentially jeopardize the performance and longevity of an engine.

DENSO ensures that only genuine parts are utilised, whilst reusable parts undergo vigorous testing to ensure they meet DENSO's high quality standards. This means customer gets top quality, reliable parts they can count on, for a fraction of the cost of buying new.

Where to Buy?

DENSO factory-approved remanufactured injectors are available from the following DENSO Premium Service Dealers:

- Cairns Diesel Service, Cairns 07 4051 2386
- Cornell Fuel Injection & Turbo Service, Melbourne 03 9267 8800
- Denco Diesel & Turbo, Wagga Wagga 02 6925 4348
- Diesel Australia, Brisbane 07 3808 6988
- Diesel Care, Tamworth 02 6765 3733
- Diesel Specialists, Brisbane 07 3216 5866
- Fremantle Fuel Injection, Fremantle 08 9335 4803
- Hi-Tech Diesel, Adelaide 08 8359 6088
- MTQ Engine Systems, Adelaide 08 8243 2688
- Sydney Diesel Centre, Sydney 02 9681 7700
- United Fuel Injection, Perth 08 9259 3000
- West End Diesel Services, Sydney 02 9757 2100

Other DENSO Service Dealers may also carry the stocks of exchange injectors. Visit www.densoautoparts.com.au.



DIESE **Advertising Rate Card**

Please complete and return to:

Association of Australasian Diesel Specialists (Inc.) PO BOX 576, CROWS NEST NSW 1585 TEL: +61 2 9431 8685 FAX: +61 2 9431 8677 EMAIL: aads@aads.com.au WEB: www.aads.com.au ABN 65 813 141 394

TAX INVOICE (WHEN COMPLETED)

			4 ISSUES	1 ISSUE
Size	Dimensions	Category	Cost (inc GST)	Cost (inc GST)
Full page A4	Page size: 297mm (h) x 210mm(w) Type area: 247mm (h) x 170mm (w)	Service Member	\$990	\$495
		Member	\$1,980	\$792
		Non-member	\$2,475	\$990
Half page	Page size: 148mm (h) x 210mm (w) Type area: 120mm (h) x 170mm (w)	Service Member	\$580	\$230
		Member	\$1,147	\$459
		Non-member	\$1,513	\$605
Quarter page	120mm (h) x 82.5mm (w)	Service Member	\$200	\$80
		Member	\$393	\$157
		Non-member	\$465	\$198
Website banner	250 pixels (h) x 250 pixels (w)	All members	*\$200	*\$50

*First quarter free with any advertisement option taken in an issue of Diesel Torque

Artwork Specifications

Diesel Torque	all artwork to be supplied as high res pdf file	Completed artwork can be emailed to
Website Banner	all artwork to be supplied as jpg	aads@aads.com.au

Bookings

□ Yes, I have studied the Advertising Rates above and wish to book the following:

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