



Testing Times

Issue 21

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Welcome

We have another interesting collection of items for you again in this issue of Testing Times. In addition, as a special Christmas bonus, to help you find those elusive engine numbers and a lot of other useful information, this edition of Testing Times includes a four page Supplement with a guide to using the Road Vehicle Certification System on the Federal Department of Transport and Regional Services' [DoTaRS] web site.

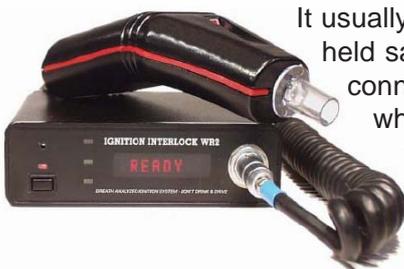
If you have comments on any of these articles or the Supplement please e-mail to:

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Alcohol Interlocks

As part of a penalty for drink driving a magistrate may require an offender's vehicle to be fitted with an alcohol interlock for some period after they are allowed to return to driving.

An alcohol interlock is a device that the driver has to blow into before the vehicle can be started. It will then prevent the vehicle from being started for a time period if a blood alcohol content [BAC] over a pre-set level is detected.



It usually consists of a hand held sampling head connected to a control unit which is wired into the vehicle electrics. The control unit records the date and time of every attempt to start

the vehicle, whether the attempt was successful or not and any BAC detected.

At random intervals when the engine is running the device will require another breath sample - a retest - and the date and time of this request, whether it was complied with, and any BAC reading will also be recorded. To prevent tampering, the control unit also records any periods when it has been disconnected from its power source - the vehicle's battery. The stored data is downloaded periodically and the vehicle owner is expected to be able to explain any anomaly e.g. failed starting attempts, failed or

refused random requests, power disconnections, etc. If they cannot do so further sanctions may be applied.



If you are carrying out a roadworthy on a vehicle with an alcohol interlock fitted you should record the date and times when you started the vehicle's engine, the time of any retest requested and your response to this retest, and any periods that you might have disconnected the vehicle's battery. At the completion of the inspection you should provide the owner with a copy of the details you recorded together with your contact details e.g. driver's licence, etc so that you can be contacted should the owner have difficulties justifying any anomaly that occurred while the vehicle was in your control.

Oldies but Goodies 2

In edition 18 of Testing Times we talked about the sorts of things that deteriorate through normal wear and tear as a car gets older but we did not look into the big problem of RUST - that insidious eating away of the car's structure which is often not all that apparent at a glance.

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In recent years vehicle manufacturers have got much better at corrosion protection and eliminating or specially treating rust prone areas so rust does not appear to be as big a problem as it was.

However, many of the older cars have rust characteristics in locations that are common and prevalent throughout particular models. You will all know about the Holdens that rusted out behind the headlights and the Falcons that rusted out in the bottom of the front guards just in front of the doors and there are many other similar characteristic examples. But just because a particular vehicle does not exhibit the typical gross rust characteristic of its model does not mean that it is a "goodie". The damage may have been properly repaired - **GOOD** or it might have been cleverly bogged over and hidden - **DEFINITELY NOT GOOD!**

When looking at these "Oldies but [maybe not] Goodies" you need to look carefully all over the vehicle for even slight signs of rust damage. Not so much rust caused by poorly repaired or un-repaired crash damage [although this should also be thoroughly checked out] but that rust that is occurring under the paintwork and perhaps only appears as slight paint bubbling or blistering at the moment. This is a sign that the vehicle is getting close to its last legs and is potentially a rust bucket. Where there are any signs like this you will need to look much more closely for serious rust and for signs that it has been concealed or poorly repaired.

You are not expected to pick off the duco or poke or prod likely areas with a screwdriver in cosmetic locations but some gentle tapping in those areas listening for signs of body filler and then examination of the rear of the area may well be required. "Oldies" that have fresh body deadener or deadener in place that the OEM did not put it are almost a "cert" for hidden rust damage.



Many of these older vehicles may look OK on the outside but when you look closer and perhaps lift up the carpets as above, it turns out that the "Oldie" is NOT a "Goodie".

Older Vehicle Risks

While we are talking about older vehicles you should be aware that they pose a significant risk for testers and clients. Testers who have had their licence suspended or cancelled are frequently involved with certifying older vehicles. One reason is the attitude that it doesn't have to be as good because it is old and another is cutting corners to help clients who are short of money. This sends the wrong message. If older vehicles cannot be maintained to a reasonable standard then they are no longer viable and should be failed. You are not helping anyone by keeping an old clunker on the road that is likely to increase the risk of injury to the occupants. All vehicles need a full inspection based on the standards, not their age. Your role is to report the vehicle condition accurately, not assume the customer can't afford it.



LPG in Mobile Homes

Just as "Oils ain't Oils" all LPG is not the same. Automotive LPG is a mixture mostly of propane and butane but the ratio can vary quite a bit depending on feedstock and circumstances. It is also not unheard of for the automotive LPG tanks in some small remote towns to be topped up with straight propane when the delivery vehicle happens to only have straight propane on board for the town's domestic supply.

Luckily, LPG fuelled vehicles can run on a wide range of propane and butane mixtures [and even straight propane] with little side effects but this is not the case for domestic gas appliances.



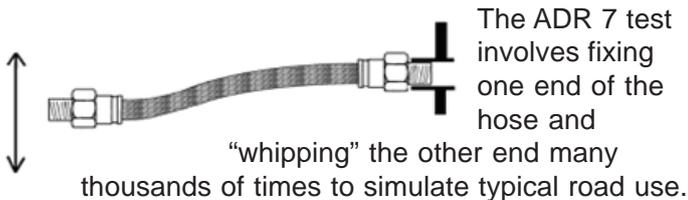
Gas fridges & stoves in mobile homes and caravans are designed to burn only straight propane and while they may still operate using automotive LPG mixtures this can produce noxious gases. In enclosed spaces such as a mobile home or caravan these noxious gases can cause asphyxiation and death. Therefore, any LPG tank installed to fuel the engine of a mobile home [or the tow vehicle for a caravan] must not have any connections that would enable it to supply gas fridges or stoves, etc.

Or to put it another way, any gas stove or fridge in a mobile home or caravan must only have lines that connect to a separate propane cylinder. There should also be a compliance plate for the fridge and stove installation. If you have the slightest doubt about the installation or it appears to have been modified, refer it to a licensed plumber for certification. VSI 5 has further information on motor homes.

Braided Flexible Brake Hoses

Way back in Testing Times 9 we talked about braided brake hoses but they were not in common use back then. However, they have now become much more popular so it is time to review the issue.

Braided flexible brake hoses used to look like normal flexible brake hoses covered with stainless steel braiding. They were often about the same overall diameter as normal flexible brake hoses, too. It may have been this overall size that made it difficult for them to pass the Australian Design Rule (ADR) No 7 whip test.



The early braided hoses often could not cope with their own mass and stiffness and failed at the swaged ends where the flexing was most severe.

If you look at current braided flexible brake hoses you will note that they are much smaller in diameter than the comparable unbraided hose.



The new designs addressed flexibility and improved the swage system. Consequently, there are now many braided flexible brake hoses that do not have a problem passing the ADR 7 whip test.

However, all the points made in Testing Times 9 are still valid. Braided flexible brake hoses should only be accepted in a roadworthiness test if they meet one of the following:

- they were supplied as original equipment by the vehicle manufacturer;
- they have the manufacturer’s identification mark (ie trade mark, or trade name);

- they are on a modified vehicle such as a rally car and covered by an engineer’s report; or
- they are fitted to a pre1970 vehicle (these vehicles do not have to meet the ADRs).

The manufacturer’s identification mark should be clearly visible. It is often on a snug fitting sleeve placed over the hose before the end fittings are crimped on.



The mark may also be stamped into the end fittings themselves as below.



In addition to the above requirements the end fittings MUST be a machine swaged type. Self assembled or screw together type fittings are not acceptable.

The hose and end fittings should not show any sign of leaking or weeping and there should be no signs of bulging or displaced braids that could indicate internal damage. As the strength of these new type braided flexible hoses is largely provided by the outer braiding, there should be no signs of broken braids or fraying or abrasion that could weaken the braiding or any evidence of the braiding becoming detached from the swaged fittings.

As many braided flexible brake hoses will have been fitted aftermarket it is also very important to check that the hose is the correct length for the vehicle and does not foul, rub or pull tight throughout the whole suspension movement and lock to lock of the steering.

Crash Repair Training

Due to the complexity of modern vehicle construction and the need for testers to understand what they are inspecting, VicRoads has developed a two day training course in conjunction with Kangan Batman TAFE.

The course covers a wide range of modern vehicle structures and their repair.

The course will be mandatory for all VIV testers and will be made available to LVTs next year. It is strongly recommended that you attend it when it becomes available.



Structural Repairs

The old definition of “vehicle structure” for the purpose of rust degradation and acceptable repairs was considered to be mainly the body shell. However, there are now many parts of a vehicle which have structural implications including doors, cross members and similar components that may be bolted or welded on. Also, in the main vehicle structure there are now instances of bonded and/or riveted sections as well as many different welding techniques including bronze MIG.



For vehicles fitted with supplementary restraint systems (SRS) it is crucial that any crash damage or sectional rust repair is carried out in accordance with the manufacturers’ crash repair instructions. Incorrect repairs on these vehicles may reduce the effect of safety systems or cause airbags to trigger at the wrong time with potentially fatal results.

Accident Damage Repair Reports

These reports have been around for some time now. However, there is still some confusion about them. The sheet that is provided is just the front cover for a detailed report that should include, what was done, how it was done and a copy of the manufacturers instructions to verify the process. Repairers are also being encouraged to create a crash diary showing the various stages of repair, including photographs, as this clarifies a lot of the issues that arise.

The report on the vehicle body alignment should include the manufacturers’ specifications to compare against the finished product.



You should not accept the report at face value, but read it carefully to see that the information matches the vehicle in front of you. You only accept the report if you are satisfied that the information and the vehicle match and the repairs appear to have been completed satisfactorily.

Temporary Seat Removal

Station wagons and hatchbacks have always been able to make seats ‘disappear’ by folding or other means. When the seats are ‘gone’ those seating positions cannot be used for the carriage of passengers. The compliance of the vehicle is therefore not affected.

Temporarily removing seats typically occurs to allow the carriage of large loads or the fitting of storage systems. The vehicle is then returned to normal when the job is completed. Some new vehicles are fitted with quick release systems specifically to allow this to occur. However on most vehicles this is a spanner job.

Four wheel drives are often reconfigured in this way and it is important that it is done without compromising the vehicles safety or compliance.

If the original seat and seat belt is refitted correctly using the original mountings and nuts and bolts then engineers reports or approval certificates are not required as this is a normal trade



process. If the removal is temporary then there is not much point in notifying VicRoads for a change of description.

If the seat removal is permanent or the seat mounting system or seat belt mounts are damaged or altered in any way, then VicRoads will have to be notified of a change in seating capacity.

If the vehicle is presented for a roadworthy inspection, then you must record on the test report, what you observe. For example: *two front seats only, drawer system fitted to rear*. The customer must be told that they cannot change the vehicle configuration while the roadworthy is current otherwise the vehicle will need a new certificate.

It is important to get this right so that customers do not incorrectly refit components or refit unroadworthy components after your inspection.

Note:

*All supplies can be obtained from
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