



Testing Times

Issue 27

Welcome

Not only are there some new and interesting items in this edition of Testing Times but there is also a completely new look to Testing Times itself as you can see.

Lights are again an issue both because of ongoing checking problems and because the requirements which apply to all vehicles have changed.

There are also a number of interesting technical items covered as well as some administration issues.

As always, if you have any questions or comments about any of the articles here or any comments about the new layout and presentation please email them.

The correct email address now is:

roadworthy@roads.vic.gov.au

Seat Covers and Airbags

When ADR 72 was introduced in 1999 it required various model vehicles to meet side impact safety standards. Ever since then, some manufacturers have been fitting side airbags into the front seat backrests to meet these side impact standards. In a side impact these airbags rapidly deploy to fill the space between the occupant and the door. Unlike frontal airbags there is very little crumple zone between the impacting object and the occupant so the side airbag must deploy much faster than a frontal airbag. They also have to deploy in a very controlled direction otherwise they will not be positioned where they are needed. To enable this fast and controlled deployment, vehicle manufacturers have carefully designed the seat upholstery and stitching.

The problem comes when a seat cover is placed over the seat. If it does not make provision for the side airbag deployment, the airbag may be delayed or worse still, deploy into the seat back potentially causing serious spinal injuries to the occupant. This is considered so critical by some manufacturers that they incorporate tags on the seats to advise of the presence of the side airbags although this is not universal. The photos below are examples of some of these tags.



Examples of SRS Tags on various Subaru models

You should note that more recently, manufacturers have started to install curtain airbags in the A-pillar and window header rail and these deploy across the side window opening and are not affected by seat covers. In some cases these replace the seat installed side airbag while in other cases a seat installed side airbag may also still be included along with the curtain airbag.

So what are we looking for?

If a car fitted with seat mounted side airbags is presented with seat covers that are not specifically identified and recognised as side airbag compatible then the covers have to be removed before a certificate can be issued. It would be wise to make a note that you have advised the presenter of the vehicle that the cover cannot be refitted as it could be unsafe.

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Additional Lights and Reflectors

With the introduction of the Road Safety (Vehicles) Regulations 2009 the situation with regard to additional lights and reflectors on vehicles has changed.

Section 118 (2) of the Standards for Registration in those Regulations states that "A vehicle must not be fitted with a light or reflector not mentioned in the Vehicle Standards without the written approval of the Corporation." However, there are some classes of vehicle which are exempt from this restriction such as police and emergency vehicles as well as vehicles built or fitted for use in hazardous situations on a road such as tow trucks and roadside assistance vehicles, etc.

What this means is that, for normally registered vehicles, unless any additional light or reflector is of a type mentioned in the Vehicle Standards (this includes the ADRs) and it complies with the requirements for that type such as its location, colour, wiring, etc, then the additional lamp or reflector is not legal (unless the owner can produce written permission from VicRoads) and it must be removed before a RWC can be issued.

This applies to LED and similar lamps placed around or under the vehicle and also to illuminated windscreen washer jets in the vehicle bonnet.

Note that it still does not apply to strings of LED lamps which may be draped around the inside of the vehicle or to other lamps

placed inside the vehicle provided their purpose is to "illuminate any interior part of the vehicle" as the standards permit interior lamps for this purpose. However, lamps mounted in the interior of a vehicle which are clearly not positioned or designed specifically to "illuminate any interior part of the vehicle" are not acceptable.

You may need to refresh your memory by reading Schedule 2 to the Road Safety Vehicle Regulations 2009 and when inspecting a vehicle with lamps additional to those provided by the manufacturer you need to be familiar with, or perhaps re-read, Part 8 of Schedule 2.

White Walls

Wide white walls used to be common on cars (particularly those of US origin) in the 1950s and then thin white (and red) walls or stripes were provided on tyres fitted to some



cars, usually sporty models such as Ford Falcon GTs and Holden GTS Monaros, in the late 1960s and early 1970s.

These were fine



when produced by the tyre manufacturers of the time but they are generally no longer readily available.

However, it seems that to reproduce this effect for restored cars (and for some other customised vehicles) a process of lathing or buffing a flat area or a groove on the side wall of the tyre and painting or fusing a coloured strip to this area is being used.

In many respects, the sidewall of a tyre and its structure are critical to a tyre's safety as it is much thinner and subject to much more flexing than the tread area.

Any alterations to a tyre sidewall are not acceptable for several reasons:

- o in some cases the tyre size and other information is being removed
- o the removal of sidewall material is likely to adversely affect the structure of the tyre
- o the addition of sidewall material is likely to adversely affect the structure of the tyre
- o the addition of sidewall material may also conceal sidewall damage. Repairs to tyre sidewall are prohibited (refer to VSI 16).

Any modification to the structure of a tyre (and this includes tread re-grooving on a tyre not marked as suitable for this process) requires the written approval of the tyre manufacturer confirming that the tyre still meets the standards before it can be accepted.

However, if the coloured sidewall stripe effect has been achieved by simply painting onto the sidewall and has not involved any removal of sidewall material or sidewall markings then this would be acceptable.

Airbag Suspension Conversions

Aftermarket airbag suspension conversions where the original springs are replaced by air bags are becoming more common. The conversion can be safe and effective if done properly. Unfortunately the flexibility of the system can cause problems. The extremes of raising and lowering may be fine for posing but can make the vehicle unsafe when mobile.

To make sure a converted vehicle is safe to drive, complying systems have a default setting with an interlock that maintains the vehicle at a normal ride height when in motion.



Defect Notices Prohibiting Use

The 2009 Road Safety (Vehicles) Regulations now allow a Licensed Vehicle Tester to road test a vehicle for the purpose of a roadworthy test PROVIDED that all the faults listed on the defect notice have been rectified. Note that this exemption allowing the use of the vehicle with a defect notice ONLY applies IF THE VEHICLE HAS BEEN REPAIRED.

HV Interstate Defect Notice Clearances

If you are a heavy vehicle tester you should have received advice on your role in clearing interstate defect notices on heavy vehicles. If you need advice or haven't received the information please contact the vehicle fitness section for an update at:

roadworthy@roads.vic.gov.au

It is this interlock that needs to be checked when carrying out a roadworthy test as it is sometimes bypassed or missing on some systems and there is an override on others. The interlock should work automatically when the vehicle is mobile and not allow over-riding or manual control. The only exception to this may be a vehicle that has a high setting for covering extremely rough or rutted surfaces but this should only work at low speeds.



Note that the above requirements do not apply to OE systems which will be ADR approved and some do have manual over-rides for off road use.



Of course you also need to check for any other damage or other issues arising from the extreme suspension movement such as adequate brake hose length, etc. Problems have been found with suspension arms contacting other components and becoming bent, drive shafts being damaged by contact with suspension and chassis sections or floors and, as expected, excessive wear in universal joints caused by excessive operating angles. Another thing to check is the shock absorber condition and mounting. The extreme travel on some of these systems is not possible with conventional shock positioning so ineffective or dummy shocks have been seen. If in doubt ask for the VASS report and check that what you can see matches the report as some vehicles have been modified after the reports were issued. If the vehicle doesn't match the report or there is no report then tell the customer a VASS approval certificate is needed.

Failure to Use Equipment

VicRoads specifies certain pieces of equipment that are regarded as crucial to perform part of the tests, hence hoists, or pits, brake testers, headlight aimers etc.

If it is found that testers are not using the equipment then it will be assumed that a substandard test has been performed. Substandard testing draws penalties ranging from 30 days minimum right through to cancellation.

Repairs to Alloy Wheels

Just a reminder that, as mentioned in several previous issues of Testing Times, the straightening, welding or re-rolling of alloy wheels is not approved by VicRoads despite rumours to the contrary.

Coil-over Shocks

More correctly called coil-over suspension units, they consist of a shock absorber with upper and lower spring seats surrounded by a coil spring. In most cases the lower spring seat is also height adjustable to change the pre load on the spring.

The unit is self contained and when you remove it from the vehicle, you have removed all of the spring and shocker (or more correctly – suspension damper) from the vehicle. They are not the same as the booster springs that are attached by clamps to a standard shocker.



They are very common on race cars but they are also seen as original equipment on road cars (Jaguar rear suspension) and the common McPherson strut used on the front of Holden Commodores and many other road vehicles is another variation.

Fitting a coil over suspension unit instead of a conventional shocker and separate spring is going to require a VASS approval certificate because the standard shock mounts were not intended to carry the loads imposed by the spring as well as the shock.

Headlight Aimers

It appears that the old joke about a headlight aimer being something you hang your overalls on is coming back to haunt us.

Going by the number of vehicles seen with badly aimed headlights and fog lights it is obvious that either many vehicles are not being checked for light alignment during inspection or testers don't know what is required.

Being able to see without dazzling other people is a critical safety matter that testers must play a role in resolving. We are currently considering two things to help solve this problem. One is to mandate headlight aiming machines and drop headlight boards and the other is to require photographs of the beam pattern of every vehicle tested to prove they have been checked. Your views would be appreciated. Email to:

roadworthy@roads.vic.gov.au

There are approx 800,000 roadworthy inspections per year and if they were all conducted properly it would have a big impact on the light glare problem.

Most McPherson strut systems are not adjustable so another common modification is the fitting of alternative McPherson strut systems that are adjustable for ride height as can be seen in the installation shown below on an early model Commodore. This does not require a VASS approval certificate as the structural design remains unaltered.



Fitting coil-overs and alternative struts presents some additional issues in making sure that the spring tension is set up correctly. Having unbalanced tensions can have unfortunate effects on the vehicle's stability. A road test checking for balanced handling over bumps and also while cornering and braking is mandatory.

To ensure the vehicle doesn't suffer a sudden loss of ground clearance after it leaves your workshop, it is wise to record

some height measurements, preferably eyebrow heights (see below), so that if there are queries you know what you saw.

So what are eyebrow heights?

Eye-brow height is also known as trim height and ride height.

It is the vertical measurement from the wheel centre to the top of the wheel arch opening as shown in the illustration in the next column.

The Road Vehicle Descriptor (RVD) sheets available from the Road Vehicle Certification System (RVCS) website (see TT 21 supplement for instructions) provide measurements for unladen mass, full bump and minimum acceptable for each listed vehicle. If you are trying to work out how much a vehicle has been raised or lowered, this will give you some data to work with.



Note....email issues.

VicRoads has started to send information to testers via email and this has revealed a big problem. Apart from the 900 or so testers who have not yet provided their email address, about 20% of those sent bounce because addresses have been changed without advice being provided.

Please check your details on the website at www.vicroads.vic.gov.au/lvt and if it is wrong, please advise of the correct address.

Some testers are also sending emails on various matters and its great to hear from you. However, please make sure you quote your tester number and contact details so things can be followed up with you. There have been some beaut cryptic notes but the author is unknown. By the way this applies to faxes and letters as well.