



Testing Times

Issue 17

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Welcome

Welcome to Edition 17 of Testing Times.

We have another interesting collection of items for you again in this issue. While the safety of the vehicle is what a roadworthiness certificate is all about, this time we have also included several items related to the personal safety of you and your customers.

If you have comments on any of the articles here please e-mail to:

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Asbestos in Brakes

Up until a few years ago asbestos was the material of choice for brake and clutch linings. However, asbestos is being phased out because of the health risks caused by the dust and a complete ban on asbestos based products was put in place at the end of 2003. This ban applies to OEM and aftermarket replacement parts.



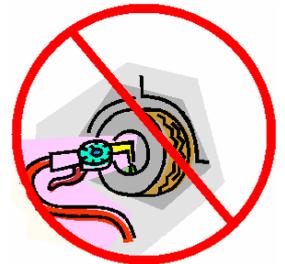
Most vehicle manufacturers replaced asbestos in brakes and clutches with other compounds a number of years ago and you will probably recall the problems they had in striking the balance between brake performance and component life.

An early implementation by one major manufacturer required new rotors each time the pads were replaced while another major manufacturer had to replace rotors under warranty because of glazing that caused brake shuddering within 10,000 km.

The lack of asbestos in brakes and clutches doesn't mean that you can get complacent though. All friction materials still contain fibres and all fibres are potentially hazardous. These fibres are present in the dust produced by brakes and clutches [asbestos or otherwise] and you will be exposed to this dust when doing any work on or inspecting brake or clutch assemblies.

Dust should be removed using an industrial vacuum cleaner fitted with HFFPA filters or by using a water moistened cloth. The cloth should be disposed of immediately by sealing it in a suitably labelled plastic bag.

NEVER EVER USE COMPRESSED AIR OR DRY BRUSHING TO REMOVE BRAKE DUST.



Parking Pawls

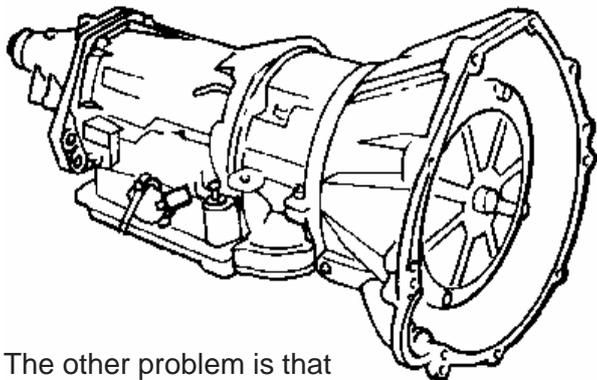
Another of those ADR mysteries. ADR 42 sets a number of requirements for automatic transmission controls including an ignition interlock, the provision and location of the neutral position and the direction the control must go to move from neutral to reverse. It also mentions a park position on several occasions and specifies its location if one is provided. However, the ADR does not specifically require a park position and does not set any performance requirements for one if it is provided.

A park position is generally provided on almost every car with a conventional automatic transmission to meet customer expectations if nothing else but it is not common on the more hybrid transmissions and is rarely provided on what are essentially clutch-less or automatic clutch manual transmissions.

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The park mechanism on an automatic usually consists of a pawl attached inside the transmission casing that engages a cog on the driveline. Once engaged, it is a positive lock on transmission movement and can be more effective than leaving a manual transmission in first gear. The only limitation on the load it can hold may be the strength of the pawl and what it is attached to. This leads to one of the problems. If the pawl breaks off there is now a lump of metal adrift in the transmission casing which, even though it may be small, could get into somewhere where it could suddenly lock up the transmission. If what the pawl is attached to breaks this may leave a hole in the casing that will require its replacement anyway so the broken bits will be removed and the park pawl should be functional again.



The other problem is that through wear or for other reasons the pawl may ratchet under high (or not so high) loads. On steep grades some drivers may want the added security of some form of transmission brake/lock.

But just how good is the transmission's park position?

If the transmission does not positively lock or if it ratchets under normal load then you should reject the vehicle. If the pawl has broken off that loose bit in the transmission could cause a crash at any time. A claim that the transmission has been pulled apart and the loose bit removed is not acceptable given the relatively low cost of a replacement pawl in relation to the cost of pulling the "trannie" apart in the first place.

Sealed Battery Boxes

When a Lead/Acid battery is being charged it can give off a mixture of Oxygen and Hydrogen and what happens if a spark occurs in this mixture? That's Right! It converts back to water with a BOOM that has been known to shatter the battery casing and cover everything and everybody in the vicinity with battery acid.

That is why you need to be careful when removing battery charger leads or removing the jumper leads off the car you just jump-started.

That is also the major reason why it has been a hard and fast rule in the roadworthiness requirements that batteries in the occupant area of a vehicle must be in a sealed compartment with external venting. A spark in the wiring in a cabin filled with a mixture of Oxygen and Hydrogen will do more than just make a noise.



But sometimes there are exceptions to these hard and fast rules such as with some Mercedes Benz vehicles. In the Vito and Sprinter vans the battery is under the driver's seat and in the A class sedans it is in the driver's foot well area and in each case it is in a non-sealed battery box. Some other Mercedes Benz vehicles have at least one of their batteries in a non-sealed compartment in the boot. Does this contravene the hard and fast rule? Not really, but it does mean it needs some qualifications because Mercedes Benz use either a non-vented battery or a special sealed battery that has a vent tube to the exterior. Mercedes Benz also says that the same type of battery must be used for replacements.

The bottom line is that if the battery and battery compartment in any vehicle is exactly as the manufacturer originally supplied it, then they are taking the accountability and you should not reject it. This means that in the case of Mercedes Benz vehicles, you should not reject a non-sealed battery box. However, if the battery is not of the same type of design as originally fitted then either the battery has to be replaced with the correct type or the compartment sealed and fitted with external venting.

Noisy Vehicles

Following up on the article in Testing Times 16 about noisy blow-off valves, the EPA has asked that you be reminded that if you have any doubt about noise levels, and this includes the exhaust, you should require the vehicle be tested by an EPA accredited noise tester before you issue a RWC. Remember, if you pass a vehicle that is too noisy it is likely to come back and bite you.

What a Drag?

There have been recent sketchy reports about the ends of Toyota Hilux drag links separating from the rest of the vehicle. This can make steering somewhat erratic to say the least. What is actually happening here? If you know of any examples let your LVT supervisor know.



Better still, provide him with the failed parts so the problem can be investigated and a remedy found.

LPG Accreditation Training

There have been a number of changes to Australian Standard AS 1425 and new requirements have been introduced. Are you up to speed with all of these? If you are not up to speed, or have doubts about the compliance of a LPG fuelled vehicle you should refer it to an accredited LPG installer to make sure it is OK. The recent Coronial Inquest into the death of a child as a result of a faulty LPG installation should serve as a timely reminder of the responsibilities of LVTs and others. It is expected that some form of LPG accreditation training for LVTs will become mandatory very soon, probably starting in January 2005.



LPG Cylinder Upgrades

While we are on the subject of LPG, the issue of upgraded or changed systems has arisen. For the issue of a roadworthiness certificate an LPG system only has to meet the standard specified by the version of AS 1425 that was current at the time of the original installation. One such requirement was the provision of a manual lock off valve within the cylinder. More and more older conversions are now requiring the cylinder to be replaced because it failed the 10 year inspection. This does not mean that the whole system has to be upgraded but the new cylinders now come with the multifunctional

valve required on new installations. These new valves still meet the earlier requirements because they have a manual lock off within the valve but they also have an electrically operated service valve.

This electrically operated service valve is "fail safe". That is, the ignition must be on for the valve to open and allow gas to pass. This means that to retrofit the new cylinder and valve a feed from the ignition circuit to the cylinder valve is required. No big deal. How hard is that to do properly?



The only way to get around this is to tamper with the valve by dismantling it and removing the service valve piston. Remember, that the multifunction valve also included the excess flow valve and the manual lock off so if it has been tampered with internally in any way its whole performance is now suspect.

If you do come across a LPG system that has the multifunction valve fitted but not wired in then it clearly has been tampered with and should not be accepted for a RWC.

OH&S

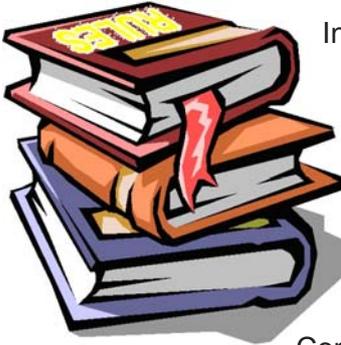
I am sure you all realise you have obligations under the Victorian Occupational Health and Safety Act 1985 and its Regulations and I am sure you all realise VicRoads also has similar obligations. But did you know that what you do on your site can also have repercussions for VicRoads?

The work environment you provide for your employees is your responsibility and in that respect VicRoads cannot direct that you change or make good any breaches it sees during an audit.

But what about the safety of your customers?

VicRoads requires that the public obtain a RWC for certain vehicle registration purposes and VicRoads licenses you to supply those RWCs. So indirectly, VicRoads is requiring people to attend your premises to get those RWCs and

therefore has an obligation to ensure [as far as it is feasible] the safety of those people. The exact extent of VicRoads' obligations has not yet been tested in law and it is preferable that it never has to be.



In addition to this obligation to the public, VicRoads also has an obligation to its employees and in particular, to its LVT supervisors who are required to enter your testing premises to carry out audits.

Consequently, if, while carrying out an audit or at your testing premises for any other reason, VicRoads' LVT supervisors observe any unsafe work practices or unsafe testing premises that could jeopardise the safety of the public or VicRoads' staff, then they have no option but to take steps to suspend your LVT licence until the matter is corrected.

But let us all hope it never gets to this position. It is surprising how little is often needed to correct OH&S breaches particularly in the vehicle repair industry.

Trolley Jacks

To continue the OH&S theme for a bit, lets consider trolley jacks. Some people seem to consider them as a piece of equipment that never wears out.

When was the last time you chucked one out? Or more to the point, when was the last time you sent one away for servicing or repairs? Can't remember, well you are not alone, that is for sure!



How many of you have an old trolley jack that slowly creeps down? Why does it creep down? Because an oil seal has deteriorated and sooner or later [hopefully later] that seal is going to let go suddenly and completely. You may not

let anyone get under a car while it is on a trolley jack [jack stands are a must here] but you sometimes have to put your hands and arms under the vehicle to position the jack stand and adjust it if needed. Those bits are at great risk.

You wouldn't issue a RWC to a vehicle that had a leaky brake wheel cylinder so why would you accept a trolley jack that has exactly the same fault?

Roadworthy Books

Who can order books?

Books can only be ordered by :
The licence holder,

- or in the case of a company licence
 - a Company Director or
 - a Company Representative



Which premises are books delivered to?

Books will only be sent to the site listed on the licence. If there is more than one site listed on the licence, then one site will be nominated as the Head Office. In that case, when RWC books are ordered we will only send the books out to the nominated Head Office.

Managing the books for multiple sites

The person at Head Office in charge of the licence should send the RWC books out to the sites that need them and keep a record of where they are for audit purposes.

Fees

Annual renewal of your licence is now \$16.40.

A new licence, or if you change the location of your testing premises, or to add additional premises onto your licence, costs \$81.80 per site.

A book of 100 Roadworthiness Certificates now costs \$130.00 (including GST).

Note:

*All supplies can be obtained from
VicRoads' Bookshop
Ground Floor, 60 Denmark Street
KEW VIC 3101
Phone (03) 9854 2782
Fax (03) 9854 2468*

Open weekdays between 8.30am and 4.30pm