

# TESTING TIMES

Roadworthiness Section, Road Safety, VicRoads

October 1998 ♦ Issue 7

## Welcome

It has been a bit longer between issues than we would like but here it is again. As a result of the extra time, this issue contains many more technical items than usual. As they are all important, to fit them all in we have had to delete most of the graphics and delay some of the more general interest items until the next issue.

## Technical Issues

### Left Hand Drive is Here

For some vehicles anyway. Changes to the Standards for Registration were introduced in September which allow the registration of some left hand drive vehicles. It is now legal for a LHD vehicle to be registered in Victoria provided it is more than 30 years old when presented for registration (30 years and one day will do) and has a GVM less than 4.5 tonne.

At this time an Engineers Report is not required (unless it has been modified) even if the vehicle has not been previously registered in Australia because it could not have been made after 1969 and no ADRs apply to it. However, when we get to the year 2000 a 30 year old vehicle will be a 1970 model and ADRs will apply. An Engineers Report will then be necessary for the first registration.

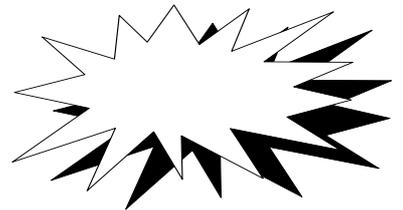
The roadworthy test requirements for LHD vehicles more than 30 years old are exactly the

same as any other vehicle of this age other than the position of the steering wheel. However, you need to be wary as LHD vehicles often have the wrong colour turn signal, park and reverse light lenses as well as headlights dipping the wrong way. Make sure you check these out.

### LPG Tank Mounting.

Reports continue to arrive concerning the failure of tank mountings on small vans such as L300's. The problem arises when the tank is hung under the rear floor without any suitable reinforcement or cradle.

The floor cracks in use and the tank becomes loose and eventually falls out on the road. This can cause **A**health problems**@**or following drivers and is not acceptable.



It is critical therefore that you lift the floor mats etc and inspect the mounting points for any sign of cracking, buckling or other indications of potential failure. Remember that the tank mounting is meant to withstand at least 30g, ie 30 times the weight of a full tank without separating from the vehicle.

Another tank mount issue occurs when the tank cradle is welded to the chassis of a vehicle. The installer in this case needs to be able to show that the installation meets the required strength (30g) and that the arrangement and materials used are suitable for the particular model vehicle.

## LPG Tank Protection

A number of queries have been recently received where LPG tanks fitted inside vans or in the load area of tray type vehicles do not have any barriers or other structure to protect the tank. AS 1425 requires that tanks are located and protected so that damage due to impact by objects being handled by or carried by the vehicle shall be prevented. So if the tank is in the load area of a vehicle (except the boot of a passenger car) it will require something to adequately protect it from anything carried in or on the vehicle.

## Windscreen Demisters

The great thing about air conditioning is its ability to demist windows very quickly. When performing a roadworthy test however we cannot rely on the air conditioning. This is because air conditioning is an option and as a result there is no requirement in the roadworthy guidelines for it to work. When checking demisting requirements the rule of thumb adopted many years ago should still be used. **If warm air is directed to the windscreen with the fan operating on high speed it is accepted that the vehicle complies with the intention of ADR 15.**

## Noisy Driveshafts on Front Wheel Drives

In the old days of things like the mini, (car that is), a noisy driveshaft was a warning of impending doom with the likelihood of lots of broken bits and loss of steering etc. The modern car's Driveshafts however seems to last for a long time after you first notice the clicking noises when turning. The trade consensus at this time appears to be that clicking in a front driveshaft on modern cars can be ignored until the noise becomes heavier like a clunking (love these technical terms) or is audible while driving straight ahead. The jury is still out on the definitive replacement time so use this as a guide and give us some feedback on your experiences.

## Four Wheel Drive Tailshafts

Every now and then someone presents a vehicle for test with a front or rear tailshaft missing so that the vehicle is effectively only a two wheel drive. The only reason for this appears to be that they didn't want to repair the driveshaft.

Testers can be caught out by this if the owner then puts back in the U/S tailshaft.

Consequently, the following procedure should be used:

1. If the vehicle is built as a permanent full-time 4 wheel drive, then all the tailshafts and driveshafts should be in place and serviceable.
2. If the vehicle is normally driven as a two wheel drive with the option to manually select 4 wheel drive then the driveshaft to the optionally selected (freewheeling) differential may be removed provided that:
  - (a) the transmission is locked in high range, and
  - (b) the operating mechanism to select 4WD and low range is removed from the cabin, and
  - (c) any holes in floors or firewalls caused by removing these mechanisms is sealed against dirt, water and exhaust gas entry.

**Testers should also remark on the test report that a drive shaft has been removed.**

## Four Wheel Drive Tyres

All the normal 4 wheel drives that we deal with are designed to have the same size tyres front and rear. The tyre placard should indicate if this is not the case. Please check this as odd tyres can cause very strange handling problems and lots of mechanical damage due to driveline windup.

## Commodore Ball Joints

Failures of some Commodore ball joints have been related to two issues.

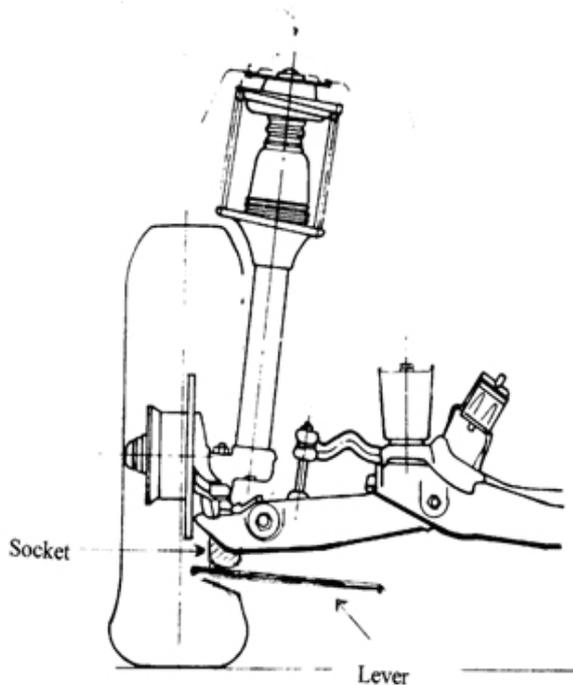
1. The bodies of replacement ball joints are normally oversized to ensure that they fit securely into the lower control arm. The service manual states that once a replacement ball joint has been fitted to an arm it should not have another one fitted later because it will not be retained securely.

**Solution:** The arm must be replaced.

2. Ball joints have failed despite being tested in the normal manner and showing no signs of wear. Following discussions with various people including GM it appears that wear can be hidden by preload in other components.

**Solution:** Undertake the following additional test:-

Place a large socket underneath the ball joint. Using a lever with a flat smooth surface, place one end on the wheel rim and lever up against the socket. See the sketch below. This will show the amount of wear in the joint.



The GM engineers pointed out how important it is not to nick the wheel rim or the arm while doing this as it could start damage which could cause the part to fail later.

## B-Doubles

A B-double is a combination of three individual vehicles, comprising a prime mover and two semi-trailers. As a combination they must have a spray suppression system fitted to each axle.

In addition anti-lock brakes must be fitted to a prime mover in a B-Double;

- (a) if it was manufactured after 1 Jan 1990, or
- (b) first used in a B-Double after 1 Jan 1994, or
- (c) one or more of the trailers is carrying dangerous goods.

If any trailer in a B-Double is a tanker carrying dangerous goods both trailers must have ABS.

However, when a roadworthy check is being performed each vehicle must be treated individually. Because you cannot be sure a prime mover will ever be used in a B-Double and you don't know what is to be carried, there

are some things that might be required on a vehicle in a B-Double when it is actually being used on the road that cannot be required for a roadworthy inspection.

Therefore, ABS braking systems and spray suppression systems are not required for roadworthiness so there is no need to check them.

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## Administrative Issues

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### Origami

Origami is the ancient art of paper folding. The usual aim is to create the shape of animals, flowers or other objects for artistic purposes.



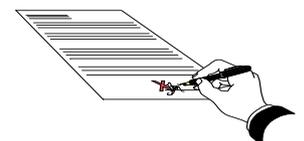
Licensed Vehicles Testers have now developed a new branch of this ancient art. The idea is to see how many folds they can fit into any documents they send us so that the smallest possible envelope can be used.

While the skill required to achieve this is appreciated, the down side is that it creates problems handling and reading documents. Most documents are handled in batches and myriads of folds make this difficult. The issue is even more important as we move to document scanning to save time and space. Could you please reduce the folds and use standard business size envelopes whenever possible.

While on the subject of mailing in things. We have an enormous quantity of information sent to us by testers who after entering the origami contest proceed to confuse the situation even more by not quoting their EX number. With some 2800 licensed sites you can understand how much time we can waste trying to find which file to attach the paperwork to. So *pleeeese* write your EX number on anything you send in to us.

### Licence Conditions and Equipment.

Every year when you get your roadworthy licence renewal notice, attached to it is the **A**nditions of licence@ which includes the minimum, mandatory equipment required. Signing and returning the renewal means you also agree to these conditions. In effect you have entered into a contract with VicRoads for the following year.



During routine audits many testers are found not complying with the conditions and the main excuse offered is that they haven't read them. Talk about signing blank cheques!! If you do not comply with those conditions then you are technically in breach of contract and VicRoads may have to take the drastic action of suspending or cancelling your licence.

If you haven't recently read your conditions of licence get them and read them now because two items of equipment which are no longer accepted are still being found on a regular basis.

Decelerometers which look like a thermometer tube and stick to the windscreen with three suction cups (brand names Ammco and Mintex) have not been accepted for a number of years. The units which are still approved all have a means of holding the peak reading so they do not have to be observed while driving the vehicle.

Headlight aimers mounted on a triangular base or with two chrome vertical support bars or with a round front lens 75-125mm in diameter (brand names Vane, Cesco, Replex and Repto) also went out with the dinosaurs - they don't work correctly with modern car headlight systems.

If you are still using these items get rid of them and get the proper ones. Remember, your licence could be at stake!

## Location of VINs

In the last issue of Testing Times we covered some of the more unusual locations of VINs. This time we thought it would be worthwhile covering the appearance of the VIN and its location and attachment method.

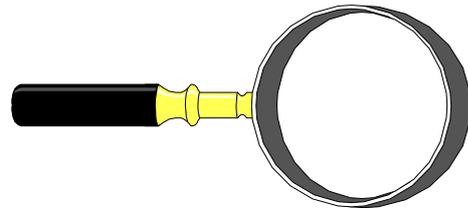
Basically, the VIN has to conform to International Standards. These require that the VIN is legible, durable and not easily altered. They also require that it be either stamped:

directly into an integral part of the vehicle such as the frame or on a part of the body not easily removed or replaced; or

on a separate plate which, in turn is permanently fixed to the vehicle as above.

It is also acceptable to combine these alternatives on the one vehicle.

For motorcycles and mopeds or where the VIN is on a separate plate, the letters and numbers must be at least 4mm high. In all other cases the letters and numbers must be at least 7 mm high.



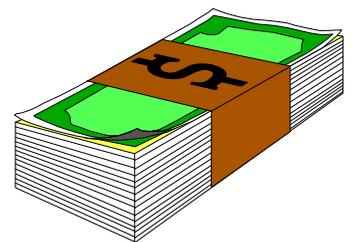
Recent model Commodores are an example of where the VIN is marked on a plate fixed to the vehicle rather than stamped directly onto the body. Some truck and motorcycle manufacturers also do this and some even split the VIN into two parts with the first section of the VIN (up to nine digits) which may not change from vehicle to vehicle being stamped into the body, and the remaining variable characters on a plate.

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## Supplies

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**A reminder - the price of books of RWCs is now \$105. In future, testers who continue to send only \$100 per book will not be supplied until the full amount is received.**



For supplies contact:

**VicRoads Bookshop  
Ground Floor  
60 Denmark Street  
Kew Vic 3101**

Phone (03) 9854 2782  
Fax (03) 9854 2468

between 8.30am and 4.30pm Monday to Friday.