



Testing Times

Welcome

Well, here we are again. We are going a bit upmarket with this issue with two items regarding Rolls Royces. You may say, how many of those am I likely to see? Well, surprisingly, or not so surprising when you think about it, the population of "Rollers" in Australia got a real boost just before the transfer of Hong Kong to China. Hundreds of second hand Rolls Royces were coming in each year along with a lot of other "exotic" machinery. Trouble is, some of it may have been picked up quite cheaply and the new owners might not be prepared to spend the large sums needed to properly maintain such elegant vehicles.

Stopping Rolls Royces!

Rolls Royces (and some other luxury cars) have an accumulator system that stores energy for applying the brakes. It is not unlike the Mini's "hydrolastic" suspension. You know – Floats on Fluid. The RR accumulators are filled with nitrogen at high pressure (near 1000 psi) and this is separated from the hydraulic fluid by a diaphragm. Two camshaft driven pumps provide hydraulic pressure that further compresses the nitrogen when the engine is running. A split brake system is provided with one accumulator providing fluid for one brake calliper on each front wheel and one of the rear wheels and the other providing fluid for the other brake calliper on each front wheel (there are two separate callipers for each front disc) and the other rear wheel. The accumulators also provide energy for the self-levelling suspension. When properly set up and fully charged the accumulators give about forty (yes 40) brake applications with the engine turned off. The problem is, over time the nitrogen can escape – particularly if the wrong hydraulic

fluid is used as this can quickly damage the diaphragms in the accumulators. With no nitrogen the whole accumulator is filled with incompressible hydraulic fluid and there is virtually no stored energy. With the engine running the brakes still work but as soon as the engine stops – **No Brakes!!!**



The messages:-

- if you are presented with a car that uses accumulators in the brake system, always check that you can get a reasonable number of brake applications when the engine is not running before taking the vehicle out for a road test. If you don't and the engine should stall (you might not know it at first - they are quiet inside aren't they!) you could quickly run out of brakes.
- make sure you don't top up or service the brake system with the wrong fluid. This can ruin the whole brake system requiring very expensive replacement – possibly at your cost!



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Any Rolls Royce (or Bentley) that only has a small number of brake applications when the engine is not running, needs to go to a Rolls Royce expert in a hurry (but slowly). They have the means of checking the nitrogen pressure and correcting any problems.

Stopping Rolls Royces – again!

Some older Rolls Royces can experience severe disc rotor corrosion. This appears to be more prevalent with those brought in from Europe and Hong Kong. Salt on the roads or in the air perhaps? Or maybe they have not been looked after properly? You know, washed down with fresh water, dried and stored in a warm cosy, low humidity garage after each outing just like you do with your outboard motor and the brakes on your boat trailer, eh!

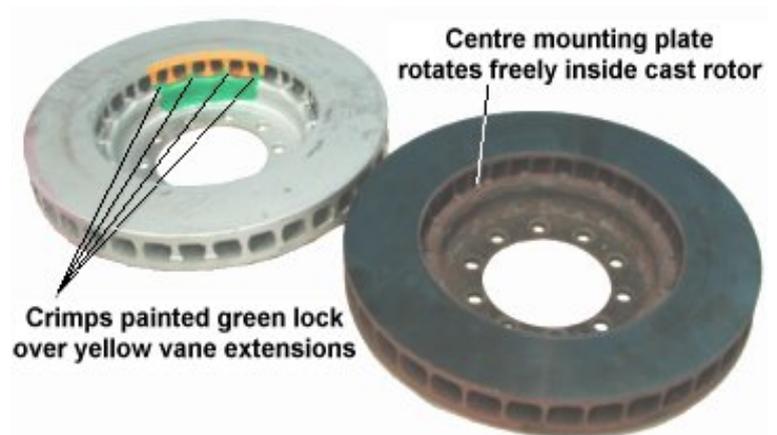
Rolls Royce brake discs are usually pretty meaty items being over 30mm thick and quite heavy. However, in one recent example the loss of material through corrosion had reduced the disc mass by about half. Despite this, the rotor thickness was still within specs (you do check rotor thickness when you do a roadworthiness inspection, don't you?) but this may not be surprising as this area is cleaned of corrosive material every time the brakes are applied.

As can be seen on the rotor on the right, the vanes in the ventilation ducts are almost paper thin and the thickness of each side of the rotor has been substantially reduced when compared to the new rotor.

As mentioned in a previous edition of Testing Times, the mass of a disc brake rotor is a critical factor in heat dissipation and a disc brake rotor as thin as this is likely to create severe brake problems if worked hard.



As if this is not bad enough, in this case, the centre mounting plate has also separated from the rotor and can be freely rotated inside the cast rotor. The cast rotor is normally fixed to the centre steel mounting plate by crimping the steel plate over extensions to the rotor vanes as can be seen in the photo below.



As the vanes corrode the extensions become loose in the crimps allowing the centre mounting plate to move relative to the cast rotor. This may not be detected until too late as the vane extensions act as wedges and brake applications keep the wedges tight. However, in some cases it might be possible to detect movement by applying the brakes hard when reversing as this could unlock the wedges.

Eventually though, the crimping will run over the top of the corroded vane extensions separating the rotor from the wheel and quite suddenly

No Brakes!!!

This is what happened to the tester when he was driving the vehicle. Luckily, only one rotor let go and the other brakes still worked but they were also close to failure.

It is therefore strongly recommended, particularly for Rolls Royces around ten years or older that have come into Australia from overseas (and you can generally pick this by the type of compliance plate or lack of a compliance plate) that you give the disc rotors a very close inspection.

It may be hard to tell your customer that they need new rotors (at about \$700 plus GST each) before you issue a RWC but then again it could save their life not to mention your licence.

Dual Fuel Systems

Vehicle Standards Information sheet N° 26 says that all fuel lines must be free of leaks. On dual fuel vehicles there are two separate sets of fuel lines and this means that both must be checked and the only way to do this is to run the vehicle on each fuel for a short time.



Even if the petrol system has been abandoned it requires checking as soon or later someone may decide to go back to using petrol and any leaks could be disastrous.

Therefore, if a vehicle is set up for dual fuel operation, no matter what the owner says about it or how long ago the petrol system was last used, both systems must be checked.

If the owner does not want to present the vehicle to you with both systems working, then their only alternative is to have the vehicle properly converted to single fuel only.

Telephone Messages

Ever wondered why people sometimes don't return your calls when you leave a message? Well, it could be that they owe you money and are avoiding you but in some cases it might be that they haven't got enough information to do so. There is often a loss of quality when a telephone message is replayed and a lot of time can be wasted replaying messages over and over again trying to decipher what was said.



Points to remember:

- When leaving a message on an answering machine or a message bank speak slowly and clearly.

- Don't rush your message - most message tapes keep going for much longer than you need.

There is an even greater problem when leaving phone numbers. They must be exactly right - everytime. You can probably rattle off your phone number at the drop of a hat, but don't if you want someone to call you back. Telephone numbers should be spoken slowly and precisely so that the listener can write them down as they listen to your message. If the person at the other end gets just one digit wrong your phone will not ring!



It is a good idea to repeat the phone number slowly a second time so that what was written down can be confirmed without having to replay the message.

When leaving a message for one of VicRoads' LVT Supervisors to return your call the minimum information you need to give is:

your name,
your phone number, and
your LVT licence (EX) number (as a backup)

If for some reason the phone number does not come through clearly, the EX number can be used to find your phone number but this does take additional time.

Email Alternatives

Being suddenly confronted with a telephone answering system when you expected a human on the other end can be a bit daunting sometimes and you might forget to give some of the important parts of a message.

There is another solution for those who have access to email. You can now send a message, ask questions or provide information to your area supervisor by email.

You can even add attachments if you can get them into an electronic format. This way you can take as much time as you like setting out the details and when you are happy, everything goes at the touch of a button.

The only disadvantage of this method is that your area supervisor is often on the road and can only get your email when they reconnect to the internet.



The addresses you need for e-mails are as follows:

Andrew.Cruddas@roads.vic.gov.au
Bob.Abeyseker@roads.vic.gov.au
Craig.Mcdonald@roads.vic.gov.au
Fred.Hebb@roads.vic.gov.au
Graeme.Banes@roads.vic.gov.au
Nino.Menolascina@roads.vic.gov.au

Licence renewals.

VicRoads sends out licence renewal notices about four weeks before the licence expires but every month about 20 renewal notices (nearly 10% of all notices sent out) have to be followed up. In most cases the renewal notice is still sitting on some-one's desk! Remember, until the renewal fee has been paid, your new licence certificate cannot be displayed.

Further, if the licence has expired you cannot legally issue Roadworthiness Certificates.



In the past VicRoads has chased up those who have forgotten to renew their licence but this can cost about three times the actual renewal fee. Consideration is therefore being given to methods of recovering or minimising these additional costs. This could include charging a late fee or automatically cancelling any licence not renewed by the due date. In this latter case, if a tester wished to continue testing, a new licence application along with the relevant fee, would be required.

Why is it that nearly 10% of LVTs forget to renew their licence when it is due?

Is it because the notice is not prominent enough?

Is it because it is sent out too early and you don't have to pay it immediately?

VicRoads is open to suggestions. How can we help you to help us avoid the need to follow up on un-renewed licences?

Info on the Internet

Just another reminder, all the Vehicle Standards Information (VSI) sheets and other useful information is available on the VicRoads website at www.vicroads.vic.gov.au/road_safe

To quickly get to the vehicle section click on the [V] in the alphabet across the page.

Fees

Annual renewal of your licence is \$15.50.

A new licence, or if you change the location of your testing premises, or to add additional premises onto your licence, costs \$78.00 per site.

A book of 100 Roadworthiness Certificates now costs (\$105.00 + GST) = \$115.50

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