



Advanced Braking Pty Ltd

## **Technical Bulletin – TBN-044**

**Product: LCV1**

**Subject:**

**New Rear Hub Seal Arrangement for SIBS on Toyota Landcruiser – Australian Vehicles Only**

### **Change Revision**

<b>Issue Revision</b>	<b>Issue Date</b>	<b>Comments</b>
<b>00</b>	<b>20-FEB-2009</b>	<b>DRAFT FOR REVIEW</b>
<b>01</b>		



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**Subject:** **New Rear Hub Seal Arrangement for SIBS on Toyota Landcruiser – Australian Vehicles Only**

### **Summary:**

Several customers have reported issues with SIBS fluid washing out the rear wheel bearings. This can lead to premature wheel bearing failure and reduced performance of the brakes.

This TBN details a change recently made to the rear hub assemblies to provide additional protection for the wheel bearing seal. The seal can be retrofitted to existing brake sets, provided the rear hub assembly is changed.

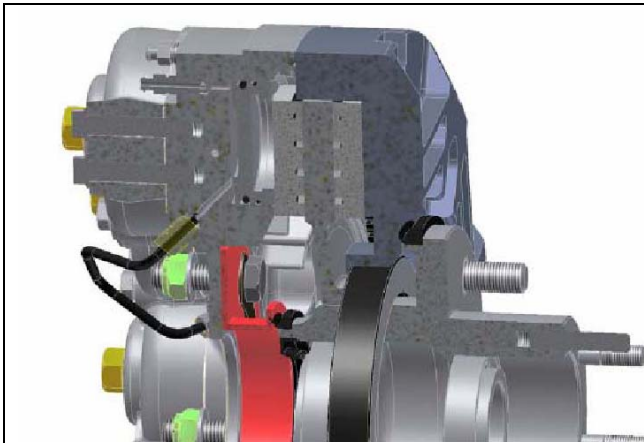
This change has been implemented after extensive testing and has markedly improved the life of the wheel bearings.

### **Detail:**

The additional wheel bearing seal is available for SIBS on Toyota Landcruiser HZJ78, HZJ79, HZJ105 and VDJ70 series Landcruisers sold in Australia. The seal is not currently available for vehicles sold in countries other than Australia.

The upgraded seal arrangement incorporates an additional v-seal to protect the SIBS wheel bearing seal. Both the v-seal and the SIBS wheel bearing seal are manufactured from Viton. Note: OE wheel bearing seals are Nitrile and will not last as long in SIBS brakes. Use only seals supplied for SIBS brakes.

The additional v-seal runs on a seal surface bolted to the inner housing. The void produced prevents SIBS fluid from reaching the wheel bearing seal.



Section through rear SIBS brake showing additional seal carrier (red) and v-seal.



Close up showing seal carrier (red), v-seal and SIBS wheel bearing seal.

Parts required:

Item	ABT P/N	Description	Qty	Comment
1	24-0107	Hub assy rear	2	It is recommended that new hubs be fitted with the correct seating for the new seal. See image below
2	24-2832	Seal carrier rear	2	
3	01-4093	V-seal	2	Viton
4	24-4920	Wheel bearing kit	2	Required if new hub assy not used.

Fitment:

1. Put the vehicle on a suitable hoist and remove the wheels.
2. Release the EMMA brake using the control box and install the 4 x retractor bolts into each rear wheel assembly.

**Important:**



Retractor bolts must be installed before the outer housing is removed. Failure to do so may damage the brake.

3. To the rear brakes, remove the axle half shafts and wheel bearing adjustment nuts as per the Toyota manual.
4. Undo 2 x outer housing bolts and replace them with 2 x M10x1.5 guide bolts – as shown in Figure 3.



Figure 3  
Installing 2 x M10x1.5 guide bolts.  
Remove two outer housing bolts.



Figure 4  
Remove outer housing / hub / rotor and  
outer pads as one assembly. Have a  
colleague hold the inner pads with a steel  
rule to prevent them falling on the ground.

5. Undo remaining outer housing bolts.
6. Now remove the outer housing, hub, rotor and outer pads as one assembly. Catch the outer wheel bearing to prevent it falling on the floor. Refer Figure 4.

**Important:**



Note the weight of the hub and outer housing assembly. Have a colleague assist you.

7. Remove the 4 x rear mounting bolts and lock tabs. The inner housing will only need to be removed if the seal is broken or it shows signs of leaking.

If the rear inner housing must be removed from the axle flange, ensure the axle flange and inner housing mount face are clean and free of rust. Coat the axle flange with Loctite 515. Use a gasket if the axle flange is rough or pitted, new axle flanges will generally not require a gasket.

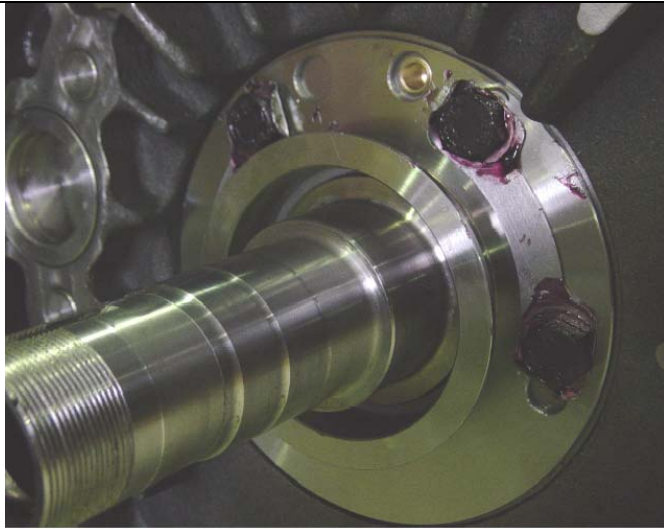


Figure 5  
Fitment of inner seal carrier. Note: Loctite 515 between seal carrier and inner housing (not shown) and under heads of mounting bolts. Install lock tabs.



Figure 6  
Note body of v-seal (outer seal) sits flush with the back of the hub and the lip sits proud of the hub.

8. Install the seal carrier as shown in Figure 5. The seal carriers are not handed. Coat the seal carrier with Loctite 515. Coat the heads of the bolts with Loctite 515. Install the lock tabs. Note the torque of the rear mounting bolts is 81Nm.
9. Re-move the wheel bearings and seal from the hub, and clean the hub.
10. Pack new wheel bearings with Lithium Complex Grease – Castrol APXT.
11. Install new wheel bearings into hub. Leave the outer bearing aside for now.
12. Install the wheel bearing seal and v-seal as shown in the Figure 6. Note the hub should have a groove to seat the v-seal. If the groove is not present, carefully install the v-seal so the body of the v-seal sits flush with the hub, and the lip sits proud of the hub. Refer to Figure 6.
13. Install a new Scotseal into the housing.
14. Install outer housing over hub. Install pads and rotor – as shown in Figure 7.



Figure 7  
Preparing outer housing / hub / rotor / pad assembly for fitment to inner housing. Place outer housing over hub. Install pads and rotor.

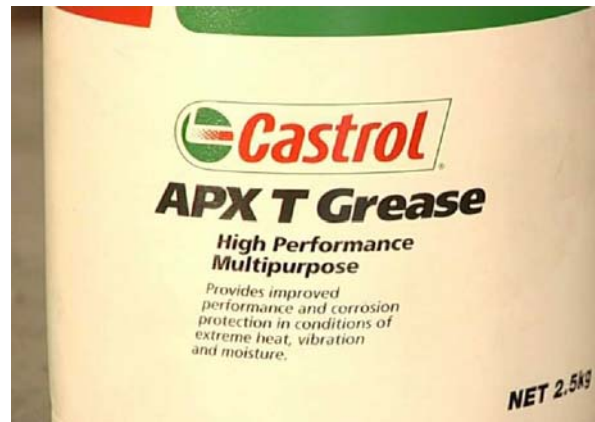


Figure 8  
Lithium Complex grease (Castrol APXT). Resists washout and recommended for use on wheel bearings on vehicles fitted with SIBS.

15. Install the outer housing, hub, rotor and outer pads onto the inner housing. Use the guide bolts fitted in step 4. Slide the assembly into position.
16. Install the outer housing bolts and tighten to 61Nm. Check the hub rotates freely (note retractor bolts must be installed).
17. Install the outer wheel bearing and wheel bearing locking assy.
18. Install the half shaft.
19. Release the EMMA brake using the control box and remove the retractor bolts. Install the EMMA plugs.
20. Test drive.

For further information please see the 'Installation, Service & User Manuals', available on the ABT website, <http://www.advancedbraking.com/manual.html>.

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