



Advanced Braking Pty Ltd

Technical Bulletin – TBN-034

Product: SIBS on Toyota Landcruiser

**Subject: Front issues on Toyota Landcruisers: steering bearings
and front CV joints.**

Change Revision

Issue Revision	Issue Date	Comments
00	28-02-08	DRAFT
01	13-02-09	INITIAL RELEASE



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Product: LCV1 – SIBS on Toyota Landcruiser


Subject: Front issues on Toyota Landcruisers: steering bearings and front CV joints.

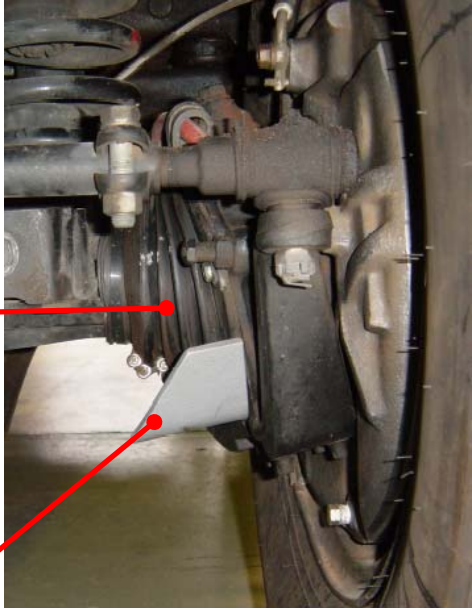



Summary:

Several customers have reported failures of front steering bearings and front CV joints on Toyota Landcruisers fitted with SIBS brakes. The purpose of this TBN is to inform customers of the results of our failure analysis and provide solutions to the issue.

Description:

Both steering bearings and CV joints are often exposed to mud and water through the felt seal at the back of the knuckle. These components can be further protected by use of the following items:

Item	Description	Photo
1	<p>Greasable front CV joint with pressure relief valve.</p> <p>ABT P/N: 24-5003 (CV Joint Front TLC79 – greasable) Note: sold individually</p> <p>A grease nipple in the end of the shaft allows for quick and effective greasing from inside the CV whilst still in the vehicle.</p> <p>Install pressure relief valve into inspection port of front knuckle. Grease CV joint regularly and watch for pop-out pin indicating knuckle is full of grease.</p>	
2	<p>Split rubber boot.</p> <p>ABT P/N: 24-5001 (Knuckle boot kit TLC79)</p> <p>Protects felt seal at back of knuckle and helps prevent water ingress.</p> <p>Note: this is a <u>wear</u> item and should be inspected and replaced regularly.</p>	

<p>4</p>	<p>Knuckle bash plates</p> <p>Split rubber boots become damaged and must be changed regularly. To increase life of the boot ABT can provide additional bash plates to deflect projectiles that may cause damage</p> <p>24-5001 Knuckle Boot Kit TLC 79</p> <p>24-5006 Front knuckle bash plates (pair). Suits TLC79.</p>	 
<p>5</p>	<p>Timken steering bearings</p> <p>ABT P/N: 01-6055</p> <p>Several customers have reported improved life from Timken brand bearing. The standard Toyota bearing is Koyo and many aftermarket kits will include second rate brands.</p> <p>Bearing is also available in a kit including all gaskets and shims to change and adjust steering bearings. ABT P/N: 24-4964 (Front swivel hub kit – Timken bearings)</p>	 
<p>4</p>	<p>Adjustment of turning circle</p> <p>Adjust steering stop bolts (as per Toyota manual) to ensure turning circle is not too tight. This will take some stress off the CV joint.</p>	<p>Refer to Toyota manual.</p>

Failure probabilities:

The reason for the failures can be categorised as follows:

Item	Cause of failure	Result	Probability	Solution
1	Ingress of water/dirt past felt seal at back of the knuckle.	Bottom bearing will corrode or wear out & eventually collapse. Evidence of corrosion on lower bearing.	High Most common cause	1. Prevent ingress of water/dirt into back of knuckle (fit split rubber boots to back of knuckle) 2. Push out water/dirt – fit grease nipples to the top of the knuckle & fit greasable CV joints. Regularly grease these points during normal service to force out water/dirt.
2	Pre-load on steering bearings excessive	Damages bearing	Medium	1. Set up bearing pre-load as per Toyota Manual. Use shims as required. 2. Use Timken steering bearings
3	Contamination of knuckle from other than dirt / water – e.g from failed needle roller bearings inside front spindle.	Metallic contaminants will lead to failure of steering bearings	Moderate	What is the source of the contaminants? If needle roller bearings at back of spindle, these can be replaced with brass bush.
4	Failed front shock absorbers leading to higher shock loads on the front bearings	Reduced life of bearings	Moderate	Check shock absorbers at regular maintenance intervals. Replace shocks with heavier duty component – eg Iron Man foam filled shock absorbers

For more information, or to order parts, contact ABT Customer Service on 08 9273 4800.

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