

**TRAILER SUSPENSION**

No: 97117-224
Subject: SEVERE DUTY CAM TUBE
Date: December - 2010 Revision: B

Introduction.

1. The operation of the Hendrickson Intraax family of axles, under severe duty conditions, may lead to the accelerated degradation of the cam tube bushes. This is further accelerated with insufficient lubricant.
2. To improve cam tube durability Hendrickson Asia Pacific Pty Ltd is pleased to announce the introduction of a severe duty cam tube designed specifically for our unique Australian environment. This publication replaces 97117-119 and 97117-146.
3. The purpose of this technical bulletin is to detail the following:
 - a. severe duty cam tube description,
 - b. installation procedure for severe duty cam tube, and
 - c. severe duty cam tube preventative maintenance.

Severe Duty Cam Tube Description

4. The severe duty cam tube includes the following unique design characteristics:
 - a. Cam tube housing is a precision machined tube thereby eliminating excessive tolerances.
 - b. Larger, wider bronze bushes that provide improved load bearing and lubrication, resulting in significant improvement in life.
 - c. Improved external sealing to prevent the introduction of external contaminants.

Installation of Severe Duty Cam Tube

5. The severe duty cam tube service kit is able to be installed on compatible suspensions from the inboard side of the wheel. It is not necessary to remove the hub, tyre / wheel assembly, or brake drum.

PREPARING THE TRAILER FOR SERVICE

TO PREVENT SERIOUS EYE INJURY ALWAYS WEAR SAFETY GLASSES WHEN PERFORMING TRAILER MAINTENANCE AND SERVICE.

- Park the trailer on a level debris free surface.
- Set the trailer parking brakes.
- To prevent the trailer from moving, chock the wheels of the axle not being raised.
- Exhaust the air from the trailer suspension.
- Release the trailer parking brakes.
- Using a jack raise the axle until the trailer wheels clear the work surface.
- Support the raised axle with safety stands.

Information contained in this literature was accurate at the time of publication, product changes may have been made after the publication date that are not reflected here



WARNING

DO NOT WORK UNDER A TRAILER SUPPORTED ONLY BY JACKS. JACKS CAN SLIP OR FALL OVER RESULTING IN SERIOUS PERSONAL INJURY

6. If necessary, remove the brake adjuster from the camshaft and remove the existing cam tube. For complete brake maintenance procedures refer to Hendrickson Publication L496 *Wheel-End Maintenance Procedures*. Proceed with severe duty cam tube replacement adhering to the following procedures:

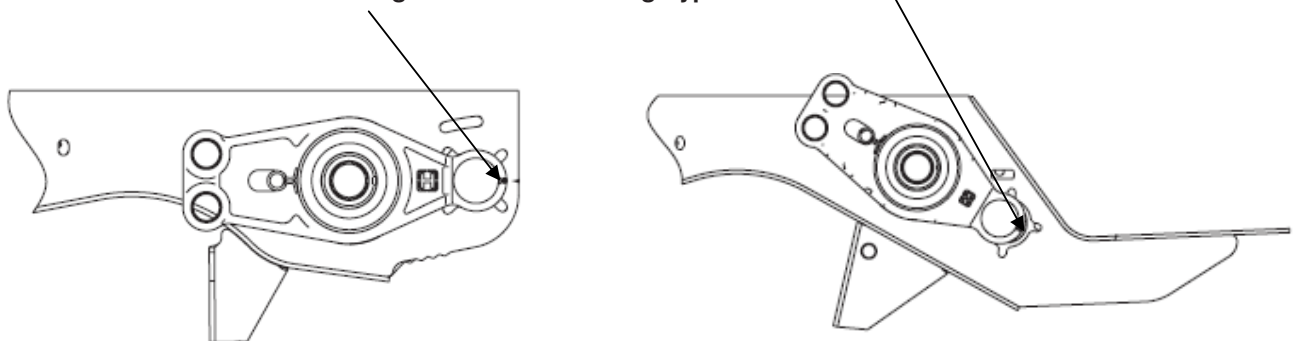
- a. Using #2 EP NLGI chassis lubricant lightly lubricate the internal seals and bronze bushings on both ends of the severe duty cam tube assembly.
- b. From the inboard side of the suspension beam, slide the new severe duty cam tube onto the camshaft, through the mounting hole in the suspension beam and into the spider (figure 1.) Make sure the end of the cam tube **without** the decal goes onto the camshaft first. That is, the end of the cam tube with the decal must be closest to the brake adjuster.

Figure 1. Cam Tube Orientation



- c. Rotate the severe duty cam tube so the grease fitting is accessible (either pointing downward or to the rear) when the drums are installed (refer Figure 2).

Figure 2. Grease Fitting Typical Orientation



IMPORTANT

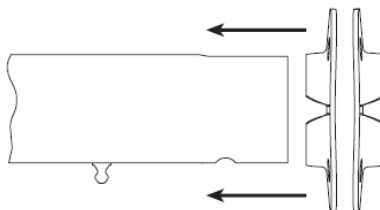
DO NOT WELD OR OTHERWISE FASTEN THE SEVERE DUTY CAM TUBE ASSEMBLY TO THE SPIDER. THE CAM TUBE ASSEMBLY IS A SIMPLE 'SLIP FIT' INTO THE SPIDER

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- d. Arrange the two severe duty cam tube brackets back to back and slide them onto the end of the cam tube assembly (figure 3.). Slide the brackets onto the cam tube until they contact the suspension beam.

Figure 3. Install brackets back to back on the severe duty cam tube



- e. Rotate the cam tube brackets so their holes align within the holes (or slots) in the suspension beam. If necessary rotate the cam tube so the grease fitting is accessible (either pointing down or to the rear) when the drums are installed, as per figure 2.
 - f. Install the four nuts and bolts. Tighten to 55 N.m (40 ft.lb) of torque.
 - g. Slide the S Cam journal washer (item one figure 4) onto the camshaft and seat it against the severe duty cam tube assembly.
 - h. Using retaining ring pliers hold open the retaining ring (item two, figure 4) and slide it onto the end of the camshaft. Lock the retaining ring into the groove on the camshaft. It may be necessary to pull the S-Cam outward slightly to ensure that the retaining ring engages the S-Cam groove.
 - i. Install the severe duty cam tube boot (item four, figure 4) over the end of the severe duty cam tube housing with the larger outside diameter of the boot facing towards the slack adjuster.
 - j. Slide the second S-Cam journal washer (item three, figure 4) onto the camshaft and seat it against the retaining ring (item two, figure 4).
 - k. Lubricate the single, centrally located grease fitting with approximately 120 grams (4 ounces) of # 2 EP NLGI chassis lube. Add grease until it can be seen purging from the cam tube boot (item four figure 4). Wipe away excess grease purged from the joints. This will help prevent contaminants from being attracted to the lube points and grease from getting on the brake linings.
7. Complete the severe duty cam tube installation by installing the brake adjuster, spline washers and spline retaining ring in accordance with Hendrickson Publication L496.

Preventative Maintenance.

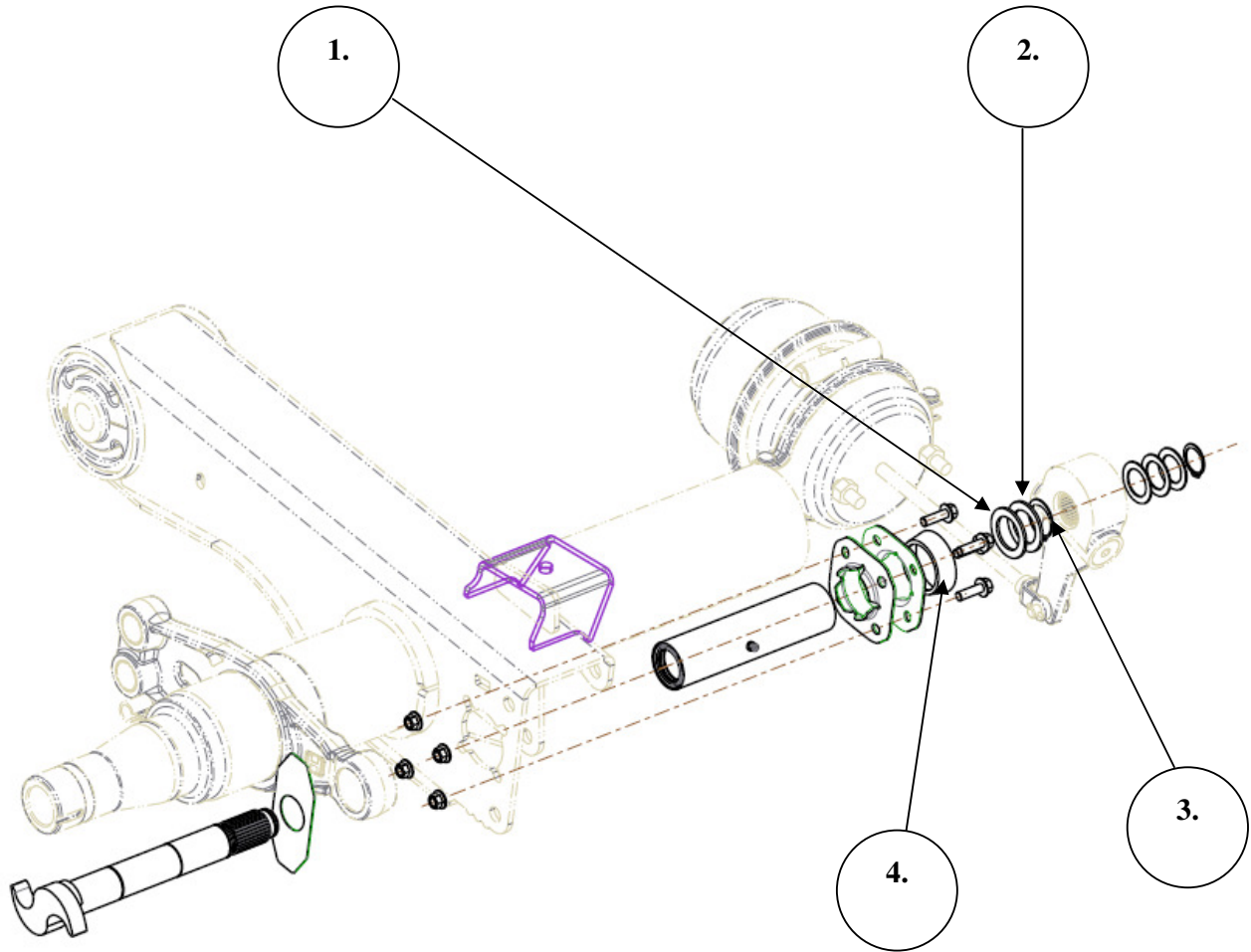
8. The severe duty cam tube should be lubricated at all quarterly service / 12,000 km intervals. In extreme duty off road environments the intervals should be adjusted to meet the demanding conditions.

Note: The Severe Duty Cam tube must be lubricated with the parking brake released.

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Figure 4. Severe Duty Cam Tube Overview



Item One: S Cam Journal Washer

Item Two: Retaining Ring

Item Three: S Cam Journal Washer

Item Four: Severe Duty Cam Tube Boot

Any questions in relation to this Technical Bulletin please forward to the Hendrickson Product Support Group: Telephone (03) 8792 3600 or email to: technicalservice@hendrickson.com.au

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