



Chassis Technical Bulletin CTB 014, 1 September 2010

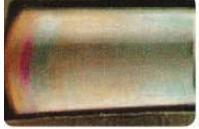
Title: Major Steps in Performing a Proper Brake Job and Wheel-End Overhaul

Major Steps in Performing a Proper Brake Job and Wheel-End Overhaul

- Wear suitable protective clothing and gear and work in a well-lighted environment
- Park vehicle on level surface and chock wheels.
- Cage all 4 brake chambers; Drain all air from the tanks
- Raise the axle off the ground with a jack, then place jack stands under the axles
- Turn slack adjuster bolt the opposite way turned to adjust brakes until the rollers are at the S-cam start position, retracting brake shoes.
- Safe removal of tire / wheel / drum assembly using dolly
- Remove outer and inner bearings and all seals / collars
- Remove shoe return springs and discard
- Remove brake shoes and discard or send for re-lining
- Remove retainer springs and discard
- Remove anchor pins and discard
- Remove all bushings and discard
- Check S-cam play with end-play gauge; rotate S-cam to take readings at different points. Play less than .030 is OK and does not require removal of S-cam and bushing replacement; play greater than .030 requires pulling the S-cam and replacing the bushings.
- Remove cotter pin and yoke pin to free adjuster
- Remove snap ring and washer from splined end of S-cam, removing slack adjuster
- If S-cam play is greater than .030 and S-cam bushings are to be replaced, pull out S-cam and remove cam shaft grease seals – may need to pry out with screwdriver
- If removing S-cam, remove and discard camshaft bushings
- Use a solvent cleaner to clean axle spindle and journals – inspect for gouges, cracks, and crossed threads. Use emery cloth to polish and smooth.
- Use solvent bath to clean bearings; inspect bearings cage, cup, cone and rollers according to guidelines separately described. Clean bearings in solvent and inspect both inner and outer races and cones. Look for discoloration, wear, spalling, pitting, etching or rust. All of these conditions warrant bearing replacement. Replace both cup and cone as a set.



Examples below:



Discoloration



Roller end wear



Contaminated lube



Contaminated lube
or Improper
installation or wear



Moisture
contamination

- If camshaft was removed, install and lubricate new camshaft bushings
- Lubricate camshaft and slack adjuster splines with never-seize
- Install slack adjusters on camshaft – follow instructions for type of slack.
- Clean, lubricate and re-install automatic slack adjusters if they are in good working order; if not, replace in pairs.
- If bearings are OK, pressure pack with new grease such as Retinex; if not OK, replace both cup and cone in pairs. Note: some Seacastle chassis use semi-liquid lubricant such as Chevron Delo and Mobilith 007 and they have decals indicating those lubricants. Do not mix lubricant types.
- Install inner and outer seals as per manufacturer's recommendations using appropriate tools. Follow recommendations of Stemco / SKF for examples or proper technique.
- Fill hub with fresh Retinex completely up to the diameter of the spindle opening. Note: semi-liquid lubricants as described above will fill the hub from the 3 to 9 o'clock positions.
- Lubricate anchor pins, rollers and clips and install (new)
- Install new / relined brake shoes
- Install new HD brake kit such as Bendix HK29SD
- Clean drum with solvent and rag; measure / inspect drum for wear, out-of-round, and other conditions described in separate files available from Technical Services. If a drum is replaced, then replace its twin on the other side.
- Use wheel dolly to install wheel assembly; keep wheel supported while adjusting bearings and torque.
- Adjust wheel bearings using end-play gauge - .001" to .005" allowable play
- Automatic slack adjusters require adjustment when first installed and at every brake job; adjust slack adjusters according to manufacturer's recommended procedures