

TRUCK/TRAILER AIR BRAKES

General Air Brake Tolerance and Procedures

Robert Reed 9/10/06

As a result of the changes to Federal Motor Carrier Safety Regulation 49CFR Part 393.47 on August 15, 2005 this article provides valuable information for reference and the inspection of mechanical components of an air brake system. The new regulations provide for the integrity of the mechanical components. These general specifications are for the mechanical components of the truck, tractor or trailer air brake systems. The limits and procedures were researched through many service, maintenance, operator and specific manufacturer manuals and can be used as general guidance, training and awareness for maintenance and inspection personnel. They are not meant to be all-inclusive. Mechanics and service personnel must consult the specific manufacturer service manual for the vehicle and system being repaired or rebuilt for specifications and limits and proper procedures.

SLACK ADJUSTER: End play on "S" camshafts - .005-.045 in. Back lash / play limits on "S" camshafts - .094 in. Pin and clevis play limits - .031 in. Service / adjust manual slacks – 8,000 miles or monthly. Service/ check automatic slacks – 25,000 miles or 90 days. Free stroke on slack adjuster 3/8in. to 5/8in. Check all clevis pins / yokes for free movement and lubricate at 25,000 miles or 90 days.

BRAKE DRUMS: Diameter wear limits stamped on drum, usually .120 in. over original size. Drum mounting face rounding over limits - .030 in. Drum run out / out of round – steer axle-.015 in. Trailer and drive axle drums - .020in. Drum bellmouth / taper limits. - .010 in.

AIR DISC ROTORS: Rotor lateral runout / wobble - .020 in. max. Rotor thickness variation - .005 in. Rotor radial runout - .035 in. max. Minimum thickness stamped on rotor. Clearance between lining and rotor - .050 in. cold.

AIR BRAKE CHAMBERS: Inspect chambers at reline or one year period. Service and emergency brake diaphragm replacement – 50,000 miles or 12 months. Keep all seal plugs and vents in proper position, check torque on mounting bolts. Brake chamber diaphragm clamp torque – 25-35 ft. lbs.

SHOES / LINING / MOUNTING: "S" camshaft and bushing play - .020 in. max. Brake shoe anchor pins / bushings on spider - .031 in. max. Brake shoe to drum clearance - .010 in. / .020 new shoes. Always use new shoe return springs, rollers and mounting kits at each reline. Checks condition of all wheel bearings and replace all wheel seals. Inspect all new parts for proper fit and use before installation. Check and set wheel bearing end-play to proper tolerance. Check condition of all wheels before mounting and torque lugnuts per proper limits.

Robert Reed
Columbus, Ohio
robert5585@sbcglobal.net

©2006 Robert Reed
Permission Granted