

## INSTALLATION OF ELECTRIC OR HYDRAULIC DRUM BRAKES

Identify left hand side (LH) and right hand side (RH) of brakes <sup>(3A)</sup>; you should be able to find either a label inside each brake assembly or a note stamped on the body of the brake itself. Install each brake to brake flange of spindle at its corresponding side. The orientation of brake is important. For Electric brakes, the magnet must be towards the bottom (the slack adjuster will be at the bottom, brake shoe with shorter brake lining be at the front and the wires on the top). For Hydraulic brakes, brake cylinder inside the assembly must be towards the top (the slack adjuster will be at the bottom, brake shoe with shorter brake lining be at the front and hydraulic fitting on the top). Position brake <sup>(3A)</sup> in spindle <sup>(1)</sup>. Let backing plate sit against spindle brake flange.

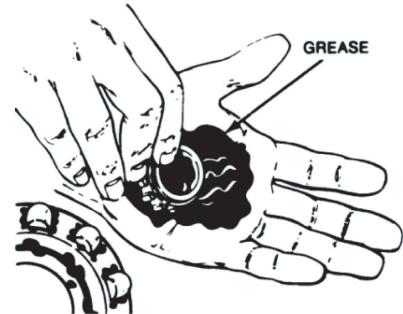
Use a torque wrench, torque nuts using chart below:

Size (dia.) of brakes	HARDWARE	TORQUE
For 7" and 10" brakes	four (4) 7/16" UNF nuts four (4) 7/16" lockwashers	50-55 Ft.-lbs. (68-75 N-m)
For 12" brakes	five (5) 3/8" UNF nuts five (5) 3/8" lockwashers	30-35 Ft.-lbs. (41-47 N-m)

## WHEEL BEARING PACKING

Pack bearing with grease <sup>(b)</sup>. If available, bearings should be packed by machine. Packing by hand is also acceptable. Pack bearings by placing an amount of grease in the palm of your hand. Press outer edge of bearing into grease, moving it across the pile. Roll the bearing to force grease into rollers. Continue this process until you have the entire bearing filled with grease.

Before installing bearing, apply a light coat of grease onto bearing cup mating surface.



(Hand packing a bearing with grease)

### **CAUTION**

Ensure conditions are safe PRIOR to doing any repair, inspection, or maintenance work under the trailer. Park trailer on solid, level ground and debris-free surface such as a concrete or paved surface. Place vehicle in park, set emergency brake if possible and use additional safety devices such as wheel chocks to provide extra protection and prevent vehicle from moving. Using a jack, raise trailer until wheels clear the work surface. Support raised trailer with trailer stands.

**WARNING:** No work should be done under any vehicle supported only by a hydraulic or mechanical jack. Jacks alone can slip or fall over, resulting in serious personal injury or death.

a) Parts of this document regarding the installation of hubs and brakes are ONLY applicable if hubs and brakes are supplied by Timbren Industries Inc.

b) Use a high temperature automotive type wheel bearing grease. It is recommended to use Lithium complex type products with NLGI consistency of 2, with additives for EP (Extreme Pressure), corrosion, and oxidation dropping point 419°F min (or 215°C), minimum viscosity index of 80.

c) Always use NEW cotter pins.

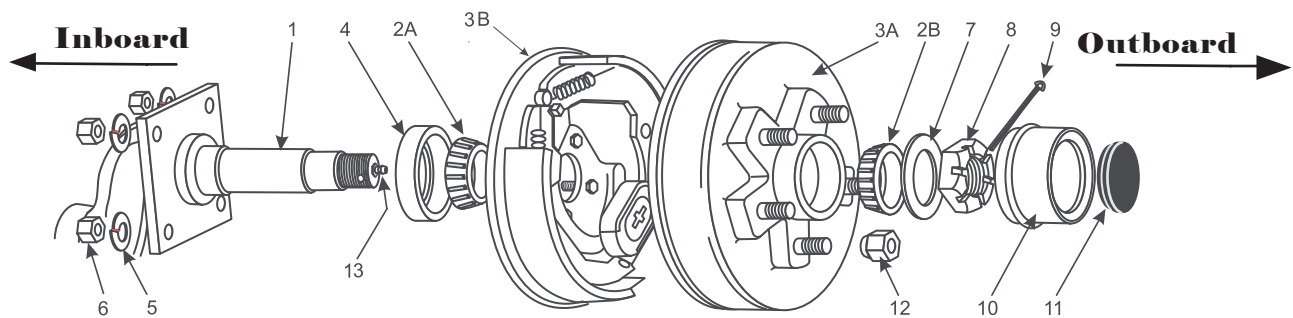
## INSTALLATION OF DRUM HUBS

Insert inner bearing <sup>(2A)</sup> packed with grease in its housing on the inboard side of hub <sup>(3A)</sup>. Ensure correct orientation. Insert grease seal <sup>(4)</sup> on top of inner bearing. Be aware that seal has two faces, the metal part of seal should face towards inboard side of trailer and the rubber part of seal should face towards outboard side of it. Use a seal installer tool to insert grease seal into place. If not available, use a piece of clean block of wood to drive seal into place. Make sure it is fully seated.

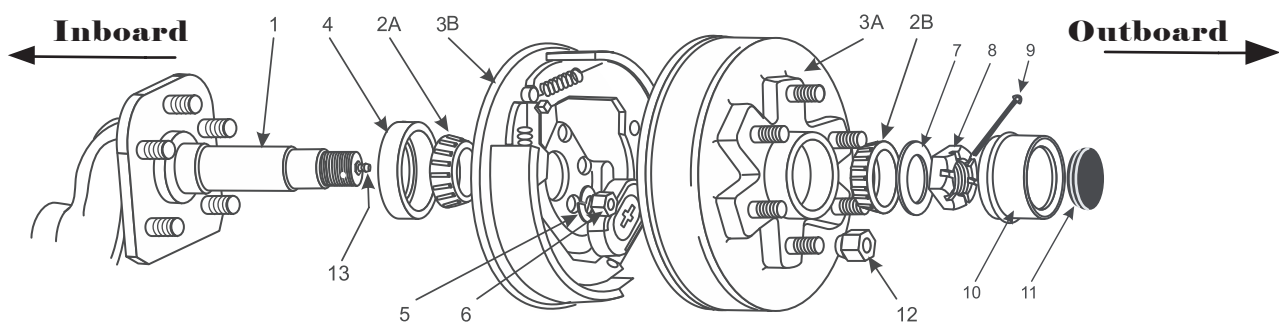
Turn hub around, lift it and insert it onto spindle <sup>(1)</sup>. Slide it over into place. Do not let inner bearing and seal drag to spindle threads.

Insert outer bearing <sup>(2B)</sup> packed with grease in its housing on the outboard side of hub <sup>(3A)</sup>. Ensure correct orientation. Place washer <sup>(7)</sup> and castle nut <sup>(8)</sup> into spindle <sup>(1)</sup>. Torque nut to 200 Ft.-lbs. (271 N-m) while rotating the hub. Back off one full turn. Rotate hub at least one full turn. Retorque nut to 50 Ft.-lbs. (68 N-m) while rotating the hub. Back off 1/4 turn.

Hold hub assembly by hand at 3 o'clock and 9 o'clock positions. Push and pull while rotating hub assembly approximately 45° in both directions. Check for end play. If any end play is noticed, re-do installation and check for any issues. Insert cotter pin <sup>(9)(C)</sup> through castle nut and hole in spindle. Bend end of cotter pin with a screw driver or pliers to secure it in place. Insert grease cap (10). Use a rubber mallet to put it in place. Remember you can always add grease to hub cavity using spindle zerk fitting<sup>(14)</sup>. Rotate hub by hand while adding grease to hub cavity or replacing old grease with new grease, if necessary.



**Figure A. Typical 7" or 10" Electric Brake Assembly installation**



**Figure B. Typical 12" Electric brake Assembly installation**

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