# HUB AND BRAKE ASSEMBLY REPLACEMENT ON BRINKLEY MODEL Z 5TH WHEELS

| | | | |
|---|---|---|---|
| **TSB Number:** | 45B-001-2023 | | |
| **Product:** | Hub and Brake Assembly | | |
| **Date:** | June 23, 2023 | Labor Rate: | 2.5 hours per axle |

## Purpose

This document refers to Brinkley Model Z Series 5th Wheels and the requirement to remove and replace the hub and brake assemblies with new.

**NOTE: It is important that ALL NEW parts are ordered using KIT PN 2023040017. Utilize ALL NEW parts. Do NOT reuse the old parts, even if the old parts do not appear to be compromised.**

We suspect that some hub and brake assemblies used on the Curt axles installed on Brinkley's Model Z 5th Wheels may have been damaged in the production and/or inspection process at Lippert. As a result, Lippert has elected to replace all hub and brake assemblies on certain units. This will affect dealer inventory as well as retail owned vehicles. See the specific affected VIN's in the table below.

Below you will find work instructions, parts ordering information and details to file a claim for reimbursement. Within the next couple of days, Lippert representatives may call your dealership to help facilitate parts ordering. Communication will be provided to retail customers and we ask that you provide priority scheduling to perform the TSB. Lippert has a field service team who may be able to help you, should you need it.

Lastly, as part of the investigative process, we ask that you return the hub and brake assemblies back to Lippert tagged with the last 6 of the VIN.

**NOTE: After completing the hub and brake replacement it is important that the customer perform the burnishing process in order to properly seat the new brake assemblies and achieve optimal brake performance. See the last page of this document for full burnishing instructions. For convenience, we have also placed a link to our instructional video here:** Proper Way to Burnish your Trailer Brakes

**Axle Information**
Top level Curt axle variant 2022325350

**PART TO ORDER: PN 2023040017**
DESCRIPTION: BRINKLEY MODEL Z 45B-001-2023 TSB

**Send parts orders with Brinkley VIN included to:**
BrinkleyModelZTSB@lci1.com

**One kit (PN 2023040017) is required to perform the TSB.** Individual part numbers are included under resources required on Page 3 for identification purposes.

**VIN Information**
Units with VIN ending in 000559 and higher are not affected by this TSB.

| Affected Vehicle Identification Numbers (ending with) |
|---|
| 000004 - 000512 |
| 000514 |
| 000516 - 000518 |
| 000521 - 000526 |
| 000528 - 000535 |
| 000539 - 000540 |
| 000542 - 000543 |
| 000545 - 000547 |
| 000551 - 000555 |
| 000557 - 000558 |

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**NO ADVANCE CONTACT OR PRIOR AUTHORIZATION REQUIRED**

**CLAIM REIMBURSEMENT PROCESSING:**

All completed work orders with requests for reimbursement, including any freight expenses, should be emailed to dealerclaims@lci1.com .

**Required information for immediate reimbursement processing includes:** Full 17 digit VIN, Retail Name if retail sold, Dealer name, address, phone number, dealer hourly labor rate and a work order detailing the work performed and labor time.

**NOTE:** Dealership or repair facility forms are accepted or CS-028 Lippert Warranty Claim Form can be used to request reimbursement.
CS-028 can be found at: https://lci-support-doc.s3.amazonaws.com/forms/ccd-0004000.pdf

Claims submitted with all requested information are issued payment within 30 days.

**Shipping Address**
Parts being replaced are to be returned to:
**Lippert Warranty**
Attn: Warranty Lab
2020 Blakesley Parkway
Bristol IN 46507

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## Safety

This document provides general instructions. Many variables can change the circumstances of any procedure, i.e. the degree of difficulty involved in the service operation and the ability level of the individual performing the operation. This document cannot begin to plot out procedures for every possibility, but will provide the general instructions for effectively installing, removing or servicing the system. In the event the skill level required is too advanced or the procedure too difficult, a certified technician should be consulted before performing the necessary operation. Failure to correctly install, remove or service the system may result in voiding the warranty, inflicting injury or even causing death.

**⚠WARNING**

**The "WARNING" symbol above is a sign that a procedure has a safety risk involved and may cause death, serious personal injury, severe product and/or property damage if not performed safely and within the parameters set forth in this document.**

**⚠CAUTION**

**The "CAUTION" symbol above is a sign that a procedure has a safety risk involved and may cause personal injury, product and/or property damage if not performed safely and within the parameters set forth in this document.**

## Resources Required

- TSB Replacement Kit: **PN 2023040017**
  - LH Brake Assy 1222593 2 ea
  - RH Brake Assy 1224513 2 ea
  - Hub Assy 380827 4 ea
  - Cotter Pin 122075 4 ea
  - Sealed Wire Conn 122084 8 ea
  - Keps Nuts 122077 20 ea
  - Dust Cap 85373929 4 ea
  - TSB Instructions CCD-0007981 1 ea
- Cordless or electric drill or screw gun
- Appropriate drive bits
- 9/16" socket and ratchet
- Torque wrench
- Rubber mallet
- Wire cutters
- Floor jacks
- Appropriately-rated jack stands

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## Hub Removal

1. Lift and support trailer per manufacturer's requirements.

**⚠WARNING**

**Lift trailer by the frame and never the axle or suspension. Do not go under trailer unless it is properly supported by jack stands. Unsupported trailers can fall causing death or serious injury.**

2. Remove the rubber plug from the adjusting slot on the bottom of the brake backing plate (Fig. 1).
3. Insert a screwdriver or standard adjusting tool into the adjusting slot to rotate the starwheel (Fig. 2) of the adjuster assembly to retract the brake shoes.

Fig. 1

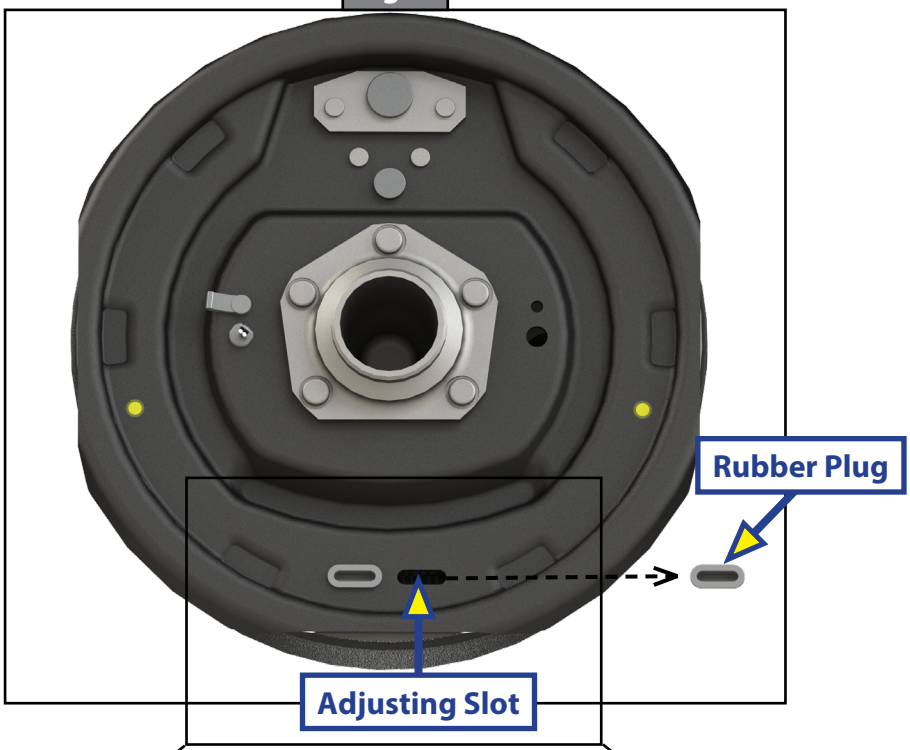
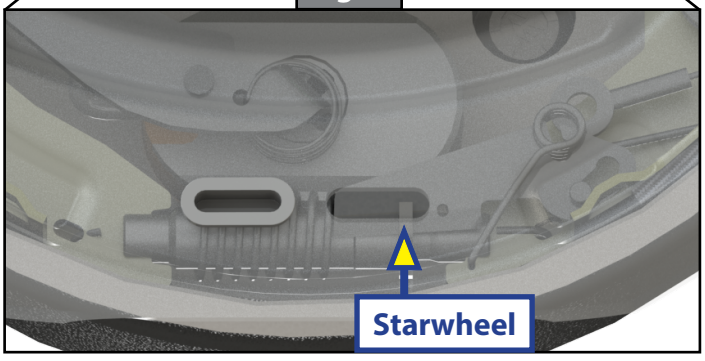



Fig. 2



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4. Remove the lug nuts from the wheel and set aside (Fig. 3).
5. Remove the wheel from the axle hub and set aside (Fig. 4).

Fig. 3

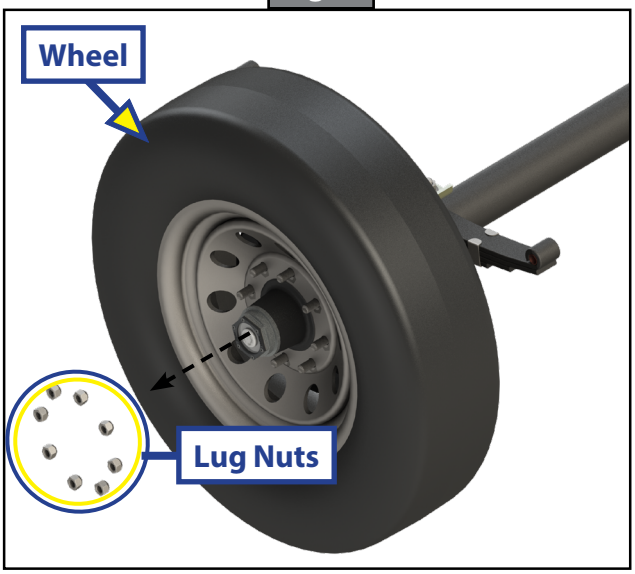
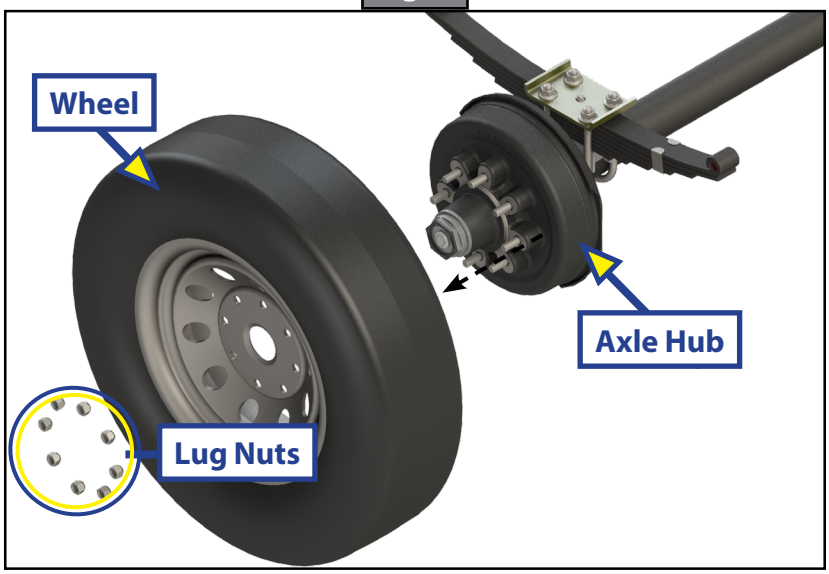



Fig. 4




6. Unscrew the dust cap and remove from hub (Fig. 5).
7. Pull the cotter pin from the castle nut and ***DISCARD THE COTTER PIN*** (Fig. 6).

Fig. 5

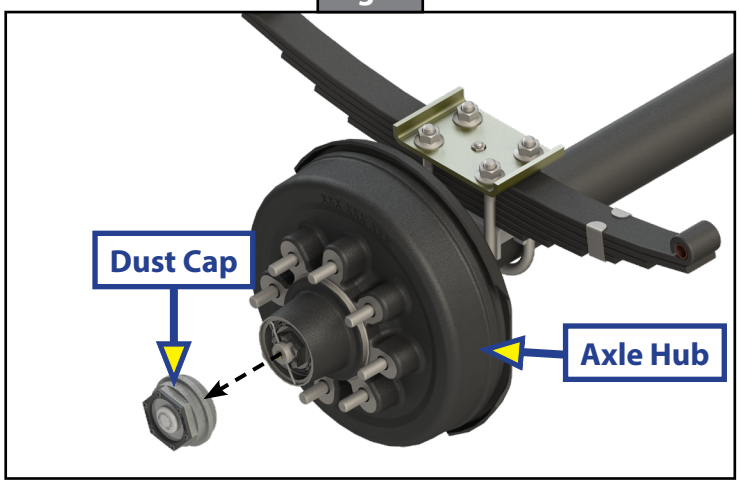
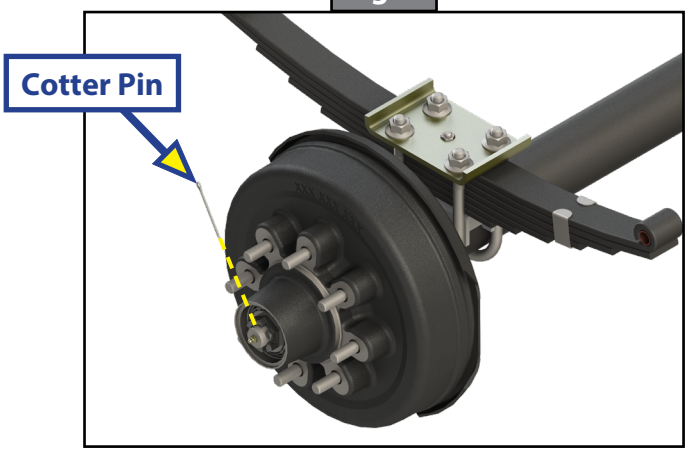



Fig. 6



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8. Remove the castle nut from the spindle (Fig. 7).
9. Remove the spindle washer from the spindle (Fig. 8).
10. Place hand over nose of hub during removal to contain outer bearing cone or remove outer bearing cone prior to removal of hub. Remove the hub from the spindle (Fig. 9).

Fig. 7

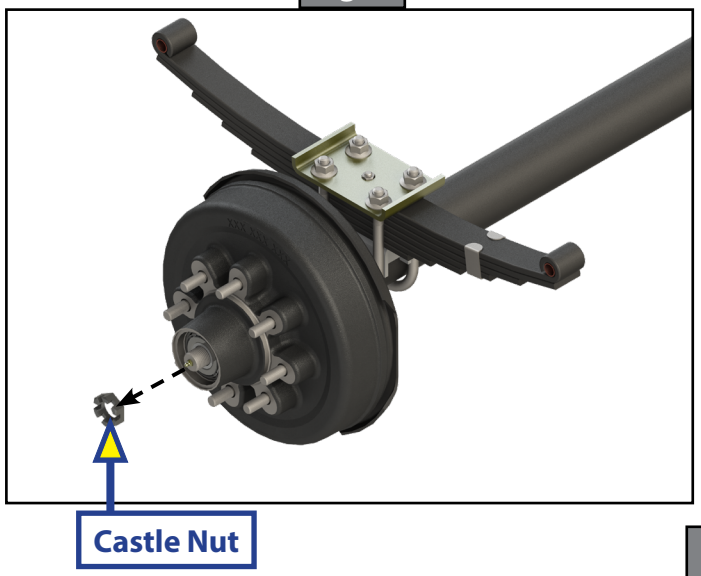



Fig. 8

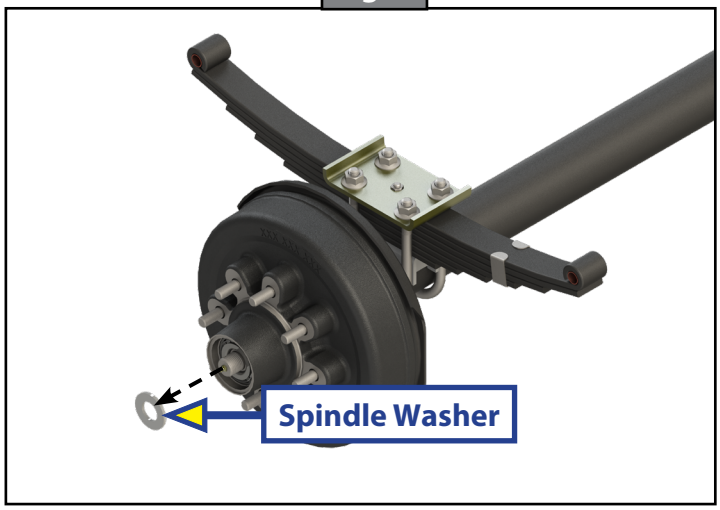
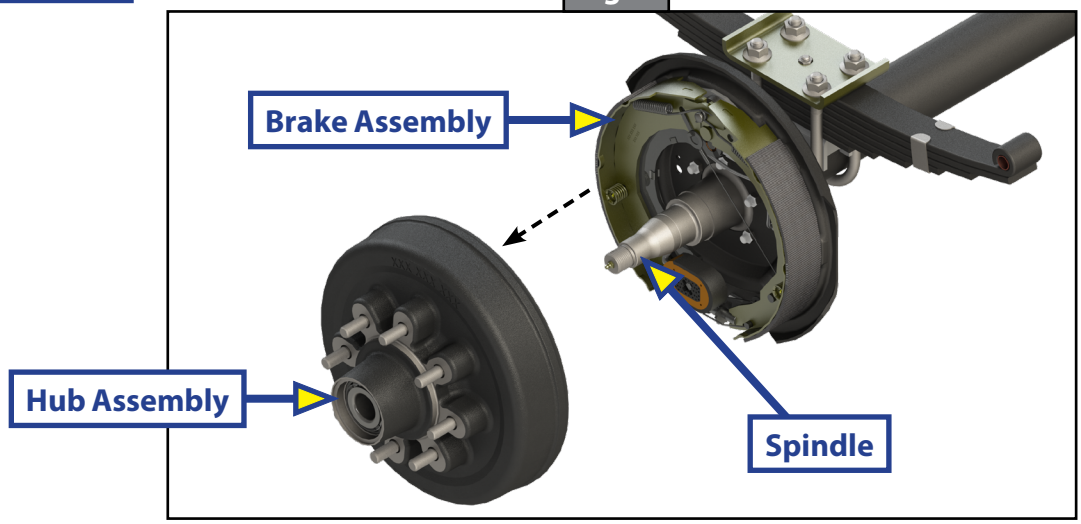



Fig. 9



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## Replace Brake Assembly

### Procedure

1. Using a 9/16" socket and ratchet, remove the nuts holding the brake assembly to the spindle (Fig. 10).
2. Cut the brake wires on the back side of the brake assembly.
3. Remove the brake assembly from the spindle (Fig. 10).

**NOTE:** If necessary, gently tap the brake assembly with a rubber mallet.

4. Place the new brake assembly onto the spindle and install by hand two of the nuts previously removed.
5. Hand tighten the nuts to hold the brake assembly in place.

**NOTE:** If brake has 36" lead wires, cut back to 18" to avoid excess wire hanging down.

6. Using sealed wire connectors (Fig. 11), reconnect the brake wires.
7. Install by hand the remaining nuts and tighten in a sequential pattern as shown in Fig. 12.
8. After the brake assembly nuts are fully hand tightened, torque the nuts to 25-35 ft-lbs in the sequential pattern shown in Fig. 12 until proper torque is indicated by the torque wrench.

Fig. 10

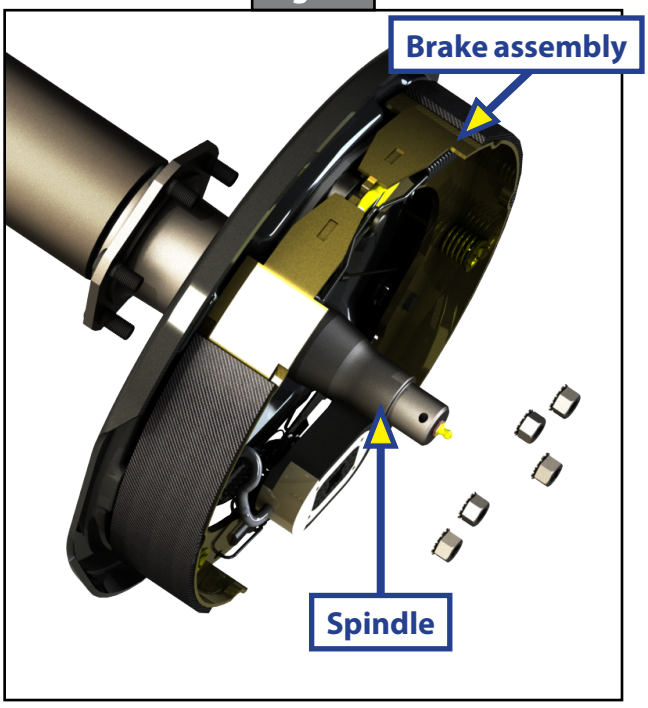



Fig. 11

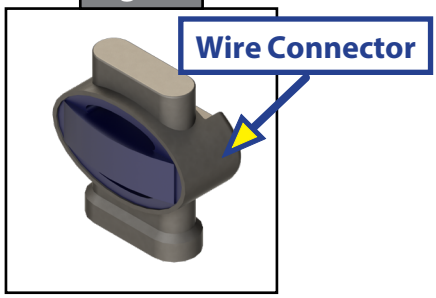
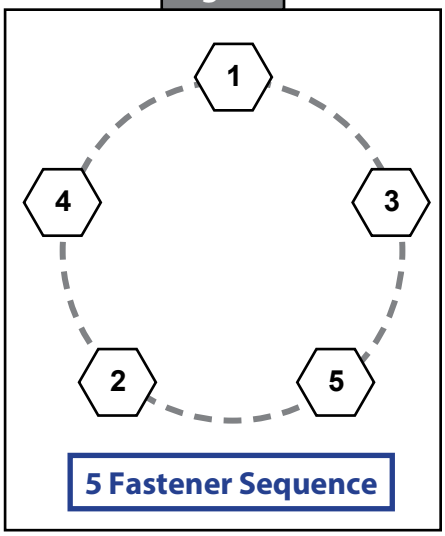



Fig. 12



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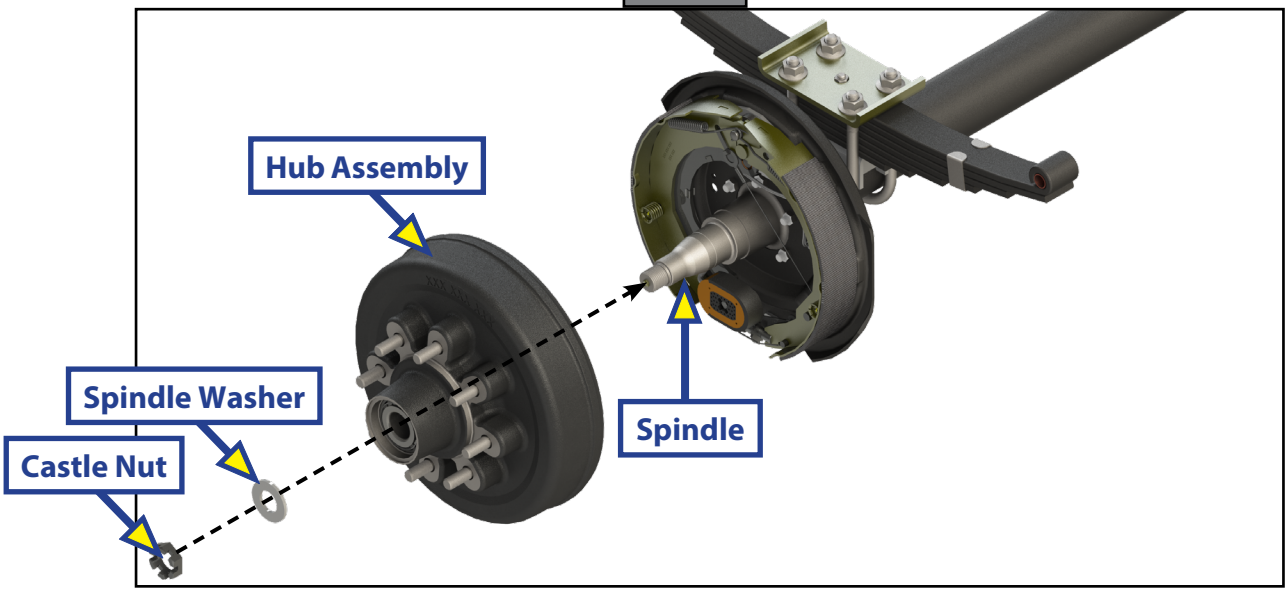
## Hub Replacement

**NOTE:** All grease **MUST** be wiped from spindle, inside of drum and off bottom of grease seal prior to hub install to prevent brake contamination.

1. Place hub assembly onto the axle spindle followed by the spindle washer and castle nut (Fig. 13). Castle nut should be torqued to 50 ft-lbs. Rotate the hub during the tightening process.

Fig. 13




2. Loosen castle nut to back off the torque.
3. Tighten castle nut finger tight until snug.
4. Insert ***NEW*** cotter pin (Fig. 14). If cotter pin does not line up with hole, back castle nut up slightly until pin can be inserted.
5. Bend cotter pin over to lock nut in place (Fig. 15). Nut should be free to move with only the cotter pin keeping it in place.

Fig. 14

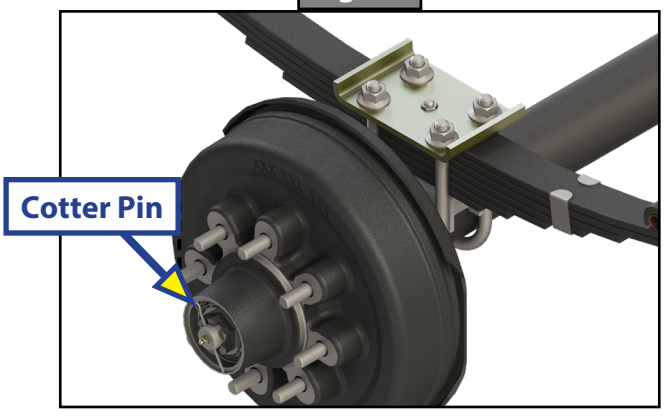
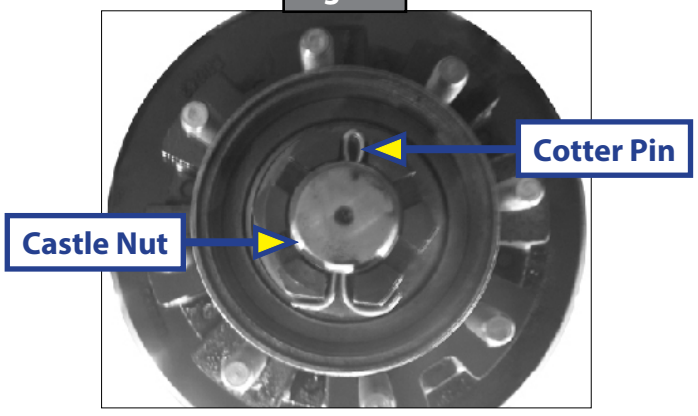



Fig. 15



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6. Reinstall dust cap onto the hub assembly by screwing it in at 20 ft-lbs (Fig. 16).
7. Reinstall the wheel onto the hub assembly (Fig. 17).
8. Reinstall the lug nuts onto the hub studs (Fig. 18) using sequential pattern as shown in Torque Requirement Chart (Fig 19).

Fig. 16

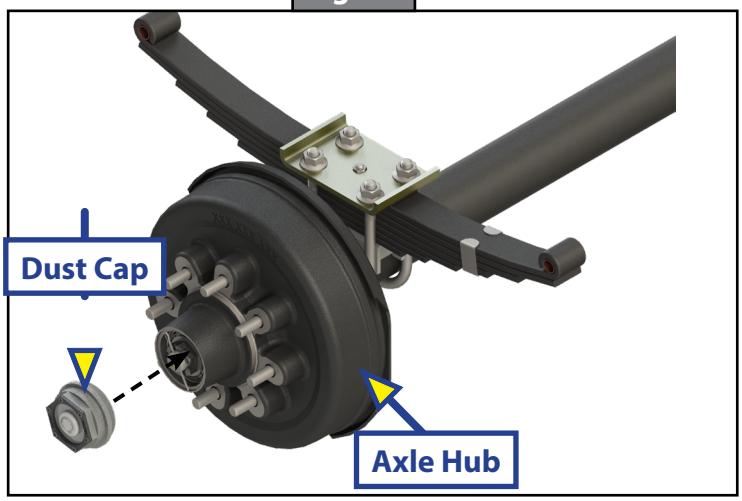



Fig. 17

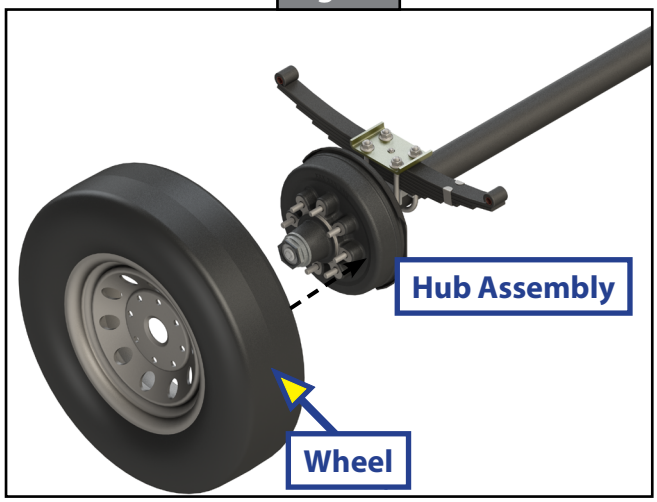



Fig. 18

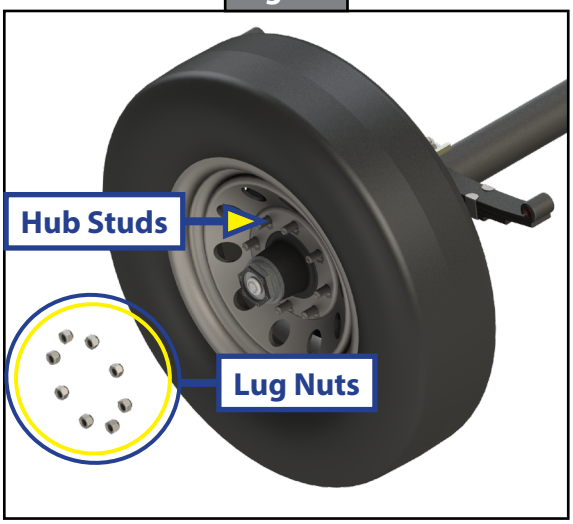
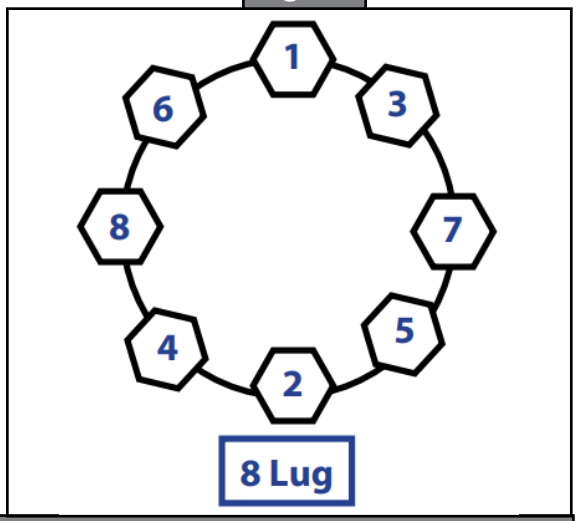



Fig. 19




| Torque Requirement Chart | | | | |
|---|---|---|---|---|
| Wheel Size | Stud Size | Torque Sequence | | |
| | | 1st Stage | 2nd Stage | 3rd Stage |
| 16" | 9/16" | 20-25 ft-lbs | 60-70 ft-lbs | 120-130 ft-lbs |
| 16.5" x 6.75" | 9/16" | 20-25 ft-lbs | 60-70 ft-lbs | 120-130 ft-lbs |

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9. Remove the rubber plug from the adjusting slot on the bottom of the brake backing plate (Fig. 20).
10. Insert a screwdriver or standard adjusting tool into the adjusting slot to rotate the starwheel (Fig. 21) of the adjuster assembly to expand the brake shoes. Adjust the brake shoes out until the pressure of the linings against the drum makes the wheel very difficult to turn.
11. Then rotate the starwheel in the opposite direction until the wheel turns freely with a slight lining drag.

**NOTE:** A second screwdriver will be needed to push the auto adjusting lever away from the starwheel so that the starwheel can be rotated backwards.

12. Replace the rubber plug in the adjusting slot and lower the wheel to the ground.
13. Repeat the above procedure on all brakes. For best results, the brakes should all be set at the same clearance.

Fig. 20

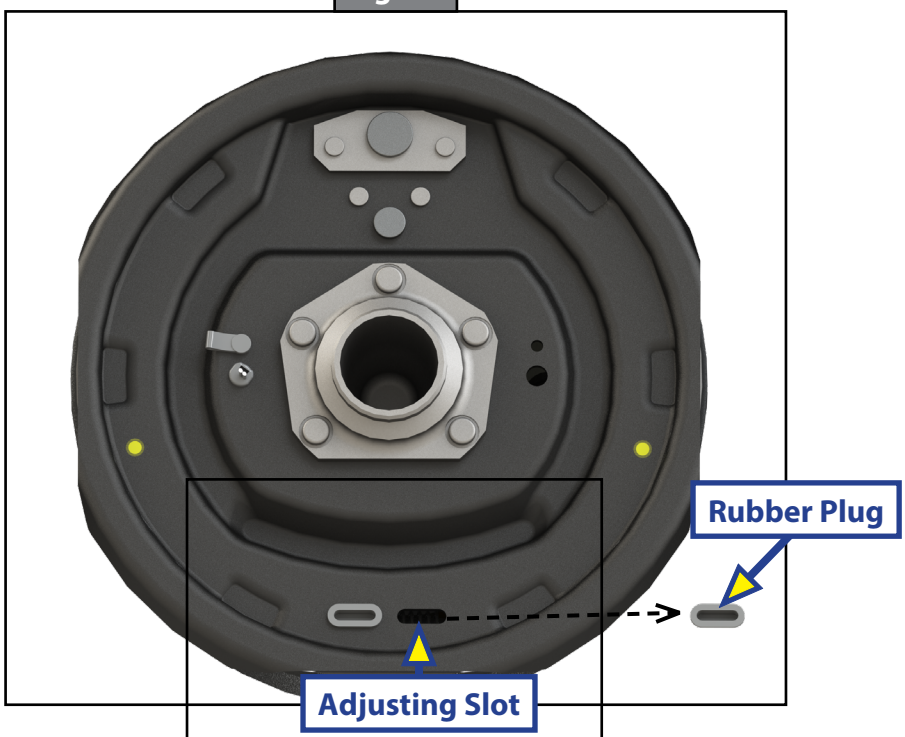
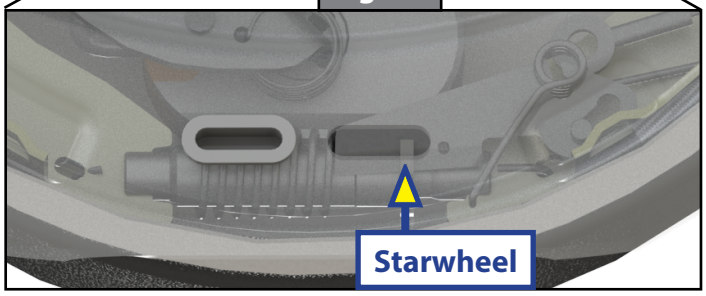



Fig. 21



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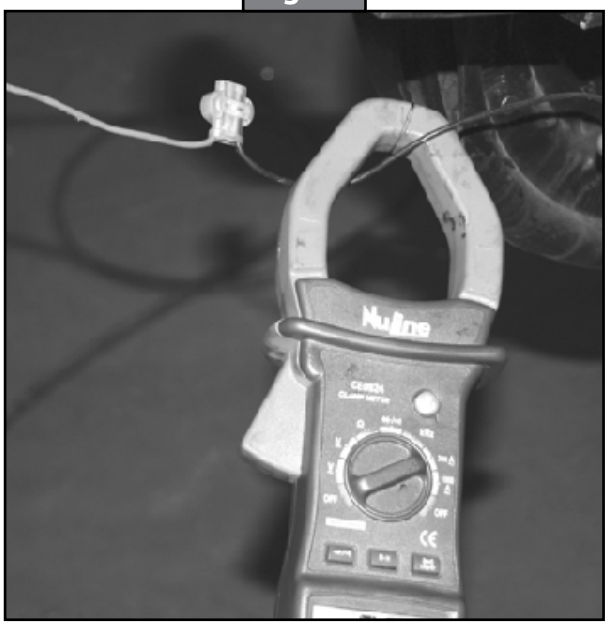
## Measuring Amperage

The Braking System amperage is the amount of current flowing through the system when all magnets have been energized. The amperage will change proportionately with the voltage. To ensure that the battery is indicating a full charge, the towing vehicle engine should be running with the coach coupler connected when checking the voltage.

If a resistor is used in the brake system, it must be set at zero or bypassed completely to obtain the maximum amperage reading. Individual amperage draw can be measured by inserting the ammeter in the line at the magnet you want to check. Disconnect one of the magnet lead wire connectors and attach the ammeter between the two wires. Consult Amperage Chart below for normal amp readings.
Make sure that the wires are properly reconnected and sealed after testing is completed. Testing for Amperage can be done with probes (Fig. 22) or alligator clips on the leads or an amp clamp (Fig. 23).

Fig. 22


Fig. 23




Amperage Chart

| Amps/Magnet | Two Brakes | Four Brakes | Six Brakes |
|---|---|---|---|
| 3.0 | 6.0 | 12.0 | 18.0 |

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## Break-in Period for Electric Drum Brakes (Burnishing)

Prior to any adjustments, trailer brakes should be burnished. The break-in period is a typical phenomenon with drum brakes and especially electric drum brakes. Electric drum brakes will require a break-in period to achieve full performance. This break-in period applies for new axles and any time new brake shoes and/or magnets are installed as part of regular maintenance.

Lippert has found through brake testing that the break-in period for drum brakes can range from 20 to 50 brake applications. Brakes can be seated in by applying approximately 8-10 volts to the trailer brakes at an initial speed of 40 mph and allowing the truck/trailer combination to slow down to 20 or 25 mph. For best results do not use truck brakes during this procedure.

The trailer brakes will seat in faster by using them to stop both the truck and trailer. The easiest method is to apply the trailer brakes using the manual activation lever located on the in-cab brake controller. Care must be taken to not overheat the lining material; therefore, brake applications conducted at one-mile intervals will suffice. The driver should feel a noticeable difference in the brake performance during this period, sometimes in as few as 10 applications. After 50 applications, the brake lining material will be fully cured from the heat and develop close to 100 percent contact with the brake drum surface.

This break-in period not only seats the shoe lining material but also seats in the brake magnets. During the break-in period, the linings will wear at a faster rate than they do after they are seated in.

**NOTE:** Brakes should be manually adjusted after the first 200 miles of operation and periodically thereafter, at approximately 3,000 mile intervals.

**Related Video on web site lci1.com**

Proper Way to Burnish your Trailer Brakes

**Related Document on web site lci1.com**

TI-086 - Electric Drum Brake Break-in Period

**Full TI-086 link:**
https://lci-support-doc.s3.amazonaws.com/technical-information-sheets/axles-and-suspension/ccd-0001947.pdf