

## AXLES AND SUSPENSION

### Purpose

To maintain and extend the product life of the Lippert® trailer axle product line.

### Introduction

A QR code on the axle serial number label will also supply access to this online support documentation as well as provide information for OEMs. If using an Android camera phone to scan the label's QR code, it will provide a link to the website in addition to information on serial number, load rating, item number and description, customer and manufacturer purchase information and manufacture date. If using an iPhone, scanning the QR code with its camera will supply only the Lippert website link. A QR code reader app is needed on an iPhone to access the OEM information.



### Safety

#### ⚠ WARNING

**Failure to follow the instructions provided in this manual may result in death, serious personal injury, severe product or property damage, or voiding of the component warranty.**

#### ⚠ WARNING

**Prior to testing or adjusting brakes, make sure area is clear of any persons and vehicles. Failure to perform test may result in serious personal injury, or severe product or property damage.**

#### ⚠ WARNING

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

#### ⚠ CAUTION

**Always wear eye protection when servicing the axle, brakes, hubs, springs and wheels. Failure to wear eye protection may result in injury.**

#### ⚠ CAUTION

**Moving parts can pinch, crush or cut. Keep clear and use caution.**

### Resources Required

- 2 screwdrivers
- Jack stands
- White grease or anti-seize compound
- Straight edge
- Cotter pin

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### Maintenance Steps

#### ⚠ WARNING

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#### ⚠ WARNING

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

### Brake Adjustment

The Lippert Electric Brakes are offered in a manual and automatic adjusting form. If manual brake adjusting is required, do as follows:

1. Jack up trailer and secure on adequate capacity jack stands.
  - A. Follow trailer manufacturer's recommendations for lifting and supporting the trailer.
  - B. Make sure the wheel and drum rotate freely.
2. Remove the adjusting hole cover from the adjusting slot on the bottom of the brake backing plate.
3. With a screwdriver or standard adjusting tool, rotate the starwheel of the adjuster assembly to expand the brake shoes.
  - A. Adjust the brake shoes out until the pressure of the linings against the drum makes the wheel very difficult to turn.
4. Rotate the starwheel in the opposite direction until the wheel turns freely with a slight lining drag, or approximately 10 click adjustments.

**NOTE:** A second screwdriver will be needed to push the auto adjusting lever away from the adjuster starwheel so that the starwheel can be rotated backward in the case of a self-adjusting brake.

5. Replace the adjusting hole cover and lower the wheel to the ground.
6. Repeat the above procedure on all brakes.

**NOTE:** For best results, the brakes should all be set at the same clearance. If the first brake's clearance was adjusted to 10 clicks, then adjust the remaining brake clearances to the same amount.

### Lubricate Brakes

Prior to reassembling the brake drum assembly, do as follows:

1. Apply a light film of white grease or an anti-seize compound to:
  - A. The brake anchor pin,
  - B. The actuating arm bushing and pin,
  - C. The areas of the backing plate that are in contact with the brake shoes and magnet lever arm,
  - D. And on the actuating block mounted to the actuating arm.

### Clean and Inspect Brakes

In the event the braking system encounters symptoms of improper application or failure, immediate inspection and service **MUST** be implemented. During normal use, servicing the braking system once a year is considered normal. Above normal use will require servicing based on a 3,000-6,000 mile increment schedule. Change worn magnets and shoes as needed to maintain maximum braking capability.

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When disassembling the brakes for cleaning, make sure to:

1. Clean the backing plate, magnet arm, magnet and shoes.
2. Make sure all parts removed for cleaning are placed back into the same brake drum assembly.
3. Check for parts that have become loose or worn.
  - A. Service or replace loose or worn parts.

### Magnets

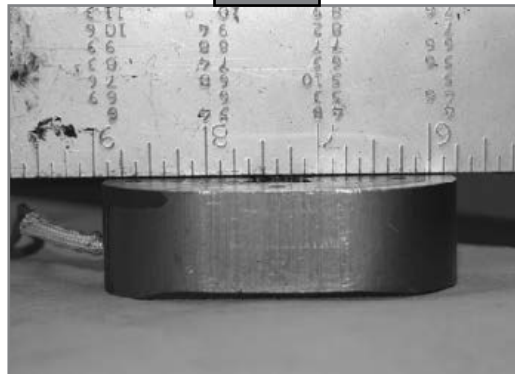
The Lippert Electric Braking System uses high-quality electromagnets to actuate the brake shoes. These electromagnets provide superior force and friction to safely, and effectively, stop the trailer. Inspect and service the electromagnets annually if the trailer has seen normal use, more often if the trailer is used extensively. Inspect the electromagnets and do as follows:

1. Use a straight edge to check the electromagnet for uneven wear (Fig. 1).

**NOTE:** Figure 1 shows an electromagnet with little or no wear.

- A. Surface of electromagnet should be completely flat.
  - B. If abnormal or uneven wear is indicated by pronounced gaps, replace the electromagnet.
2. If the magnet's coil is exposed in any way, even if normal wear is evident, the magnets should be replaced immediately.
  - A. If the electromagnets are replaced, the drum armature surface should be refaced.
3. If an electromagnet is replaced on one side of an axle, Lippert recommends replacing the electromagnet on the opposite brake assembly. This will ensure an even braking capacity.

Fig. 1



### Shoes and Linings

Inspect brake shoes and linings for:

1. Grease or oil.
2. Surface scoring, pitting or gouges.
3. Replace both shoes if lubricant contamination or physical damage is present, even if found on only one shoe.
  - A. Replace both shoes (two) on the brake and on both brakes (four) installed on the same axle. Replace brake parts at the same time. This will ensure an even braking capacity.
4. Measure lining thickness.
  - A. Lining thickness shall not be less the 1/16".
    - I. If lining measures less than 1/16", replace the shoe.
    - II. Repeat step 3A.
5. Heat cracks are normal and rarely require attention.

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After replacing the brake shoes and linings, burnish-in trailer brakes as follows:

1. Apply the brakes 20-30 times over a 20 mph decreasing speed range.
  - A. For example, brake 20-30 times while decreasing in speed from 40 mph to 20 mph.
  - B. Make sure ample time is allowed for brakes to cool between application.
    - I. The cooling period allows the brake shoes and magnets to begin seating to the brake drum.

## Maintenance Schedule

Item	Function Required	3 Months or Every 3,000 Miles - whichever comes first	12 Months or Every 36,000 Miles - whichever comes first
Brakes	Test that they are operational.	At Every Use	
Oil Level	Check oil level in hubs, if equipped.	At Every Use	
Brake Adjustment	Adjust to proper operating clearance. Not required for self-adjusting brakes.	◆	
Brake Magnets	Inspect for wear and current draw.		◆
Brake Linings and Pads	Inspect for wear or contamination.		◆
Hub/Drum and Rotors	Inspect for abnormal wear or scoring		◆
Wheel Bearing	Inspect for corrosion or wear. Clean and repack		◆
Seals	Inspect for leakage. Replace if removed.		◆
Springs	Inspect for wear, loss of arch.		◆
Suspension Parts	Inspect for bending, loose fasteners, wear.		◆
U-bolts	Tighten to specified torque values.		◆

As a supplier of a broad array of highly-engineered components in the recreation and transportation product markets, safety, education and customer satisfaction are our primary concerns. Should you have any questions, please do not hesitate to contact us at 432-LIPPERT (432-547-7378) or by email at [customerservice@lci1.com](mailto:customerservice@lci1.com). Self-help tips, technical documents, product videos and a training class schedule are available at [lippert.com](http://lippert.com) or by downloading the LippertNOW app.