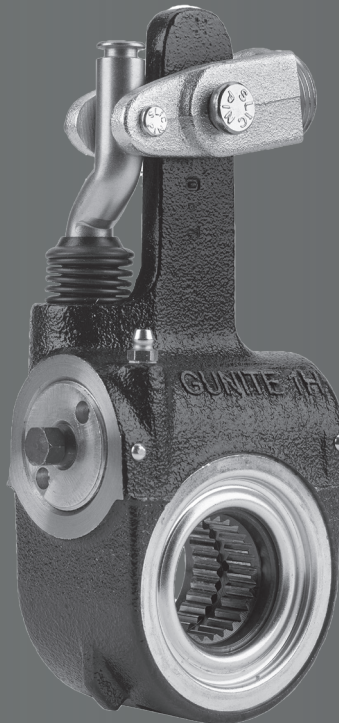




Gunite® Automatic Slack Adjuster



Assembled in the USA

Installation Procedures

Your only single source for industry-leading wheel end solutions.

STEEL & ALUMINUM WHEELS | DRUMS | HUBS | ROTORS | SLACK ADJUSTERS

WARNING

As with all products, close attention should be given to all instructions incorporated in these instructions, in particular, the notes and warnings which are highlighted.

Failure to strictly adhere to these notes and warnings may cause the unit to not perform as designed and result in a weak or "NO BRAKE" condition, which could cause extensive property damage, bodily injury or death.

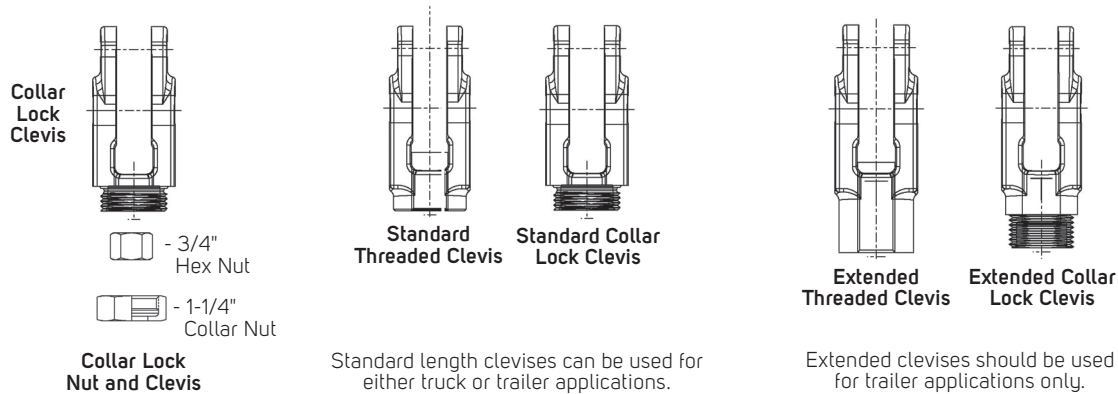


Figure 1 - Clevis Type - 1.020" pin center distance

Preparation for Installation

- If the axle is equipped with spring brake chambers, manually cage the spring brakes following the manufacturer's recommended procedures.
- Check the operating condition of the foundation brakes, including drums, shoe and linings, cams, bushings, rollers, etc. Replace or repair as necessary.
- Remove the existing clevis and slack adjuster. Do not discard the existing mounting hardware. Do not remove the clevis jam nut.
- Refer to Figure 1 and determine if your Gunite slack adjusters are equipped with the threaded clevis or the collar lock clevis (extended or standard length with 1.020" pin center distance). Refer to the correct installation procedure for the style of clevis used on your Gunite slack adjusters.

NOTE:

When caging the spring brakes, always be sure to block the vehicle wheels to prevent unwanted movement.

Installation of the Gunite Collar Lock Clevis and Extended Collar Lock Clevis

- Apply anti-seize compound to the end of the air chamber push rod. Install the 1-1/4" collar nut on the air chamber push rod. Thread the 3/4" hex nut onto the push rod.
- Apply anti-seize to the camshaft splines and install/secure the slack adjuster onto the camshaft using the original mounting hardware. Properly shim the automatic slack adjuster using the existing washers onto the camshaft to ensure alignment with the brake chamber's push rod. Re-attach the retaining clip.

NOTE:

Slack adjuster axial play/movement should not be more than 0.060" after installation.

- Using the wrench or socket, rotate the hex extension to align the 1-1/4" collar nut with the threaded part of the clevis. See Figure 2.
- Before threading the 1-1/4" collar nut onto the clevis check to make sure that the push rod is fully engaged in the 3/4" hex nut. If the push rod is not fully engaged, a new push rod must be installed. Refer to the section on cutting a push rod to length in the service manual. The push rod may extend 1/16" past the clevis opening. If the push rod extends more than 1/16" mark the push rod, remove the clevis and cut the push rod to the proper length.

An extended clevis may be used in trailer applications instead of replacing the push rod. However you must still have full thread engagement on the hex nut. If you have less than full thread engagement, a new push rod must be installed. **Do not use an extended clevis on tractor applications, the extended clevis may interfere with the face of the air chamber.**

NOTE:

On axles equipped with spring brake chambers, be sure the chambers are fully caged before cutting the push rod. If the spring brakes are not fully caged, the push rod can be cut too short.

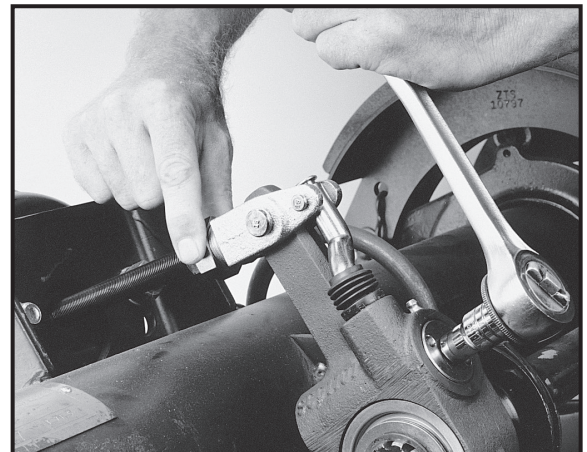


Figure 2 - Align the 1-1/4" collar nut with the threaded part of the clevis.

5. Thread the 1-1/4" collar nut onto the clevis and install the template over the large and small pins as shown in Figure 3.
6. Align the slack by adjusting the 3/4" hex nut on the push rod until the proper centering hole aligns with the center hole on the camshaft.

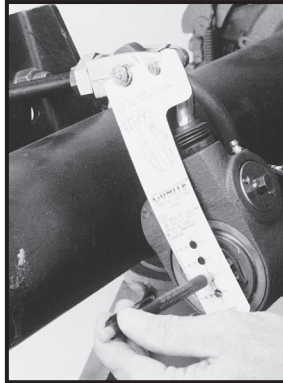


Figure 3 -
Gage Location

7. Once the slack is properly aligned, tighten the 1-1/4" collar nut to the clevis using 40 to 50 ft. lbs. of torque.
8. After tightening the 1-1/4" collar lock nut, tighten the 15/16" jam nut against the collar lock nut using 40 to 50 ft. lbs. of torque.

NOTE:

Failure to tighten the jam nut will allow the air chamber push rod to rotate in the clevis and change the installed position of the slack, preventing proper automatic adjuster function.

9. Next follow the instructions in the installation check section below.

Installation of the Gunite Threaded Clevis and Extended Threaded Clevis

1. Apply anti-seize compound to the air chamber push rod. Install the new clevis on the air chamber push rod in the same location as the clevis which was removed. Do not tighten the jam nut at this time.

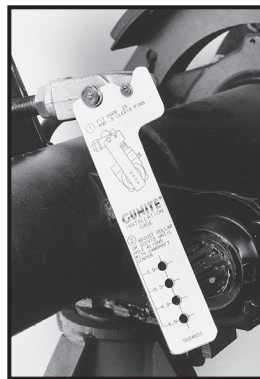


Figure 4 - Gage Location

2. Insert the clevis pins into the threaded clevis. Install the template over the small and large pins as shown in Figure 4. Align the template by adjusting the clevis in or out on the push rod until the hole at the bottom of the template aligns with the center hole on the camshaft.
3. If the push rod threads protrude through the clevis opening more than 1/16", remove the clevis and cut the push rod to length. The push rod must not be more than 1/8" short of being flush with the clevis opening. Follow instruction in the service manual for cutting a push rod to length.

NOTE:

On axles equipped with spring brake chambers, be sure the chambers are fully caged before cutting the push rod. If the spring brakes are not fully caged, the push rod can be cut too short.

4. If the push rod fails to come within 1/8" of full engagement with the clevis opening, install a long push rod and cut to length. On trailer applications, an extended clevis can be used instead of replacing the push rod. However, you must

have at least 1/2" of thread engagement inside the clevis. If you have less than 1/2" thread engagement, a new push rod must be installed.

5. Tighten the jam nut against the clevis housing using 40 to 50 ft. lbs. of torque. Failure to tighten the jam nut now will allow the clevis to rotate freely and change the position of the clevis resulting in improper installation.

NOTE:

Failure to tighten the jam nut will allow the air chamber push rod to rotate in the clevis and change the installed position of the slack, preventing proper automatic adjuster function.

6. Apply anti-seize to the camshaft and install/secure the slack using original mounting hardware. Properly shim the automatic slack adjuster using the existing washers onto the camshaft to ensure alignment with the brake chamber's push rod. Re-attach the retaining clip.

NOTE:

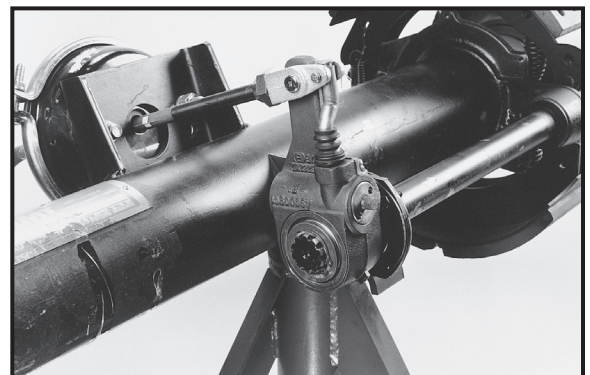
Slack adjuster axial play/movement should not be more than 0.060" after installation

Using a wrench or socket, rotate the hex extension until the holes in the slack housing align properly with the holes in the clevis. Hold the link (rod with small 1/4" hole) down while rotating the hex extension clockwise. Failure to do so can cause the link to disengage from the drive.

7. Once properly aligned, insert both the large and small clevis pins and insert the cotter pins.
8. Next follow the instructions in the installation check section below.

Installation Check

1. Manually uncage the spring brakes.
2. Build-up vehicle air pressure. If the axle in question has parking brakes, be sure they're released. Using template, recheck for proper clevis setting. If incorrect, readjust per instructions under installation procedures.
3. Fully apply the brakes and allow the air chamber to travel its maximum stroke. Clearance must exist between the slack and all adjacent chassis components such as axle housing, suspension brackets, etc. Release the brakes.
4. After completing this procedure, follow the instructions for the proper brake adjustment after installation on page 4.



Brake Adjustment After Installation

Adjust the Brakes as Follows:

1. Rotate the hex extension clockwise until the brake linings contact the brake drum. Back off the slack by rotating the hex counterclockwise 1/2 turn.
2. Backing off the slack will require more than 25 to 30 ft. lb. of torque. When backing off the slack, a ratcheting sound will be heard.
3. Using a ruler, measure the distance from the face of the air chamber to the center of the large pin in the clevis. See A in Figure 5. Make an 90 psi brake application and allow the air chamber push rod to travel its maximum stroke. Measure to the center of the large pin in the clevis. See B in Figure 5. The difference between A and B measurement is the push rod stroke. Check the following chart, Figure 6, for proper maximum stroke after the adjustment of the brakes.

"STANDARD" CLAMP TYPE BRAKE CHAMBER DATA

| Type | Outside Diameter | Rated Stroke | Maximum Legal Stroke Limit |
|------|------------------|--------------|----------------------------|
| 9 | 5-1/4 | 1.75 | 1-3/8 |
| 12 | 5-11/16 | 1.75 | 1-3/8 |
| 16 | 6-3/8 | 2.25 | 1-3/4 |
| 20 | 6-25/32 | 2.25 | 1-3/4 |
| 24 | 7-7/32 | 2.25 | 1-3/4 |
| 30 | 8-3/32 | 2.50 | 2 |
| 36* | 9 | 3.00 | 2-1/4 |

* Note: If type 36 chamber is used, slack length should be less than 6".

"LONG-STROKE" CLAMP TYPE BRAKE CHAMBER DATA

| Type | Outside Diameter | Rated Stroke | Maximum Legal Stroke Limit |
|------|------------------|--------------|----------------------------|
| 16 | 6-3/8 | 2.50 | 2 |
| 20 | 6-25/32 | 2.50 | 2 |
| 24 | 7-7/32 | 2.50 | 2 |
| 24* | 7-7/32 | 3.00 | 2-1/2 |
| 30* | 8-3/32 | 3.00 | 2-1/2 |

* Note: Identified by square air port bosses.

Figure 6

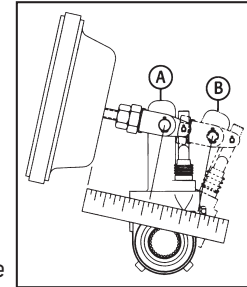


Figure 5 – Measuring Maximum Stroke

Measuring the Free Stroke:

1. Free stroke is the amount of movement of the slack arm required to move the brake shoes against the drum. With brakes released, measure from the face of the chamber to the center of the clevis pin. See Figure 7. Apply pressure using a lever to activate the slack adjuster until the brake shoes make contact with the drum. The difference between the released and the applied measurements is the free stroke. The free stroke should be between 3/8" - 5/8".

If the free stroke is good, but the applied stroke is too long, there is a problem with the foundation brake. Check the foundation brake for missing or worn components, cracked brake drums, or improper lining to drum contact.

If the free stroke is greater than the recommended distance (3/8" - 5/8"), a function test of the slack adjuster should be performed.

If the free stroke is less than 3/8", a dragging break can occur. Check to see that the manual adjustment procedure was followed correctly. Manually readjust the brake following the "Brake Adjustment After Installation" procedure on this page.

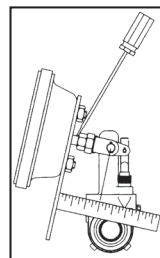


Figure 7 – Free Stroke



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Lubrication

The Gunite slack adjusters are factory-lubricated and extensively sealed to protect against dirt, water, salt and other corrosive elements. However, it is recommended periodic lubrication take place every 6 months or 50,000 miles ensuring the Tru-Seal® link boot, O-rings and internal components maintain proper lubrication; this should be performed using an NLGI 1 or 2 grade grease that has a working range of -40 - 250 degrees F. A grease containing Molybdenum Disulfide should not be used as it will likely have a negative impact on the function of key friction components and reduce the operational efficiency of the automatic slack adjuster. For additional service information refer to Gunite Automatic Slack Adjuster Service Manual (WE3.000) or visit our website at AccurideCorp.com.

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