

# INSTALLATION INSTRUCTIONS

## FRONT LEAF SHACKLE KITS

1 OF 4

### IMPORTANT INFORMATION AND SAFETY PRECAUTIONS

This product will provide excellent service life when it has been properly installed and maintained.

Read the instructions carefully. Pay particular attention to the NOTE sections which contain helpful information to make the installation as easy as possible. Also pay close attention to the sections with the following warning symbol next to them:

**⚠ WARNING**

These are provided to help avoid personal injury, property damage or to prevent future safety problems with the vehicle. In addition, we recommend that you strictly adhere to all federal and state approved shop safety practices and procedures. Carefully inspect the vehicle suspension that is being repaired. Correct or replace all defective components.

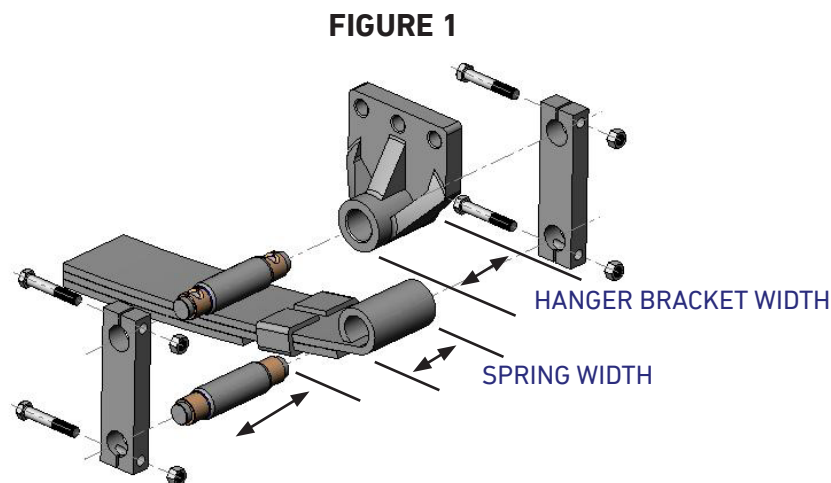
### INSURE THE CORRECT KIT IS BEING INSTALLED

Before starting the installation process verify the following:

1. Check the contents of the kit against the parts list shown on the label located on the outside of the kit box. If parts are missing, contact your local ATRO bushing distributor.

**⚠ WARNING** Do not replace any missing hardware with substitutes! Inferior components may cause premature or catastrophic failure.

2. Make sure the Gross Axle Weight Rating (GAWR) of the front steering axle for the vehicle does not exceed 20,000 lbs.
3. Measure the leaf spring and hanger bracket widths and insure they match the ATRO leaf spring bushing length.
4. Measure the leaf spring eye diameter and frame hanger bracket eye diameter to insure that they match the outer diameter of the ATRO leaf spring bushing.



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### REMOVAL OF OLD COMPONENTS - FRONT OF FRONT SPRING EYE

**⚠ WARNING** *The use of safety glasses is recommended while performing this procedure to protect your eyes from flying objects.*

**⚠ WARNING** *Overheating the spring eye could weaken the spring resulting in a premature failure.*

1. Securely support the vehicle to remove the weight off of the front leaf springs
2. Remove the old front of front spring pin and spring eye bushing.

**NOTE:** It is not necessary to completely remove the leaf spring from the axle.

### REQUIRED TOOLS

A special installation tool is required when installing an ATRO leaf spring shackle kit. To identify the required bushing installation tool, please refer to your ATRO catalog or to our website at [www.atrobushing.com](http://www.atrobushing.com).

**NOTE:** Failure to use the proper ATRO leaf spring bushing installation tool may damage the bushing assembly and **VOID** your warranty.

### ATRO LEAF SPRING BUSHING INSTALLATION

**⚠ WARNING** *Always wear safety glasses and any other necessary safety gear while performing this procedure to protect against bodily injury.*

**⚠ WARNING** *If the leaf spring eye or bracket were heated during bushing removal, allow it to cool before installing the ATRO leaf spring bushing. Failure to do so may damage the bushing assembly and void your warranty. This will prevent overheating of the bushing/polyurethane material. Overheating of the material could lead to premature failure.*

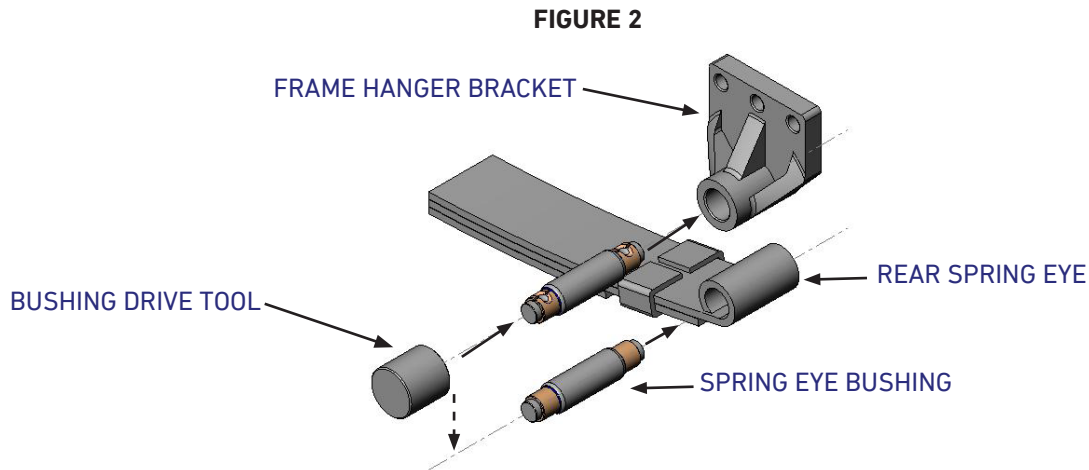
**⚠ WARNING** *Inspect the frame hanger bracket and the leaf spring eye for cracks, out-of-round or worn out bore conditions. If any of these conditions exist, replace the damaged components. Failure of any of these components could result in an accident, serious property damage and severe injury or death.*

1. Remove all burrs and corrosion from the spring eye with a file, hone or wire brush and wipe clean.
2. Coat the inside of the spring eye and bracket bore, as well as the outside of the ATRO leaf spring bushings with white lithium grease or an anti-seize compound.
3. Insert ATRO leaf spring bushing into the bushing drive tool.

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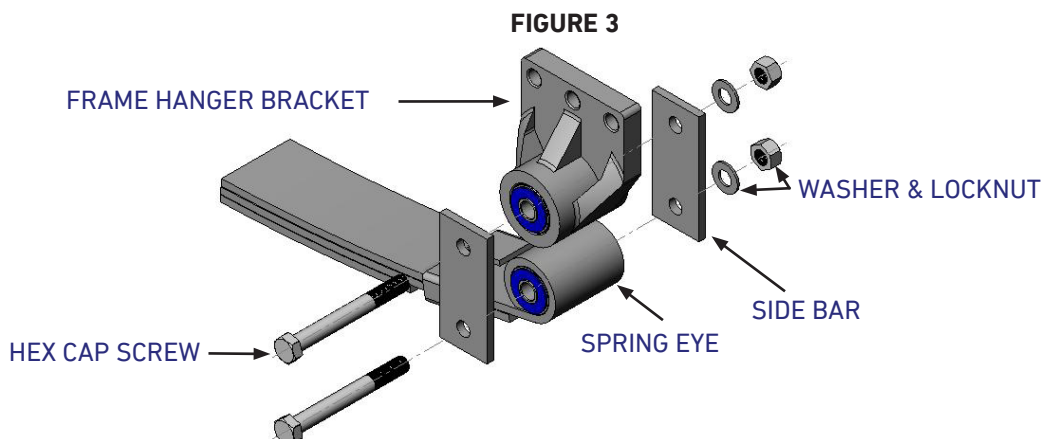


4. Align ATRÖ leaf spring bushing with bore of frame hanger bracket. Using an impact hammer or press (preferred), install the bushing into the frame hanger bracket.
5. Wipe pin ends clean with a towel or cloth to remove any grease or anti-seize compound.
6. If the hanger has been removed, reinstall following the manufacturers' instructions.
7. Repeat steps 3-5 to install an ATRÖ leaf spring bushing into the rear eye.

**⚠ WARNING** NEVER reuse old bolts and nuts.

**⚠ WARNING** Do not weld the ATRÖ leaf spring bushing into the leaf spring eye. Welding the ATRÖ leaf spring bushing will damage the bushing assembly and will VOID your warranty

## SIDE BAR INSTALLATION



# INSTALLATION INSTRUCTIONS

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1. Insert hex cap screw through outer side bar, ATRO spring eye bushings, inner side bar and washer at the frame hanger bracket.
2. Loosely thread locknut on cap screw. Do not tighten yet!
3. Align the outer side bar, ATRO spring eye bushing, inner side bar and washer at the spring eye end.
4. Insert hex cap screw and loosely thread on locknut.
5. Torque both 3/4"-16 Grade 8 Cap Screws to 175 lbf-ft.

**NOTE:** Do not use air tools to tighten the locking nuts. A torque wrench must be used to attain the required torque and prevent over-tightening.

## FRONT END ALIGNMENT

After installing the ATRO leaf spring bushing it may be necessary to perform a front end alignment check for caster, camber and toe-in. Use the manufacturers' guidelines and specifications for performing this task.

## MAINTENANCE

The ATRO leaf spring bushings are self-lubricating and virtually maintenance free. The spring, hanger bracket, side bars, and ATRO leaf spring bushings should be visually inspected during every oil change. Also, the lock bolts should be re-torqued periodically to insure the integrity of the leaf spring bushings.

## WARRANTY NOTICE

Follow the guidelines below to take full advantage of your ATRO spring eye bushing warranty. Failure to do so could void your warranty and may lead to premature failure, damages and/or injuries.

- DO NOT use alternate components and/or hardware in conjunction with ATRO spring eye bushings
- Always use matching ATRO components on both sides of the vehicle
- DO NOT exceed the 20,000lb GAWR
- Use proper installation tools and installation methods (see installation instructions)
- DO NOT expose ATRO spring eye bushings to excessive heat (i.e. welding or torch use)

ATRO Engineered Systems, Inc. can not be held responsible for any failure, damages or injuries that may result from not adhering to these guidelines.



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