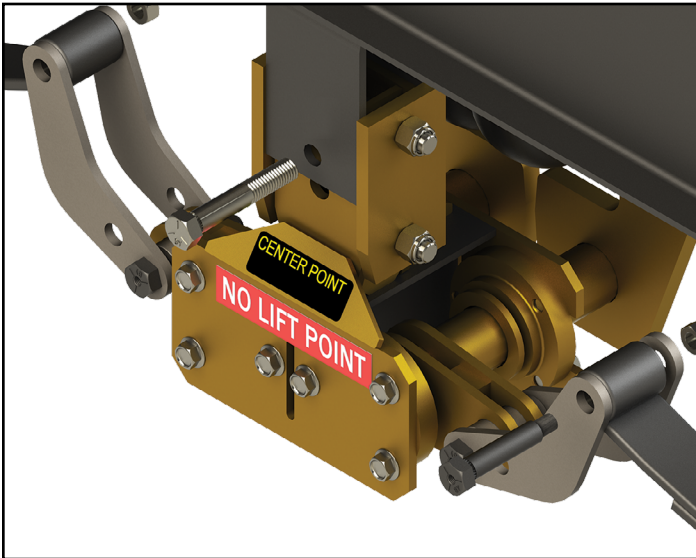




Center Point® Tandem Axle Equalizer

Installation and Owner's Manual (For Aftermarket Applications)

Center Point Tandem Axle Equalizer Aftermarket Kit

Part #	Description
1565391	Center Point® tandem axle suspension system; includes two standard airbag units, pneumatic kit and mounting hardware

Table of Contents

Introduction	2
Quick Facts	2
Safety	2
Parts List	2
Resources Required	3
Preparation	3
Installation	5
Standard Hanger Installation	5
Non-Standard Installation	6
Plumbing	7
Panel Installation	8
Air Pressure Levels	8
Maintenance and Troubleshooting	9
Notes	10
Notes	11



Center Point® Tandem Axle Equalizer

Installation and Owner's Manual

(For Aftermarket Application)

Introduction

Over 85 percent of all semi tractors on the road today have some kind of air ride suspension. Shouldn't your towable RV have the same kind of ride? Now you can do it affordably with the Center Point® Air Ride Suspension System.

The Center Point suspension system absorbs impact caused by road shock and provides a smoother ride and optimum brake efficiency. It's easy to install and dramatically improves passenger comfort and reduces side-to-side trailer sway.

Quick Facts

- Airbag absorbs road shock and vibrations from both axles simultaneously and without delay.
- Dampens road shock more effectively than torsion axles.
- Protects your RV and cargo by absorbing road shock.
- Dramatically improves braking distance in panic stops.
- Improves the overall ride and reduces driver fatigue.
- Retrofits to current suspension.

Additional information about this product can be obtained from support.lci1.com or by using the LippertNOW app. Replacement kits can be ordered from lippert.com or by using the LippertNOW app.

The LippertNOW app is available for free on Apple App Store® for iPhone® and iPad® and also on Google Play™ for Android™ users.

App Store® and iPad® are registered trademarks of Apple Inc.

Google Play™ and Android™ are trademarks of Google Inc.

Safety

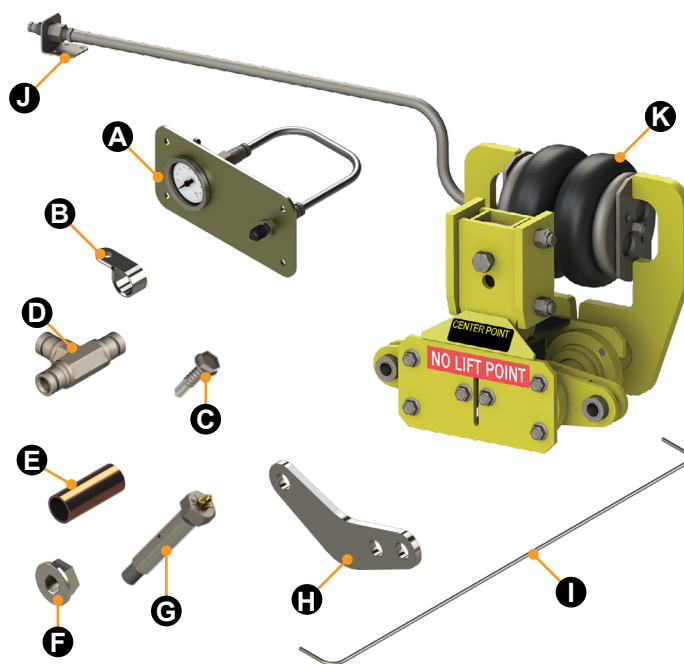
⚠ WARNING

THE TRAILER MUST BE SUPPORTED PER THE MANUFACTURER'S RECOMMENDATIONS BEFORE WORKING UNDERNEATH. FAILURE TO DO SO MAY RESULT IN DEATH, SERIOUS PERSONAL INJURY OR SEVERE PRODUCT OR PROPERTY DAMAGE.

⚠ CAUTION

MOVING PARTS CAN PINCH, CRUSH OR CUT. KEEP CLEAR AND USE CAUTION.

Parts List



Center Point Tandem Axle Kit Part # 1565391

Letter	Part #	Description	Qty
A	167545	Air gauge panel	1
B	133684	1/2" Wire Clip	6
C	157460	Self-tapping screw, #10 x 3/4"	12
D	156470	Tee fitting, 1/4"	1
E	126171	Bronze bushing, 1.74" x 0.70"	8
F	122103	Flange nut, 7/16" - 20	14
G	126238	Wet shoulder bolt, 9/16" x 3.325"	14
H	143937	Shackle link, 5.25"	8
I	156471	Tubing, 1/4" Air Line	1
J	156407	Mounting bracket for hose assembly	2
K	155967	Center Point sub-assembly LH	2
	1559671	Center Point sub-assembly RH	

NOTE: Part numbers are shown for identification purposes only. Not all parts are available for individual sale. All parts with a link to the Lippert Store can be purchased.



Center Point® Tandem Axle Equalizer

Installation and Owner's Manual

(For Aftermarket Application)

Resources Required

- 1 to 2 persons, depending on task
- Pneumatic air or impact gun
- Torque wrench
- Cordless or electric drill or screw gun
- Appropriate drill bits
- Appropriate drive bits
- Appropriate box end wrenches
- Floor jacks
- Jack stands
- Hammer

Preparation

For a standard installation, the trailer must also be equipped with the standard center hanger shape. The hanger may vary in dimension but it must be sized for a 1 $\frac{3}{4}$ " leaf spring width, be at least 2 $\frac{1}{2}$ " from the equalizer hole to the top of the hanger and be 3" wide or wider.

NOTE: The hangers must be spaced either 29 $\frac{1}{2}$ " or 30 $\frac{1}{2}$ " apart.

NOTE: If the trailer is not equipped with the standard hanger, a non-standard installation may be used (see Non-Standard Installation section) or installers may have to remove the old hanger from the frame and install a standard center hanger.

1. Using the properly-rated floor jacks, lift the trailer according to the manufacturer's recommendation until the wheels are no longer in contact with the ground (**Fig.1**).
2. Support framework in accordance with the manufacturer's recommendation.

⚠ WARNING

MAKE SURE THAT ANY POINTS OF CONTACT FOR THE STANDS DO NOT RESULT IN DAMAGE TO ANY PANELS OR LINES UNDER THE TRAILER. IMPROPER RAISING OR LOWERING OF THE TRAILER COULD RESULT IN DEATH, SERIOUS INJURY OR SEVERE PRODUCT OR PROPERTY DAMAGE.

3. Remove the tires and wheels from the trailer. The suspension should be free from any loads, except its own weight at this point.
4. Place another set of jack stands under the axles, close to the U-bolt plates. This will provide support to the axles and ensure that they do not swing down during disassembly of the shackle components.

NOTE: Allowing the axles to drop could result in damage to the wiring for the electric brakes.

4. Remove the two shackle nuts (**Fig. 2A**) on the shackle at the rear of the front spring.

NOTE: The bolts are pressed into the shackle plate and should not turn. However, use a properly-sized box end wrench to ensure the bolts do not turn during the disassembly of the nuts.

5. Once the nuts and the shackle plate retained by the nuts are removed, slide out the opposite side shackle plate with the bolts still pressed into the plate.

6. After removing the front spring's shackles at the equalizer, repeat the process for the shackles that mate the rear spring to the equalizer.

7. Remove the nut on the cross bolt for the equalizer (**Fig. 2B**). Again, the bolt may be pressed into the frame hanger and should not be allowed to rotate.

8. Remove the equalizer.

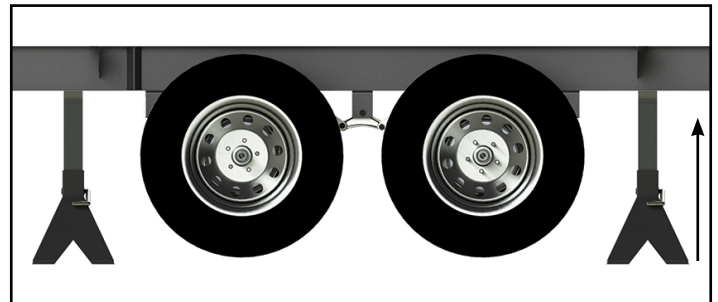


Fig.1

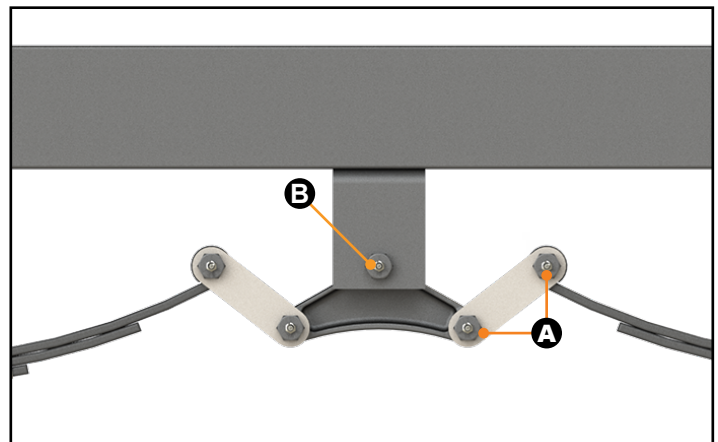


Fig.2



Center Point® Tandem Axle Equalizer

Installation and Owner's Manual

(For Aftermarket Application)

NOTE: Lippert recommends replacing the old bushings in the leaf spring eyes before installing the Center Point system. Eight replacement bushings are provided by Lippert, including four for each side.

9. Begin to prepare the sub-assembly for installation by placing the Center Point sub-assembly on a flat, hard surface.

NOTE: There are left-hand and right-hand versions of the equalizers. For proper orientation, the airbag filler should point to the front of the trailer.

NOTE: There are a variety of equalizers used throughout the industry. Since there are different equalizers, it may be necessary to replace the original shackles with longer ones. Lippert provides two sets of shackle plates (four plates each) that offer two different length settings as well as 14 replacement shackle bolts and 14 flange nuts. If the original shackle measures between 3" and 4", use the short set of holes on the replacement shackles (**Fig. 3**). If the original shackle measures longer than 4", use the longer set of holes on the bracket (**Fig. 3**).

10. Starting on the left side of the sub-assembly, dry fit one of the provided shackles onto the front of the sub-assembly's cross-shaft shackle links (**Fig. 4**).

11. Insert the provided wet bolts through the shackle and the cross-shaft shackle links.

12. Fit the back shackle onto the assembly and finger tighten the flange nut onto the wet bolt.

13. Repeat this preparation process on the right side of the sub-assembly.

14. Place the Center Point sub-assembly on a floor jack.

NOTE: It is suggested that a floor jack support the Center Point sub-assembly during this operation. The floor jack allows mobility along with the ease of slowly raising the Center Point sub-assembly into position to install the retaining cross bolt into the frame hanger.

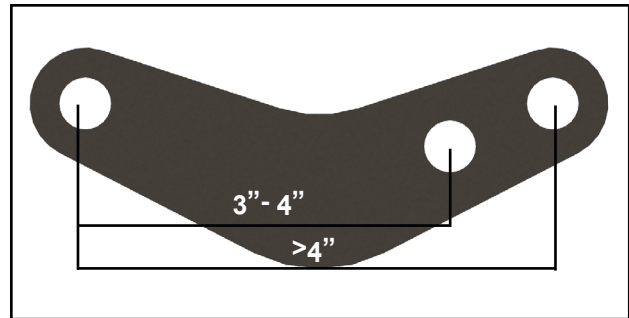


Fig.3

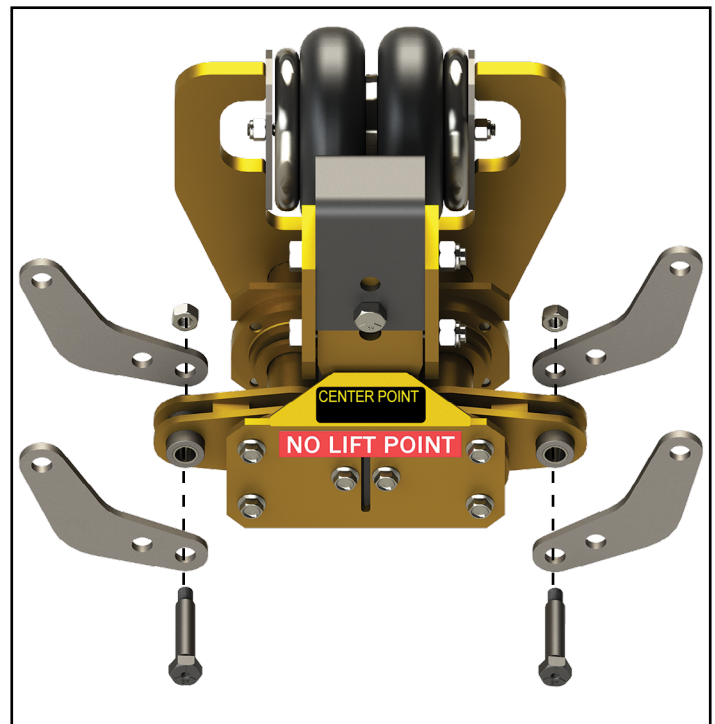


Fig.4

Center Point® Tandem Axle Equalizer

Installation and Owner's Manual

(For Aftermarket Application)

Installation

Standard Hanger Installation

1. Raise the sub-assembly to the frame hanger (Fig. 5) and insert the cross-shaft bolt (Fig. 6A).

NOTE: When inserting the cross-shaft bolt, make sure the sub-assembly air bags do not rub against the I-beam or any part of the frame.

NOTE: Do not remove the jack until the sub-assembly is fully installed onto the frame.

NOTE: Installation may be made easier by jacking up the respective axle in order to relieve pressure and make it easier to manipulate the leaf springs.

2. Thread the provided wet bolts through the top end of the shackle, through the leaf spring eyelet and through the back shackle (Fig. 6B).

3. When the bolts slide easily in the shackle link, install the nuts to retain the shackle assembly.

4. Tighten the side clamping plates (Fig. 6C) on both sides of the hanger and sub-assembly.

5. Repeat steps 2-4 on the other leaf spring and shackle.

6. Torque shackle nuts and bolts to 30-50 ft-lbs.

7. Repeat steps 2-6 on the opposite side of the trailer.

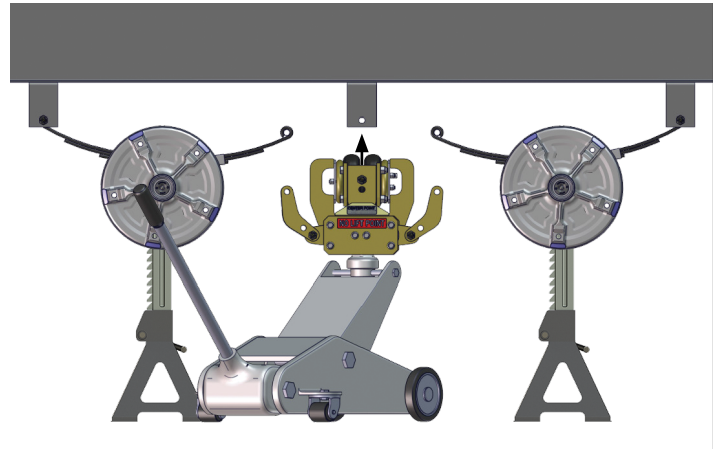


Fig.5

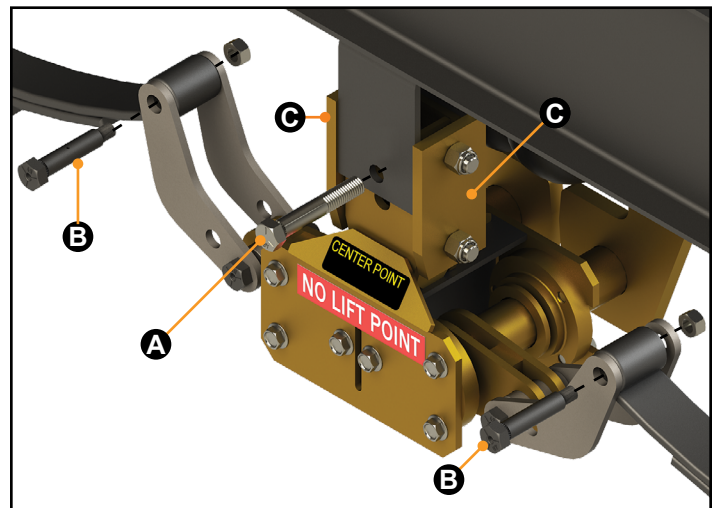


Fig.6

Center Point® Tandem Axle Equalizer

Installation and Owner's Manual

(For Aftermarket Application)

Non-Standard Installation

In cases where the side clamping plates cannot be used with a non-standard size center hanger, an alternative mounting may be possible. The Center Point 2 sub-unit is designed with two cross holes in the tower to give Center Point an additional inch in height adjustment.

Both holes can be used for mounting cross bolts (although not needed in a standard installation). If the Center Point 2 sub-unit will fit inside the hanger, and the hanger is tall enough, the sub-unit may be mounted without the side clamping plates if two cross bolts are used instead of one.

NOTE: An additional pair of $\frac{9}{16}$ " - 12 x 3" Grade 8 bolts with nyloc nuts will be needed.

NOTE: The additional hole in the center hanger of the trailer frame will need to be drilled and will correspond with the secondary adjustment hole (**Fig. 7**).

1. Once the Center Point sub-assembly is properly positioned and the mounting holes are aligned, install the provided retaining cross bolts (**Fig. 7A**) on the tower of each sub-unit. This bolt will have to be inserted from the outside inward.

NOTE: The air spring on the Center Point sub-assembly prevents this bolt from being inserted from the inside side of the trailer.

2. Tighten both the retaining plate bolts and the cross bolt and torque both to 30-50 ft-lbs.

NOTE: If either the side clamping plates or the two cross-bolt method cannot be used because of the size and/or shape of the center hanger, it is recommended that the frame hanger first be changed to the standard size hanger.

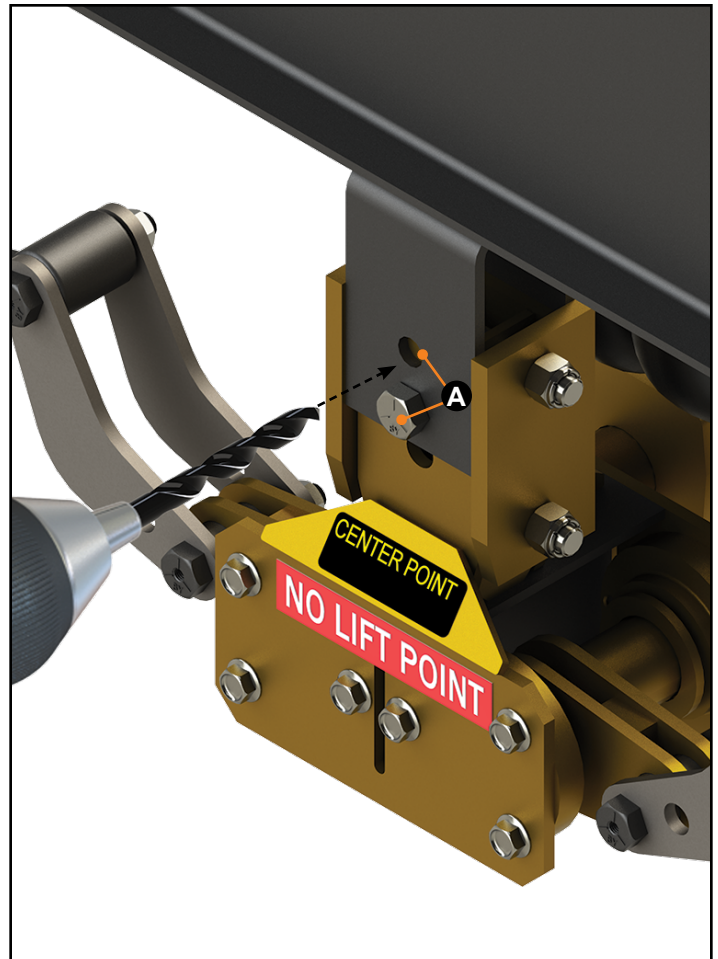


Fig.7



Center Point® Tandem Axle Equalizer

Installation and Owner's Manual

(For Aftermarket Application)

Plumbing

Once both Center Point sub-assemblies are installed on the frame, air supply lines must be routed. Verify there are sufficient clearances for the equalizer's air springs. Air hose assemblies are installed on the air springs, and only the loose ends need to be secured.

Placement of the mounting bracket attached to the loose hose ends (**Fig.8**) is critical to make sure there is sufficient slack in the air hose. (The frame has been removed for clarity.)

Because the air spring will cycle back and forth as much as 5" in extreme road conditions, the mounting brackets must be secured with enough slack to allow necessary movement. They must also be located so the hose does not contact the air spring or any other moving parts of the suspension.

1. Remove the locking nut on the end of the air hose assembly and remove the mounting bracket.
2. Use the provided self-tapping screws to attach the bracket to the I-beam.
3. Reinsert the hose assembly into the mounting bracket.
4. Reinstall locking nut and secure the air hose assembly to the bracket.
5. Complete steps 1-4 for the other side of the trailer.
6. After considering the placement and routing of the air lines to the desired location of the air gauge panel, install the air lines on the hose assembly.

NOTE: To assist in routing the air lines, there are nylon clips, self-tapping screws and wire ties provided. A union tee is supplied for joining the two air lines under the cross member of the trailer. Refer to Figs.8 and 9 for air line supply routing guidelines.

NOTE: All air lines are DOT approved air brake quality suitable for commercial industry applications. The air lines must be cut square and true in order for the fittings to function properly and retain air pressure.

⚠ WARNING

DO NOT DRILL THROUGH PANELS UNDER THE TRAILER UNTIL ENSURING THERE IS ADEQUATE CLEARANCE. THERE MAY BE HOLDING TANKS, WATER LINES AND GAS LINES MOUNTED WITHIN THE FRAME RAILS OF THE TRAILER.

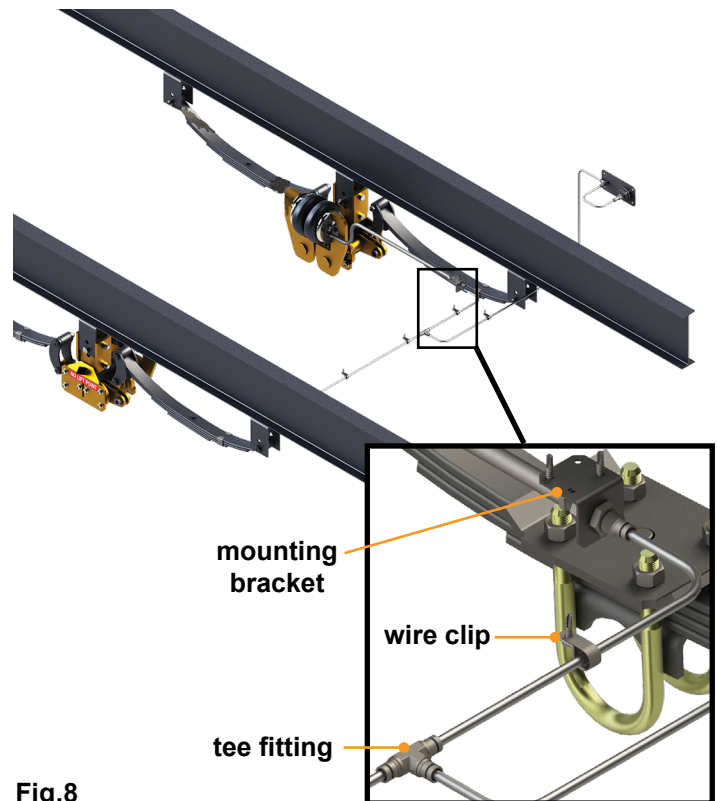


Fig.8

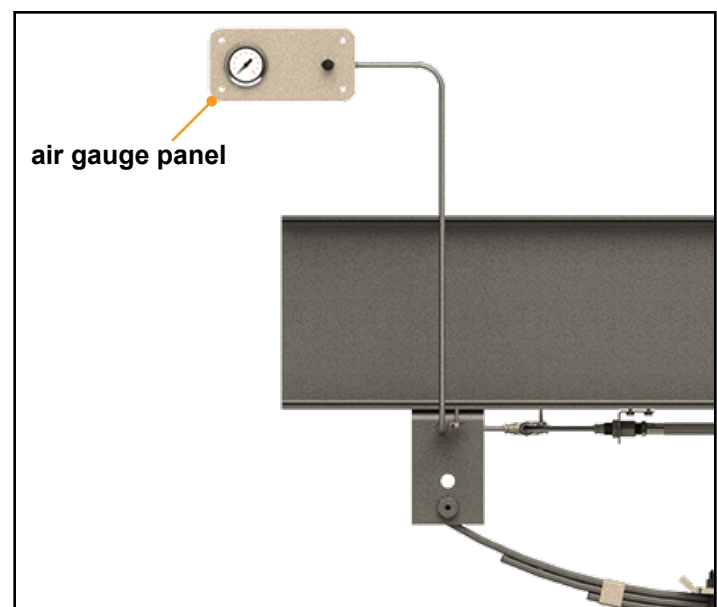


Fig.9



Center Point® Tandem Axle Equalizer

Installation and Owner's Manual

(For Aftermarket Application)

Panel Installation

Lippert recommends placing the air gauge panel in a place where it will not inhibit the operation of the system and will provide an opportunity to easily check the system pressure.

External mounting is the preferred method. However, the panel may be mounted in a compartment. The assembly consists of the panel mount plate, the air pressure gauge with female connector and the access fill valve.

1. Make sure there are no obstacles or components that may incur damage while cutting holes, routing the air lines or mounting the panel mount plate.
2. Determine the location of the panel and, with a suitable tool, cut a $4\frac{1}{2}" \times 1\frac{3}{4}"$ opening for the air gauge and fill valve (**Fig.10**).
3. Place the assembly into the opening, level and square the assembly and mark the four hole locations to mount the panel.
4. Install the assembly using four self-tapping screws through the holes in the panel.

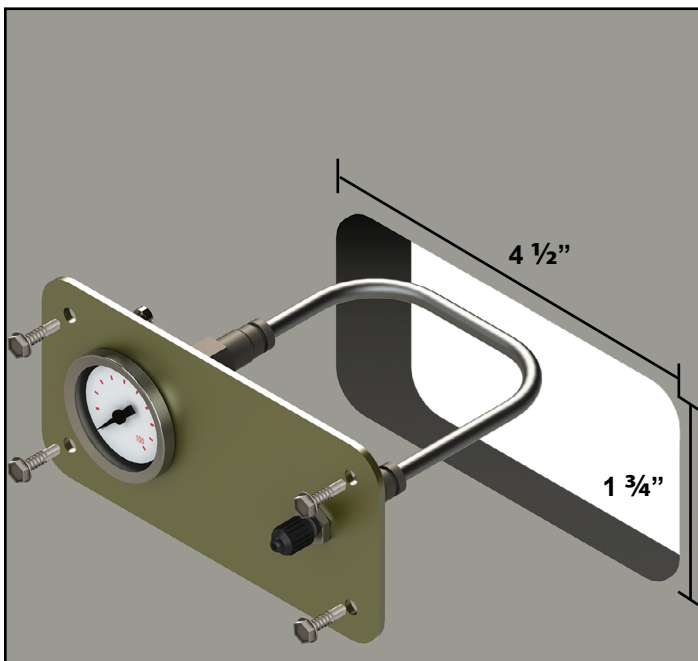


Fig.10

Air Pressure Levels

Air pressure levels should be 5 psi per 1,000 pounds of trailer weight at 70 degrees ambient temperature. The weight will vary according to personal belongings and effects the owner places in the trailer.

The easiest way to determine proper air pressure for the air springs is to inflate them until the plates are parallel or there is a 5" space between them (**Fig.11**).

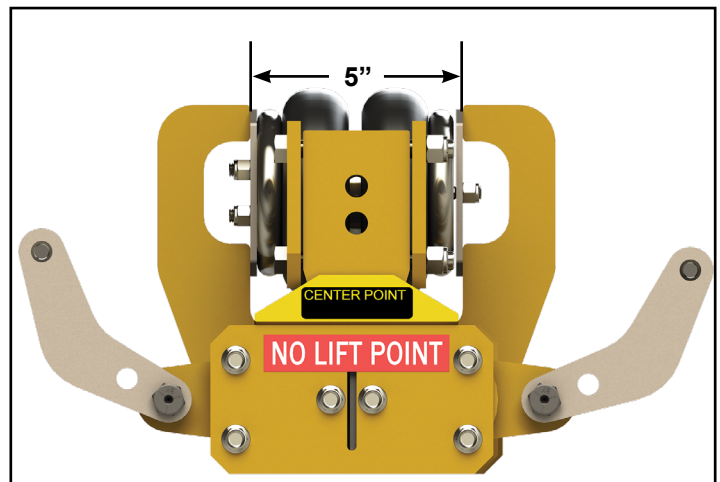


Fig.11

Once a satisfactory air pressure for a compliant ride is established, the air pressure gauge will allow quick verification of operating pressure levels. Make sure the fill valve cap is secure so the seal in the cap will function properly and assist in sealing the system.

The following conditions will cause the air pressure reading in the gauge to fluctuate more than 2-3 psi up or down from the conditions the trailer is set at upon installation:

- A change in altitude of 3,000 to 4,000 feet or more.
- A change in temperature of 50 degrees or more.
- 500 pounds or more of weight differential.

If one or more of these conditions change for a prolonged period after the initial installation, an adjustment to the air pressure may be required. If these are temporary fluctuations, changes in the air pressure are most likely not needed.



Center Point® Tandem Axle Equalizer

Installation and Owner's Manual

(For Aftermarket Application)



Once the trailer is moved, the air spring may not return to a centered position. This is normal. It illustrates that the axles are reacting to torque of acceleration, deceleration or turning input.

The only way to return the air spring to a centered position is to lift the trailer and allow the axles to seek a neutral condition, having no residual torque input.

Maintenance and Troubleshooting

If the system is leaking, add air to 100 psi and begin troubleshooting at the fitting connections with soapy water. If the leak cannot be traced to a fitting connection, the air gauge and the fill valve are the most likely pneumatic parts to leak.

The most unlikely component to leak are the air bags, and Lippert recommends checking those last on a fresh installation. If the leak cannot be found and fixed, call

Lippert for assistance. Once the leak is found, reset the air pressure to the setting for the trailer.

There is no lubrication required for Center Point as it is designed to perform best when it is dry. The only maintenance is for the brass in the link-eyes of the shafts and the standard maintenance required for the spring eyes of the standard suspension.

For clarity purposes, Center Point is shown in the manual without the mechanical bag stops that are standard on the sub-units. This allows Center Point to be operated on the trailer without air in cases where travel is necessary.

If there is an air leak or a complete loss of air in the system, the trailer can still travel. However, prolonged use in this condition can potentially accelerate the wear of the stop plates.

Center Point® Tandem Axle Equalizer

Installation and Owner's Manual

(For Aftermarket Application)

Notes

[illegible]



This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



Center Point® Tandem Axle Equalizer

Installation and Owner's Manual

(For Aftermarket Application)

Notes



Manual information may be distributed as a complete document only, unless Lippert Components provides explicit consent to distribute individual parts.

All manual information is subject to change without notice. Revised editions will be available for free download at lippert.com. Manual information is considered factual until made obsolete by a revised version.

Please recycle all obsolete materials and contact Lippert Components with concerns or questions.