

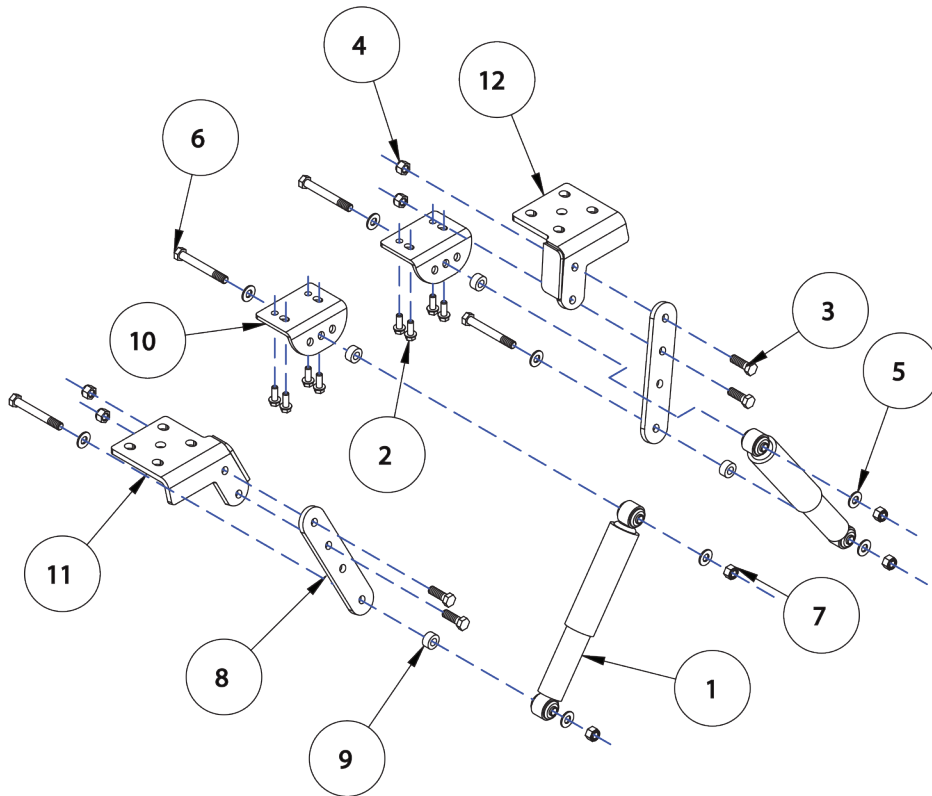


Comfort Ride

Shock absorber system part numbers 2450, 2460 and 2470

Installation Instructions

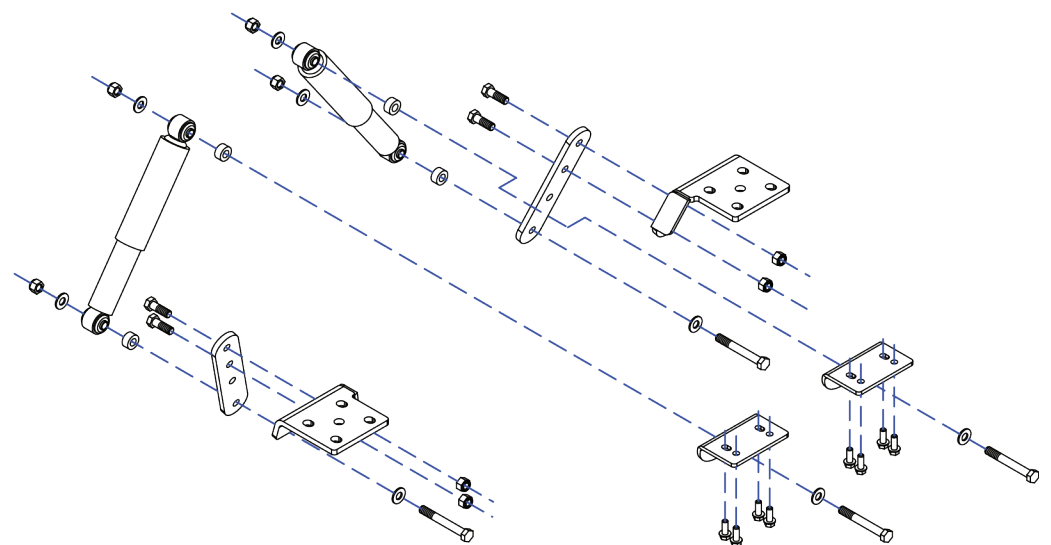
All specifications are subject to change without notice.



Item	Qty	Part number	Description
1	4	204000-00	shock absorber
2	16	350054-50	3/8-16 x 1" grade 8 self-tapping screw - type 23
3	8	350095-00	1/2-13 x 1 1/2" grade 5 bolt
4	8	350259-00	1/2-13 grade 5 nylon insert lock nut
5	16	355720-00	M12 flat washer
6	8	357211-100	M12 x 1.75 x 100mm bolt - class 8.8
7	8	357212-50	M12 x 1.75 nylon insert lock nut - class 8.8
8	4	A-005494	shock extension plate
9	8	A-005764	1/2" spacer
10	4	B-003305	frame bracket
11	2	C-003264	tie plate for 2-3/8" axle-2450
	2	C-003169	tie plate for 3" axle-2460
	2	C-003294	tie plate for 3 1/2" axle-2470
12	2	C-003265	tie plate for 2-3/8" axle-2450
	2	C-003170	tie plate for 3" axle-2460
	2	C-003295	tie plate for 3 1/2" axle-2470

Required tools

- General hand tools
- 12" long, 21/64" drill bit
- Torque wrench
- Threadlocker



Safety Definitions

These instructions contain information that is very important to know and understand. This information is provided for **safety** and to **prevent equipment problems**. To help recognize this information, observe the following symbols:

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, could result in property damage, serious personal injury or even death.

CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in property damage, or minor or moderate personal injury.

CAUTION

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

NOTE

Refers to important information and is placed in italic type. It is recommended that you take special notice of these items.



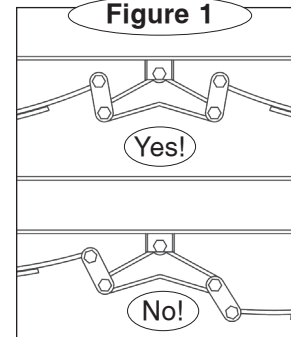
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Vancouver, WA 98682 • 800-669-9690
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855859-01 03.18

Before you begin the installation...

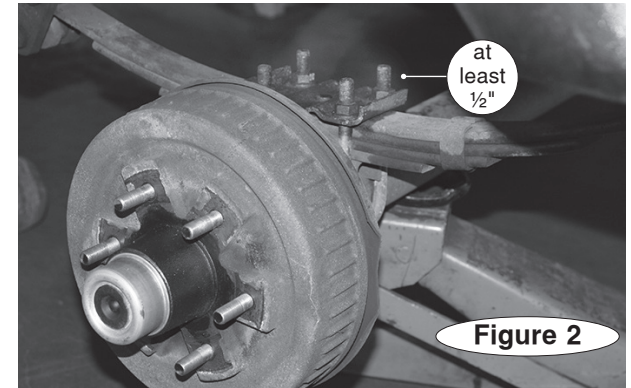
- Check that you have the correct kit. The 2450 kit is for 2-3/8" diameter axles; 2460 is for 3" diameter axles; 2470 is for 3 1/2" diameter axles.

- Park the trailer on level ground and chock the tires.

- Make sure that the trailer is at the correct ride height, with both of the equalizer spring shackles pointed in the correct direction (Figure 1).



- Ensure that the U-bolts attaching the trailer's leaf springs to the axles have at least 1/2" of thread showing beyond the nut (Figure 2).



- Check for any under-vehicle obstructions in and around the trailer's suspension (such as plumbing, wiring or other trailer components) that may prevent the installation of the product.

General warnings and cautions

WARNING

Read all instructions before installing this product. Failure to understand how to install this product could result in property damage, personal injury or even death.



Note: If installing a Comfort Ride slipper leaf spring system with a Comfort Ride shock absorber system, don't follow these instructions. Follow the instructions included with the Comfort Ride slipper leaf spring system. Note: If you're a professional installer, please give these instructions to the customer once the kit is installed.

Note: For ease of installation, the shock absorbers are shipped with restraining bands to hold them at a specific length. Don't remove the restraining bands until instructed to do so.

CAUTION

This product is designed to be installed with

the trailer suspension loaded, i.e., bearing the weight of the trailer. This can be done with the trailer on level ground or on a drive-up hoist.

Do not unload the suspension by lifting the trailer frame while installing this kit or the shock absorbers will not function as intended. The shock absorbers, as well as the trailer, may be damaged. Other collateral, non-warranty damage may also occur.

WARNING

If the trailer's axles are above the leaf springs, support the frame with jackstands at the trailer's normal ride height. Otherwise the trailer might drop lower once the axle U-bolts are removed, which may cause property damage, personal injury or even death.

CAUTION

Don't lift the trailer by the axles. Doing so could adversely affect the alignment of the axles or result in a bent or otherwise damaged axle.

Installation

1. Installing the new tie plates and shock absorber brackets:

a. Working on one pair of U-bolts at a time, remove the U-bolt nuts from the U-bolts. If necessary, soak the U-bolts in a quality penetrating oil before removal.

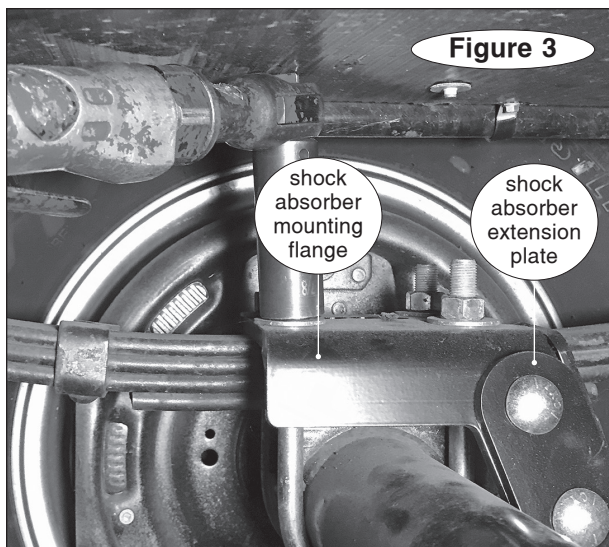
WARNING

Don't remove more than one pair of U-bolts at a time or the trailer or axles could shift, which may cause property damage, personal injury or even death.

b. Remove the OEM tie plate and replace with the supplied tie plate. Position the tie plate so that the locating pin on the leaf spring engages the center hole in the tie plate, and with the shock absorber mounting flange (Figure 3) on the tie plate facing toward the center of the trailer, positioned between the axles.

c. Reinstall the axle attachment U-bolts and nuts. Torque them using the axle manufacturer's specifications. (The most common axle manufacturer's torque specifications are provided at the end of these instructions.)

d. Repeat this procedure for each remaining pair



of U-bolts.

2. Attaching the shock absorber extension plates:

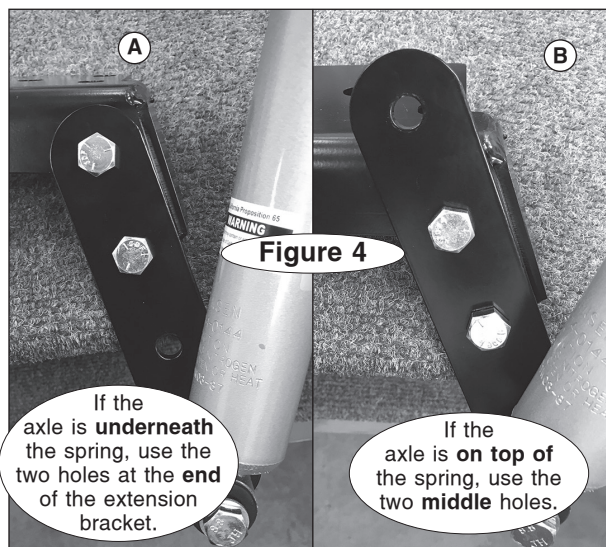
a. If the axle is underneath the spring: bolt the shock absorber extension plate to the tie plate's mounting flange using the two holes at the end of the extension plate (Figure 4A). Insert two ½" x 1½" bolts into the two holes in the extension plate, bolt through the tie plate flange and finish with two ½" nylock nuts. Torque to 57 lb-ft.

b. If the axle is on top of the spring: bolt the shock absorber extension plate to the tie plate's mounting flange using the two holes in the middle of the extension plate (Figure 4B). Insert two ½" x 1½" bolts into the two holes in the middle of the extension plate, bolt through the tie plate flange, and finish with two ½" nylock nuts. Torque to 57 lb-ft.

CAUTION

Make sure the shock absorber extension plate doesn't extend below the level of the wheel rim. If it does, the plate or the shock absorber could be damaged in the event of a flat tire. Other consequential, non-warranty damage may also occur.

3. Installing the shock absorbers to the extension plates:



Place a 12mm washer over the head of one of the 12mm x 1.75 x 100mm bolts. Bolt through the shock absorber, a spacer and the bottom hole on the shock absorber extension bracket (Figure 5).

Note: Make sure you're bolting through the eyelet on the bottom of the shock absorber, not the top – the wider portion of the shock absorber body is the top.

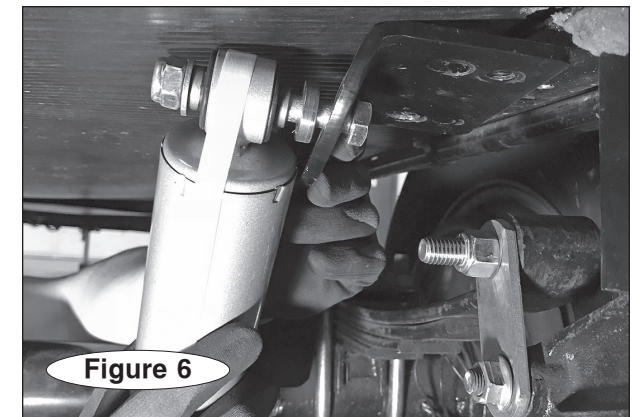
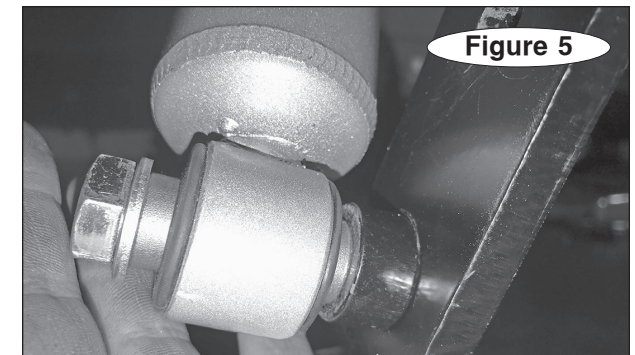
Finish with another 12mm washer and 12mm nylock nut. Leave loose at this time.

Repeat for the remaining shock absorbers.

4. Bolting the shock absorbers to the frame bracket:

Position a 12mm washer over the head of one of the included 12mm x 1.75 x 100mm bolts. Bolt through the center hole of the frame bracket, spacer and the top of the shock absorber (Figure 6).

continued on next page



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Finish with a 12mm washer and 12mm nylock nut.

Leave loose at this time.

Repeat for the remaining shock absorbers.

5. Drilling the holes for the frame brackets:

a. Swing the shock absorber around and into an upright position.

The purpose of the restraining bands on the shock absorbers is to hold them at a fixed length. This length will dictate where the frame bracket is to be positioned on the trailer's frame.

Note: If the restraining bands on the shock absorbers are damaged or cut, restrain the shock absorbers at a 14½" length, hole-center to hole-center.

CAUTION

The shock absorbers must be restrained at a 14½" length, as described above, in order to position the frame brackets correctly. Otherwise the shock absorbers will break. Other consequential, non-warranty damage may also occur.

Note: Optimum trailer handling is achieved when the shock absorbers are at approximately a 35-degree angle from vertical. On some trailers, due to design characteristics, you may not be able to achieve a 35-degree angle from vertical when mounting the shocks. Any angle between 25-40 degrees from vertical is acceptable. If necessary, use any or all of the following adjustments to get the shock absorber within 25-40 degrees from vertical.

1) Remove the shock absorber extension plate and attach the bottom of the shock absorber directly to the shock absorber mounting flange on the tie plate. Use whichever hole on the tie plate will result in a mounting angle of between 25-40 degrees.

2) Drill a new hole in the shock absorber extension plate to accommodate the bottom of the shock absorber. Choose a location of this hole that will orient the shock absorber at a mounting angle of between 25-40 degrees.

b. Using the pre-existing holes in the frame bracket as a template, mark the positions of the holes you will drill on the frame.

Note: Mounting the top of the shock absorber to the center hole on the frame bracket is optimum, but may not always be possible. If this is the case, whichever hole in the frame bracket will achieve a mounting angle of between 25-40 degrees.

Ensure that no components underneath the trailer (such as piping, underbelly material or wiring) will prevent bolting the frame bracket flush to the frame.

Note: If it's necessary to trim underbelly material, use a utility knife and apply repair tape or other sealing product approved by the trailer manufacturer to seal the cut.

c. Swing the bracket and shock absorber back out of the way.

d. Using a 12" long, 21/64" diameter drill bit, drill four holes in the frame on the spots you marked above (Figure 7).

Note: Using a 12" drill bit will allow you to work around the springs without removing them.

e. Repeat for the other shock absorbers.

6. Insert the included 3/8" self-tapping screws through the frame bracket holes and thread them into the holes you just drilled. Use threadlocker on these bolts. Tighten to 40 lb-ft.

7. Torque the top and bottom shock absorber mounting bolts to 55 lb-ft. Remove the restraining bands from the shock absorbers.

8. Check the tightness of all bolts.

Note: Tightness of all fasteners should be checked per the axle manufacturer's schedule, or every 6,000 miles of towing, whichever comes first.

9. Figure 8 shows the shock absorbers installed.

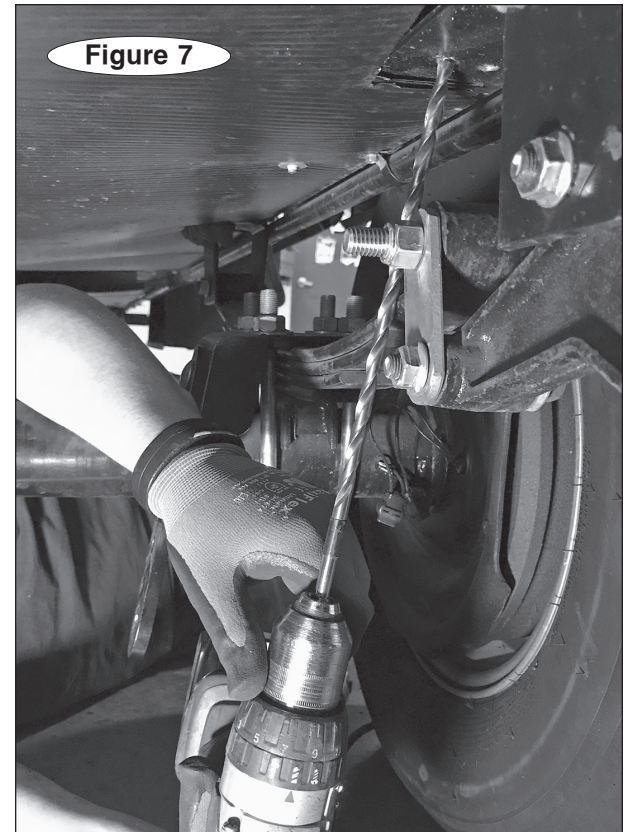


Figure 7

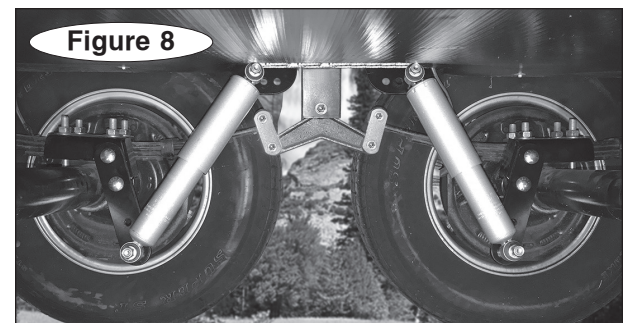


Figure 8

Torque values for trailer axles

Roadmaster has provided the torque charts furnished by the manufacturers of the most common axles in production. While these charts were correct at the time of publication, specifications may change without notice.

Dexter Axles

<i>Item</i>	<i>Torque Range (lb-ft)</i>
3/8" U-bolt	30-50
7/16" U-bolt.....	45-70
1/2" U-bolt with hex nut	45-70
1/2" U-bolt with flange nut	70-80
9/16" U-bolt	65-95
5/8" U-bolt	100-120
Non-shoulder type bolt.....	Snug fit only. Parts must rotate freely. Locking nuts or cotter pins are provided to retain
with 9/16" threads:	the nut/bolt assembly.
Shackle bolt	
Spring-eye bolt	
Equalizer bolt	
Shoulder type shackle bolt.....	30-50
with 7/16" threads	

Lippert Axles

2,000- to 8,000-pound capacity axles

<i>Bolt Type</i>	<i>Torque Specification (lb-ft)</i>
U-bolts (2,000 lb axle)	35
U-bolts (3,500 lb axle with 1/2" U-bolts).....	50
U-bolts (5,200 lb axle)	65
U-bolts (6,000-8,000 lb axles).....	90
Shackle bolts	30-50

8,000 to 12,000-pound capacity axles

<i>Bolt Type</i>	<i>Torque Specification (lb-ft)</i>
U-bolts (8,000 lb axle, 9/16" U-bolts)	90
U-bolts (10,000 lb axle, 5/8" U-bolts)	95
U-bolts (12,000 lb axle, 5/8" U-bolts)	115
9/16" shoulder bolts	35
9/16" non-shoulder bolts.....	Snug
10,000 lb and 12,000 lb spring-eye bolt	200
10,000 lb and 12,000 lb hanger/equalizer bolt	300
Keeper bolt	Snug

Rockwell American Axles

<i>Bolt Type</i>	<i>Torque (lb-ft)</i>
3/8" U-bolt	30-50
7/16" U-bolt.....	45-70
1/2" U-bolt.....	45-70
9/16" U-bolt	60-85
7/16" Shackle bolt.....	45-70
9/16" Shackle bolt	Snug

