



# INSTALLATION MANUAL

17599

## Level of Difficulty

Moderate

Installation difficulty levels are based on time and effort involved and may vary depending on the installer level of expertise, condition of the vehicle and proper tools and equipment.

## Max Capacity Without Spring Bars

Gross trailer weight (GTW)	8,000 lbs.
Tongue weight (TW)	800 lbs.

When spring bars are not used, the weight rating is dependent upon the trailer ball manufacturer's weight ratings. Do not exceed the maximum weight rating of the trailer ball.

## Max Capacity With Spring Bars

Gross trailer weight	5,000 - 8,000 lbs.
Tongue weight	500 - 800 lbs.

The tongue weight rating of the spring bars represents the capacity of a pair of bars, not an individual bar. Always use a pair of spring bars and be sure they are rated the same.

## Parts List

Item	Qty	Description
1	1	Hitch head
2	2	Spring bar
3	2	Spring bar support bracket
4	1	Adjustable shank
5	1	Snap-up handle
6	1	Hitch pin & clip
7	1	Hitch ball, 2-5/16"
8	1	Lock washer, 1-1/4"
9	1	Hex nut, 1-1/4"-12
10	2	Hex bolt, 3/4"-10 X 5"
11	4	Serrated conical washer 3/4"
12	2	Nylock nut, 3/4"-10
13	2	Hex bolt, 5/8"-11 X 1-3/4"
14	2	Square head bolt, 5/8"-11 X 1-3/4"

## Tools Required

Ratchet	Socket set
Torque wrench	Tape measure

## ⚠ WARNING

Never exceed the vehicle manufacturer's recommended towing capacity.

The loaded ball height should never be greater than the uncoupled ball height. Front wheel overload and loss of rear wheel traction can result and can lead to unstable handling. It can reduce braking ability and create a tendency to jackknife when turning and braking at the same time.

If the loaded trailer ball height is greater than the uncoupled height, reduce take-up on the spring bar, remeasure and adjust until the proper height is obtained.

## NOTICE

Visit [www.curtmfg.com](http://www.curtmfg.com) for a full-color copy of this instruction manual, as well as helpful videos, guides and much more!

Before you begin installation, read all instructions thoroughly.

Proper tools will improve the quality of installation and reduce the time required.

Some states require a clear view of license plates.  
Remove trailer ball when not in use if it restricts view.

This product complies with regulation V-5, C.S.A. Standard D-264 and safety requirements for connecting devices and towing systems of the State of New York.

Periodic inspection of your product should be performed to ensure all hardware and / or components remain secure.

To help prevent damage to the product or vehicle, refer to the specified torque specifications when securing hardware during the installation process.

## Maintenance

Keep the socket-mounted ends of the spring bars and the lock pins in the head assembly free from dirt and well lubricated. Excessive wear in this area may indicate an overload or inadequate lubrication.

Keep the head assembly exterior clean. Do not allow dirt or stones to lodge between the spring bars and the head.

Keep hitch parts painted to prevent rust and maintain good appearance. Do not paint over labels.

Keep lift brackets clean and lubricated to ensure ease of operation.

## Product Registration and Warranty

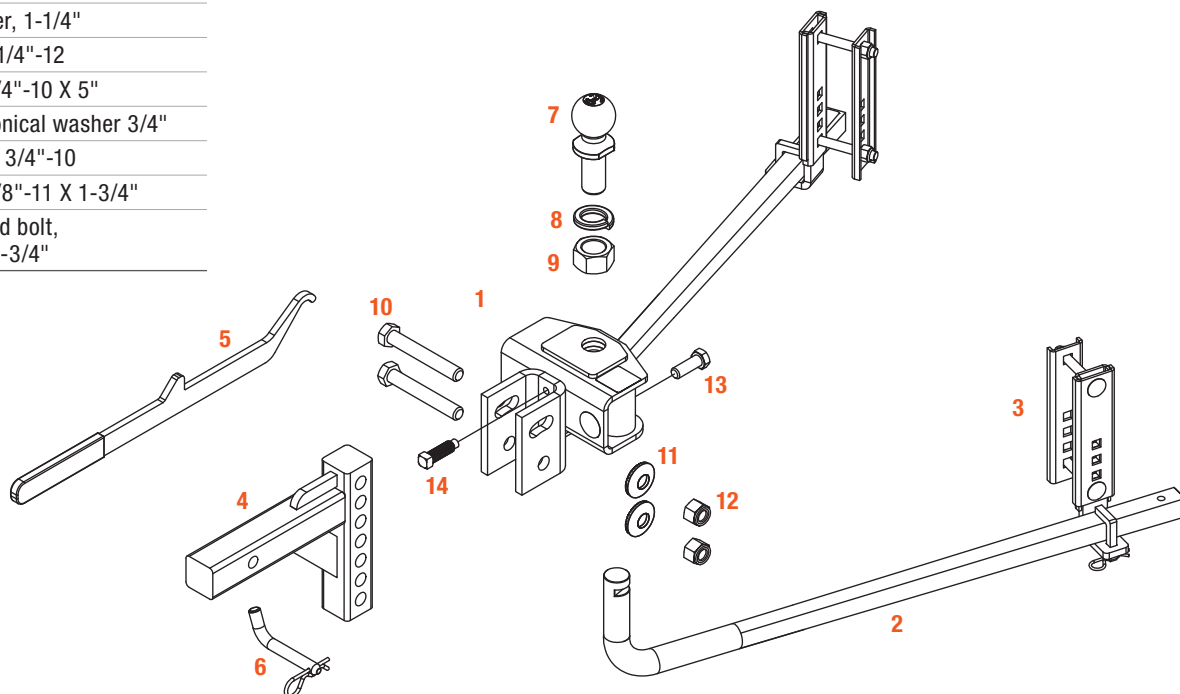
CURT stands behind our products with industry-leading warranties.

To get copies of the product warranties, register your purchase or provide feedback, visit: [warranty.curtgroup.com/surveys](http://warranty.curtgroup.com/surveys)

# ASSEMBLY & INSTALLATION

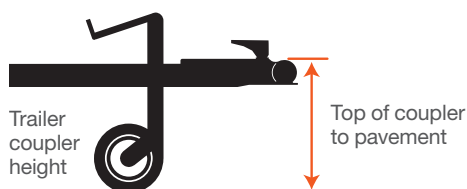
## Parts List

Item	Qty	Description
1	1	Hitch head
2	2	Spring bar
3	2	Spring bar support bracket
4	1	Adjustable shank
5	1	Snap-up handle
6	1	Hitch pin & clip
7	1	Hitch ball, 2-5/16"
8	1	Lock washer, 1-1/4"
9	1	Hex nut, 1-1/4"-12
10	2	Hex bolt, 3/4"-10 X 5"
11	4	Serrated conical washer 3/4"
12	2	Nylock nut, 3/4"-10
13	2	Hex bolt, 5/8"-11 X 1-3/4"
14	2	Square head bolt, 5/8"-11 X 1-3/4"



## Measure trailer coupler height

Line up the tow vehicle and trailer on level pavement, in a straight position. Use the trailer tongue jack to level the trailer. Measure the distance from pavement to the top of the coupler socket and record here \_\_\_\_\_



## Measure the tow vehicle

For vehicles with air springs, air shocks or automatic leveling systems only, check the vehicle's owners manual or other instructions on these items. Unless otherwise indicated, air springs and air shocks should be deflated to their minimum recommended pressure before assembling and adjusting the weight distributing hitch.

Pick reference points on the front and rear bumper of the towing vehicle. Measure and record height to pavement.

Front bumper to pavement \_\_\_\_\_

Rear bumper to pavement \_\_\_\_\_

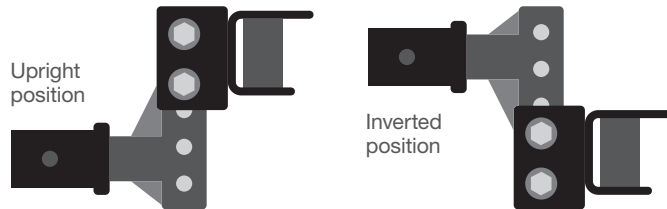
## Determine the 'target' uncoupled ball height for the tow vehicle

Tow vehicle's uncoupled ball height will be set higher than the coupler height measured to allow for vehicle squat when coupled to trailer.

For passenger cars, add 1/8" for each 100 lbs. of tongue weight. Record ball height \_\_\_\_\_

### Step 1

Insert adjustable shank bar (#4) into receiver tube on tow vehicle and secure with hitch pin & clip (#6). NOTE: To obtain proper ball height on high ground clearance vehicles, shank may be inverted as shown below. If shank is used in the inverted position, check for adequate ground clearance.

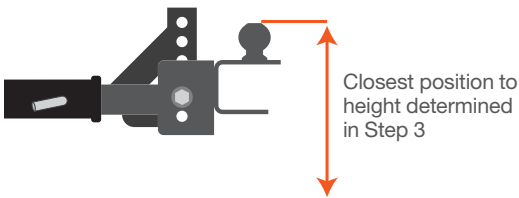


### Step 2

Torque ball to 450 ft-lbs. Secure the ball to the head assembly (#1) using a lock washer (#8) and nut (#9).

### Step 3

Position head assembly on shank. Slide head up or down to the nearest bolt hole alignment position which corresponds with the target ball height determined earlier. Mark the position on the shank.



### Step 4

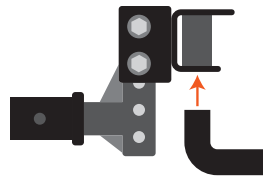
Install the head on the shank at marked position. Insert the 3/4" - 10 x 5 hex bolt (#10) through the 3/4" conical washer (#11) and then through the lower hole in the head channel. Rotate the head forward as far as it will go. The ball should be vertical or tilted slightly back. If it is not, adjust set screws (#13, #14). Install the remaining 3/4" - 10 x 5" bolt (#10) with 3/4" conical washer (#11) through the upper slotted hole. Install a second 3/4" conical washer (#11) on both bolts. Start 3/4" - 10 (#12) nylock nuts and finger tighten only.

### Step 5

Tighten top 3/4" - 10 x 5 hex bolt (#10) just enough to hold head tight against the pin in the head channel. This bolt will be tightened later.

### Step 6 - Lubricate and install spring bars

Apply a heavy grease on the round end of each spring bar and push end up into the head socket until you hear a click, as shown below. This will indicate that the spring bar is locked into place. To release spring bar, lift up slightly on spring bar and gently pull out on the retaining pin in the hitch head. The spring bar will drop free of the hitch head.



### Step 7 - Attaching the trailer to the ball

Using the trailer tongue jack, lower the coupler onto the trailer ball and close coupler latch. Do not retract jack fully at this time. Allow the jack to support some of the tongue weight.

Raise the front of the trailer and back of the tow vehicle approximately 3" with tongue jack or until the rear bumper is back to the initial measured height. This will allow easier installation of the spring bars onto the support brackets.

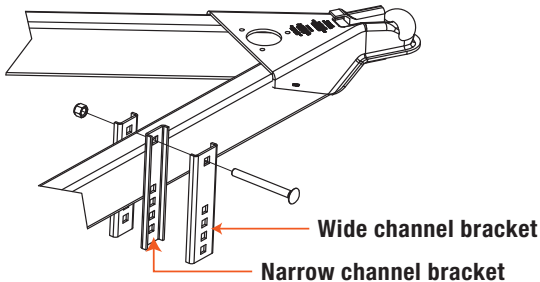
### Step 8 - Installing the spring bar support brackets

Mark the position of the support brackets (#3) by making a center line on the trailer A-frame a minimum of 4" in from the end of the spring bars (#2).

### Step 9

Place a carriage bolt through the top hole on all three support brackets, spin the nylock nut loosely onto the bolt and hang the assembly over the trailer A-frame on the center line from Step 10.

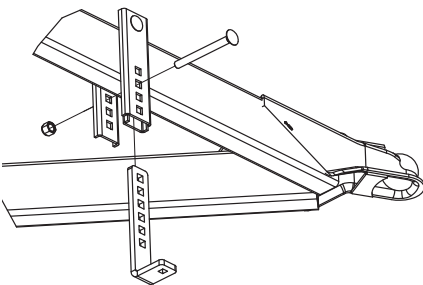
**Note:** The wide channel bracket should be installed over the narrow channel as detailed below.



### Step 10

Slide the L-support in between the two captive support brackets as shown. L-support bracket should be placed in the highest position possible while still allowing clearance under the trailer frame. Install the second carriage bolt in the first hole directly below the trailer A-frame.

With the L-bracket installed, tighten both nylock nuts to 25 lb-ft.

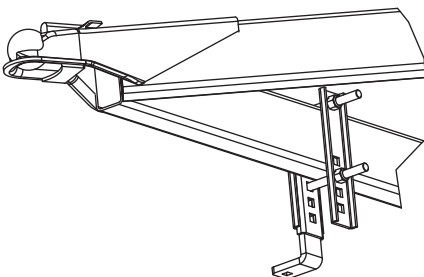


### Step 11

Repeat Steps 8 through 10 with the second support bracket on the opposite side of the trailer A-frame.

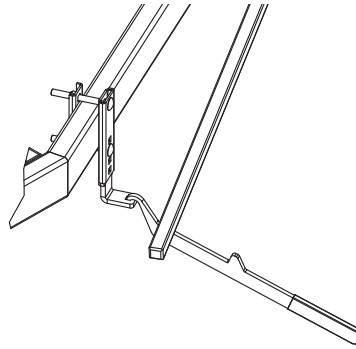
#### ⚠ WARNING

Keep clear of the pivot path of all moving parts when there is tension on the spring bar. Maintain control of the lift handle at all times when raising or lowering the spring bar. Be sure that the locking clip and cotter pin are in place once the spring bar is in position.



### Step 12 - Raise the spring bars

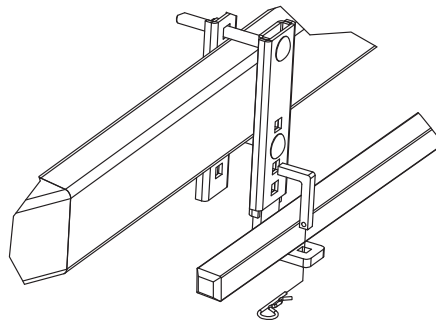
Pull the spring bar out from the A-frame and hook the lift bar into the L-bracket as shown.



### Step 13

Pry the spring bar onto the L-bracket by rotating the lift bar to vertical.

With the spring bar supported by the L-bracket, remove the lift handle. Secure the spring bar by installing the retainer clip and cotter pin.



### Step 14

Check the vehicle height and adjust the angle of the head using the set screws (#13, #14) as required until desired loading is reached.

With the spring bars secured, lower the jack to apply load to the hitch. The vehicle should settle evenly. Remeasure the front and rear bumper reference points. If the front has settled much more than the rear, adjust the set screws until the vehicle and trailer are level. The spring bars should be nearly horizontal when correct height is achieved.

### Step 15 - Tighten Head Fasteners

Tighten all 3/4" bolts and lock nuts to 200 ft-lbs. Tighten the set screw (#13) to 50 ft-lbs. Failure to tighten the hardware may result in fastener loss or failure.

### Before You Tow

Check all connections listed below prior to towing:

- Hitch pin & clip (securing shank to receiver)
  - Head to shank fasteners
  - Trailer ball nut
  - Coupler latch
  - Spring bar support brackets
  - Safety chains
  - Lights and turn signals
  - Braking system (including breakaway switch)
- 

### Lowering The Spring Bars

Remove the weight from the spring bars by using the trailer jack to lift the front of the trailer and rear of the tow vehicle.

With the tension removed from the spring bars, carefully remove the cotter pin & retainer clip.

With the spring bar retainer clip removed, use the lift bar as a lever to pry the spring bar off of the L-bracket.

---

### TOWING BASICS & SAFETY INFORMATION

For information on safely towing your trailer, visit [curtmfg.com/understanding-towing](https://curtmfg.com/understanding-towing).

---