



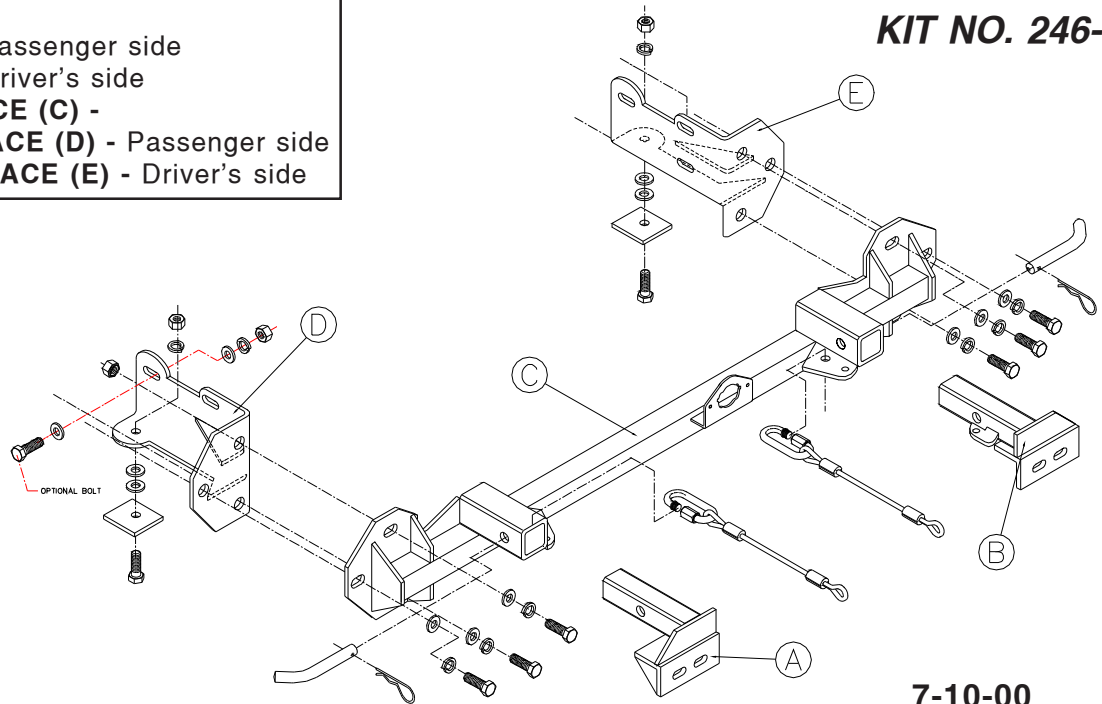
# MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

ROADMASTER, Inc. 6110 NE 127th Ave. Vancouver, WA 98682 1-800-669-9690 fax 360-735-9300 www.roadmasterinc.com

## PARTS LIST:

- 1- FRONT BRACE (A) - Passenger side
- 1- FRONT BRACE (B) - Driver's side
- 1- MAIN RECEIVER BRACE (C) -
- 1- REAR MOUNTING BRACE (D) - Passenger side
- 1- REAR MOUNTING BRACE (E) - Driver's side

KIT NO. 246-5



7-10-00

**IMPORTANT:** All brackets **must** be assembled with all the bolts left loose for final adjustment and positioning (before tightening) unless otherwise instructed. All bolts **must** be torqued for proper strength. If more than one bolt is used per fastening point, the diagram may only show one.

- Use flat washers over all slotted holes
- Use lock washers on all fasteners

ROADMASTER Limited Warranty, including One-Year Conditional Warranty Text and Product Registration Card, in Carton.

## WARNING

Failure to follow these instructions can result in property damage, personal injury or even death.

- Installation of most mounting brackets requires moderate mechanical aptitude and skills. We strongly recommend professional installation by an experienced installer.
- The installer must read the instructions and use all bolts and parts supplied. Failure to do so could result in loss of the towed vehicle.
- Use Loctite® Red on all bolts used for mounting this bracket.
- Do not use this document for custom fabrication, as it may not show all parts or structural components. Custom fabrication or an attempt to copy this bracket design could result in loss of the towed vehicle.
- Every 3,000 miles, the owner must inspect the fasteners for proper torque, according to the bolt torque requirements chart on the last page of these instructions. The owner must also inspect all mounts and brackets for cracks or other signs of fatigue every 3,000 miles. Failure to do so could result in loss of the towed vehicle.
- The owner must check the vehicle manufacturer's instructions for the proper procedure(s) to prepare the vehicle for towing. Some vehicles must be equipped with a transmission lube pump, an axle disconnect, driveline disconnect or free-wheeling hubs before they can be towed. Failure to properly equip the vehicle will cause severe damage to the transmission.
- If running changes were made by the vehicle manufacturer after this bracket was designed, some bolts or other fasteners in the hardware pack may no longer be the correct size. It is the installer's responsibility to verify that the bracket is securely fastened to the vehicle and fitted with the correct hardware to account for these changes. Failure to securely

fasten the bracket could result in loss of the towed vehicle.

- If the towed vehicle has been in an accident, it must be properly repaired before attaching the bracket. Do not install the bracket if any structural frame damage is found. Failure to repair the damage could result in the loss of the towed vehicle.
- Some motorhome chassis have such a tight turning radius that you can damage your motorhome, towed vehicle, tow bar or bracket while turning sharply. Before getting on the road, test your turning radius in an empty parking lot. Turning too sharply could result in non-warranty damage to towing system, motorhome and/or towed vehicle.
- Do not back up with the towed vehicle attached or non-warranty damage will occur to your towing system, motorhome and/or towed vehicle.
- The safety cables must connect the towing vehicle to the towed vehicle frame to frame, with the cables crossed, with enough slack for sharp turns. Refer to the cable instructions for proper routing. Failure to leave enough slack in the safety cables, or failure to connect the safety cables frame to frame, will result in the loss of the towed vehicle.
- This bracket is designed for use with ROADMASTER tow bars and ROADMASTER adaptors only. Using this bracket with other brands, without an approved ROADMASTER adaptor, may result in non-warranty damage or injury.
- Upon final installation, the installer must inspect the bracket to ensure adequate clearance, particularly around hoses, air conditioner lines, radiators, etc., or non-warranty damage to the towed vehicle will result.
- This bracket is only warranted for the original installation. Installing a used bracket on another vehicle is not recommended and will void the warranty.

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**KIT NO. 246-5**

1. **Important:** please use all supplied bolts and parts and read all instructions carefully before beginning this installation. The majority of questions you may have can be answered within the text, and proper installation will ensure safe and secure travel. Now, begin the installation. This bracket kit is one of our *XL Series* with removable front braces. The kit consists of two rear mounting braces which mount inside the front frame tubes, a main receiver brace and the removable front braces. Everything but the front braces install behind the bumper. The front bumper will have to be removed for the installation.
2. Remove four bolts, two on the top of each frame tube. Now, remove two bolts on the bumper side braces on each side. These are located on the sides of the frame tubes.
3. Use two screw drivers to pop the plastic fasteners loose on the radiator flap and pull free.
4. Mark the frame where the bumper brackets are located so that the bumper can be repositioned to the same spot. Remove the shoulder nuts inside each frame tube holding the bumper brackets. This is where the new rear braces will be mounted.
5. Insert the rear brace into the front of each frame tube over the bumper bracket mounting bolts. The bracket will have to be pushed partly out to allow this. *Note:* the rear braces are slotted to move forward if necessary to clear oil coolers on vehicles with heavy duty towing packages. If vehicle needs additional clearance the front bumper mounts will also have to be notched for clearance.
6. Align the bumper brace where previously positioned and reinstall the shoulder bolts over the rear braces and tighten. Some models will only have two shoulder bolts on the passengers side bumper bracket. If so, use supplied 1/2" x 1 1/4" bolt, lock washer, two flat washers, and nut in remaining hole on bracket. A small clipnut may need to be removed from existing hole to complete step.
7. Now, check the rear of the brace and notice the lower mounting tabs. Line a backing plate up with the front of the mounting tab. Mark the center of the hole then drill up through the frame and the mounting tab inside with a 17/32" drill bit.
8. Now, use the supplied flat washers to shim as needed between the frame and the bottom of the rear brace, then bolt through with a 1/2" x 1 3/4" bolt, lock washer, and nut.
9. Torque these bolts to the torque specifications below at this time.
10. Take the receiver brace and position in front of the braces with the receiver tubes on top of the cross tube.

**7-10-00**

## BOLT TORQUE REQUIREMENTS

Note: The torque values represented below are intended as general guidelines. Torque requirements for specific applications may vary. Roadmaster does not warrant this information to be accurate for all applications and disclaims all liability for any claims or damages which may result from its use.

| STANDARD BOLTS |       |             | METRIC BOLTS |       |                       | METRIC BOLTS |       |                        |
|----------------|-------|-------------|--------------|-------|-----------------------|--------------|-------|------------------------|
| Thread Size    | Grade | Torque      | Thread Size  | Grade | Plated/Unplated       | Thread Size  | Grade | Plated/Unplated        |
| 5/16           | 5     | 13 ft./lb.  | 8mm-1.0      | 8.8   | 20 ft./lb. 18 ft./lb. | 12mm-1.25    | 8.8   | 70 ft./lb. 65 ft./lb.  |
| 3/8            | 5     | 23 ft./lb.  | 8mm-1.25     | 8.8   | 19 ft./lb. 18 ft./lb. | 12mm-1.5     | 8.8   | 66 ft./lb. 61 ft./lb.  |
| 7/16           | 5     | 37 ft./lb.  | 10mm-1.25    | 8.8   | 38 ft./lb. 36 ft./lb. | 12mm-1.75    | 8.8   | 65 ft./lb. 60 ft./lb.  |
| 1/2            | 5     | 56 ft./lb.  | 10mm-1.5     | 8.8   | 37 ft./lb. 35 ft./lb. | 14mm-2.0     | 8.8   | 104 ft./lb. 97 ft./lb. |
| 5/8            | 5     | 150 ft./lb. |              |       |                       |              |       |                        |



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11. Bolt the receiver brace to the side braces with three 1/2" x 1 1/2" bolts, flat washers, and lock washers per side. Torque to specifications at the bottom of these instructions.
12. Remove the side braces from the bumper. This will allow you to slide the bumper over the braces. *Note:* if additional clearance was needed in step 5, the lower back side of the bumper fascia will need to be trimmed for proper fit around the receivers.
13. Bolt the four top bumper bolts back in place, then reinstall the side brackets and finish bolting in place.
14. Reinstall the bottom plastic fasteners in the rubber bumper deflector.
15. Insert the front braces and secure with 5/8" draw pins and safety pins. Torque all bolts to the specifications below.
16. Install the tow bar according to the manufacturer's instructions.
17. Install the 10" safety cables between the bar and the receiver base with the included cable connectors.

### HARDWARE:

- 6- 1/2" x 1-1/2" bolts
- 2- 1/2" x 1-3/4" bolts
- 9- 1/2" lock washers
- 12- 1/2" flat washers
- 3- 1/2" nuts
- 2- 1/4" x 2-3/8" x 2-1/2" backing plates
- 2- 5/8" draw pins
- 2- 1/8" spring pins
- 2- 10" cables, 8,000 lb. rated
- 2- cable connectors
- 1- 1/2" x 1 1/4" bolt

7-10-00

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| 1/2            | 5     | 56 ft./lb.  | 10mm-1.5     | 8.8   | 37 ft./lb. 35 ft./lb. | 14mm-2.0     | 8.8   | 104 ft./lb. 97 ft./lb. |
| 5/8            | 5     | 150 ft./lb. |              |       |                       |              |       |                        |

All illustrations and specifications contained herein are based on the latest information available at the time of publication approval. ROADMASTER, INC. reserves the right to make changes at any time without notice in material, specification and models or to discontinue models.