



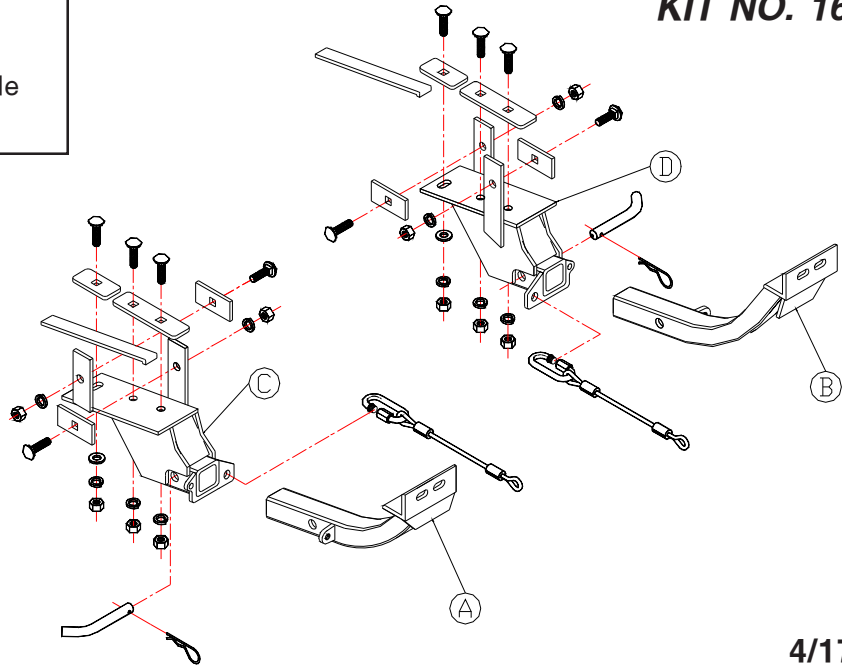
MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

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- RECEIVER BRACE (C) - Passenger side
- 1- RECEIVER BRACE (D) - Driver's side

KIT NO. 161-1



4/17/03

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 securely fasten the bracket could result in loss of the towed vehicle.
- 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.
- The owner must inspect all mounts and brackets before each use for cracks or other signs of fatigue. Also, inspect the fasteners for proper torque, according to the bolt torque requirements chart on the last page. 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 included 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. 161-1

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 is one of our XL series, which allows you to remove the most visible portion of the bracket. This bracket kit consists of two receiver braces, two arms and the hardware pack. The bracket kit mounts to the bottom of the frame horns behind and below the front bumper. *Note:* later vehicles may have a small black plastic splashguard under the front of the frame that has to be removed (four 15mm head bolts).
2. To mount the main braces, locate the rear-most existing hole in the bottom of the frame rails on each side. Fishwire a 1/2" x 1 3/4" carriage bolt and 1/4" x 1 1/2" x 2 1/2" backing plate into the hole in each frame rail.
3. Hold the braces to the bottom of the frame rail with the bolts through the rear hole in the braces. Secure with flat washers, lock washers and nuts.
4. Locate the holes on the sides of the frame that line up with the side mounting tabs on the main braces and bolt through frame and bracket with 1/2" x 1 1/2" carriage bolts and 1/4" x 1 1/2" x 2 1/2" backing plates. *Note:* on some models, the existing hole on the outside of the frame will not line up exactly and will have to be drilled.
5. Make certain that the braces are aligned properly, then tighten in position so the braces snug against the bottom of the frame. *Note:* two alignment shims are included with the kit to take care of any alignment discrepancies in the frame. These shims can be used one or two at a time to align one side to the other.
6. Using the braces as templates, drill two 1/2" holes in the bottom of the frame on each side. *Note:* on later models with the splashguard removed, a nut in the bottom of each frame rail will be drilled out when drilling the front hole.
7. Insert a 1/4" x 1 1/2" x 5 1/2" two holed backing plate into the frame horn on each side and bolt through with two 1/2" x 1 3/4" carriage bolts. *Note:* on later models the fascia is very close to the front of the frame opening, either blocking the fascia away from the frame temporarily or cutting the small web out of the opening will facilitate fishwiring and inserting the plate. Torque all bolts to the specifications below.
8. Insert the front braces in the receiver tubes and secure with 5/8" draw pins and 3/16" spring pins.
9. Mount the tow bar according to the manufacturer's instructions.
10. Connect the 12" safety cables to the receiver braces with the included cable connectors. Connect the other end to the tow vehicle's safety cables and the tow bar.

HARDWARE LIST:

- | | |
|---|---------------------------------------|
| 8- 1/2" x 1 3/4" carriage bolts | 2- 1/2" flat washers |
| 10- 1/2" nuts | 2- 1/8" x 1" x 8 1/2" alignment shims |
| 10- 1/2" lock washers | 2- 3/16" spring pins |
| 2- 1/2" x 1 1/2" carriage bolts | 2- 5/8" draw pins |
| 6- 1/4" x 1 1/2" X 2 1/2" backing plates | 2- cable connectors |
| 2- 1/4" x 1 1/2" X 5 1/2" two hole backing plates | 2- 12" safety cables |

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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.						