



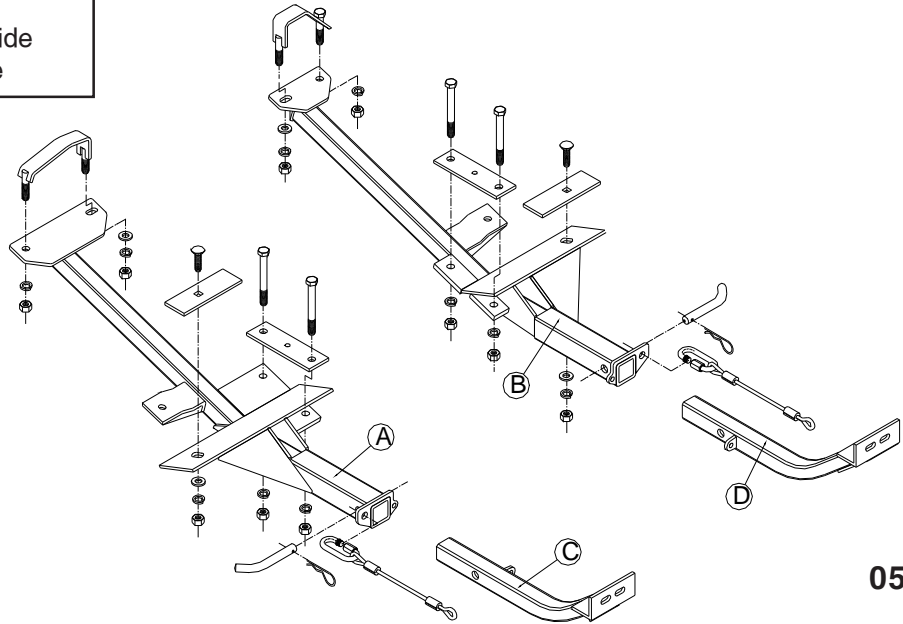
MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

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

PARTS LIST:

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

KIT NO. 3103-1



05/22/03

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 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. 3103-1

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 kit consists of two rear main braces, two front braces and a hardware pack. The main receiver braces mount behind and below the front bumper to the front engine and suspension sub frame. Start by laying the kit out according to the illustration. This will give you a visual idea of how the kit installs and also confirm that the kit components are present and accounted for. The lower air deflector will have to be trimmed to fit later after the bracket kit is fully installed.
2. Working on one side at a time, locate the front main A frame suspension bolt and remove. *Note:* this is a suspension bolt so don't move the vehicle once it has been removed.
3. Take a 1/4" x 2 1/2" x 6" backing plate and a 1/2" x 1 1/2" carriage bolt and insert through the open side of the sub frame into the existing slotted hole in the bottom of the frame.
4. Hold the passenger side brace to the bottom of the subframe and bolt to the bottom of the sub frame using a 1/2" nut and lock washer.
5. Bolt through the side mount with the suspension bolt removed in step two. Leave loose at this time.
6. Take the special 1/4" x 2" x 6 1/2" backing plates and slide them over the top of the sub frame channel. Note be sure to slide them under any tubing present. If necessary, displace the tubing upward enough to clear the backing plate. Center holes are provided for the plastic tubing holders. Insert two 1/2" x 4 1/2" bolts through the backing plate into the brace and bolt using 1/2" nuts and lock washers.
7. Put the specially formed flat U bolt over the rear of the sub frame as illustrated and bolt in place using 1/2" flat washers, lock washers and nuts.
8. Repeat steps 2 through 7 for the passenger side brace.
9. Torque all mounting bolts to the specifications below.
10. Trim the lower air dam to fit.
11. Install the tow bar according to the manufacturer's instructions.

Hardware

- | | |
|---|----------------------|
| 4- 1/2" x 4-1/2" bolts | 2- 10" safety cables |
| 1- 1/4" x 1 1/4" x 4" Bolted backing plate (Drivers Side) | 2- Cable connectors |
| 1- 1/4" x 1 1/4" x 7" Bolted backing plate (Passenger Side) | 2- 5/8" draw pins |
| 2- 1/2" x 1 1/2" carriage bolts | 2- 1/8" spring pins |
| 2- 1 1/2" x 2 1/2" x 6" Backing plates | |
| 2- 1 1/2" x 2" x 6 1/2" Backing plates | |
| 10- 1/2" lock washers | |
| 10- 1/2" nuts | |
| 4- 1/2" flat washers | |

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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.						