



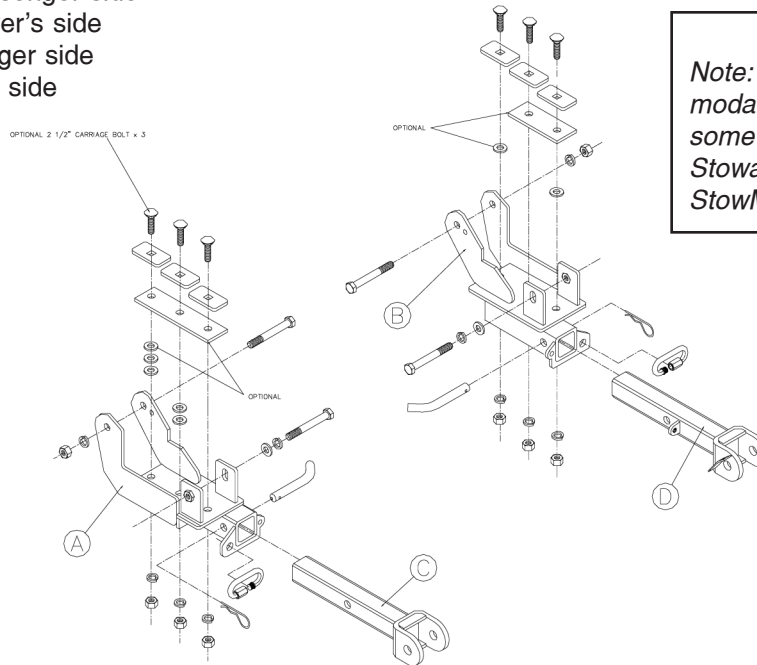
MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

PARTS LIST:

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

KIT NO. 456-1

Important
 Note: this bracket will not accommodate the Guardian rock shield, some models of the Tow Defender, Stowaway or the StowMaster and StowMaster All Terrain tow bars.



2-7-00

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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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 is one of our MX series brackets, which allows the visible front portion of the brackets to be easily removed from the front of the vehicle. The kit consists of two receiver braces, two front braces and a hardware pack. The receiver braces are designed to mount to the frame tubes on each side replacing the tow loops on the four wheel drive versions and two wheel drive units equipped with tow loops. Two wheel drive units without tow loops will usually require removal of the lower bumper air dam or holes cut for the front braces to slide into the receivers. Some two wheel vehicles will also require shims to match the passenger and driver side receivers. These are provided in the hardware pack. If the tow hooks are present, remove them and the backing plates inside the frame then proceed to step 2. If you have a two wheel drive with a solid air dam below the bumper, you will have to remove the bumper to gain access to the front frame area. Do this by removing two large nuts per side holding the bumper to the front of the frame, then go to step 4.
2. If tow hooks were removed, fish wire two 1/2" x 2" carriage bolts and 1/4" x 1 1/2" x 2 3/4" backing plates through the front of the frame on each side, into the existing tow hook holes.
3. Pull the lower plastic forward and down to slide the receiver braces up into position behind the plastic around the frame horns. The receiver braces will utilize the tow hook mounting holes and existing through holes in the frame. Bolt through the two rear holes in the bottom of each brace with the carriage bolts, 1/2" nuts and lock washers.
4. Bolt through the front of the braces and the frame with 1/2" x 4 1/2" bolts, flat washers, lock washers and nuts, then bolt through the rear of the braces with 1/2" x 5" bolts, lock washers and nuts. The front inside mounting tabs are threaded for the bolt. *Note:* if the vehicle has no tow hooks and the frame differs on each side, then use the side holes in the frames as guides and bolt through the frame using the hardware above. The existing frame holes should line the braces up on each side. Check to see that the braces are aligned with each other then tighten these bolts.
5. Now use the braces as drill templates and drill 1/2" holes through the bottom of the frame on each side. If tow hooks were present then one hole per side will be drilled, if none then all holes will have to be drilled.
6. Check the bottom of the frame, if the frames were different and don't match the bottom of the brace then they will have to be shimmed with the provided shims and washers. Some two wheel drive vehicles will take the large 5/8" thick welded shim and washers on the passenger side and a 1/4" plate and washer on the driver's side. If the larger shim is used then use the longer 2 1/2" carriage bolts on the passenger side in step 7.
7. Fish wire 1/2" carriage bolts and 1/4" backing plates through the front of the frame horns into the bottom holes and bolt with 1/2" lock washers and nuts.
8. Torque all bolts to specifications below. *Note:* on two wheel drive vehicles, the bumper will need to be trimmed and reinstalled.
9. Insert the front braces in the receiver tubes and secure with 5/8" draw pins and 1/8" spring pins.
10. Attach the safety cables to the main receiver brace.

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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10. Mount the tow bar according to the manufacturer's instructions. *Note:* on some vehicles, the frame horns may differ from side to side. In this case, the front of one receiver brace may have to be shimmed in the front to match the other. This can usually be accomplished with washers under the front mounting bolt.
11. Attach the safety cables to the main receiver brace.

Hardware

- 2- 1/2" x 5" bolts
- 10- 1/2" lock washers
- 9- 1/2" flat washers
- 8- 1/2" nuts
- 6- 1/4" x 1 1/2" x 2 3/4" backing plates
- 2- 5/8" draw pins
- 3- 1/2" x 2 1/2" carriage bolts
- 6- 1/2" x 2" carriage bolts
- 1- 1/4" x 2" x 7 1/2" welded spacer shim plates
- 1- 1/4" x 2" x 5" shim plates
- 2- 1/2" x 4 1/2" bolts
- 2- 1/8" spring pins

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STANDARD BOLTS			METRIC BOLTS			METRIC BOLTS		
<i>Thread Size</i>	<i>Grade</i>	<i>Torque</i>	<i>Thread Size</i>	<i>Grade</i>	<i>Plated / Unplated</i>	<i>Thread Size</i>	<i>Grade</i>	<i>Plated / Unplated</i>
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	8.866 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.						

*All illustrations and specifications contained herein are based on the latest information available at the time of publication approval.
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