

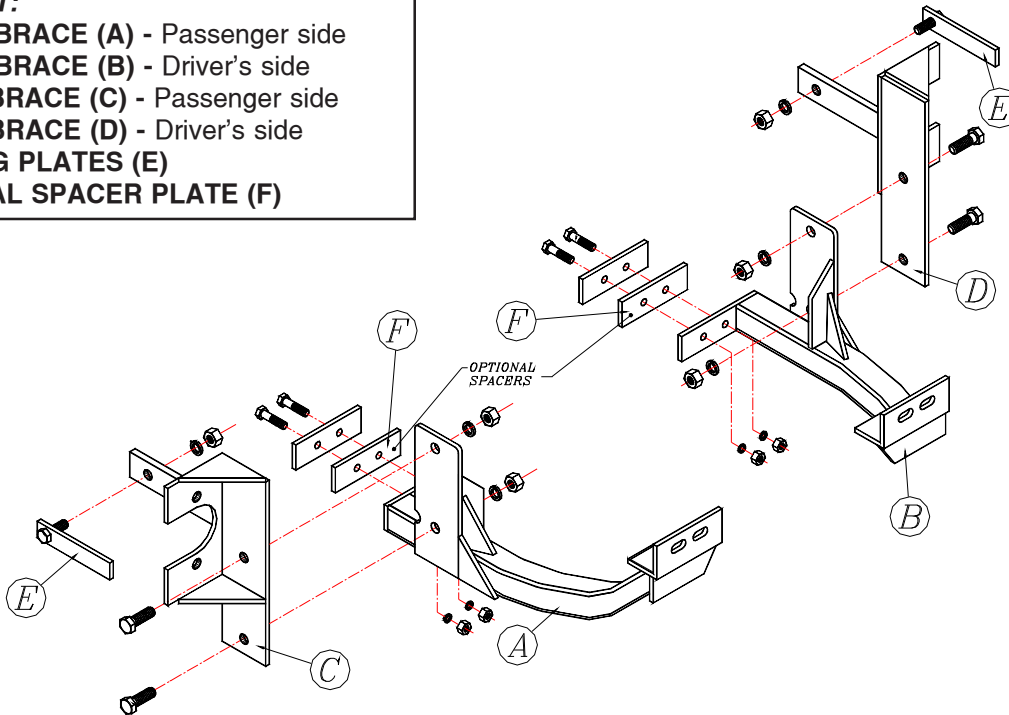
MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

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

PARTS LIST:

- 1- LOWER BRACE (A) - Passenger side
- 1- LOWER BRACE (B) - Driver's side
- 1- UPPER BRACE (C) - Passenger side
- 1- UPPER BRACE (D) - Driver's side
- 2- BACKING PLATES (E)
- 2- OPTIONAL SPACER PLATE (F)

KIT NO. 228-1



051598

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. 228-1

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. Remove the front bumper and the E-A units from each side by unbolting the E-A units from the mounts and unbolting the plastic air dam. Save all bolts and screws.
2. Discard the backing plates that fit between the bumper and the frame.
3. Replace the backing plates with the respective upper braces (C&D) as shown in the attached drawing. Make sure the large plate portion of the bracket fits down and towards the center of the car. If needed, trim the sheet metal between the E-A mount and the wiring access hole in the cowl. This hole will be located between the E-A mounts and the radiator cowl. The bracket (C or D) should fit over the existing E-A mount holes and a hole approximately 5" back in the frame. *Note:* if the rear hole is missing one will have to be made. Use a 1/4" x 1" x 5" backing plate (E) with bolt and insert from the inside of the frame through the 1/2" hole in the bracket back strap. Align the front holes and tighten the bolts finger tight only at this time.
4. Replace the bumper over the upper brackets.
5. Tighten all bolts according to the torque chart shown below.
6. Now, bolt the lower brackets (A&B) into position using 1/2" x 1 1/2" bolts provided and torque these bolts.
7. Mount the tow bar to the brackets (A&B) according to the instructions provided with the tow bar.
8. Now, drill two 3/8" holes per side in the lower cowl lip. Bolt through the bracket cowl and the backing plates (F) provided with 3/8" x 1 1/2" bolts and washers. *Note:* two optional spacer plates are provided in the event shimming is required.

HARDWARE LIST:

- 2-7/16" LOCK WASHERS
- 2-7/16" NUTS
- 4-1/2" X 1 1/2" BOLTS
- 4-1/2" NUTS
- 4-1/2" LOCK WASHERS
- 4-3/8" X 1 1/2" BOLTS
- 4-3/8" NUTS
- 4-3/8" LOCK WASHERS
- 2-1/4" X 1" X 5" BACKING PLATES WITH 7/16" X 1 1/2" BOLT
- 2-1/4" X 1 1/2" X 4 1/2" BACKING PLATES
- 2-1/4" X 1 1/2" X 4 1/2" SPACER PLATES

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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. | | | | | | |

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.