



# MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

ROADMASTER, INC.

5602 N.E. SKYPORT WAY

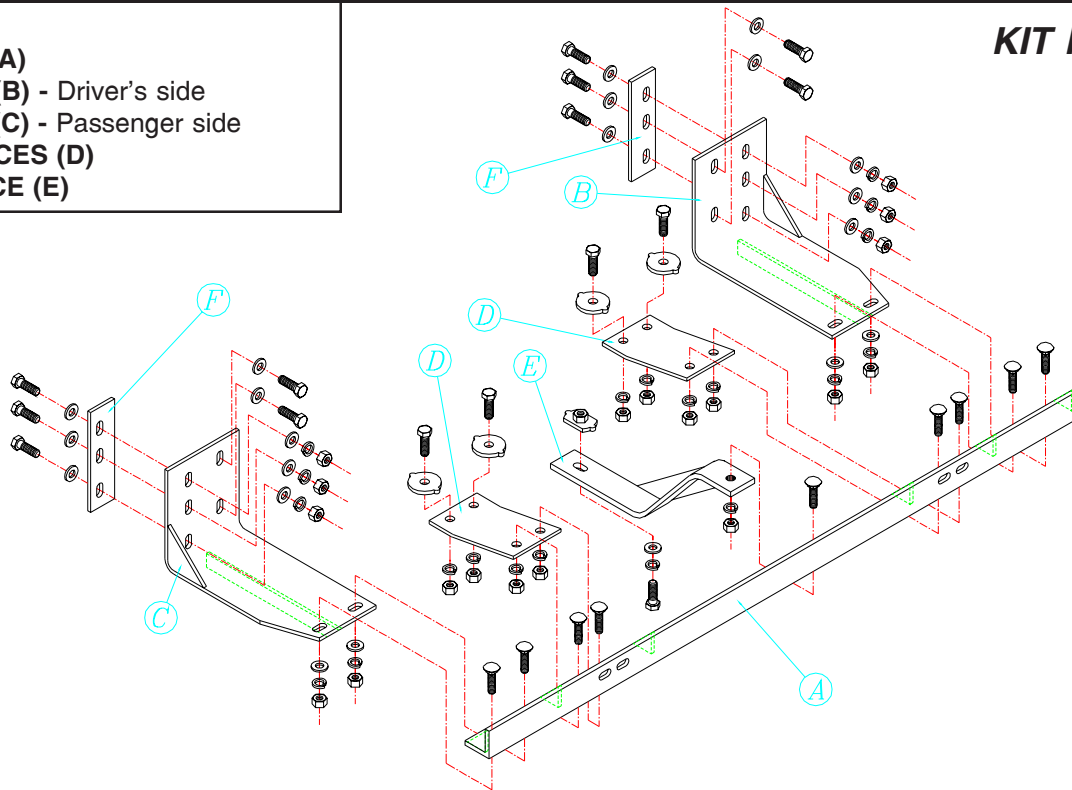
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**PARTS LIST:**

- 1- FACE PLATE (A)
- 1- MAIN BRACE (B) - Driver's side
- 1- MAIN BRACE (C) - Passenger side
- 1- BUMPER BRACES (D)
- 1- CENTER BRACE (E)

**KIT NO. 213-1**

**IMPORTANT:** All brackets *must* be assembled with all the bolts left loose for final adjustment & 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

- Do not use this document for custom fabrication as it may not show all parts or structural components.
- ROADMASTER will not be responsible for any damage or injury resulting from any modification or alteration.
- 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 torque chart.
- The owner must check the 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.
- The installer must read the instructions and use all bolts and parts supplied.
- If the towed vehicle has been in an accident, it must be properly repaired before attaching the brackets. Do not install the brackets if any structural frame damage is found. Failure to repair the damage may result in loss of your towed vehicle.
- Some motorhome chassis have such a tight turning radius that you can damage your motorhome, towed vehicle or tow bar while turning sharply. Before getting on the road, test your turning radius in an empty parking lot. Damage that results from turning too sharply is not covered by warranty.
- The driver must not back up the motorhome with the towed vehicle attached or non-warranty damage will occur to your towing system or towed vehicle.
- The safety cables must connect the towing vehicle to the towed vehicle frame to frame, with the cables crossed. Refer to the cable instructions for proper routing.
- Make sure there is enough slack in the safety cables at the motorhome to allow for sharp turns.
- Use caution when handling the tow bar — if your hands, fingers or any part of your body are caught between moving components, they can be pinched, cut or otherwise injured.
- This bracket is designed for use with ROADMASTER tow bars and ROADMASTER adaptors. Using this bracket with other brands, without an approved ROADMASTER adaptor, may result in non-warranty damage or injury.
- Important! This bracket is only warranted for the original installation. Installing a used bracket on another vehicle is not recommended and will void the warranty.
- Upon final installation, the installer must inspect the bracket to ensure adequate clearance, particularly around hoses, AC lines, radiators, etc., or non-warranty damage will result.



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



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**KIT NO. 213-1**

1. Remove the bumper and bumper supports from the van. Separate the skin from the core.
2. Remove the 10mm nuts that hold the bumper to the bumper supports. Set these parts aside, saving all fasteners.
3. Using the bolts that fasten the bumper supports to the van, bolt the main braces (B&C) to the existing holes that the bumper supports are bolted to - (See drawing).
4. Using the main brace as a template, drill the three unused holes all the way through the body metal to 1/2" diameter. Now using six of the provided 1/2" x 1 1/2" bolts and predrilled backing plate (F), bolt the main braces (B&C) and backing plate from the rear (nuts to the front of the van). Tighten these bolts at this time (see torque chart).
5. Remove the inside two factory bolts from each main brace. Then bolt the bumper mounts to their original location by sandwiching the main braces between the bumper mount and the vans firewall. Tighten these bolts at this time according to the torque chart below.
6. Reinstall the bumper core making sure that the bumper is properly aligned.
7. Find the center of the bumper core and measure outward 15" marking the bottom of the bumper with a felt marking pen. Repeat this procedure outward from the center in the opposite direction.
8. With the notched end to the bumper, using the bumper braces (D) as a template, line up the outer hole in each bumper brace with the marks on the bottom of the bumper. Center them and mark the inner holes on the bumper with a felt pen. Drill a 1/2" diameter hole in the center of each mark. Bolt the bumper braces loosely to these holes using four 1/2" x 1 1/2" bolts and plate washers provided. Plate washers are to be inside the bumper.
9. Replace the bumper skin and trim to clear the bracket where necessary.
10. Bolt the face plate (A) to the bumper braces and to the main braces using eight 1/2" x 1 1/2" carriage bolts provided.
11. Bolt the center brace (E) to the center hole of the face plate with a 1/2" x 1 1/2" bolt provided. Insert a 1/2" x 1 1/2" carriage bolt with a 1/2" plate washer down through the large hole in the bottom of the motor mount. Bolt the remaining end of the center brace to this bolt.
12. Tighten ALL bolts according to the torque chart shown below.
13. Bolt the tow bar to the mounting bracket according to the instructions provided with the tow bar.

### HARDWARE LIST:

- 15- 1/2" X 1 1/2" BOLTS
- 19- 1/2" NUTS
- 21- 1/2" FLAT WASHERS
- 20- 1/2" LOCK WASHERS
- 4 - 1/2" PLATE WASHERS
- 9 - 1/2" X 1 1/2" CARRIAGE BOLTS
- 2 - 1/4" X 2" X 7 1/4" SLOTTED BACKING PLATES
- 1 - 2" THREADED CLIPPED PLATE WASHER

01/16/01

**CAUTION:** Installer must read instructions and use all bolts and parts supplied.

FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN DEATH, PERSONAL INJURY OR PROPERTY DAMAGE

### 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.