

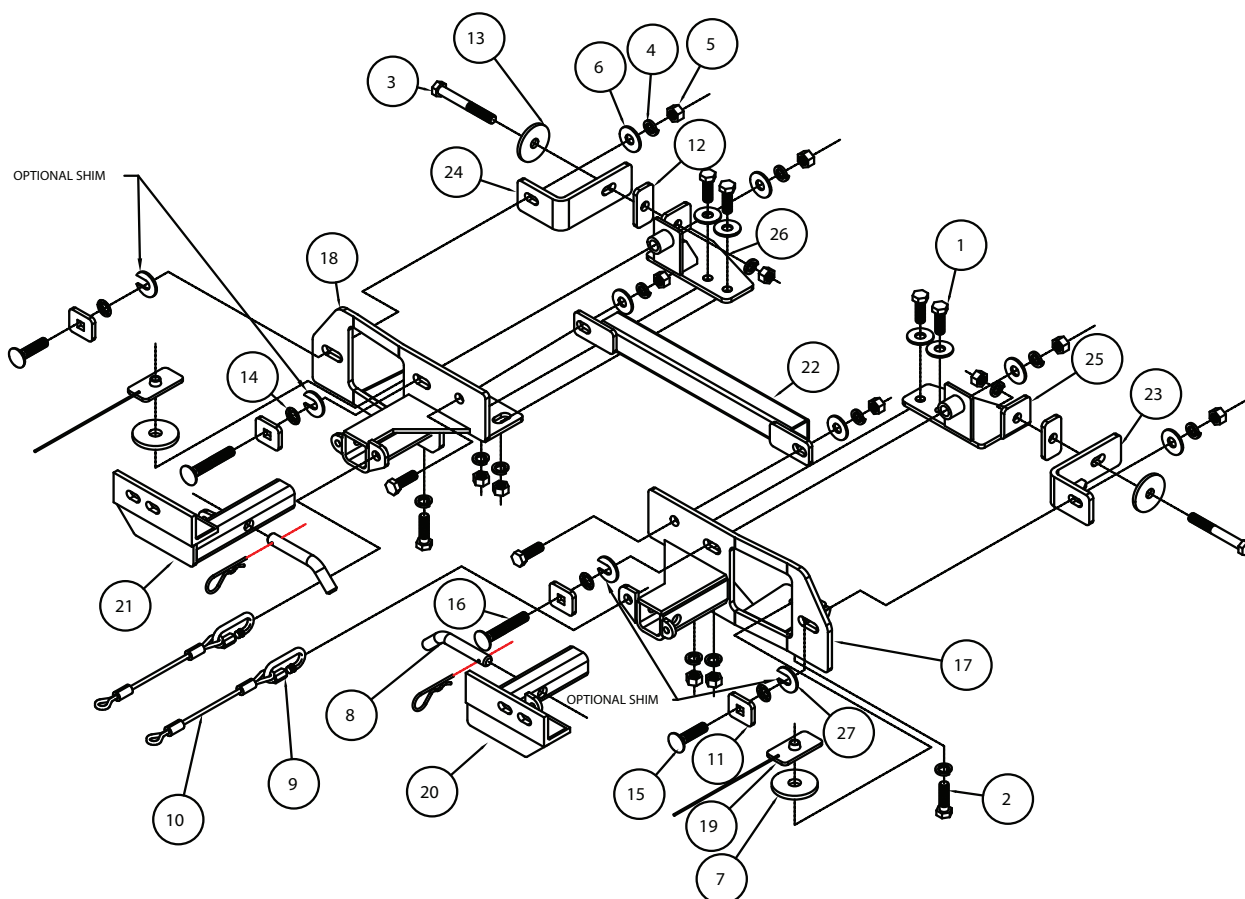


# MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

**KIT# 477-5**

 09/26/13  
KS

ROADMASTER, Inc. 6110 NE 127th Ave. Vancouver, WA 98682 360-896-0407 fax 360-735-9300 www.roadmasterinc.com



ITEM	QTY	NAME	PART #
1.....6.....	1/2" x 1 1/2" BOLT	350095-00	
2.....2.....	1/2" x 1 3/4" BOLT	350096-00	
3.....2.....	1/2" x 4 1/2" BOLT	350106-00	
4.....14.....	1/2" LOCK WASHER	350309-00	
5.....12.....	1/2" HEX NUT	350258-00	
6.....6.....	1/2" FLAT WASHER	350308-20	
7.....2.....	5/8" PLATE WASHER	350352-00	
8.....2.....	5/8" DRAW PIN, W/ SPRING PIN	357035-00	
9.....2.....	QUICK LINK	200008-00	
10.....2.....	10" SAFETY CABLE	650646-10	
11.....4.....	1/4" x 1 1/2" x 1 3/4" BACKING PLATE	A-000196	
12.....2.....	1/4" x 1 1/4" x 2 1/2" BACKING PLATE	A-000228	
13.....2.....	3/16" PLATE x 2 1/4"	A-003086	
14.....4.....	PUSH NUT BOLT RETAINER	350200-00	
15.....2.....	1/2" x 3" CARRIAGE BOLT	350123-00	
16.....2.....	1/2" x 4" CARRIAGE BOLT	350124-00	
17.....1.....	DRIVER SIDE RECEIVER	C-000108	
18.....1.....	PASSENGER SIDE RECEIVER	C-000109	
19.....2.....	3/16" x 1 1/2" x 3" THREADED BACKING PLATE W/ROD	C-001301	
20.....1.....	DRIVER SIDE ARM	C-001314	
21.....1.....	PASSENGER SIDE ARM	C-001315	
22.....1.....	CROSS BAR WELDMENT	C-001461	
23.....1.....	DRIVER OUTSIDE BRACE	C-002621	
24.....1.....	PASSENGER OUTSIDE BRACE	C-002622	
25.....1.....	DRIVER INSIDE BRACE	C-002623	
26.....1.....	PASSENGER INSIDE BRACE	C-002624	
27.....4.....	SHIM	A-004510	



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This is one of our XL series brackets, which allows the visible front portion of the bracket to be easily removed from the front of the vehicle (Fig.A and Fig.B). The bracket consists of a main receiver brace, two side braces, cross bar, two removable front bracket arms and a hardware pack.

The main receiver brace mounts to the frame, side braces and cross bar. The removable front braces install in the main receiver brace.

Before starting the installation, lay out the kit components in order, as they will be used. This will give you a visual idea of how the components work, and will also confirm that everything is present and accounted for.



**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.
- **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.
- Roadmaster manufactures many styles of brackets. **If your bracket has removable arms, they must be removed before driving the vehicle, unless the arms can be pinned or padlocked in place.** If not secured, the arms could vibrate out, resulting in non-warranty damage or personal injury.
- 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.**
- **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.
- 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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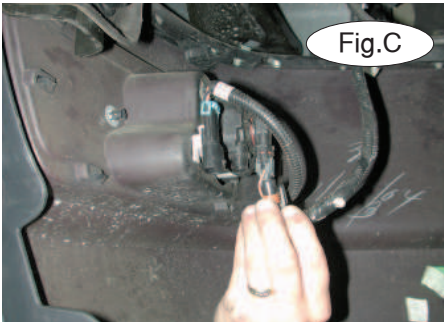


Fig.C

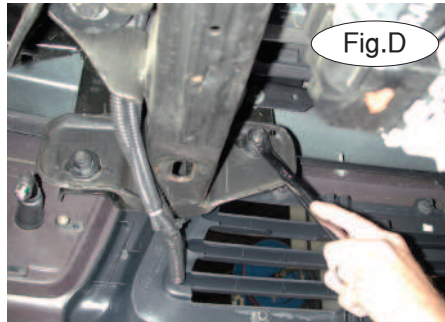


Fig.D

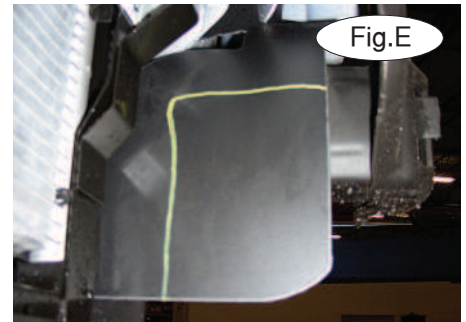


Fig.E

**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.

1. Start by disconnecting the fog lights, if the vehicle is so equipped (Fig.C).
2. Now, remove four 18mm (head) nuts that attach the bumper to the frame (Fig.D). There are two nuts on each side.
3. Remove the fascia and set it aside for now.
4. If the vehicle is equipped with air deflectors, they must be trimmed to allow clearance for the side braces. Use the yellow lines in Figure E as a guide for trimming.

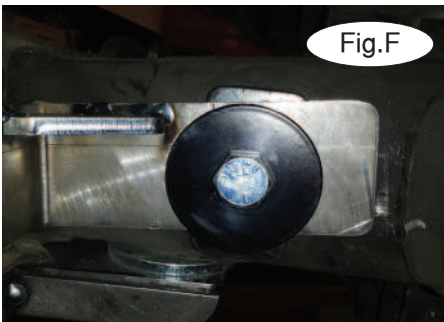


Fig.F

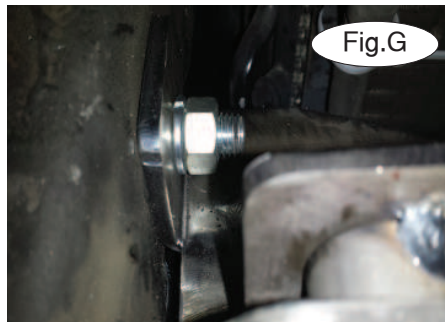


Fig.G

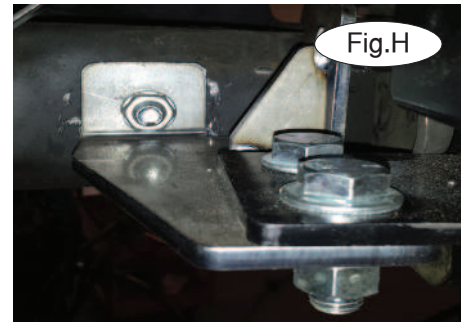


Fig.H

5. Starting on the driver's side, bolt the L brace (with the gusset on top) to the outside of the frame rail using the supplied  $\frac{1}{2}$ " x  $4\frac{1}{2}$ " bolt and  $\frac{1}{2}$ " plate washer (Fig.F). To the inside of the frame rail, place the inside brace over the  $\frac{1}{2}$ " x  $4\frac{1}{2}$ " bolt and then finish with a  $\frac{1}{2}$ " lock washer and nut (Fig.G).

6. Set the main receiver brace over the end of the frame rail. Bolt the main receiver brace to the side brace using the supplied  $\frac{1}{2}$ " x  $1\frac{1}{2}$ " bolts, lock washers, flat washers and nuts (Fig.H).

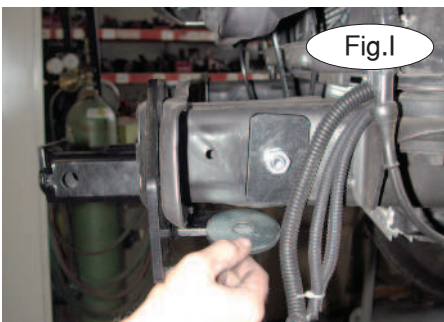


Fig.I

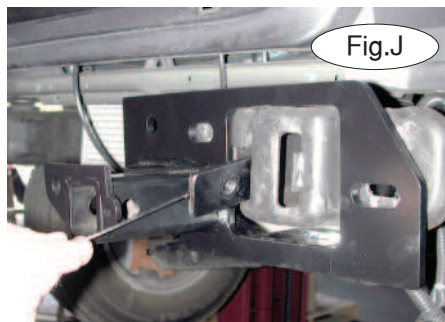


Fig.J

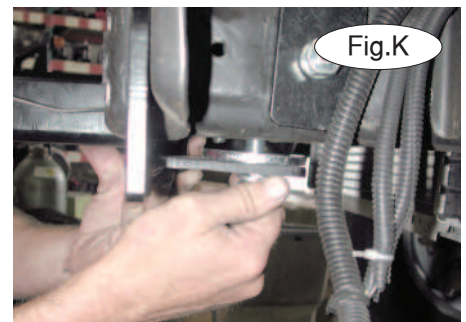


Fig.K

7. Now, insert the 5/8" flat washer between the main receiver brace and the frame rail (Fig.I).
8. Using the wire extension, insert a  $1\frac{1}{2}$ " x 3" nutted backing plate through the opening in the front of the frame rail (Fig.J). Position the nutted backing plate over the existing hole in the bottom of the frame rail.
9. Using the  $\frac{1}{2}$ " x  $1\frac{3}{4}$ " bolt and lock washer, bolt through the main receiver brace, plate washer, frame rail and into the nutted backing plate (Fig.K). After the main receiver brace is bolted in place, use a pair of pliers to twist off the wire connected to the nutted backing plate.
10. Repeat steps 5 through 9 for the other side.



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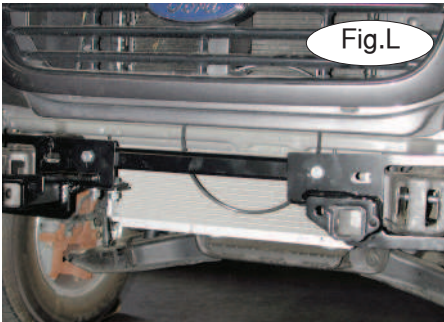


Fig.L

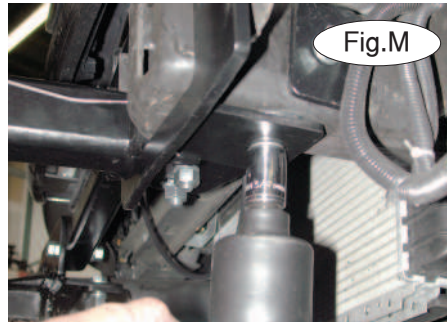


Fig.M

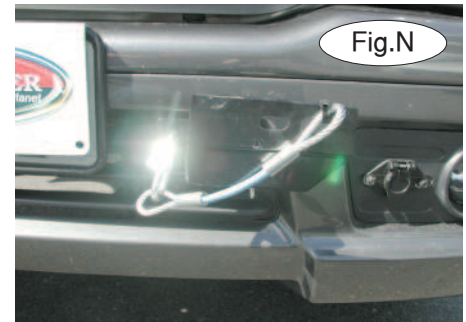


Fig.N

11. Now, bolt the cross brace into place using two ½" x 1½" bolts, lock washers, flat washers and nuts (Fig.L).
12. If the vehicle is equipped with an auxiliary transmission cooler, zip tie the transmission line to the radiator support to prevent it from rubbing against the main receiver brace.
13. For **STX models only**: to allow for clearance of the removable front braces (Fig.N), a small section of the horizontal ribs on each side of the grille will need to be trimmed. Use the yellow marker lines in Figure O as a reference. For **standard** two wheel drive models, trimming is not required.
14. Prepare the bumper for remounting by removing the existing four mounting bolts and substituting two ½" x 2½" carriage bolts and ¼" x 1½" x 1¾" backing plates on the outside mounts and two ½" x 4" carriage bolts and ¼" x 1½" x 1¾" backing plates on the inside mounts. Secure the bolts in the bumper with the provided push nut bolt retainers.

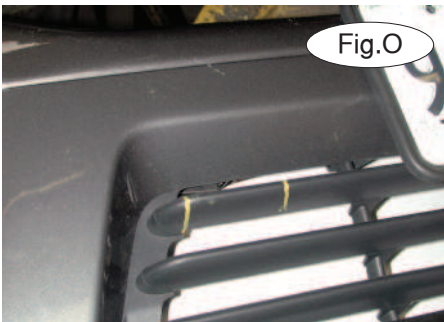


Fig.O

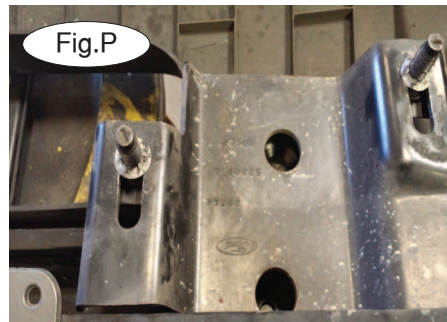


Fig.P



Fig.Q

15. Replace the bumper and bolt it in place using ½" flat washers, lock washers and nuts. Slotted shim washers are provided to aid in bumper alignment. Normally, one or two washers may be needed between the bumper and the lower bumper mounting point.
16. Tighten all bolts to the torque specifications listed at the end of these instructions, starting with the bracket bolts and then the bumper nuts.
17. Fit the front bracket arms into the front receiver braces, and secure them in place with the supplied 5/8" draw pins and spring pins.
18. Attach the 10" safety cables with the cable connectors (Q-Links) to the front of the receiver braces (Fig.P).
19. Attach the ends of the safety cables to the tow vehicle's safety cables and tow bar.
20. Install the tow bar to the mounting bracket according to the manufacturer's instructions.

## 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

Thread Size	Grade	Torque
5/16.....	5.....	13 ft./lb.
3/8.....	5.....	23 ft./lb.
7/16.....	5.....	37 ft./lb.
1/2.....	5.....	56 ft./lb.
5/8.....	5.....	150 ft./lb.

### METRIC BOLTS

Thread Size	Grade	Plated / Unplated
8mm-1.0 .....	8.8 .....	20 ft./lb. 18 ft./lb.
8mm-1.25 .....	8.8 .....	19 ft./lb. 18 ft./lb.
10mm-1.25 .....	8.8 .....	38 ft./lb. 36 ft./lb.
10mm-1.5 .....	8.8 .....	37 ft./lb. 35 ft./lb.

### METRIC BOLTS

Thread Size	Grade	Plated / Unplated
12mm-1.25 .....	8.8 .....	70 ft./lb. 65 ft./lb.
12mm-1.5 .....	8.8 .....	66 ft./lb. 61 ft./lb.
12mm-1.75 .....	8.8 .....	65 ft./lb. 60 ft./lb.
14mm-2.0 .....	8.8 .....	104 ft./lb. 97 ft./lb.