



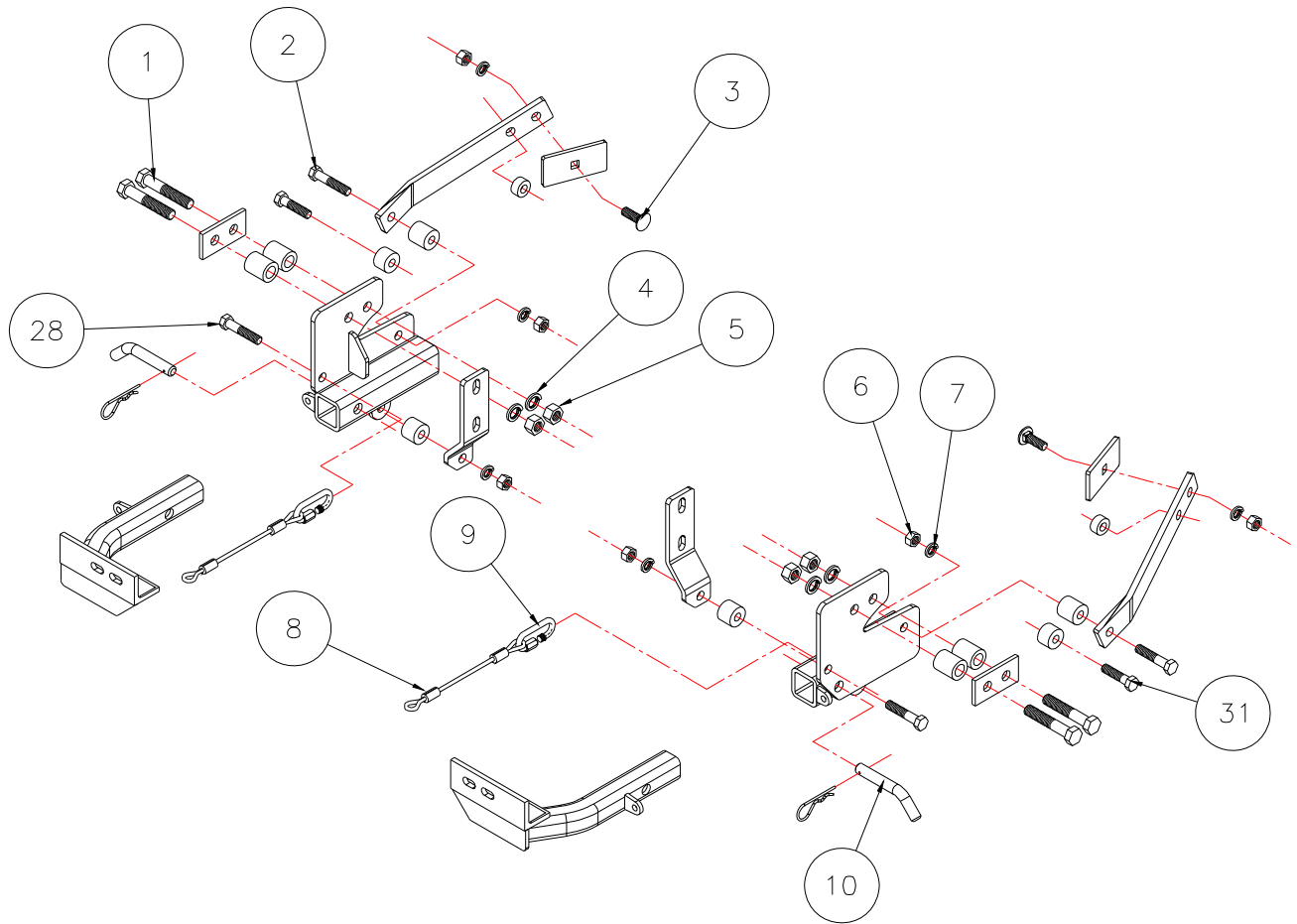
MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

KIT# 271-1

12/10/07
RV

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

ROADMASTER, INC.



Item	Qty	Length	Width	Hardware	Part No.
1	4	3 1/2" ... 5/8"	5/8"	5/8" x 3 1/2" BOLT	350163-00
2	2	3 1/2" ... 1/2"	1/2"	1/2" x 3 1/2" BOLT	350103-00
3	2	2"	1/2"	1/2" x 2" CARRIAGE BOLT	350373-00
4	4	5/8"		LOCK WASHER	350313-00
5	4	5/8"		NUT	350262-00
6	6	1/2"		NUT	350258-00
7	6	1/2"		LOCK WASHER	350309-00
8	2	13"		SAFETY CABLES, 8,000 lb. rated	650648-13
9	2			CONNECTORS	200008-00
10	2			DRAW PIN / SPRING PIN	357035-00
28	2	2"	1/2"	1/2" x 2" BOLT	350097-00
31	2	3"	1/2"	1/2" x 3" BOLT	350101-00

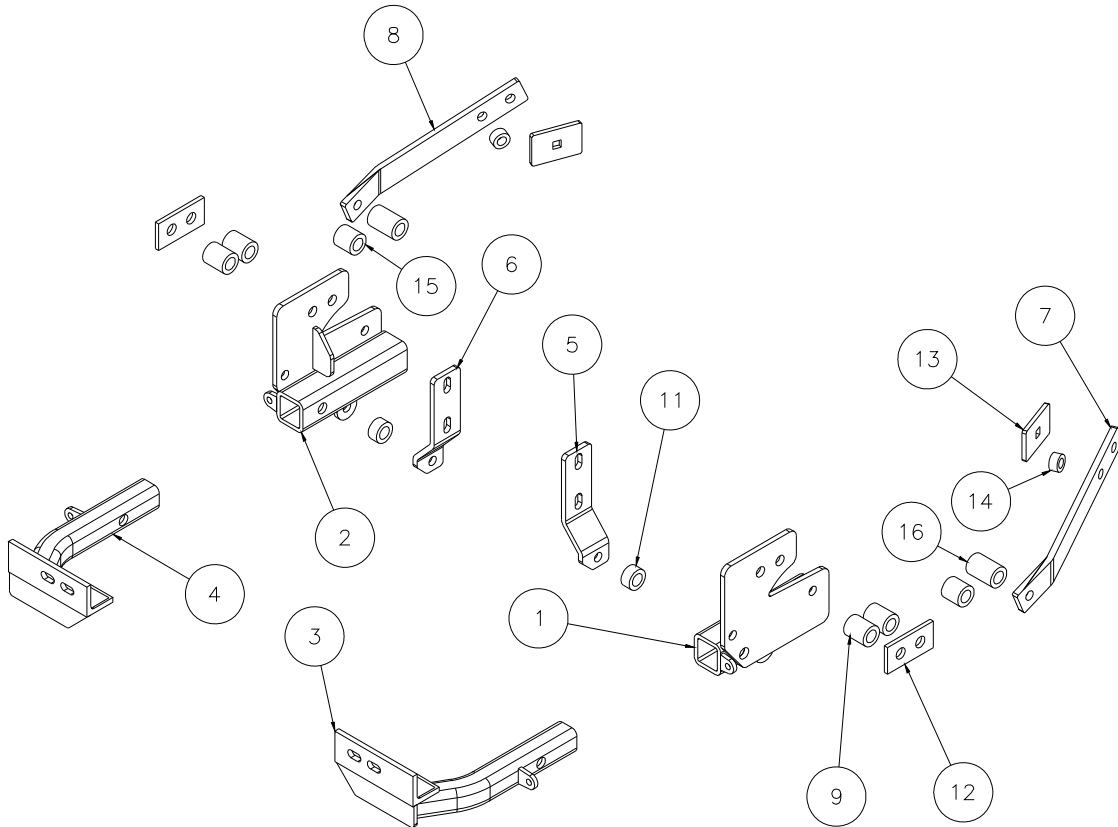


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ITEM	QTY	PART NO.	ASSEMBLY
1	1	C-000559	DRIVER SIDE RECEIVER BRACE
2	1	C-000560	PASSENGER SIDE RECEIVER BRACE
3	1	C-000561	DRIVER SIDE ARM BRACE
4	1	C-000562	PASSENGER SIDE ARM BRACE
5	1	B-000396	DRIVER SIDE UPPER BRACE
6	1	B-000397	PASSENGER SIDE UPPER BRACE
7	1	B-000398	DRIVER SIDE REAR BRACE
8	1	B-000399	PASSENGER SIDE REAR BRACE
9	4	A-000518	1 1/4" O.D. x 1 1/2" SPACER TUBE
11	2	A-001068	1 1/4" O.D. x 5/8" SPACER TUBE
12	2	A-000968	1 3/4" x 3 1/4" BACKING PLATE
13	2	A-000050	2" x 3" SQUARE HOLE BACKING PLATE
14	2	A-001437	1" O.D. x 1/2" x .219 WALL TUBE
15	2	A-000964	1 1/4" O.D. x 1 1/4" x .250 WALL TUBE
16	2	A-001265	1 1/4" O.D. x 1 7/8" x .250 WALL TUBE



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This is one of our XL series brackets, which allows the visible front portion of the brackets to be easily removed from the front of the vehicle (Fig.A). The bracket kit consists of two rear receiver braces which mount inside the front frame tubes, two inner braces, two rear braces and removable front braces. Everything but the front arm braces installs behind the bumper fascia. The front bumper will have to be removed for the installation.



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.
- **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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Fig.B



Fig.C



Fig.D

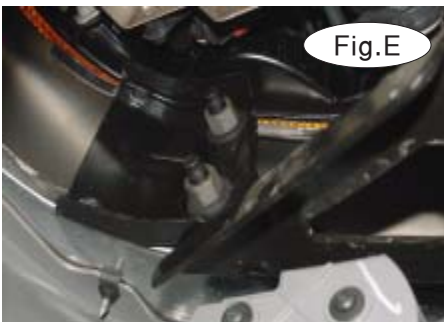


Fig.E



Fig.F



Fig.G

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. Starting on the bottom of the bumper, remove five plastic fasteners which hold the radiator air deflector flap (Fig.B).

2. Move to the front of the fender wells and disconnect the fog lights (if present – Fig. C) then remove the bumper side braces (two 18mm head bolts) on the side of the frame (Fig.D) and two nuts on each side attaching the bumper brackets to the bumper (Fig.E,F). *Note:* earlier model vehicles may not have side braces; if this is the case proceed to step 3 and then to step 5.

3. Now go to the top of the bumper and remove the four main bumper bolts (Fig.G); then pull forward and set aside.



Fig.H



Fig.I

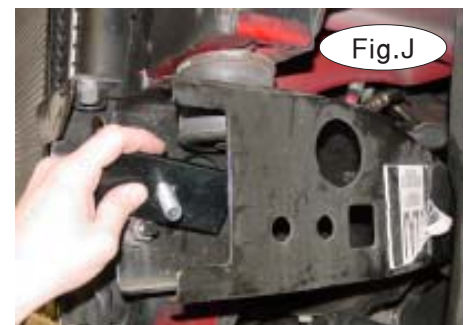


Fig.J

4. On each side, remove the spring nuts (left from the bumper side braces) from the frames (Fig.H).

5. On each side, look back about a foot from the front of the frame and locate a slotted hole in the side of the frame. Fishwire a $\frac{1}{2}$ " x 2" carriage bolt and a $\frac{1}{4}$ " x 2" x 3" backing plate through the front of the frame into the slotted hole (Fig.I,J).



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Fig.K



Fig.L



Fig.M

6. If necessary, position a $\frac{1}{2}$ " spacer on each bolt (Fig.K) and leave for now. *Note:* some vehicles will not need a spacer.

7. Now take the bumper side braces removed in step two, and enlarge the lower holes to $\frac{5}{8}$ " (Fig.L,M). Enlarge the matching frame holes also (Fig.N).

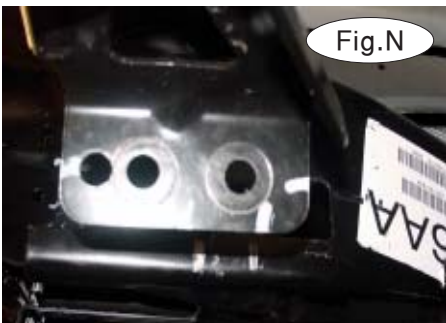


Fig.N



Fig.O



Fig.P

8. Insert $\frac{5}{8}$ " bolts through the bumper side braces and the frames into $1\frac{1}{4}$ " spacers on the inside of the frames (Fig.O,P). *Note:* earlier model vehicles may not have bumper side braces. If this is the case, use the provided two hole side plates instead of the side braces (Fig.Q).

9. On both sides, position the main receiver braces on the $\frac{5}{8}$ " x $3\frac{1}{2}$ " bolts and secure with nuts and lock washers (Fig.Q).

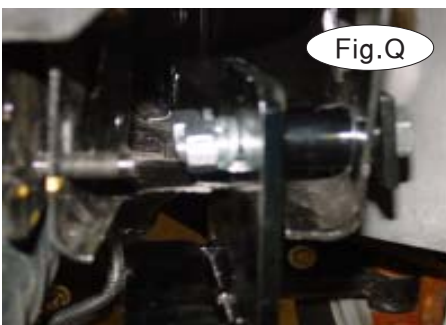


Fig.Q

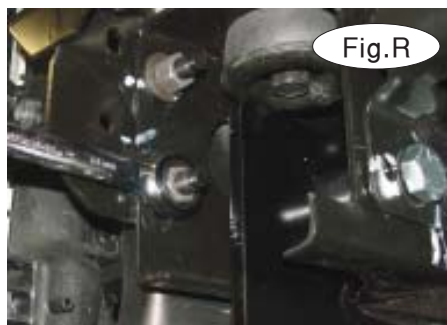


Fig.R

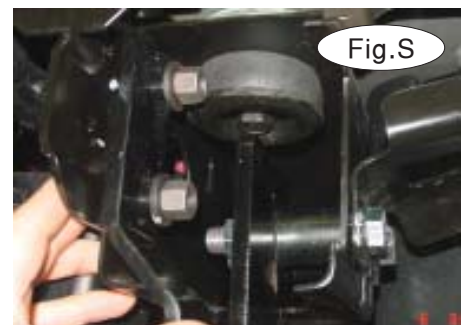


Fig.S

10. Mark the frame where the bumper brackets are located (Fig.R). Remove the shoulder nuts inside each frame tube holding the bumper brackets, then mount the upper braces on the studs and secure with the same shoulder nuts (Fig.S).



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Fig.T



Fig.U



Fig.V

11. Bolt through the lower hole in the upper braces and the receiver braces with $\frac{1}{2}$ " x 2" bolts, $\frac{5}{8}$ " spacers, lock washers and nuts (Fig.T).
12. Align the bumper braces to their original marks, then tighten the shoulder nuts to the torque specifications listed at the end of these instructions.
13. Depending on the frame, mount the rear strap braces to the receiver braces with either $\frac{1}{2}$ " x 3" bolts and $1\frac{1}{4}$ " spacers or $\frac{1}{2}$ " x $3\frac{1}{2}$ " bolts and $1\text{-}7/8$ " spacers, plus the appropriate lock washers and nuts (Fig.U,V). Then bolt through the corresponding hole in the rear with the frame bolt installed in step 8, using the $\frac{1}{2}$ " spacer if needed. Finish with lock washers and nuts (Fig.W).



Fig.W

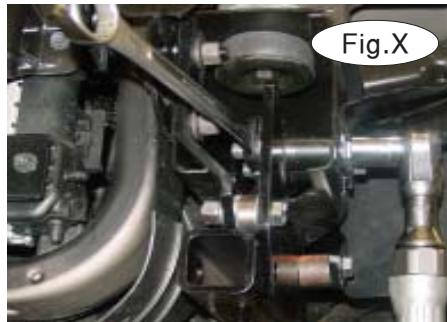


Fig.X

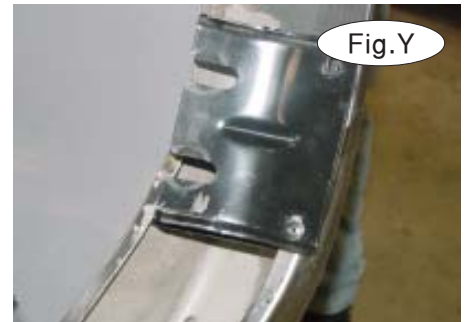


Fig.Y

14. Align the receiver braces to each other, then tighten all mounting bolts, starting with the $\frac{5}{8}$ " bolts (Fig.X), to the torque specifications listed at the end of these instructions.
15. Prepare the bumper for remounting (*Note: if you have a earlier model vehicle without bumper side braces, omit this step and the following step.*): take the lower Torx mounting bolt out of the side mounting plates on the bumper (Fig.Y). Then loosen the top Torx bolt, swing the plate up and to the outside, and tighten the top bolt to hold it in position. Take a small amount of material off the ends of the two stud plates, as shown in Figure Z – this will allow easy insertion once the bumper is mounted by the top four bolts.



Fig.Z



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Fig.AA



Fig.BB

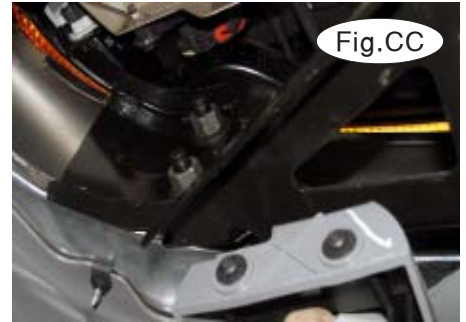


Fig.CC

16. Mount the bumper with the top four bolts (Fig.AA,BB), then loosen the top Torx screw on each side and swing down over the ends of the side braces (Fig.CC). Secure the bottoms of the plate with the remaining Torx screws and tighten.

17. Install the stud plates and tighten them in place with the shoulder nuts removed in step 3 (Fig.CC).

18. Insert the front arm braces and pin with 5/8" draw pins and safety pins (Fig.DD).

19. Install the tow bar according to the manufacturer's instructions.

20. Attach one end of the 13" safety cables to the front holes on the receiver braces and the other end to the tow vehicle's safety cables and the tow bar (Fig.DD).

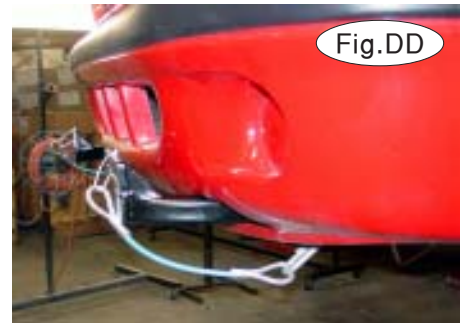


Fig.DD

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.

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