



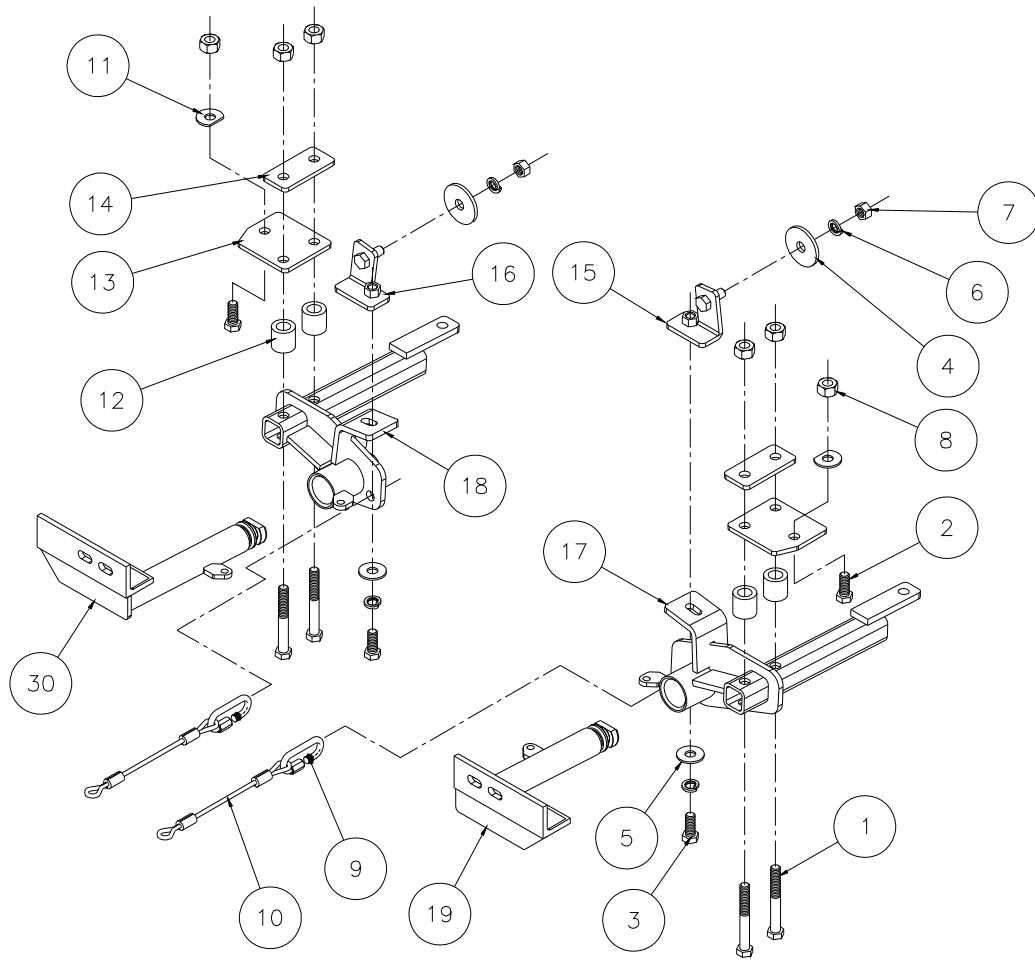
# MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

**KIT# 521431-1**

08/31/07  
KB

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

ROADMASTER, INC.



ITEM	QTY	NAME	MATERIAL
1	4	1/2" x 4" BOLT	350105-00
2	2	1/2" x 1 1/2" BOLT	350095-00
3	2	1/2" x 1 1/4" BOLT	350094-00
4	2	1/2" PLATE WASHER	A-003086
5	2	1/2" FLAT WASHER	350308-00
6	4	1/2" LOCK WASHER	350309-00
7	2	1/2" HEX NUT	350258-00
8	6	1/2" NYLOCK NUT	350259-00
9	2	QUICK LINK	200008-00
10	2	SAFETY CABLE 10"	500646-10
11	2	1/2" CLIPPED FLAT WASHER	A-000893
12	4	1 1/4" O.D. x 0.250 WALL x 1 1/4" PIPE SPACER	A-000964
13	2	3 1/2" x 4" 3-HOLE BACKING PLATE	A-000965
14	2	1 3/4" x 3 3/4" 2-HOLE BACKING PLATE	A-000966
15	1	DRIVER SIDE BUMPER BRACE	C-000208
16	1	PASSENGER SIDE BUMPER BRACE	C-000209
17	1	DRIVER SIDE RECEIVER	C-001577
18	1	PASSENGER SIDE RECEIVER	C-001578
19	1	DRIVER SIDE ARM	C-001579
30	1	PASSENGER SIDE ARM	C-001580
31	1	LOCK-TITE	200544-00
32	2	PLASTIC POP RIVET	350431-00



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This is one of our EZ 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 kit consists of a passenger and driver side main receiver brace, two bumper core braces, two removable front bracket arms and a hardware pack. The main receiver braces mount to the frame rail and the bumper core braces. The bumper core braces mount to the bumper core, and the removable front brackets install in the main receiver braces.

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.



Fig.A



Fig.B

**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 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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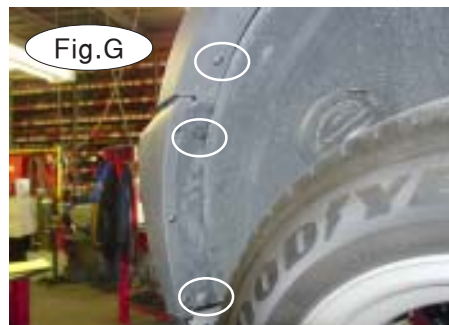
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1. **Important:** please use all supplied bolts and parts and read all instructions carefully before beginning this installation. The majority of questions you may have can be answered within the text, and proper installation will ensure safe and secure travel. Now, begin the installation. Start by removing three T25 Torx screws per side, attaching the grille to the core support (Fig.C).

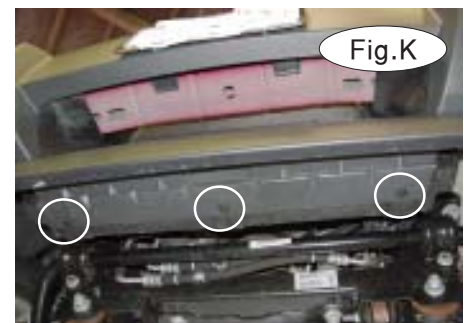
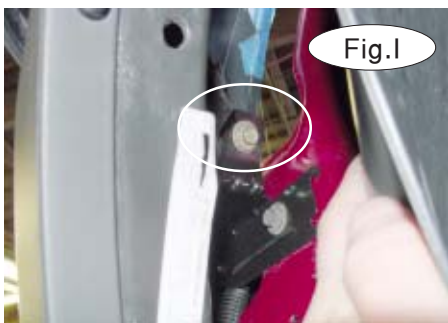
2. Next, remove four plastic fasteners attaching the grille to the core support. Two fasteners are located in the center (Fig.D) and the other two are on the outside edge of each side (Fig.E).



3. On both sides, release the two metal clips located on the side of the grille (Fig.F). Then, pull forward on the grille to remove it. *Note:* on both sides, unplug the three lighting plugs before removing the grille.

4. On both sides, remove two plastic fasteners and one plastic pop rivet attaching the fender liner to the fascia (Fig.G). *Note:* use a pair of side cutters to clip the heads off the plastic pop rivets.

5. On both sides, pull out on the corner of the fender flair and remove one plastic fastener (Fig.H) and one 10mm (head) bolt (Fig.I).



6. Now, pull back the fender liner and unplug the fog lights (if your vehicle is so equipped – Fig.J).

7. Remove the three plastic fasteners attaching the bottom of the fascia to the core support (Fig.K).



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Fig.L



Fig.M

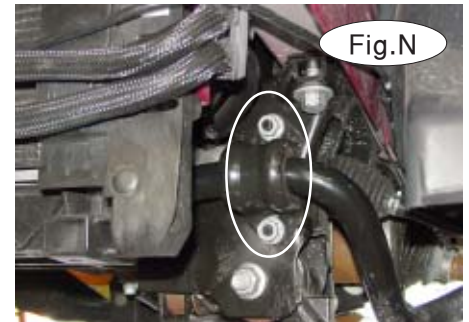


Fig.N

8. Next, push down on the eight plastic clips along the top of the fascia (Fig.L). Then, pull forward on the fascia to remove it.

9. On both sides, remove the frame rail cap by removing one 10mm (head) bolt (Fig.M).

10. Temporarily lower the sway bar by removing the 18mm (head) nuts (two per sides), attaching the bushings caps to the frame (Fig.N).



Fig.O



Fig.P



Fig.Q

11. Support the sub frame (Fig.O).

12. On both side, remove the 21mm sub frame bolt (Fig.P).

13. On both sides, use a 1/2" drill bit to enlarge the two existing inside holes in the bottom of the frame rail (Fig.Q).

14. Locate the large square holes in the bottom of the bumper core on each side (Fig.R). Starting with the driver side, put the bumper core brace through the hole, over the existing holes located approximately 1 1/2" inboard from the large access hole (Fig.S). Put the bolt in the brace through the existing hole in the back of the bumper core. *Note:* If the brace does not line up, you may have the passenger side brace in the driver side. Switch them around, if this is the case. Bolt the brace to the rear of the bumper core into the upper brace with a 1/2" plate washer, lock washer and nut. *Note:* the bottom of the brace should be in line with the existing hole in the bottom of the bumper core. Repeat for the passenger side.

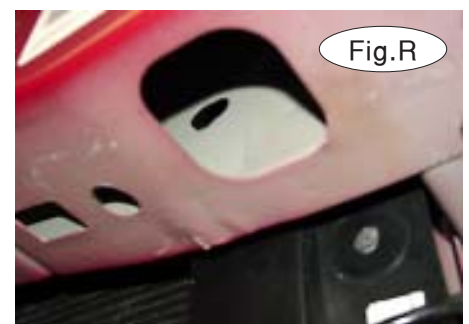


Fig.R



Fig.S



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Fig.T

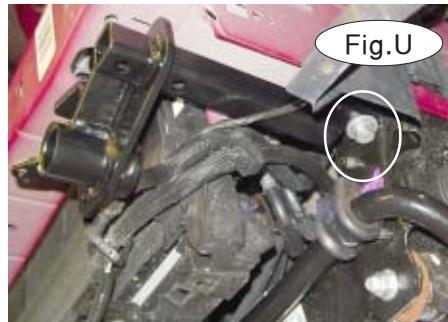


Fig.U

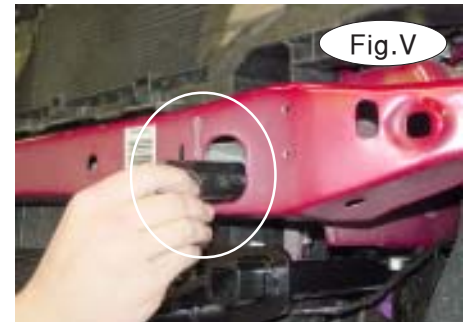


Fig.V

15. Remove the plastic retainer clip attaching the oil cooler lines to the side of the frame (Fig.T). Pull the lines down to allow clearance for the main receiver brace.

16. Starting with the driver side, place the 21mm (head) sub frame bolt you removed in step 12 through the rear hole in the main receiver brace and bolt back into place (Fig.U). *Note:* use the supplied thread lock on the sub frame bolt.

17. Now, place the  $\frac{1}{4}$ " x  $1\frac{3}{4}$ " x  $3\frac{3}{4}$ " two-hole backing plate inside the frame and over the holes you drilled out in step 13 (Fig.V).

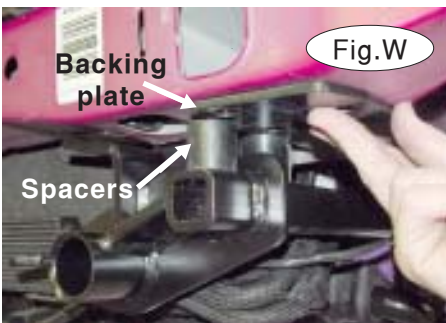


Fig.W

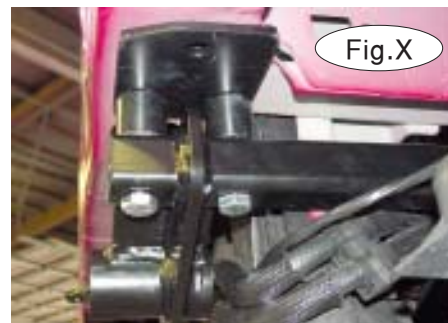


Fig.X

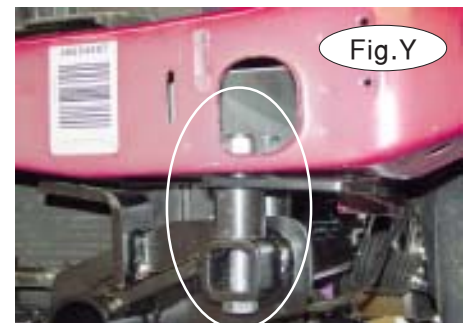


Fig.Y

18. Next, place the  $1\frac{1}{4}$ " x  $3\frac{1}{2}$ " x  $4\frac{1}{2}$ " three-hole backing plate and two  $1\frac{1}{4}$ " x  $1\frac{1}{4}$ " pipe spacers between the main receiver brace and the bottom of the frame. *Note:* the backing plate goes against the frame and the pipe spacers go between the backing plate and the main receiver brace (Fig.W).

19. Using the two  $\frac{1}{2}$ " x 4" bolts, bolt through the main receiver brace, pipe spacers, backing plate, frame rail and into the backing plate inside the frame rail (Fig.X). Finish with  $\frac{1}{2}$ " Nylock nuts (Fig.Y).

20. Now, bolt through the main receiver brace, bumper core and into the bumper core brace using a  $\frac{1}{2}$ " x  $1\frac{1}{4}$ " bolt, flat washer and lock washer (Fig.Z)

21. Using the backing plate as a template for drilling, drill a  $\frac{1}{2}$ " hole through the bottom of the bumper core (Fig.AA).



Fig.Z



Fig.AA



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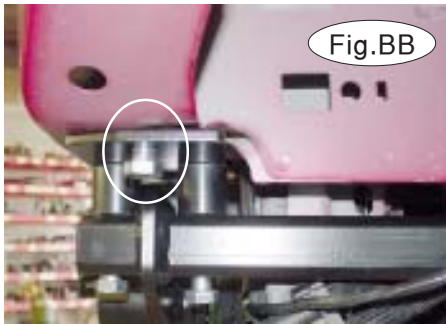


Fig.BB



Fig.CC

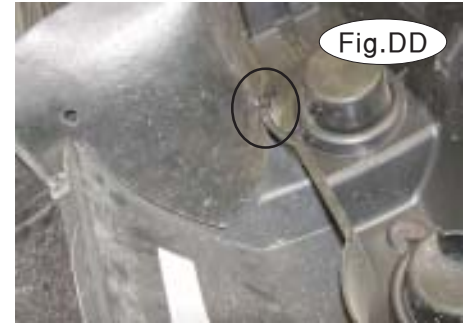


Fig.DD

22. Now, bolt through the backing plate and the hole you drilled in the bumper core using a ½" x 1½" bolt (Fig.BB). Finish with a clipped plate washer and a Nylock nut (Fig.CC).

23. Torque all the bolts to the torque specifications listed at the end of these instructions. *Note:* torque the sub frame bolts to 97ft./lbs.

24. The two rubber air deflectors on the back of the fascia must to be removed before reinstalling the fascia. Remove one plastic fastener from the top of each deflector (Fig.DD), then, cut the lower half away from the speed nut to remove it (Fig.EE).



Fig.EE

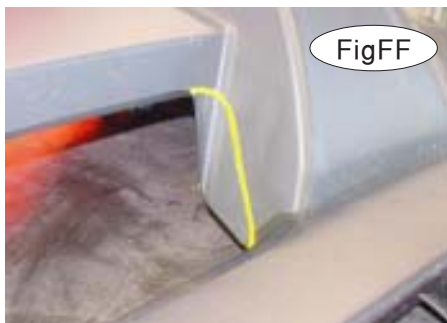


Fig.FF



Fig.GG

25. Trim the fascia on both sides, to allow clearance for the main receiver brace. Follow the yellow marker line in Figure FF for correct trimming. Figure GG shows the fascia with the trimming complete.

26. Tighten the sway bar

26. Reassemble the sway bar, fascia, the three lighting plugs, the fog lights and grille reversing steps 1 through 10.

26. Attach the safety cable and cable connectors to the front of the receiver braces, then insert the front arm braces into the receiver braces and twist 90 degrees to lock in place (Fig.HH).

27. Attach the other end of the 10" safety cables to the Tow Vehicle's safety cables and the tow bar (Fig.HH).

28. Install the tow bar according to the manufacturer's instructions and torque all bolts to the specifications below.



Fig.HH



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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

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.

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.