



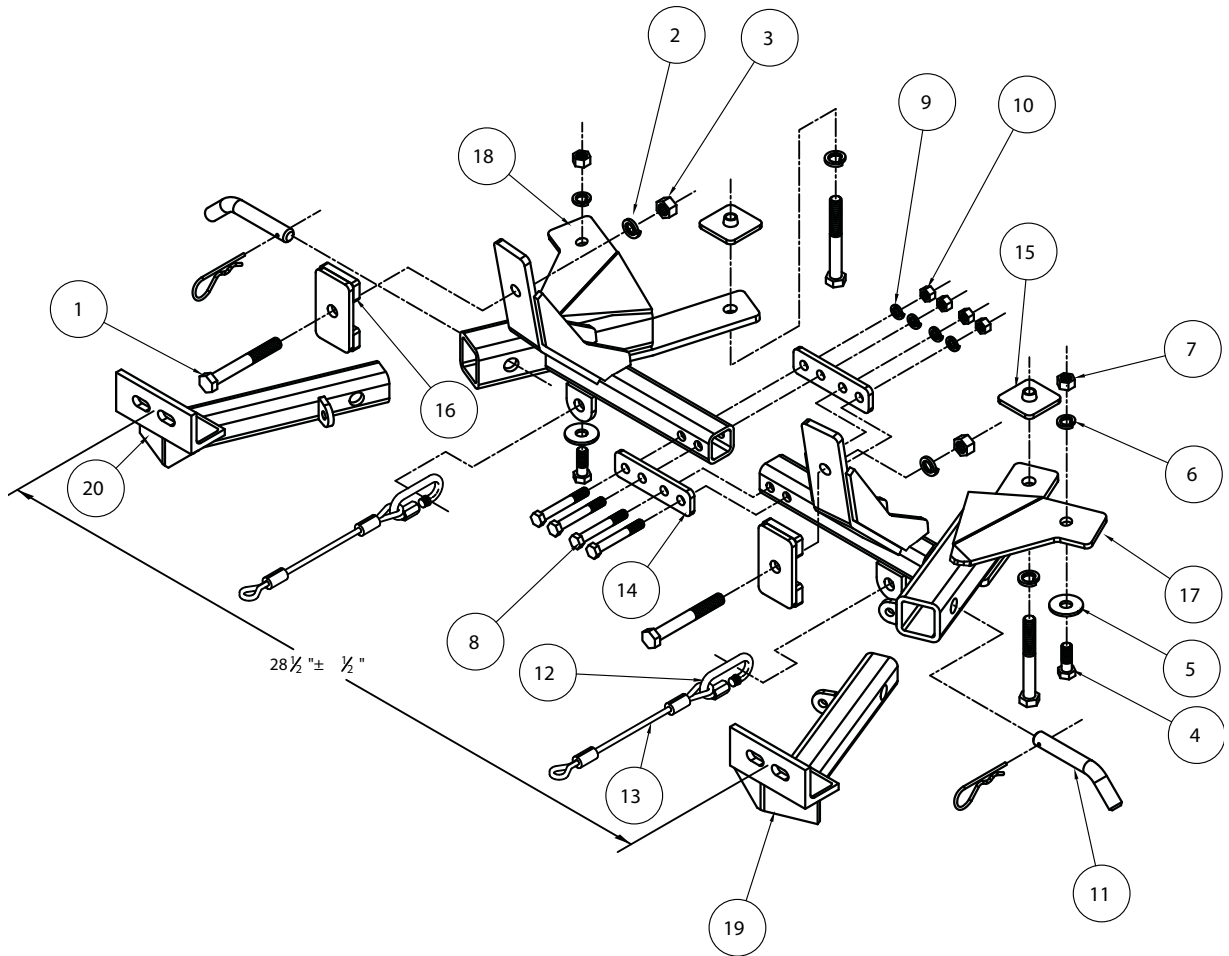
MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

KIT# 3151-1A

02/02/12
KS

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ITEM	QTY	NAME	MATERIAL
1.....	4.....	1/2" x 4" BOLT.....	350105-00
2.....	4.....	1/2" LOCK WASHER.....	350309-00
3.....	2.....	1/2" HEX NUT.....	350258-00
4.....	2.....	7/16" x 1 1/4" BOLT.....	350073-00
5.....	2.....	1/2" FLAT WASHER.....	350308-20
6.....	2.....	7/16" LOCK WASHER.....	350307-00
7.....	2.....	7/16" HEX NUT.....	350256-00
8.....	4.....	3/8" x 2 3/4" BOLT.....	350061-00
9.....	4.....	3/8" LOCK WASHER.....	350305-00
10.....	4.....	3/8" HEX NUT.....	350254-00
11.....	2.....	5/8" DRAW PIN W/ CLIP.....	357035-00
12.....	2.....	QUICK LINK.....	200008-00
13.....	2.....	14" SAFETY CABLE.....	650646-14
14.....	2.....	1/4" x 1 1/4" x 4 1/2" SPLICE PLATE.....	A-002434
15.....	2.....	3/16" x 2" x 2" THREADED BACKING PLATE.....	A-003080
16.....	2.....	1/4" x 2" x 3 1/2" BACKING PLATE W/ SPACERS.....	C-001544
17.....	1.....	DRIVER SIDE RECEIVER.....	C-001545
18.....	1.....	PASSENGER SIDE RECEIVER.....	C-001546
19.....	1.....	DRIVER SIDE ARM.....	C-001547
20.....	1.....	PASSENGER SIDE ARM.....	C-001548



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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 kit consists of a passenger and driver side main receiver brace, two side braces, two removable front bracket arms and a hardware pack. The main receiver 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.



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.

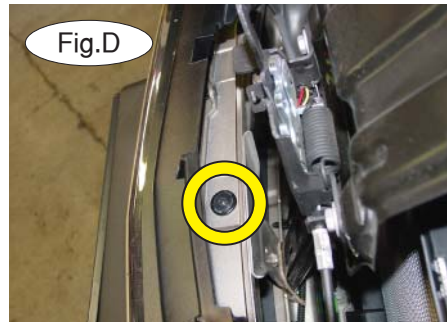


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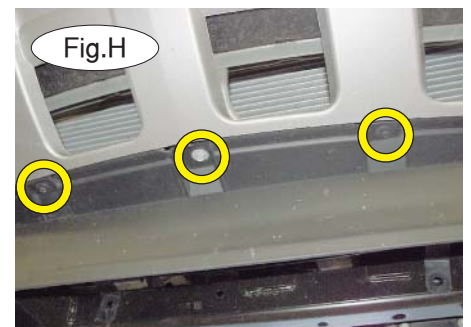
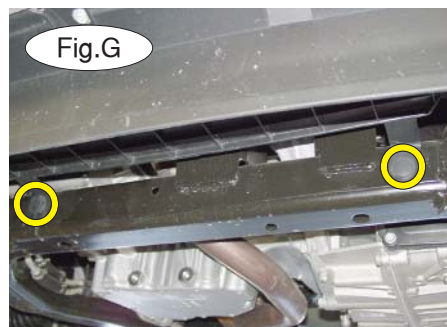
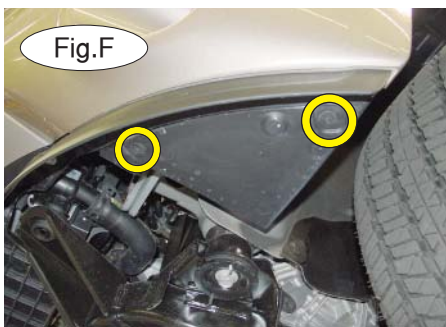
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1. **Important:** please use all supplied bolts and parts and read all instructions carefully before beginning this installation. The majority of questions you may have can be answered within the text, and proper installation will ensure safe and secure travel. Now, begin the installation by removing 11 plastic fasteners attaching the radiator cover to the core support and fascia (Fig.C). Remove the radiator cover.

2. Next, remove one plastic fastener located behind the grille attaching the fascia to the bumper core (Fig.D).

3. On both sides, remove two 7mm (head) bolts attaching the fascia to the fender and the fender liner (Fig.E).

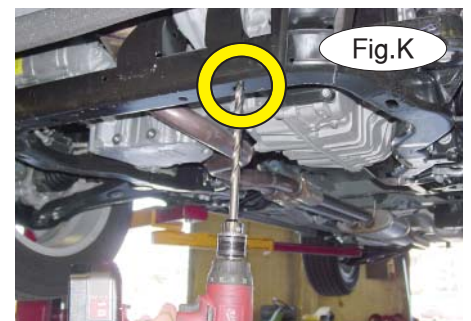
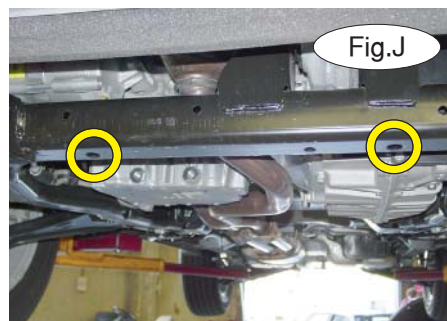


4. On both sides, remove two 7mm (head) bolts attaching the bottom of the fender liner to the bottom of the fascia (Fig.F).

5. Pull back the fender liner and disconnect the fog lights, if your vehicle is so equipped.

6. Now, remove two plastic fasteners attaching the lower air dam to the subframe (Fig.G).

7. Remove three 10mm (head) bolts attaching the lower fascia to the bumper core (Fig.H).



8. Pull out and forward to remove the fascia. *Note:* before completely removing the fascia, unplug the marker lights (Fig.I).

9. Locate the two outer holes in the subframe (Fig.J). Now, using the holes as templates for drilling, drill a 1/2" hole through the top of the subframe (Fig.K). Repeat for the other hole. *Note:* use caution not to drill into any engine components.



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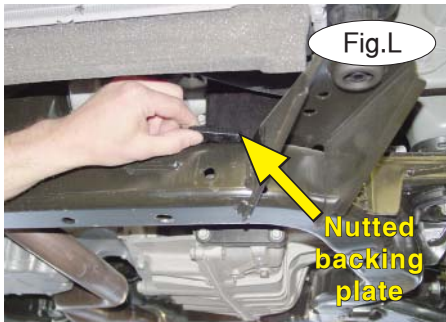


Fig.L

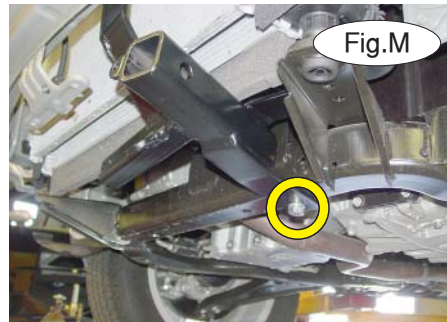


Fig.M

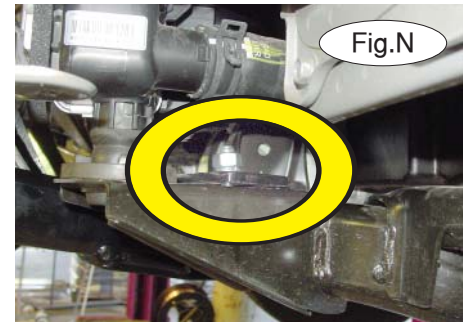


Fig.N

10. Starting on the driver's side, place the 3/16" x 2" x 2" threaded backing plate on top of the subframe, over one of the holes you drilled in the previous step (Fig.L).

11. Now, place the driver side main receiver brace into position with the side mounting point over the top of the radiator support. Using the 1/2" x 4" bolt, bolt through the lower rear mounting point in the main receiver brace, through the sub-frame and into the nutted backing plate (Fig.M)

12. Next, bolt the side brace to the radiator support using the 7/16" x 1 1/4" bolt, lock washer, 1/2" fender washer and 7/16" nut (Fig.N). *Note:* place the fender washer on the bottom side of the radiator support (Fig.O).

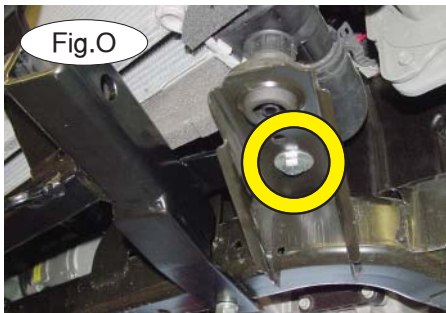


Fig.O

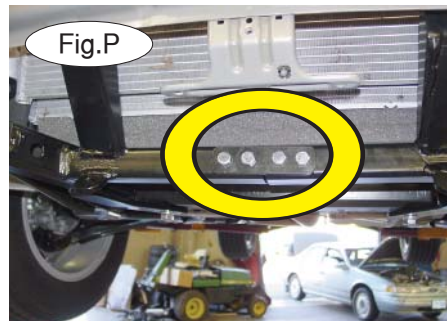


Fig.P

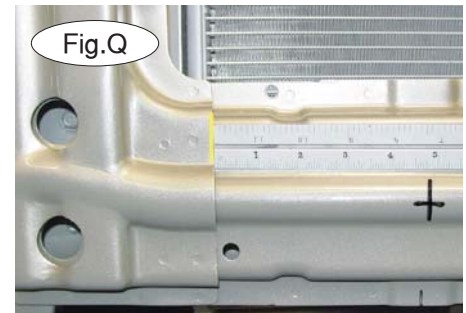


Fig.Q

13. Repeat steps 11 and 12 for the passenger side of the vehicle.

14. Bolt the driver and passenger side main receiver braces together using the two 1/4" x 1 1/4" x 4 1/2" backing plates and the four 3/8" x 2 3/4" bolts, lock washers and nuts (Fig.P). Using the drawing on the first page as a reference, measure between the two front braces, ensuring that the distance is still 28" +/- 1/2".

15. Tighten all the bolts to the torque specification listed at the end of these instructions. Recheck the measurements, to make certain this distance is still 28" +/- 1/2".

16. Starting on the driver's side, use the yellow marker line on the edge of the bumper core (Fig.Q) as a starting point, and measure over 4 3/4", then mark.

17. With a punch, mark the exact center of the raised area you measured in the previous step (Fig.R). Then, using the hole you punched, drill a 1/2" hole through the face of the bumper core. *Note:* place a piece of metal between the radiator and the bumper core before drilling to protect the engine components.

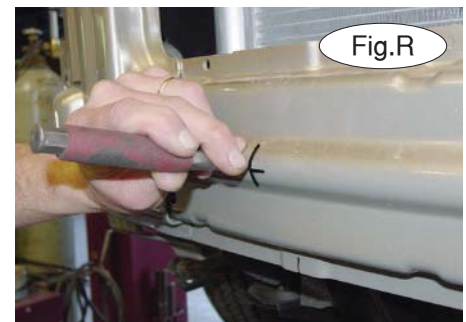


Fig.R



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Fig.S

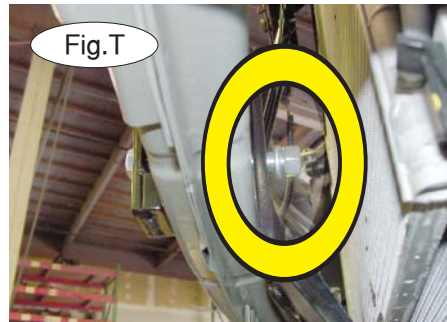


Fig.T

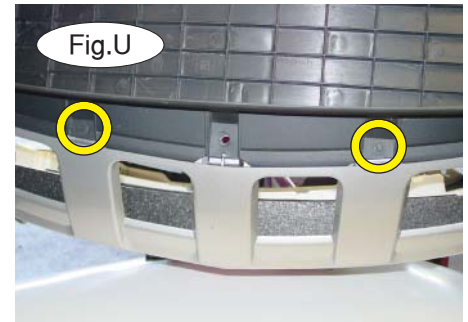


Fig.U

18. Place the ¼" x 3½" x 2" backing plate over the hole you drilled in the face of the bumper core. Now, bolt through the backing plate, bumper core and main receiver brace using the ½" x 4" bolt and lock washer (Fig.S, T).

19. Repeat steps 16 through 18 for the passenger side and torque the bolts to the torque specifications listed at the end of these instructions.

20. Remove the air dam from the fascia by removing six 7mm (head) bolts. There are two in the center (Fig.U) and two on each side (Fig.V).

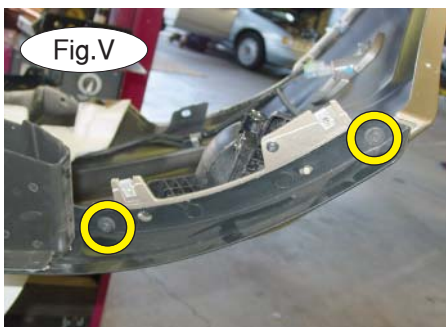


Fig.V



Fig.W



Fig.X

21. Temporarily remove the lower foam shock absorption pad attached to the fascia by removing one metal fastener on each side (Fig.W).

22. Hold the foam shock absorption pad in place over the bumper core and mark for trimming to allow clearance for the backing plates (Fig.X). Figure Y shows the trimming completed.



Fig.Y



Fig.Z



Fig.AA

23. For air dam and fascia trimming –

- For all Redline models, refer to steps 25 and 26.
- For six-cylinder and Greenline Hybrid models, refer to the yellow marker line in Figure Z for correct trimming on the back of the air dam you removed in step 20. *Note:* you will be removing the top portion, as indicated by the marker line. Continue to step 24.

- For four-cylinder models, refer to Figure AA for correct trimming of the back of the air dam. Continue to step 24.



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24. Use the yellow marker lines in Fig.BB as a guide to trim the front side of the air dam on six-cylinder models. *Note:* for the four-cylinder models, refer to Fig.CC as a guide for correct trimming.

25. **For Saturn Vue Redline models only:** to trim the fascia, first use a ruler to mark a center point. Insert the ruler into the bottom of the receiver tube. Brace the ruler against the back of the fascia, and mark the point $\frac{1}{2}$ " above the ruler (Fig.DD) and drill a $\frac{1}{2}$ " pilot hole through the back of the fascia. With the removable bracket arm as a size guide, use a die-grinder to trim the hole to fit. This step may require multiple checks and additional trimmings until the removable bracket arm fits through the fascia and into the receiver tube. Refer to Fig.EE for approximate trimming dimensions. Repeat for the other side.

26. **For Saturn Vue Redline models only:** trim the air dam using the white ruler line in Fig.FF as the reference for the trimming. A substantial amount of the air dam will be removed during this process.

27. Reinstall the marker lights, fascia and the radiator cover, reversing steps 1 through 8.

28. Insert the removable front bracket arms into the front receiver braces, and secure them in place with the supplied $\frac{5}{8}$ " draw pins and spring pins (Fig.GG).

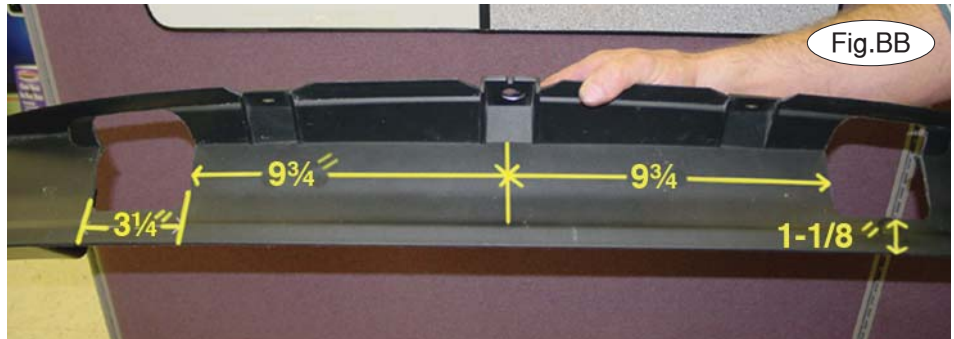


Fig.BB

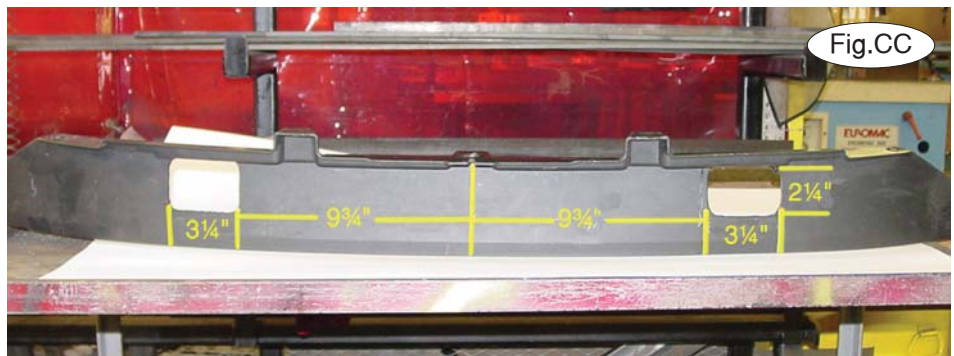


Fig.CC

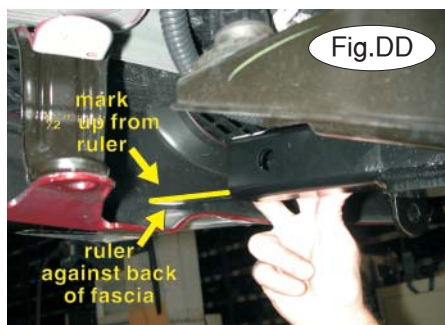


Fig.DD

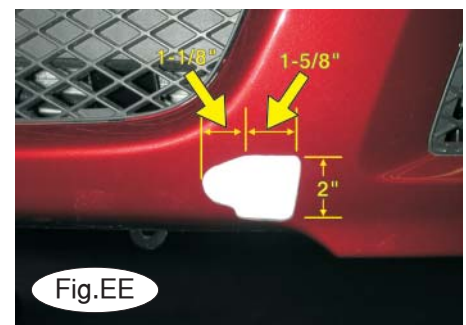


Fig.EE



Fig.FF



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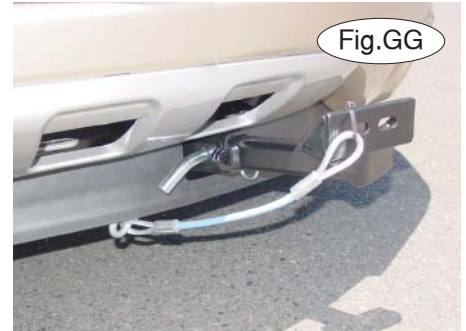
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29. Attach the 14" safety cables with the cable connectors (Q-Links) to the front of the receiver braces (Fig.GG).

30. Attach the ends of the safety cables to the tow vehicle's safety cables and tow bar.

31. Install the tow bar to the mounting bracket according to the manufacturer's instructions.



Note: if the bracket is so equipped, the holes in the alignment tabs which are welded to the arms and main receiver braces are for padlocks only. Under no circumstances should you bolt the alignment tabs together. Bolting the alignment tabs together may result in non-warranty damage to the bracket.

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.