



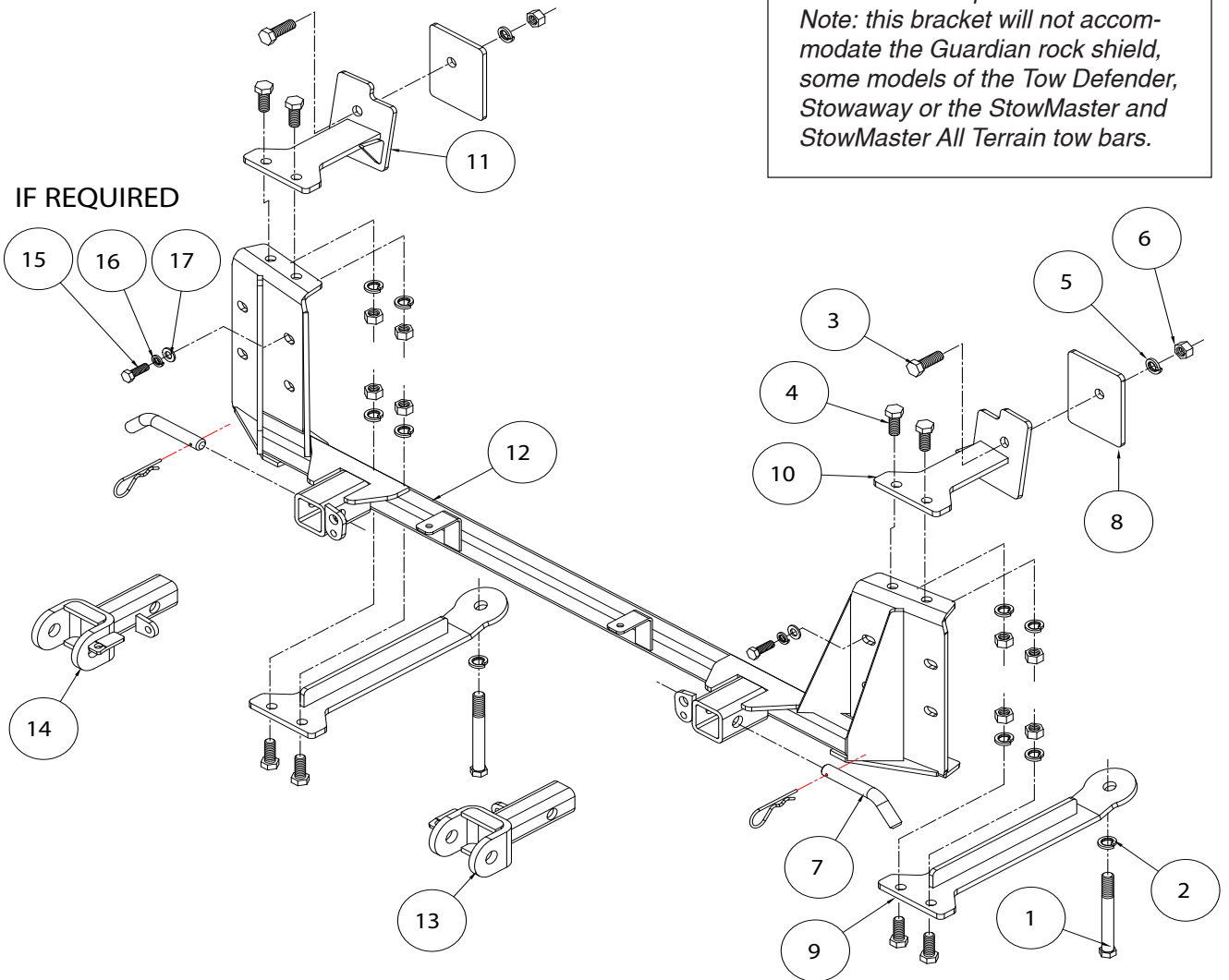
MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

KIT# 3160-3A

02/02/12
KS

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

Important
Note: this bracket will not accommodate the Guardian rock shield, some models of the Tow Defender, Stowaway or the StowMaster and StowMaster All Terrain tow bars.



ITEM	QTY	NAME	MATERIAL
1.....	2.....	14mm x 2.0 x 130 mm BOLT	355910-13
2.....	2.....	14mm LOCK WASHER	355740-00
3.....	2.....	1/2" x 1 1/2" BOLT.....	350095-00
4.....	8.....	1/2" x 1 1/4" BOLT.....	350094-00
5.....	10.....	1/2" LOCK WASHER	350309-00
6.....	10.....	1/2" HEX NUT.....	350258-00
7.....	2.....	DRAW PIN W/ CLIP.....	357035-00
8.....	2.....	1/4" x 3 1/2" x 4 1/2" BACKING PLATE.....	A-002964
9.....	2.....	LOWER BRACE	C-001878
10.....	1.....	DRIVER SIDE BRACE	C-001879
11.....	1.....	PASSENGER SIDE BRACE	C-001880
12.....	1.....	MAIN RECEIVER	C-001881
13.....	1.....	DRIVER SIDE MX ARM	C-001876
14.....	1.....	PASSENGER SIDE MX ARM.....	C-001877
15.....	2.....	8mm x 1.25 x 35 mm BOLT	356002-00
16.....	2.....	8mm LOCK WASHER	355705-00
17.....	2.....	5/16" FLAT WASHER	350303-20
18.....	2.....	ZIP TIE.....	300140-8

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This bracket kit is one of our MX series, which allows the visible front portion of the brackets to be easily removed (Fig.A and Fig.B). The kit consists of the main receiver brace, removable front braces and a hardware pack.

The main receiver brace mounts to the front frame and bumper core on each side. The removable front braces insert into the receivers on each side and are secured with draw pins.

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

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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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. Remove two plastic fasteners and either four 7mm (head) screws or four T20 torx bolts attaching the top of the fascia to the core support (Fig.C).



2. On each side, remove one 7mm (head) screw attaching the corner of the fascia to the fender (Fig.D).
3. On each side, remove one T20 Torx screw and three plastic fasteners attaching the fender liner to the fascia (Fig.E).
4. On each side, remove T20 Torx screws attaching the bottom of the fender liners to the fascia (Fig. F – driver's side).
5. Disconnect the fog lights, if the vehicle is so equipped. Pull forward to remove the fascia (Fig.G).

Now, go to the supplemental instructions at this time if the vehicle is equipped with a power steering cooler. If not, continue with step 6.





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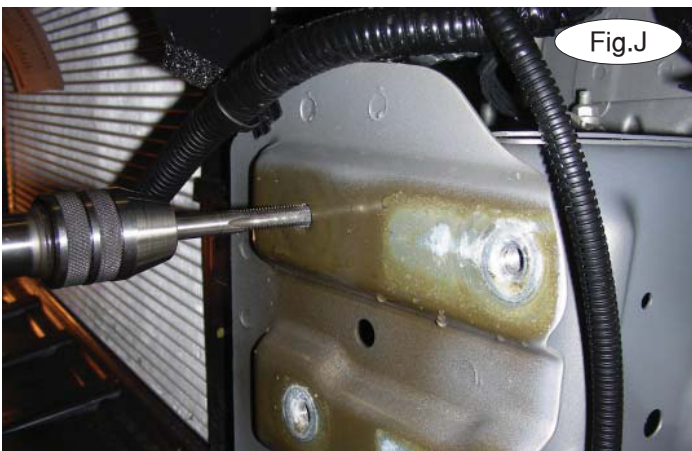
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6. Unsnap five plastic clips to remove the wiring harness from the back of the bumper core (Fig.H).

7. On each side, remove four 13mm (head) bolts attaching the bumper core to the frame rails (Fig.I). The bumper core will not be replaced. Retain the bumper core in case the bracket is ever removed. *Note:* due to manufacturing variances, some vehicles may only have three bolts with a fourth hole that needs to be tapped before the installation. If this is the case, use an 8mm x 1.25 tap on the hole (Fig.J).



8. Unsnap one plastic clip on each side attaching the wiring harness to the end of the frame rail.

Now, place thread lock on the bolts you removed in the previous step and use them to attach the main receiver brace to the ends of the frame rails (Fig.K). *Note:* if you had to tap the fourth hole in step 7, use the supplied 8mm x 1.25 x 35mm bolt, 8mm lock washer and 5/16" fender washer in that hole.

Tighten the bolts to the bolt torque requirements found at the end of these instructions.

9. Working on the driver's side, remove the 18mm subframe bolt. *Note:* do not remove both subframe bolts without supporting the frame (Fig.L).





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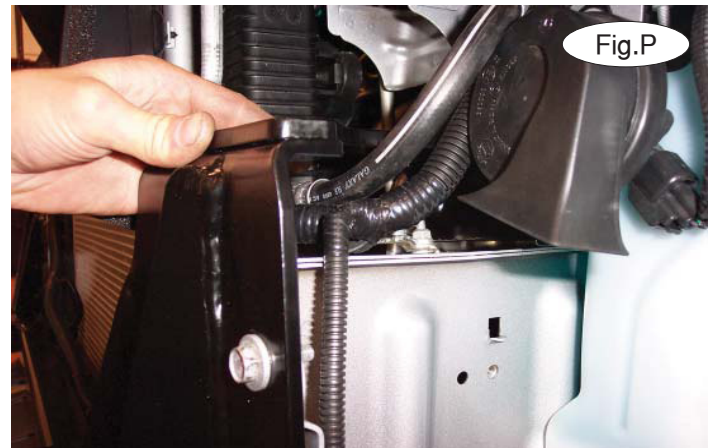
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10. Place thread lock on one of the supplied 14mm x 2.0 x 130mm bolts, and bolt through the lower rear brace to the subframe (Fig.M).

11. Using two of the supplied $\frac{1}{2}$ " x $1\frac{1}{4}$ " bolts, lock washers and nuts, bolt the lower brace to the main receiver brace (Fig.N). Tighten the bolts to the bolt torque requirements found at the end of this document.

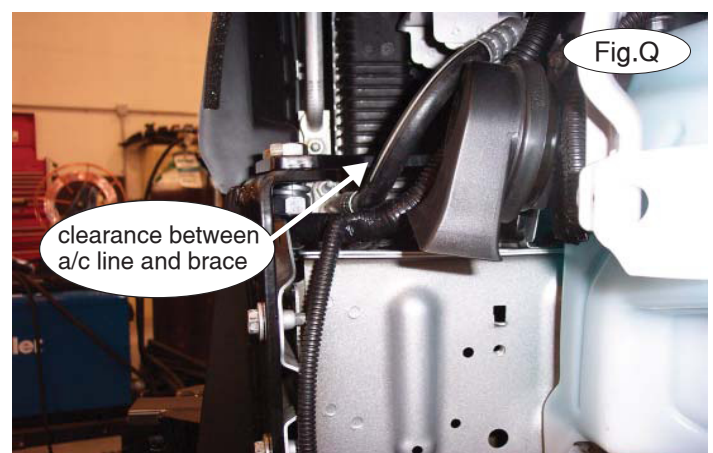


12. Repeat steps 9 through 11 for the passenger side of the vehicle.

13. Working on the driver's side, loosen the 10mm bolt and 10mm nut attaching the washer bottle to the frame rail (Fig.O).

14. Position the upper rear brace over the top of the main receiver brace. Bend the air conditioning line slightly so it doesn't contact the bottom of the upper rear brace (Fig.P).

15. Using two of the supplied $\frac{1}{2}$ " x $1\frac{1}{4}$ " bolts, lock washers and nuts, bolt the upper rear brace to the main receiver brace (Fig.Q).



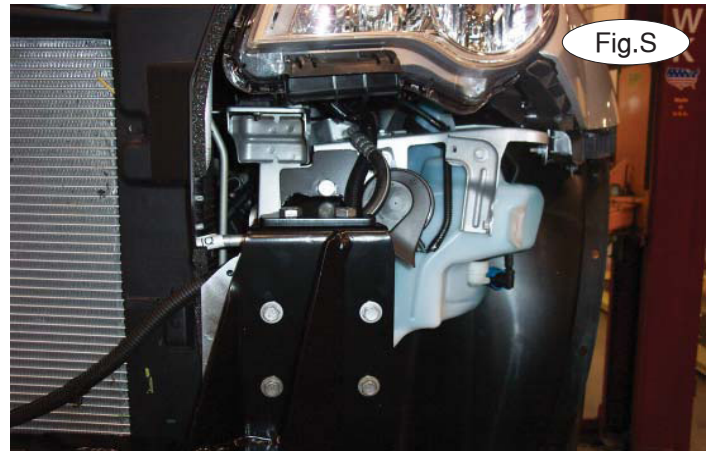


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16. Place one of the 3½" x 4½" backing plates through the opening in the side of the frame behind the upper rear brace (Fig.R).

17. Bolt the backing plate into place using one of the supplied ½" x 1½" bolts, lock washers and nuts (Fig.S).



18. Torque the bolts to the bolt torque requirements found at the end of this document.

19. Repeat steps 13 through 18 for the passenger side of the vehicle. Now, return to the supplemental instructions at this time, if the vehicle is equipped with a power steering cooler. If not, continue with step 20.

20. Remove the foam shock absorption pad from the back of the fascia by removing two plastic clips and one screw. It will not be replaced. Retain the foam shock absorption pad and its attachment hardware for replacement in case the bracket is ever removed. *Note:* Figure T only shows one clip and the screw.

21. Trim the fascia using the blue lines in Figure U as a reference. Figure V shows the completed trimming.





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22. Using four of the supplied zip ties, attach the wiring harness to the main receiver brace (Fig.W).

23. Reassemble the fascia by reversing steps 1 through 5. Now, return to the supplement to reattach the power steering cooler, if the vehicle is so equipped. If not, continue with step 24.

24. 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.

25. Install the tow bar to the mounting bracket according to the manufacturer's instructions. Attach the safety cables to the main receiver brace.



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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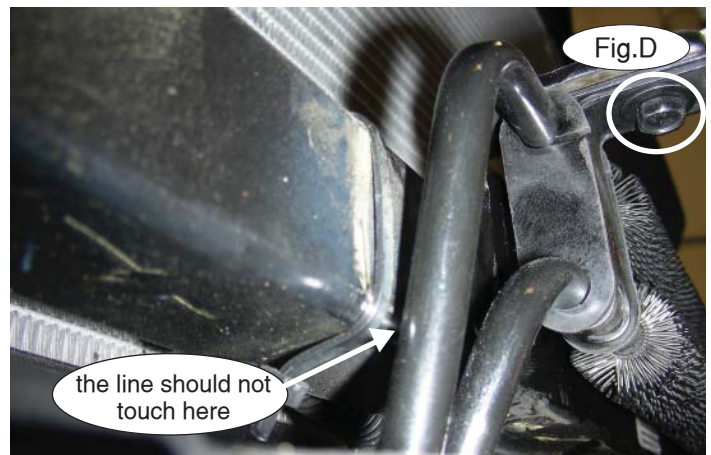
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Supplemental Instructions to Remove the Power Steering Cooler



1. Remove the power steering cooler from the bumper core by removing two 10mm (head) bolts (Fig.A).
2. Now, return to the regular instructions to complete steps 6 through 19 before moving on to the next step.
3. Remove the slip nuts from the bumper core (Fig.B).



4. Place the slip nuts on the power steering cooler mounting points on the main receiver brace (Fig.C).
5. Bolt the power steering cooler to the mounts on the main receiver brace using the factory bolts you removed in step 1 in these supplemental instructions (Fig.D – passenger side bolt).
6. If the power steering cooler line on the left side is contacting the main receiver brace, bend it slightly outward (Fig.D).
7. Now, proceed to steps 20 through 23 in the regular instructions before moving on to the next step.
8. If the power steering cooler lines contact the lower half of the fascia and the backside of the grille opening, use the red lines in Figure E as a guide to trim a small amount of the fascia and the grille to allow for clearance.

