



MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

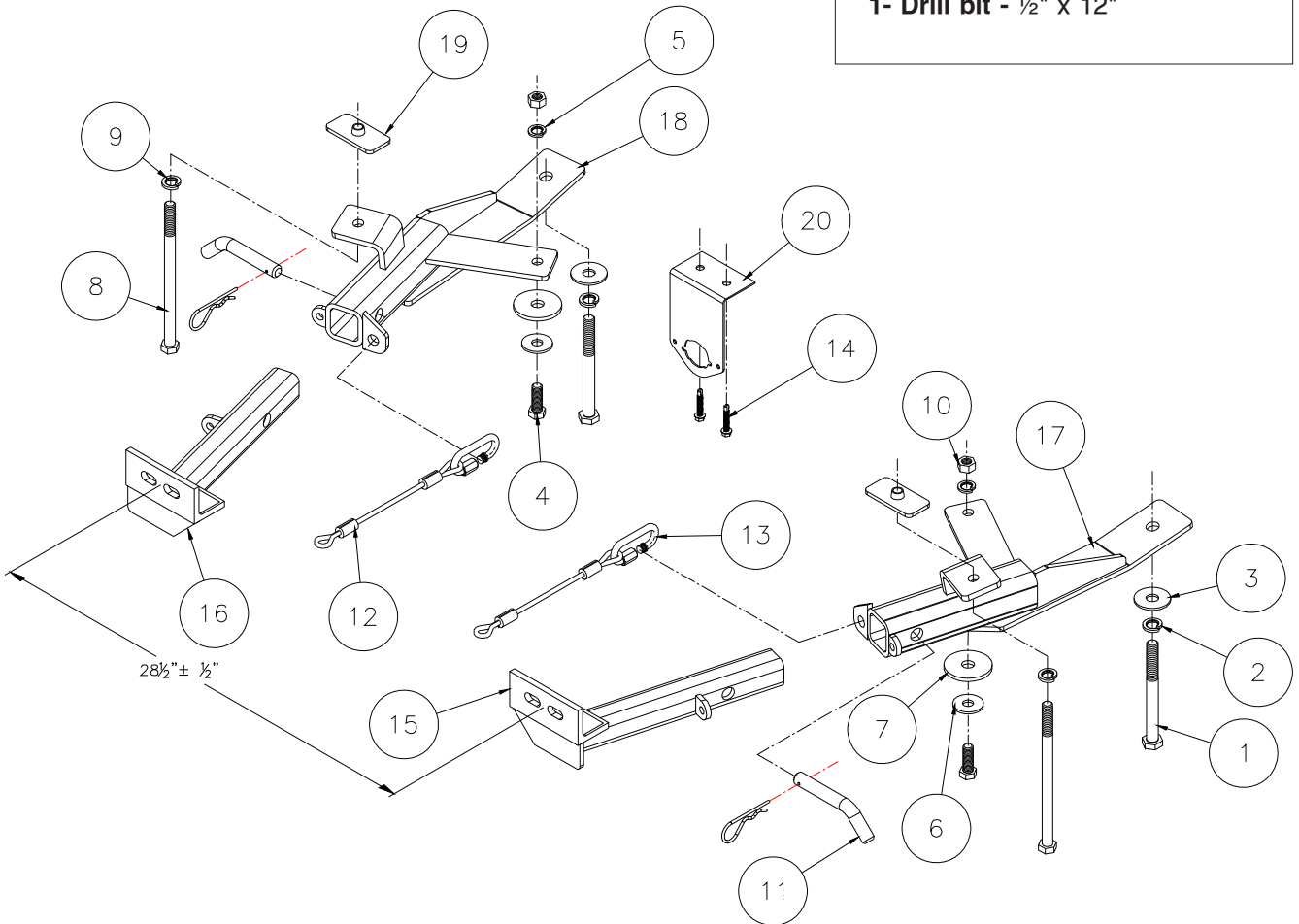
KIT# 3121-1

02/23/11
KS

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

Special tools required

1- Drill bit - 1/2" x 12"



Item	Qty	Description	Part No.
1	2	14mm x 2.0 x 140mm BOLT	355910-00
2	2	14mm LOCK WASHER	355740-00
3	2	14mm FENDER WASHER	355741-00
4	2	12mm x 1.75 x 35mm BOLT	357200-00
5	2	12mm LOCK WASHER	355725-00
6	2	12mm FENDER WASHER	355720-00
7	2	1/2" PLATE WASHER	350351-00
8	2	1/2" x 8" BOLT	350113-00
9	2	1/2" LOCK WASHER	350309-00
10	2	12mm HEX NUT	357212-00
11	2	DRAW PIN W/CLIP	357035-00
12	2	8" SAFETY CABLES	650646-08
13	2	QUICK LINK	200008-00
14	2	1/4" x 1 1/2" SELF TAPPING SCREW	350092-00
15	1	DRIVER SIDE ARM	C-000750
16	1	PASSENGER SIDE ARM	C-000751
17	1	DRIVER SIDE RECEIVER	C-000748
18	1	PASSENGER SIDE RECEIVER	C-000749
19	2	3/16" x 1 1/2" x 3" THREADED BACKING PLATE	A-003079
20	1	WIRE PLUG CONNECTOR BRACKET	B-000972

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Notice : For all vehicles except the 2006-07 Saturn Vue
For the 2006-07 Saturn Vue, refer to the attached instructions.

This is one of our XL series brackets, which is designed to be partly removable. The kit consists of two main receiver braces, front arm braces and a hardware pack. The main receiver brace mounts under the front bumper fascia to the frame and sub frame on each side (Fig.A). The front braces insert into the receivers on each side. Start by laying the kit out according to the illustration. This will give you a visual idea of how the kit installs and also confirm that the kit components are 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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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 six 7mm (head) screws from the lower air dam (Fig.B).

2. Remove three more plastic fasteners from each side of the air dam (Fig.C), then remove air dam.

3. Working on one side at a time, remove the 19mm (head) front subframe bolt (Fig.D).

4. Hold a receiver brace under the subframe as shown (Fig.E) and bolt through the rear mounting hole with a 14mm x 2.0 x 140mm bolt, lock washer and flat washer.

5. Tighten the bolt to hold the receiver brace in position. But don't drill the front outer hole (Fig.I,J) at this time.

6. Using the supplied 12mm x 1.75 x 35mm bolt, bolt through the inside mounting hole and existing subframe hole with a fender washer, sub frame, 1/2" plate washer, main brace, lock washer and nut. Now, tighten the bolt. *Note:* the plate washer should be on the top of the sub frame between the brace and subframe (Fig.F).

7. Repeat steps 3 through 6 for the remaining side. *Note:* the braces should now be aligned and level.

8. Using the receiver braces as drill templates, enlarge the existing holes in the bottom of the frames and drill all the way through the frame with a long 1/2" drill bit (Fig.G). *Note:* use a piece of metal or a plate (Fig.G,H) on top of the frame to protect the wiring harness and other components.



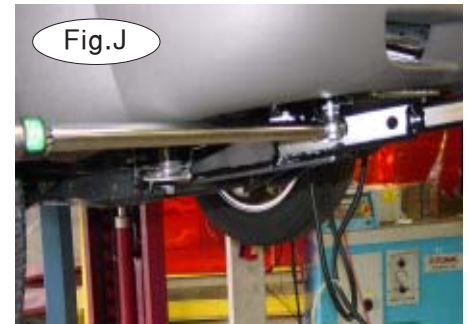


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9. Bolt through the mounting holes in the receiver braces and the frame with 1/2" x 8" bolts, and 1/2" lock washers. Use the provided 1/4" x 1 1/2" x 3" threaded backing plates on the top of the frame (Fig.I). Using the drawing on the first page as a reference, measure between the two front braces, ensuring that the distance is still 28" +/- 1/2".

10. Torque all mounting bolts to the torque specifications at the end of these instructions (Fig.J).

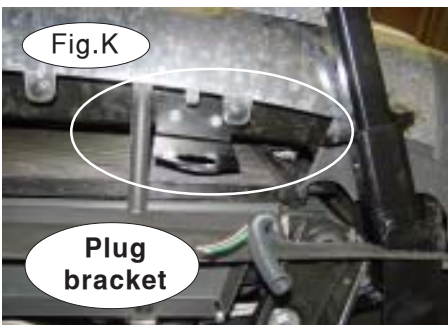
11. Now, install the plug brackets using two 1/4" x 1 1/4" self-tapping screws anywhere along the bumper core (Fig.K). *Note:* the holes may need to be pre-drilled. Recheck the measurements, to make certain this distance is still 28" +/- 1/2".

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

13. At this time the lower air dam can be cut to fit around the braces and reinstalled, reversing step 2, or left off for future replacement if the braces are ever removed. Figure L shows the air dam as it would fit if installed and Figure M shows the installation minus the lower air dam.

14. Install the front braces in the receiver tubes and secure from the top with 5/8" draw pins and spring pins (Fig.M).

15. Attach the ends of the 8" safety cables to the front holes on each side of the receiver brace with the included cable connectors. Connect the other end to the tow vehicle's safety cables.



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.



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Notice — Only for the 2006-07 Saturn Vue installation

Special trimming is necessary for the lower fascia of the 2006-07 model. For all other vehicles that fit this kit, refer to the separate attached instructions.

This is one of our XL series brackets, which is designed to be partly removable. The kit consists of two main receiver braces, front arm braces, a cross bar and a hardware pack. The main receiver brace mounts under the front bumper fascia to the frame and subframe on each side (Fig.A). The front braces insert into the receivers on each side. Start by laying the kit out according to the illustration. This will give you a visual idea of how the kit installs and also confirm that the kit components are present and accounted for.



Fig.A



Fig.B



Fig.C

Driver's side view



Fig.D

Driver's side view

1. Start by removing the three plastic fasteners that attach the lower fascia to the subframe. *Note:* these will not be replaced.

2. Now, trim the lower fascia on each side. This will allow for access of the main receiver brace (Fig.C,D).

3. Working on one side at a time, remove the 19mm (head) front subframe bolt (Fig.E).



Fig.E



Fig.F

4. Hold a receiver brace under the subframe as shown (Fig.F) and bolt through the rear mounting hole with a 14mm x 2.0 x 140mm bolt, lock washer and flat washer.



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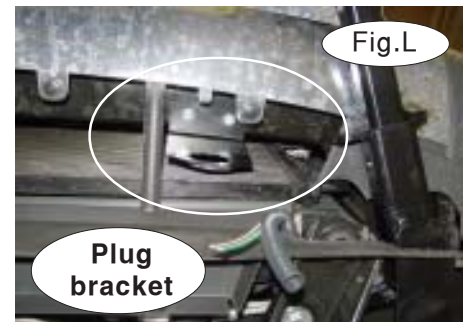
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5. Using the supplied 12mm x 1.75 x 35mm bolt, bolt through the inside mounting hole and existing subframe hole with a fender washer, sub frame, 1/2" plate washer, main brace, lock washer and nut. Now, tighten the bolt. *Note:* the plate washer should be on the top of the sub frame between the brace and subframe (Fig.G). Tighten bolt to the torque specifications listed at the end of these instructions.

6. Repeat steps 3 through 6 for the remaining side. *Note:* the braces should now be aligned and level.



7. Using the receiver braces as drill templates, enlarge the existing holes in the bottom of the frames and drill all the way through the frame with a long 1/2" drill bit (Fig.H). *Note:* use a piece of metal or a plate (Fig.H,I) on top of the frame to protect the wiring harness and other components.

8. Bolt through the mounting holes in the receiver braces and the frame with 1/2" x 8" bolts, and lock washers. Use the provided 1/4" x 1 1/2" x 3" threaded backing plates on the top of the frame (Fig.J). 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".

9. Torque all mounting bolts to the torque specifications at the bottom of these instructions (Fig.K). Recheck the measurements, to make certain this distance is still 28" +/- 1/2".

10. Now, install the plug brackets using two 1/4" x 1 1/4" self-tapping screws anywhere along the bumper core (Fig.L). *Note:* the holes may need to be pre-drilled.

12. Attach the ends of the 8" safety cables to front holes on each side of the receiver brace with the included cable connectors (Fig.P). Connect the other end to the tow vehicle's safety cables.





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