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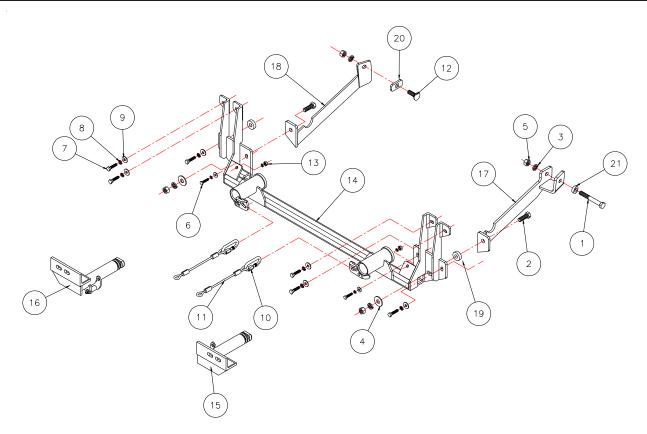
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## ROADMASTER

# BASEPLATE KIT INSTALLATION INSTRUCTIONS

KIT# 521232-1 06/30/10

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



Item	Qty.	· · · · · · · · · · · · · · · ·	Part #
		1/2" x 4" BOLT	
		1/2" x 1 1/2" BOLT	
3	. 4	1/2" LOCK WASHER	350309-00
4	2	1/2" FLAT WASHER	350308-20
5	. 4	1/2" NUT	350258-00
		8mm x 1.25 x 40 BOLT	
		8mm x 1.25 x 35 BOLT	
		8mm LOCK WASHER	
		8mm FENDER WASHER	
		CABLE CONNECTOR	
		8" SAFETY CABLE	
		1/2" x 1 1/2" CARRIAGE BOLT	
		8mm x 1.25 NUT	
14	1	MAIN RECEIVER BRACE WELDMENT	C-002974
		DRIVER SIDE ARM WELDMENT	
		PASSENGER SIDE ARM WELDMENT	
17	.1	DRIVER SIDE REAR WELDMENT	C-001409
		PASSENGER SIDE REAR WELDMENT	
		1 1/4" O.D. x 3/8" TUBE	
		1/4" x 1" x 2" BACKING PLATE	
		1" O.D. X 0.219 WALL ROUND TUBE	
		HOSE CLAMP	
		3" X 5/16" TRANS HOSE	
		4 1/2" X 3/8" TRANS HOSE	
		5/16" BARB FITTING	
26	.1	3/8" BARB FITTING	450212-00



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his 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 main receiver brace, two rear braces, two removable front braces and a hardware pack. The main receiver brace mounts to the frame. The two rear braces mount to the main receiver brace and the frame rails. The removable front braces install in the main receiver brace. 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 baseplates **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 and lock washers on all fasteners.



#### **WARNING**

Failure to heed these warnings or follow the installation instructions may result in a voided warranty, loss of towed vehicle, personal injury or death.

- Do not weld or modify this baseplate or its components. Welding or modification will void the warranty.
- Do not use this document as a basis to design/fabricate a baseplate, as it may not show all parts or structural components.
- We strongly recommend professional installation.
- If the towed vehicle has been in an accident, it must be properly repaired before attaching the baseplate. Do not install the baseplate if any structural frame damage is found.
- The installer must use all bolts and parts supplied. If running changes were made by the vehicle manufacturer after this kit was designed, some bolts or other fasteners may no longer be the correct size. It is the installer's responsibility to verify this kit is securely fastened to the vehicle.
- Use Loctite® Red on all bolts used to secure this baseplate. Torque all bolts to the specifications found at the end of these instructions. Do not over-torque the bolts or failure may occur.
- The installer must inspect the baseplate to ensure adequate clearance, particularly around hoses, air conditioner lines, radiators, etc. or non-warranty failure may result.
- Roadmaster manufactures many styles of baseplates. If your baseplate 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.
- Some motorhome chassis have such a tight turning radius that you
  can damage your motorhome, towed vehicle, tow bar or baseplate
  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 your 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 or vehicles.
- 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. See cable instructions for proper routing. Failure to do so will result in non-warranty damage and/or the loss of the towed vehicle.
- This kit is designed for use with ROADMASTER tow bars and ROADMASTER adapters only. Using this kit with other brands, without an approved ROADMASTER adapter, may result in nonwarranty damage or injury.
- Receiver extensions and out-of-level towing situations of 3 inches or more. This can cause the system to swing much higher and lower, causing excessive strain on the tow bar, baseplate and frame. That can cause the towing system to fail, causing property damage, personal injury or even death. If you must use a receiver extension or drop hitch to tow, it will reduce your receiver's weight capacity by 1/3 to avoid damaging your system. Never use more than one extension and/or drop hitch, as this will void your warranty.
- Every 3,000 miles, the owner must inspect all mounting points for cracks or fatigue, and check the fasteners for proper torque, according to the bolt torque requirements chart on the last page of these instructions.
- The owner must follow the vehicle manufacturer's instructions to prepare the vehicle for towing. Failure to do so may cause severe damage to the vehicle.
- This baseplate is only warranteed for the original installation. Installing a used baseplate on another vehicle is not recommended and will void the warranty.



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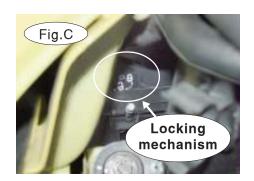
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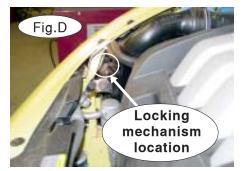
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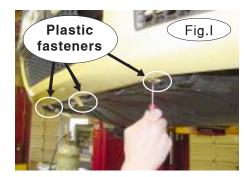
- 1. Important: please use all supplied bolts and parts and read all instructions carefully before beginning this installation. The majority of questions you may have can be answered within the text, and proper installation will ensure safe and secure travel. Now, begin the installation. First remove the headlights: Use a 5mm socket to rotate the locking mechanism on the passenger side (Fig.C-D). Now, press down on the release arms and pull forward to remove the headlights. Note: for the driver side the rear release lever is a metal arm that is located below the right rear corner of the battery box. The passenger side release lever is located along the side of the headlight housing.
- 2. Now, remove 16 T-27 Torx bolts along the edge of the fender and front of the fascia (Fig.E).







- 3. On both sides, remove one T-27 Torx bolt on the inside edge of the headlight opening (Fig.F).
- 4. To remove the fender liners, remove 13 T-25 Torx screws per side (Fig.G). *Note*: removing the front wheels will make removing the fender liners easier but is not necessary (Fig.H).
- 5. Next, remove three plastic fasteners across the bottom front of the fascia using a small screwdriver. Push in on the center of the pin to release the fasteners (Fig.I). *Note*: when pushing in on the center of the pin be careful not to push the pin all the way through.
- 6. Remove one T-25 Torx screw at the lower rear of each of the side splash shields to remove them (Fig.J). Now, pull down on the splash shields to release the speed nuts.







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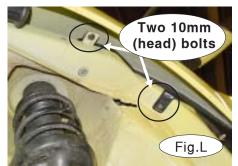
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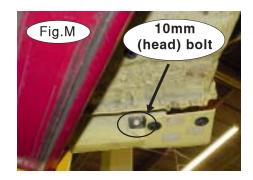
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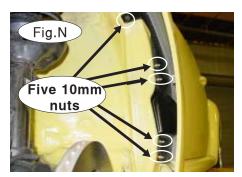
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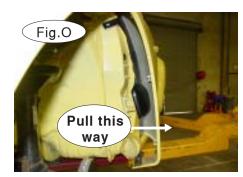






- On both sides, remove one T-27 Torx screw from the support bracket where the fascia and fender meet (Fig.K).
- 8. Remove two 10mm (head) bolts from the top of the inner fender well (Fig.L). Next, remove one 10mm (head) bolt at the bottom corner of the rocker panel (Fig.M). Repeat for the other side.







- 9. On both sides, remove five 10mm nuts from the inside rear of each fender well (Fig.N).
- 10. Unplug the marker lights and fog lights (if the vehicle is so equipped).
- 11. Pull the rear fender mounts off of the mounting studs on both sides (Fig.O). With one person on each side of the vehicle, hold the fender and fascia and pull forward to remove (Fig.P).
- 12. Remove one 18mm nut per side to remove the bumper core (Fig.Q).





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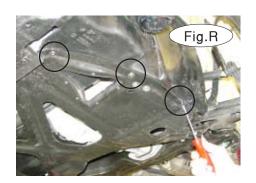
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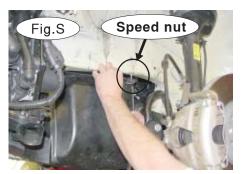
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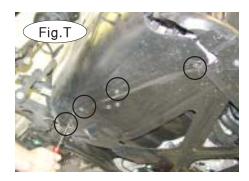
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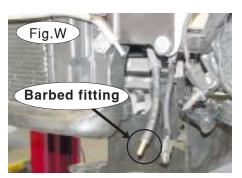




- 13. Starting on the driver side, remove three T-25 Torx screws attaching the side splash shield to the center splash shield (Fig.R). Pull down on the side splash shield to remove two speed nuts. The speed nuts are located at the top of the splash shield (Fig.S) and under the frame rail. *Note*: do not remove the splash shield, only lower it.
- 14. On the passenger side, remove four T-25 Torx screws attaching the side splash shield to the center splash shield (Fig.T). Remove one more T-25 Torx screw and a 10mm nut attaching the top of the splash shield to the side of the frame rail (Fig.U). Remove the side splash shield.







- 15. The power steering cooler line will need to be lengthened and remounted to the main receiver brace. The parts to lengthen the line have been included in this kit. *Note*: be sure to have a bucket or tray to catch the power steering fluid when you disconnect the line.
- 16. First, slide the driver side clamp off the hose (Fig.V) and pull the hose off the line. Once the hose is removed from the line, remove the factory hose clamp and insert a 5/16" barbed fitting into the factory hose (Fig.W).
- 17. Next, insert the provided 5/16" x 3" hose extension onto the other end of the barbed fitting (Fig.X). Place the other end of the provided hose over the fitting of the power steering cooler line (Fig.Y).







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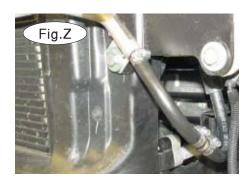
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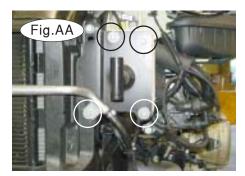
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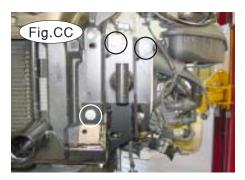
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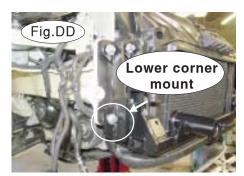






- 18. Now, clamp the hose into place using the provided clamps (Fig.Z).
- 19. Repeat steps 16 through 18 for the passenger side. *Note:* the passenger side uses a 3/8" barbed fitting and a 3/8" x  $4\frac{1}{2}$ " hose extension.
- 20. On both sides, remove four 8 mm x 1.25 x 25 mm bolts attaching the bumper mounts to the end of the frame (Fig.AA). Allow the power steering cooler to hang down below the radiator (Fig.BB).







- 21. Next, hold the main receiver brace in place. On both sides, insert the three supplied 8mm x 1.25 x 35mm bolts, fender washers and lock washers through the main receiver brace and into the frame (Fig.CC).
- 22. On both sides, insert a  $1\frac{1}{4}$ " x 3/8" x .375 wall spacer between the main receiver brace and the bumper mount, for the lower corner mount (Fig.DD EE). Bolt into place using a 8mm x 1.25 x 40mm bolt, fender washer and lock washer.
- 23. Tighten all bolts to the torque specifications listed at the end of these instructions.
- 24. On both sides, remount the power steering cooler line to the main receiver brace using the two factory 8mm x 1.25 x 25mm bolts you removed in step 20 (Fig.FF). Finish with the supplied 8mm lock washers and 8mm x 1.25 nuts. Tighten to the torque specifications listed at the end of these instructions.





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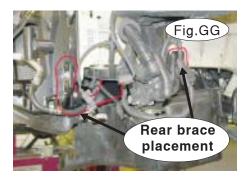
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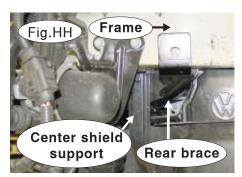
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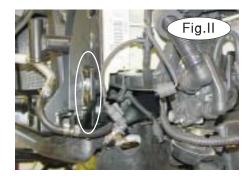
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- 25. Starting with the driver side rear brace, insert the brace behind the lower center shield support (Fig.GG, HH). Bolt the rear brace to the main receiver brace using a  $\frac{1}{2}$ " x  $1\frac{1}{2}$ " bolt, flat washer, lock washer and nut (Fig.II). *Note:* make sure that the brace is flat against the bottom of the frame (Fig.HH).
- 26. Using the rear hole in the rear brace as a template drill a  $\frac{1}{2}$ " hole through the frame rail (Fig.JJ). Use caution not to drill through any engine components on the other side of the frame rail.







- 27. Next, bolt through the rear brace and into the hole you drilled in step 26 using a  $1\frac{1}{2}$ " x 4" bolt, 1" x 3/8" beveled spacer, lock washer and nut (Fig.KK). *Note*: make sure the beveled spacer is seated so that the head of the bolt is flush with the beveled spacer.
- 28. Now, mount the passenger side rear brace to the main receiver brace. Bolt the rear brace to the main receiver brace using a  $\frac{1}{2}$ " x  $\frac{1}{2}$ " bolt, flat washer, lock washer and nut. *Note*: make sure the brace is flat against the frame.
- 29. Using the rear hole in the passenger side rear brace as a template, drill a 9/16" hole into the frame rail (Fig.LL).
- 30. Using a  $\frac{1}{2}$ " x  $\frac{1}{2}$ " carriage bolt and  $\frac{1}{4}$ " x 1" x 2" square hole backing plate, fish wire the carriage bolt and backing plate through the round hole in the bottom of the frame, frame rail and the bracket (Fig.MM,NN,OO). Bolt into place using a  $\frac{1}{2}$ " lock washer and nut.
- 31. Tighten all the remaining bolts to the torque specifications listed at the end of these instructions.









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- 32. Replace the driver side splash panel and mark for trimming. Refer to the yellow marker lines in Figures PP and QQ for correct trimming.
- 33. With the driver side splash shield in place and trimmed, replace the three lower T-25 Torx screws attaching the side splash panel to the center splash panel.
- 34. Replace the splash panel for the passenger side and mark for trimming. Refer to the yellow marker line in Figure RR for correct trimming. Figure SS shows the splash panel trimmed and fitted back into place.







- 35. Next, with the passenger side splash shield in place, replace the four T-25 Torx screws attaching the passenger side splash panel to the center splash panel.
- 36. Reinstall the bumper core.
- 37. Replace the power steering fluid you drained from the vehicle. The power steering reservoir is located on the passenger side of the engine compartment (Fig.TT). Fill the reservoir and make sure to use the proper fluid and to clean up any spills.
- 38. Now, bleed the power steering line. Start the vehicle and move the steering wheel all the way to the right and then to the left several times until there is no air left in the line. Verify by checking the fluid for air bubbles. Once you have removed the air from the line, check the fluid level and add more fluid until it is at the correct level. *Note:* make sure to check for leaks where the hoses were reconnected.
- 39. Relocate the ambient temperature sensor. Using the provided zip ties, remount the ambient temperature sensor using the pre-drilled hole on the driver side of the main receiver brace (Fig.UU).



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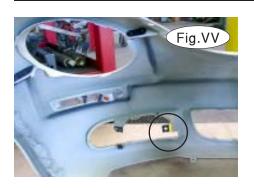
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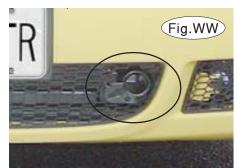
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- 40. Trim off the existing ambient temperature sensor mounting tab on the inside of the fascia, located on the driver side (FIG.VV).
- 41. The front grille will need to be trimmed to allow for clearance of the main receiver brace. Refer to Figure WW, or hold the grille up to the receiver and mark the area to be trimmed.
- 42. Now, reinstall the fascia reversing steps 2 through 11. *Note:* when reinstalling the passenger side fender liner, it is necessary to trim a small hole for the side splash shield bolt to fit through (Fig.XX).
- 43. When reinstalling the headlights, it is important to have them seated and locked in place correctly or they will not function. Before you insert the headlights, make sure both lock arms are in the forward position (Fig.YY).
- 44. On each side of the headlight bracket there are two plastic guides that help align the headlight in place (Fig.ZZ). These guides must slide into the sleeve (one per side Fig.AAA) and lock in place.



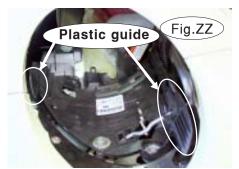




Fig.BBB

45. Once the headlight is in place, turn the camlock counterclockwise to lock the headlight in place. If the headlight is installed correctly, the seal should fit tightly around the fascia (Fig.BBB). If you have a gap between the seal and fascia, the headlight may not be installed correctly.



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- 46. Fit the removable front braces into the front receiver braces, and secure them in place with the supplied 5/8" draw pins and spring pins Fig.CCC).
- 47. Attach the 8" safety cables with the cable connectors (Q-Links) to the front of the receiver braces (Fig.CCC).
- 48. Attach the ends of the safety cables to the tow vehicle's safety cables and tow bar.
- 49. Install the tow bar to the mounting bracket according to the manufacturer's instructions.



#### **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	METRIC BOLTS	METRIC BOLTS	
Thread Size Grade Torque	Thread Size Grade Plated / Unplated	Thread Size Grade Plated / Unplated	
5/16 5 13 ft./lb.	8mm-1.0 8.820 ft./lb. 18 ft./lb.	12mm-1.25 8.870 ft./lb. 65 ft./lb.	
3/823 ft./lb.	8mm-1.25 8.8 19 ft./lb. 18 ft./lb.	12mm-1.5 8.866 ft./lb. 61 ft./lb.	
7/16 5 37 ft./lb.	10mm-1.25 8.8 38 ft./lb. 36 ft./lb.	12mm-1.75 8.8 65 ft./lb. 60 ft./lb.	
1/2 5 56 ft./lb.	10mm-1.5 8.8 37 ft./lb. 35 ft./lb.	14mm-2.0 8.8 104 ft./lb. 97 ft./lb.	
5/8 150 ft./lb.			