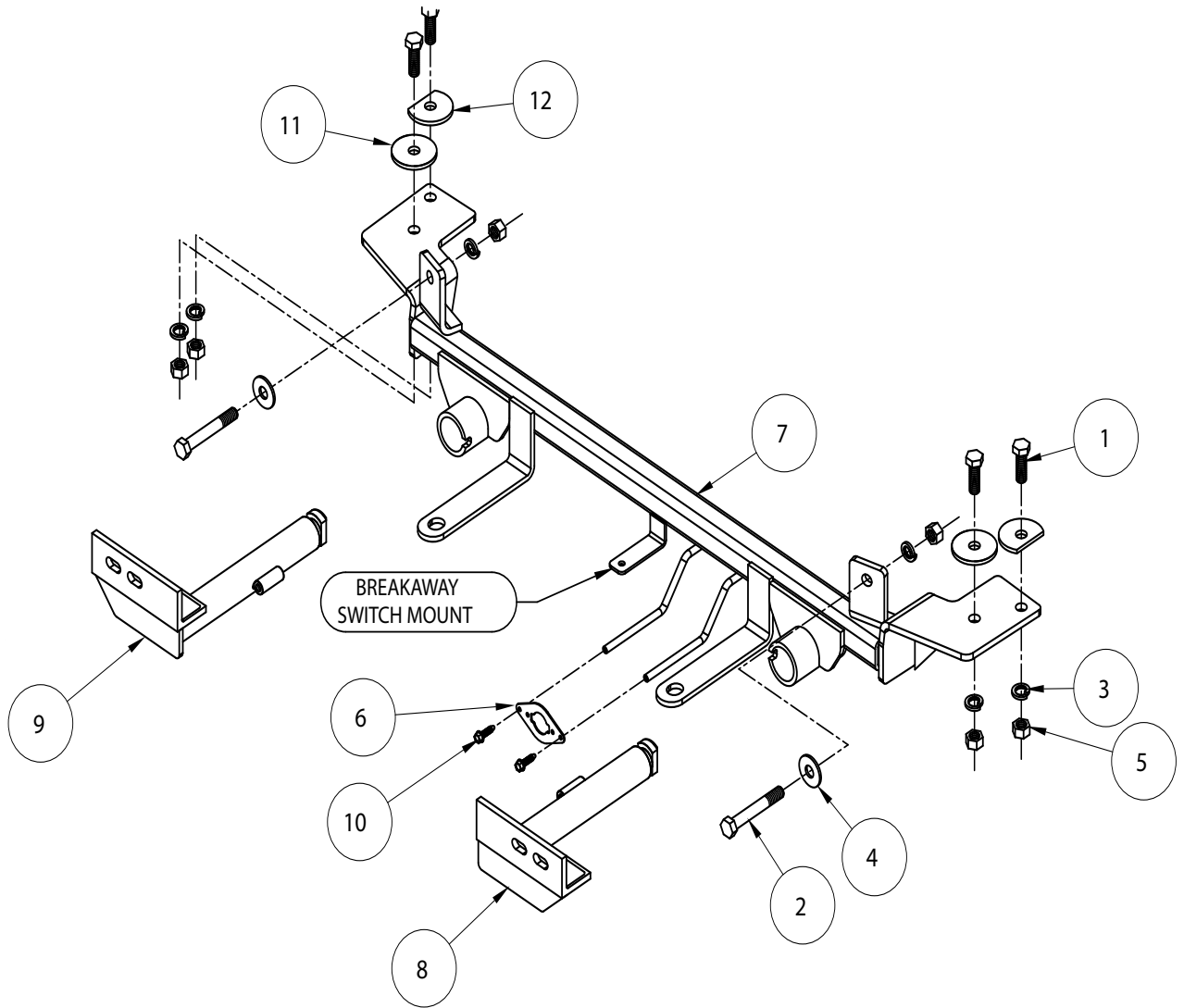




# MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

**KIT# 523183-4**

08/19/15



ITEM	QTY	MATERIAL	NAME
1	4	1/2" x 1 1/2" BOLT	350095-00
2	2	1/2" x 3 1/2" BOLT	350103-00
3	6	1/2" LOCK WASHER	350309-00
4	2	1/2" FLAT WASHER	350308-00
5	6	1/2" HEX NUT	350258-00
6	1	WIRE PLUG PLATE	A-003801
7	1	MAIN RECEIVER	C-002912
8	1	DRIVER SIDE ARM	C-002913
9	1	PASSENGER SIDE ARM	C-002914
10	2	#10 x 3/4" SELF TAPPING SCREW	350247-35
11	2	1/2" PLATE WASHER	A-003086
12	2	CLIPPED PLATE WASHER	A-002687



# MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

**KIT# 523183-4**

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This is one of our EZ4 Twistlock 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 consists of a main receiver brace, two removable front braces, and a hardware pack.

The main receiver brace mounts to the bumper core and 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 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.

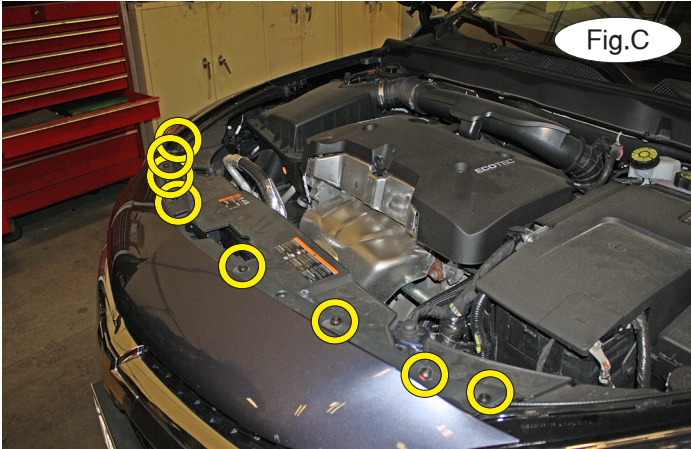




# MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

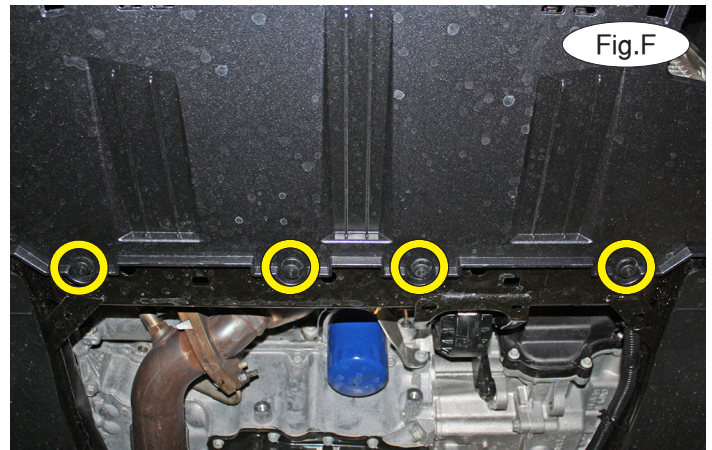
**KIT# 523183-4**

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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 eight T20 Torx screws attaching the top of the fascia to the core support (Fig.C).

2. On each side, remove three T15 Torx screws attaching the fascia to the fender liner and one 7mm (head) screw attaching the fascia to the fender (Fig.D). *Note:* the arrow denotes the location of the 7mm screw behind the flap.



3. On each side, remove two 7mm (head) screws and two Phillips screws attaching the fender liner to the fascia and the fascia to the radiator (Fig.E). Then, remove four plastic fasteners attaching the fascia to the subframe (Fig.F).

4. On each side, pull out on the corner of the fascia to release the locking strip and pull up on the top of the fascia to remove it. Disconnect the fog lights, if the vehicle is so equipped. On the driver's side only, remove one plastic fastener attaching the wiring harness to the air dam (Fig.H) and unplug it.



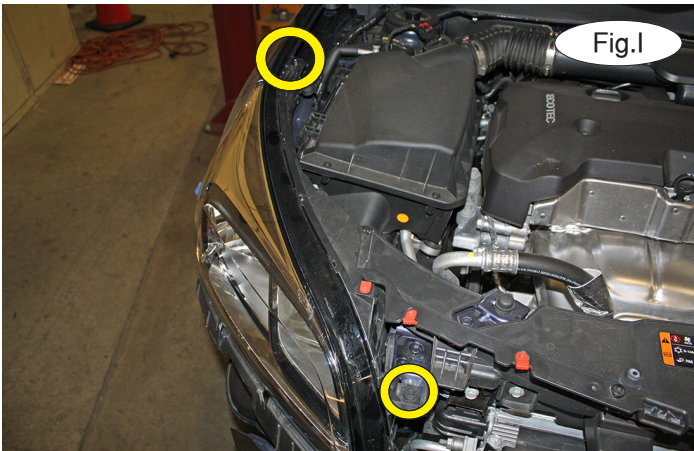




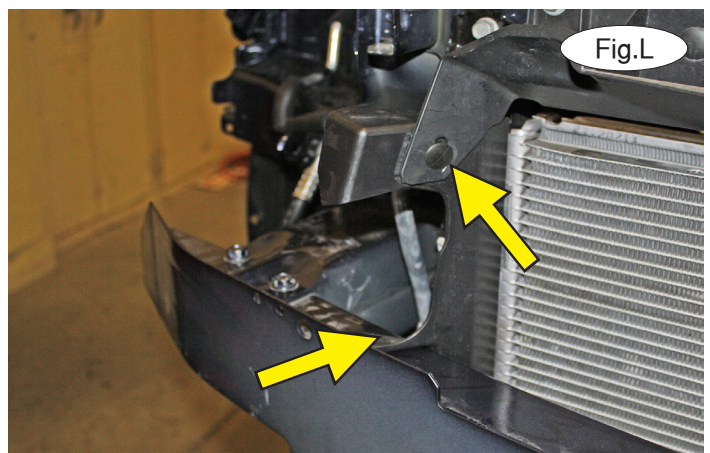
# MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

**KIT# 523183-4**

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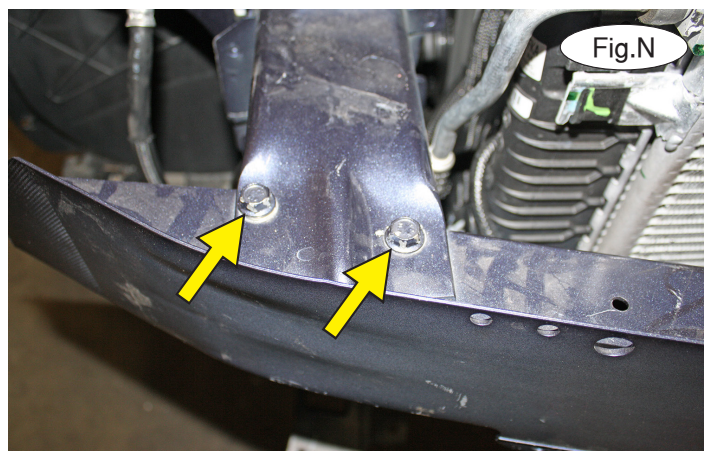


5. Remove the passenger side headlight by removing two 7mm (head) screws. Then, remove three 7mm (head) screws attaching the headlight to the frame and the air intake assembly (Fig.I and J). Unplug the headlight and remove its plastic retaining strip and set them both aside.



6. On the passenger side only, remove two plastic fasteners attaching the air intake to the frame and the upper air dam (Fig.K). Now, remove the air intake. Then, on each side, remove two plastic fasteners attaching the side air dam to the bumper core and the upper air dam (Fig.L). Now, on the bottom of the air dam, pull the fastener and the air dam off the bottom radiator support stud and trim it as shown in Figure M and set it aside for now.

7. On each side, remove two 13mm (head) bolts and nuts attaching the bumper core to the frame (Fig.N).



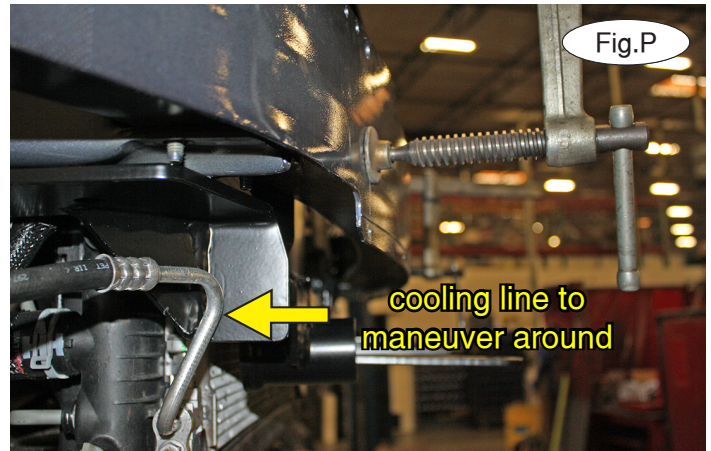
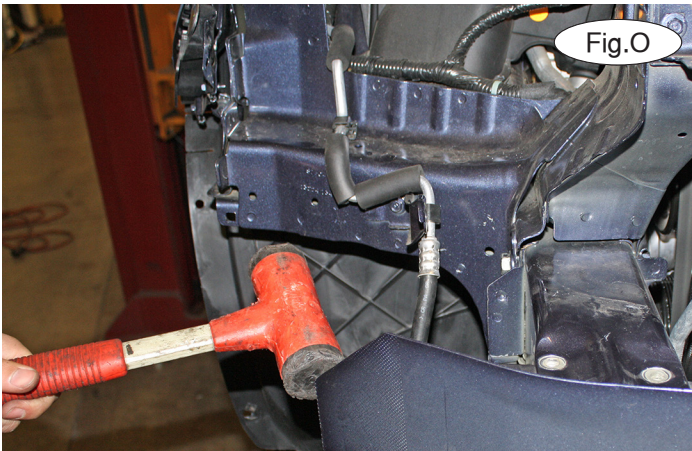




# MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

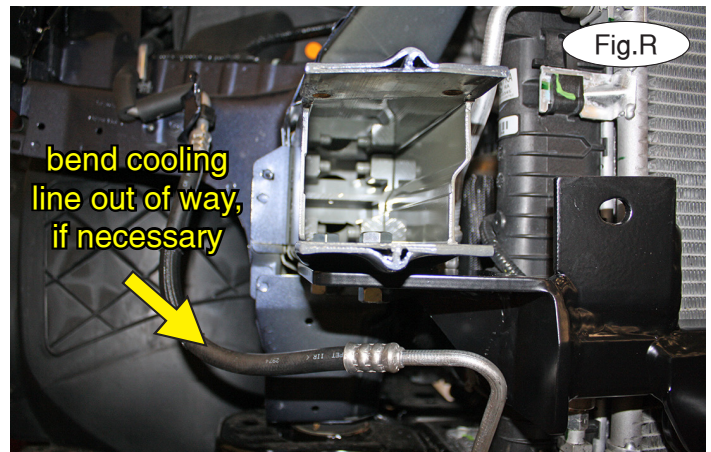
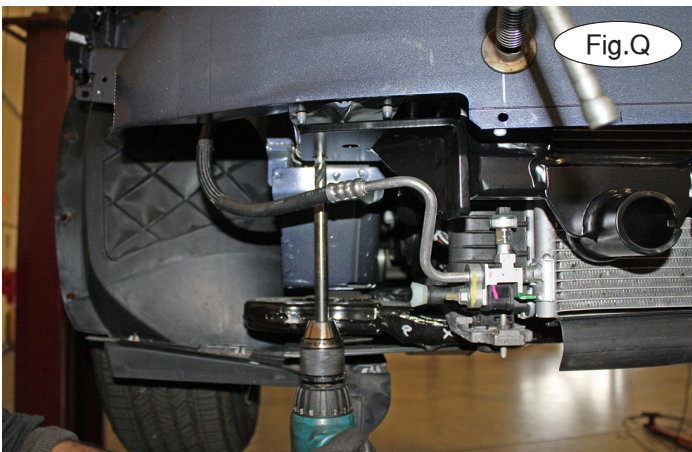
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8. On each side, use a mallet to temporarily remove the bumper core (Fig.O).

9. Use a jack stand or another person to hold the main receiver brace under the frame, maneuvering it around the cooling line. Then, temporarily reinstall the bumper core and its bolts and clamp the main receiver brace to it for alignment purposes (Fig.P). *Note:* ensure that the uppermost mount is flush with the back of the bumper core and that the main receiver brace is centered from side to side on the frame.



10. On each side, using the two rearmost mounting points of the main receiver brace as templates, drill up through the two bottom layers of the frame rail (Fig.Q).

11. Now, unclamp the main receiver brace from the bumper core and then remove both the bumper core and the main receiver brace. Then, replace the main receiver brace, re-aligning the hole you drilled in the previous step. Now, on each side, bolt down through the holes you drilled in the previous step and through the main receiver brace using the two supplied  $\frac{1}{2}$ " x  $1\frac{1}{2}$ " bolts, a  $\frac{1}{2}$ " plate washer for the forwardmost hole and a  $\frac{1}{2}$ " clipped plate washer for the rearmost hole, and finish with a  $\frac{1}{2}$ " lock washer and nut. Tighten the bolts to the bolt torque requirements found at the end of these instructions. *Note:* use Loctite® Red on all nuts and bolts. Ensure proper clearance for the cooling line or bend it out of the way so it doesn't contact the bracket (Fig.R).

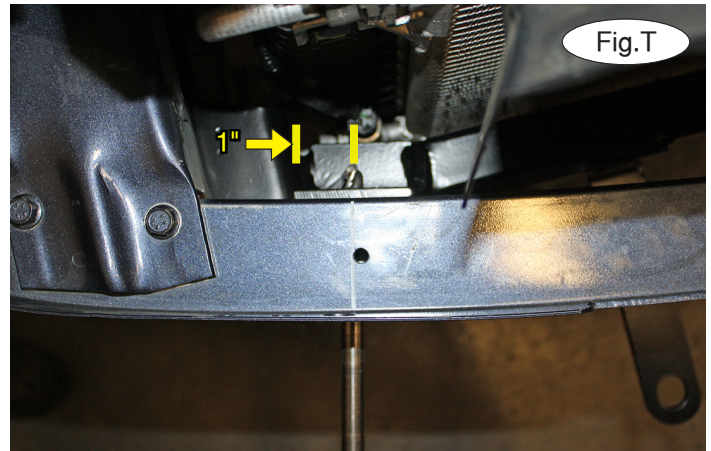
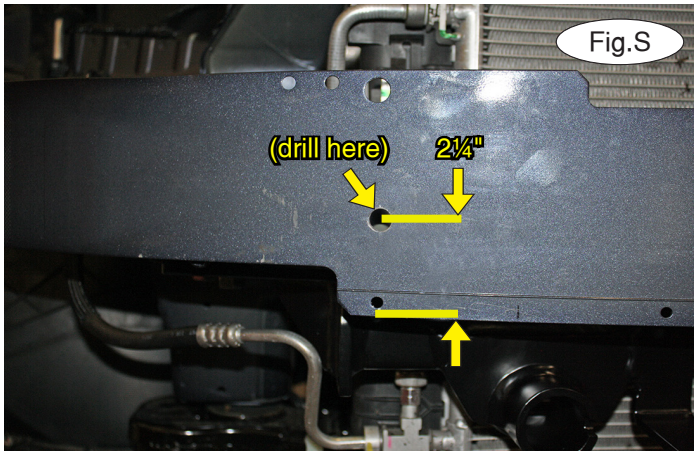




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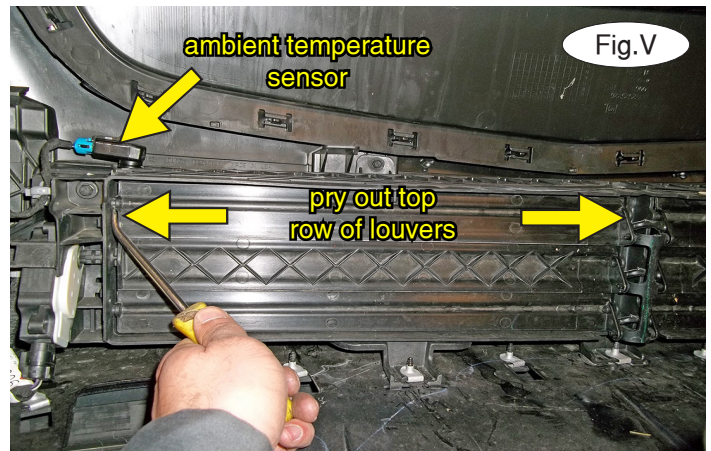
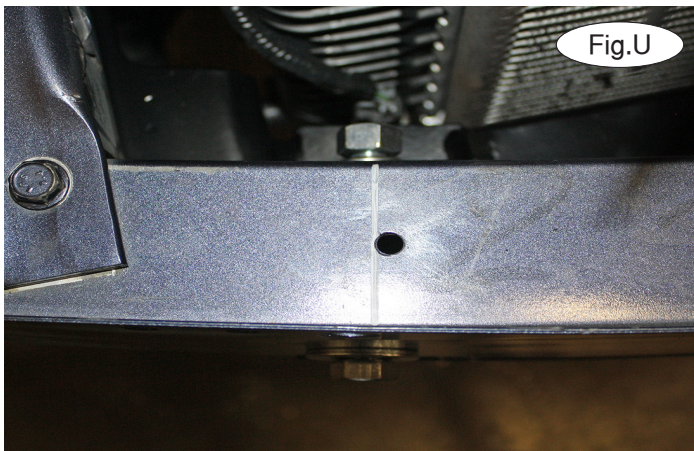
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12. Replace the bumper core and its existing hardware, using the mallet as necessary and tightening the bolts. Now, from the outside edge of the upper mounting points of the main receiver brace, measure over 1" and draw a line square with the bumper core (indicated in Figure T). Continue the line vertically down the face of the bumper. Then, draw a horizontal line 2 1/4" from the bottom of the bumper face and mark for drilling where the lines intersect (Fig.S). Now, drill through the bumper core and the upper mounting point of the bracket, SQUARE and LEVEL with the face of the bumper core (Fig.T). Figure T also denotes the drilling path through the bumper core.

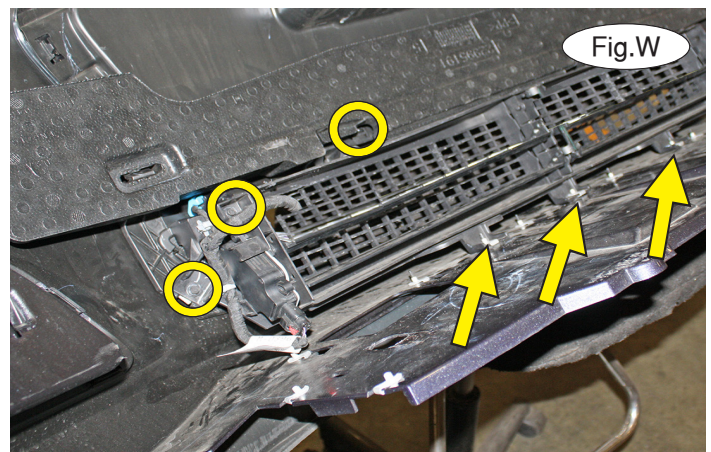
Now, use the supplied 1/2" x 3 1/2" bolt and 1/2" flat washer and bolt through the bumper core and finish with a 1/2" lock washer and nut (Fig.U).



13. Tighten all bolts to the bolt torque requirements found at the end of these instructions. *Note:* use Loctite® Red on all nuts and bolts.

14. Manually rotate the louvers to the closed position. Using a prying tool, remove the ambient temperature sensor from the louver housing. On each side, pry out the top row of louvers at both ends to remove (Fig.V).

15. On each side, remove the louver housing by removing three 7mm (head) screws (Fig.W) and three 7mm (head) screws attaching the bottom of the fascia to the louver housing. *Note:* Figure W shows their location but they must be accessed from the underside.



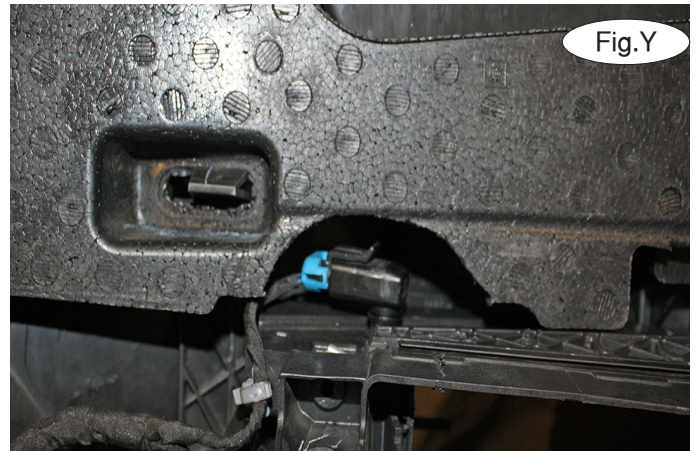
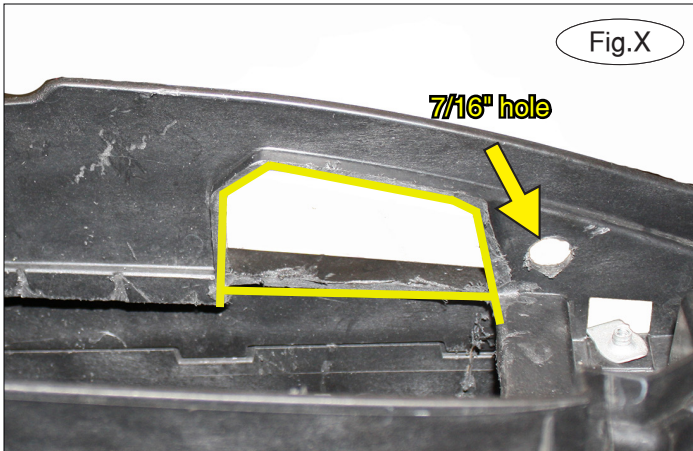




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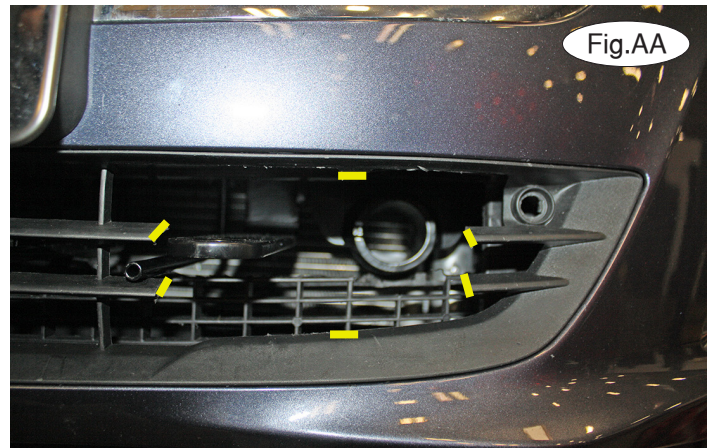
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16. Trim the ambient temperature sensor mount flush with the opening of the louver housing mount as shown in Figure X and drill a 7/16" hole next to it.

17. Remount the ambient temperature sensor in the hole you drilled in the previous step and trim a section of the foam shock absorption pad to accommodate the sensor using Figure Y as a reference for trimming.



18. On the driver's side, trim the louver housing grille nine squares in from the outside edge of the louver housing and five squares down from the top as shown (Fig.Z). **Note:** ensuring that the louvers are in the closed position, **trim the second row of louvers** by copying the trim profile from the louver housing grille onto the second row of louvers (Fig.Z).

Repeat for the passenger side but you will need to trim seven squares instead of nine on the louver housing grille. Now, reinstall the louver housing and trim the fascia grille using the trim profile in Figure AA (driver's side) and Figure BB (passenger side) as a reference for trimming. **Note:** ensure that the trimming is sufficient to allow the louvers to move freely without contacting the main receiver brace.



19. Reinstall the fascia, headlight and air ducting, reversing steps 1 through 6.

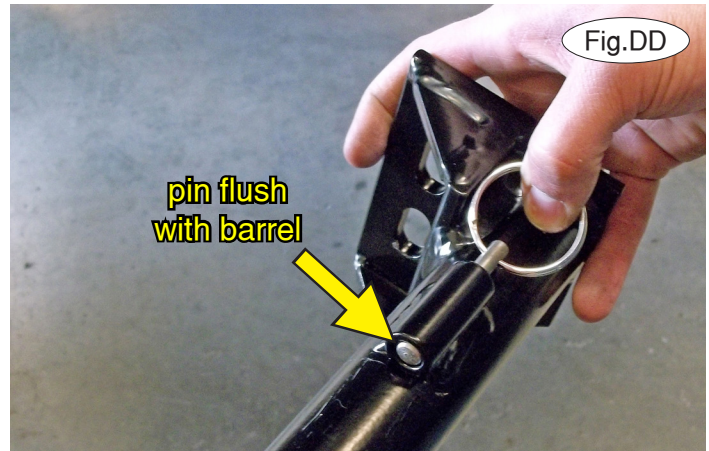




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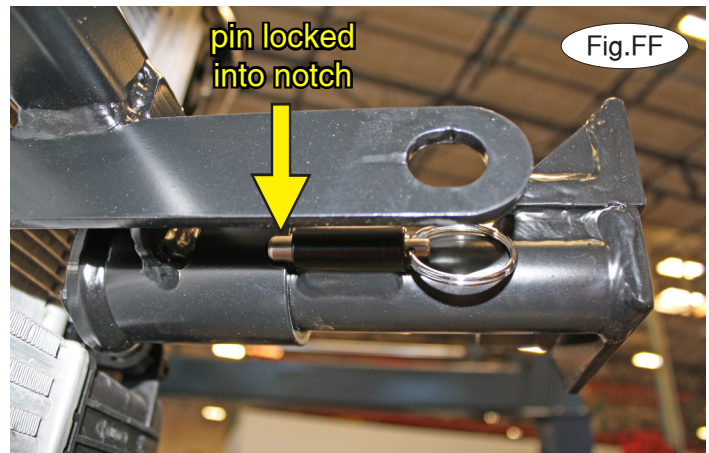
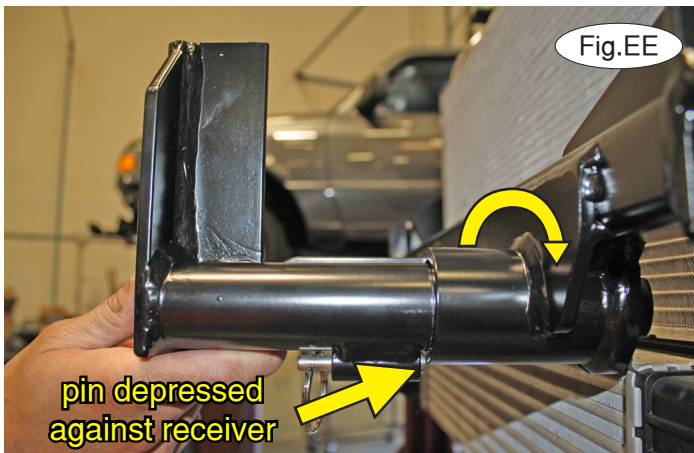
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20. **Note:** the following four images are for illustration purposes only, as your specific application may be slightly different.

The spring-loaded pin on the removable arm snaps into a notch on the receiver, locking the removable arm into its final towing position. Before inserting each arm into the receiver, verify that the spring is working by ensuring that the spring-loaded pin moves easily back and forth within the barrel when pulled and that it can be pulled flush with the face of the barrel (Fig.CC and Fig.DD).



21. On each side, insert the removable front bracket arm into the front receiver 90 degrees from its final towing position, depressing the spring-loaded pin against the receiver (Fig.EE). Now, twist back 90 degrees until the spring-loaded pin snaps into place in the notch on the receiver, locking the arm into place in its final towing position (Fig.FF).

**Please note: it is the owner's responsibility to ensure the locking of the pins before towing. Otherwise, failure of the towing system will result.**

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

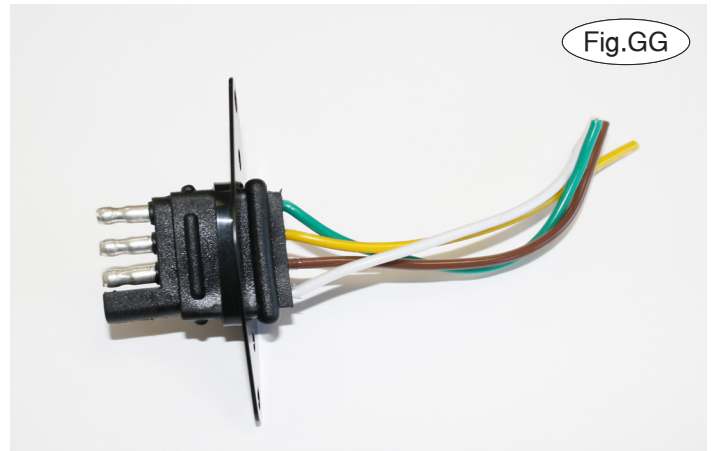
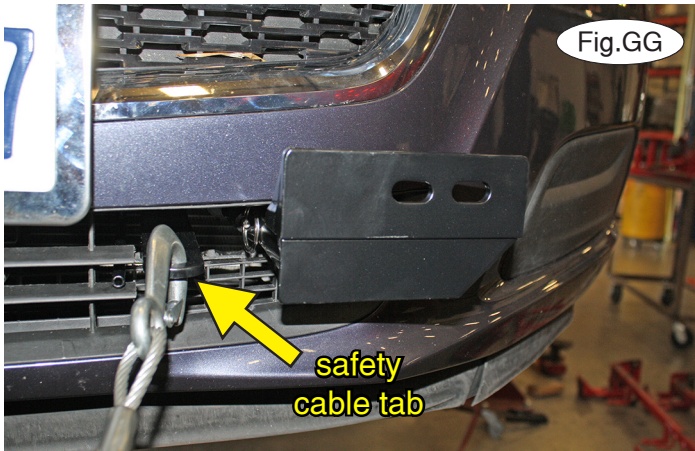




# MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

**KIT# 523183-4**

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### **IMPORTANT!**

**Safety cables are required by law. When towing, connect safety cables to the safety cable tabs illustrated on the first page and in Figure GG. Make certain there is adequate slack in the cables to allow a full turning radius; otherwise, damage will result. If necessary, longer cables or cable extensions are available.**

### **Three options for attaching the wiring plug to the main receiver brace**

**For six-wire plugs:** use the two supplied 3/4" self-tapping screws to attach the electrical plug directly to the rods on the front of the main receiver brace.

**For four-wire round plugs:** attach to the plug mounting plate and then use the two supplied 3/4" self-tapping screws to attach the mounting plate to the rods on the front of the main receiver brace.

**For four-wire flat plugs:** place the plug through the mounting plug plate, and then secure it using the supplied zip tie on the front of the plug (Fig.GG). Use the two supplied 3/4" self-tapping screws to attach the mounting plate to the rods on the front of 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.

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.