



BASEPLATE KIT INSTALLATION INSTRUCTIONS

KIT# 524473-4

07/18/23
KS

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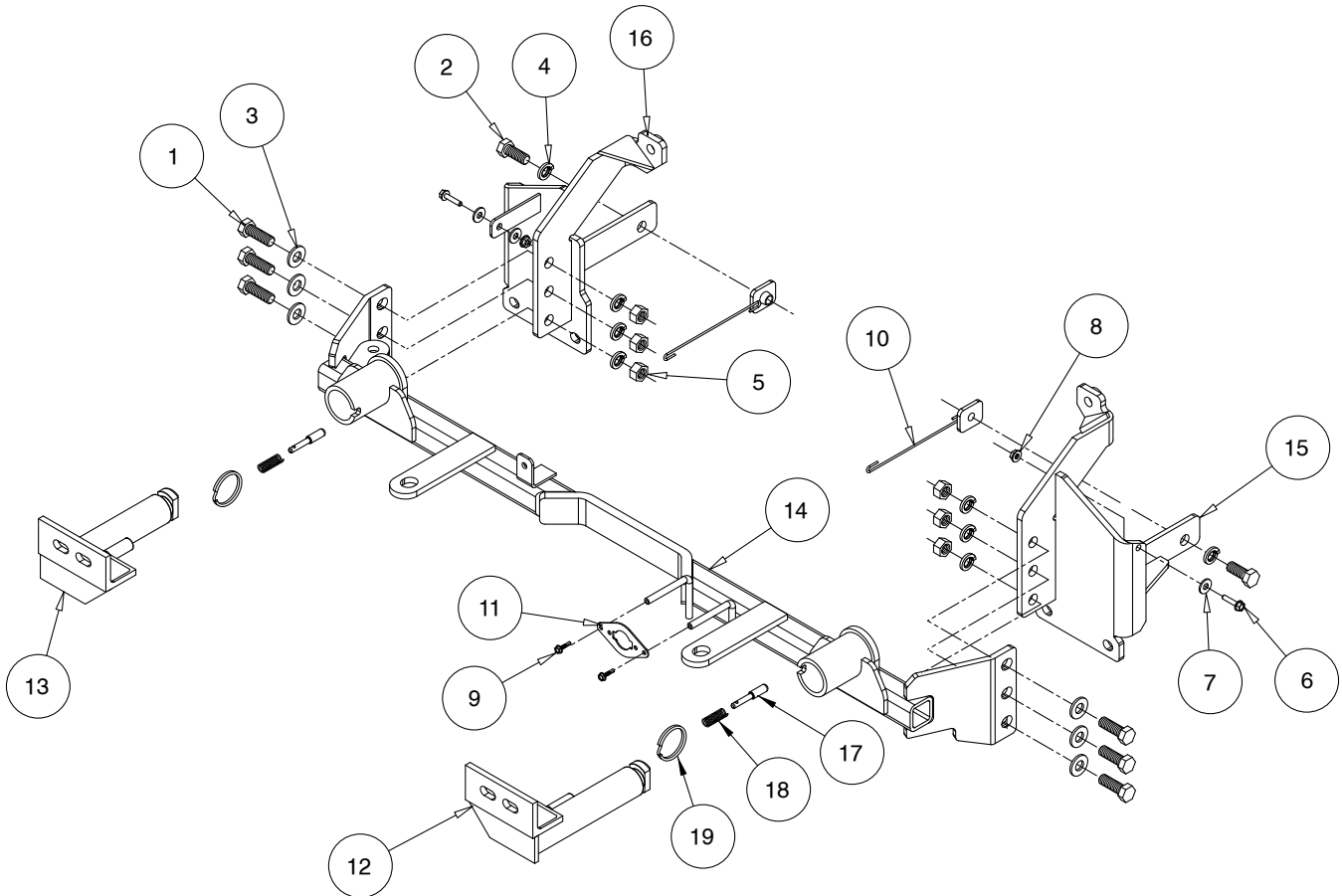
Ratchets

7, 8, 10, 13 and 15mm sockets
3/4" and 3/8" sockets
11mm, 3/8", 3/4" wrenches
T30 driver

What You'll Need

Drill
Panel tool
Small flathead
screwdriver

2 1/4" hole saw
Reciprocating saw
Permanent or paint marker
Torque wrench
Loctite© Blue or Red



ITEM	QTY	NAME	PART NUMBER
1.....	6.....	1/2" x 1 1/2" BOLT	350095-00
2.....	2.....	1/2" x 1 1/4" BOLT	350094-00
3.....	6.....	1/2" FLAT WASHER SAE	350308-20
4.....	8.....	1/2" LOCK WASHER.....	350309-00
5.....	6.....	1/2" HEX NUT.....	350258-00
6.....	2.....	1/4" x 1" WHIZ BOLT	350400-20
7.....	3.....	1/4" FLAT WASHER	350300-00
8.....	2.....	1/4" WHIZ NUT	350251-20
9.....	2.....	#10 x 3/4" SELF DRILLING SCREW	350247-35
10.....	2.....	1 1/4" x 1 1/2" THREADED BACKING PLATE W/ 6" ROD	C002077
11.....	1.....	WIRE PLUG PLATE	A003801
12.....	1.....	DRIVER SIDE ARM.....	C003751
13.....	1.....	PASSENGER SIDE ARM.....	C003752
14.....	1.....	MAIN RECEIVER	C003753
15.....	1.....	DRIVER SIDE BRACE	C003514
16.....	1.....	PASSENGER SIDE BRACE.....	C003515
17.....	2.....	LOCK PIN.....	A000008
18.....	2.....	SPRING.....	200146-00
19.....	2.....	RING.....	350520-00



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This is one of our crossbar-style series, which allows the visible front portion of the baseplate to be easily removed from the front of the vehicle (Fig.A and Fig.B). This kit consists of two side braces, a crossbar, two removable front braces, and a hardware pack.

The braces mount to the frame and the crossbar. 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 non-warranty 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 warranted for the original installation. Installing a used baseplate on another vehicle is not recommended and will void the warranty.

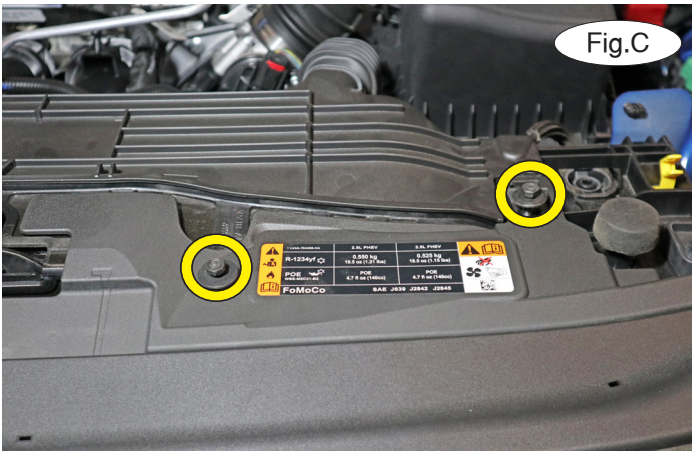


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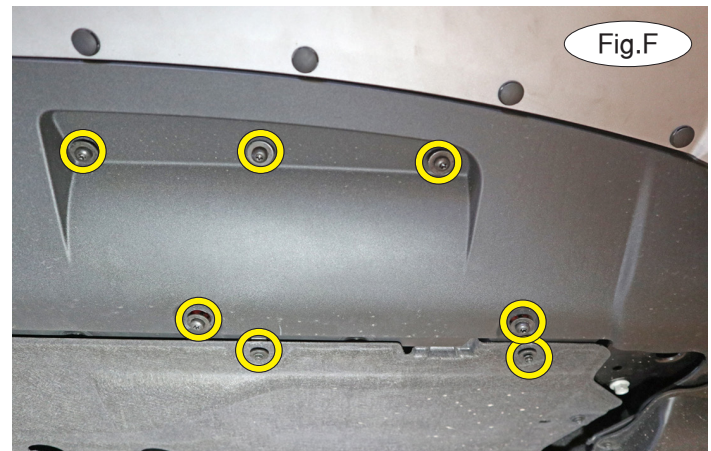
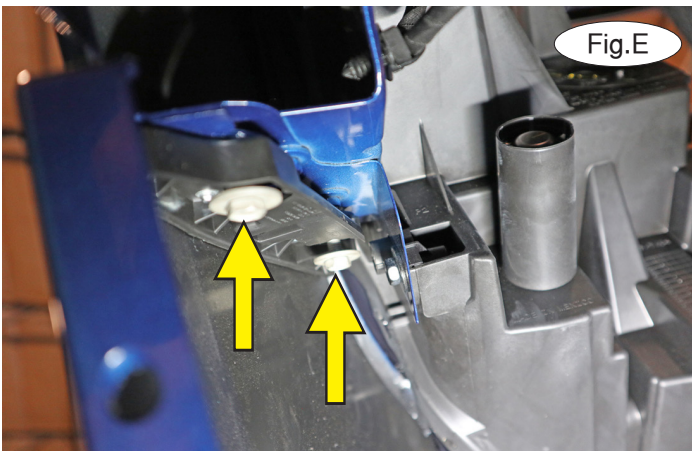
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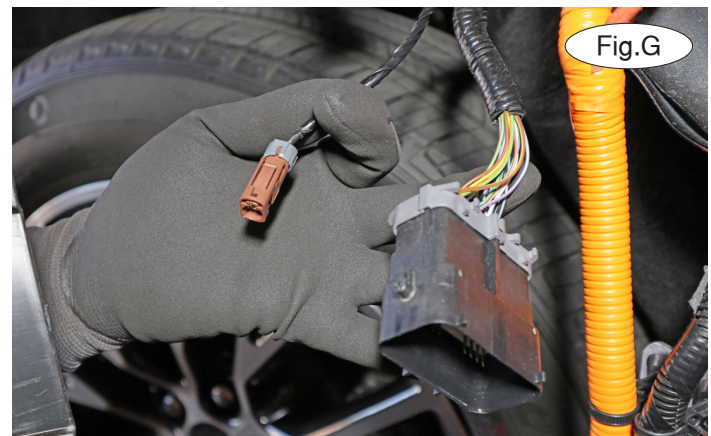


Important: Please use all supplied bolts and parts and read all instructions carefully before beginning this installation. The majority of questions you may have can be answered within the text, and proper installation will ensure safe and secure travel.

1. On each side, remove two 10mm bolts attaching the radiator cover to the fascia (Fig.C).
2. On each side, release eight large and one small fasteners attaching the fender well and trim to the fascia (Fig.D). Some are slightly larger than others. *Note: It would be helpful to note placements for proper reinstallation later on.*
3. On each side, pull back the fender liner and remove two 10mm bolts attaching the fender to the fascia (Fig.E).



4. On each side, remove two 7mm bolts and five T30 torx screws attaching the lower splash shield to the sub-frame and fascia (Fig.F).
5. On the passenger side, unplug the main wiring harness (Fig.G). *Note: Due to differences between trim levels, there may be additional plugs that attach the fascia to the vehicle. Unplug all but the orange-taped, high voltage harnesses. **IMPORTANT! Under no circumstances should you unplug any of the orange-taped, high voltage harnesses.***



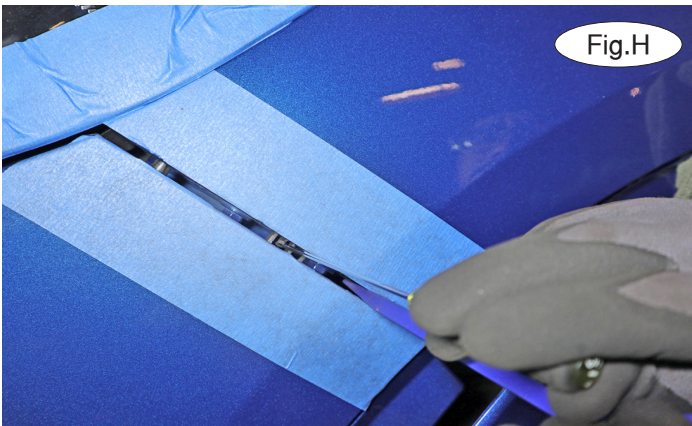


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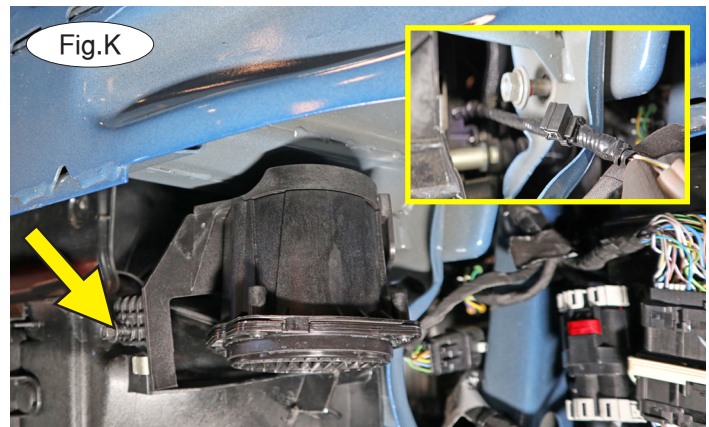
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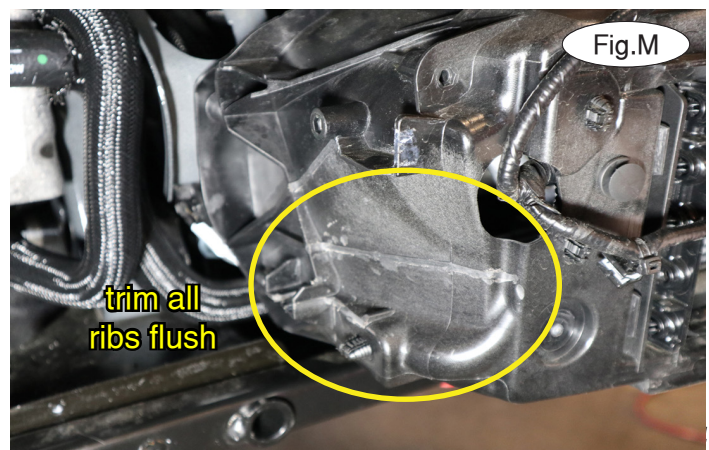
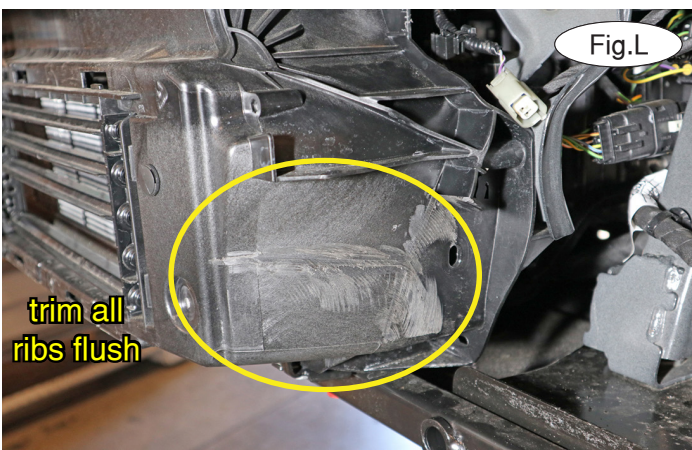
6. On each side, place a panel tool between the seam of the fender and fascia. Then, using a small flathead screwdriver, push gently on the plastic tab to release the fender clip (Fig.H).

7. On each side, remove one plastic fastener attaching the intake cover to the radiator housing (Fig.I – yellow arrow). Then, release the plastic tab indicated (red arrow). To do so, reach under and pull toward the windshield while pushing on the grille (Fig.I). Then, pull down at the seam to release the fascia and set it aside (Fig.J).



8. **If your vehicle does not have a pedestrian alert device (PAD):** Proceed to the next step. **If your vehicle has a PAD:** On the driver's side only, remove one 8mm screw attaching the PAD (Fig.K). Pull outward to release the retaining clip. Unplug the sensor and set it aside for now. Then, unclip the PAD harness from behind the radiator housing to extend its length for a future step (Fig.K – inset).

9. On each side, trim the shutter housing flush as shown to allow clearance for the main receiver brace (Fig.L – driver's side; Fig.M – passenger side).



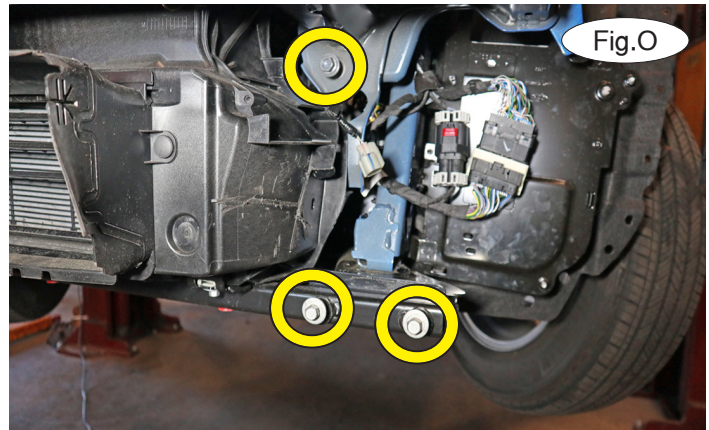
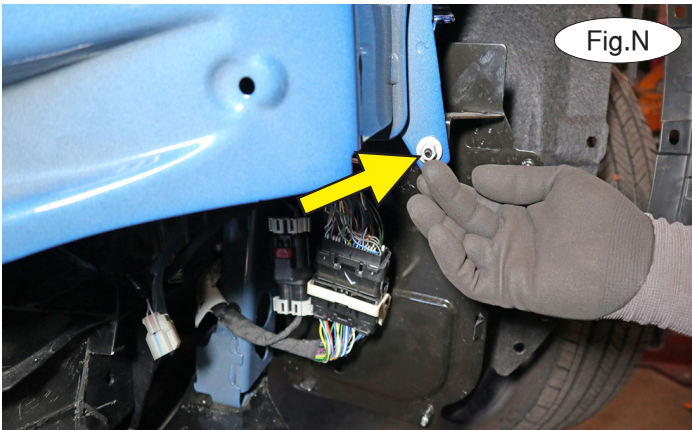


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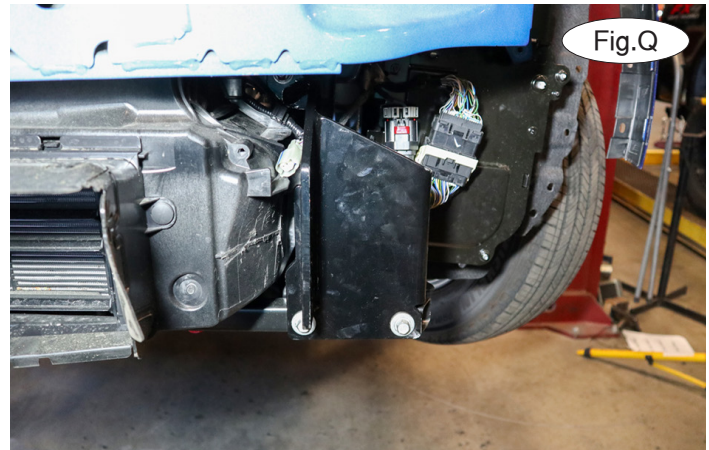
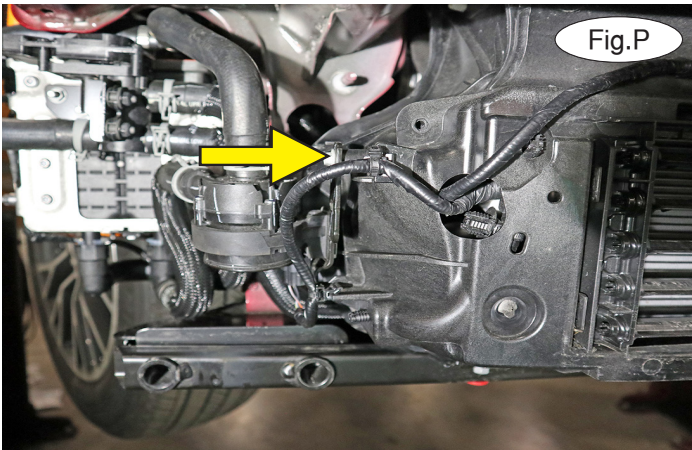
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10. Remove one 10mm nut attaching the computer box to the frame (Fig.N) and then push rearward to temporarily move it out of the way.

11. On each side, remove two 13mm bolts and one 15mm nut attaching the lower radiator support to the subframe (Fig.O).

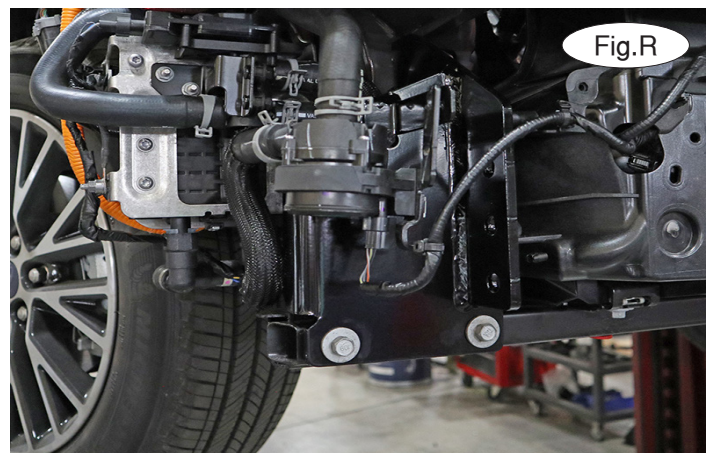


12. **If your vehicle is not a Plug-in Hybrid:** Proceed to the next step. **If your vehicle is a Plug-in Hybrid:** On the passenger side only, unplug the air switch pump and unclip the harness from the shutter housing. Then, remove one 8mm screw attaching the air pump to the shutter housing and pull out to release it (Fig.P – arrow). Let it hang down for now.

13. Working on one side at a time, use the drawing on page 1 to locate the driver's side-specific main receiver brace. Place the brace over the mounts you exposed in step 11 and replace the 15mm nut and two 13mm bolts (Fig.Q). *Note: Use Loctite on the nut and bolts.*

14. Push the brace to the outside of the vehicle as far as possible and tighten the hardware you installed in step 13 to the factory specifications.

15. Repeat steps 13 and 14 for the passenger side. Then, ensure that the air pump is to the outside of the mount so it can be attached to the welded mount on the main receiver brace (Fig.R).



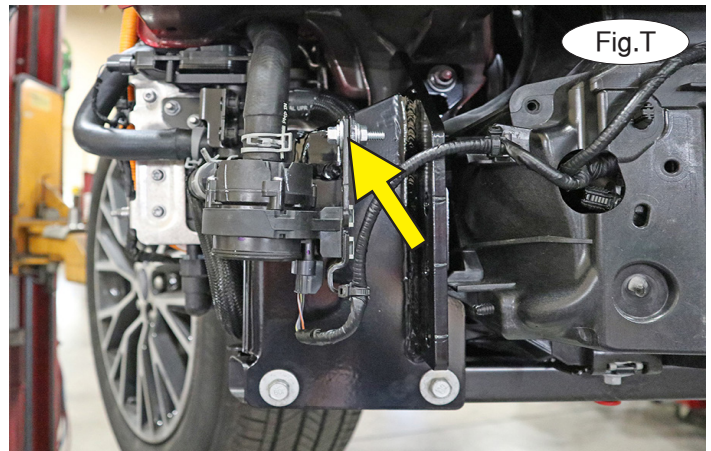
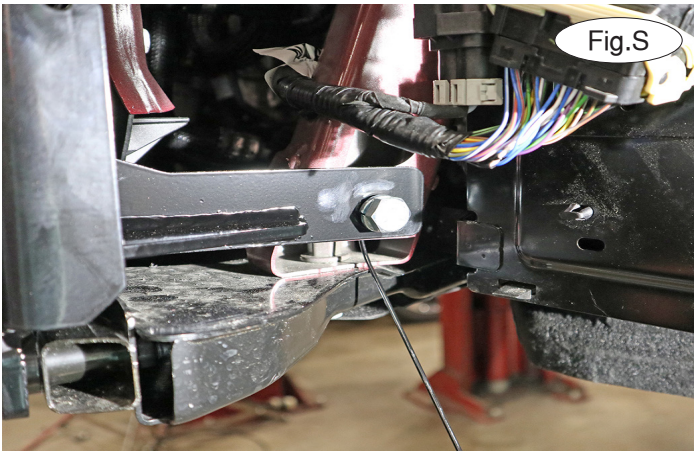


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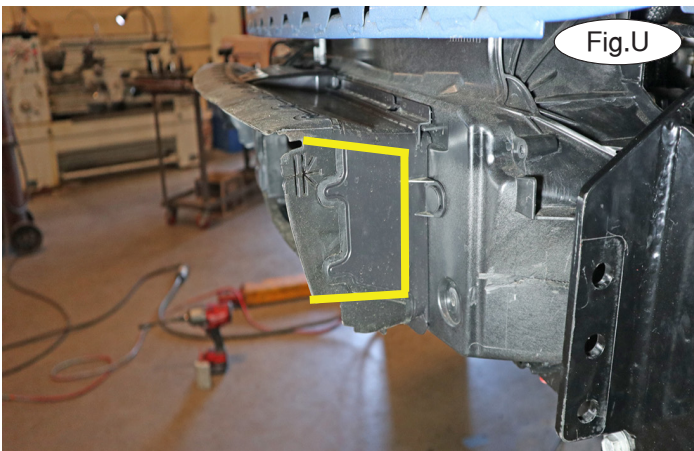
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16. Prepare two $\frac{1}{2}$ " x $\frac{1}{4}$ " bolts with $\frac{1}{2}$ " lock washers and Loctite. Then, locate the two $\frac{3}{16}$ " x $\frac{1}{4}$ " x $\frac{1}{2}$ " threaded backing plate and bend the rods as shown (Fig.S). On each side, place it up into the frame member behind the rear mounting hole of the brace. Then, bolt through the brace and into the backing plate and tighten it to specifications. Bend the rod backward or snap it off with pliers.

17. On the passenger side only, place a 6mm washer over a $\frac{1}{4}$ " x 1" bolt. Pass the bolt through the air pump mount and through the included tab on the brace. Finish with a 6mm washer and $\frac{1}{4}$ " whiz nut (Fig.T).



18. Remount the computer box by bending it back into place and then replacing the 10mm nut.

19. Trim both sides of the air dam as shown, using the yellow lines as a reference, and then replace it (Fig.U).

20. Trim off the gusset on the back of the PAD mount, using the yellow lines in Figure V as a guide. Then, reinstall the PAD by running its wiring through the gap between the frame and the baseplate. Bolt it into place on the side brace using a supplied $\frac{1}{4}$ " x 1" whiz bolt and $\frac{1}{4}$ " flat washer. Then finish with a $\frac{1}{4}$ " whiz nut (Fig.W).



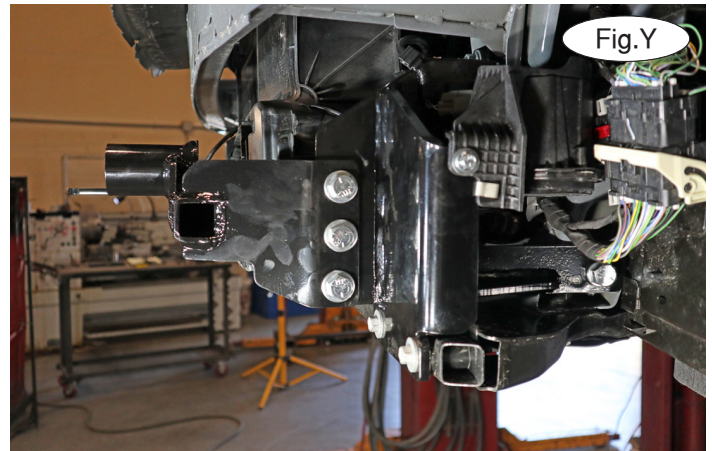


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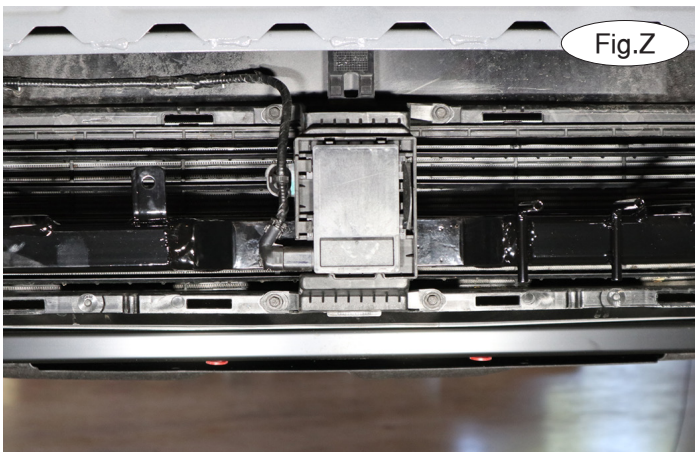
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21. Trace the outline of the ACC sensor, if the vehicle is so equipped. Then, remove four 8mm bolts attaching it to the frame (Fig.X). Release the plastic fastener attaching its harness to the frame, disconnect it and set it aside for now.

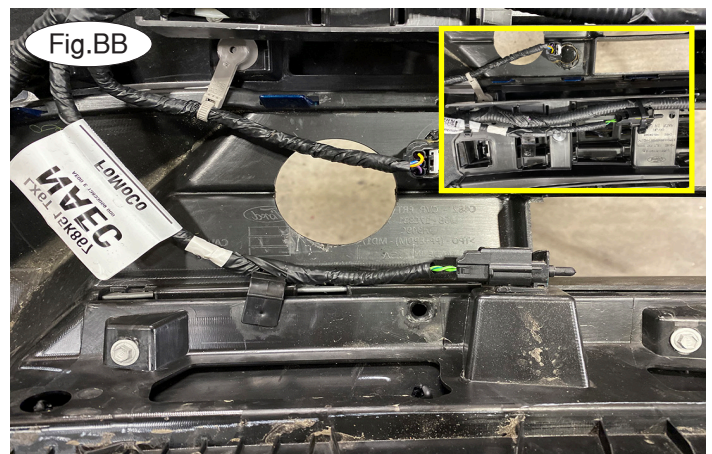
22. Place six 1/2" small flat washers over six 1/2" x 1 1/2" bolts. With the assistance of a second person, place the crossbar around the side-specific brace mounts and then bolt it to the side-specific brace on each side using three of the 1 1/2" bolts. Finish the bolts with 1/2" lock washers and 1/2" nuts (Fig.Y). **Note: If the vehicle is so equipped, ensure that the lower mount of the ACC sensor is nested into the cutout on the baseplate (Fig.Z). Under no circumstances should it be touching the baseplate.**



23. Reinstall the ACC sensor by reversing step 21. If you are using a Brakeaway switch, bend the tab 90 degrees and mount it to the provided tab on the passenger side of the vehicle.

24. Hold the fascia over the receivers and mark it on each side. Then, drill a pilot hole and enlarge it as required to allow clearance for the receiver. If you're careful, you can use a 2 1/4" hole saw to trim it. **IMPORTANT! Use care to avoid damaging the wiring harness.** The approximate trimmed area will be as shown in Figure AA and Figure BB. **Note: Additional trimming may be needed to allow clearance for the main receiver brace.**

25. On the passenger side, remove the ambient temperature sensor and its harness, and zip tie it to the harness above it (Fig.BB and Fig.BB – inset).





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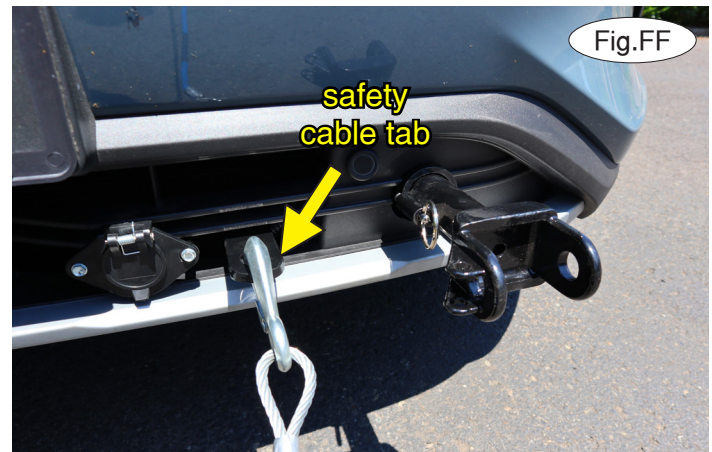
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26. On each side, remove the outermost 8mm screw and trim the backside of the fascia using the yellow lines as guides in Figure CC (passenger side) and Figure DD (driver's side).

27. On each side, completely remove the outermost screw mount and grind the surface flush (Fig.EE).



28. Reinstall the fascia, reversing steps 1 through 7.

29. On each side, insert the removable front arm into the front receiver 90 degrees from its final towing position, depressing the spring-loaded pin against the receiver. 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. **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.**

30. Install the tow bar to the baseplate, according to the manufacturer's instructions.

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 FF. 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.



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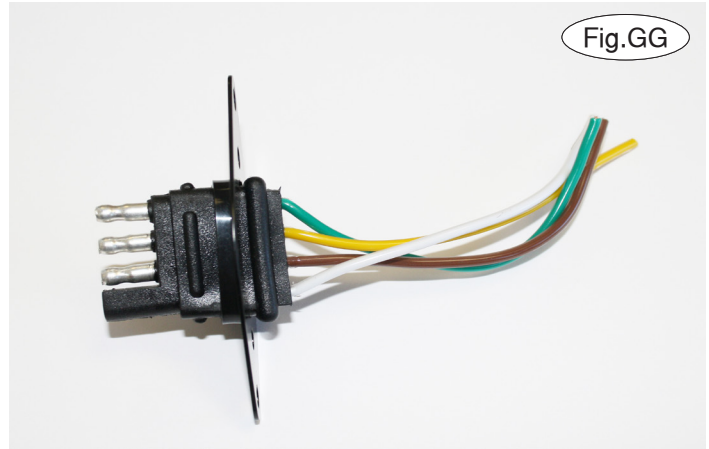
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Three options for attaching the wiring plug to the main receiver brace

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.