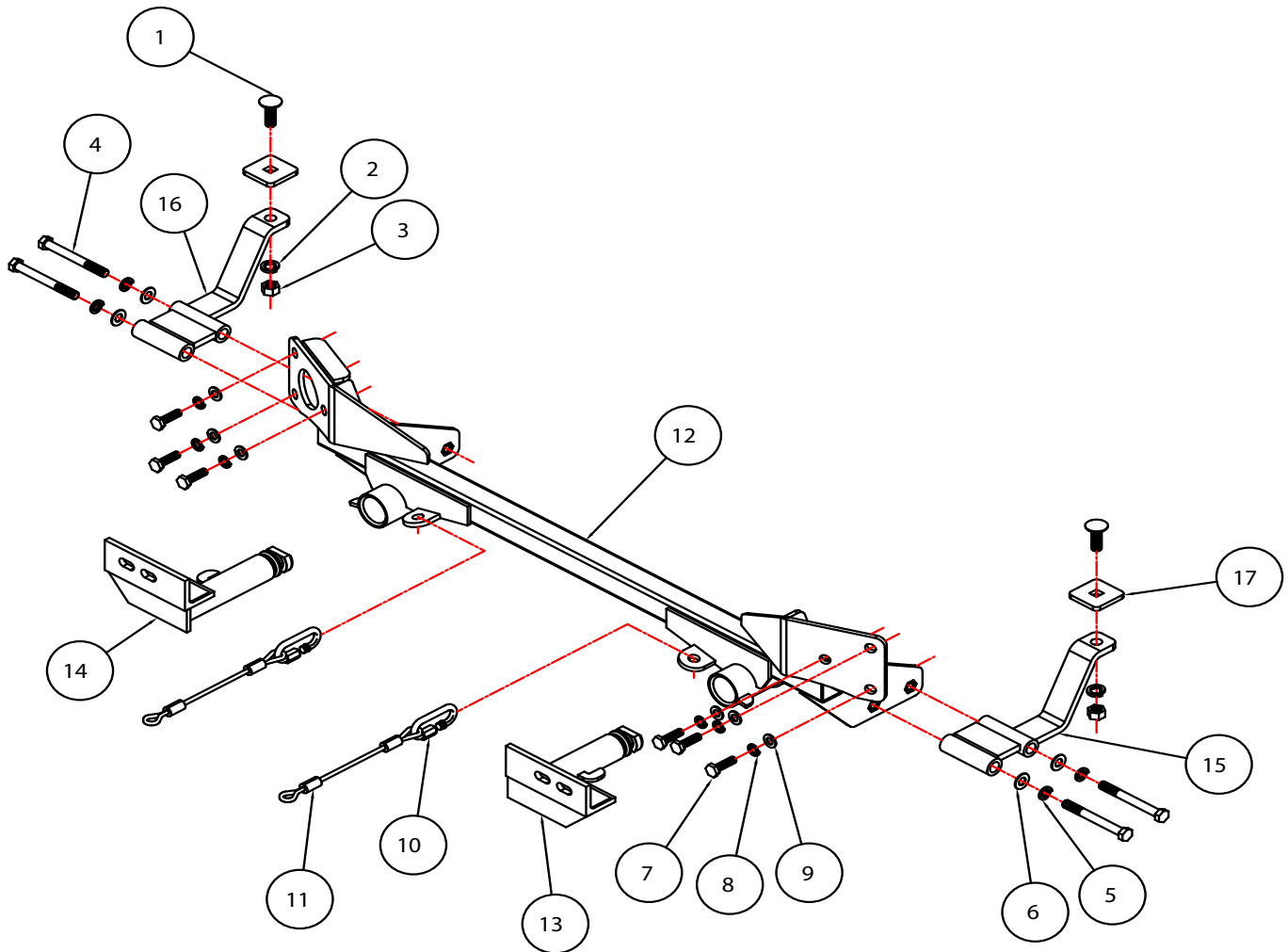




MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

KIT# 521181-5

09/06/16



Item	Qty.	Length	Width	Description	Part#
1.....	2	1 1/2"	1/2"	CARRIAGE BOLT.....	350362-00
2.....	2		1/2"	LOCK WASHER	350309-00
3.....	2		1/2"	NUT	350258-00
4.....	4	4"	7/16"	BOLT.....	350084-00
5.....	4		7/16"	LOCK WASHER	350307-00
6.....	4		7/16"	FLAT WASHER	350345-00
7.....	6	35mm	10mm	10mm x 1.25 x 35mm BOLT	356202-00
8.....	6		10mm	LOCK WASHER	355715-00
9.....	6		10mm	FLAT WASHER	355710-00
10.....	2			CABLE CONNECTOR.....	200008-00
11.....	2	8"		SAFETY CABLE.....	500646-08
12.....	1			MAIN RECEIVER BRACE WELDMENT	C-001350
13.....	1			DRIVER SIDE ARM WELDMENT	C-001351
14.....	1			PASSENGER SIDE ARM WELDMENT	C-001352
15.....	1			DRIVER SIDE REAR WELDMENT	C-001353
16.....	1			PASSENGER SIDE REAR WELDMENT	C-001354
17.....	2			BACKING PLATE	A-000189



MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

KIT# 521181-5

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This is one of our EZ series brackets, which allows the visible front portion of the bracket to be rotated and 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 rails and the rear braces. The two rear braces mount to the main receiver brace and the frame rails. The removable front braces are inserted into the main receiver brace and rotated 90 degrees to lock them in place.

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

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.

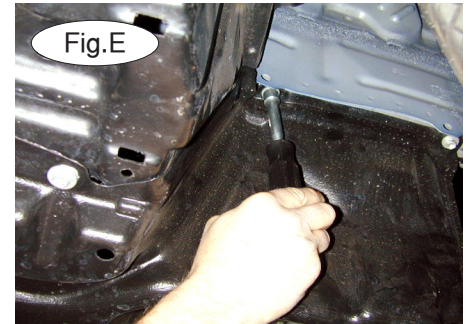
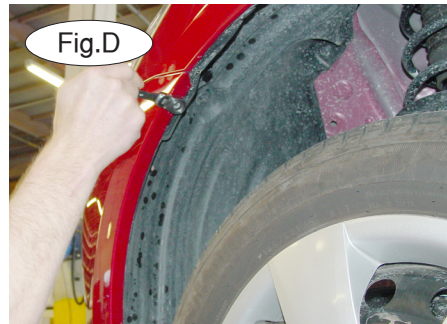
- **Installation of most mounting brackets requires moderate mechanical aptitude and skills.** We strongly recommend professional installation by an experienced installer.
- **The installer must read the instructions and use all bolts and parts supplied.** Failure to do so could result in loss of the 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# 521181-5

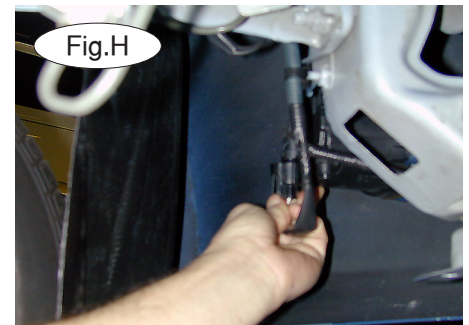
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1. **Important:** please use all supplied bolts and parts and read all instructions carefully before beginning this installation. The majority of questions you may have can be answered within the text, and proper installation will ensure safe and secure travel. Now, begin the installation. For Yaris '12 and later models: to remove the fascia, use the supplement found at the end of these instructions. For Yaris '07 to '11 models and xD '08 to '13 models: proceed with steps 2 through 7.

2. Remove six plastic fasteners attaching the fascia to the core support (Fig.C). On each side, remove one 10mm (head) screw attaching the corner of the fascia to the fender well (Fig.D).

3. On both sides, remove two 10mm (head) bolts attaching the splash shields to the frame rails (Fig.E).



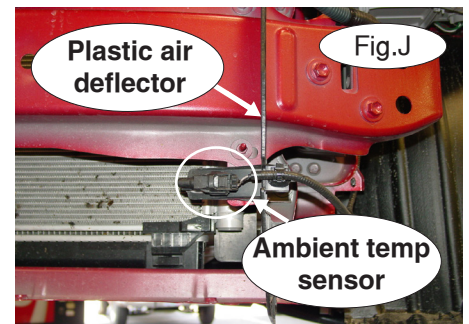
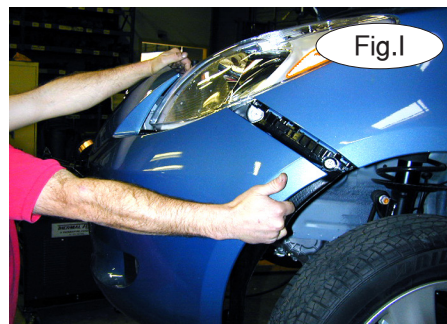
4. Remove nine 10mm (head) screws attaching the splash shields to the bottom of the fascia. Then, remove the splash shields (Fig.F).

5. Remove two 10mm bolts attaching the lower fascia to the core support (Fig.G).

6. On both sides, pull back the fender liner and unplug the fog lights, if the vehicle is so equipped (Fig.H).

7. Remove the fascia by pulling out and forward on both corners (Fig.I).

8. Remove the two plastic air deflectors, one per side, located by the bumper core and core support. Squeeze together on the back of the plastic tabs attached to the air deflectors to remove the air deflectors (Fig.J). If your vehicle is equipped with an ambient air temperature sensor, remove it by removing two plastic fasteners. The ambient air temperature sensor will be re-installed later.

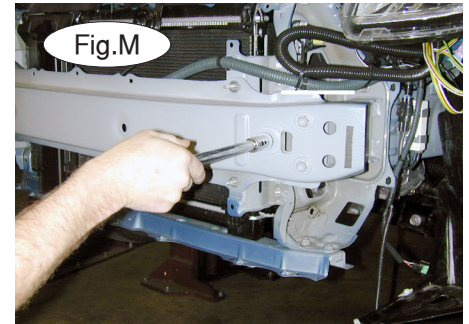
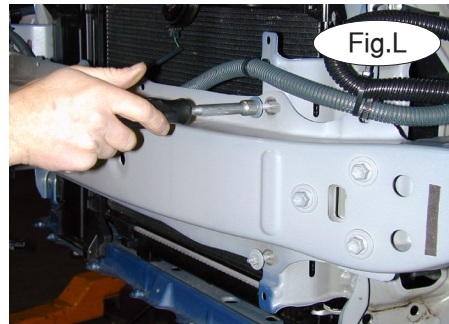
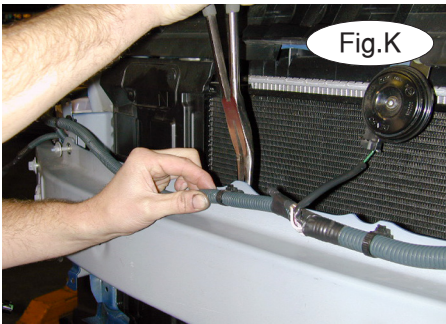




MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

KIT# 521181-5

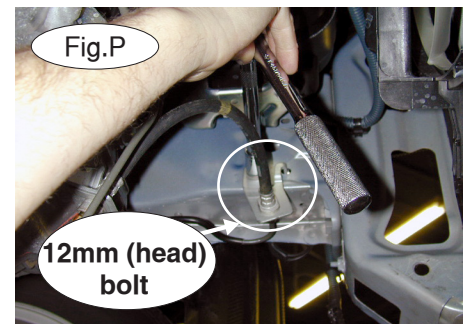
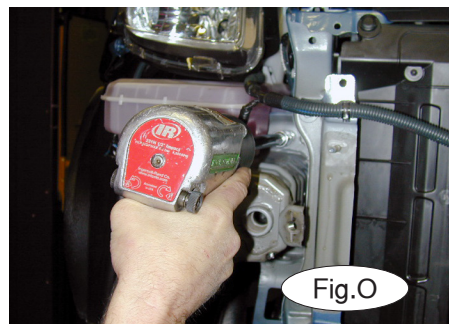
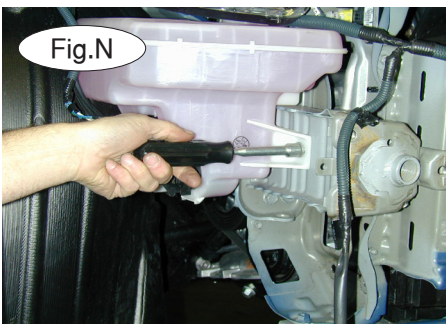
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9. Next, remove six plastic fasteners attaching the wiring harness to the bumper core. Remove the fasteners by squeezing together on the backs of the plastic tabs (Fig.K).

10. On both sides, remove two 10mm (head) bolts attaching the bumper core to the metal air deflectors (Fig.L).

11. On both sides, remove three 14mm (head) bolts attaching the bumper core to the frame rails (Fig.M). Then remove the bumper core. *Note:* The bumper core will not be reinstalled. Retain the bumper core and attachment hardware, however, so that it can be replaced if the bracket is ever removed.



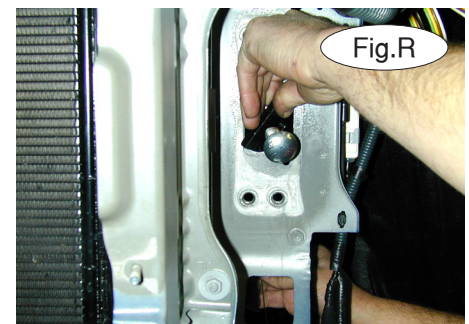
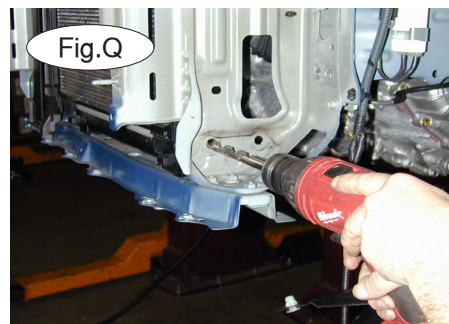
12. On the passenger's side, remove two 10mm (head) bolts attaching the washer bottle to the frame rail and pull the washer bottle off to the side (Fig.N). This is necessary to allow access to the frame rail end on the passenger's side. *Note:* Do not remove the washer bottle.

13. Now, remove four 14mm (head) bolts attaching one of the frame rail ends to the frame rail (Fig.O). Remove the frame rail end. Repeat for the other side.

14. On the driver's side, remove one 12mm (head) bolt attaching the clutch slave cylinder hydraulic line to the frame rail (Fig.P).

15. On both sides, drill out the two existing holes located on the lower radiator support (Fig.Q). Use a 9/16" drill bit.

16. Fish wire one of the 1/2" x 1 1/2" carriage bolts and 1/4" x 2" x 2" square hole backing plates. Place through one of the openings in the front of the frame rail (Fig.R).

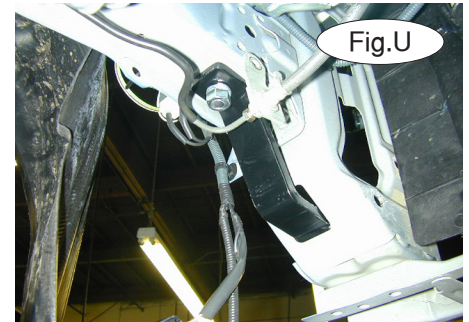
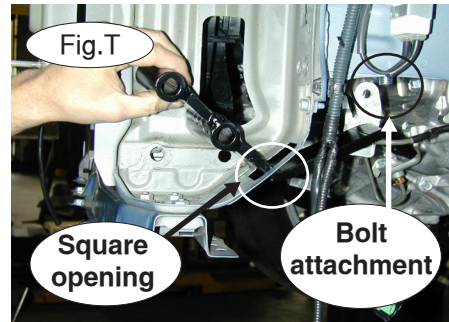
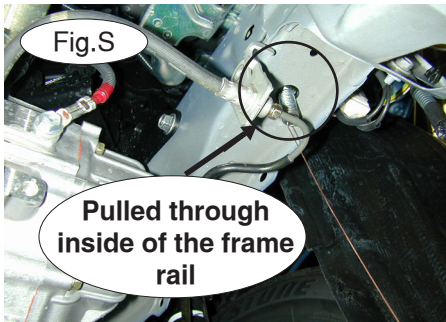




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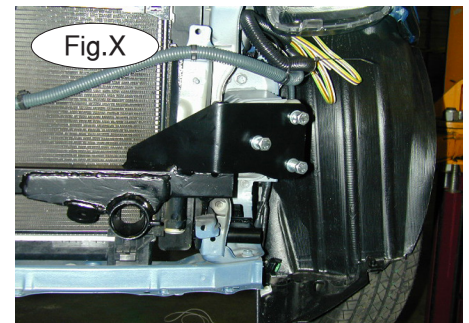
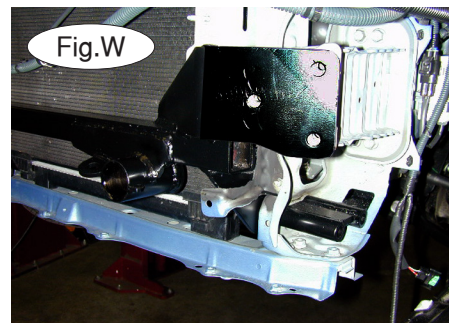
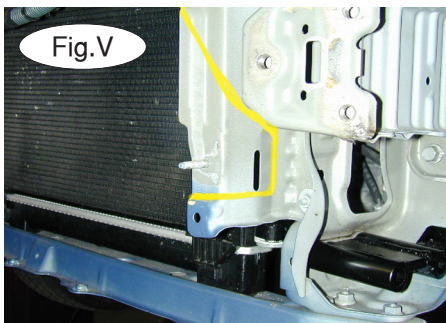
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17. Next, fish wire through the existing hole located approximately 2" inside of the frame rail (Fig.S). Repeat for the other side.

18. Place the driver's side rear brace through the square opening in the radiator support and over the 1/2" bolt you fish wired in the previous step (Fig.T). Bolt into place using the 1/2" lock washer and nut (Fig.U). Leave finger tight. Repeat for the passenger's side.

19. Replace the frame rail ends and the washer bottle bolts, reversing steps 11 and 12. Torque the frame rail end bolts to the specifications listed at the end of these instructions.



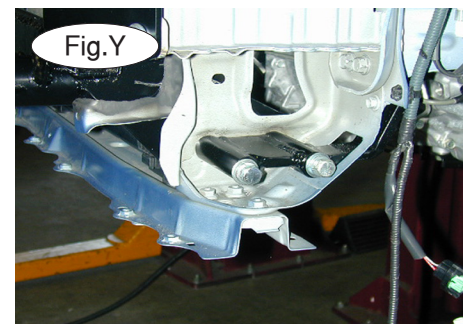
20. Before installing the main receiver brace trim or remove the metal air deflectors on each side. If trimming, use the yellow marker line in Figure V as a reference. *Note:* If you remove the metal air deflectors you will not be able to reinstall the plastic air deflectors. If your vehicle is equipped with an ambient temperature sensor you will need both sets of air deflectors for the ambient temperature sensor to stay mounted to the plastic air deflector. Otherwise, re-mount the temperature sensor to the main receiver brace, once installation is complete.

21. Now, place the main receiver brace over the frame rails and between the radiator and radiator support (Fig.W).

22. Bolt the main receiver brace to the frame rail ends using the three supplied 10mm x 1.25 x 35mm bolts, 10mm plate washers and lock washers (Fig.X) on each side.

23. Next, bolt through the rear brace, the radiator support and into the weld nuts in the main receiver brace using the two supplied 7/16" x 4" bolts, flat-washers and lock washers (Fig.Y). Repeat for the other side.

24. Tighten all remaining bolts to the torque specifications listed at the end of these instructions.

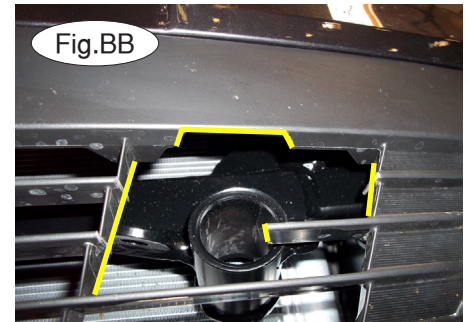
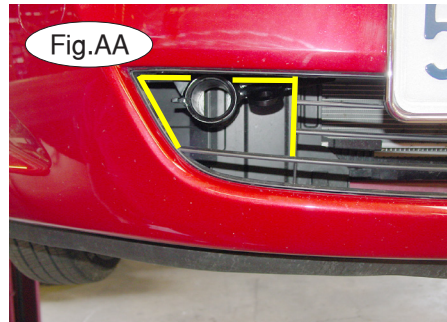
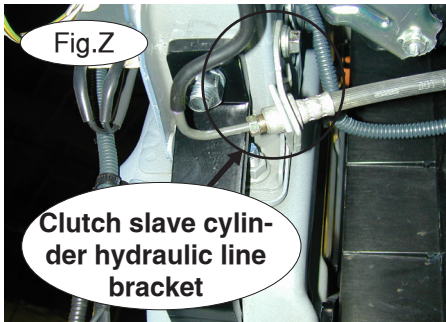




MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

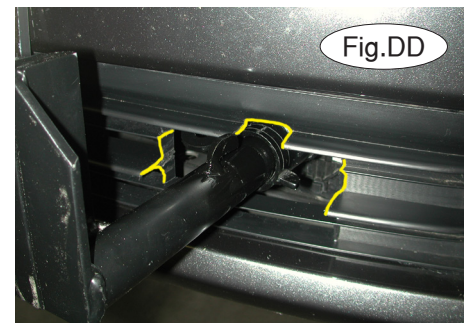
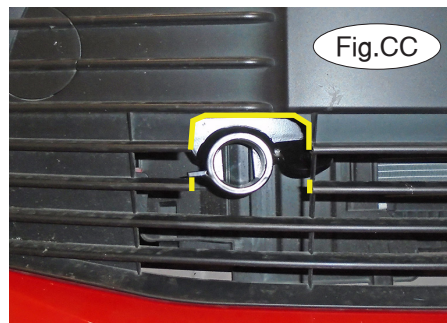
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25. Now, replace the clutch slave cylinder hydraulic line you removed in step 14. *Note:* if the hydraulic line is touching the nut, bend the bracket until it no longer touches the nut (Fig.Z).

26. **For Yaris '07 to '11 models:** to accommodate the main receiver brace, trim the two upper outside horizontal pieces in the grille on both sides, using the yellow lines in Figure AA as a guide for trimming.



For Yaris '12 to '14 models: trim the fascia, using the yellow lines in Figure BB as a guide for trimming.

For Yaris '15 and later models: trim the fascia, using the yellow lines in Figure CC as a guide for trimming

For xD '07 to '13 models: to accommodate the main receiver brace, trim the two upper horizontal ribs on both sides. Insert the removable front braces. Then, on each side, trim approximately 1½" to the outside, using the yellow marker lines in Figure DD as a guide for trimming.

27. Reassemble the wiring harness, plastic air deflectors, fascia and the splash shields, reversing steps 1 through 9.

28. Insert the front braces into the main receiver braces and twist 90 degrees to lock. Attach the 8" safety cables with the cable connectors (Q-Links) to the front of the receiver braces. Attach the ends of the safety cables to the tow vehicle's safety cables and tow bar.

29. Install the tow bar to the mounting brackets 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	8.8	20 ft./lb. 18 ft./lb.	12mm-1.25	8.8	70 ft./lb. 65 ft./lb.
3/8.....	5.....	23 ft./lb.	8mm-1.25	8.8	19 ft./lb. 18 ft./lb.	12mm-1.5	8.8	66 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.....	5.....	150 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.



MOUNTING BRACKET KIT INSTALLATION INSTRUCTIONS

KIT# 521181-5

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Supplemental Instructions – Yaris '12 and later models

This supplement supersedes steps 2 through 7 in the mounting bracket installation instructions.



1. Remove four plastic fasteners attaching the fascia to the core support (Fig.A).
2. Remove five Philips screws attaching the lower fascia to the splash shield and fender liner. *Note:* there are three located on the passenger side (Fig.D) and two on the driver's side.



3. Remove three 10mm (head) bolts attaching the lower fascia to the core support (Fig.C).
4. Release the clips attaching the corner of the fascia to the fender liner (Fig.D).
5. Pull out and forward to remove the fascia from the locking strip. Disconnect the fog lights, if the vehicle is so equipped.

Now, return to step 8 in the instructions to finish the installation.