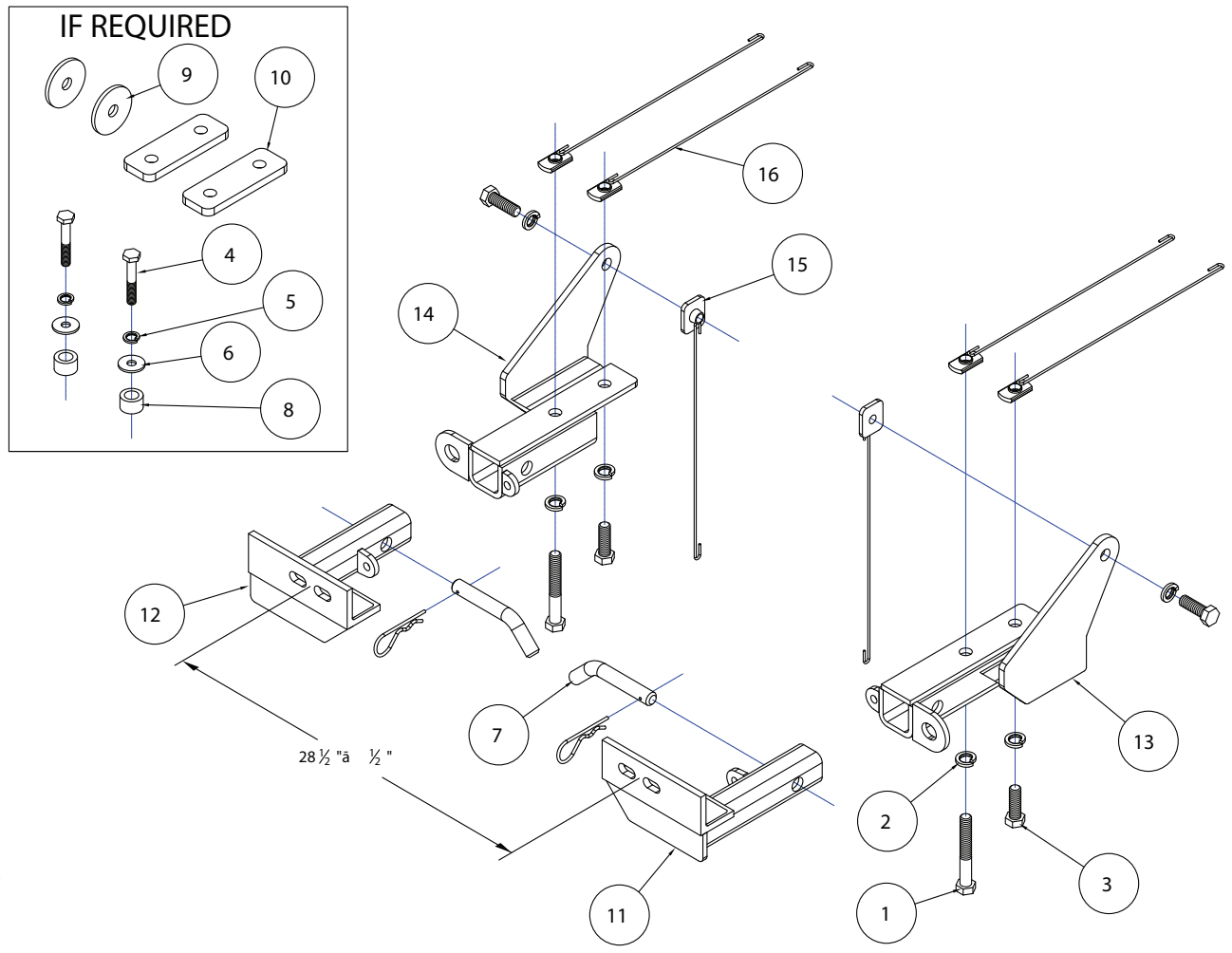




BASEPLATE KIT INSTALLATION INSTRUCTIONS

KIT# 4431-1A
12/6/18
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ITEM	QTY	NAME	MATERIAL
1	2	1/2" x 3 1/2" BOLT	350103-00
2	6	1/2" LOCK WASHER	350309-00
3	4	1/2" x 1 1/2" BOLT	350095-00
4	2	M10 x 1.5 x 60mm BOLT	356107-00
5	2	M10 LOCK WASHER	355715-00
6	2	3/8" FLAT WASHER	350303-20
7	2	5/8" DRAW PIN WITH CLIP	357035-00
8	2	1" O.D. x 0.188 WALL x 5/8" SPACER	A000156
9	2	1/2" PLATE WASHERS	A003086
10	2	SPACER PLATE	A004946
11	1	DRIVER SIDE ARM	C002250
12	1	PASSENGER SIDE ARM	C002251
13	1	DRIVER SIDE RECEIVER	C002252
14	1	PASSENGER SIDE RECEIVER	C002253
15	2	1 1/4" x 1 1/2" THREADED BACKING PLATE WITH 12" ROD	C002712
16	4	1/2" WELD NUT WITH 12" ROD	C002852



BASEPLATE KIT INSTALLATION INSTRUCTIONS

KIT# 4431-1A

12/6/18
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This bracket kit is one of our XL series, which allows the visible front portion of the brackets to be easily removed (Fig.A and Fig.B). The kit consists of the main receiver brace, removable front braces and a hardware pack.

The main receiver brace mounts to the front frame on each side. The removable front braces insert into the receivers on each side and are secured with draw pins.

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.

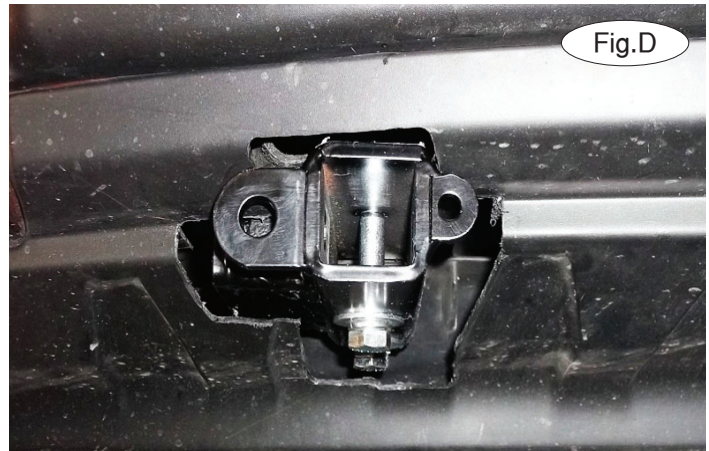


BASEPLATE KIT INSTALLATION INSTRUCTIONS

KIT# 4431-1A

12/6/18
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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 '15 and later models:** proceed to the supplemental instructions found on page 8. **For '10-'14 models without tow hooks:** trim the bumper on each side as shown to allow clearance for the main receiver braces, following the indents in the splash shield to aid in the trimming (Fig.C). Figure D shows the completed trimming. **For Raptor models:** proceed to the supplemental instructions found on page 6 to remove the bumper and skid plate. **For all other models:** proceed to step 2.



2. Working on the driver's side only, remove two 15mm (head) bolts and the two-holed backing plate attaching the tow hook to the bottom of the frame rail (Fig.E). The tow hook will not be replaced. *Note:* retain the tow hook and hardware for reinstallation in case the bracket is ever removed.

3. Place one of the supplied 1/2" lock washers over one of the 1/2" x 1 1/2" bolts, and bolt up through the rear hole of the main receiver brace (Fig.F). Place the main receiver brace behind the forward splash shield, aligning the holes with the existing holes in the frame rail (Fig.G). Bolt up through the main receiver brace, tow hook mount and into the frame rail using the 1/2" x 1 1/2" bolt (Fig.H).



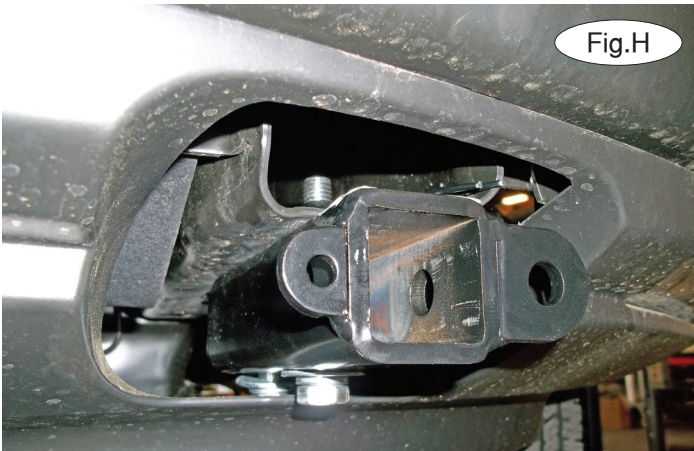


BASEPLATE KIT INSTALLATION INSTRUCTIONS

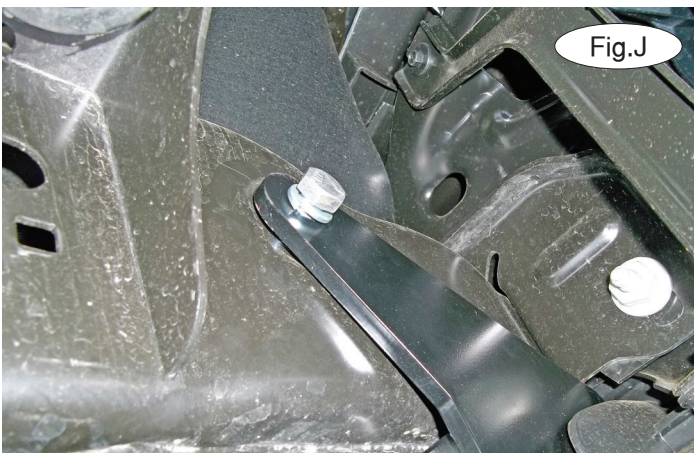
KIT# 4431-1A

12/6/18
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- Place one of the supplied smaller weld nuts with rod over the bolt you just installed in the previous step (Fig.I). *Note:* use Loctite® Red on all bolts used for mounting this bracket.
- Place one of the larger threaded backing plates with rod inside the frame rail and over the inside upper mounting point of the main receiver brace. Place a 1/2" lock washer over one of the supplied 1/2" x 1 1/2" bolts, and bolt through the outside of the frame rail and into the backing plate (Fig.J).



- Place one of the supplied 1/2" lock washers over one of the 1/2" x 3/2" bolts and bolt up through the front hole in the main receiver brace, tow hook mounting hole, the frame rail and into one of the smaller weld nuts with rod.
- Torque the two bolts in the bottom of the frame rail and then the top nuts using the bolt torque requirements found at the end of these instructions.
- Repeat steps 2 through 7 for the passenger side of the vehicle.
- Using a pair of pliers, break the wires off all the backing plates (Fig.K). **For Raptor models:** return to the supplement to finish replacing the bumper and skid plate.
- Insert the removable front bracket arms into the front receiver braces.

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
5/16-18	5	13 ft./lb.
3/8-16	5	23 ft./lb.
7/16-14	5	37 ft./lb.
1/2-13	5	57 ft./lb.
5/8-11	5	112 ft./lb.

METRIC BOLTS

Thread Size	Grade	Torque
6mm-1.0	8.8	6 ft./lb.
8mm-1.0	8.8	18 ft./lb.
8mm-1.25	8.8	16 ft./lb.
10mm-1.25	8.8	36 ft./lb.
10mm-1.5	8.8	31 ft./lb.

METRIC BOLTS

Thread Size	Grade	Torque
12mm-1.25	8.8	64 ft./lb.
12mm-1.5	8.8	60 ft./lb.
12mm-1.75	8.8	55 ft./lb.
14mm-2.0	8.8	88 ft./lb.



BASEPLATE KIT INSTALLATION INSTRUCTIONS

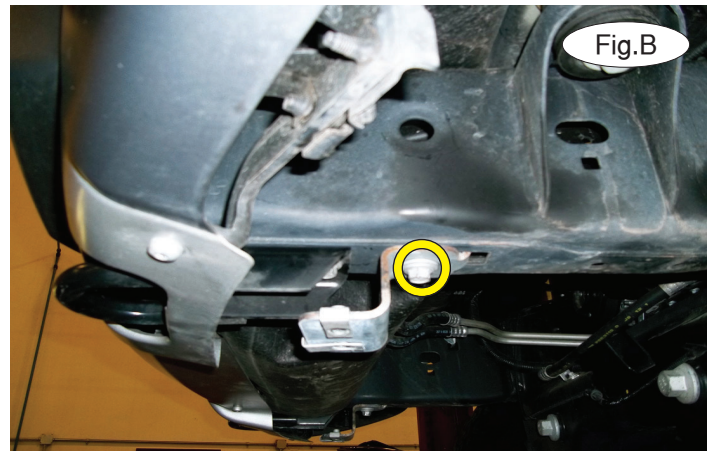
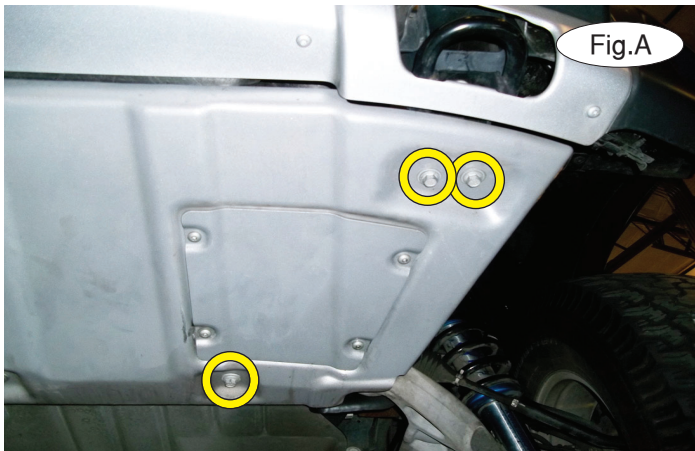
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12/6/18
KS

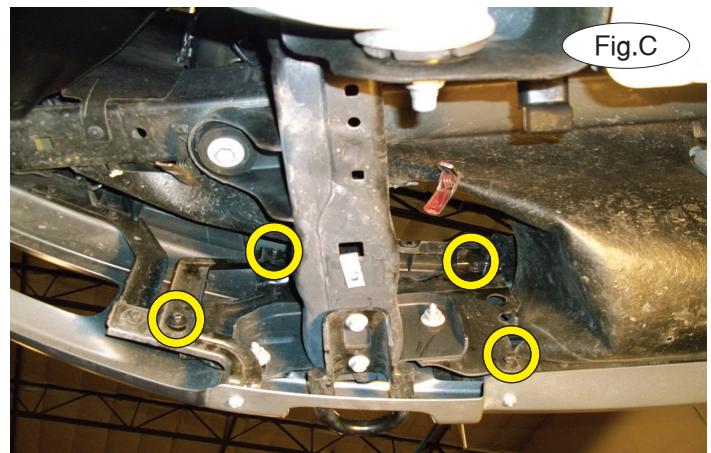
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Supplemental Instructions for Raptor Models

This supplement provides instructions on removing the bumper and skid plate.



1. On each side, remove three 15mm (head) bolts attaching the skid plate to the frame (Fig.A – driver's side).
2. On each side, remove one 15mm (head) bolt attaching the skid plate mounting bracket to the frame rail (Fig.B).



3. Remove three plastic fasteners attaching the splash shield to the bumper (Fig.C).
4. On each side, remove four 10mm (head) bolts attaching the bumper and support bracket to the frame rail (Fig.D).
5. Pull down and forward to release the bumper (Fig.E).



Now, return to step 2 in the regular installation instructions to install the bracket.



BASEPLATE KIT INSTALLATION INSTRUCTIONS

KIT# 4431-1A

12/6/18
KS

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6. Reinstall the bumper by reversing steps 3 through 5 in this supplement.
7. Working on one side at a time, place one of the supplied 5/8" x 1" x .188 wall pipe spacers between the frame and the skid plate mounting bracket you removed in step 2 of this supplement. Now, using the supplied 10mm x 1.5 x 60mm bolt, 10mm lock washer and 3/8" washer, bolt up through the bracket, through the spacer and into the bracket mount. The yellow arrow in Figure F indicates the location of the spacer.
8. Finish reinstalling the skid plate by reversing step 1 in this supplement.
9. Due to manufacturing variances, it may be necessary to trim a small amount on the fascia to allow clearance for the main receiver brace. If this is the case, use the yellow line in Figure G as a guide for trimming the tab in the grille opening.



BASEPLATE KIT INSTALLATION INSTRUCTIONS

KIT# 4431-1A

12/6/18
KS

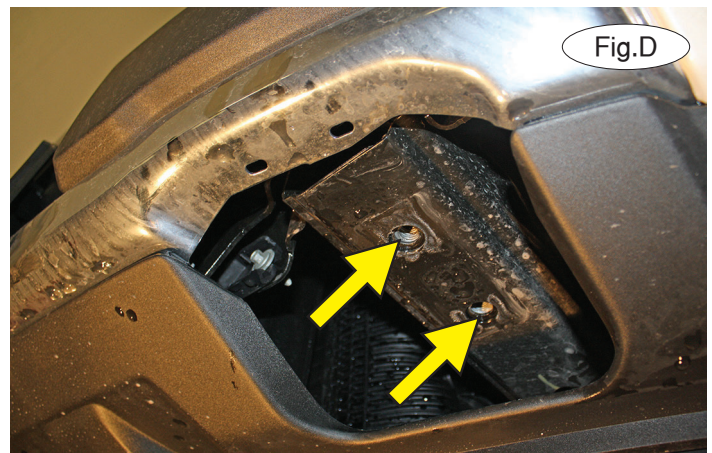
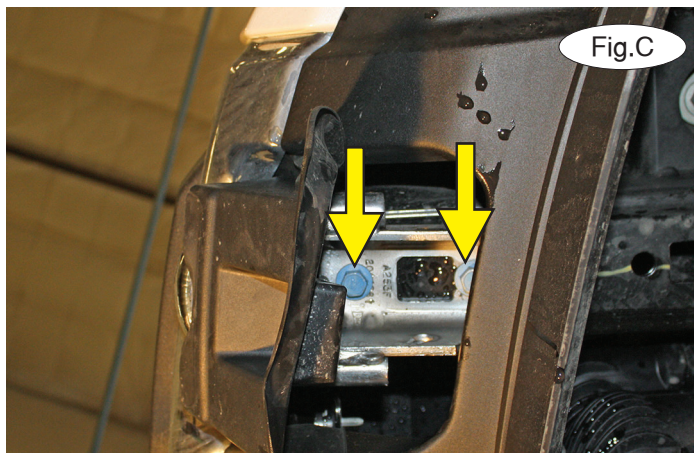
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Supplemental Instructions for '15 and Later Models

This supplement provides instructions on installing the bracket on these models.



1. **For models without tow hooks:** proceed to step 4. **For models with tow hooks:** working on one side at a time, pull out and forward on the bottom rubber lip of the tow hook cover to release it from the fascia (Fig.A). Then, pull the rest of the tow hook cover all the way forward and then down to gain access to the tow hook bolts (Fig.B).

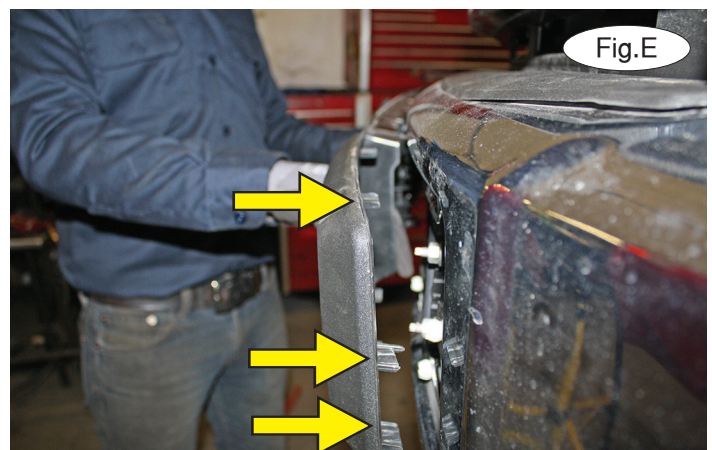


2. Remove the two 15mm (head) bolts attaching the tow hook to the frame rail (Fig.C). Then, use a screwdriver or other pointed object to slide the two-holed backing plate (inside the frame rail) forward enough to remove it from the tow hook opening. Figure D indicates the access points for removing the two-holed backing plate. The tow hook will not be replaced. *Note:* retain the tow hook and hardware for reinstallation in case the bracket is ever removed.

3. Repeat steps 1 and 2 for the opposite side of the vehicle.

For models with tow hooks, proceed to step 7.

4. Starting in the center and carefully working around all edges, pry the plastic fascia cover out of its mounting clips. *Note:* Figure E shows some of the clips on each side but not all.



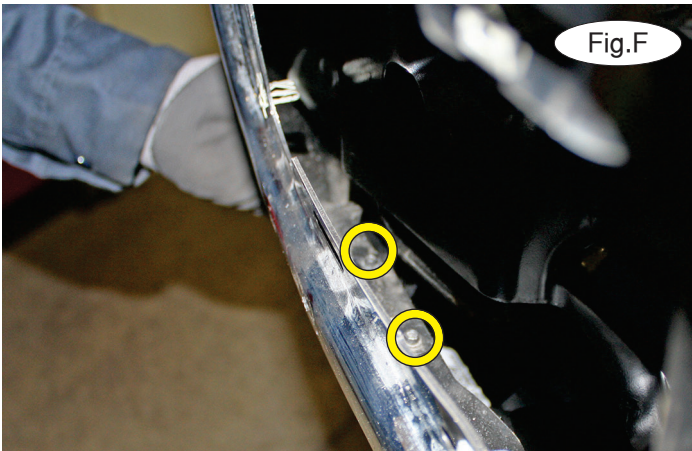


BASEPLATE KIT INSTALLATION INSTRUCTIONS

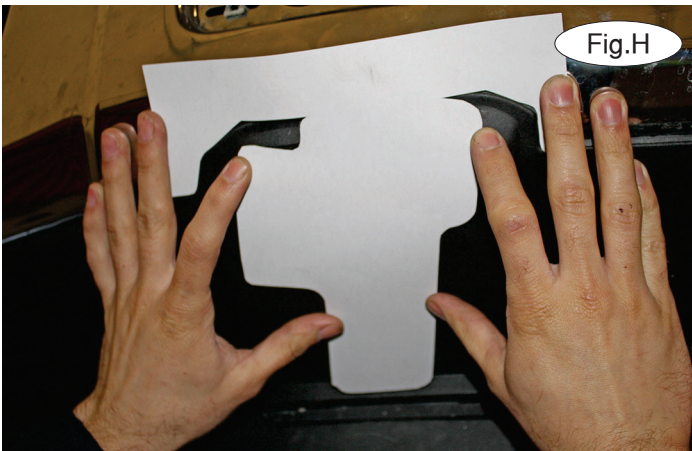
KIT# 4431-1A

12/6/18
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5. On each side, remove two 5.5mm screws attaching the lower fascia to the bumper (Fig.F). *Note:* if the vehicle is equipped with an ACC unit, you can gain access to the bolts by using an extension with a universal joint (Fig.G). Once you have removed the bolts, use needlenose pliers to remove the 5.5mm screw slipnuts from behind the fascia. **Caution!** Under no circumstances should you attempt to move, adjust or disconnect the ACC unit (indicated in red in Figure G). Doing so may cause cruise control malfunction and/or computer error codes that may require the dealership to repair or reset.



6. Locate the template at the end of these instructions. Cut out the template as shown in Figure H and align it with the top profile of the lower fascia (Fig.H). Trace the template and then trim the fascia to allow clearance for the main receiver brace. *Note:* the top of the template should align as shown with the yellow lines in Figure I for best trimming results. You will also need to trim the upper edge of the lower fascia completely flat so only its mounting flange is left (Fig.J).



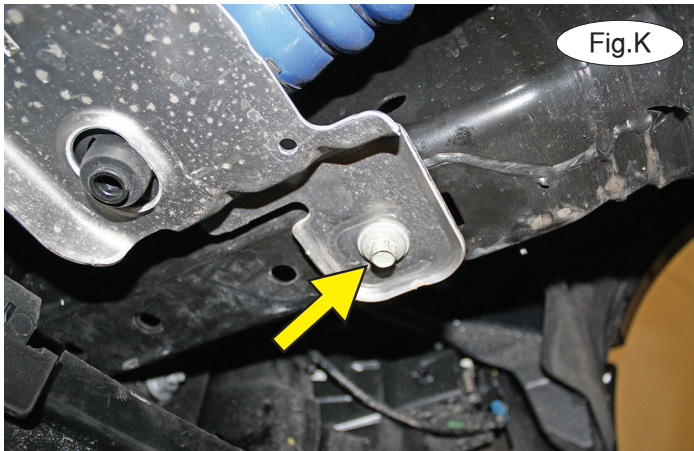


BASEPLATE KIT INSTALLATION INSTRUCTIONS

KIT# 4431-1A

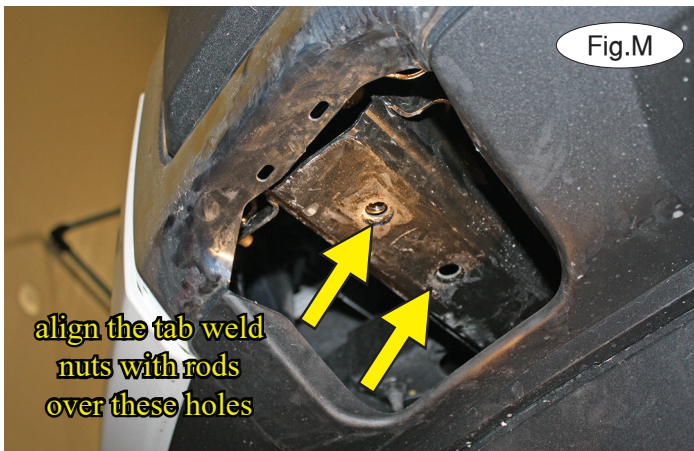
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7. On each side, remove one 13mm (head) bolt attaching the intercooler support to the bottom of the frame (Fig.K). Carefully lower the intercooler and let it hang for now (Fig.L).

8. Working on one side at a time, access the forwardmost square hole exposed in the previous step and place one of the smaller weld nuts with rod over the existing holes. Repeat for the second hole. *Note:* a flashlight will be necessary to know when the threads are aligned over the tow hook mount holes (Fig.M). Then, bend the smaller weld nuts with rods as necessary so that they lay completely flat on the frame rail.



9. Place the two-holed spacer over the top of the main receiver brace (Fig.N) and place it through the tow hook opening.

10. *Note:* it may be helpful to have a second person for the following steps. Have the second person hold the bracket in place under the existing tow hook mount holes in the frame rail, and using one of the supplied $\frac{1}{2}$ " x $3\frac{1}{2}$ " bolts and $\frac{1}{2}$ " lock washers, thread the bolt up through the forwardmost hole of the main receiver brace, two-holed spacer plate and finger tighten into the smaller weld nut with rod (Fig.O). Now, using one of the supplied $\frac{1}{2}$ " x $1\frac{1}{2}$ " bolts and $\frac{1}{2}$ " lock washers, thread the rear bolt up through the main receiver brace, two-holed spacer plate and into the smaller weld nut with rod (Fig.P). *Note: ensure proper alignment, as the bolts will receive Loctite® Red and will be torqued at the end of these instructions.*





BASEPLATE KIT INSTALLATION INSTRUCTIONS

KIT# 4431-1A

12/6/18
KS

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Fig.P



Fig.Q

11. Using the rear hole of the main receiver brace as a template for drilling, drill a $\frac{1}{2}$ " hole through the outside layer of the frame rail (Fig.Q). *Note:* use a shorter drill bit due to the lack of clearance for drilling.

12. Insert a $\frac{3}{16}$ " x 2" O.D. spacer between the frame and the bracket and then loosely bolt through the main receiver brace, spacer and into the frame rail using the supplied $\frac{1}{2}$ " x $1\frac{1}{2}$ " bolt and $\frac{1}{2}$ " lock washer (Fig.R). Then, locate the end of the bolt you just installed (Fig.S) and insert one of the larger threaded backing plates with rod into the access hole and over the bolt. Thread the bolt into the backing plate.



Fig.R

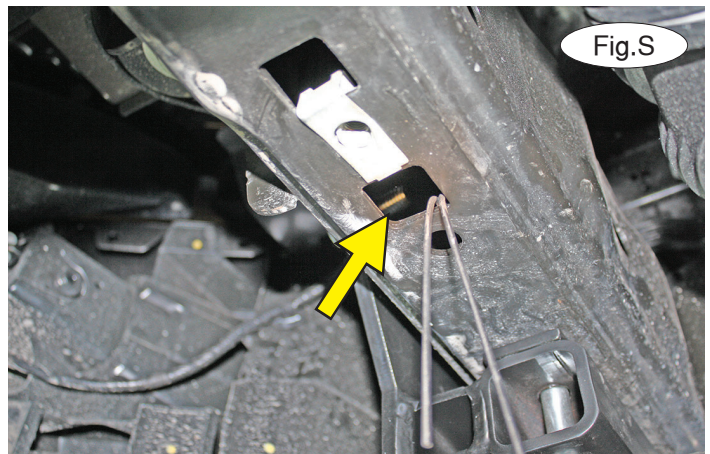


Fig.S

13. Repeat steps 8 through 12 for the other side of the vehicle.

14. Bend all the rods back against the frame and then reinstall the intercooler and its support by reversing step 7, trapping the rods from the weld nuts against the frame (Fig.T). Trim off the excess rods.

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

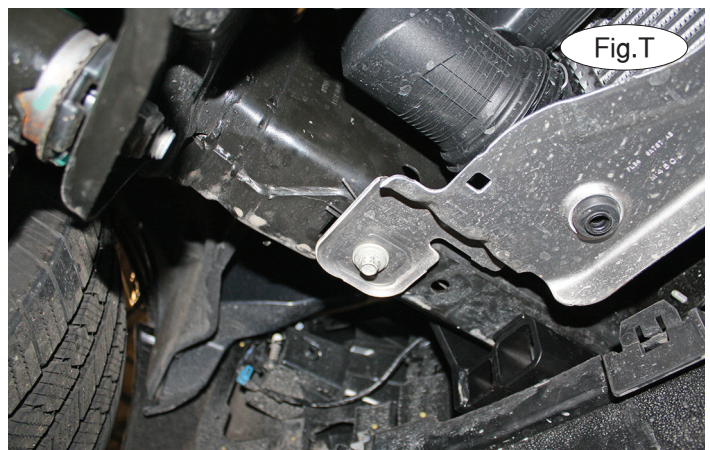


Fig.T



BASEPLATE KIT INSTALLATION INSTRUCTIONS

KIT# 4431-1A

12/6/18
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16. **For models with tow hooks:** proceed to the next step. **For models without tow hooks:** reinstall the plastic fascia cover, reversing step 1. *Note:* use a flathead screwdriver to bend the teeth of the slipnuts back to ease reinstallation (Fig.U).

17. Insert the removable front bracket arms into the front receiver braces.

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





BASEPLATE KIT INSTALLATION INSTRUCTIONS

KIT# 4431-1A

12/6/18
KS

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For '18 and later models with tow hooks



1. On each side, pry out on the plastic fascia cover to remove it (Fig.A – driver's side). **For models without ACC:** skip to 3. **For models with ACC:** please read the note below before proceeding to step 2.

IMPORTANT!

The following step requires the disconnection of the ACC unit and its removal from the bumper.

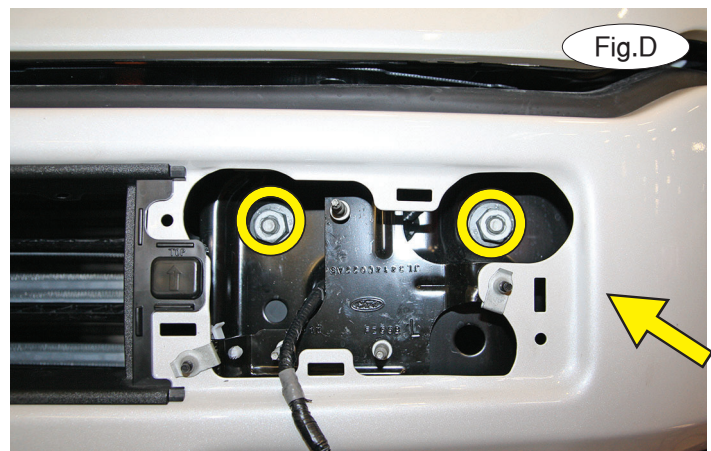
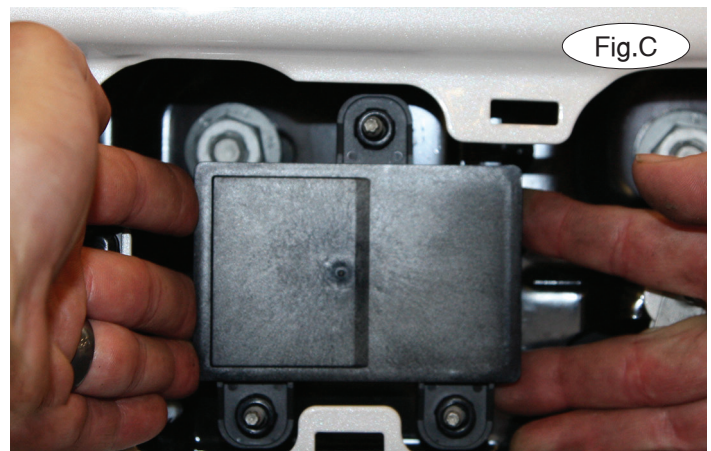
Before proceeding, ensure that the key is in the 'off' position, and then disconnect the negative battery terminal.

It is imperative that when loosening the top nut, as the next step directs you to do, that you do not allow the adjustment bolt to turn.

If the adjustment bolt turns, it is possible that the ACC unit will need to be recalibrated by the Ford dealership to ensure proper function.

2. On the driver's side, there are three 11mm (head) nuts attaching the ACC unit to the bumper. Remove the two bottom nuts. Then, use a wrench and needlenose pliers – along with extreme care – to remove the top nut, which is on the adjusting bolt (Fig.B). Gently pry the ACC off its ball mounts (Fig.C) and let it hang down for now.

3. On each side, remove three 13/16" nuts attaching the bumper to the frame (Fig.D). *Note:* the third 13/16" nut is on the back side of the bumper, near the frame rail. Its approximate location is noted by the arrow in Figure D.





BASEPLATE KIT INSTALLATION INSTRUCTIONS

KIT# 4431-1A

12/6/18
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Fig.E

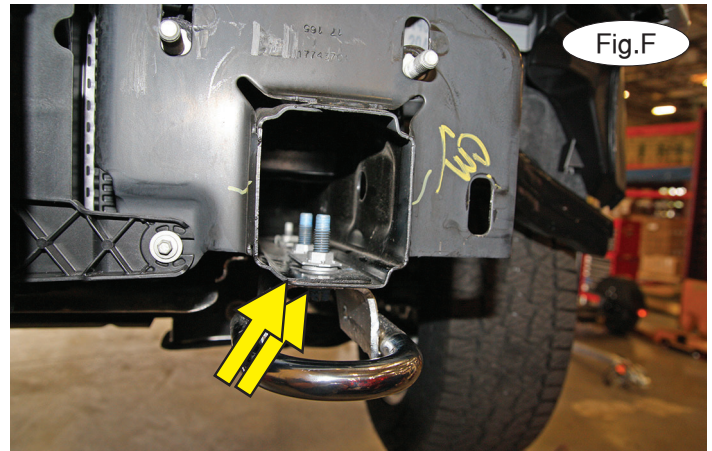


Fig.F

4. Remove the bumper (Fig.E). *Note:* it may be easier for the removal if a second person assists with this step. Disconnect the wiring connectors, and the fog lights, if the vehicle is so equipped.

5. On each side, remove the tow hook cover and remove the two exposed 15mm (head) bolts attaching the tow hook to the frame (Fig.F). *Note:* the tow hook cover will not be replaced. Retain it for replacement in case the bracket is ever removed.



Fig.G



Fig.H

6. Working on the driver's side only, place the two-holed spacer over the top of the main receiver brace (Fig.G) and then position it below the frame rail, aligning it with the existing tow hook mount holes in the frame rail. Then, using one of the supplied $\frac{1}{2}$ " x $3\frac{1}{2}$ " bolts and $\frac{1}{2}$ " lock washers, thread the bolt up through the forwardmost hole of the main receiver brace, two-holed spacer plate and finger tighten into the smaller weld nut with rod.

Now, using one of the supplied $\frac{1}{2}$ " x $1\frac{1}{2}$ " bolts and $\frac{1}{2}$ " lock washers, thread the rear bolt up through the main receiver brace, two-holed spacer plate and into the smaller weld nut with rod (Fig.H). *Note: ensure proper alignment, as the bolts will receive Loctite® Red and will be torqued at the end of these instructions.*

7. Using the rear hole of the main receiver brace as a template for drilling, drill a $\frac{1}{2}$ " hole through the outside layer of the frame rail (Fig.I). *Note:* use a shorter drill bit due to the lack of clearance for drilling.



Fig.I

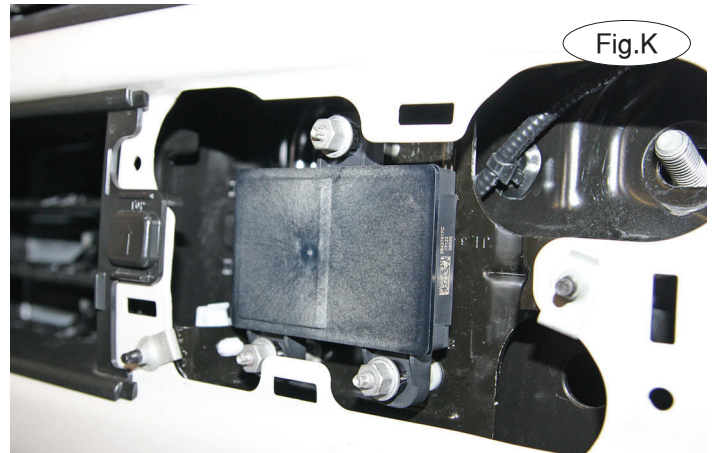
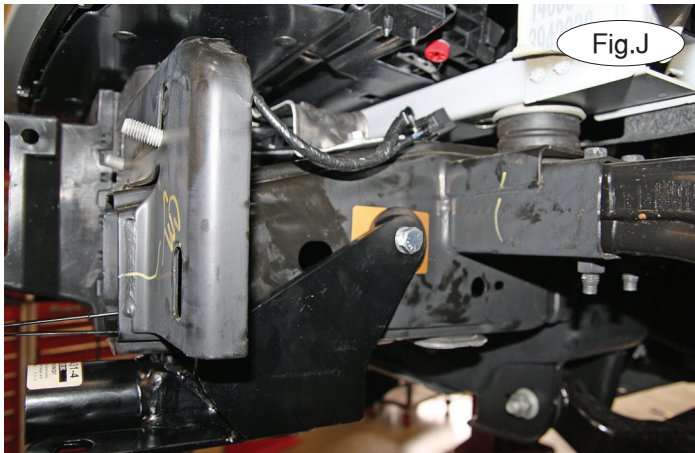


BASEPLATE KIT INSTALLATION INSTRUCTIONS

KIT# 4431-1A

12/6/18
KS

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8. Insert a 3/16" x 2" O.D. spacer between the frame and the bracket and then loosely bolt through the main receiver brace, spacer and into the frame rail using the supplied 1/2" x 1 1/2" bolt and 1/2" lock washer (Fig.J). Then, locate the end of the bolt you just installed (Fig.U) and insert one of the larger threaded backing plates with rod into the frame rail and over the bolt. Thread the bolt into the backing plate.
9. Torque the bolts to the bolt torque requirements found at the end of these instructions.
10. Repeat steps 6 through 9 for the passenger side of the vehicle.
11. Reinstall the bumper and the ACC unit (Fig.K), if the vehicle is so equipped, by reversing steps 1 through 4. As with the removal of the ACC unit, use extreme caution when reinstalling it. *Note:* when reinstalling the bumper, use the rubber covering on the top to align it appropriately with the body of the vehicle
12. Re-attach the negative battery terminal.

KIT# 4431-1A

12/6/18
KS

***2015 and later models trim template
for vehicles without tow hooks***

