



# TOYOTA

## SuperRail Mounting Kit

### #3118



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# Installation Instructions

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## SPECIFICATIONS

- Fits only the 2007-2019 Tundra Crew Max w/ 5'8" bed
    - Hitch located center of axle
- U.S Pat. No. 6,065,766

# IMPORTANT

## DO NOT OPERATE HITCH UNTIL YOU READ THIS SECTION!

1. The SuperGlide hitch was designed to allow the Turntable Cam Arm Assembly to “glide” along two metal tubes, called the Way Tubes. Since it’s release in 1998, we have made several advancements in the design, strength, and durability of these components. The Lubrication section of your Owners Manual spans several product releases and design changes. It is *imperative* that you read each section and determine which SuperGlide hitch you purchased, and how to care for it. There have been three major lubrication changes to the SuperGlide hitch:
  - Prior to April 2008, Way Tubes were assembled with either a conventional, quality grade grease or none at all
  - In April 2008, we started coating the Way Tubes with a graphite-based spray lubricant called SlipPlate™
  - November 2009 brings a new innovation from PullRite Towing Systems with the use of plastics. The Turntable Cam Arm Assembly is now equipped with Plastic Wear Plates; see Owners Manual for details (not available for #3600 models)

Depending on when your hitch was manufactured, the Way Tubes of your new SuperGlide hitch will meet one of the above criteria. Each application listed requires some level of maintenance, so it is important that you read the following instructions carefully for the correct lubrication instructions.

***Failure to properly lubricate the Way Tubes, as directed in this section, will eventually cause galling between the metals of the Way Tubes and Cam Arm Assembly, which will result in hitch failure. Destruction of various hitch parts is also likely, as well as truck and/or trailer damage, and will not be covered under the Manufacturer’s Warranty.***

2. **THE TRAILER’S KING PIN BOX MUST BE EQUIPPED WITH A CAPTURE PLATE (UNIVERSAL OR QUICK CONNECT) TO ALLOW THE HITCH TO FUNCTION (MUST BE PURCHASED SEPARATELY). NOTE: IF YOU HAVE PURCHASED A QUICK CONNECT CAPTURE PLATE AND DID NOT RECEIVE INSTRUCTIONS, THEY ARE AVAILABLE ONLINE, OR YOU CAN CONTACT PULLRITE CUSTOMER SERVICE AT (800) 443-2307.**
3. Failure to modify the length of the brake away cable that activates the emergency braking of your trailer, may cause the cable to catch on protruding parts of the hitch. Resulting damage will not be covered by the manufacturers warranty.
4. There should be a minimum of 6” between the truck bed rails and the under side of the trailer for side tilt clearance. It is the customers responsibility to adjust the trailer king pin box for the appropriate amount of clearance.

**NOTE:** Some truck models are being manufactured with higher bed sides, making it necessary to adjust the height of your trailer’s king pin box. If you don’t have enough height adjustment available, PullRite produces a 3” Lift Kit that attaches to the rails of your #3100 (ask for part #3108) or #4100, #3300 and #4400 (ask for part #4408) SuperGlide models.
5. Some truck beds have contoured bed sides, making the inside bed measurement narrower. Make certain the trailer’s king pin box does not contact the inside edge of the bed.
6. Trucks with bed liners may need a tall Mounting Post. See “NOTE” under “Drilling the Bed” for further details.
7. It is the installers and customers responsibility to ensure there is proper clearance between the truck and trailer. There should be a minimum of 2” of clearance as the trailer passes the cab. Call PullRite technical support with trailer width, make and year of truck and distance the king pin is from leading edge of the trailer (See “Caution” section, in the SuperGlide Owners Manual, for measuring procedure) at (800) 443-2307.
8. Read these instructions completely and follow them accurately. Should you have any questions, please call Customer Service at (800) 443-2307 prior to installation for assistance. *If you did not receive your Owners Manual, visit us online at [www.pullrite.com](http://www.pullrite.com) or call the number above.*
9. The SuperGlide was designed for short bed pickup trucks. The hitch may function in a longer bed truck, but no mounting brackets exist to make the transfer. Some #4100 and #4400 mounting kits may transfer with modification.

### **#3100 SuperGlide Applications**

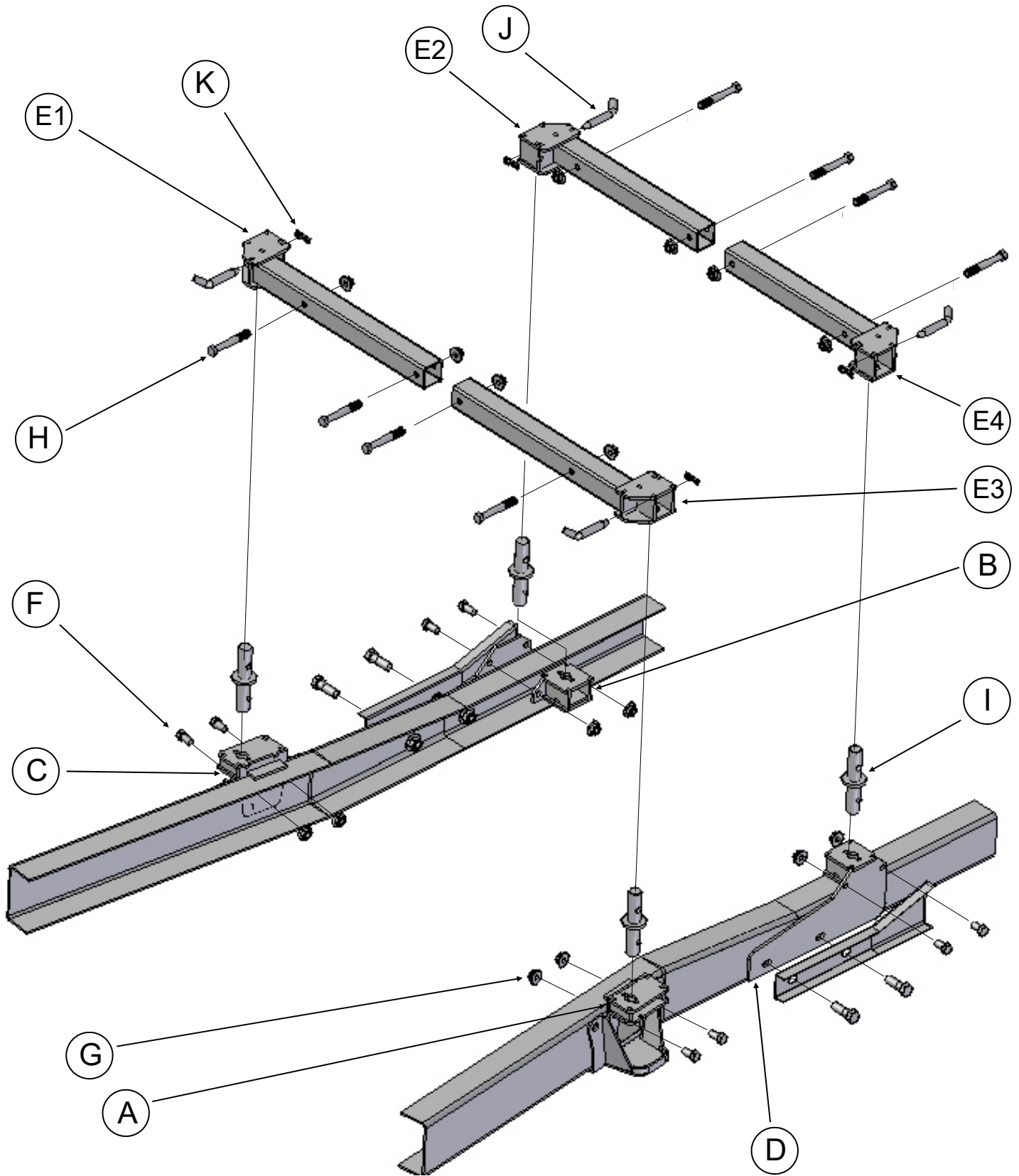
The #3100 SuperGlide was designed for specific short bed pickup trucks. The hitch may function in a longer bed truck, but no mounting brackets exist to easily make the transfer.

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# **MOUNTING HARDWARE PARTS IDENTIFICATION**



# **PARTS LIST**

<b>TOYOTA TUNDRA SUPER RAIL MOUNTING KIT</b>			
Description	Part No.	Qty. Used	Material
MOUNTING BRACKET KIT	3118	1	(See kit contents listed below)

<b>#3118 — MOUNTING BRACKET KIT</b>				
Item	Description	Part No.	Qty.	Material
<b>A</b>	FRONT DRIVER SIDE MOUNTING BRACKET	311801	1	
<b>B</b>	REAR MOUNTING BRACKET POST HOLDER	311803	2	
<b>C</b>	FRONT PASSENGER SIDE MOUNTING BRACKET	311802	1	
<b>D</b>	REAR MOUNTING BRACKET FRAME PLATE	31180901	2	
	MOUNTING BRACKET HARDWARE KIT	311810	1	(See kit contents listed below)
<b>E1</b>	FRONT PASSENGER SIDE BASE RAIL	311806	1	22" LONG
<b>E2</b>	REAR PASSENGER SIDE BASE RAIL	311808	1	18-3/4" LONG
<b>E3</b>	FRONT DRIVER SIDE BASE RAIL	311805	1	22" LONG
<b>E4</b>	REAR DRIVER SIDE BASE RAIL	311807	1	18-3/4" LONG

<b>#311810 — MOUNTING BRACKET HARDWARE KIT</b>				
Item	Description	Part No.	Qty.	Material
<b>F</b>	1/2" FRAME BOLT	98010167	8	1/2"-13 X 1-1/2" HHCS GRD 5
<b>G</b>	1/2" - 13 FLANGE NUT	98150201	16	1/2"-13 SERRATED FLANGE NUT
<b>H</b>	1/2" BASE RAIL BOLT	98010187	8	1/2"-13 X 3-1/2" HHCS GRD 5
<b>I</b>	3100 MOUNTING POST	311507	4	3115 MOUNTING POST
<b>J</b>	BASE RAIL HINGE PIN	08060001	4	1/2" RD.
<b>K</b>	PIN CLIP	98410127	4	#3 PIN CLIP

<b>LAYOUT TEMPLATE</b>			
Description	Part No.	Qty. Used	Material
LAYOUT BED TEMPLATE	31180000	1	ITEM SOLD SEPARATELY

# **INSTALLATION**

## **Truck Preparation**

1. Check part quantities using the Parts List on Page 2.
2. Block vehicle wheels. Some vehicles may require you to raise the rear of the truck in order to make it easier to drill for installing the mounting brackets on the truck frame.
3. You may wish to remove the wheels to give yourself greater working room.
4. If you have purchased a template, proceed to the “Template Method” below; otherwise, begin with the “Layout Method.”

## **Marking Bed for Drilling**

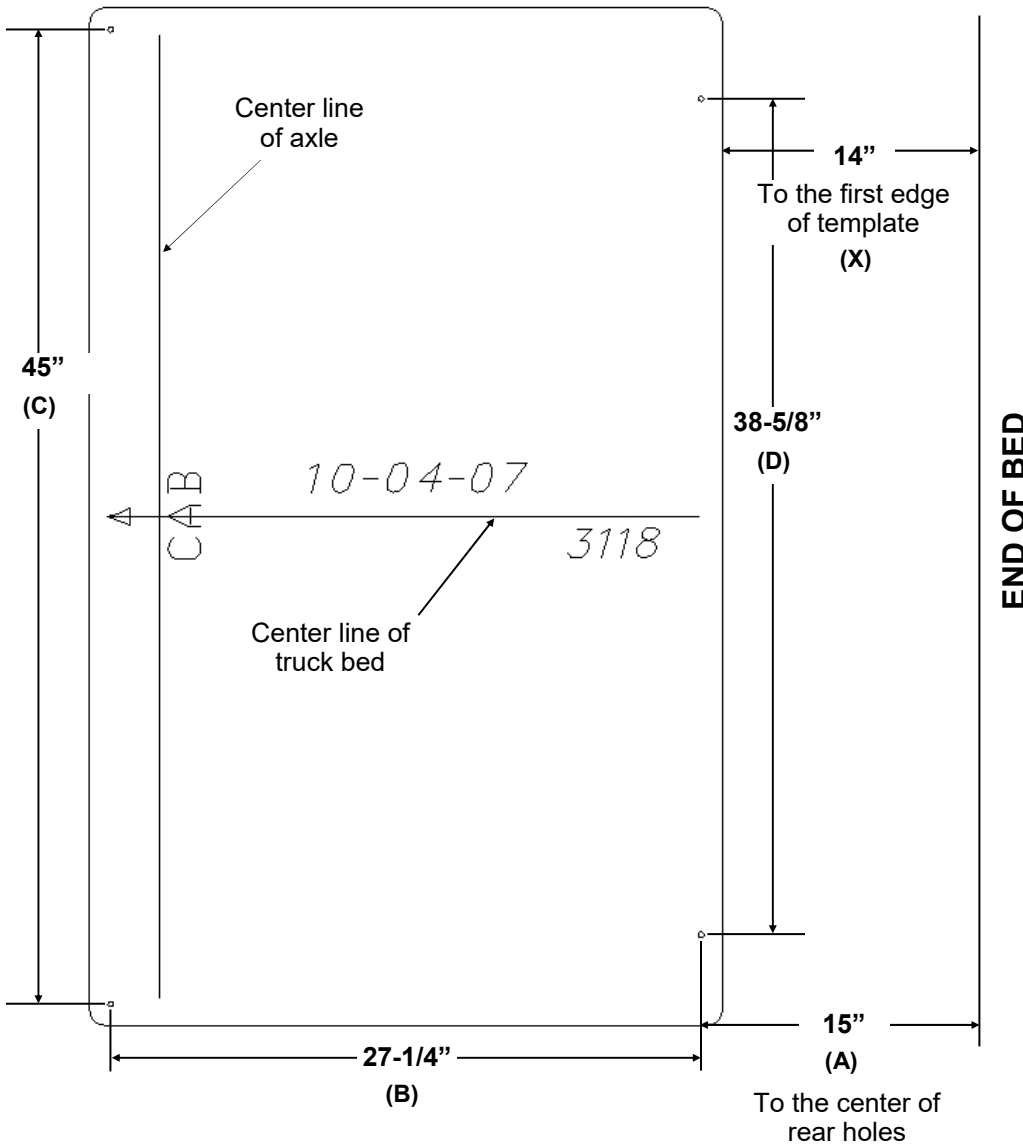
### **Layout Method**

1. See “Truck Bed Dimension Table” under “Layout Method” on Page 4 for the dimensions. Measure and mark from the back of the bed forward, the values for “A” and “B”. Do this at any point on both sides of the bed.
2. Draw a line across the bed from mark to mark.
3. Find the centerline of the bed.
4. Draw a line down the middle of the bed from front-to-rear.
5. Center the measurement of “C” across the centerline at the front-most line you made in step 2 and mark the measurement on each side (parallel to the centerline).
6. Center the measurement of “D” for the rear most line made in step 2, and again mark the measurement on each side (parallel to the centerline). This will locate the 4 drill holes.

### **Template Method**

1. Lay the template in the truck bed, centering it from side-to-side, and parallel to the end of the truck bed using the dimension “X” listed in “Truck Bed Dimension Table” on Page 4.
2. Mark the 4 holes, while making sure the template does not move.

# TEMPLATE METHOD



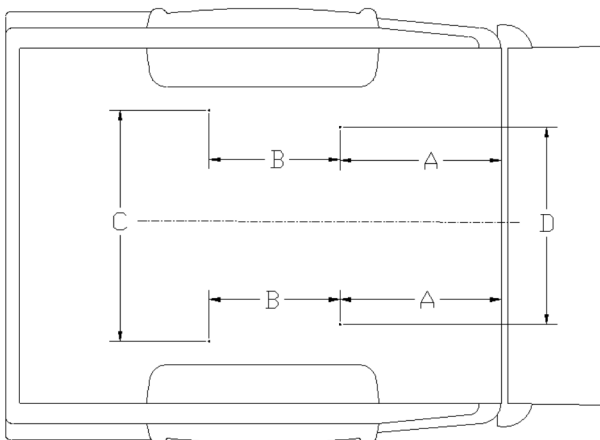
## NOTES:

The TEMPLATE should be orientated as shown in the drawing to the left. Notice that the spacing of the forward and rearward facing holes may be different, and can be used to determine the correct orientation of the template. Item "C" in the table below shows the forward facing dimension, and Item "D", the rearward facing dimension. Note also, the information etched into the template — the direction of the cab, the template number and the revision date.

## INSTALLATION TIP:

The template has a tendency to move when placed on the slick paint of new truck beds, and it may be helpful to place a small piece of NON-SKID matting, such as "SCOOT-GARD"™ or simply use duct tape on each corner to help keep the template from moving.

# LAYOUT METHOD



Truck Bed Dimension Table

Layout Method			Template Method		
"A"	"B"	"C"	"D"	"X"	Template Part #
15"	27-1/4"	45"	38-5/8"	14"	31180000

## **Mounting Bracket Installation**

### **Part 1: Bracket Placement & Bed Hole Locations**

*Some truck beds are not installed square to the frame or are not the same distance from the back of the cab. The steps in Part 1 ensure that the holes in the bed are positioned so the mounting posts line up with the mounting brackets on the frame below the bed.*

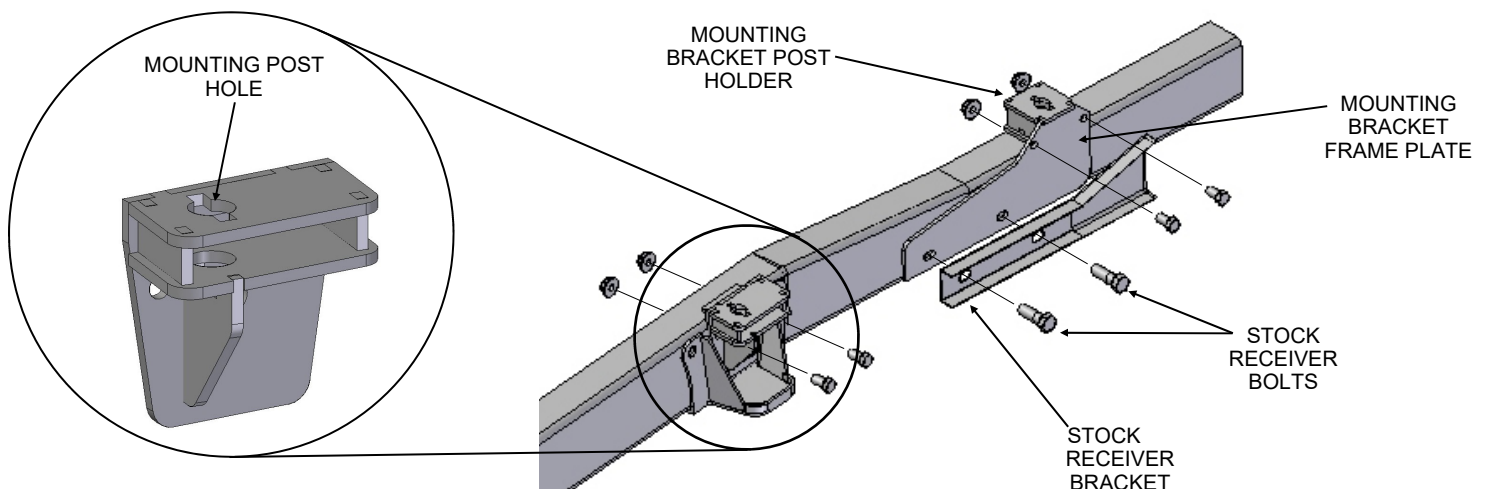
*The basic steps in this section are as follows:*

- *Layout the bed holes*
- *Drill the first pilot hole in the bed*
- *Check centering using the tape method*
- *Adjust the bed hole layout if necessary*
- *Drill the second pilot hole and check centering to ensure bed hole locations are square to the frame; adjust as needed*
- *Drill remaining pilot holes in the bed; check centering*
- *Drill truck frame, if necessary*

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### **Detailed Installation Instructions**

1. Use transparent tape to cover the mounting post hole on the top of each mounting bracket (when the pilot hole is drilled through the bed, the tape will be pierced by the small drill; it should be positioned in the center of the 1" mounting post hole [see below]).
2. Remove the front two stock receiver bolts on the rear driver side stock receiver bracket (see illustration below).
3. Insert a wedge (*not included*) between the frame and the stock receiver bracket to create a gap for the mounting bracket frame plate to slide into place
4. Slide the rear driver side mounting bracket frame plate between the stock receiver bracket and the frame of the truck, aligning the holes in the mounting bracket frame plate with the existing holes in the frame.
5. Thread the stock receiver bolts through the stock receiver bracket, mounting bracket frame plate and frame.
6. Fasten the mounting bracket flush to the frame (some mounting brackets may have a slight warp due to the metal characteristics during the welding process) by using either a clamp or by inserting a fastener through the mounting bracket in the existing frame hole(s). Do not overtighten—you will be removing the mounting post holder in later steps.
7. Slide the mounting bracket post holder on top of the frame and bolt to the mounting bracket frame plate. Hand tighten only.
8. Repeat Steps 2-7 for the passenger side, rear mounting bracket.





## **Part 1: Bracket Placement & Bed Hole Locations (cont.)**

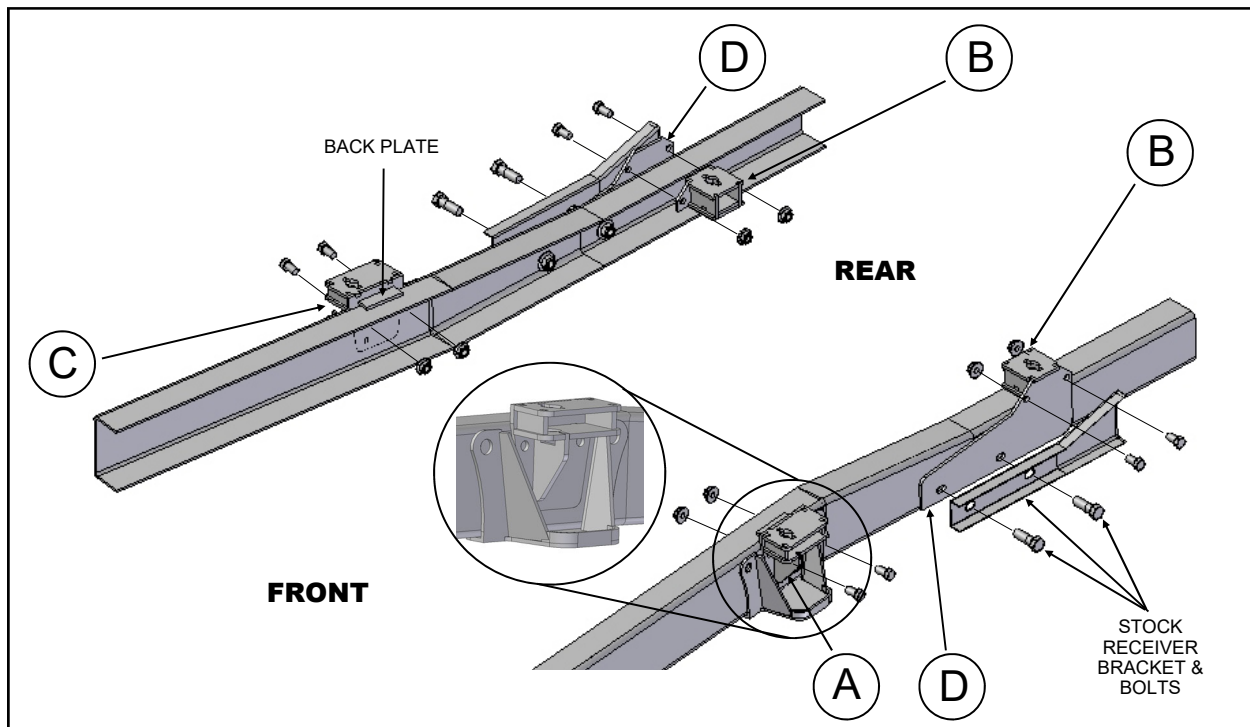
**WARNING:** Prior to drilling any holes, be sure to check the inside of the frame to guard against drilling into the fuel tank, wiring, brake lines. This installation requires you to remove the fuel module on the drivers side (where the front mounting bracket will be installed) until all drilling is completed.

9. Drill the first 1/16" pilot hole through the truck bed over the rear hole on the driver side where you made the mark during the "Marking Bed for Drilling" on page 3. The bit should come down through the 1" mounting post hole, piercing the transparent tape, aiding the centering of the bracket front-to-rear and side-to-side.
10. If the pilot hole is off center to the 1" mounting post hole, remember to adjust all the pilot hole locations accordingly.

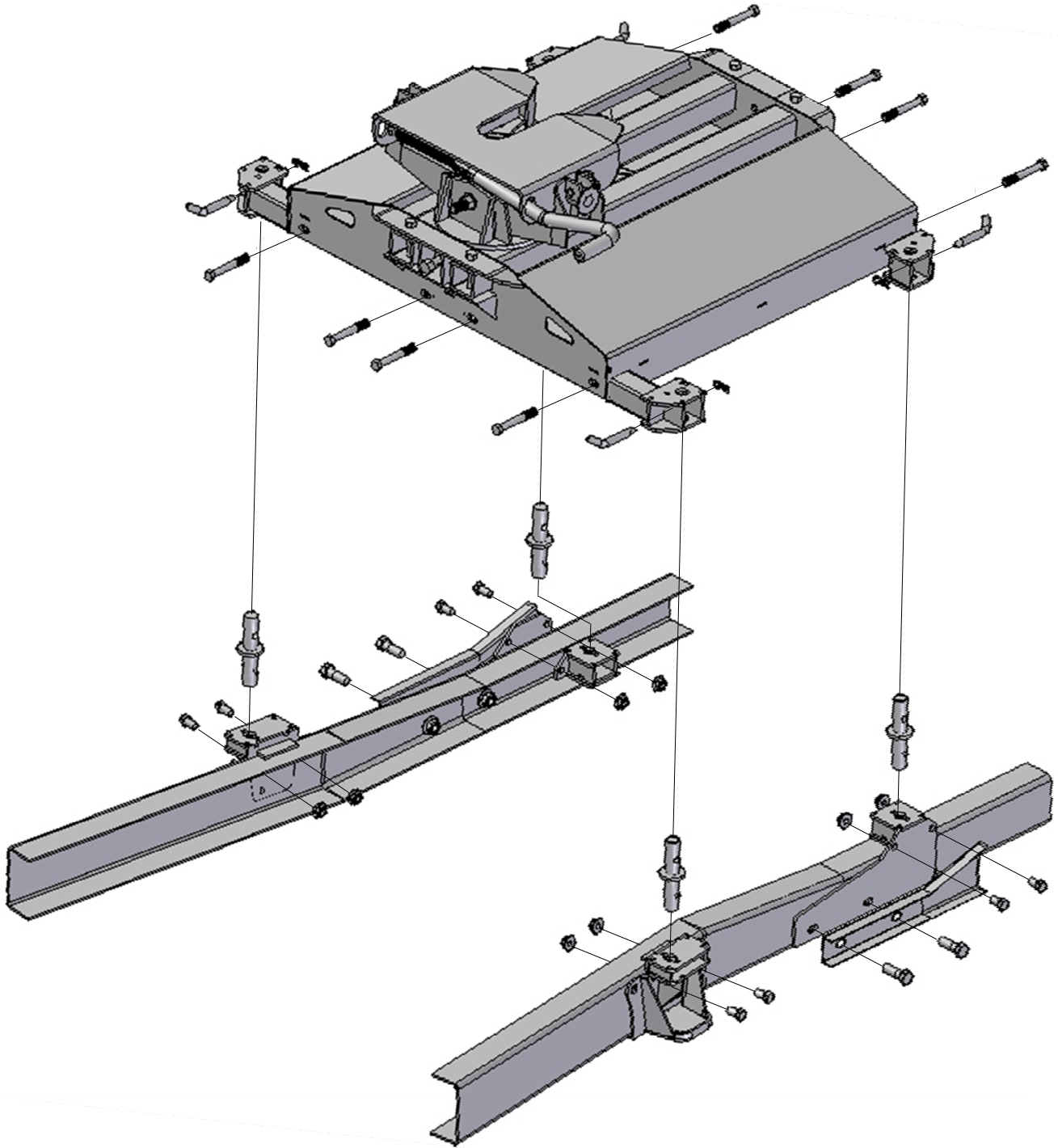
**NOTE:** Some truck beds are not installed square on their frame by the manufacturer. To ensure your pilot holes are aligned properly, it is important that you use the measurements provided only as a starting point and make adjustments as needed. Once you have the rear driver side pilot hole centered, you will use this hole as a point of reference for all remaining pilot hole adjustments. If you are using the Template Method, simply use the properly drilled hole as a pivot point to square the remaining holes to the frame. If you are using the Layout Method, you may accomplish the same thing by using a framing square and straight edge.

11. Repeat Steps 9-10 for the passenger side rear bracket {B}.
12. Drill the remaining two front pilot holes.
13. Set the front driver side mounting bracket inside the opening of the overload bracket (see illustration below), placing it over the existing bolt protruding from the frame. The back plate sits on the top of the frame to help stabilize the bracket on the frame—you must keep this plate flush against the top of the frame.
14. Clamp the bracket flush to the frame so that when you reinsert the 1/16" drill bit through the bed hole, the bit should come down through the center of the 1" mounting post hole.
15. Repeat Steps 13 & 14 for the front passenger side mounting bracket.
16. Using the pre-punched bracket holes as a guide, drill 1/2" holes through the wall of the frame for all the mounting brackets (see the drawing below).

**WARNING:** Before proceeding to "Part 2, "Drilling the Bed...", you must verify that each pilot hole is centered over the 1" mounting post hole on each bracket before the 1-3/4" mounting post holes are drilled through the bed.



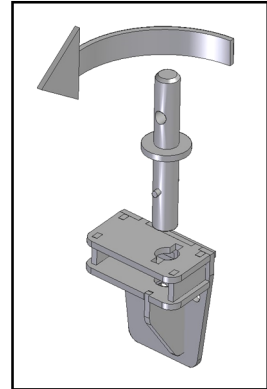
# **HITCH ASSEMBLY EXPLODED VIEW**



## **Part 2: Drilling the Bed & Bracket Installation**

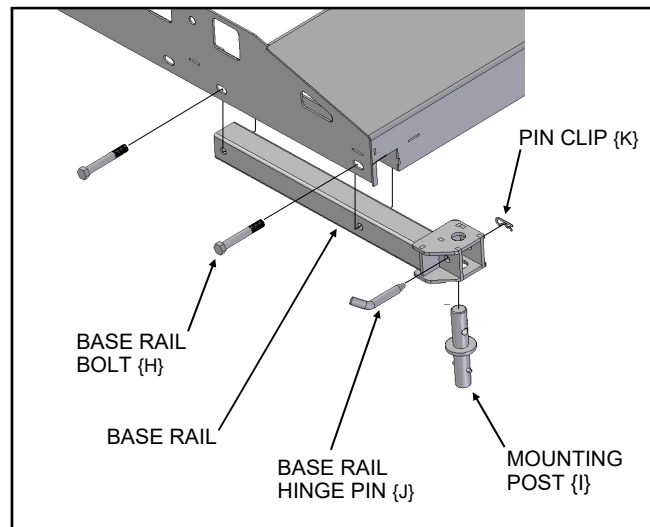
1. After removing the front mounting brackets and the rear mounting post holders, use a 1-3/4" hole saw centered over the 1/16" pilot hole and cut the bed for the mounting posts.
2. De-bur inside the holes and use a paint stick to touch up the edges.
3. Bolt the rear mounting post holders to the rear mounting bracket frame plates and fasten the front mounting brackets flush to the frame by using either a clamp or by inserting a fastener through the mounting bracket in the existing frame hole(s).
4. Install the mounting posts through the bed into the mounting bracket post holders. Rotate the posts a quarter turn (see the illustration to the right). Four posts are required for installation.

**NOTE:** Vehicles using plastic bed liners may require taller mounting posts (part# 311512) to seat properly into the post holders.



## **Part 3: Hitch Alignment**

1. Remove the SuperGlide hitch from the shipping carton.
2. Install base rails onto the base of the hitch using the supplied bolts (see the illustration to the right).
3. Loosely tighten the base rail bolts to the base allowing lateral movement as you place the rail assembly over the mounting posts.
4. Install the hitch pins and clips to secure the hitch assembly to the base rails. Use a drift pin to aid your hole alignment.



## **Part 4: Final Installation Procedures**

1. Tighten mounting bracket bolts first, then base rail bolts, according to the Torque Table below.
2. Remove the hitch and base rail assembly and verify that the mounting posts can be inserted and turned freely without binding. You may need to loosen the bolts on the mounting brackets below if binding occurs. Adjust as needed and retighten the bolts.
3. Reinstall the mounting posts, base rails and the SuperGlide hitch assembly until the assembly can be removed freely without binding.

### **Torque Table**

3/8" Bolt	— 31 ft. lbs.
1/2" Bolt	— 75 ft. lbs.
5/8" Bolt	— 151 ft. lbs.
3/4" Bolt	— 266 ft. lbs.



*MANUFACTURED BY:*

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