

## INSTALLATION OF R-290HD REAR MOUNTING KIT FOR USE WITH OEM TOW HITCH 2008-2016 FORD F-450 PICKUP

### INSTALLATION SAFETY PRECAUTIONS

If any installation problems are encountered, please call G&B Specialties for technical assistance before continuing with the installation process.



- Failure to heed to any of the following warnings could result in severe bodily injury and/or equipment damage.
- Read and understand this manual completely before attempting installation of the equipment.
- Installation instructions provided below only address the RAFNA railgear equipment. Applicable railway company procedures and policies must be adhered to.
- Before performing any work under the vehicle or railgear, ensure the engine is turned off and the parking brake is set.
- Do not start the vehicle with the power steering hoses disconnected. Reconnect all hoses and secure the power steering cooler if the vehicle is started.
- Ensure all removed components are given to the vehicle owner after the installation of the railgear. These components must be re-installed if the railgear is removed from the vehicle.
- Always disconnect the vehicle's battery when welding on the vehicle or railgear to protect the vehicle's electrical system.
- Railway Company rules governing rail travel must be observed at all times.
- Never operate the vehicle if the Gross Vehicle Weight Rating (GVWR), Gross Axle Weight Rating Front or Rear (GAWR), or the wheel or tire load ratings are exceeded.

## INSTALLATION OF REAR MOUNTING KIT

The following procedure details the installation of the rear mounting kit. The hardware required for this installation is listed in Table 1.

**Table 1: Rear Mounting Kit Installation Parts**

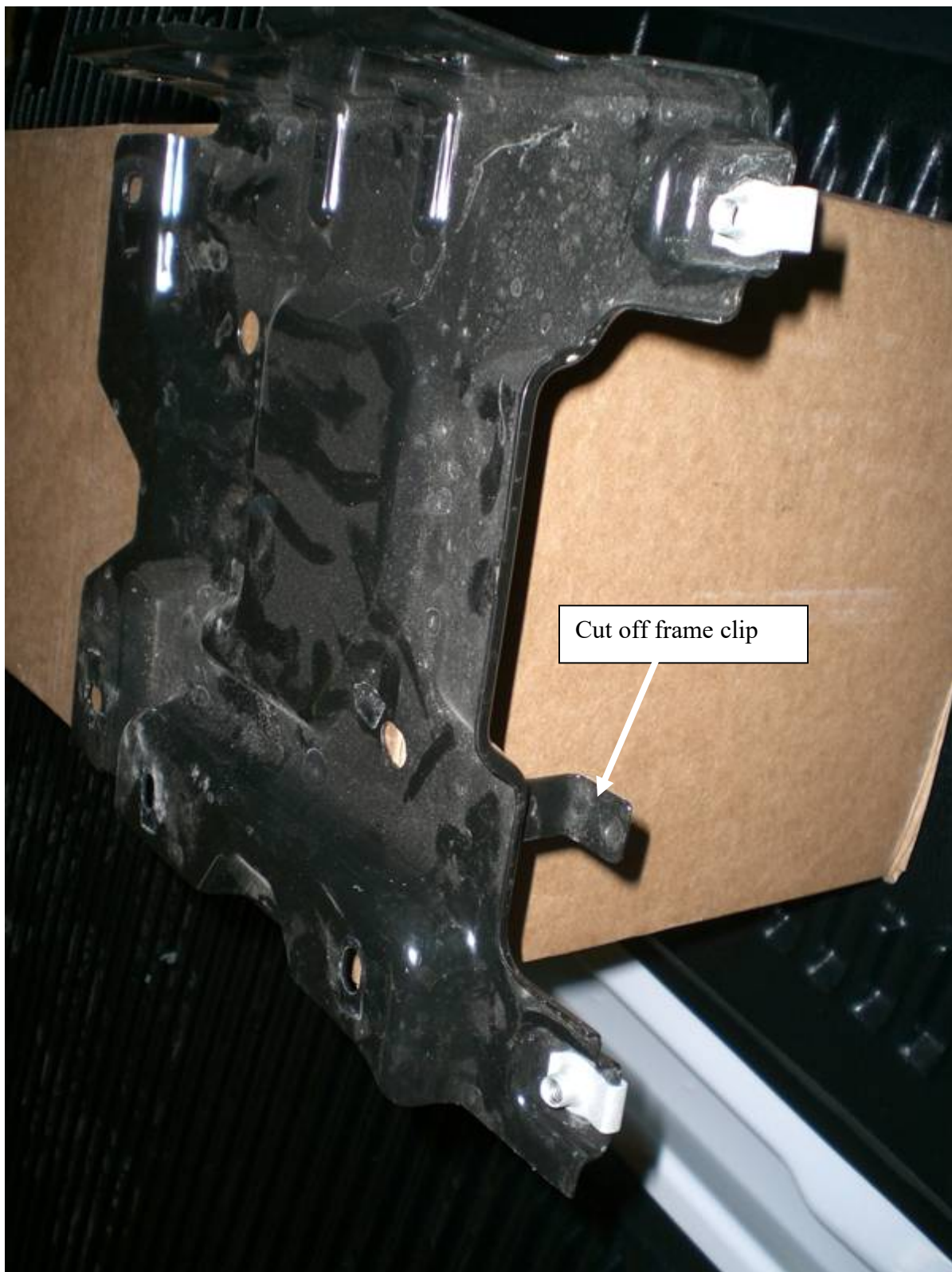
Part Number	Description	Qty
P-00084D	Rear Mounting Bracket, Drivers Side	1
P-00084P	Rear Mounting Bracket, Passengers Side	1
P-00083	Support Bracket	2
P-00085	Shim	2
R-21176	Railgear Mounting Shim - ½" Thick	4
R-21177	Railgear Mounting Shim - 1" Thick	6
R-21178	Railgear Mounting Shim - 1/4" Thick	4
R-990KIT-299B	5/8" UNC Gr. 8 Bolt x 2.25" Long	6
	5/8" UNC Gr. 8 Bolt x 2.50" Long	8
	5/8" Gr. 8 Washer	20
	5/8" UNC Gr. 8 Nylon Insert Lock Nut	10
	3/4" UNC Gr. 8 Bolt x 2.50" Long	8
	3/4" UNC Gr. 8 Bolt x 3.50" Long	4
	3/4" UNC Gr. 8 Bolt x 4.50" Long	4
	3/4" UNC Gr. 8 Bolt x 5.50" Long	4
	3/4" UNC Gr. 8 Bolt x 7.00" Long	4
	3/4" UNC Gr. 8 Washer	16
	3/4" UNC Gr. 8 Nylon Insert Locknut	8
	5/8" Fender Washer	4

1. Remove the original spare tire and spare tire heat shield from under the vehicle's cargo box if so equipped. The original spare tire will not be re-installed.
2. Remove the tow hitch from the rear of the frame if so equipped.
3. Remove bolts securing the vapor canister to the vapor canister bracket which is located on the driver's side rear of the truck frame at the spare tire carrier.
4. Remove the vapor canister bracket from the truck by removing the two bolts securing the bracket to the truck frame and the two bolts securing the bracket to the spare tire carrier. Use caution when removing the bracket, the vapor canister could fall from the truck causing injury.
5. Remove the two bolts from the inside of the truck frame that secure the ground wires for the vapor canister solenoids. An alternate grounding point will need to be located for the solenoids at the installer's discretion.
6. Modify the vapor canister bracket by cutting the frame clip flush with the bracket as shown in **Figure 1**.

7. Re-install the vapor canister & bracket using the OEM fasteners. Only the rear ward most truck frame mounting point will be used when re-installing the bracket. There is a slot in the drivers side mounting bracket to clear the head of the bolt for the rear mounting bolt on the truck frame. Re-ground vapor canister solenoids.
8. Place each rear mounting bracket against the underside and outside of the frame rails as shown, just ahead of the rear spring hangers. The three slots in the side of each rear mounting plate should align with the three slots in the side of the frame. The two slots in the bottom of each rear mounting plate should align with the two slots in the lower flange of the frame for the OEM tow hitch.
9. Fasten each rear mounting bracket to the side of the frame as shown.

#### **For Install with OEM Tow Hitch**

1. Install the OEM tow hitch to the bottom of the rear mounting bracket using a shim and support bracket as shown.
2. Tighten but do not torque the fasteners.
3. Ensure the mounting brackets are tight to the underside and outside of the frame and are aligned with each other and that the support bracket is sitting flush against the rear mounting bracket.
4. Torque the 5/8" fasteners to 150 ft-lb dry and the 3/4" fasteners to 175 ft-lb dry. Do not over torque.
5. Weld the support bracket to the rear mounting bracket as shown.
6. The supplied railgear mounting shims are to be used as required when mounting the railgear to the rear mounting plates.



**Figure 1 (Vapor Canister Bracket)**



ITEM	PART No.	DESCRIPTION OF ITEM (PART)	QTY.
1	P-00084D	REAR MOUNTING BRACKET, DRIVERS SIDE	1
2	P-00084P	REAR MOUNTING BRACKET, PASSENGERS SIDE	1
3	R-21176	RAILGEAR MOUNTING SHIM, 1/2" (USE AS REQ'D)	4
4	R-21177	RAILGEAR MOUNTING SHIM, 1" (USE AS REQ'D)	6
5	R-21178	RAILGEAR MOUNTING SHIM, 4" (USE AS REQ'D)	4
6	-	5/8" UNC GR.8 BOLT x 2.25" Lg.	10
7	-	5/8" GR.8 FLAT WASHER	20
8	-	5/8" UNC GR.8 NYLON INSERT LOCK NUT	10
9	(REF)	DEM FASTENER (VAPOR CANISTER BRKT)	-
10	(REF)	VEHICLE FRAME	-
11	P-00083	SUPPORT BRACKET	2
12	P-00085	SHIM	2
13	(REF)	DEM TOW HITCH	-
14	-	5/8" UNC GR.8 BOLT x 2.50" Lg.	4
15	-	3/4" UNC GR.8 BOLT x 2.50" Lg.	4
16	-	3/4" GR.8 FLAT WASHER	8
17	-	3/4" UNC GR.8 NYLON INSERT LOCK NUT	4

TOWARDS REAR OF VEHICLE

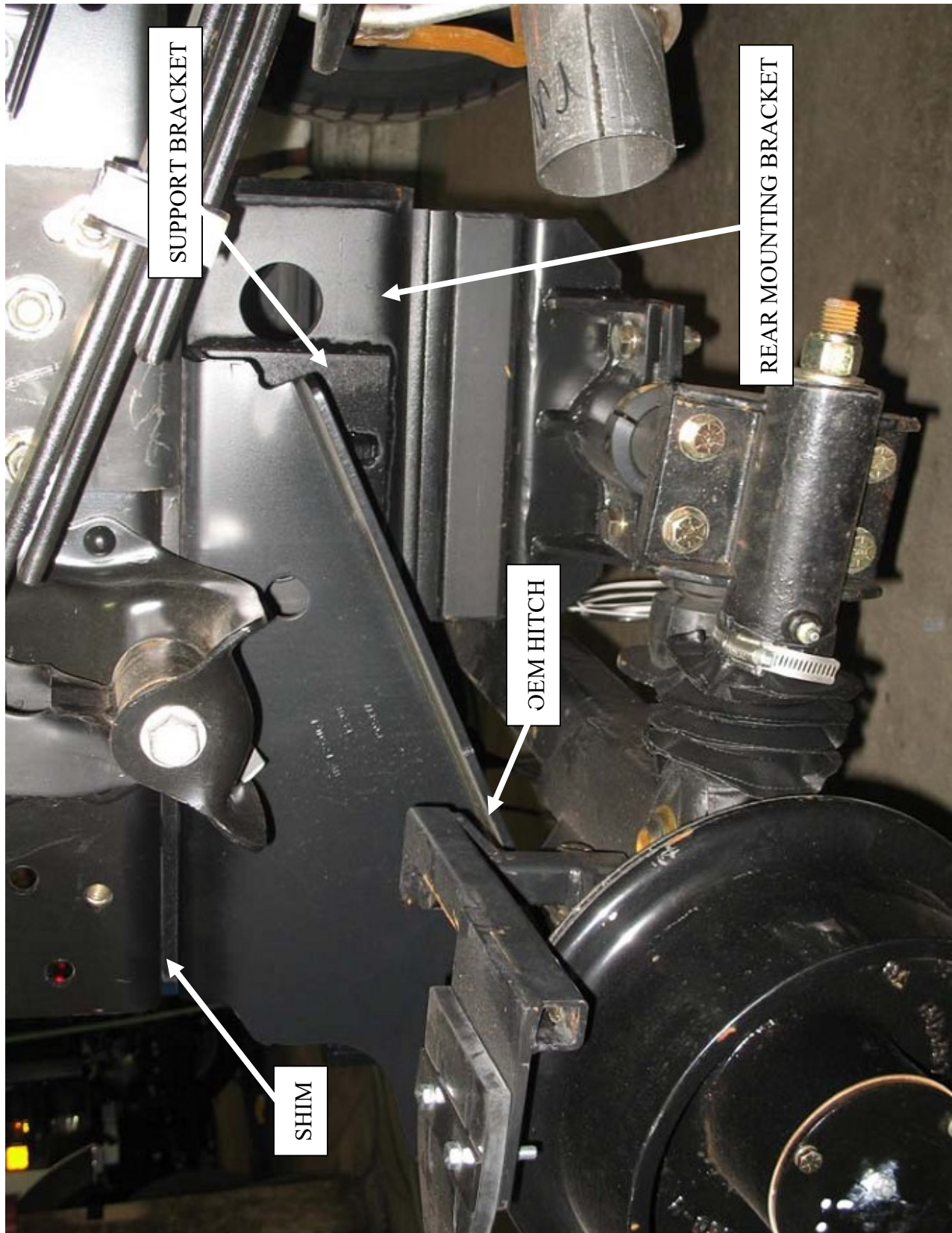
STAGGER SHIMS AS SHOWN

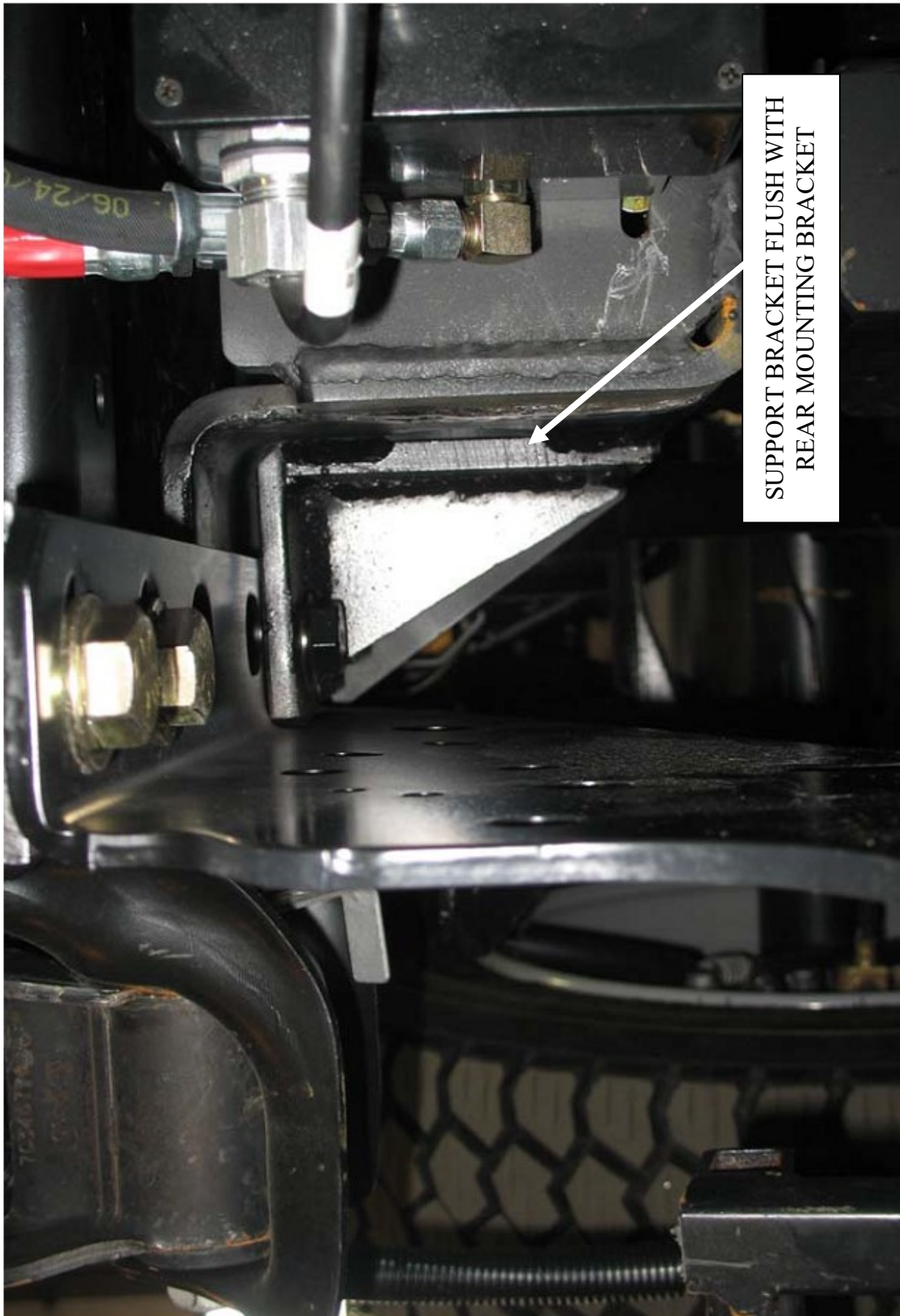
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A	REVISION A RELEASED	03/29/11	AML	JMP	
B	UPDATED BORDER	05/03/21	SMM	JMP	

G & B SPECIALTIES INC.		G & B SPECIALTIES INC.	
MANUFACTURER OF QUALITY RAILROAD PRODUCTS		MANUFACTURER OF QUALITY RAILROAD PRODUCTS	
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DESIGN - ENGINEERING - MANUFACTURING		DESIGN - ENGINEERING - MANUFACTURING	
2008-2016 FORD F450 PICKUP		2008-2016 FORD F450 PICKUP	
R290HD REAR MNTG KIT		R290HD REAR MNTG KIT	
SHEET DRAWING NUMBER		SHEET DRAWING NUMBER	
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PART NUMBER		PART NUMBER	
1 K-M29RRXFX01B		1 K-M29RRXFX01B	
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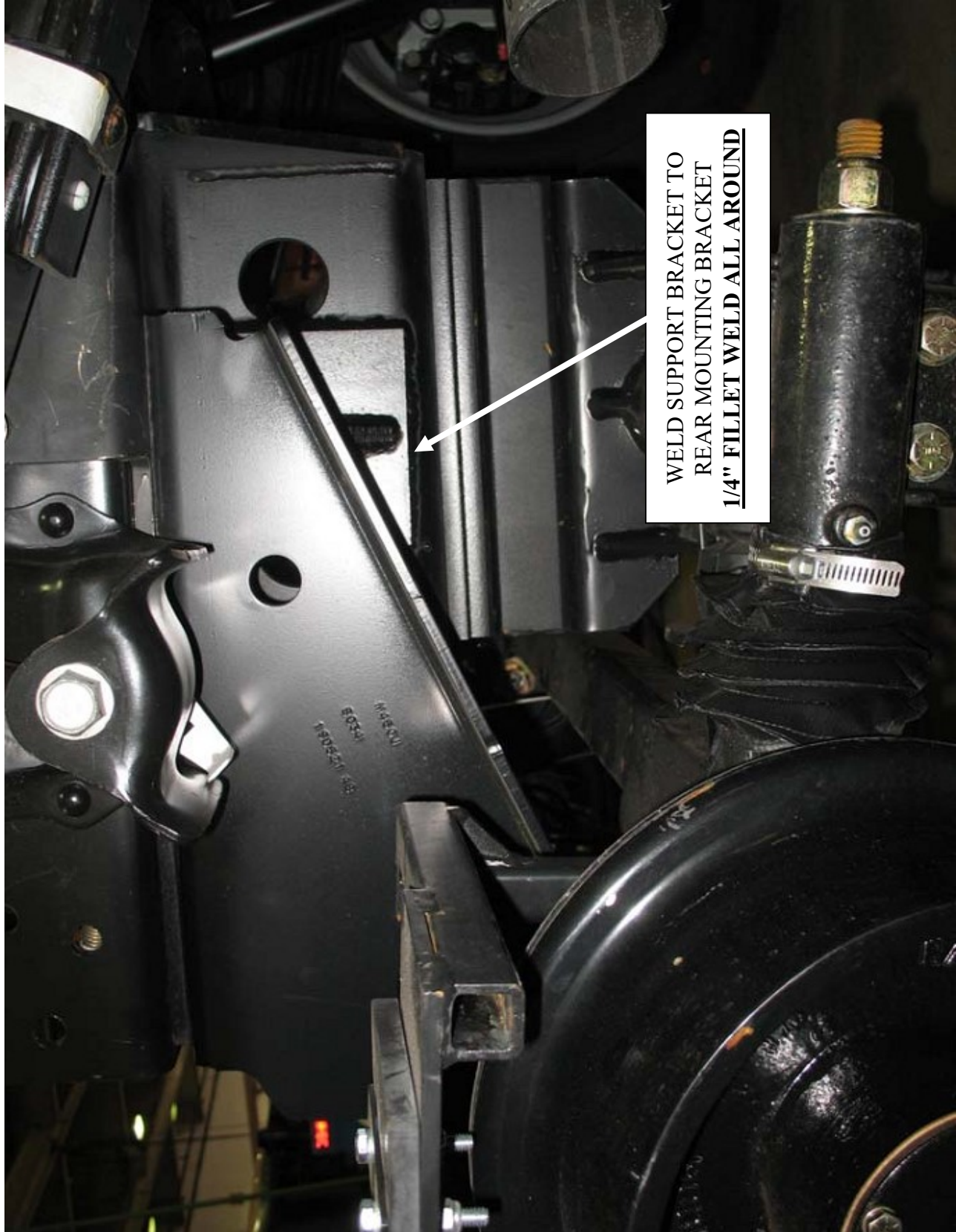
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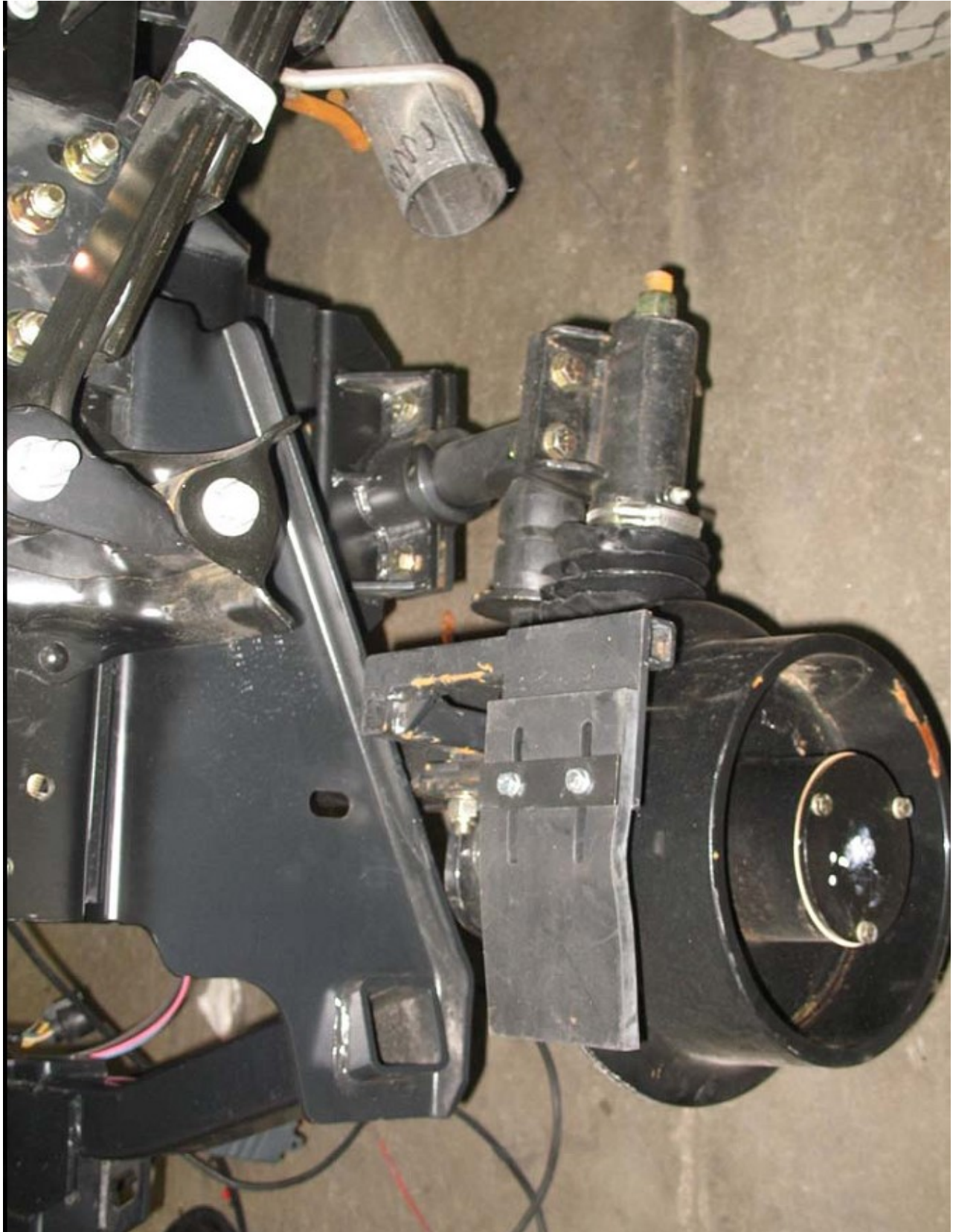












## OPERATION, SERVICE AND PARTS OF R-290HD REAR MOUNTING KIT FOR USE WITH OEM TOW HITCH 2008-2016 FORD F-450 PICKUP

### OPERATION SAFETY PRECAUTIONS

If any operating, services or parts problems are encountered, please call G&B Specialties, Inc. for technical assistance.



- Failure to heed to any of the following warnings could result in severe bodily injury and/or equipment damage.
- Read and understand this manual completely before attempting operation of the railgear equipped vehicle.
- Operating instructions provided below only address the RAFNA railgear equipment. Applicable railway company procedures and policies must be adhered to.
- Railway company rules governing rail travel must be observed at all times.
- Before performing any work under the vehicle or railgear, ensure the engine is turned off and the parking brake is set.
- Never operate the vehicle if the Gross Vehicle Weight Rating (GVWR), Gross Axle Weight Rating Front or Rear (GAWR), or the wheel or tire load ratings are exceeded.

**OPERATION AND SERVICE OF REAR MOUNTING KIT**

With the rear mounting kit installed on this vehicle, it may be operated as normal.

Never operate the vehicle if the Gross Vehicle Weight Rating (GVWR), Gross Axle Weight Rating Front or Rear (GAWR), or the wheel or tire load ratings are exceeded.

The rear mounting kit must be serviced regularly to avoid damage to the equipment. Table 1 below provides the Recommended Service Schedule and Table 2 provides Standard Fastener Torque Values.

**Table 1: Recommended Service Schedule**

Service Required	Initial 100 km (62 Miles) of road and/or rail use	Daily	Weekly	Monthly
Inspect rear mounting kit fasteners (re-torque if required)		✓	✓	✓

**Table 2: Standard Fastener Torque Values**

Fastener Size	Fastener Torque Value (ft-lbs) Dry
1" UNC Gr. 8 Fasteners	250
3/4" UNC Gr. 8 Fasteners	175
5/8" UNC Gr. 8 Fasteners	150
1/2" UNC Gr. 8 Fasteners	100
3/8" UNC Gr. 8 Fasteners	40
1/4" UNC Gr. 8 Fasteners	12