

**INSTALLATION OF R-290 REAR MOUNTING KIT
2019 - PRESENT RAM 3500 4x2/4x4
CREW CAB 149" WB SHORT BED**

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
R-31256DB	Rear Mounting Bracket, Drivers Side (149" WB)	1
R-31256PB	Rear Mounting Bracket, Passengers Side (149" WB)	1
R-31260L	Inner Support Bracket, Front LHS	1
R-31260R	Inner Support Bracket, Front RHS	1
R-31280D	Inner Support Bracket, Rear LHS	1
R-31280P	Inner Support Bracket, Rear RHS	1
R-2960	Railgear Mounting Shim - 1/2" Thick	4
R-2960A	Railgear Mounting Shim - 1" Thick	2
R-2631	Railgear Mounting Shim - 2" Thick	2
R-990KIT-375	1/2" UNC Gr. 8 Bolt x 1.75" Long	6
	1/2" UNC Gr. 8 Bolt x 4.75" Long	4
	1/2" Gr. 8 Washer	20
	1/2" UNC Gr. 8 Nylon Insert Lock Nut	10
	3/4" UNC Gr. 8 Bolt x 5.5" Long	4
	3/4" Gr. 8 Washer	8
	3/4" UNC Gr. 8 Nylon Insert Lock Nut	4
R-990KIT-304	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 6.50" Long	4
	3/4" UNC Gr. 8 Washer	8
	3/4" UNC Gr. 8 Nylon Insert Locknut	4

1. Remove the original spare tire, spare tire heat shield and spare tire carrier from under the vehicle's cargo box if so equipped. The original spare tire will not be re-installed.
2. Remove the rear bumper. Retain all fasteners for re-installation.
3. Remove the inner four bolts securing the tow hitch to the vehicle frame (2 per side). These bolts will not be reused.
4. Remove the two nuts from the inside of each tow hitch mounting bracket (2 per bracket). These nuts will not be reused.
5. Modify the tow hitch mounting brackets as shown. (Figure 1)
6. Install the rear mounting bracket as shown using the supplied 3/4" and 1/2" hardware and support bracket as shown. Ensure the mounting bracket is flush with the outside and bottom surface of the frame rail. (Figure 2)
7. Tighten, but do not torque fasteners at this time.

8. Using the holes in the rear mounting bracket as a guide, drill two 17/32" diameter holes thru the inside and outside frame rail. (Figure 2)
9. Complete the installation of the rear mounting bracket using the supplied 1/2" hardware and support bracket. (Figure 2)
10. Torque the 1/2" fasteners to 100 ft-lb dry and the 3/4" fasteners to 175 ft-lb dry. Do not over torque.

Note:

The 1/2" hardware used to attach the rear mounting bracket to the frame is to be torqued to a maximum of 50 ft-lb dry. Do not over torque or damage to the frame may occur.

11. Repeat steps 6 thru 10 for opposite side of vehicle.

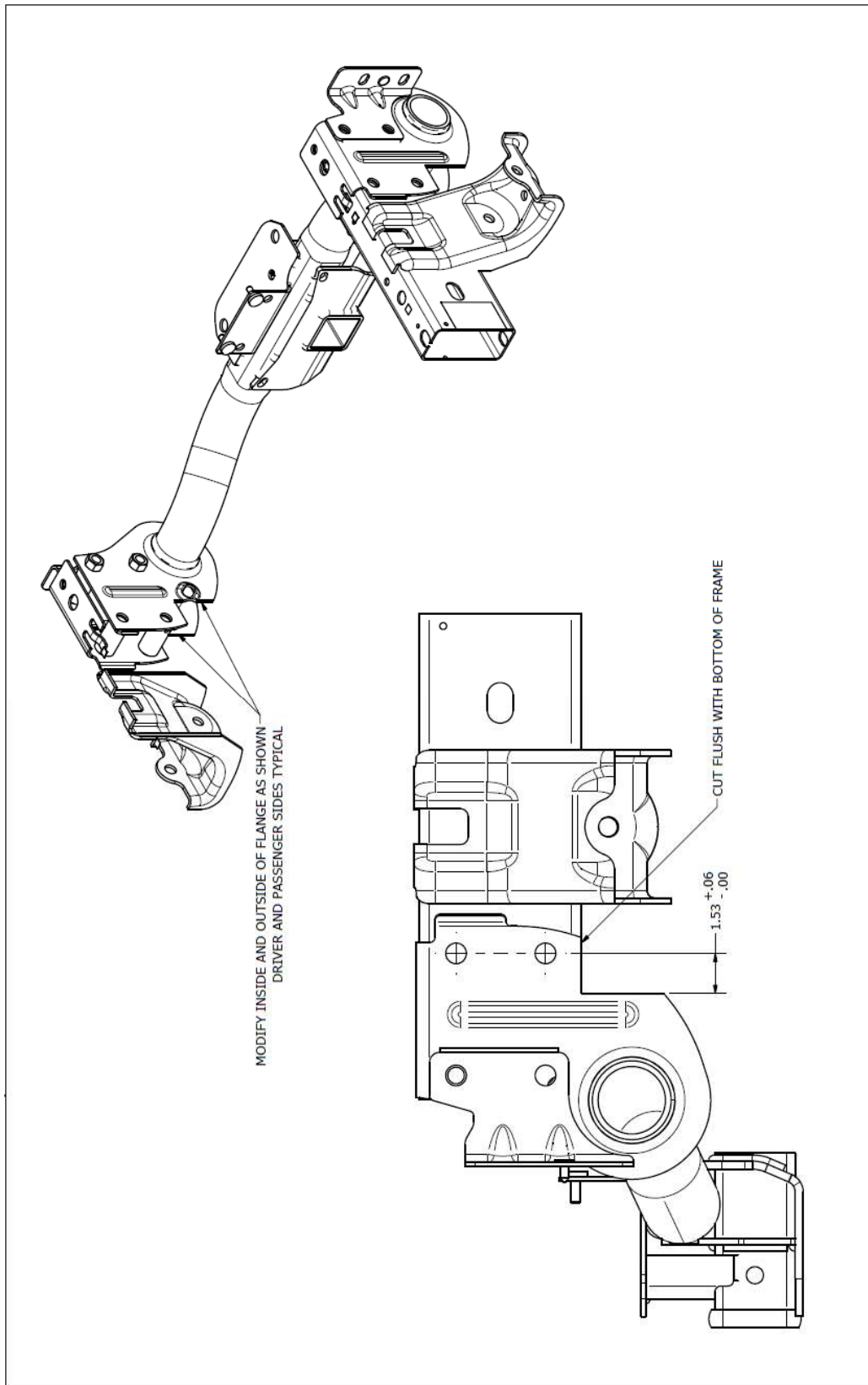


Figure 1 (3500)

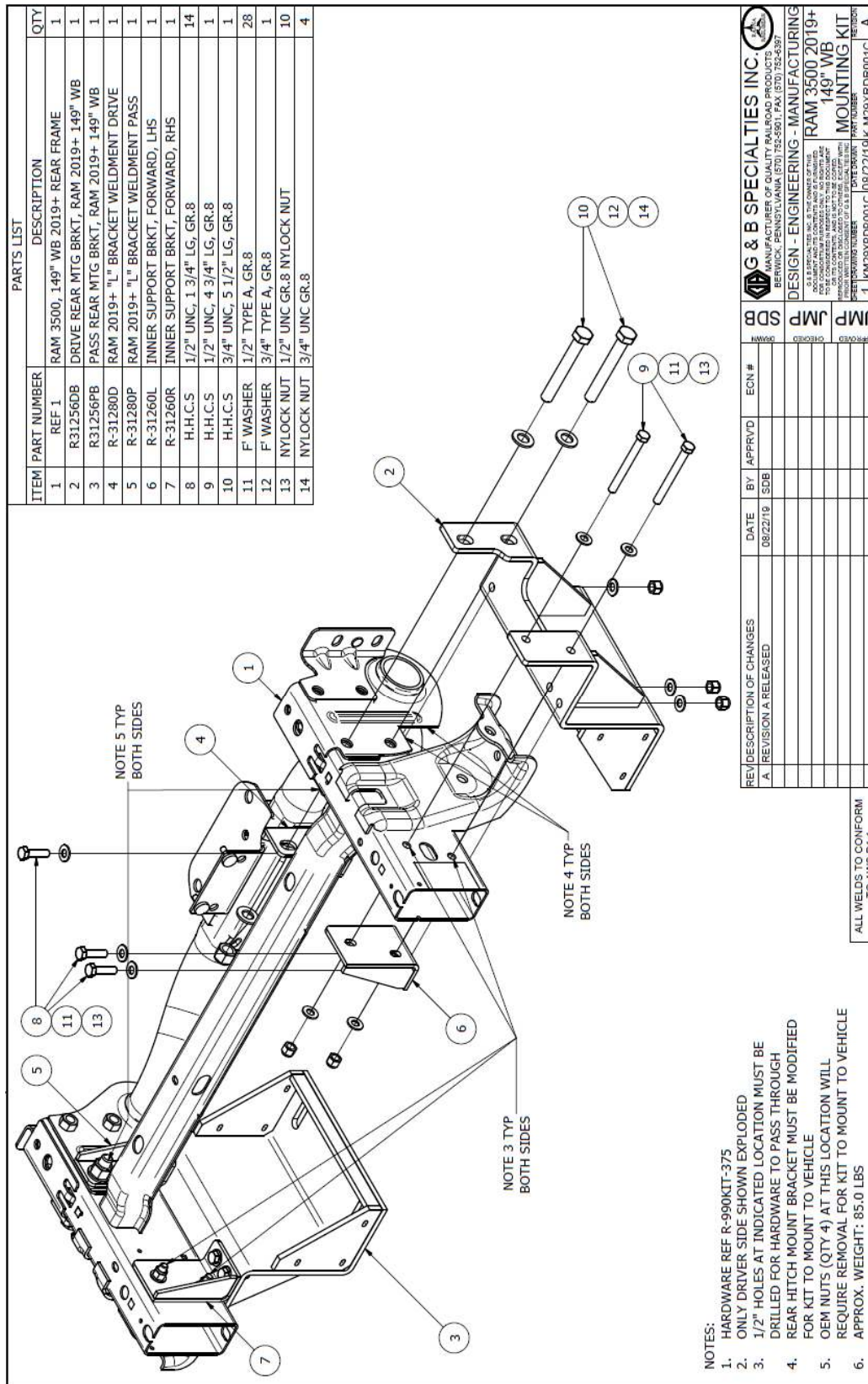


Figure 2 (RAM 3500, 149" Wheelbase)

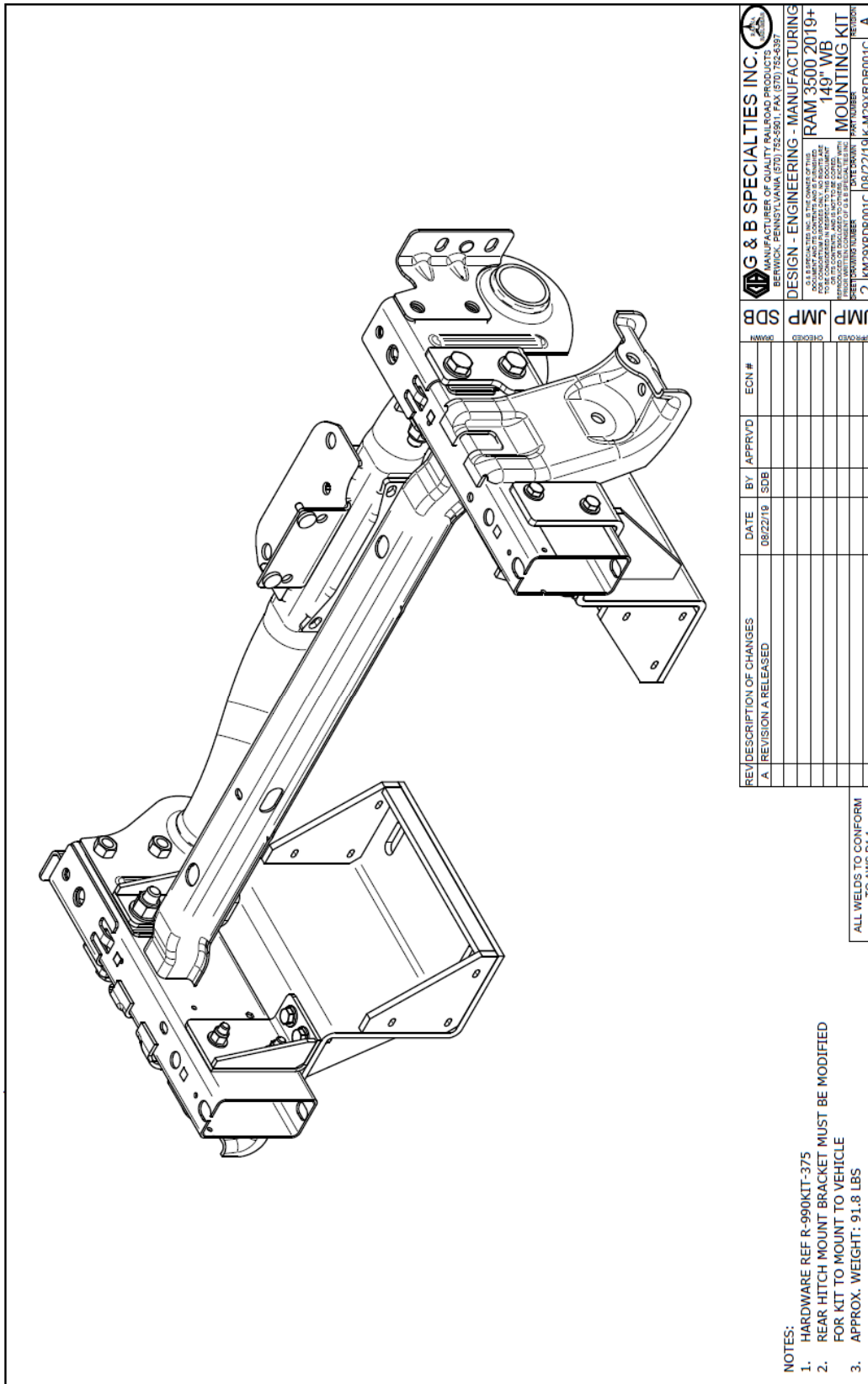


Figure 3 (RAM 3500, 149" Wheelbase)

**OPERATION, SERVICE AND PARTS OF R-290 REAR MOUNTING KIT
2019 - PRESENT RAM 3500 4x2/4x4
CREW CAB 149" WB SHORT BED**

OPERATION 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 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 2 below provides the Recommended Service Schedule and Table 3 provides Standard Fastener Torque Values.

Table 2: 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 3: Standard Fastener Torque Values

Fastener Size	Fastener Torque Value (ft-lbs) Dry
1" UNC Gr. 8 Fasteners	250
¾" UNC Gr. 8 Fasteners	175
⅝" UNC Gr. 8 Fasteners	150
½" UNC Gr. 8 Fasteners	100
⅜" UNC Gr. 8 Fasteners	40
¼" UNC Gr. 8 Fasteners	12

RAILGEAR SHIM RECOMMENDATIONS

When determining the amount of shim needed for proper mounting heights, the following recommendations should be followed. Any questions outside of what is covered, please contact Rafna's service manager for all other inquiries.

- Shim should not exceed a combination of 6".
- Any shim amount over 3" should have the "floating shims" tacked together as well as the upper and lower shim tacked to the mounting bracket and railgear as shown below.
- All welds should be painted when finished to prevent rusting.

