

INSTALLATION OF R-290 REAR MOUNTING KIT 2020-PRESENT GM 2500/3500HD SHORT BED

INSTALLATION SAFETY PRECAUTIONS

If any installation problems are encountered, please call G&B Specialties, Inc. 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 the table below.

Table 1: Rear Mounting Kit K-M29XRGR020S (Short Bed) Installation Parts		
Part Number	Description	Qty
R-21222D	Rear Mounting Bracket, Drivers Side	1
R-21222P	Rear Mounting Bracket, Passengers Side	1
R-2960	Railgear Mounting Shim - ½" Thick	2
R-2960A	Railgear Mounting Shim - 1" Thick	2
R-2631	Railgear Mounting Shim - 2" Thick	2
R-21249D	Bumper Support Bracket Driver Side	1
R-21249P	Bumper Support Bracket Passenger Side	1
R-990KIT-440 (Mtg. Brkts.)	1/2" UNC Gr. 8 Bolt x 1 1/2" Long	4
	1/2" Gr. 8 Type-A Flat Washer	8
	1/2" UNC Gr. 8 Nylon Insert Lock Nut	4
	M14-2 Gr. 10.9 Flanged Hex Head Bolt x 80mm Lg.	4
	3/4" UNC Gr. 8 Bolt x 5" Long	2
	3/4" Gr. 8 Type-A Flat Washer	4
	3/4" UNC Gr. 8 Nylon Insert Lock Nut	2
R-990KIT-304 (Railgear Mtg.)	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" Gr. 8 Type-A Flat Washer	8
	3/4" UNC Gr. 8 Nylon Insert Lock Nut	4

1. Remove the original spare tire from under the vehicle's cargo box if so equipped. The original spare tire will not be re-installed.
2. Remove the rear bumper and bumper supports. The rear bumper will be reinstalled, with new supports.
3. Remove the M14 bolts from the underside of the frame securing the tow hitch inside the frame. These bolts will be replaced with longer ones included in the kit.
4. Place each rear mounting bracket against the underside and outside of the frame rails and align with existing holes as shown.
5. Ensure bracket is tight against the underside and outside of the frame and mark and drill 17/32" holes in the outside of the frame using the holes in the mounting brackets as a guide.

Note:

Do not damage opposing Huck style hardware located within vehicle frame that secure the tow hitch to the vehicle when drilling 17/32" holes for mounting hardware.

6. Install the rear mounting brackets as shown using the supplied hardware.
 - a. Existing frame hole for the 3/4" bolt may need to be reamed for proper fit.
 - b. Apply blue Loctite to the longer M14 bolts before installing.
7. Ensure the rear mounting brackets are tight to the underside and outside of the frame and are aligned with each other when complete.
8. Reinstall bumper with new bumper support brackets using OEM hardware, as shown in Figure 2.

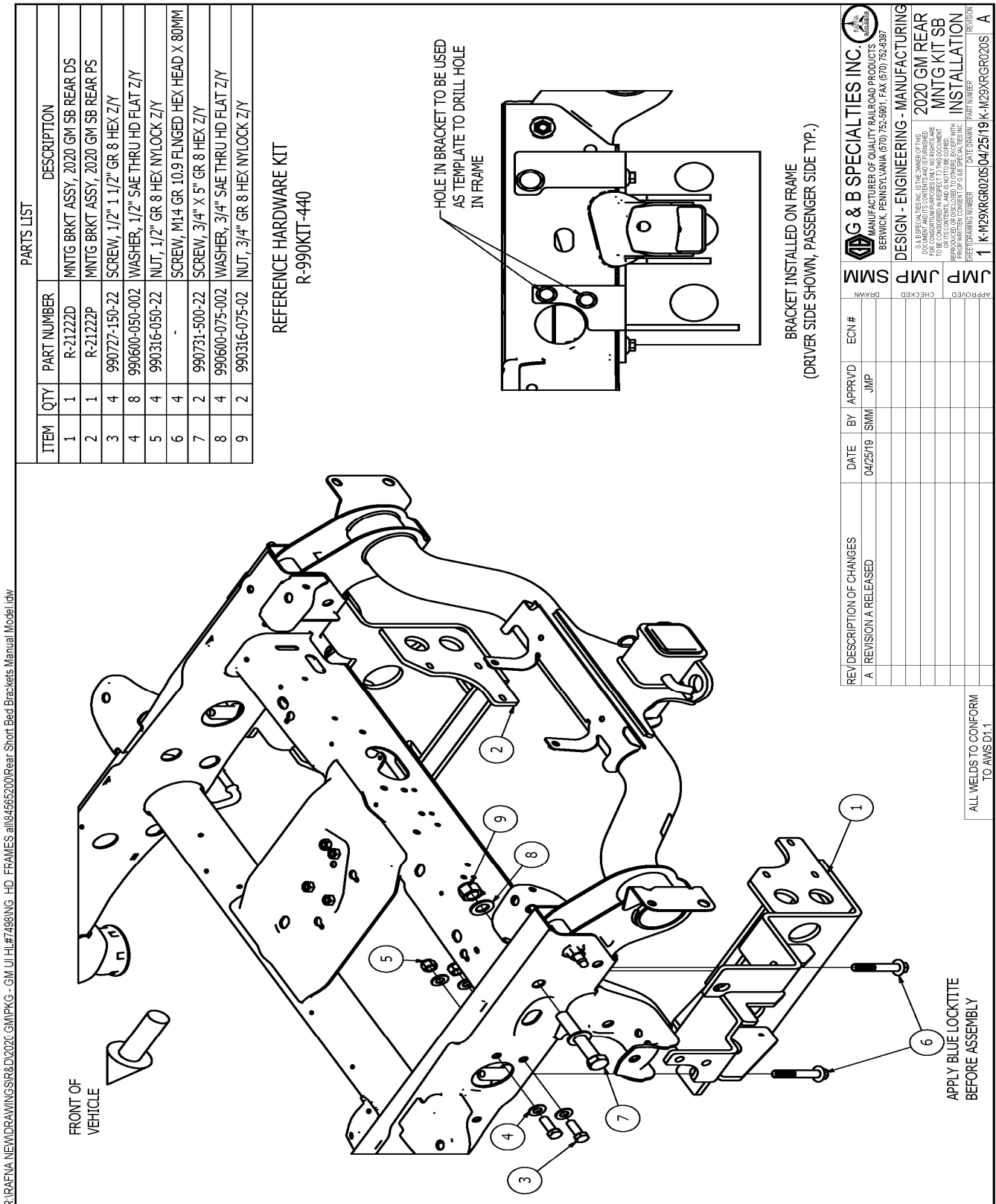


Figure 1: Short Bed Application

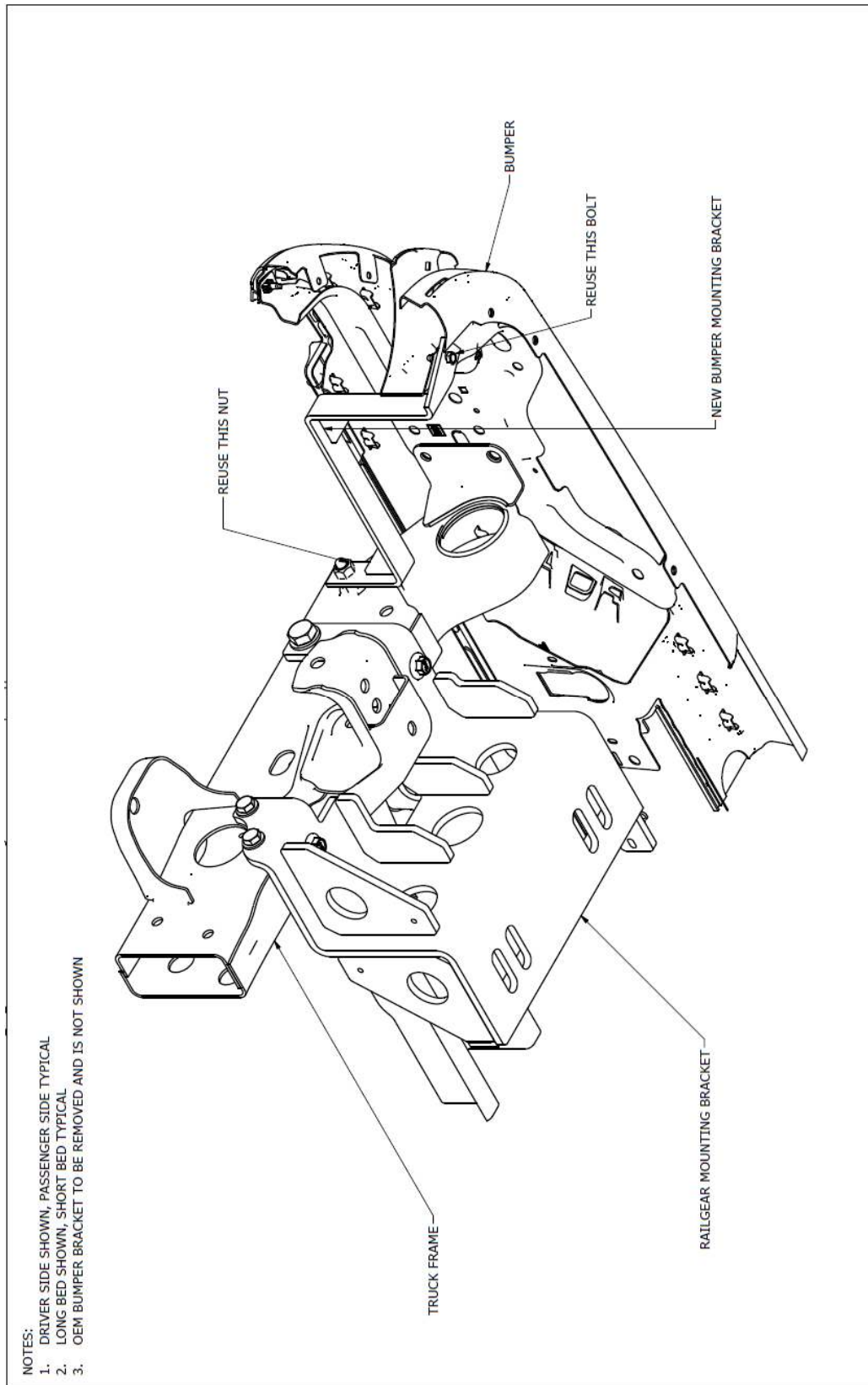


Figure 2: Bumper Mtg Brkt Placement

OPERATION AND SERVICE OF R-290 REAR MOUNTING KIT 2020-PRESENT GM 2500/3500HD SHORT BED

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 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.

