

INSTALLATION OF FRONT MOUNTING KIT 2001-2010 GM 2500/3500 HD 4x2/4x4

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 Industries 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.
- 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 in order 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 FRONT MOUNTING KIT

The following procedure details the installation of the front mounting kit. The hardware required for this installation is listed in the table below.

Front Mounting Kit Installation Parts

Part Number	Description	Qty
R-2962D	Front Mounting Plate Left Side	1
R-2962P	Front Mounting Plate Right Side	1
R-2975	Spacer	6
R-2976	Bracket	2
R-2960	Railgear Mounting Shim - ½" Thick	4
R-051	Side Wand Set w/ Fasteners	1
R-990KIT-005	3/8" UNC Gr. 8 Bolt x 1.25" Long	16
	3/8" SAE Washer	32
	3/8" UNC Gr. 3 Nylon Insert Lock Nut	16
	½" UNC Gr. 8 Bolt x 1.75" Long	8
	½" Gr. 8 Washer	16
	½" UNC Gr. 8 Nylon Insert Lock Nut	8

1. Remove the front bumper, front bumper side braces, and front tow hooks if so equipped. Retain the bumper, side braces and fasteners for re-installation. The tow hooks will not be re-installed.
2. Remove the lower air cowling from under the radiator. The air cowling will not be re-installed.
3. Remove the skid plate from the front frame cross member. The skid plate will not be re-installed.
4. Locate the vehicle front most body mounts on the exterior of the frame. There should be two holes in the lower rear section of the body mounts where the front bumper side braces were originally fastened. Cut the lower 1-½" out of the rear section of the body mount. The bumper side braces will be re-installed higher up. Once the railgear is installed, verify that there is no contact between the railgear and the front body mounts. Re-trim if necessary.
5. Position the front mounting plates on the inner side of the frame as shown so that the front frame cross member (round tube) is cradled tightly by the small square bars welded to the front mounting plates. It is imperative that the front mounting plates are tight against the bottom of the front frame cross member.

6. Ensure the mounting plate lower surfaces are 0° to the horizontal with the vehicle in the typical road position and aligned with each other. Grind or shim the front mounting plates as required to match the contour of the inner side of the frame rails. It may be necessary to grind off the lower edge of the front bumper mounting bracket which is welded to the front of the frame. It may be necessary to relocate brake and/or transmission lines, etc. Clamp the front mounting plates in position. Ensure that there is no interference with other vehicle components.
7. Mark the location of the original front tow hook mounting holes onto the front mounting plates. Mark the location of the three holes in each front mounting plate onto the inner side of the frame rails. Unclamp and remove the front mounting plates.
8. Drill $17/32$ " holes in the inner side of the frame rails and the front mounting plates where marked in the previous step.
9. Reposition and fasten each front mounting plate onto the frame with four $1/2$ " x 1.75" long bolts, eight $1/2$ " washers, and four $1/2$ " nuts. To access the rear most nut inside the frame, it may be necessary to enlarge the slot on the opposite side wall of the frame to get a socket inside.
10. Ensure the front mounting plates are tight against the inner side of the frame and the underside of the front frame cross member and that the mounting plate lower surfaces are 0° to the horizontal. Torque all the $1/2$ " fasteners to 100 ft-lbs dry. Do not over torque.
11. The supplied railgear mounting shims are to be used as required when mounting the railgear to the front mounting plates.

Following the installation of the front railgear, the front bumper will not fit in it's original position. G&B Specialties supplies brackets and spacers to move the bumper further out in order to fit over the railgear with minimal trimming required as described in the following steps. (If it is not desirable to trim the front bumper, the installer will have to fabricate brackets as necessary to fit the front bumper as desired.)

12. Separate the lower plastic section of the bumper from the steel section of the bumper. The lower plastic section will not be re-installed.
13. Using the right side original front bumper side brace on the left side and vice versa will allow the side braces to be mounted higher up above their original mounting locations on the front body mounts. The front body mounts will need to be drilled to match the new location of the side braces. Use the original fasteners to mount the side braces to the body mounts.
14. Using one $3/8$ " x 1.25" long bolt, two $3/8$ " washers, and one $3/8$ " nut, fasten one Rafna supplied spacer to each of the other six front bumper mounting locations on the frame. Then mount the front bumper onto the spacers using one $3/8$ " x 1.25" long bolt, two $3/8$ " washers, and one $3/8$ " nut through each spacer. This will set the bumper about 4" ahead of it's original location. See figure 1.

15. Using one 3/8" x 1.25" long bolt, two 3/8" washers, and one 3/8" nut, fasten one end of each Rafna supplied bracket to the end of each front bumper side brace. Using one 3/8" x 1.25" long bolt, two 3/8" washers, and one 3/8" nut, fasten the other end of each bracket to the lower side flange of each end of the bumper. The lower side flanges of the bumper will need to be drilled to match. See figure 2.
16. Align the bumper horizontally and vertically using the slots in the mounting locations. Torque all 3/8" fasteners to 40 ft-lbs dry. Do not over torque. Torque original fasteners to the vehicle manufacturer's specifications.
17. Fasten the side wands to the extremities of the front bumper using the supplied fasteners. Bend the side wand mounting tabs and drill the front bumper as required.

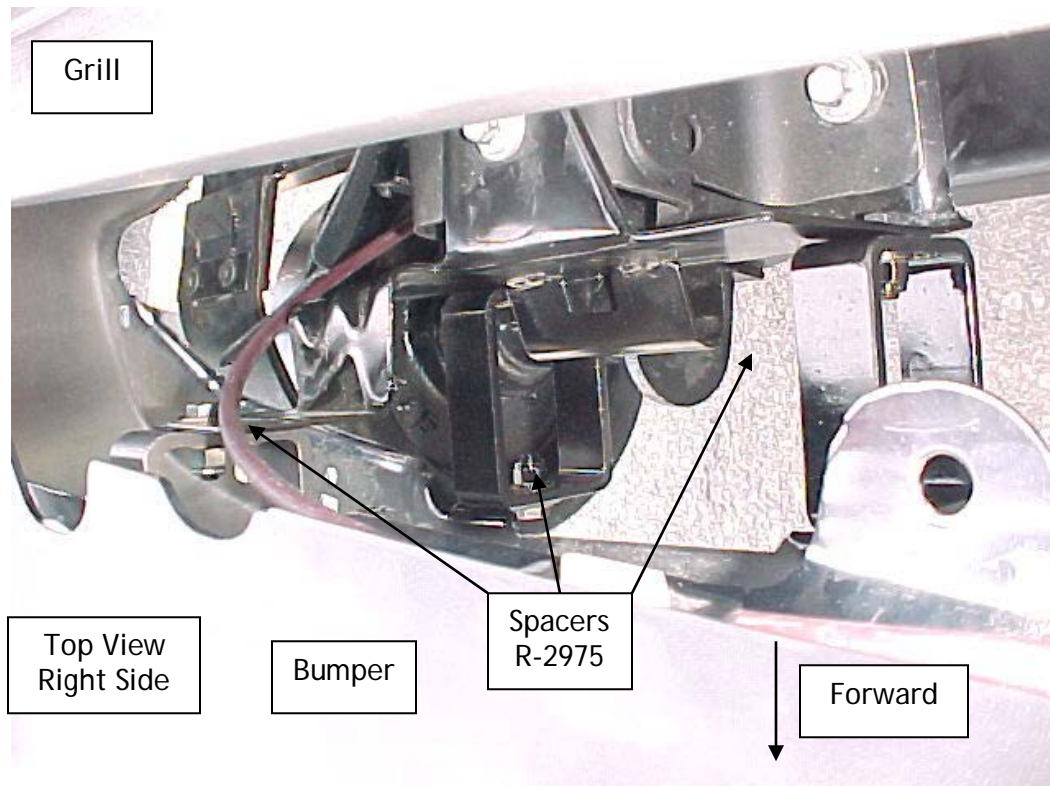


Figure 1: Spacers installed between bumper and bumper mounting brackets

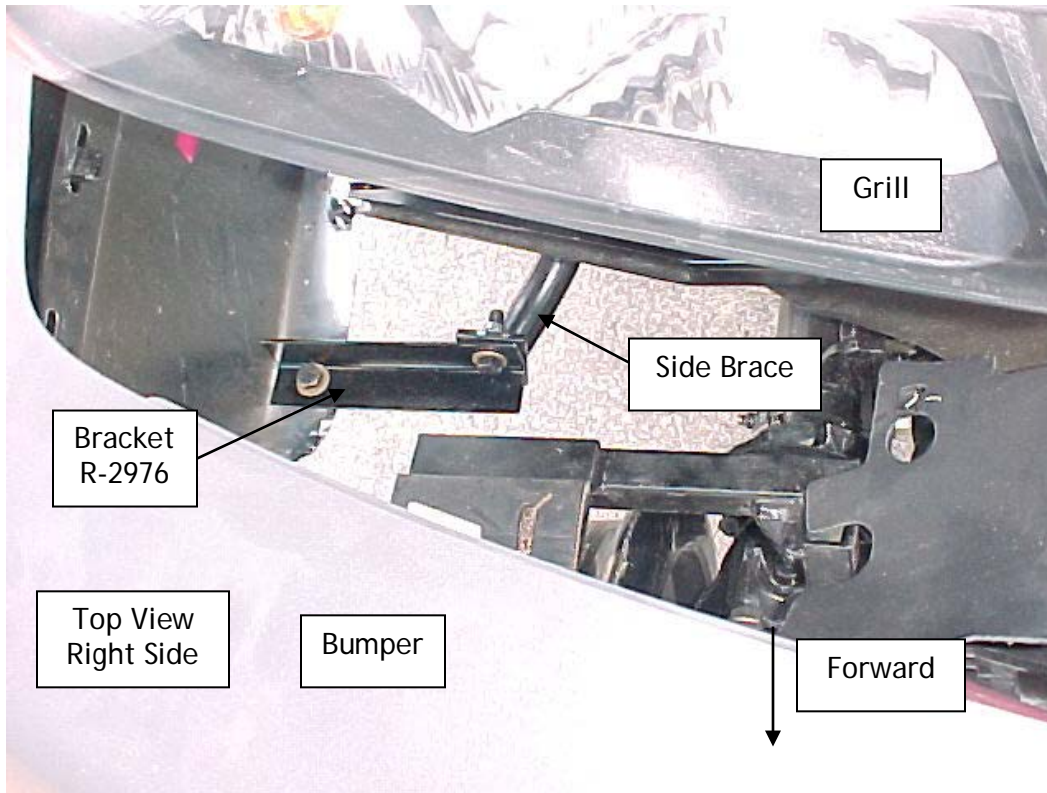
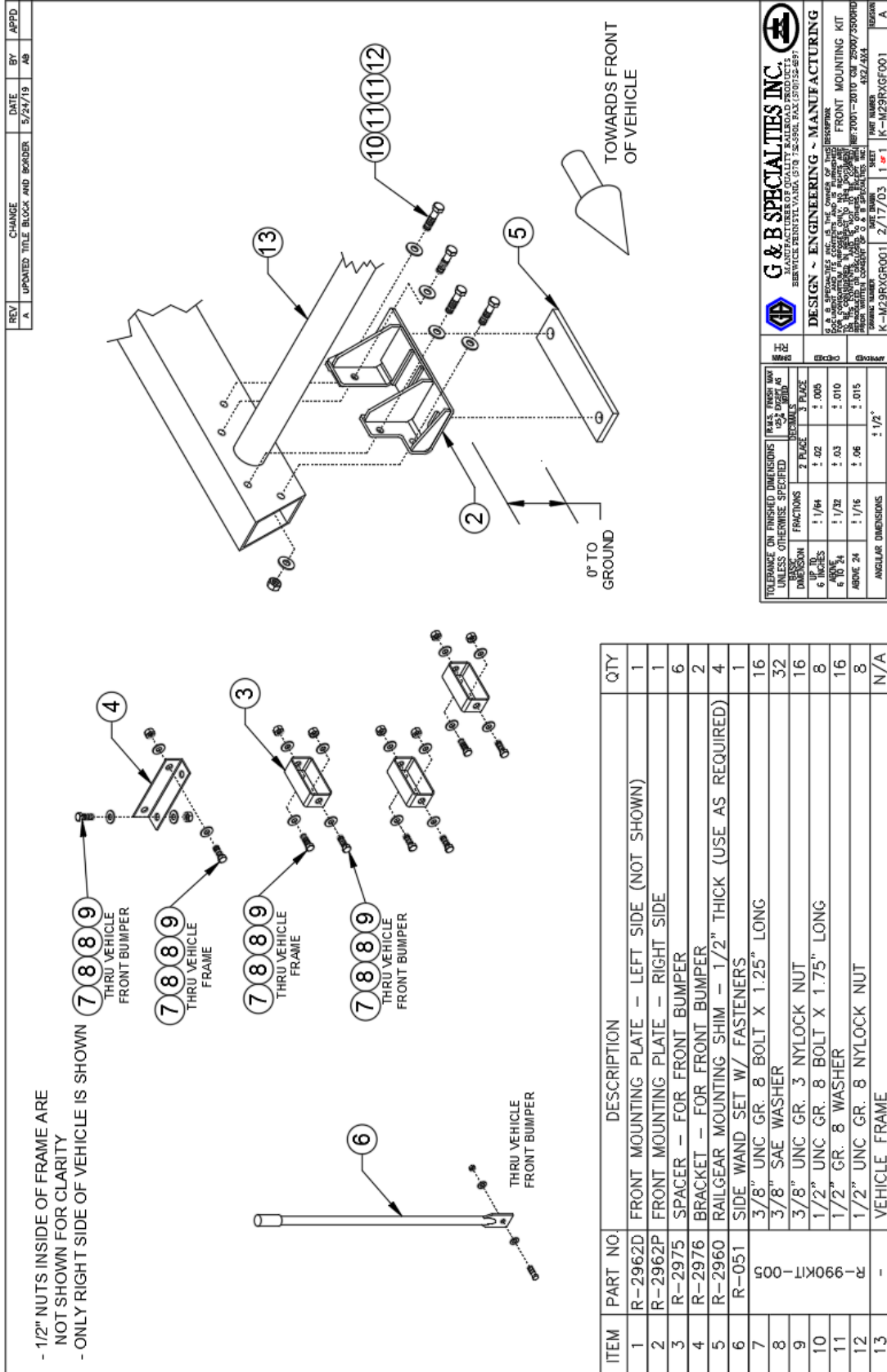


Figure 2: Bracket installed between bumper and front bumper side brace



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<small>CHANGED TITLE BLOCK AND BORDER</small>	
<small>REV: A</small>	

ITEM	PART NO	DESCRIPTION	QTY
1	R-2962D	FRONT MOUNTING PLATE - LEFT SIDE (NOT SHOWN)	1
2	R-2962P	FRONT MOUNTING PLATE - RIGHT SIDE	1
3	R-2975	SPACER - FOR FRONT BUMPER	6
4	R-2976	BRACKET - FOR FRONT BUMPER	2
5	R-2960	RAILGEAR MOUNTING SHIM - 1/2" THICK (USE AS REQUIRED)	4
6	R-051	SIDE WAND SET W/ FASTENERS	1
7	3/8" UNC GR. 8 BOLT X 1.25" LONG		16
8	3/8" SAE WASHER		32
9	3/8" UNC GR. 3 NYLOCK NUT		16
10	1/2" UNC GR. 8 BOLT X 1.75" LONG		8
11	1/2" GR. 8 WASHER		16
12	1/2" UNC GR. 8 NYLOCK NUT		8
13	-	VEHICLE FRAME	N/A

**OPERATION, SERVICE, AND PARTS OF FRONT MOUNTING KIT
2001-2010 GM 2500/3500 HD 4x2/4x4**

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 Industries 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 FRONT MOUNTING KIT

With the front mounting kit installed on this vehicle, it may be operated as normal, however the front bumper is located further forward than standard. Side wands are located on the front bumper to aid in determining the length and width of the vehicle. Caution must be used when operating the vehicle.

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 front 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

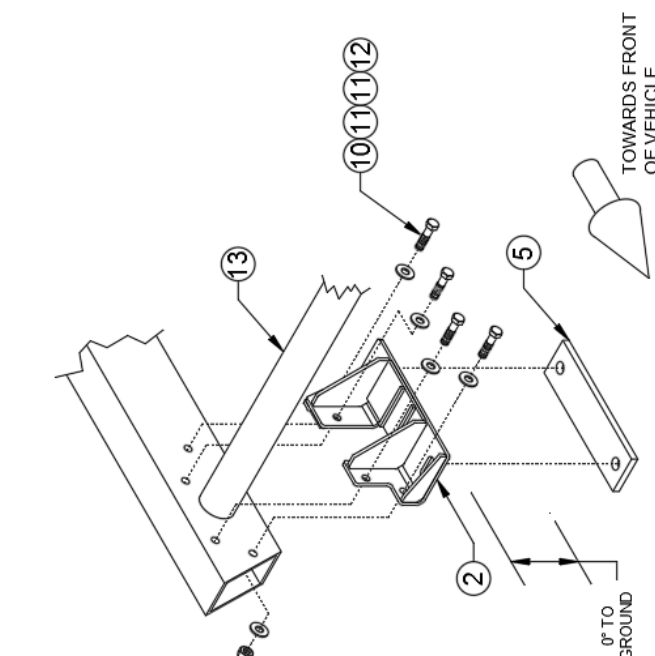
Service Required	Initial 100 km (62 Miles) of road and/or rail use	Daily	Weekly	Monthly
Inspect front mounting kit fasteners (re-torque if required)		✓	✓	✓

Table 2: Standard Fastener Torque Values

Fastener Size	Fastener Torque Value (ft-lbs) Dry
1" UNC Gr. 8 Fasteners	250
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

PARTS OF FRONT MOUNTING KIT

REV	CHANGE	DATE	BY	APPD
A	UPDATED TITLE BLOCK AND BORDER	5/24/19	AS	



TOWARDS FRONT OF VEHICLE

0° TO GROUND

- 1/2" NUTS INSIDE OF FRAME ARE NOT SHOWN FOR CLARITY
- ONLY RIGHT SIDE OF VEHICLE IS SHOWN

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8	005	3/8" SAE WASHER	32
9	005	3/8" UNC GR. 3 NYLOCK NUT	16
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11	005	1/2" GR. 8 WASHER	16
12	005	1/2" UNC GR. 8 NYLOCK NUT	8
13	-	VEHICLE FRAME	N/A

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FRONT MOUNTING KIT	
MIO-M29RXGF001	
REV A	
SHEET 1 OF 1	
DATE: 2/17/03	
DRAWING NUMBER: K-M29RXGF001	
REV: A	