

INSTALLATION OF R-290 FRONT MOUNTING KIT 2008-2016 FORD F-250/350 4X2

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 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-11120D-A	Mounting Bracket, Drivers Side	1
R-11120P-A	Mounting Bracket, Passengers Side	1
R-12009-A	Frame Extension	2
R-2631	Railgear Spacer, 2"	2
R-2960	Railgear Spacer, 1/2"	4
R-11128	Railgear Spacer, 1/4"	2
R-11129D	Upper Support Bracket, Drivers Side	1
R-11129P	Upper Support Bracket, Passengers Side	1
R-11136D	Bumper Mounting Bracket, Drivers Side	1
R-11136P	Bumper Mounting Bracket, Passengers Side	1
R-2687AL	Aluminum Front Bumper	1
R-11250	Bumper spacer, 2"	2
R-11106B	Frame Spacer	1
R-051	Side Wand Set w/ Fasteners	1
R-990KIT-205	5/8" UNC GR.8 Bolt x 6.00" Lg.	10
	5/8" Flat Washer, GR.8 - Type-A	20
	5/8" UNC GR.8 Nylon Insert Lock Nut	10
	1/2" UNC GR.8 Bolt X 2.00" Lg.	6
	1/2" UNC GR.8 Bolt X 1.50" Lg.	4
	1/2" UNC GR.8 Bolt X 3.50" Lg.	4
	1/2" Flat Washer, GR.8 - Type-A	30
	3/4" UNC GR.8 Bolt x 5.00" Lg.	4
	3/4" UNC GR.8 Bolt x 4.00" Lg.	4
	3/4" Flat Washer, GR.8 - Type-A	8
	3/4" UNC GR.8 Nylon Insert Lock Nut	4
	3/8" Flat Washer, GR.8 - Type-A	6
	3/8" UNC GR.8 Nylon Insert Lock Nut	6
	1/2" UNC GR.8 Nylon Insert Lock Nut	14
	1/4" UNC GR.8 Bolt x 1.00" Lg.	1
	1/4" Flat Washer, GR.8 - Type-A	2
1/4" UNC GR.8 Nylon Insert Lock Nut	1	
R-990KIT-410	7/16" UNC GR.8 Bolt X 1.50" Lg.	2
	7/16" UNC GR.8 Bolt X 2.50" Lg.	6
	7/16" UNC GR.8 Bolt X 3.00" Lg.	6
	7/16" UNC GR.8 Bolt X 3.50" Lg.	6
	7/16" UNC GR.8 Nylon Insert Lock Nut	8
	7/16" Flat Washer, GR.8 - Type-A	16
R-19066	Coil Spring Spacer Kit	1

This vehicle requires suspension modifications to properly install the railgear unit

Suspension Modification

1. Install the front coil spring spacers, per the manufacturers' instructions, supplied with this kit.
2. A rear add-a-leaf(s) is required to achieve a minimum of 1.5" of lift and should be installed per the manufacturers' instructions. The add-a-leaf is not supplied with this kit.
3. It is recommended that the vehicle be driven for a short distance before measuring for mounting height. This will allow the suspension to settle after the modifications were made.

Frame Modification (Figures 1, 1A)

1. Remove the front bumper and front tow hooks if so equipped. Remove the coolant line retaining clips from both the inside driver and passenger frame rail. The coolant line retaining clips will need to be relocated in an appropriate place by the installer.
 - a.) Remove Front Compatibility brackets from front frame horns.
Applies to 2010-2016 Model Year.
2. The vehicle front bumper will need to be modified if re-installed. The tow hooks will not be re-installed.
3. On the in-board side of the driver's side frame rail, drill out the two existing holes to 11/16" diameter. Drill both holes thru to the out-board side of the frame and thru the out-board frame rail.
4. On the in-board side of the passenger's side frame rail, drill out the first two existing holes to 11/16" diameter. Drill the first two holes thru to the out-board side of the frame and thru the out-board frame rail.
5. Drill the existing three holes in the top of the drivers frame rail to 9/16" diameter.

Bracket Assembly - Drivers Side (Figure 2)

1. Insert frame extension into frame and align with first two the holes in the frame and with the holes in the top of the frame. Attach the frame extension to the frame using 1/2" bolts and flat washers inserted thru the front two holes drilled in the top of the truck frame and into the frame extension. There are 1/2" nuts welded to the inside of the frame extension. Tighten bolts but do not torque at this time. Make sure that the top of the frame extension is tight up against the inside top surface of the truck frame.

If the frame extensions supplied with this kit do not have the nuts welded to the inside then it will be necessary to assemble the frame extensions to the frame using 1/2" bolts, washers and nuts.

2. Assemble the railgear mounting bracket to the truck frame and frame extension using 5/8" bolts, flat washers and nuts. Make sure the mounting bracket is flush with the top of the truck frame and the bottom of the frame extension and the inside frame rail. Torque all 5/8" fasteners to 150 ft-lbs dry.
3. Remove the two 1/2" bolts from the top of the frame that are attached to the frame extension. Place the upper support bracket on top of the frame and railgear mounting bracket. Attach the upper support bracket to the truck frame using 1/2" bolts and flat washers and to the railgear mounting bracket using 3/8" flat washers and nylon insert nuts. If the railgear mounting bracket is not flush with the top of the frame, it will be necessary to place a shim under the upper support bracket where required and is to be provided by the installer.

If the frame extensions supplied with this kit do not have the nuts welded to the inside then it will be necessary to assemble the upper support bracket to the frame using 1/2" bolts, washers and nuts.

4. If spacers are required under the upper support only one flat washer will be required for the rear most 1/2" bolt as noted in Figure 2.
5. Torque all 1/2" fasteners to 100 ft-lbs dry. Torque all 3/8" fasteners to 50 ft-lbs dry.
6. Repeat steps 1 thru 6 for passenger's side.
7. The supplied mounting shims are to be used as required when mounting the railgear to the front mounting brackets.

Aluminum Front Bumper Installation (Figure 3)

Attach front bumper brackets to the top of the frame extensions as shown in Figure 3, with supplied 1/2" X 1-1/2" Bolts, flat washers and lock nuts. Torque bolts to 100 ft-lbs dry. Attach front bumper and bumper spacers to bumper mounting brackets as shown in Figure 3, with supplied 1/2" X 3-1/2" Bolts, flat washers and lock nuts. Torque bolts to 35 ft-lbs dry. Install OEM hood release to passenger side mounting bracket using slot in bracket. Mark and drill bumper mounting bracket with a 9/32" diameter hole using the OEM hood release as a template. Assemble using 1/4" X 1" bolt, flat washer and lock nut. The OEM bumper release can also be used by removing the bracket from the front bumper and mounting it to the aluminum bumper mounting bracket, hardware is not supplied for this optional installation.

The OEM bumper can be reinstalled in the original location with slight modifications to the bumper and the OEM bumper mounting bracket/tow hook. This can be done at the installers discretion and is not covered by this manual.

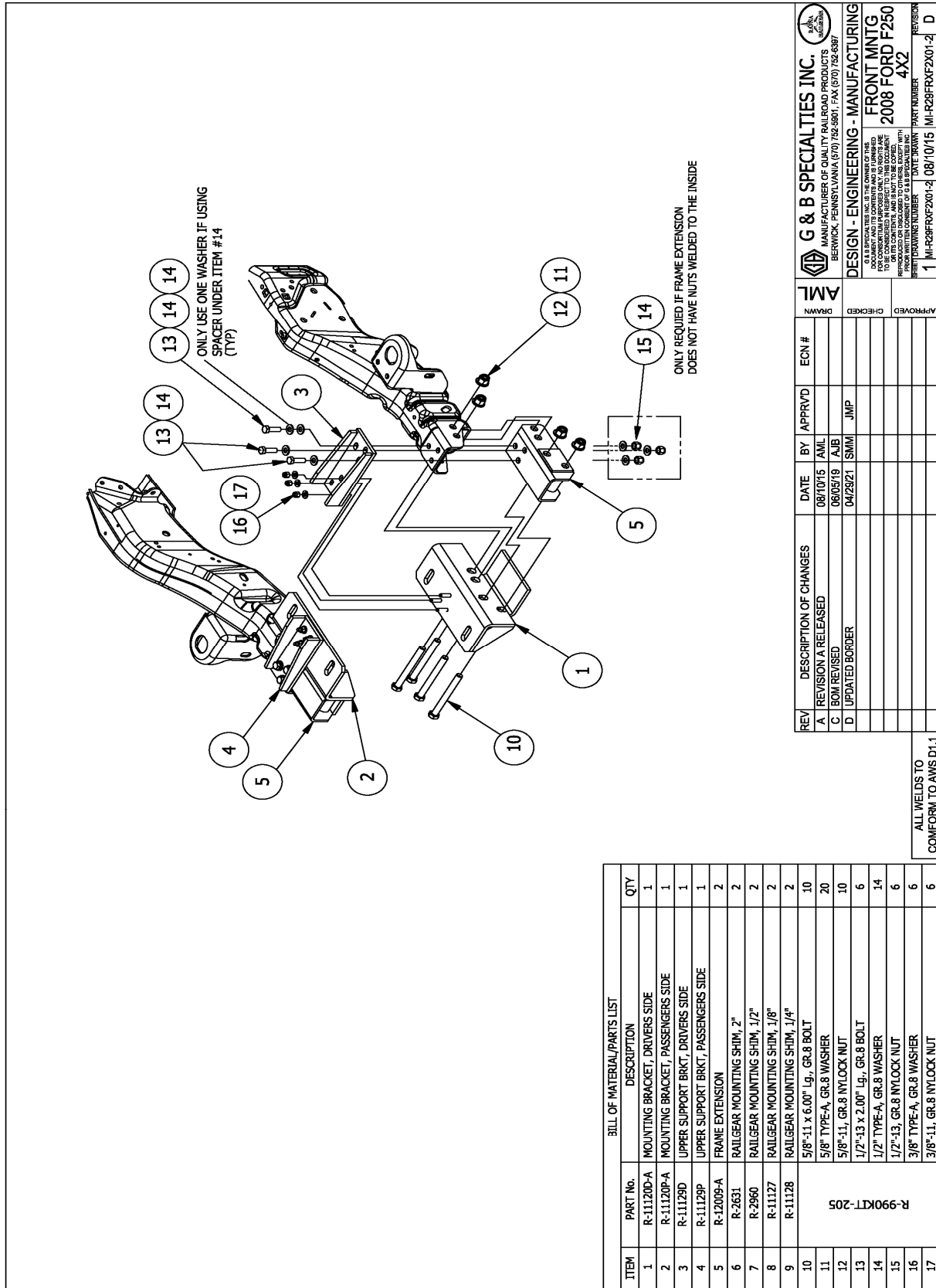


Figure 2

OPERATION & SERVICE OF R-290 FRONT MOUNTING KIT 2008-2016 FORD F-250/350 4X2

OPERATION & SERVICE SAFETY PRECAUTIONS

If any operating, services or parts problems are encountered, please call G&B Specialties 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 & 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 62 miles (100 km) 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
3/4" UNC Gr. 8 Fasteners	175
5/8" UNC Gr. 8 Fasteners	150
1/2" UNC Gr. 8 Fasteners	100
7/16" UNC Gr. 8 Fasteners	65
3/8" UNC Gr. 8 Fasteners	40
1/4" UNC Gr. 8 Fasteners	12