

## INSTALLATION OF R-450 FRONT MOUNTING KIT 2017 AND UP FORD F-450/F-550 4X4/4X2

### 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 Table 1.

**Table 1: K-M45VXFF017 Front Mounting Kit Installation Parts**

Part Number	Description	Qty
R-33304D	Mounting Plate - Drivers Side	1
R-33306P	Mounting Plate - Passengers Side	1
R-33303D-A	Side Plate Assembly - Drivers Side	1
R-33305P-A	Side Plate Assembly - Passengers Side	1
R-33300	Frame Extension	2
R-33309	Spacer, Frame Extension	2
R-11114A	Tie Bar/Mounting Plate	1
R-990KIT-107A	5/8" UNC GR.8 Bolt x 7.00" Lg.	8
	5/8" UNC GR.8 Bolt x 2.00" Lg.	4
	5/8" Flat Washer, GR.8 - Type-A	24
	5/8" UNC GR.8 Nylon Insert Lock Nut	12
	7/8" UNC GR.8 Bolt x 7.00" Lg.	2
	7/8" Flat Washer, GR.8 - Type-A	4
	7/8" UNC GR.8 Nylon Insert Lock Nut	2

**Frame Modification**

1. Remove the front bumper and front tow hooks if so equipped. The bumper and tow hooks will be modified and re-installed.
2. Cut the tow hook flush with face of the mounting bracket and the inner mounting bracket ear 1" from center of welded nuts. (See Figure 1) This process is to be performed on both tow hooks, cutting only the inner ear off on each.
3. On the in-board side of the driver's side frame rail, remove the connector that is attached. (This will need to be relocated) Ream out the rear most hole location where the 7/8" bolt is to be used so that it may sit straight across when inserted through frame. (Figure 2 & 3)
4. On the out-board side of the passenger's side frame rail, drill through the existing hole for the 7/8" bolt. A 15/16" bit may be used to complete the through hole. (Figure 4)

## Bracket Assembly

1. Place modified toe hook back in factory location and insert frame spacer into frame and fasten loosely with original hardware or supplied 65MM bolts and washers. Washers may need modified to ensure they sit flush with frame and will not be used if using the factory bolt.
2. Place R-33303D-A (Driver's Side Plate Assembly (Item 3)) flush on the inside face of the frame and flush with the bottom of the frame extension. Next place R-33304D (Driver's Side Mounting Plate (Item 1)) flush with the outside of the frame and flush with the bottom of R-33303D-A. Place frame extension spacer inside frame extension at the first of the three rear holes and fasten loosely with supplied 5/8" and 7/8" hardware. (Figure 5 & 6)
3. Repeat steps 1 and 2 on Passenger's side.
4. With Driver's side and Passenger's side brackets mounted loosely, insert R-11114A (Tie Bar Mounting Plate (Item 6)) into place and mount with supplied 5/8" hardware. (Figure 5 & 7)
5. Tighten all fasteners to required torque values.



Figure 1: Modification of Tow Hook (Driver's side shown)



Figure 2: Connector Location and 7/8" Bolt Hole

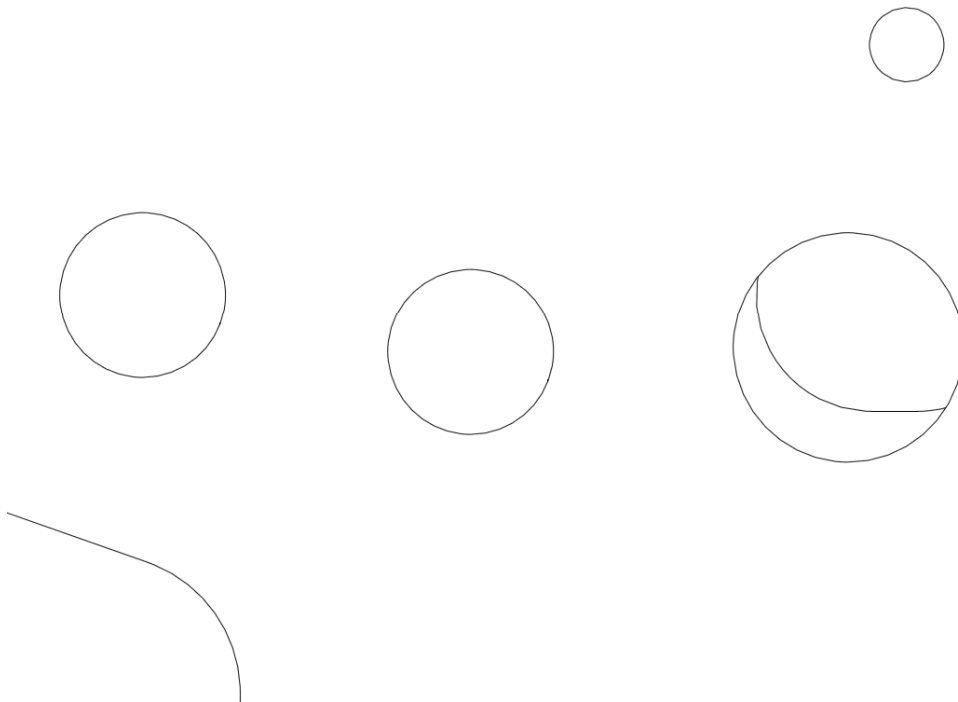


Figure 3: Outside Frame Looking through to Inside



Figure 4: Through Hole for 7/8" Bolt

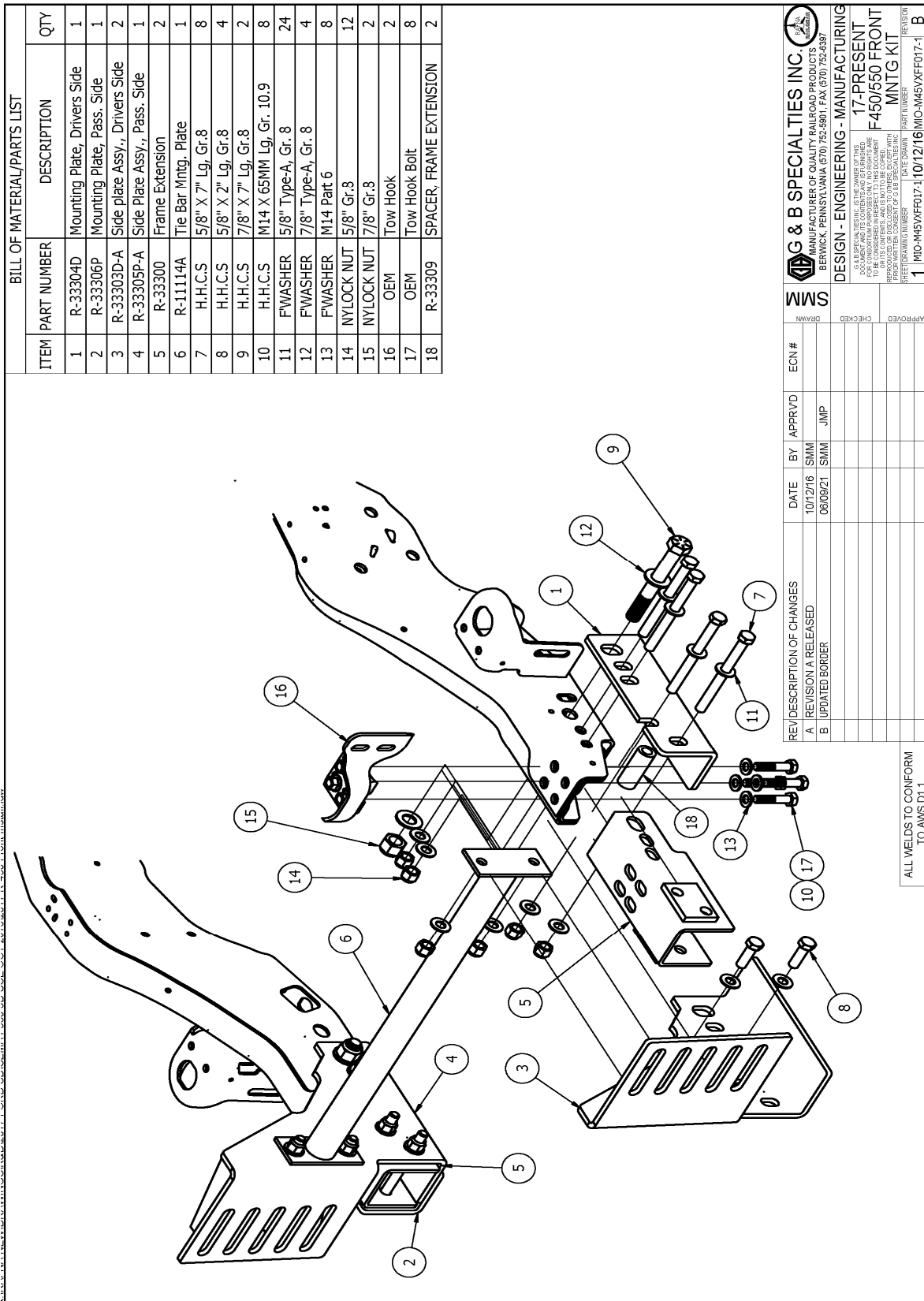


Figure 5: K-M45VXFF017 Exploded View



Figure 6: Mounted Brackets



Figure 7: Tie Bar Mounted

## OPERATION OF R-450 FRONT MOUNTING KIT 2017 AND UP FORD F-450/F-550 4X4/4X2

### OPERATION SAFETY PRECAUTIONS

If any operation 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.
- 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.

<b>OPERATION AND SERVICE OF FRONT MOUNTING KIT</b>
--

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

**Table 2: 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 3: Standard Fastener Torque Values**

Fastener Size	Fastener Torque Value (ft-lbs) Dry
1" UNC Gr. 8 Fasteners	250
7/8" UNC Gr. 8 Fasteners	200
3/4" UNC Gr. 8 Fasteners	175
5/8" UNC Gr. 8 Fasteners	150
1/2" UNC Gr. 8 Fasteners	100
1/2" UNC Gr. 2 Fasteners	35
3/8" UNC Gr. 8 Fasteners	40
1/4" UNC Gr. 8 Fasteners	12