

## INSTALLATION OF FRONT MOUNTING KIT 1999-2004 FORD F-250/350 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.
- 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-2952D	Mounting Adapter (Left Side)	1
R-2952P	Mounting Adapter (Right Side)	1
R-2953D	Rearward Front Mounting Plate (Left Side)	1
R-2953P	Rearward Front Mounting Plate (Right Side)	1
R-2954D	Forward Front Mounting Plate (Left Side)	1
R-2954P	Forward Front Mounting Plate (Right Side)	1
R-2956	Frame Washer	2
R-2957	Front Bumper Extension	2
R-2960	Railgear Mounting Shim - ½" Thick	4
R-051	Side Wand Set w/ Fasteners	1
R-2848A	Power Steering Cooler Bracket	2
R-990KIT-002	¼" UNC Gr. 8 Bolt x 1" Long	2
	¼" SAE Washer	4
	¼" UNC Gr. 3 Nylon Insert Lock Nut	2
	½" UNC Gr. 8 Bolt x 1.75" Long	12
	½" UNC Gr. 8 Bolt x 2" Long	8
	½" UNC Gr. 8 Bolt x 2.25" Long	6
	½" Gr. 8 Washer	52
	½" UNC Gr. 8 Nylon Insert Lock Nut	26
	1" UNC Gr. 8 Bolt x 2.5" Long	2
	1" Gr. 8 Washer	4
	1" UNC Gr. 8 Nylon Insert Lock Nut	2

1. Remove the front bumper and front tow hooks if so equipped. If no tow hooks are present, remove the three forward most fasteners that secure each spring hanger to the underside of the frame. Retain the front bumper and related hardware for re-installation. The tow hooks will not be re-installed.
2. Remove the lower valence from the front bumper where equipped. The valence will not be re-installed.
3. Remove the "Blocker-Beam" from under the front spring hangers and trim the "Blocker-Beam" brackets to be flush with the underside and outside of the front spring hangers.
4. Unbolt the power steering cooler from the frame leaving the hoses attached. The power steering cooler will be relocated following the installation of the railgear.
5. Cut the front of the vehicle frame as shown in the drawing.

6. Assemble two 1" x 2.5" long bolts each with a 1" washer and a frame washer as shown. Bend the spring hanger nut holding tabs that protrude through the large hole in the bottom of the frame just behind the front spring hangers, up and out of the way. Place the 1" bolts inside the frame, and through the large holes.
7. Place the rearward front mounting plates against the outside and underside of the frame as shown so that the 1" bolts pass through the holes in the rearward front mounting plates. Fasten the rearward front mounting plates to the frame using the previously installed 1" bolts, two 1" washers and two 1" nuts.
8. Ensure that the frame washers fully cover the holes in the frame, and that the rearward front mounting plates are tight against the outside of the frame. Torque the 1" fasteners to 250 ft-lbs dry. Do not over torque
9. Using the ½" hole in the side of each rearward front mounting plate as a guide, drill a ⅜" hole in the side of each frame to match. Fasten each rearward front mounting plate to the frame at this location with one ½" x 1.75" long bolt, two ½" washers, and one ½" nut.
10. Torque the ½" fasteners to 100 ft-lbs dry. Do not over torque
11. With the front of the vehicle frame cut out, clamp the forward front mounting plates against the front of the frame as shown. The tabs on the forward front mounting plates should be under the front spring hangers. The three slots in each forward front mounting plate tab should align with the three holes in each front spring hanger and frame. The four slots in the face of each forward front mounting plate should align with the four holes in the front of the frame.
12. Fasten each forward front mounting plate to the underside of the frame with three ½" x 2.25" long bolts, six ½" washers, and three ½" nuts through the three holes in the tab. It may be necessary to enlarge the holes in the frame to 17/32" to fit the ½" bolts.
13. Ensure that the forward front mounting plates are tight against the front of the frame and that the side vertical face of the forward front mounting plates are in-line with the side vertical face of the rearward front mounting plates. Torque the ½" fasteners to 100 ft-lbs dry. Do not over torque.
14. Place the front bumper extensions on the front of the forward front mounting plates as shown. Fasten each front bumper extension and forward front mounting plate to the front of the frame with four ½" x 2" long bolts, eight ½" washers, and four ½" nuts.
15. Ensure that the front bumper extensions are aligned with each other. Torque the ½" fasteners to 100 ft-lbs dry. Do not over torque

16. Place each mounting adapter against the inside vertical faces of the forward and rearward front mounting plates as shown. The mounting adapters should be as high as possible from the ground and 0° to horizontal, with the vehicle in the typical road position. It may be necessary to relocate brake lines and transmission-cooling lines. The front edge of the mounting adapters should be flush with the front edge of the forward front mounting plates and aligned with each other.
17. There should be a near equal space between the left and right side railgear rearward front mounting plates and the vehicle radiator support bracket and/or body. If the space is limited and the railgear mounting adapters cannot be properly mounted, the truck body may be mounted off center. If this is the case, follow the manufacturer's suggested procedures to center the body on the frame.
18. Mark the locations of the five ½" holes from the forward and rearward front mounting plates onto the mounting adapters. Remove the mounting adapters and drill five 17/32" holes where marked on the mounting adapters.
19. Re-position each mounting adapter on the forward and rearward front mounting plates. Fasten each mounting adapter in place with five ½" x 1.75" long bolts, ten ½" washers, and five ½" nuts.
20. Torque the ½" fasteners to 100 ft-lbs dry. Do not over torque

Following the installation of the front railgear, the power steering cooler will not fit in its original position. G&B Specialties supplies brackets to reposition the power steering cooler as described in the following steps.

21. Disconnect the two hoses from the power steering cooler and plug them.
22. Loosely bolt the supplied power steering cooler brackets to the power steering cooler with two ¼" x 1" long bolts, four ¼" washers, and two ¼" nuts.
23. Position the power steering cooler in its original orientation just above the railgear such that the power steering cooler brackets straddle the railgear hydraulic cylinder mounts just below the hydraulic cylinder mount gussets.
24. Make sure the power steering cooler does not come in contact with any component of the hydraulic system or the railgear in both the road and rail positions. It may be necessary to move the railgear hydraulic hoses or lock valves out of the way.
25. Ensure the vehicle's battery is disconnected and then weld the power steering cooler brackets to the hydraulic cylinder mounts.
26. Unplug and reconnect the power steering cooler hoses. New hoses may be required. These hoses are not included in the Rafna kit.
27. Torque the ¼" fasteners to 12 ft-lbs dry. Do not over torque.

Following the installation of the front railgear and the power steering cooler, the front bumper will not fit in its original position. G&B Specialties supplies front bumper extensions to move the front bumper further out, in order for it 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, G&B Specialties can supply optional, longer bumper extensions - order two of part number R-2957A)

28. Re-install the vehicle front bumper on the front bumper extensions with the original fasteners.
29. Align the front bumper and torque the original fasteners to OEM specifications.
30. The installer must either fabricate new front bumper side braces or fabricate extensions for the vehicle front bumper side braces. Ensure that the front bumper is solidly supported.
31. Fasten the side wands to the front bumper with the supplied fasteners. Bend the side wand mounting tabs and drill the bumper as required.

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

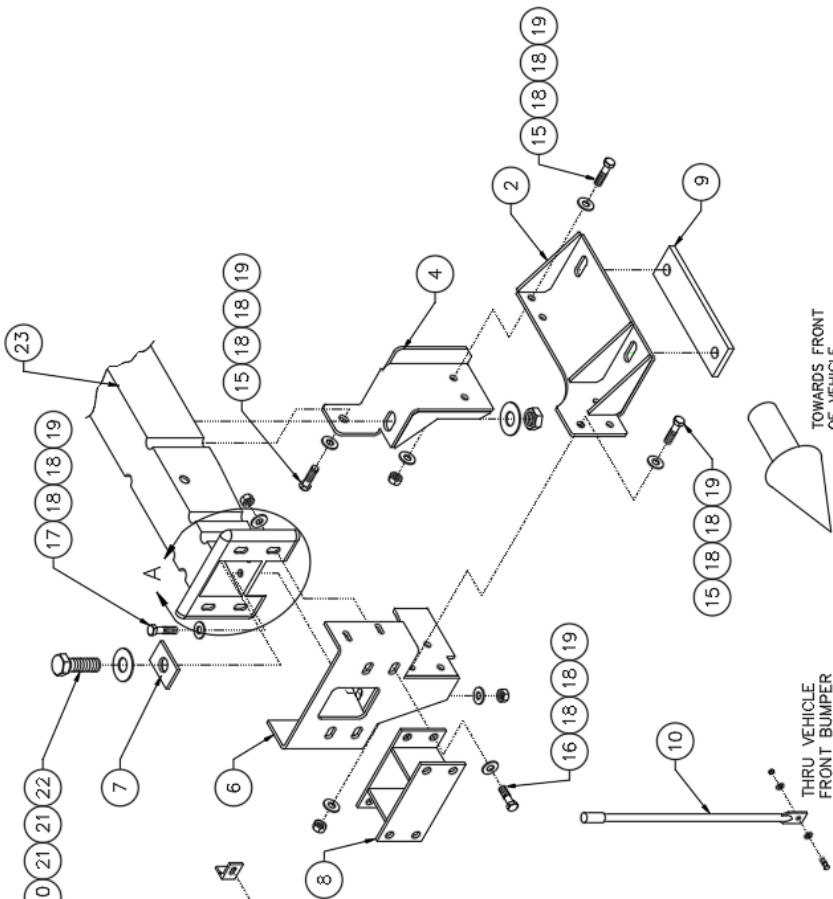
**NOTES:**

- IDENTICAL FASTENERS NOT SHOWN FOR CLARITY
- 1/2" NUTS INSERTED INSIDE OF FRAME NOT SHOWN FOR CLARITY
- RIGHT HAND SIDE SHOWN

**DETAIL A**

VEHICLE FRONT FRAME MODIFICATION

CUT THIS AREA



ITEM	PART NO.	DESCRIPTION	QTY
1	R-2952D	MOUNTING ADAPTER LEFT SIDE (NOT SHOWN)	1
2	R-2952P	MOUNTING ADAPTER RIGHT SIDE	1
3	R-2953D	REARWARD FRONT MOUNTING PLATE LEFT SIDE (NOT SHOWN)	1
4	R-2953P	REARWARD FRONT MOUNTING PLATE RIGHT SIDE	1
5	R-2954D	FORWARD FRONT MOUNTING PLATE LEFT SIDE (NOT SHOWN)	1
6	R-2954P	FORWARD FRONT MOUNTING PLATE RIGHT SIDE	1
7	R-2956	FRAME WASHER	2
8	R-2957	FRONT BUMPER EXTENSION	2
9	R-2960	RAILGEAR MOUNTING SHIM - 1/2" THICK (USE AS REQUIRED)	4
10	R-051	SIDE WAND SET W/ FASTENERS	1
11	R-2848A	POWER STEERING COOLER BRACKET	2
12		1/4" UNC GR.8 BOLT X 1" LONG	2
13		1/4" SAE WASHER	4
14		1/4" UNC GR.8 NYLOCK NUT	2
15		1/2" UNC GR.8 BOLT X 1.75"	12
16		1/2" UNC GR.8 BOLT X 2" LONG	8
17		1/2" UNC GR.8 BOLT X 2.25" LONG	6
18		1/2" GR.8 WASHER	52
19		1/2" UNC GR.8 NYLOCK NUT	26
20		1" UNC GR.8 BOLT X 2.5" LONG	2
21		1" GR.8 WASHER	4
22		1" UNC GR.8 NYLOCK NUT	2
23		VEHICLE'S FRAME	N/A
24		POWER STEERING COOLER	N/A

**G & B SPECIALTIES INC.**  
 BERWICK, PENNSYLVANIA, USA (570) 752-5901 FAX (570) 752-6397

**DESIGN ~ ENGINEERING ~ MANUFACTURING**

FRONT MOUNTING KIT  
 1999-2004 F250/350 4X4  
 PART NUMBER: K-M29RXFF001  
 SHEET: 1 OF 1  
 REVISION: A

TOLERANCE ON FINISHED DIMENSIONS UNLESS OTHERWISE SPECIFIED	FRACCTIONS	DECIMALS	ANGLES
2 PLACE	± 1/64	± .02	± .010
3 PLACE	± 1/32	± .03	± .015
4 PLACE	± 1/16	± .06	± 1/2°

**OPERATION, SERVICE AND PARTS  
OF FRONT MOUNTING KIT  
1999-2004 F-250/350 4x4**

**OPERATION SAFETY PRECAUTIONS**

If any operating, service 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

