

INSTALLATION OF R-450 OT WHEEL KIT - STEEL 1999-2004 FORD F-450/F-550 OT RAILGEAR ONLY

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.
- The road wheels and tires must be installed before the railgear is installed to obtain correct height measurements.
- Do not hit the wheel spacers with any hard objects as this could dent the spacer and cause vibrations when driving. If the wheel spacers do not easily slide onto the hubs, lightly sand the hub and the inside of the spacers.
- Always disconnect the vehicle's battery when welding on the vehicle or railgear to protect the vehicle's electrical system.
- Before performing any work under the vehicle or railgear, ensure the engine is turned off and the parking brake is set.
- With the installation of the vehicle road wheels and tires, it is recommended to recalibrate the vehicle's speedometer.
- Note that with the installation of this kit, the vehicle will be approximately 100" wide at the rear dual tires and that the tires will have a diameter of approximately 37". This may affect second unit body design and/or restrict the vehicle's use on certain roads depending on local, state, provincial, and/or federal regulations.

INSTALLATION OF WHEEL KIT

The following procedure details the installation of the wheels and tires required for the vehicle's tires to ride correctly on the rails and avoid contact with the vehicle. Note that with the installation of this kit, the vehicle will be approximately 100" wide at the rear dual tires and that the tires will have a diameter of approximately 37". This may affect second unit body design and/or restrict the vehicle's use on certain roads depending on local, state, provincial, and/or federal regulations. The hardware required for this installation is listed in Table 1.

Table 1: Wheel Installation Kit

Part Number	Description	Qty
R-4882	22.5" x 8.25" Accuride Rim	6
R-4883	Front Wheel Spacer Assembly	2
R-4884	Rear Wheel Spacer Assembly	2
R-4881	Disk Lock Nut M22x1.5	40
R-2426	Front Turning Stop Block	2
R-G124OT	Goodyear G124 255/70R22.5 (Not Supplied)	6

1. Jack up the vehicle and secure it on jack stands.
2. Remove the original front and rear wheels.
3. Based on rail contact area and load carrying capacity, RAFNA suggests the use of Goodyear G124 - 255/70R22.5 tires for all wheels on the railgear equipped vehicle. However, at the installer's and/or railroad's discretion, an equivalently sized and rated tire may be used. Mount and balance the tires on the supplied wheels.
4. Install the front wheels:
 - a) Start with one corner of the vehicle.
 - b) Remove the original Ford hub extender.
 - c) Place the front wheel spacer on the front hub over the OEM studs and fasten in place using the OEM hub extender nuts.
 - d) Tighten then torque the hub extender nuts to 130 ft-lbs dry as per the torque sequence provided. Do not over torque.
 - e) Mount the front wheel on the front wheel spacer with the supplied disk lock nuts.
 - f) Tighten and then torque the disk lock nuts to 400 ft-lbs dry as per the torque sequence provided. Do not over torque.
 - g) Repeat for the remaining wheel spacer and wheel.

5. Install the rear wheels:
 - a) Start with one corner of the vehicle.
 - b) Place the rear wheel spacer on the rear hub over the OEM wheel studs and fasten in place using the OEM lug nuts.
 - c) Tighten and then torque the lug nuts to 165 ft-lbs dry as per the torque sequence provided. Do not over torque.
 - d) Mount the rear wheels on the wheel spacer with the supplied disk lock nuts.
 - e) Tighten and then torque the disk lock nuts to 400 ft-lbs dry as per the torque sequence provided. Do not over torque.
 - f) Repeat for the remaining wheels.

6. Install the front wheel turning stop blocks (refer to figure 1):
 - a) Position the turning stop blocks over the original turning stops on the steering knuckle. To verify their position is correct, fully turn the steering wheel until the front hub contacts the knuckle. The boss on the hub should contact the turning stop block squarely on. Repeat for the other side.
 - b) Fully weld the turning stop blocks to the steering knuckles once their position is correct.

7. Due to the modified wheel track on the railgear equipped vehicle, both front and rear tire and wheel clearances must be checked. With the wheels, tires, supplied spacers, and supplied turning stop blocks installed on the vehicle, ensure that the wheels, tires, and/or balance weights do not contact the vehicle suspension or steering components, lines and/or any other component/obstruction throughout the entire range of motion of the steering and suspension. It may be necessary to add or remove material from the turning stop blocks and/or to relocate brake lines, and/or other equipment to gain adequate clearances. Ensure that any vehicle modifications are done in accordance with the vehicle manufacturer's or their representative's approval.

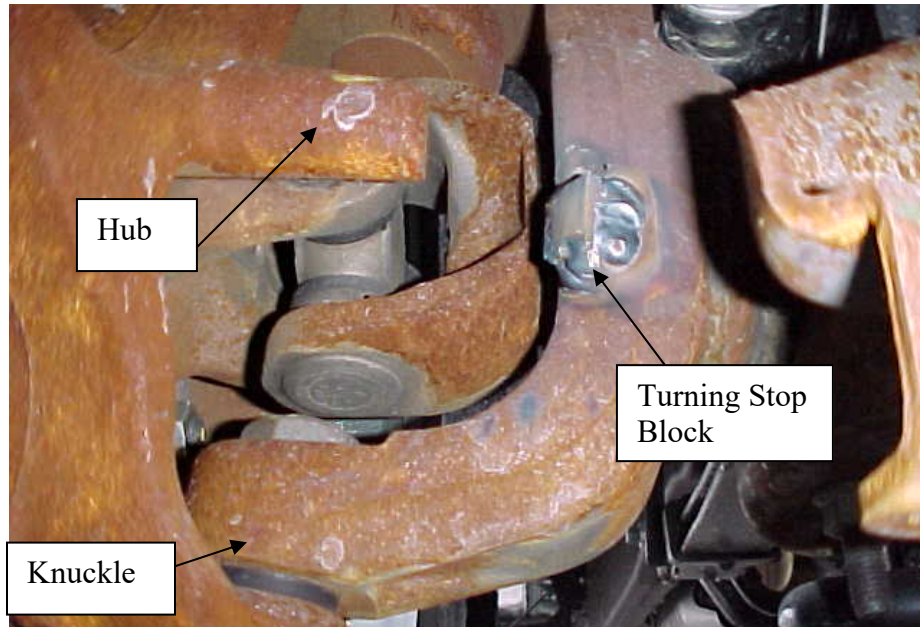
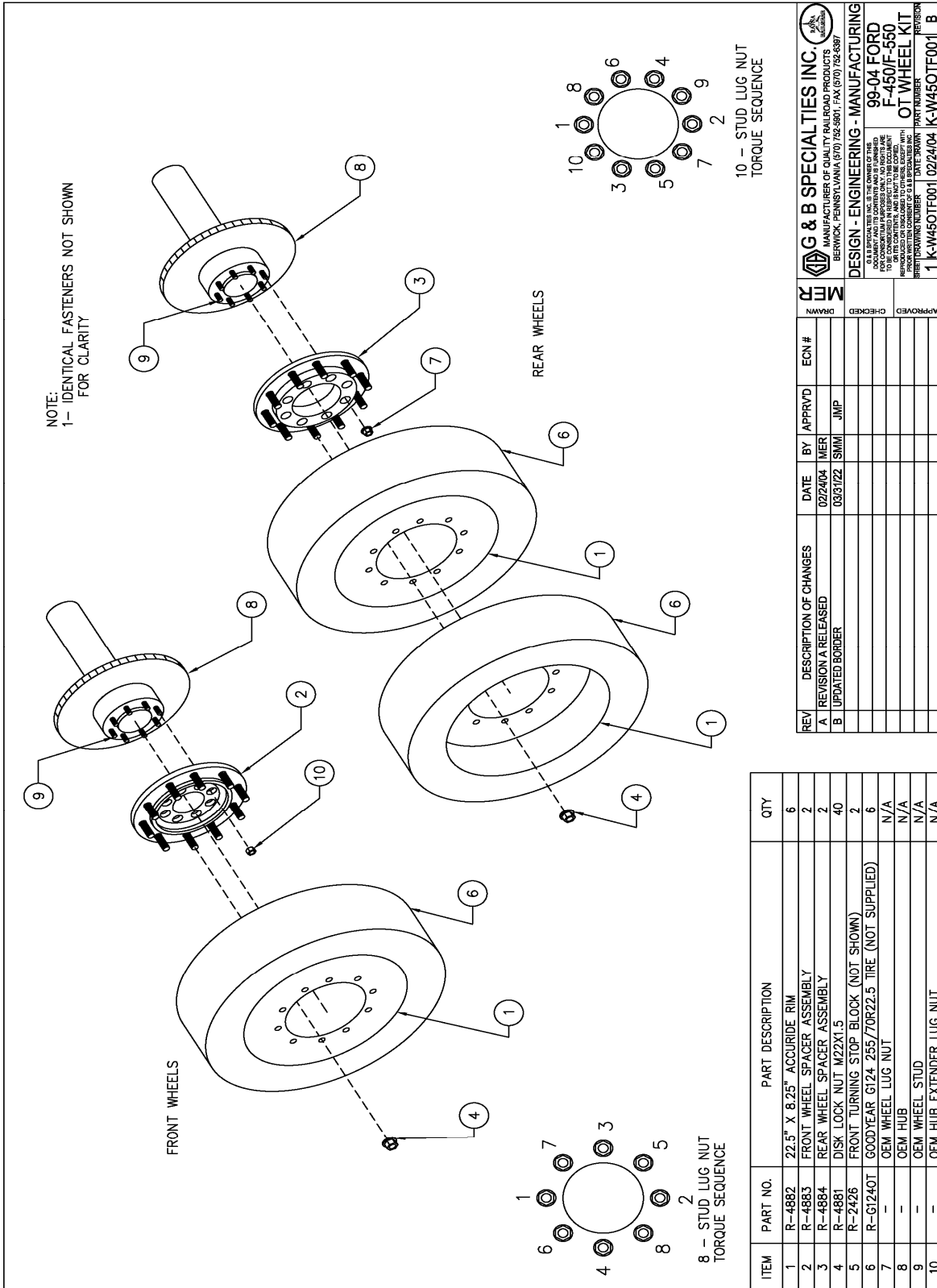


Figure 1: Installation of the front wheel turning stop blocks



ITEM	PART NO.	PART DESCRIPTION	QTY
1	R-4882	22.5" X 8.25" ACCURIDE RIM	6
2	R-4883	FRONT WHEEL SPACER ASSEMBLY	2
3	R-4884	REAR WHEEL SPACER ASSEMBLY	2
4	R-4881	DISK LOCK NUT M22X1.5	40
5	R-2426	FRONT TURNING STOP BLOCK (NOT SHOWN)	2
6	R-G12401	GOODYEAR G124 255/70R22.5 TIRE (NOT SUPPLIED)	6
7	-	OEM WHEEL LUG NUT	N/A
8	-	OEM HUB	N/A
9	-	OEM WHEEL STUD	N/A
10	-	OEM HUB EXTENDER LUG NUT	N/A

REV	DESCRIPTION OF CHANGES	DATE	BY	APPRVD	EON #
A	REVISION A RELEASED	02/24/04	IMER	JMP	
B	UPDATED BORDER	03/31/22	SMMI	JMP	

APPROVED: _____
CHECKED: _____
DRAWN: _____

MEM

G & B SPECIALTIES INC.
MANUFACTURER OF QUALITY RAILROAD PRODUCTS
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99-04 FORD
F-450F-550
OT WHEEL KIT

1 K-W450TF001 02/24/04 K-W450TF001 B

OPERATION AND SERVICE OF R-450 OT WHEEL KIT - STEEL 1999-2004 FORD F-450/F-550 OT RAILGEAR ONLY

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 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.
- This vehicle has an increased turning radius and decreased stability and braking ability. Use caution when operating both on road and rail.
- Following the first 100 km (62 Miles) of road and rail travel, the road wheel and spacer nuts must be re-torqued. Refer to the service section of this manual for the procedure.
- 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.
- Note that the vehicle is approximately 100" wide at the rear dual tires. This may restrict the vehicle's use on certain roads depending on local, state, provincial, and/or federal regulations.

OPERATION AND SERVICE OF WHEEL KIT

With the road wheels and tires installed on this vehicle, it may be operated as normal, however caution must be used as the vehicle now has an increased turning radius and decreased stability and braking ability both on road and rail. Also, note that the vehicle is approximately 100" wide at the rear dual tires. This may restrict the vehicle's use on certain roads depending on local, state, provincial, and/or federal regulations.

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 wheels and tires must be serviced regularly to avoid damage to the equipment. Table 1 below provides the Recommended Service Schedule.

If ever vibrations are felt through the vehicle, inspect the balance and alignment of the road wheels and tires.

If ever the wheels or spacers are removed, torque the wheel disk lock nuts and spacer lug nuts again as described below after 100 km (62 Miles) of road and/or rail travel.

WARNING/CAUTION

- Never use anti-seize on studs or lug nuts.
- Hand torque to specifications, do not use pneumatic tools.
- Always inspect the condition of the wheel before and after service.
- Loose lug nuts can lead to metal fatigue and ultimately to wheel failure or broken studs.

Table 1: Recommended Service Schedule

Service Required	Initial 100 km (62 Miles) of road and/or rail use	Daily	Weekly	Monthly	3 Months
Ensure vehicle is in good operating condition as per Mfg. Spec.		✓			
Check and adjust tire pressure per specification			✓		
Check wheel lug nut torque 62 miles after service or as specified	✓				✓
Check wheel adapter lug nut torque	✓				✓

WHEEL DISK LOCK NUT AND SPACER LUG NUT TORQUE PROCEDURE

1. Start with one wheel of the vehicle.
2. Without loosening any spacer retaining lug nuts, torque the spacer retaining lug nuts to 165 ft-lbs dry or the hub extender nuts to 130 ft-lbs dry as per the torque sequence provided. Do not over torque.
3. Without loosening any wheel disk lock nuts, torque the wheel disk lock nuts to 400 ft-lbs dry as per the torque sequence provided. Do not over torque.
4. Repeat for the remaining wheels.