

INSTALLATION OF R-450 WHEEL KIT - STEEL 1999-2004 Ford F-450/F-550

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 adapter with any hard objects as this could dent the adapter and cause vibrations when driving. If the adapters do not easily slide onto the hubs, lightly sand the hub and the inside of the adapter.
- 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.

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. On all vehicles, the rear wheels and tires must be changed. However, on 4x4 model vehicles, to prevent the transfer case from binding up, the front tires must be changed also. The hardware required for this installation is listed in Table 1.

Table 1: Wheel Installation Kit

Part Number	Description	Qty
R-G124	Goodyear G124 245/70R19.5 (Not Supplied)	4
R-G133	Goodyear G133 8R19.5 (Not Supplied) (For 4x4 Only)	2
R-086	19.5" Accuride Rim	4
S-001015B	Wheel Nut Torque 165 ft-lbs Decal	4

1. Jack up the vehicle and secure it on jack stands and remove the original rear wheels.
2. Based on rail contact area and load carrying capacity, RAFNA suggests the use of Goodyear G124 - 245/70R19.5 tires on the rear wheels of 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.
3. Affix the supplied wheel nut torque decals to the visible face of the rear wheels.
4. Install the rear wheels:
 - a) Mount the rear wheels on the hub over the OEM studs with the OEM wheel lug nuts.
 - b) Tighten and then torque the lug nuts to 165 ft-lbs dry as per the torque sequence provided. Do not over torque.
5. **On 4x4 Vehicles Only:**
 - a) Remove the original front wheels. Remove the original tires from these wheels. The wheels will be re-used.
 - b) To ensure that the transfer case does not bind up, both the front and rear tires should have the same diameter. RAFNA suggests the use of Goodyear G133 - 8R19.5 tires on the front wheels of 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 original front wheels.
 - c) Re-install the front wheels as per manufacturers specification.
6. 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 and tires installed on the vehicle, ensure that the wheels, tires, and/or balance weights do not contact the vehicle suspension or steering components, the brake lines, the ABS lines and/or any other component/obstruction throughout the entire range of motion of the steering and suspension. It may be necessary to relocate brake lines, ABS 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.

NOTE:
1- FRONT WHEELS ARE STOCK OEM WHEELS
2- IDENTICAL FASTENERS NOT SHOWN FOR CLARITY

WHEEL LUG NUT TORQUE
165FT.LB DRY
REF: P/A S-001015B

DETAIL ITEM 4

LUG NUT TORQUE SEQUENCE

REV	DESCRIPTION OF CHANGES	DATE	BY	APPRVD	ECN #	APPROVED	CHECKED	DRAWN
A	REVISION A RELEASED	02/24/04	IMER	JMP				
B	UPDATED BORDER	03/31/22	SMM	JMP				

ITEM	PART NO.	PART DESCRIPTION	QTY
1	R-086	19.5" ACCURIDE RIM	4
2	R-G124	GOODYEAR G124 245/70R19.5 TIRE (NOT SUPPLIED)	4
3	R-G133	GOODYEAR G133 BR19.5 TIRE (NOT SUPPLIED) (ON 4X4 ONLY)	2
4	S-001015B	WHEEL NUT TORQUE 165 FT-LBS DECAL	4
5	-	OEM WHEEL LUG NUT	N/A
6	-	OEM HUB	N/A
7	-	OEM WHEEL STUD	N/A

G & B SPECIALTIES INC.
MANUFACTURER OF QUALITY RAILROAD PRODUCTS
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DESIGN - ENGINEERING - MANUFACTURING

99-04 FORD
F-450F-550
WHEEL KIT

1 | K-W45VRF001 | 02/24/04 | K-W45VRF001 | B

OPERATION AND SERVICE OF R-450 WHEEL KIT - STEEL 1999-2004 Ford F-450/F-550

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 decrease 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 adapter lug nuts must be retorqued. 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.

OPERATION AND SERVICE OF WHEEL KIT

With the wheels and tires installed on this vehicle, it may be operated as normal, however caution must be used as the vehicle now has decreased stability and braking ability both on road and rail.

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 front wheels are removed, torque the wheel lug nuts following the manufacturer's procedures and specifications.

If ever the rear wheels are removed, torque the wheel 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.

FRONT WHEEL LUG NUT TORQUE PROCEDURE

1. Follow the manufacturer's procedures and specifications.

REAR WHEEL LUG NUT TORQUE PROCEDURE

1. Without loosening any wheel lug nuts, torque the wheel lug nuts to 165 ft-lbs dry as per the torque sequence provided. Do not over torque.

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	✓				✓