

Installation of R-290 Front Railgear Unit w/Lever Operated Railgear Lock Ford F-250/350, GM 2500HD/3500HD, & RAM 2500/3500

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.
- Before performing any work under the vehicle or railgear, ensure the engine is turned off and the parking brake is set.
- Beware of all pinch points on the railgear and keep all parts of the body clear.
- Always disconnect the vehicle's battery when welding on the vehicle or railgear in order to protect the vehicle's electrical system.
- Max vehicle speed on rail not to exceed 45 MPH.

INSTALLATION OF FRONT RAILGEAR LEVER LOCK KIT

The following procedure details the installation of the front railgear kit as it pertains to the Front Railgear Lever Actuated Lock. The hardware required for one front installation is listed in either Table 1 or Table 2, depending on how the gear was ordered.

Table 1: K-R29RRXR2900LF

Part Number	Description	Qty
R-2900LF	Front Railgear Assembly, Lever Lock	REF
R-1600	Rail Wheel Assembly	REF
R-21102D	Rail Sweep, Driver's Side	REF
R-21102P	Rail Sweep, Passenger's Side	REF
K-R29ARRXR290F	Lever Lock Kit	1
R-11144	"FRONT UNIT" Decal	REF

Table 2: K-R2900LFBR (Bronze Bushings)

Part Number	Description	Qty
R-2900LF-B	Front Railgear Assembly, Lever Lock	REF
R-1600	Rail Wheel Assembly	REF
R-21102D	Rail Sweep, Driver's Side	REF
R-21102P	Rail Sweep, Passenger's Side	REF
K-R29ARRXR290F	Lever Lock Kit	1
R-11144	"FRONT UNIT" Decal	REF

The components of the Front Lever Lock Kit are listed in Table 3 below.

Table 3: K-R29ARRXR290F - Front Lever Lock Kit

Part Number	Description	Qty
P-00029	Actuating Lever, Front	1
P-00028	Push Rod, Front (pre-assembled)	1
P-00023	Lock Pin (pre-assembled)	1
P-00027	Clevis (pre-assembled)	1
P-00030	Thrust Washer	1
R-990KIT-278	Installation Hardware Kit	1
R-3561	Spring (pre-assembled)	1
R-28046D	Handle Grip	1

- 1. Refer to the Railgear Kit installation manual that was shipped with this Railgear Unit for installation procedures.
- 2. The Front Railgear Unit is shipped with the lever lock partially assembled. The remaining components are shipped loose with the railgear unit and will need to be installed at railgear installation.



- 3. Assemble the actuating lever to the front push rod using the supplied clevis pin and cotter pin. Assemble the actuating lever to the railgear upper frame assembly using the supplied 1/2" hardware and thrust washer.
- 4. The actuating lever may need to be modified by the installer as required to work with the individual vehicle installation.
- 5. Adjust the Lever Lock as described in the Operations section of this manual.



OPERATION OF R-290 FRONT RAILGEAR UNIT W/LEVER OPERATED RAILGEAR LOCK FORD F-250/350, GM 2500HD/3500HD, & RAM 2500/3500

OPERATION SAFETY PRECAUTIONS

If any operating, services 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.
- Ensure that the position and function of all railgear controls are known before attempting operation.
- Ensure the railgear is locked in road or rail position before starting road or rail travel respectively.
- Ensure all body parts and loose clothing are clear of any moving parts of the equipment.
- If misalignment of the railgear equipment is indicated, promptly perform the alignment procedure.
- 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 OF FRONT RAILGEAR LEVER LOCK KIT

The front railgear lever lock is designed to automatically lock when the railgear unit is raised to the road position. It is important to ensure the lever lock is adjusted properly and in good working condition. It is also important that the lever is free from any vehicle obstruction that would hinder movement and/or operation.

Lever Lock Adjustment

Lock pin travel should be adjusted as follows:

- 1. Remove the cotter pin holding the lever to clevis.
- 2. Swing the lever out from between the clevis arms.
- 3. Loosen the jam nut securing the clevis to the front pushrod.
- 4. Holding the push rod, turn the clevis either in or out to adjust lock pin travel.
- 5. Turning the clevis in will increase the lock pin travel.
- 6. Assemble the lever to the clevis with the clevis pin.
- 7. Test the lock pin travel to ensure the lock pin is fully retracted.
- 8. If necessary, repeat steps 1 thru 7.
- 9. Tighten the clevis jam nut and attach the clevis cotter pin.

Lever Lock Operation

Placing the Vehicle On Rail - To Lower The Railgear:

- 1. Disengage the lock pin by pulling on the lock lever. Do not force. If the lock pin cannot be disengaged, raise the railgear slightly.
- 2. Hold the lock lever in the disengaged position.
- 3. Lower the railgear and release the lever once the railgear has rotated past the road locked position.
- 4. As the railgear is being deployed, it will start taking some of the vehicle's load. (If this is not the case, DO NOT use the railgear. Inspect the railgear for lubrication and damage.)
- 5. Continue lowering the railgear until the hydraulic cylinder is fully extended and the lock pin re-engages in the rail position. Some railgear models have a lock cam converter installed to prevent the lock pin from engaging in the rail position; they have a hydraulic lock instead.
- 6. Ensure that the railgear is fully deployed and 2-3° over-center before proceeding.

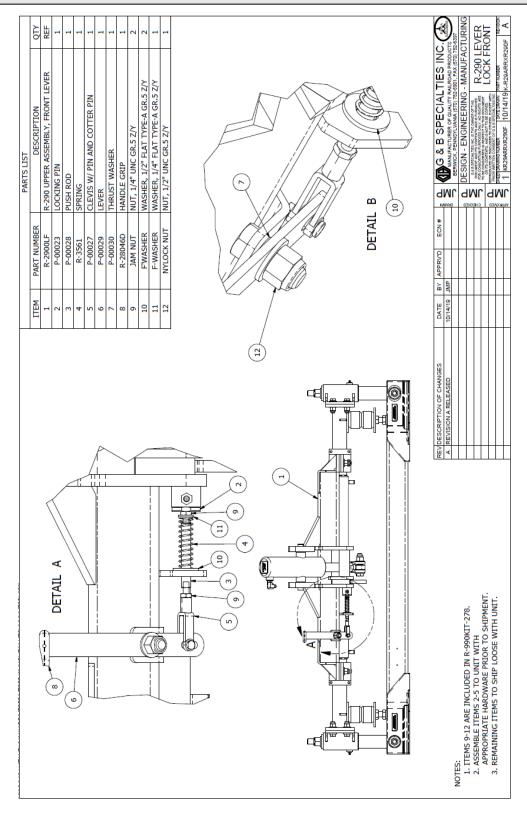


Removing the Vehicle from Rail - To Raise the Railgear:

- 1. Disengage the lock pin by pulling on the lock lever. Do not force. If the lock pin cannot be disengaged, lower the railgear slightly. (Some railgear models have a lock cam converter installed to prevent the lock pin from engaging in the rail position in which case the lock pin does not need to be disengaged.)
- 2. Raise the railgear and release the lever once the railgear has rotated past the rail locked position.
- 3. Continue raising the railgear until the lock pin clicks into the road locked position. The hydraulic cylinder should be completely retracted.

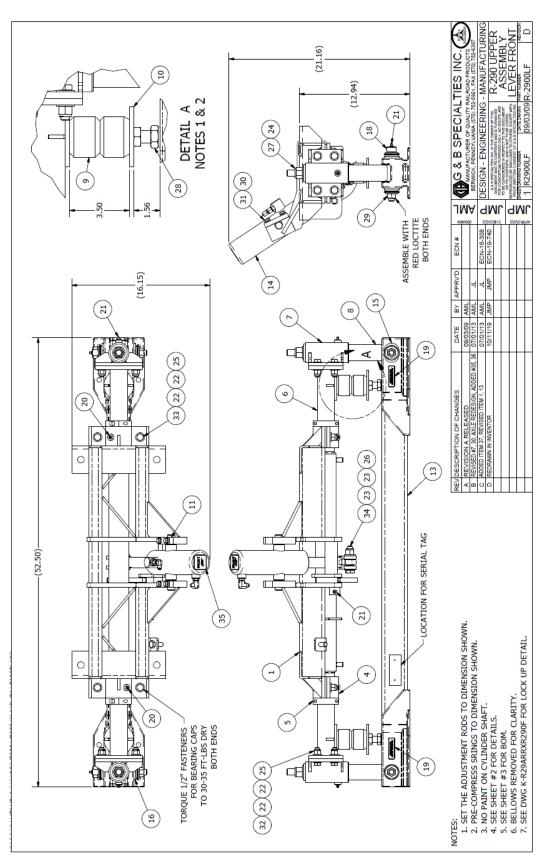


PARTS OF FRONT RAILGEAR LEVER LOCK KIT



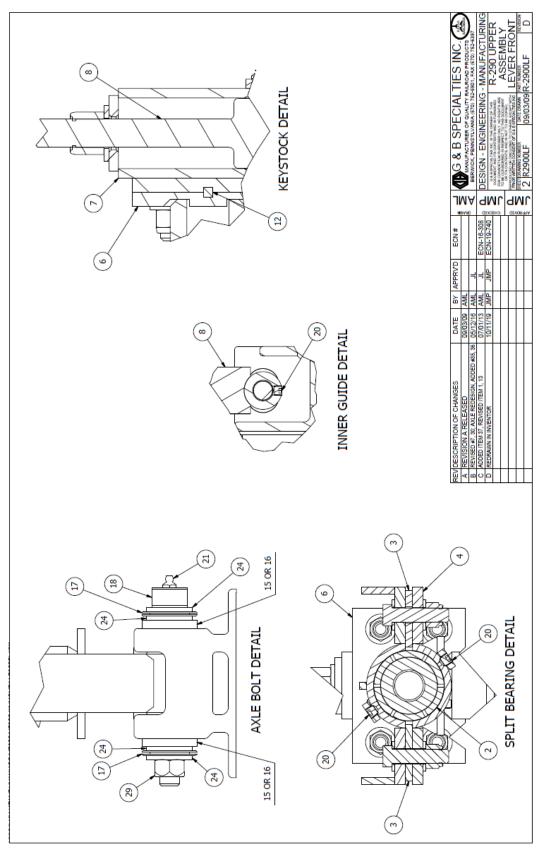
G&B Specialties Inc. 535 West 3rd Street, Berwick, PA, USA Tel: (570) 752-5901 Fax: (570) 752-6397 US Field Service: 570-441-6988; CAN Field Service 570-854-0482; **www.rafna.com**





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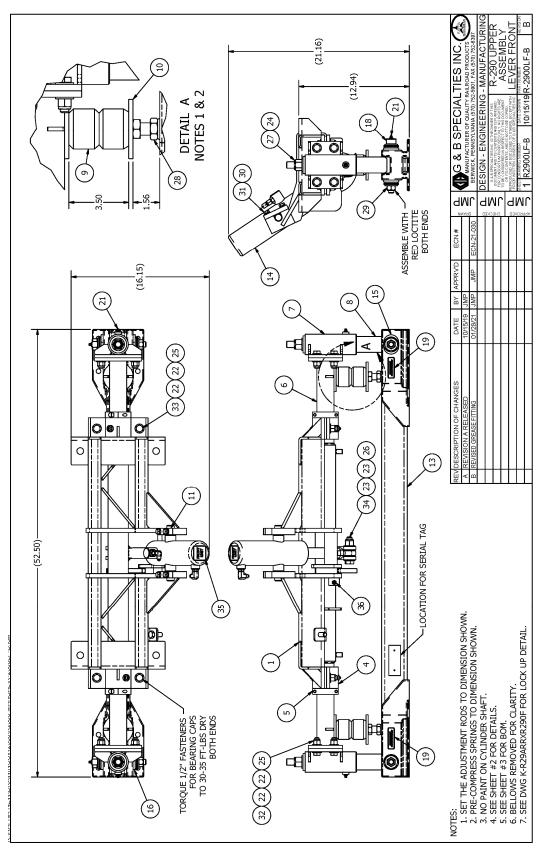
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PAN IS LIST DESCRIPTION	PIN	LABEL, AXLE WARNING	PLUG, 1/8 NPT PIPE	FITTING, 1/8 NPT STRAIGHT	WASHER, 1/2" FLAT TYPE-A NARROW	WASHER, 5/8" FLAT TYPE-A NARROW	WASHER, 3/4" FLAT TYPE-A NARROW	NUT, 1/2" NYLOCK GR.8 Z/Y	NUT, 5/8" NYLOCK GR.8 Z/Y	NUT, 3/4" NYLOCK GR.8 Z/Y	NUT, 3/4" HVY HEX JAM Z/Y	NUT, 5/8" TOPLOCK GR.9 Z/Y	WASHER, 3/8" HVY LOCK Z/Y	SCREW, 3/8" X 1-1/4" HHCS GR.8 Z/Y	SCREW, 1/2" X 1-3/4" HHCS GR.8 Z/Y	SCREW, 1/2" X 2" HHCS GR.8 Z/Y	SCREW, 5/8" X 2-3/4" HHCS GR.8 Z/Y	TIVIL ENCOUR I TIVIL
PART NUMBER	R-29042	Z-LABEL025	R-125	600-006066	990600-050-002	990600-062-002	990600-075-002	990316-050-22	990316-062-22	990316-075-22	990330-075-02	038066-062-22	990402-037-02	990725-125-22	990725-175-22	990727-200-22	990729-275-22	R-11144
ITEM	18	19	70	21	22	23	24	52	56	27	28	59	30	31	32	33	34	32
) M	,	2	4	2	2	1	2	2	2	2	2	2	1	1	2	2	2	
DESCRIPTION	FRAME, UPPER CROSS	SPLIT BEARING SET, NYLON	WIHS	BEARING END CAP	SPLIT COLLAR	FRAME, LOWER CROSS	OUTER GUIDE TUBE ASSEMBLY	INNER GUIDE TUBE ASSEMBLY	SPRING, TIMBREN	ADJUSTMENT ROD	TRUNNION CAP	KEYSTOCK, 1/4" SQUARE X 4"	AXLE	HYDRAULIC CYLINDER ASSEMBLY	SLOTTED BUSHING	BUSHING	BELLOWS	
PART NUMBER	R-2910B	R-3618	R-3602A	R-3602B	R-2589	R-2920	R-2941	R-2944	R-130	R-2948	R-2950	SB025-025	R-2930-1	R-9115	R-29041	R-29041A	R-1505	
ITEM	1	2	3	4	2	9	7	8	6	10	11	12	13	14	15	16	17	

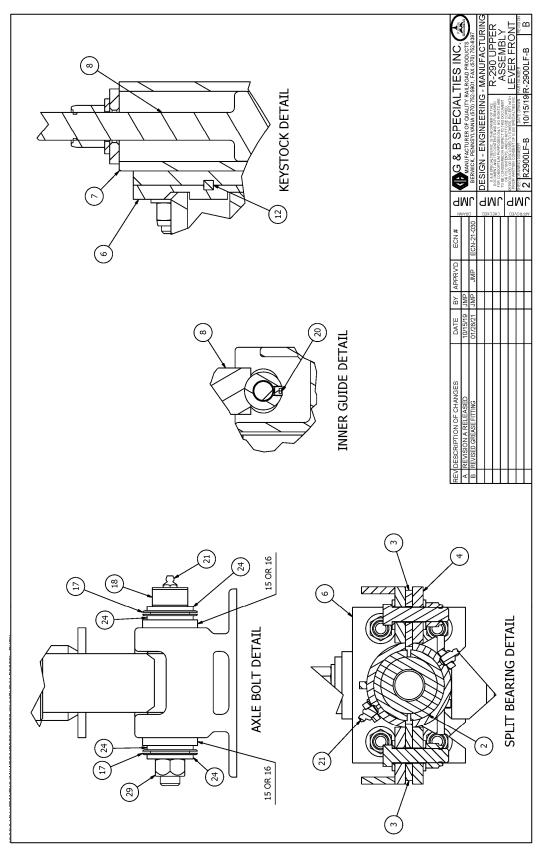
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DESCRIPTION	NId	LABEL, AXLE WARNING	PLUG, 1/8 NPT PIPE	FITTING, 1/8 NPT STRAIGHT	WASHER, 1/2" FLAT TYPE-A NARROW	WASHER, 5/8" FLAT TYPE-A NARROW	WASHER, 3/4" FLAT TYPE-A NARROW	NUT, 1/2" NYLOCK GR.8 Z/Y	NUT, 5/8" NYLOCK GR.8 Z/Y	NUT, 3/4" NYLOCK GR.8 Z/Y	NUT, 3/4" HVY HEX JAM Z/Y	NUT, 5/8" TOPLOCK GR.9 Z/Y	WASHER, 3/8" HVY LOCK Z/Y	SCREW, 3/8" X 1-1/4" HHCS GR.8 Z/Y	SCREW, 1/2" X 1-3/4" HHCS GR.8 Z/Y	SCREW, 1/2" X 2" HHCS GR.8 Z/Y	SCREW, 5/8" X 2-3/4" HHCS GR.8 Z/Y	LABEL, FRONT UNIT	FITTING, 1/8 NPT STRAIGHT - SHORT
PART NUMBER	R-29042	Z-LABEL025	R-125	600-006066	990600-050-002	990600-062-002	990600-075-002	990316-050-22	990316-062-22	990316-075-22	990330-075-02	038066-062-22	990402-037-02	990725-125-22	990727-175-22	990727-200-22	990729-275-22	R-11144	990900-023
ITEM	18	19	20	21	22	23	24	25	56	27	28	59	30	31	32	33	34	35	36
ΔI	1	2	4	2	2	1	2	2	2	2	2	2	1	1	2	2	2		
DESCRIPTION	FRAME, UPPER CROSS	SPLIT BEARING SET, BRONZE	SHIM	BEARING END CAP	SPLIT COLLAR	FRAME, LOWER CROSS	OUTER GUIDE TUBE ASSEMBLY	INNER GUIDE TUBE ASSEMBLY	SPRING, TIMBREN	ADJUSTMENT ROD	TRUNNION CAP	KEYSTOCK, 1/4" SQUARE X 4"	AXLE	HYDRAULIC CYLINDER ASSEMBLY	SLOTTED BUSHING	BUSHING	BELLOWS		
PART NUMBER	R-2910B	R-3618BRZ	R-3602A	R-3602B	R-2589	R-2920	R-2941	R-2944	R-130	R-2948	R-2950	SB025-025	R-2930-1	R-9115	R-29041	R-29041A	R-1505		
ITEM	-1	2	က	4	ω.	9	7	8	6	10	11	12	13	14	15	16	17		

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