



OPERATION, SERVICE AND PARTS OF FRONT AXLE LOCK KIT

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.
- Ensure all body parts and loose clothing are clear of any moving parts of the railgear. Be aware of all pinch points.
- 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.
- Always disconnect the vehicle's battery when welding on the vehicle or railgear in order to protect the vehicle's electrical system.
- Never operate the vehicle on road with the front axle lock engaged.



OPERATION OF FRONT AXLE LOCK KIT

With the front axle lock kit installed on this vehicle, it may be operated as normal.

The front axle lock should only be engaged for rail travel and should always be disengaged for road travel. Never operate the vehicle on road with the front axle lock engaged.

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.

To Engage The Front Axle Lock:

1. The front axle lock should be engaged **before** deploying the front railgear to rail position.
2. Remove the pin from each rod guide. Push each pull rod all the way in so that the hook fully engages the hook reaction pad. Insert the pin through the front most hole in each rod guide and the front most lock tab on each pull rod.
3. Ensure that the front axle lock is fully engaged and that the pins lock the pull rods in position.
4. Continue to lower the railgear as per the Railgear Operation, Service and Parts Manual.

To Disengage The Front Axle Lock:

1. The front axle lock should only be disengaged once the front railgear is fully returned to the road position. Ensure that the railgear's vertical lock hooks are engaged and that the railgear is locked in the road position.
2. Remove the pin from each rod guide. Pull each pull rod all the way out so that the hook fully disengages the hook reaction pad. Insert the pin through the rear most hole in each rod guide and the rear most lock tab on each pull rod.
3. Ensure that the front axle lock is fully disengaged and that the pins lock the pull rods in position before proceeding with road travel.



SERVICE OF FRONT AXLE LOCK KIT

The front axle lock kit must be serviced regularly to avoid damage to the equipment. Table 1 below provides the Recommended Service Schedule and the detailed service procedures follow.

Do not torque the 1” fasteners that connect the swing arms to the swing arm mounts or the 3/8” fasteners that connect the springs between the swing arms and swing arm mounts. These fasteners must remain slightly loose to allow the swing arms and springs to move freely. Table 2 provides all other Standard Fastener Torque Values.

Table 1: Recommended Service Schedule

Service Required	Daily	Weekly	Monthly	3 Months	6 Months
Inspect front axle lock fasteners (re-torque if required)	✓	✓	✓	✓	✓
Check / adjust front axle lock hook clearance (see procedure)					✓

Table 2: Standard Fastener Torque Values

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



FRONT AXLE LOCK HOOK CLEARANCE ADJUSTMENT

Both the engaged and disengaged clearance between the front axle lock hooks and the vehicle suspension must be correctly adjusted to ensure proper function and to avoid interference.

When the front axle lock is engaged just before the front railgear starts to lift the vehicle, the vertical rear side of the hooks should be vertical and pushing against the vertical front side of the hook reaction pads. Also, the top horizontal side of the hooks should be $\frac{3}{8}$ " – $\frac{5}{8}$ " below the bottom horizontal side of the hook reaction pads.

When the front axle lock is disengaged with the railgear in the road position, the hooks and all front axle lock components should be at least $\frac{3}{4}$ "- 1" away from the hook reaction pads and any vehicle components including moving parts of the vehicle suspension.

There are multiple ways in which to adjust the engaged and disengaged clearance. There are multiple holes in the hooks and swing arms, the hook reaction pad can be moved front to back on the vehicle springs, the hook reaction pad can be positioned on top of or below the vehicle springs, and shim stock can be welded to the hook horizontal side in order to fine tune the clearances.

Once the front axle lock is completely adjusted, check for sufficient clearance between the front axle lock and all vehicle components throughout their full range of motion. Torque all the front axle lock fasteners to specifications.



PARTS OF FRONT AXLE LOCK KIT

NOTES:

1. LEFT SIDE SHOWN
RIGHT SIDE IS A MIRROR
IMAGE.

2. SPRINGS INSTALL
USING SHOWN HARDWARE

WEIGHT (LBS):

ITEM	PART No.	DESCRIPTION	QTY	ITEM	PART No.	DESCRIPTION	QTY
1	R-6924	SWING ARM	2	16	-	3/8" UNC GR. 3 NYLOCK NUT	4
2	R-6927	HOOK	2	17	-	1/2" UNC GR. 8 BOLT X 2"	8
3	R-6944	ROD GUIDE	2	18	-	1/2" UNC GR. 8 BOLT X 4.5" LONG	8
4	R-6947	LOCK TAB	4	19	-	1/2" UNC GR. 8 WASHER	34
5	R-6929	SPRING CLAMP PLATE	2	20	-	1/2" UNC GR. 8 NYLOCK NUT	16
6	R-6940	HOOK REACTION PAD	2	21	-	3/4" UNC GR. 8 BOLT X 5.5" LONG	4
7	R-6948	PULL ROD	2	22	-	3/4" GR. 8 WASHER	8
8	R-6941	SPACER	2	23	-	3/4" UNC GR. 8 NYLOCK NUT	4
9	R-6926	BACKING PLATE	2	24	-	1" UNC GR. 8 BOLT X 3" LONG	2
10	R-6925	SWING ARM MOUNT	2	25	-	1" UNC GR. 8 BOLT X 6" LONG	2
11	R-4886	QUICK RELEASE PIN	2	26	-	1" GR. 8 WASHER	8
12	R-5937	SPRING (NOT SHOWN)	4	27	-	1" UNC GR. 8 NYLOCK NUT	4
13	-	3/16" COTTER PIN X 2" LONG	2	28	-	VEHICLE SPRING LEAF	N/A
14	-	3/8" UNC GR. 8 BOLT X 2"	4	29	-	VEHICLE FRAME	N/A
15	-	3/8" SAE WASHER	8				

Rev: CHANGE BY DATE

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DESCRIPTION: FRONT AXLE LOCK KIT

TOLERANCE (UNLESS SPECIFIED): INPR: DATE:
3 DECIMAL PLACES ±0.001"
1 DECIMAL PLACE ±0.05"
10 DECIMAL PLACES ±0.0001"
ALL DIMENSIONS UNLESS STATED OTHERWISE
ARE IN INCHES 1 OF 1 K-FAL65XR6920