



OPERATION, SERVICE AND PARTS OF MANUAL 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.
- Railway company rules governing rail travel must be observed at all times.
- Always disconnect the vehicle's battery when welding on the vehicle or railgear in order to protect the vehicle's electrical system



OPERATION OF MANUAL 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 the rail position.
2. Remove the pins from each of the rod guides and push the pull rods rearward so that the front-most lock tabs are aligned with the holes in the rod guide.
3. Re-insert the pins through the holes in the rod guides and lock tabs.
4. Ensure that the hooks are fully engaged on the catch plates and that the pins are fully inserted into the rod guides.

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.
2. Remove the pins from each of the rod guides and pull the pull rods forward so that the rear-most lock tabs are aligned with the holes in the rod guide.
3. Re-insert the pins through the holes in the rod guides and lock tabs.
4. Ensure that the hooks are fully disengaged from the catch plates and that the pins are fully inserted into the rod guides.



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 3/8” or 3/4” fasteners that connect the bracket to the suspension arm; these fasteners should only be tightened sufficiently to hold the bracket on the suspension arm without deforming the suspension arm. 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



MANUAL FRONT AXLE LOCK ADJUSTMENT

The manual front axle lock is adjusted when the vehicle is resting on its tires in its minimum loaded condition with the railgear in the **road** position and the axle lock engaged. In order for the axle lock to function properly there are three adjustments to be made:

1. There should be a clearance of 3/8" to 5/8" between the hooking surface of each hook and hook catch. If the clearance is larger than 5/8", steel shims can be welded to the bottom of the hook catch. If the clearance is less than 3/8", any previously installed shims can be removed. If there are no shims to remove, the hook catch can be cut off the bracket and re-welded higher up on the bracket using a 3/8" all around fillet weld.
2. The rear vertical edge of each hook should rest flat against the forward edge of the hook catch when the axle lock is fully engaged. This can be adjusted by cutting the hook catch off the bracket and re-welding it in place using a 3/8" all around fillet weld.
3. Each hook must clear the suspension arm by at least 1/2" through its full range of motion. The hooks can be moved inboard and outboard on the hook hanger pivot post by adjusting the number of plastic washers on each side of the hook.

Paint all welded areas after the axle lock is properly adjusted.

Ensure that there is sufficient clearance between the front axle lock components and all vehicle components through their full range of motion.



PARTS OF MANUAL FRONT AXLE LOCK

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

WEIGHT (LBS):

ITEM	PART No.	DESCRIPTION	QTY	ITEM	PART No.	DESCRIPTION	QTY
1	R-4910	HOOK HANGER	2	12	-	3/8" UNC GR. 8 BOLT X 4" LONG	2
2	R-4911	BRACKET	2	13	-	3/8" SAE WASHER	4
3	R-4912	HOOK	2	14	-	3/8" UNC GR. 8 NYLOCK NUT	2
4	R-4913	HANGER LOCKING PLATE	2	15	-	1/2" GR. 8 WASHER	2
5	R-4914	HOOK CATCH	2	16	-	3/4" UNC GR. 8 BOLT X 2.5" LONG	4
6	R-6944	ROD GUIDE	2	17	-	3/4" UNC GR. 8 BOLT X 5" LONG	2
7	R-6947	LOCK TAB	4	18	-	3/4" GR. 8 WASHER	14
8	R-6948	PULL ROD	2	19	-	3/4" UNC GR. 8 NYLOCK NUT	6
9	R-1650	PLATE	2	20	-	3/16" COTTER PIN X 2" LONG	4
10	R-4886	QUICK RELEASE PIN	2	21	-	VEHICLE FRAME	N/A
11	R-5635	PLASTIC WASHER	16	22	-	VEHICLE SUSPENSION ARM	N/A

Rev	CHANGE	BY	DATE

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DESCRIPTION: **MANUAL FRONT AXLE LOCK KIT**

TOLERANCE (UNLESS SPECIFIED):	INPP	DATE:
1 DECIMAL PLACES	0.003"	DATE: OCT 15/04
2 DECIMAL PLACES	0.01"	DRAWN: LE
ALL DIMENSIONS IN INCHES	0.015"	PART NUMBER: K-FAL45FR4910
ALL DIMENSIONS IN MILLIMETERS	0.51"	REVISION: 0