INSTALLATION OF FRONT AXLE LOCK KIT

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**

INSTALLATION OF FRONT AXLE LOCK KIT

The following procedure details the installation of the front axle lock kit. The hardware required for this installation is listed in table 1.

Table 1: Front Axle Lock Kit Installation Parts

Part Number	Description	Qty
R-6924	Swing Arm	2
R-6927	Hook	2
R-6944	Rod Guide	2
R-6947	Lock Tab	4
R-6929	Spring Clamp Plate	2
R-6940	Hook Reaction Pad	2
R-6948	Pull Rod	2
R-5637	Spring	4
R-6941	Spacer	2
R-6926	Backing Plate	2
R-6925	Swing Arm Mount	2
R-4686	Quick Release Pin	2
	3/8” UNC Gr. 8 Bolt x 2” Long	4
	3/8” SAE Washer	8
	3/8” UNC Gr. 3 Nylon Insert Lock Nut	4
	1/2” UNC Gr. 8 Bolt x 2” Long	8
	1/2” UNC Gr. 8 Bolt x 4.5” Long	8
	1/2” Gr. 8 Washer	34
	1/2” UNC Gr. 8 Nylon Insert Lock Nut	16
	3/4” UNC Gr. 8 Bolt x 5.5” Long	4
	3/4” Gr. 8 Washer	8
	3/4” UNC Gr. 8 Nylon Insert Lock Nut	4
	1” UNC Gr. 8 Bolt x 3” Long	2
	1” UNC Gr. 8 Bolt x 6” Long	2
	1” Gr. 8 Washer	8
	1” UNC Gr. 8 Nylon Insert Lock Nut	4
	3/16” Cotter Pin x 2” Long	2

1. The front axle lock is designed to be positioned just ahead of the vehicle front axle centerline. The swing arm mounts are fastened to the outside of the frame with the swing arms and hooks swinging front to back just outboard of the vehicle springs. The pull rods engage the swing arms and extend out in front of the vehicle through the rod guides. The hook reaction pads are bolted to the vehicle leaf springs for the hooks to engage. Pins are provided to lock the pull rods in both the engaged and disengaged positions.

2. Position each spacer and swing arm mount against the outside of the front frame as shown just ahead of the vehicle front axle. The two front most holes in each spacer and swing arm mount should align with two existing holes in the frame. Clamp each spacer and swing arm mount in place. Using the third rear most hole in each spacer and swing arm mount as a template, drill the frame to match.

3. Place each backing plate against the inside of the frame to line up with the three holes in the spacer and swing arm mount. Fasten each spacer, swing arm mount and backing plate to the frame using two ¾" x 5.5" long bolts, four ¾" washers and two ¾" nuts as well as one 1" x 6" long bolt, two 1" washers and one 1" nut. Torque the ¾" fasteners to 175 ft-lbs dry and the 1" fasteners to 250 ft-lbs dry. Do not over torque.

4. Using one 1" x 3" long bolt, two 1" washers and one 1" nut, fasten each swing arm to the outside of each swing arm mount as shown. Ensure the swing arm is properly oriented. Do not torque the 1" fasteners, as they must remain slightly loose to allow the swing arms to swing freely.

5. Install two springs between each swing arm and swing arm mount as shown using two $^{3}/_{8}$" x 2" long bolts, four $^{3}/_{8}$" washers and two $^{3}/_{8}$" nuts. Do not torque the $^{3}/_{8}$" fasteners, as they must remain slightly loose to allow the springs to extend and retract.

6. Assemble each hook reaction pad with each spring clamp plate around the vehicle springs just ahead of the front axle as shown using four ½" x 4.5" long bolts, eight ½" washers and four ½" nuts. The hook reaction pads should be on top of the vehicle springs with the face with the keystock pointing down and to the outside. Do not torque the ½" fasteners yet.

7. Assemble each hook to the inboard side of each swing arm as shown using four ½" x 2" long bolts, eight ½" washers and four ½" nuts. There are two sets of holes available. Select the hole set that positions the hooking face of the hook just below the hook reaction pad. Set both hooks in the same hole set. Do not torque the ½" fasteners yet.

8. Follow the Front Axle Lock Hook Clearance Adjustment procedure in the Front Axle Lock Kit Operation, Service and Parts manual.

9. 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.

10. Torque the ½" fasteners on the hooks and the hook reaction pads to 100 ft-lbs dry. Do not over torque.

11. Assemble the short bent end of each pull rod with each swing arm as shown using one ½" washer and one $^{3}/_{16}$" x 2" cotter pin. Position the other end of each pull rod in a convenient

location alongside the front frame in front of the vehicle grill. The pull rods can be heated and bent to fit.

12. The rod guides are designed to fit on the outside of a 34" wide frame extension. If the frame extension is wider or if there are railgear mounting plates or other equipment on the frame, then each rod guide must be trimmed down by an equivalent amount. Once assembled through the rod guides, the pull rods should lay parallel to the vehicle frame.

13. Slide each rod guide onto each pull rod from the long bent end. Position the rod guide against the front frame as shown. Ensure that the rod guide is approximately 2-3" from the end of the pull rod when the pull rod is pushed all the way in so the hook fully engages the hook reaction pad. Weld each rod guide to the frame.

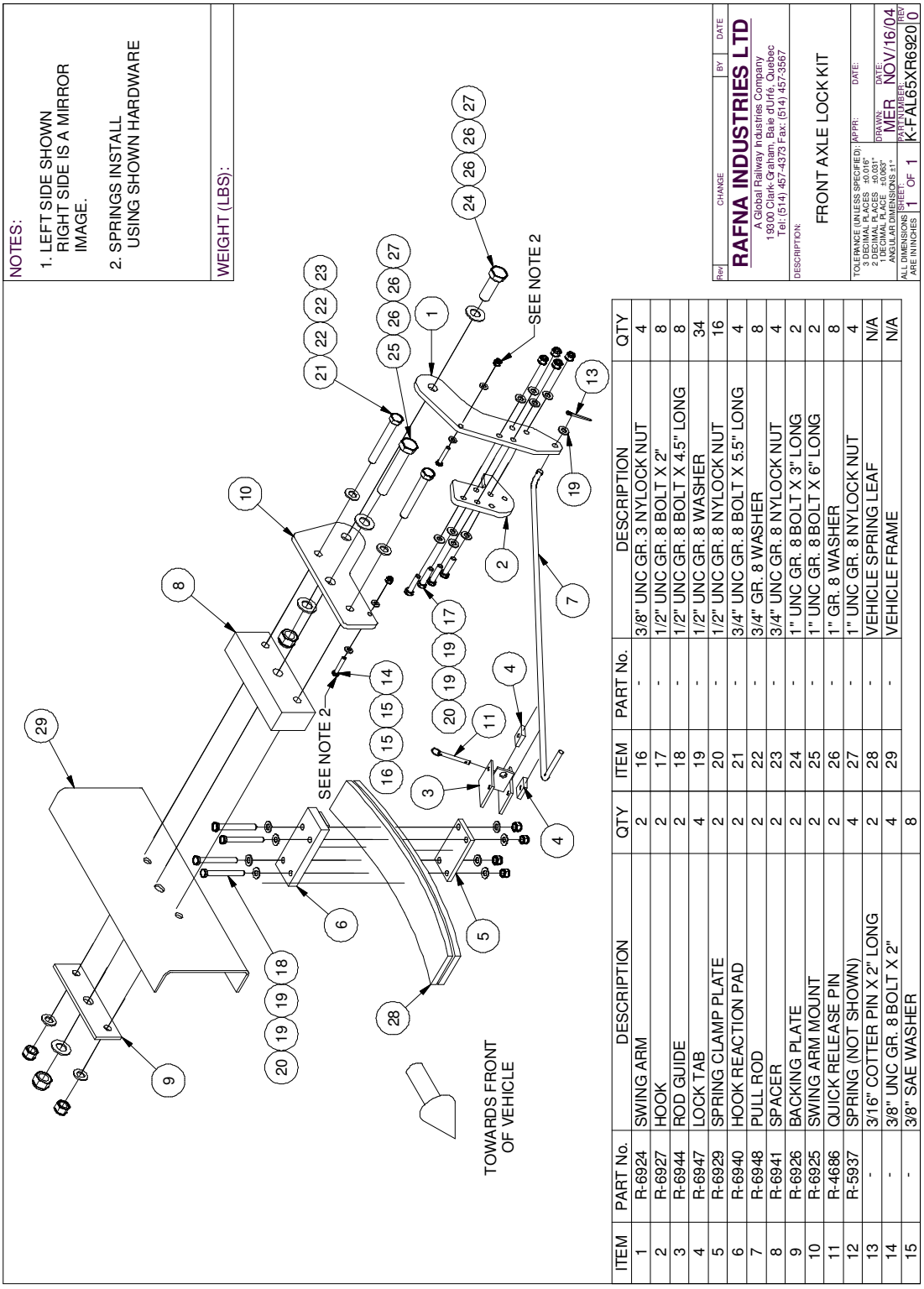
14. With each pull rod pushed all the way in so the hook fully engages the hook reaction pad, position one lock tab on the pull rod as shown so the hole in the lock tab aligns with the front most hole in the rod guide. Weld the lock tab to the pull rod.

15. With each pull rod pulled out so that the hook fully disengages the hook reaction pad with at least 1" clearance, position one lock tab on the pull rod as shown so the hole in the lock tab aligns with the rear most hole in the rod guide. Weld the lock tab to the pull rod.

16. Attach one pin to each chain on the rod guides.

17. Paint any areas that were welded or heated.

18. Test the operation of the front axle lock. Refer to the operation procedure in the Front Axle Lock Kit Operation, Service and Parts manual.



ITEM	PART No.	DESCRIPTION	QTY
1	R-6924	SWING ARM	2
2	R-6927	HOOK	2
3	R-6944	ROD GUIDE	2
4	R-6947	LOCK TAB	4
5	R-6929	SPRING CLAMP PLATE	2
6	R-6940	HOOK REACTION PAD	2
7	R-6948	PULL ROD	2
8	R-6941	SPACER	2
9	R-6926	BACKING PLATE	2
10	R-6925	SWING ARM MOUNT	2
11	R-4686	QUICK RELEASE PIN	2
12	R-5937	SPRING (NOT SHOWN)	4
13	-	3/16" COTTER PIN X 2" LONG	2
14	-	3/8" UNC GR. 8 BOLT X 2"	4
15	-	3/8" SAE WASHER	8
16	-	3/8" UNC GR. 3 NYLOCK NUT	4
17	-	1/2" UNC GR. 8 BOLT X 2"	8
18	-	1/2" UNC GR. 8 BOLT X 4.5" LONG	8
19	-	1/2" UNC GR. 8 WASHER	34
20	-	1/2" UNC GR. 8 NYLOCK NUT	16
21	-	3/4" UNC GR. 8 BOLT X 5.5" LONG	4
22	-	3/4" GR. 8 WASHER	8
23	-	3/4" UNC GR. 8 NYLOCK NUT	4
24	-	1" UNC GR. 8 BOLT X 3" LONG	2
25	-	1" UNC GR. 8 BOLT X 6" LONG	2
26	-	1" GR. 8 WASHER	8
27	-	1" UNC GR. 8 NYLOCK NUT	4
28	-	VEHICLE SPRING LEAF	N/A
29	-	VEHICLE FRAME	N/A