



## 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
- When routing hydraulic hoses, ensure that the hoses do not contact any sharp edges or hot surfaces



## 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.

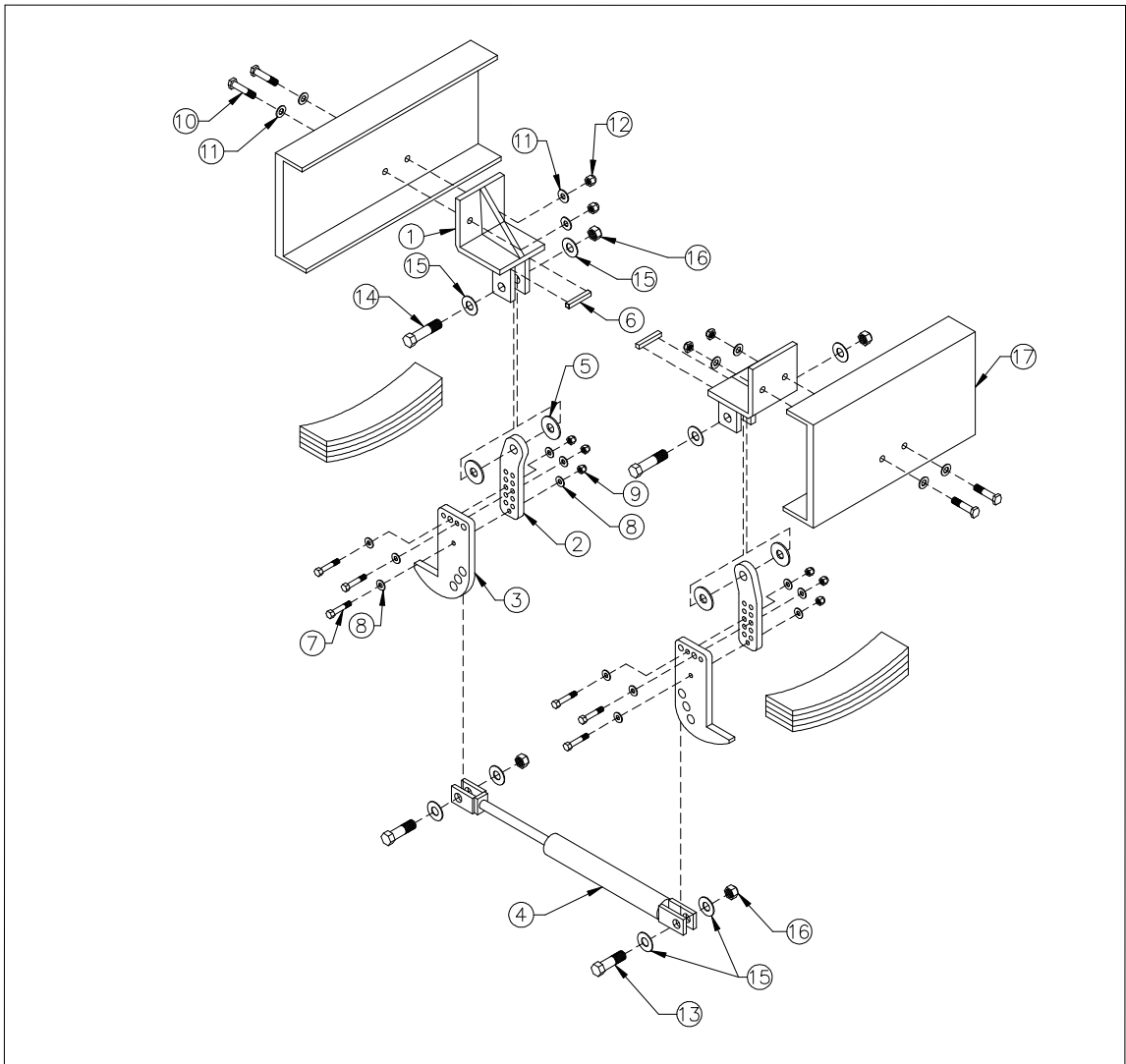
Table 1: Front Axle Lock Kit Installation Parts

Part Number	Description	Qty
R-6712	Hook Bracket	2
R-6711	Hook Extension	2
R-6710	Hook	2
R-5682	Hydraulic Cylinder	1
R-5635	Nylon Washer	4
R-6610C	Stopper	2
R-8594	Ball Valve	1
HY-848FS-06-06	$\frac{3}{8}$ " Male NPT to $\frac{3}{8}$ " Male JIC Straight	2
HY-849FS-06-06	$\frac{3}{8}$ " Male NPT to $\frac{3}{8}$ " Male JIC 90°	2
	$\frac{3}{8}$ " UNC Gr. 8 Bolt x 2" Long	6
	$\frac{3}{8}$ " SAE Washer	12
	$\frac{3}{8}$ " UNC Gr. 5 Nylon Insert Lock Nut	6
	$\frac{1}{2}$ " UNC Gr. 8 Bolt x 2.25" Long	4
	$\frac{1}{2}$ " Gr. 8 Washer	8
	$\frac{1}{2}$ " UNC Gr. 8 Nylon Insert Lock Nut	4
	$\frac{3}{4}$ " UNC Gr. 8 Bolt x 2.5" Long	2
	$\frac{3}{4}$ " UNC Gr. 8 Bolt x 3.5" Long	2
	$\frac{3}{4}$ " Gr. 8 Washer	8
	$\frac{3}{4}$ " UNC Gr. 8 Nylon Insert Lock Nut	4

1. The front axle lock may be shipped fully or partially assembled. If not, assemble the hook extensions with the hook brackets and the hooks as shown. The cylinder can also be assembled to the hooks as shown.
2. Position the assembled front axle lock on the vehicle frame within 6" ahead or behind of the vehicle front axle center line. The hook brackets should be inside the frame. The hooks should hang to the inside of the vehicle front leaf springs. Ensure that the front axle lock components will not contact any vehicle components throughout their full range of motion. It may be necessary to grind off a portion of the hook brackets to fit them within the frame. Clamp the hook brackets to the frame.
3. Follow the Front Axle Lock Hook Clearance Adjustment procedure in the Front Axle Lock Kit Operation, Service and Parts manual. Use manual force or air to extend and retract the hydraulic cylinder at this point.



4. 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.
5. Drill two  $1\frac{7}{32}$ " diameter holes through each hook bracket and the frame. Fasten each hook bracket to the frame using two  $\frac{1}{2}$ " x 2.25" long bolts, four  $\frac{1}{2}$ " washers and two  $\frac{1}{2}$ " nuts.
6. Torque all the front axle lock  $\frac{1}{2}$ " fasteners to 100 ft-lbs and all  $\frac{3}{8}$ " fasteners to 40 ft-lbs. Do not over torque. Do not torque the  $\frac{3}{4}$ " fasteners that connect the hook extensions to the hook brackets or the  $\frac{3}{4}$ " fasteners that connect the hooks to the hydraulic cylinder. These fasteners must remain slightly loose to allow the hooks to swing freely.
7. Position and weld the stoppers to the backside of the hook brackets as shown to prevent the front axle lock from swinging side-to-side when it is fully disengaged.
8. Fabricate a bracket to hold the ball valve near to the front railgear operating valve. Install one  $\frac{3}{8}$ " male NPT to  $\frac{3}{8}$ " male JIC straight fitting into each end of the ball valve.
9. Install one  $\frac{3}{8}$ " male NPT to  $\frac{3}{8}$ " male JIC 90° fitting into each port of the hydraulic cylinder.
10. Refer to the hydraulic schematic provided with the front railgear to determine the connection points for the front axle lock hydraulics. Depending on the railgear model, there may be 'T' fittings with caps installed on the front railgear in order to accommodate the hydraulics for the front axle lock.
11. Fabricate, terminate and connect a hose to reach between the rod end port of the front axle lock cylinder and the rod end of the front railgear cylinders.
12. Fabricate, terminate and connect a hose to reach between the blind end of the front axle lock cylinder and the ball valve.
13. Fabricate, terminate and connect a hose to reach between the ball valve and the blind end of the front railgear cylinders.
14. Ensure that none of the hoses contact any sharp edges or hot surfaces. Secure these hoses in place with tie-wraps. Ensure that there is enough slack in the hoses for the railgear and front axle lock to function. Where necessary, fasten the hoses to the frame with installer-supplied 'P' hose clips and hardware.
15. Test the operation of the front axle lock. Refer to the operation procedure in the Front Axle Lock Kit Operation, Service and Parts manual.

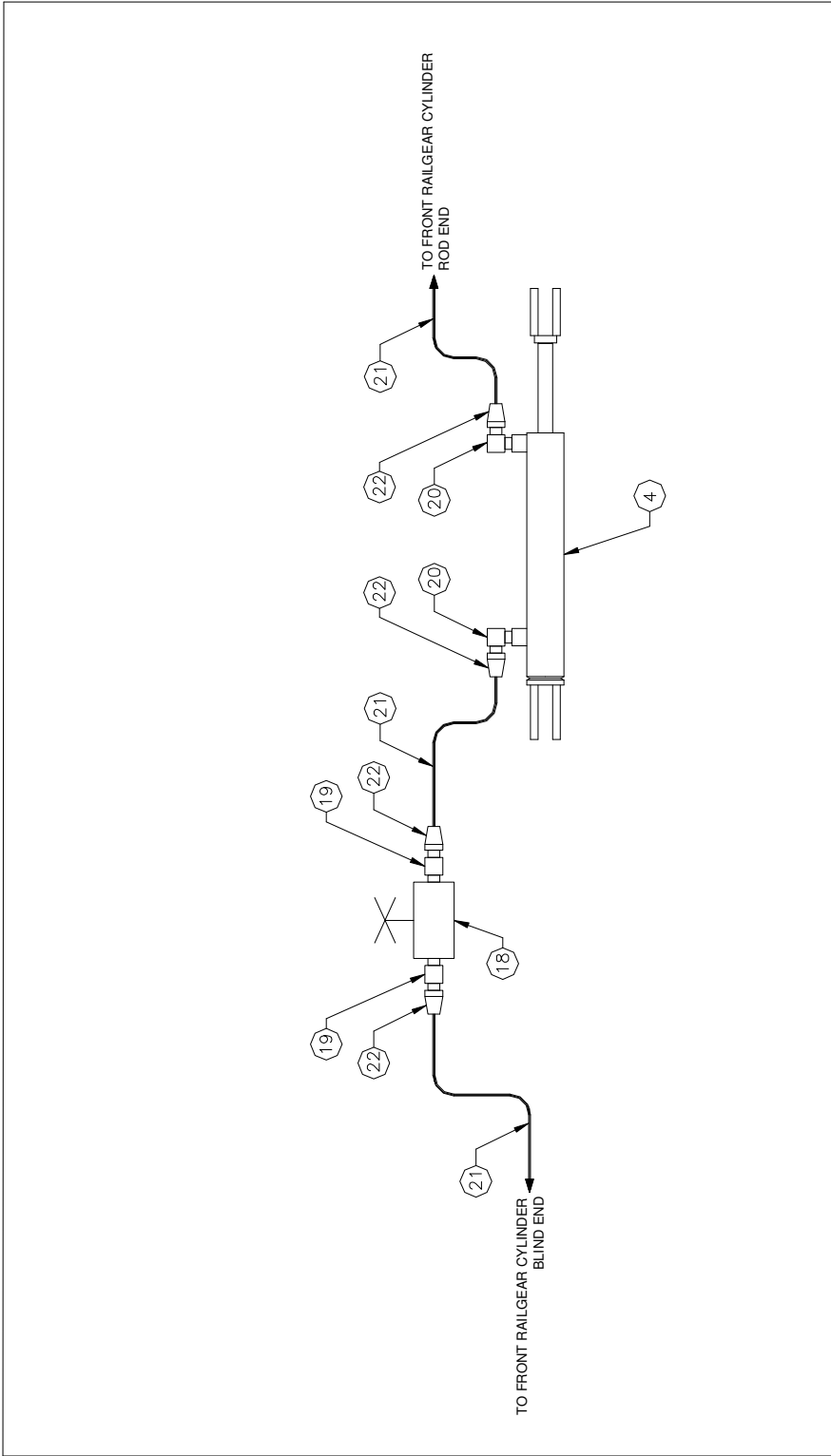


ITEM	PART NO.	DESCRIPTION	QTY
1	R-6712	HOOK BRACKET	2
2	R-6711	HOOK EXTENSION	2
3	R-6710	HOOK	2
4	R-5682	HYDRAULIC CYLINDER	1
5	R-5635	NYLON WASHER	4
6	R-6610C	STOPPER	2
7	-	3/8" UNC GR. 8 BOLT X 2" LONG	6
8	-	3/8" SAE WASHER	12
9	-	3/8" UNC GR. 5 NYLON INSERT LOCK NUT	6
10	-	1/2" UNC GR. 8 BOLT X 2.25" LONG	4
11	-	1/2" GR. 8 WASHER	8
12	-	1/2" UNC GR. 8 NYLON INSERT LOCK NUT	4
13	-	3/4" UNC GR. 8 BOLT X 2.5" LONG	2
14	-	3/4" UNC GR. 8 BOLT X 3.5" LONG	2
15	-	3/4" GR. 8 WASHER	8
16	-	3/4" UNC GR. 8 NYLON INSERT LOCK NUT	4
17	-	VEHICLE FRAME	N/A

RAFNA INDUSTRIES LTD  
19300 CLARK-GRAHAM  
BAIE D'URFE, QUEBEC  
(514) 457-4373

DESCRIPTION: HYDRAULIC FRONT AXLE LOCK KIT

P/N:	DATE: JUL 16/04
DRAWN: LE	APPR:
DIM:	SCALE: 1:1
SHEET: 1 OF 2	DWG# K-FAL65XR6708A



RAFNA INDUSTRIES LTD 19300 CLARK-GRAHAM BAIE D'URFE, QUEBEC (514) 457-4373	
DESCRIPTION: HYDRAULIC FRONT AXLE LOCK KIT	
P/N:	DATE: JUL 16/04
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SHEET: 2 OF 2	DWG# K-FAL65XR6708A

ITEM	PART NO.	DESCRIPTION	QTY
18	R-8594	BALL VALVE	1
19	HY-848FS-06-06	HYDRAULIC ADAPTER	2
20	HY-849FS-06-06	HYDRAULIC ADAPTER	2
21	-	HYDRAULIC HOSE TO FIT (SUPPLIED BY INSTALLER)	AS REQ'D
22	-	HYDRAULIC COUPLING TO FIT (SUPPLIED BY INSTALLER)	AS REQ'D