

## Installation, Operations & Service Manual

### R-1100/1130 Cobra Rear Brake Kit

For use on Standard to Broad Gauge Axles

#### Installation Safety Precautions

If any installation problems are encountered, please call G&B Specialties 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.

### Kit Components

K-R113BXV003 AIR BRAKE KIT, REAR (R1130)(R1100)		
Part #	Description	Qty
R-11076A	Operating Valve Assembly	1
R-19036	Air Brake Hose	2
R-19032	3/8 Male Connector, Flare	2
R-33060	Brake Assembly	2
R-33066R	Rail Sweep Assembly, RHS	1
R-33066L	Rail Sweep Assembly, LHS	1
R-32052C	MTG BLOCK	2
R-990KIT-126	Hex Cap Screw, 1/2" UNC GR.8 x 1-1/2"	8
	Lock Washer, 1/2" GR.8	8
	Hex Cap Screw, 3/8" UNC GR.8 x 1-1/4"	4
	Flat Washer, 3/8" SAE GR.8	8
	Nylock Nut, 3/8" UNC GR.8	4

## 1.0

### General Information

An Air Toggle Valve will need to be installed in the instrument panel of the vehicle. This valve disconnects the railgear brake system when not in use.

On the Front Valve plate assembly and rear frame bracket, a relay valve will be located. The control line feeding this relay valve comes from the control valve described above. The supply line to this relay valve comes from the check valve screwed into the air reservoir. There is a ball valve and a pressure regulator inline between the check valve and relay valve. The ball valve will disconnect the railgear brake system from the vehicle air system regardless of the position of the air toggle valve. The pressure regulator will allow adjustment of the front to rear bias, so that both axles will brake evenly and not allow one axle to lock and slide.

The railgear Cobra Brake Assembly brake chambers are connected to the delivery ports on the railgear air relay valve.

Install airlines and valves as shown in Air Brake Schematic. Make certain that the front air brake pressure regulator is set to 75 PSI.

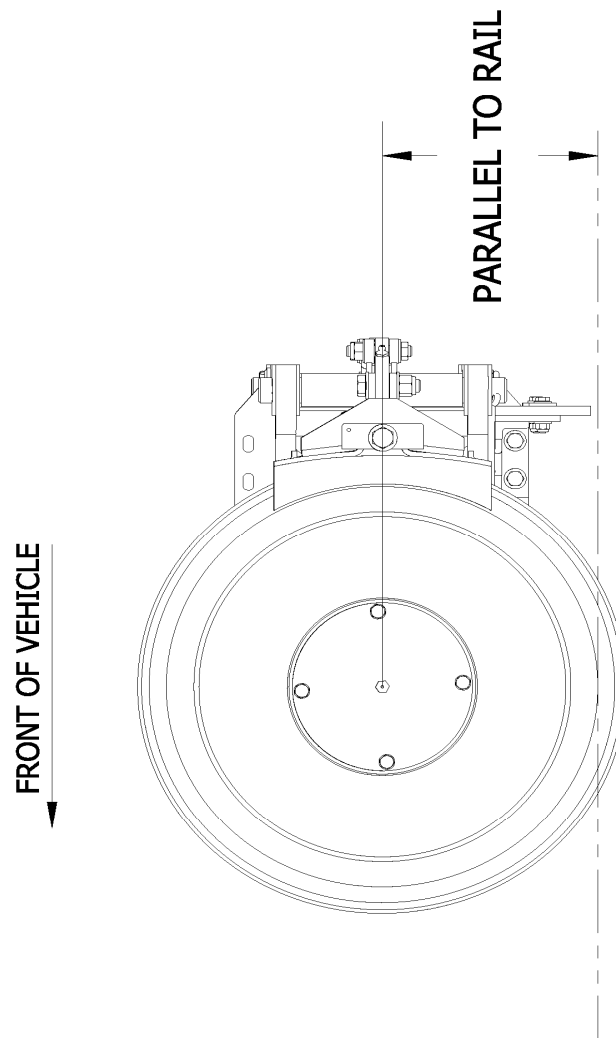
It is the responsibility of the installer to supply the required air to the in-cab control valve and from the in-cab control valve to the relay valve. The hoses, fittings etc... required for this connection are not included in this kit.

2.0

Installation

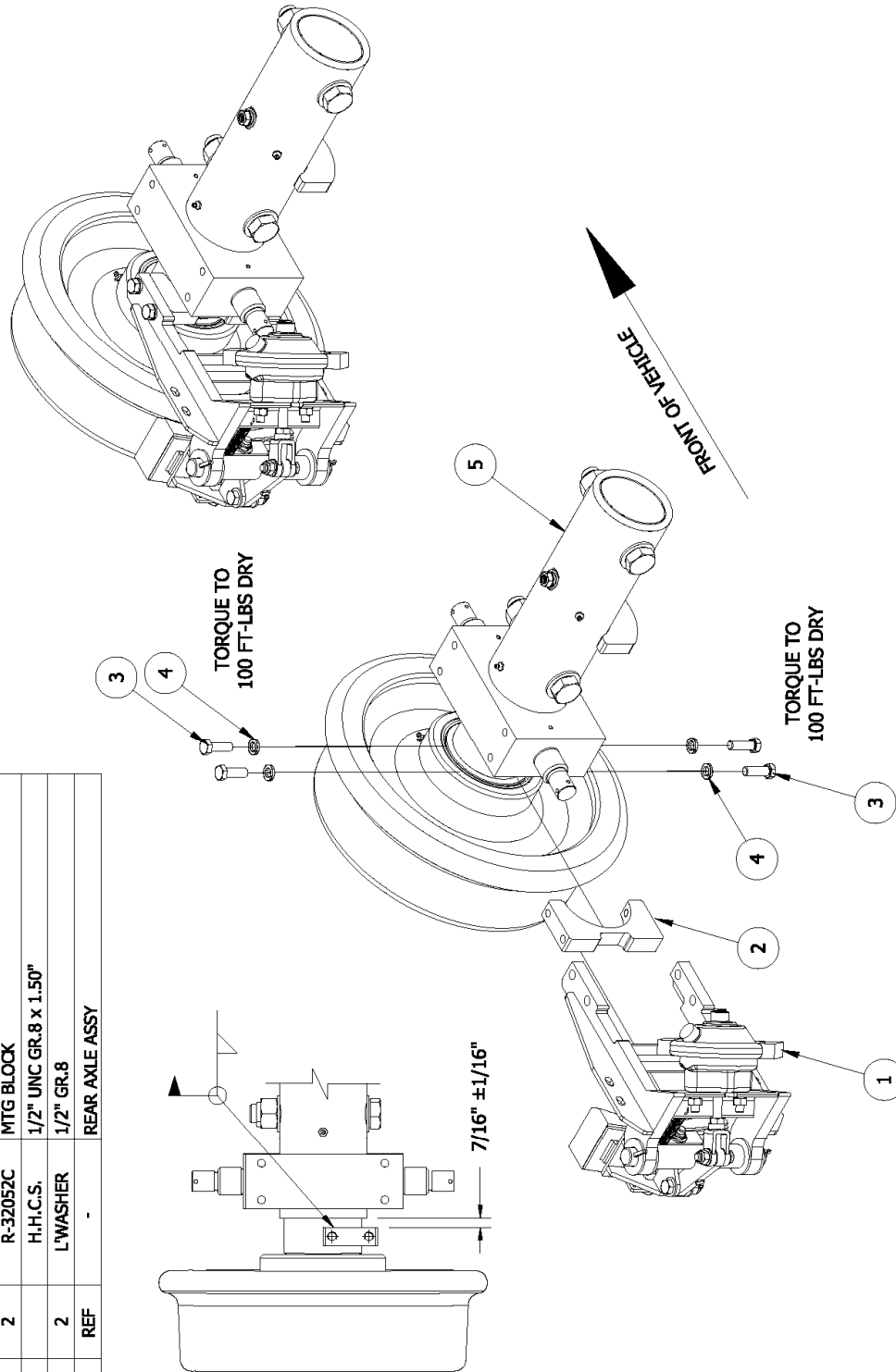
Note: The brakes should not be installed until the rear railgear unit has been installed.

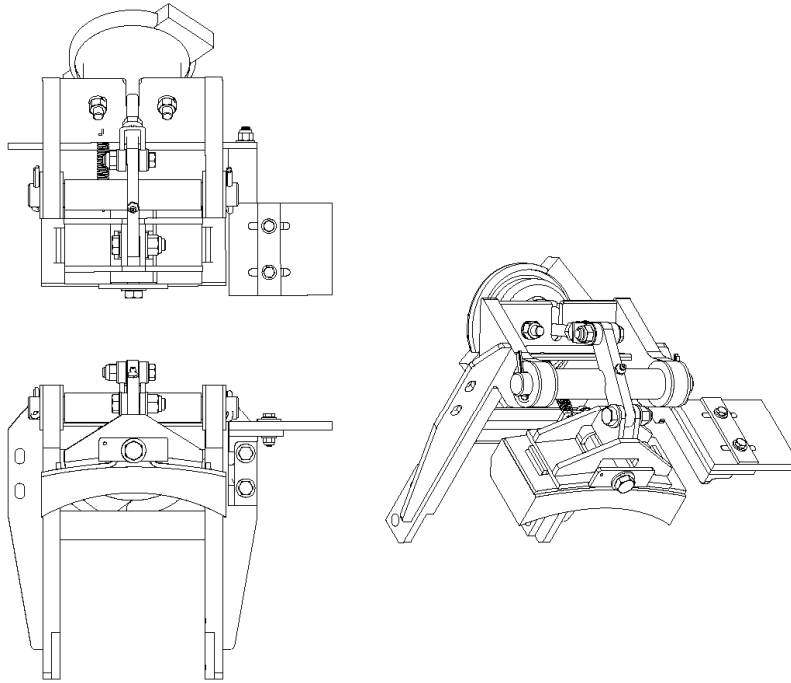
1. Clean and prep the axle stubs, in the area indicated, for welding.
2. Place brake assembly on stub axle and adjust as shown. Tack weld mounting block to stub axle.
3. Remove brake assembly from mounting block. Weld complete, the mounting block to the stub axle.
4. Re assemble brake housing to mounting block.
5. Install railsweeps.
6. Repeat steps 1 thru 5 for other brake assembly.
7. Proceed to plumb brakes.
8. Adjust and test brakes as outlined.
9. Adjust railsweeps as required.



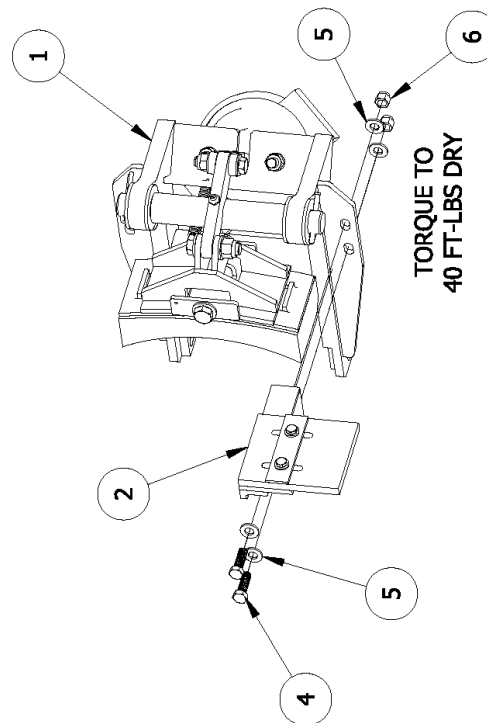
TYPICAL REAR BRAKE INSTALLATION

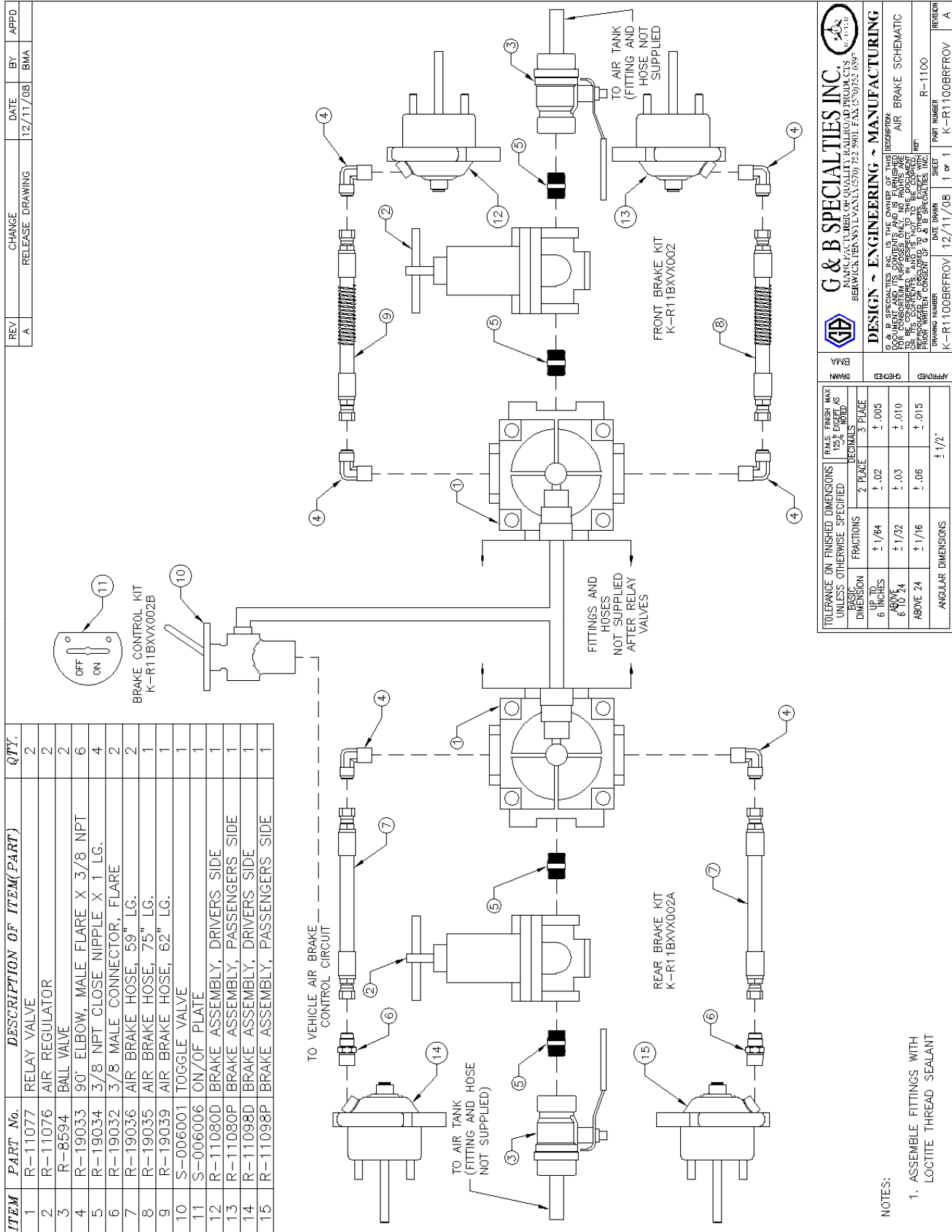
BILL OF MATERIAL/PARTS LIST		DESCRIPTION
ITEM	QTY	PART NUMBER
1	2	R-33060
2	2	R-32052C
3	2	H.H.C.S.
4	2	L'WASHER
5	REF	-





BILL OF MATERIAL/PARTS LIST			DESCRIPTION
ITEM	QTY	PART NUMBER	
1	REF	R-33060	REAR BRAKE ASSY
2	1	R-33066R	RAILSWEEP ASSY, RHS
3	1	R-33066L	RAILSWEEP ASSY, LHS
4	2	H.H.C.S.	3/8" UNC GR.8 x 1.25"
5	4	F'WASHER	3/8" SAE GR.8
6	2	Nylock Nut	3/8" UNC GR.8

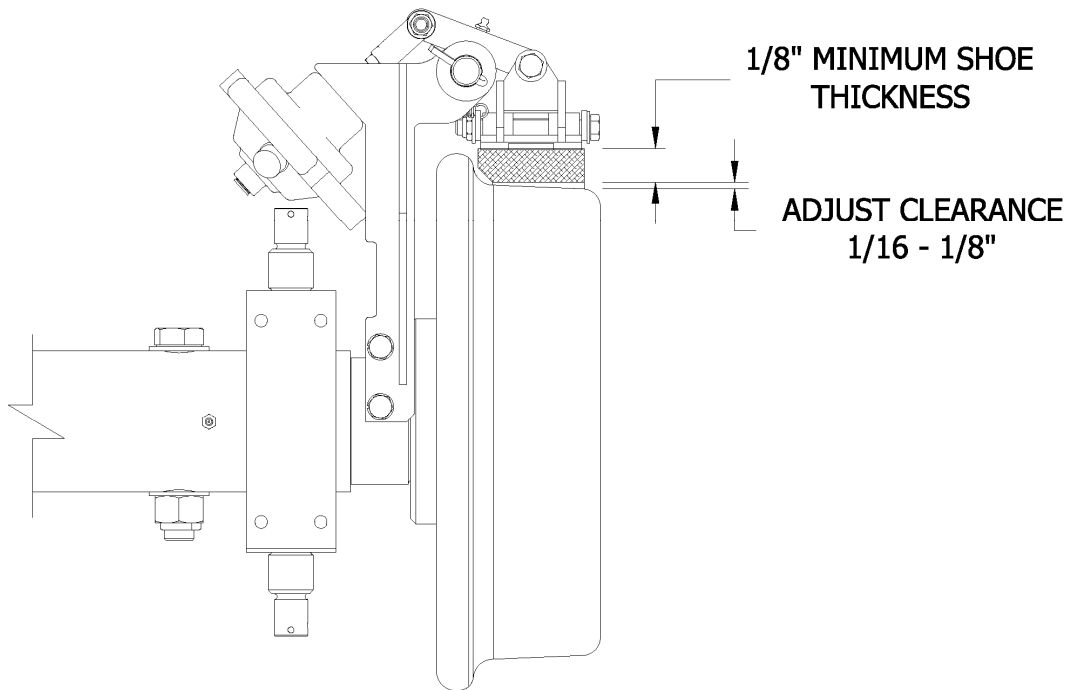




3.0

Brake Shoe Adjustment

1. There is a jam nut and clevis located on the threaded rod attached to the air brake chamber. This is use to adjust the gap between the wheel and brake shoe.
2. If the threaded rod is too long it will need to be cut as required.



3.1.1

Brake Testing

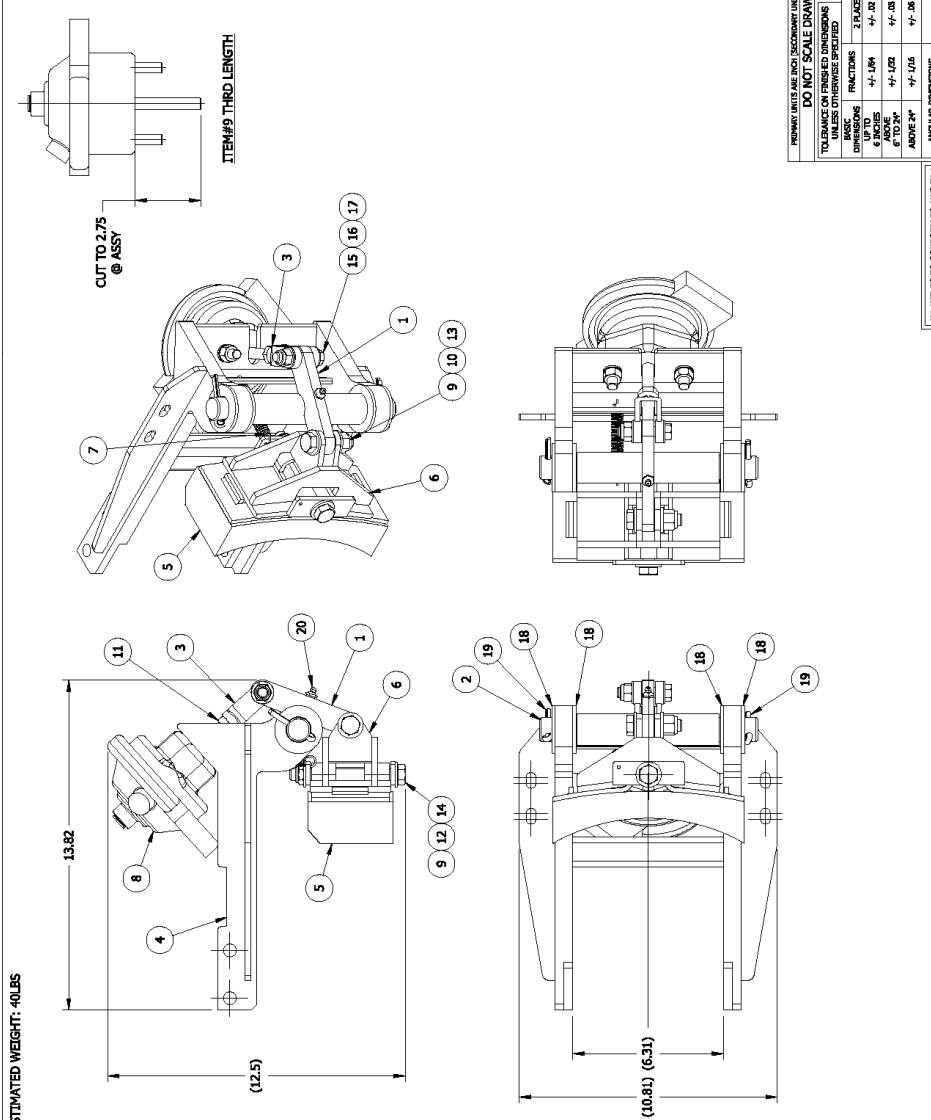
Operate the vehicle on a test track. With the air toggle valve in the "on" position and the ball valves open, check that:

1. When the vehicle brake pedal is depressed, the railgear brake clamps the rail wheel enough to slow its rotation but not enough to stop its rotation. The rail wheels should not be allowed to lock up.
2. That the brakes release properly when the pedal is released.

If the brakes do not function properly, contact a service representative at G&B Specialties.

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	R-11021	PIVOT ARM, REAR BRAKES
2	1	R-3065	PIVOT PIN, REAR BRAKES
3	1	R-5601	CLEVIS
4	1	R-33051	MOUNTING BRACKET, REAR BRAKES
5	1	R-5595B	BRAKE SHOE - COBRA V-265
6	1	R-1101B	MOUNTING BRACKET, BRAKE SHOE, REAR
7	1	R-14001	BRAKE SPRING
8	1	R-11073A	BRAKE ACTUATOR ASSY
9	4	FWASHER	1/2" SAE GR.8
10	1	H.H.C.S.	1/2" UNC GR.8 X 2.00"
11	1	HEX NUT	1/2" UNF GR.8
12	1	H.H.C.S.	1/2" UNC GR.8 X 1.50
13	1	NYLOCK NUT	1/2" UNC GR.8
14	1	NYLOCK NUT	1/2" UNC GR.8, JAM
15	2	FWASHER	7/16" SAE GR.8
16	1	H.H.C.S.	7/16" UNC GR.8 X 2.00"
17	1	NYLOCK NUT	7/16" UNC GR.8
18	4	FWASHER	1" SAE GR.8
19	2	COTTER PIN	1/4" X 1.50"
20	1	GREASE ZERK	1/8" NPT STRAIGHT

REF HARDWARE KIT: R-990KIT-125



ESTIMATED WEIGHT: 40LBS

ITEM#9 THRD LENGTH

CUT TO 2.75 @ ASSY

ALL WELDS TO CONFORM TO AWS D.1.

A		DATE	BY	APPD
REV	CHANGE	4/7/16	ML	JR

ITEM	QTY	DESCRIPTION	UNIT	PRICE	TOTAL
1	1	PIVOT ARM, REAR BRAKES	EA		
2	1	PIVOT PIN, REAR BRAKES	EA		
3	1	CLEVIS	EA		
4	1	MOUNTING BRACKET, REAR BRAKES	EA		
5	1	BRAKE SHOE - COBRA V-265	EA		
6	1	MOUNTING BRACKET, BRAKE SHOE, REAR	EA		
7	1	BRAKE SPRING	EA		
8	1	BRAKE ACTUATOR ASSY	EA		
9	4	FWASHER	EA		
10	1	H.H.C.S.	EA		
11	1	HEX NUT	EA		
12	1	H.H.C.S.	EA		
13	1	NYLOCK NUT	EA		
14	1	NYLOCK NUT	EA		
15	2	FWASHER	EA		
16	1	H.H.C.S.	EA		
17	1	NYLOCK NUT	EA		
18	4	FWASHER	EA		
19	2	COTTER PIN	EA		
20	1	GREASE ZERK	EA		

DESIGN - ENGINEERING - MANUFACTURING

DATE DRAWN: 4/7/16  
DRAWN BY: JF  
DATE CHECKED: 10/1/16  
CHECKED BY: JF

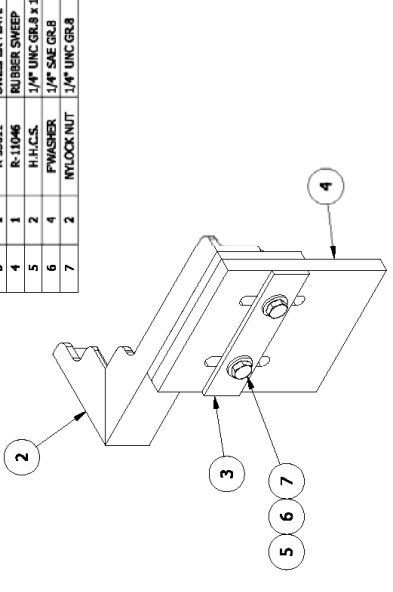
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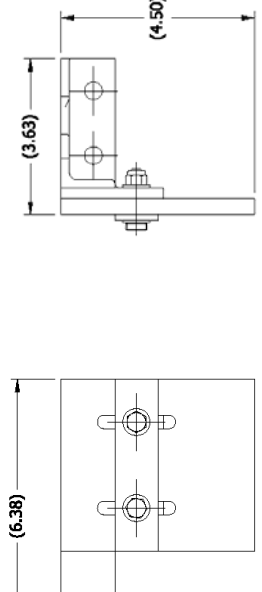


BILL OF MATERIAL/PARTS LIST		
ITEM	QTY	DESCRIPTION
1	1	ROLLSWEEP BRACKET, RH
2	1	ROLLSWEEP BRACKET, LH
3	1	SWEEPER PLATE
4	1	RUBBER SWEEP
5	2	H.H.C.S. 1/4" UNC GR.8 X 1.25"
6	4	FWASHER 1/4" SAE GR.8
7	2	NYLOCK NUT 1/4" UNC GR.8

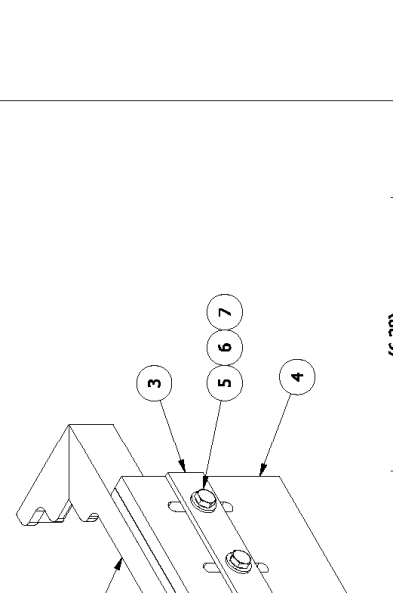
**R-33066R**

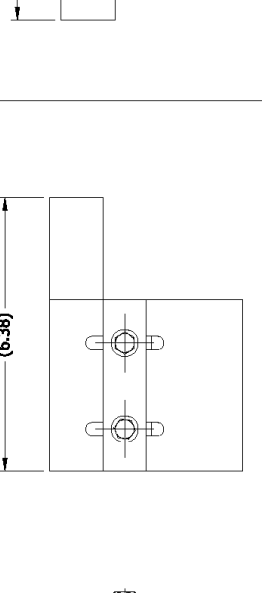




**R-33066L**





**DO NOT SCALE DRAWING DIMENSIONS UNLESS OTHERWISE SPECIFIED**

UNIT	FRACTIONS	DECIMALS	3 PLACE
1/16"	+/- .00	+/- .00	+/- .00
1/8"	+/- .00	+/- .00	+/- .00
3/16"	+/- .00	+/- .00	+/- .00
1/4"	+/- .00	+/- .00	+/- .00
5/16"	+/- .00	+/- .00	+/- .00
3/8"	+/- .00	+/- .00	+/- .00
1/2"	+/- .00	+/- .00	+/- .00
3/4"	+/- .00	+/- .00	+/- .00
1"	+/- .00	+/- .00	+/- .00
ANGULAR DIMENSIONS	+/- .05	+/- .05	+/- .05

**REVISIONS**

REV	DATE	BY	APPD
1	4/7/16	JL	JL

**DESIGN - ENGINEERING - MANUFACTURING**

ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED ARE IN INCHES AND DECIMALS UNLESS OTHERWISE SPECIFIED.

ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.

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**APPROVED**

DESIGNED BY: R. J. HIGGINS, JR.

CHECKED BY: R. J. HIGGINS, JR.

DATE: 4/7/16

SCALE: 1:1

PART NUMBER: R-33066R/L

**ESTIMATED WEIGHT: 2LBS**