

Installation, Operations & Service Manual R-1100/1130 Cobra Rear Brake Kit W/ 12" Wheels

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-R113BXV012 AIR BRAKE KIT, REAR R1100/R1130 W/ 12" WHEELS		
Part #	Description	Qty
R-11076A	Operating Valve Assembly	1
R-19036	Air Brake Hose	2
R-19032	3/8 Male Connector, Flare	2
R-31052D	Brake Assembly, DS	1
R-31052P	Brake Assembly, PS	1
R-31060D	Rail Sweep Assembly, DS	1
R-31060P	Rail Sweep Assembly, PS	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.

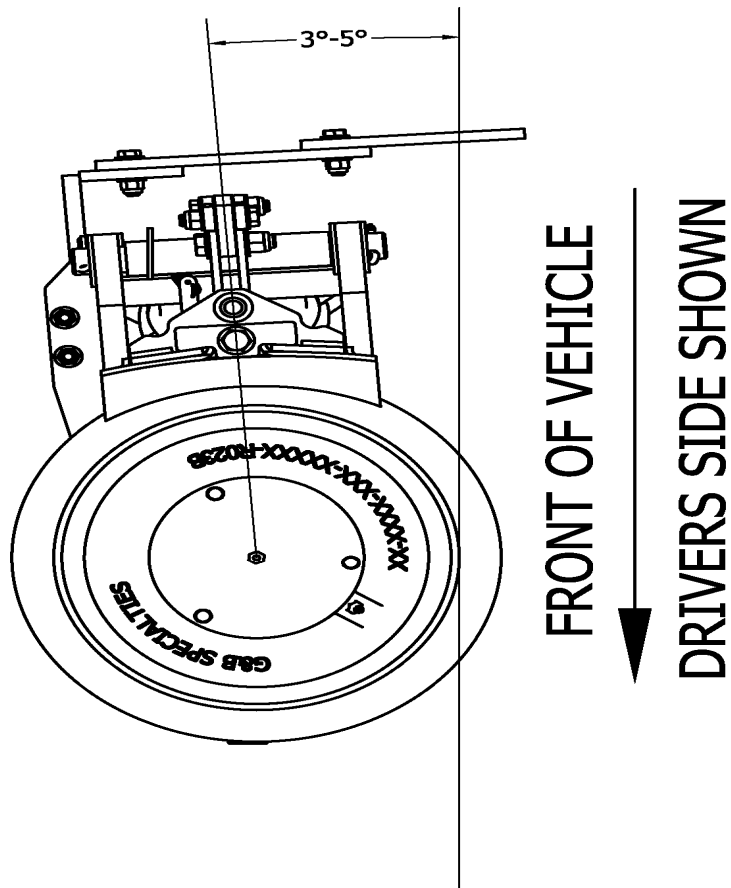
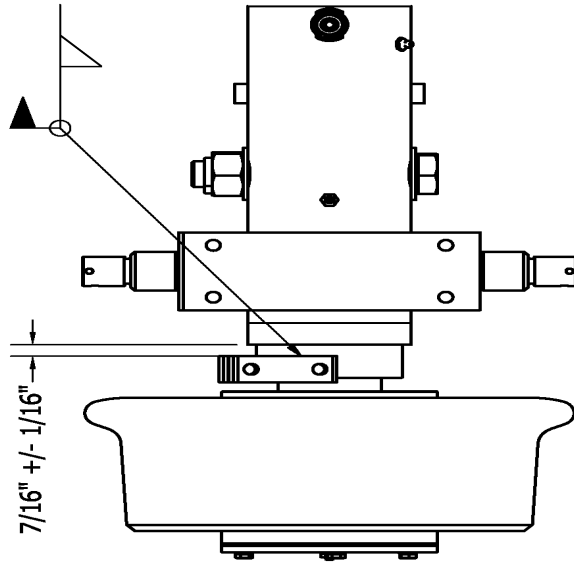
It is the responsibility of the installer to supply the required air to the in-cab control valve and from the in-cab control valve to the relay valve. The hoses, fittings etc... required for this connection are not included in this kit.

2.0

Installation

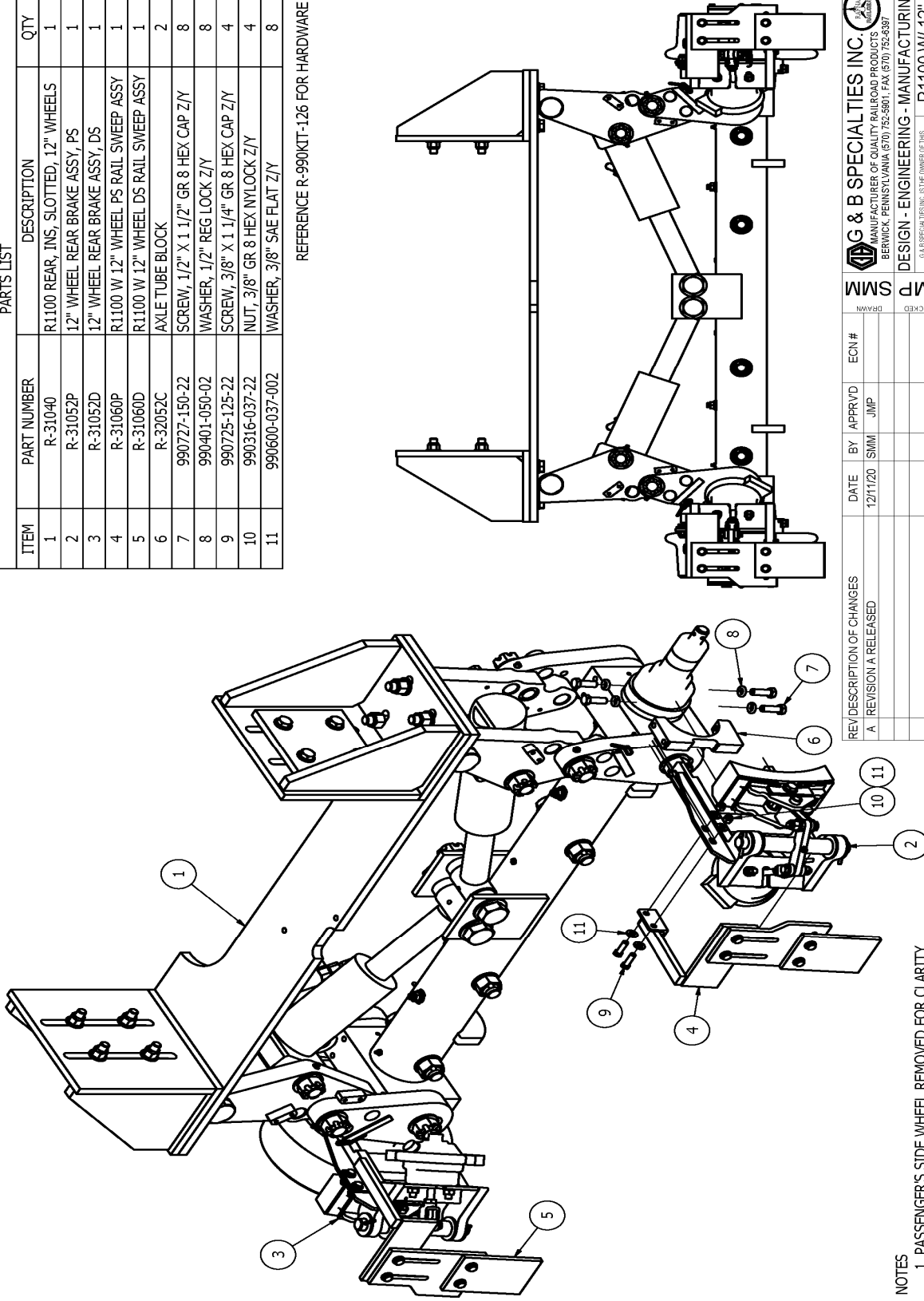
Note: The brakes should not be installed until the rear railgear unit has been installed.

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.



PARTS LIST			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-31040	R1100 REAR, INS, SLOTTED, 12" WHEELS	1
2	R-31052P	12" WHEEL REAR BRAKE ASSY, PS	1
3	R-31052D	12" WHEEL REAR BRAKE ASSY, DS	1
4	R-31060P	R1100 W 12" WHEEL PS RAIL SWEEP ASSY	1
5	R-31060D	R1100 W 12" WHEEL DS RAIL SWEEP ASSY	1
6	R-32052C	AXLE TUBE BLOCK	2
7	990727-150-22	SCREW, 1/2" X 1 1/2" GR 8 HEX CAP Z/Y	8
8	990401-050-02	WASHER, 1/2" REG LOCK Z/Y	8
9	990725-125-22	SCREW, 3/8" X 1 1/4" GR 8 HEX CAP Z/Y	4
10	990316-037-22	NUT, 3/8" GR 8 HEX NYLOCK Z/Y	4
11	990600-037-002	WASHER, 3/8" SAE FLAT Z/Y	8

REFERENCE R-990KIT-126 FOR HARDWARE



NOTES

- PASSENGER'S SIDE WHEEL REMOVED FOR CLARITY
- ITEM 6 TO BE WELDED SO BRAKE SHOE SITS COMPLETE ON WHEEL SURFACE

ALL WELDS TO CONFORM TO AMS D1.1

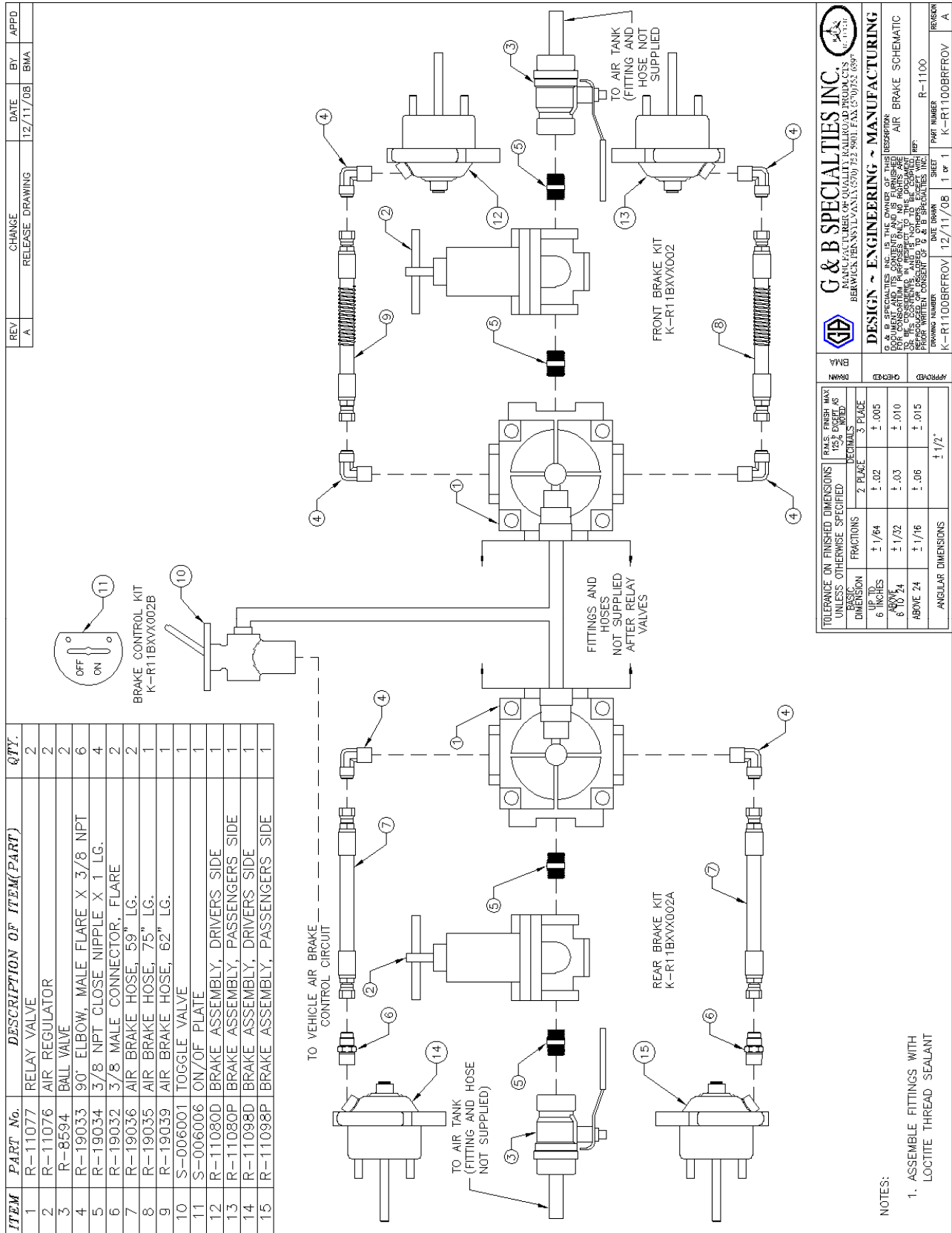
REV/DESCRIPTION OF CHANGES		DATE	BY	APPRVD	ECN #
A REVISION A RELEASED		12/11/20	SMM	JMP	
JMP		APPROVED	DATE DRAWN	PART NUMBER	REVISION
SMM		CHECKED	12/11/20	K-R113BXV012	A
SMM		DRAWN			

G & B SPECIALTIES INC.
MANUFACTURER OF QUALITY RAILROAD PRODUCTS
BERWICK, PENNSYLVANIA (570) 752-5901, FAX (570) 752-6397

DESIGN - ENGINEERING - MANUFACTURING

R1100 W/ 12" WHL REAR BRAKE KIT

ALL WELDS TO CONFORM TO AMS D1.1



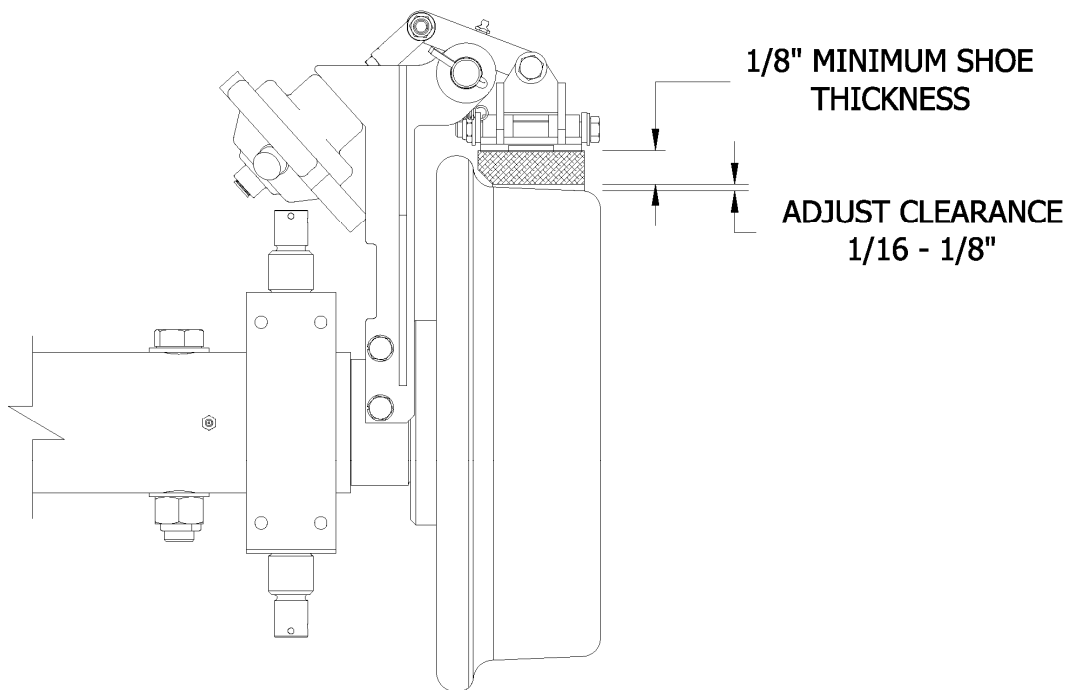
 G & B SPECIALTIES INC. MANUFACTURER OF QUALITY RAILROAD PRODUCTS BERWICK PENNSYLVANIA 17509 752 5901 FAX 752 6397	 DESIGN ~ ENGINEERING ~ MANUFACTURING G & B SPECIALTIES INCLUDES THE OWNER OF THIS DESCRIPTION EQUIPMENT AND ITS COMPONENTS AND IS FURNISHING THE DRAWINGS AND PARTS LIST IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT. THE DRAWING IS TO BE CONSIDERED AS A PART OF THE CONTRACT. ANY REVISIONS MUST BE MADE TO OTHER SHEETS WITH THE SAME REVISION NUMBER. DRAWING NUMBER: K-R1100BRFROV 12/11/08 1 of 1 PART NUMBER: R-1100 SHEET: K-R1100BRFROV A
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TOLERANCE ON FINISHED DIMENSIONS UNLESS OTHERWISE SPECIFIED	FRACS. FINISH MAX. 12.5% EXCEPT AS NOTED		
	FRACTIONS	2 PLACE DECIMALS	3 PLACE DECIMALS
UP TO 6 INCHES	± 1/64	± .02	± .005
6 TO 24	± 1/32	± .03	± .010
ABOVE 24	± 1/16	± .06	± .015
ANGULAR DIMENSIONS	± 1/2°		

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.

4.0


Parts

ITEM	PART No.	DESCRIPTION OF ITEM(PART)	QTY.
1	R-11077	RELAY VALVE	1
2	R-11076	AIR BRAKE VALVE	1
3	R-8594	BALL VALVE	1
4	R-19033	90° ELBOW, MALE FLARE X 3/8 NPT	2
5	R-19034	3/8 NPT CLOSE NIPPLE X 1 LG.	2
6	R-19037	PLUG, 1/2 NPT	1

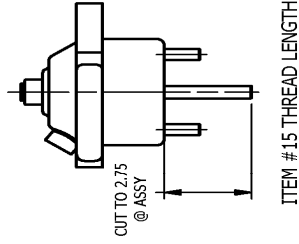
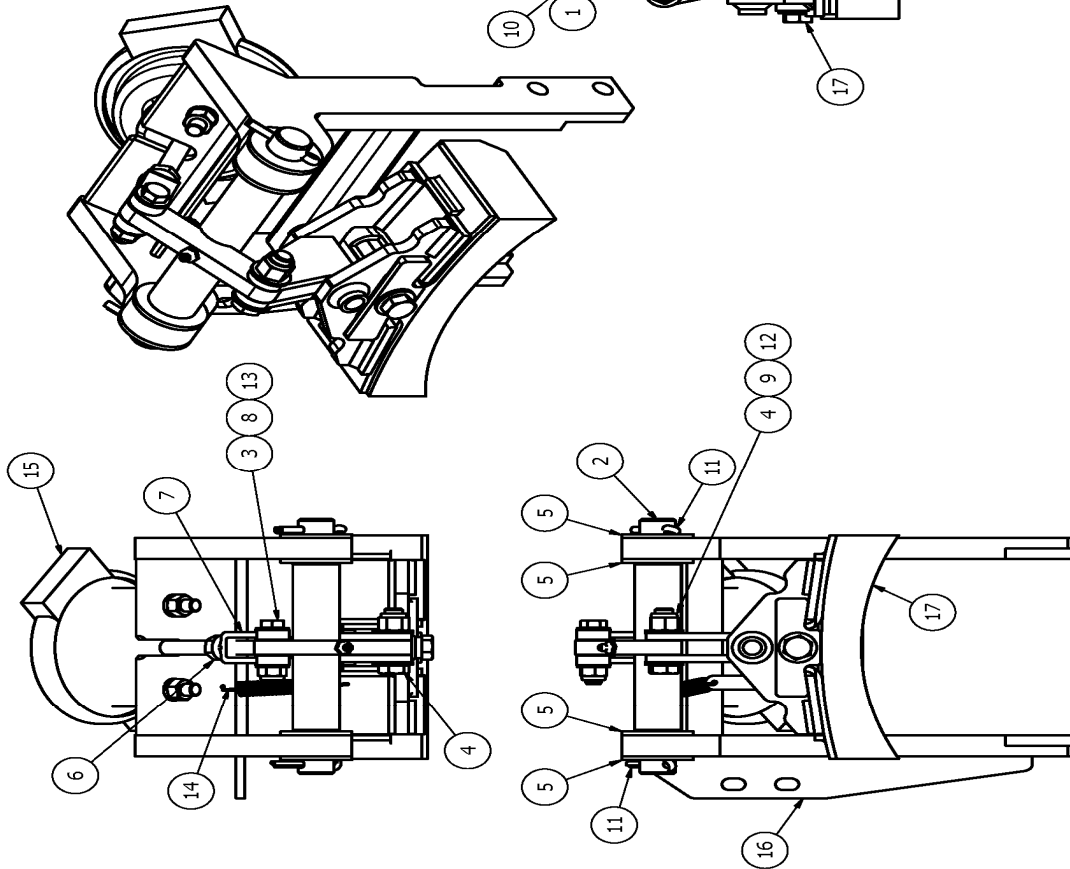
NOTES:

- ASSEMBLE FITTINGS WITH LOCTITE THREAD SEALANT
- ITEM 4 TO BE ANGLED 45° FROM CURRENT VIEW SHOWN
- PRESET AND LABEL/TAG REGULATOR TO THE FOLLOWING:
 FRONT: 75 PSI
 REAR: 30 PSI

REV	DESCRIPTION OF CHANGES	DATE	BY	APPRVD	ECN #
A	REVISION A RELEASED	09/22/08	BMA		
B	REVISED DRAWING	10/17/18	JEV	JMP	ECN-18-819
C	ROTATED BALL VALVE & AIR BRAKE VALVE	02/27/19	SDJ	JMP	ECN-19-080
D	CORRECTED REAR PSI SETTING	12/11/20	SMW	JMP	ECN-20-750

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DESIGN - ENGINEERING - MANUFACTURING	OPERATING VALVE ASSEMBLY
DATE DRAWN	PART NUMBER
09/22/08	R-11076A
REVISION	D

PARTS LIST			
ITEM	PART NUMBER	DESCRIPTION	QTY
1	R-11021	PIVOT ARM, REAR BRAKES	1
2	R-33065	PIVOT PIN, REAR BRAKES	1
3	990600-043-002	WASHER, 7/16" NARROW FLAT Z/Y	2
4	990600-050-002	WASHER, 1/2" SAE FLAT Z/Y	2
5	990600-100-002	WASHER, 1" NARROW FLAT Z/Y	4
6	990310-050-22F	NUT, 1/2"-20 GR 8 HEX JAM Z/Y	1
7	R-5601	CLEVIS ASSY	1
8	990726-200-22	SCREW, 7/16" X 2" GR 8 HEX CAP Z/Y	1
9	990727-200-22	SCREW, 1/2" X 2" GR 8 HEX CAP Z/Y	1
10	990900-009	1/8 NPT ST ZERK	1
11	990511-150-02	COTTER PIN, 1/4" X 1 1/2" Z/Y	2
12	990316-050-22	NUT, 1/2" GR 8 HEX NYLOCK Z/Y	1
13	990316-047-22	NUT, 7/16" GR 8 HEX NYLOCK Z/Y	1
14	R-14001	BRAKE SPRING	1
15	R-11073A	BRAKE ACTUATOR ASSY	1
16	R-31053D	MOUNTING BRACKET, REAR BRAKES	1
17	R-31057	12" WHEEL REAR BRAKE SHOE ASSY	1



REV/DESCRIPTION OF CHANGES	DATE	BY	APPRVD	ECN #
A REVISION A RELEASED	11/18/20	SMM	JMP	

REV	DRAWING NUMBER	DATE DRAWN	PART NUMBER	REVISION
1	R31052D	11/18/20	R-31052D	A

REV	DESCRIPTION	DATE	BY	APPRVD	ECN #
1	DESIGN - ENGINEERING - MANUFACTURING				
2	12" WHEEL REAR BRAKE SHOE ASSY DS				

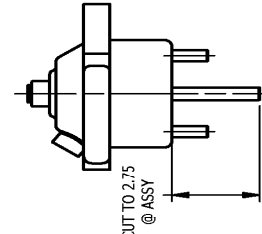
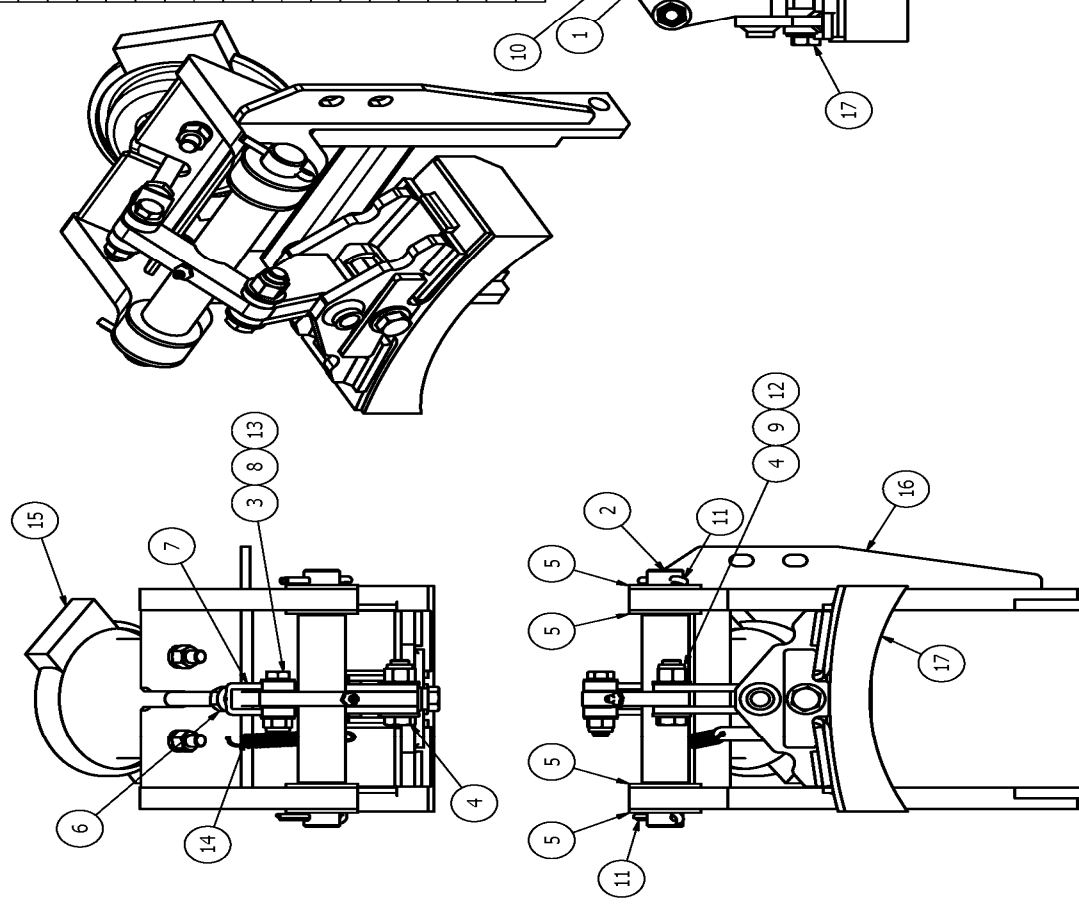
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A	REVISION A RELEASED	11/18/20	SMM	JMP									

DESIGNED	DATE	BY	APPRVD	EON #
CHECKED				
DRAWN				

APPROVED	DATE	BY	APPRVD	EON #

JMP	R31052P	11/18/20	R-31052P
JMP			
JMP			
SMM			

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12" WHEEL REAR BRAKE ASSY PS	
SHEET/DRAWING NUMBER	PART NUMBER
1 R31052P	11/18/20 R-31052P
	REV. #
	A