



## MANUAL

### INSTALLATION – OPERATION

### PNEUMATIC BRAKE VALVE KIT

October 2020  
Revision 2

#### **CONTINENTAL RAILWORKS**

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## INTRODUCTION

The following installation manual has been prepared to be used with the Continental Railworks model **H105A017** and **H105A108** Pneumatic Brake Valve Kits.

At any time technical assistance can be obtained from the hi-rail manufacturer. A simple phone call to Continental Railworks can eliminate many time consuming problems or questions. Technical assistance is available Monday to Friday, from 8:30 a.m. to 4:30 p.m. ET, by calling **(514) 956-8081**, faxing **(514) 956-0737** or emailing **admin@continentalrailworks.com**. Support personnel are frequently available during off-peak hours as well, so please do not hesitate to call or fax outside the hours listed above, including nights and weekends. It is also possible to leave a message at any time, and your call will be returned as soon as possible.

## GENERAL INFORMATION

### GENERAL DESCRIPTION

The Continental Railworks Pneumatic Brake Valve Kit has been designed to isolate the hi-rail air brakes from the chassis' main air brake system. It features brake pedal proportionality and pressure adjustability to fine tune the braking performance on rail.

The valve kit is designed to be installed between the frame rails of the vehicle.

**Part number for replacement of the Pneumatic Brake Valve Kit is H105A017 (front brakes only).**

**Part number for replacement of the Pneumatic Brake Valve Kit is H105A018 (front and rear brakes).**

### **! SAFETY WARNING !**

ALL MODIFICATIONS TO THE CHASSIS AIR BRAKE SYSTEM PERFORMED BY THE INSTALLER MUST CONFORM TO FMVSS 121 (US VEHICLES) OR CMVSS 121 (CANADIAN VEHICLES)

ENSURE AIR LINES AND WIRES ARE SECURED PROPERLY TO PREVENT PINCHING OR RUBBING WHICH MAY LEAD TO FAILURE

## INSTALLATION

### CONTENTS OF KIT

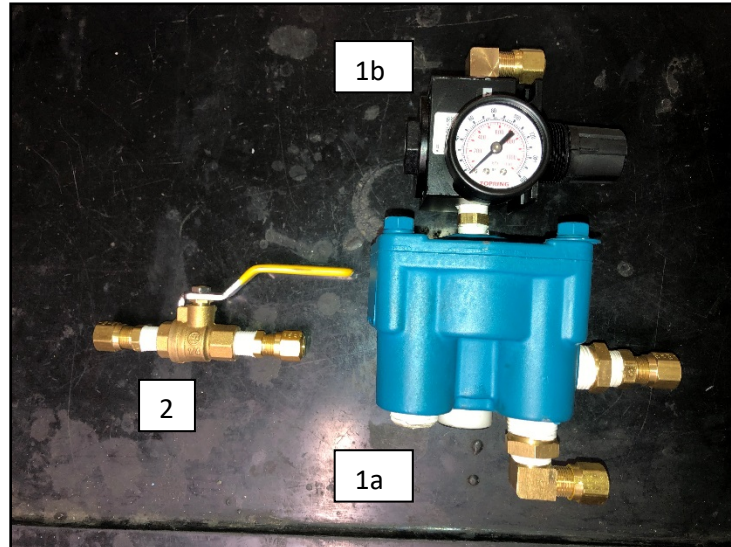


Figure 1: Pneumatic Brake Valve Kit

#### INCLUDED

- Item 1 – 1 x Pneumatic Brake Valve Assembly
  - 1a – Pneumatic Relay Valve
  - 1b – Pressure Reducer Unit
- Item 2 – Ball valve
- Item 3 – T Fitting (not shown)

Note: Components may be slightly different in appearance.

#### NOT INCLUDED

- 3/8" OD Nylon Air Brake Tubing (SAE J844 compliant)
- Various fittings for connection to chassis air system
- Various fittings for connection of the hi-rail brakes
- Mounting hardware

### INSTALLATION

## LOCATION AND MOUNTING

- 1- Find a suitable location between the vehicle's frame rails to mount the valve kit. The valve kit needs to be accessible relatively easily for pressure adjustment.

**NOTE** – The relay valve needs to be mounted vertically, with the exhaust pointing down and the service port pointing up.

- 2- Secure the valve assembly to one of the vehicle's cross members using the mounting bracket located on the relay valve.
- 3- Ensure the pneumatic brake valve assembly will not interfere with the vehicle's body, crane, or other accessory.



Figure 2: Suitable Mounting Example

## INSTALLATION

## PLUMBING

- 1- Find an adequate air source to power the system:
  - a. The system needs to feed from the secondary or auxiliary air tanks
  - b. The air source needs to be pressure protected
  - c. DO NOT CONNECT DIRECTLY TO MAIN CHASSIS AIR BRAKE PRESSURE LINE
  - d. DO NOT CONNECT TO THE CHASSIS' PRIMARY AIR TANK CIRCUIT
- 2- Using 3/8" air brake tubing, make the following connections:
  - a. Connect the main air source to the SUPPLY port on the relay valve.
  - b. Connect the bottom DELIVERY port(s) of the relay valve to the hi-rail brakes
    - i. For H105A017 feeding only the front brakes, connect to the front hi-rail air brake chamber through a T fitting and equal length hoses to split the flow adequately between the left and right side chambers.
    - ii. For H105A018 feeding the front and rear brakes, connect one DELIVERY port to the front hi-rail air brake chamber and the other DELIVERY port to the rear hi-rail air brake chambers, both through T fittings and equal length hoses to split the flow adequately between the left and right side chambers.
- 3- Locate and adequate air brake signal line between the foot pedal and the OEM relay valve.
- 4- Install the supplied T fitting and ball valve on the main signal line.

**NOTE** - The ball valve needs to be accessible so the operator can shut the system off if/when required.
- 5- Run an air line between the ball valve and the pressure regulator installed on the relay valve of the pneumatic brake valve.
- 6- Pressurize the system and verify for air leaks.
- 7- Refer to the schematics and drawings in the Appendices for more details on air line routing.

## ADJUSTMENT

- 1- With all air connections complete, perform initial adjustment to Pneumatic Brake Valve assembly as follows:
  - a. Release the adjustment knob on the pressure regulator.
  - b. Set the Pressure Reducer Unit's dial to 50 psi.
- 2- Perform a track test with the vehicle and assess the hi-rail brakes' performance.
- 3- Adjust the pressure value as required to provide enough braking force without locking the wheels in usual track conditions.

## INSTALLATION

## SERVICE

### RECOMMENDED MAINTENANCE INTERVALS

ITEM	FREQUENCY	DESCRIPTION
Pneumatic Components	Every day	Inspect for leaks.
	Every month	Inspect for leaking or damaged hoses, fittings or cylinders. Repair or replace as required.

### CONTACT INFORMATION

To order parts or for technical support, please contact Continental Railworks from Monday to Friday, 8:30 a.m. to 4:30 p.m. ET, by calling **(514) 956-8081** or faxing **(514) 956-0737**. Please have the hi-rail assembly's serial number available for easier tracking.

#### CANADA & US

Continental Railworks  
7380 Vérité  
St-Laurent, QC, H4S 1C5  
(514) 956-8081



## LIMITED WARRANTY INFORMATION

The following warranty applies to all products manufactured by Continental Railworks.

Continental Railworks (hereinafter referred to as "Continental") warrants to the original purchaser that all equipment supplied shall be free from defects in material and workmanship for a period of 12 months from the date of purchase. If such a defect appears during the warranty period, Continental will repair or replace the defective part or product (at its option) without charge if applicable claim procedures are followed.

The product must have been properly installed, adjusted, maintained, and serviced in order to be eligible for warranty.

The warranty does not cover defects or damage to products that have been improperly installed, abused, misused, or damaged due to accident. Continental disclaims liability for indirect, incidental, and consequential damages, such as damage incurred during shipping and handling. This disclaimer applies during and after the warranty period.

Warranty claims may be made by contacting our Customer Service Department at the address indicated above, or by calling (514) 956-8081. All claims must be made in writing.

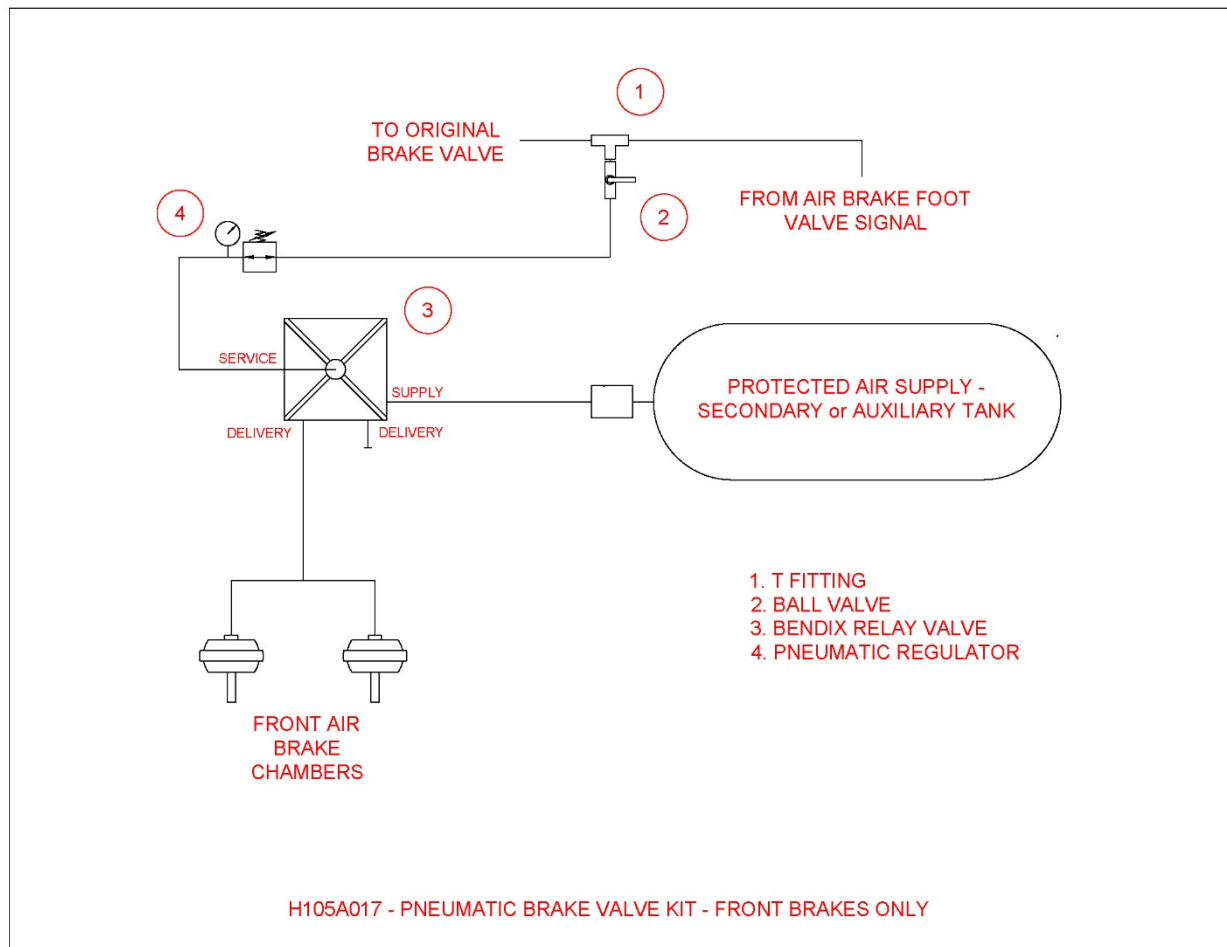
Continental or its authorized representative reserves the right to inspect products claimed to be defective for warranty purposes and dispose of the claim as it sees fit, including repair or replacement. Unauthorized repair or replacement prior to inspection may void the warranty. Use of non-OEM parts will immediately void the warranty.

All products or parts claimed to be defective must be returned to Continental for warranty consideration within 30 days of the claim. All items shipped from Continental for warranty reasons will be sent freight prepaid, and all items returned to Continental must be sent freight prepaid.

Labor performed for warranty reasons must be done by an authorized Continental representative or by a person or company pre-approved by Continental in writing. Labor performed without prior written approval will not be warranted.

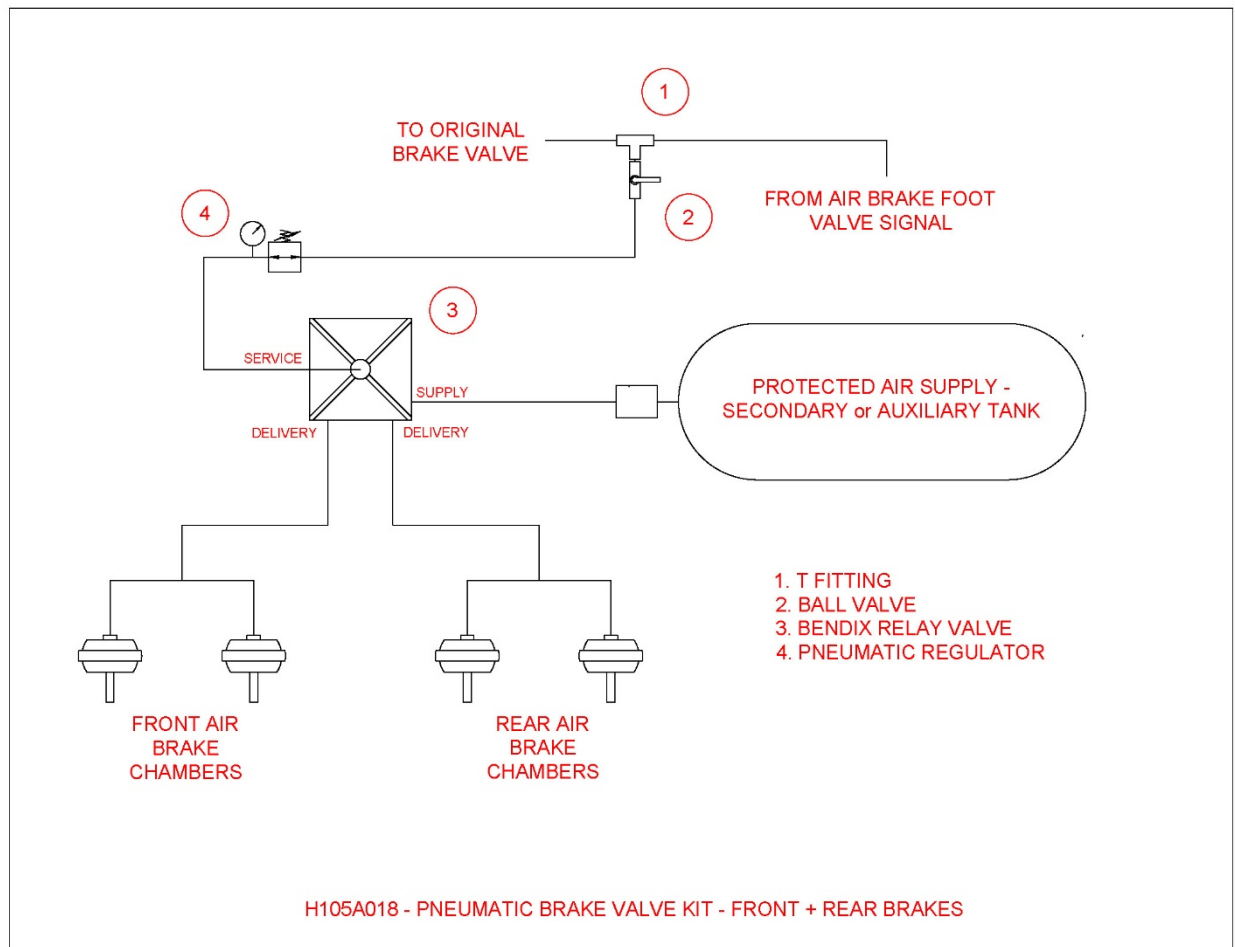
## APPENDIX 1

### AIR BRAKE DIAGRAM – H105A017 FRONT BRAKES



## APPENDIX 2

### AIR BRAKE DIAGRAM – H105A018 FRONT AND REAR BRAKES



## ASSEMBLY DRAWING – H105A017 FRONT BRAKES

**FRONT BRAKES ONLY**

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	1469-6C	90 ELBO W	1
2	1491N189	PLU HEX COUNTSINK	3
3	44705K282	FITTING	2
4	4757T152	TEE FITTING	1
5	4786GK21	BALL VALVE	1
6	5787K55	90 ELBO W	1
7	7473T23	FITTING CONNECTOR	2
8	D1468-6C	STRAIGHT FITTING	1
9	HEX NIPPLE	HEX NIPPLE	1
10	ZQ408	PRESSURE REGULATOR	1
11	ZQ501	RELEASE VALVE	1

**CONTINENTAL RAILWORKS**  
 PNEUMATIC BRAKE VALVE KIT (F BRAKES ONLY)

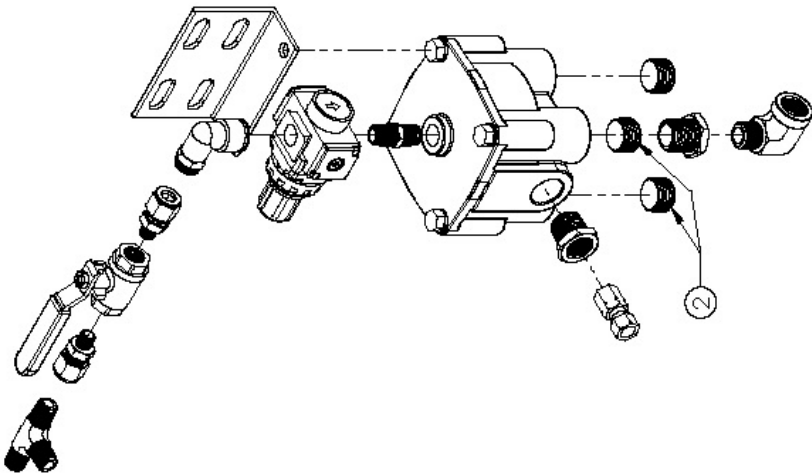
SHEET NO.	TOTAL SHEETS	DATE	BY
A	10/20		H105A017

ITEM NO.	DESCRIPTION	QUANTITY	REMARKS
1	1469-6C	1	
2	1491N189	3	
3	44705K282	2	
4	4757T152	1	
5	4786GK21	1	
6	5787K55	1	
7	7473T23	2	
8	D1468-6C	1	
9	HEX NIPPLE	1	
10	ZQ408	1	
11	ZQ501	1	

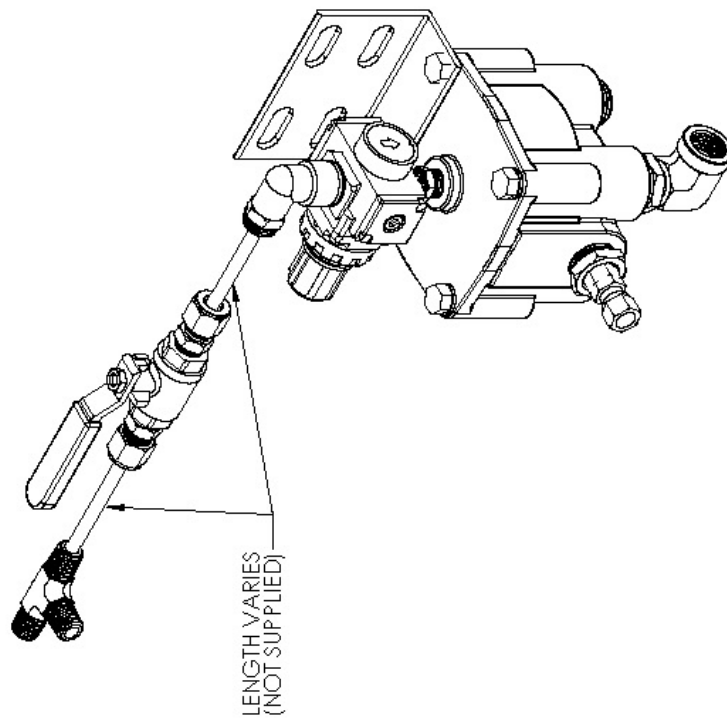
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BRACKET COMES LOOSE WITH ZQ501  
(BOLT TO RELEASE VALVE TO SHIP)



EXPLODED VIEW

<p>PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF CONTINENTAL RAILWORKS, ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF CONTINENTAL RAILWORKS IS PROHIBITED.</p>		DIMENSIONS ARE IN INCHES. TOLERANCES, UNLESS OTHERWISE STATED: THREE PLACE DECIMAL: .0001 ANGLE: .0001 HOLE: .0001 WELDS: .0001		DISC: 1/24/20 19 P/N: 1/24/20 19 C: 1/24/20 19 H: 1/24/20 19 P/N: 1/24/20 19 C: 1/24/20 19 H: 1/24/20 19	VALVE: 1/24/20 19 F: 1/24/20 19 F: 1/24/20 19 H: 1/24/20 19	CONTINENTAL RAILWORKS	
		WELDS: .0001		P/N: 1/24/20 19 C: 1/24/20 19 H: 1/24/20 19		PNEUMATIC BRAKE VALVE KIT (F BRAKES ONLY)	
		WELDS: .0001		P/N: 1/24/20 19 C: 1/24/20 19 H: 1/24/20 19		REV. NO. H105A017	
		WELDS: .0001		P/N: 1/24/20 19 C: 1/24/20 19 H: 1/24/20 19		SCALE: 10:20	
NEW ASSY		USED ON		DRAWING VIEWS		REV. NO. H105A017	
APPLICATION		NOT TO SCALE		DRAWING VIEWS		REV. NO. H105A017	



**VIEW WITH HOSES**

			DISC HUB	VW Beetle	1724/20 TP
			BRAND	VW Beetle	1724/20 TP
			C HUB ID	F A6-6	1724/20 TP
			HG C-PIST.	F A6-6	1724/20 TP
			HG C-PIST.	H. Gormak	1724/20 TP
			FINISH:		37/19/20 TP
			COMMENTS:		
			SEE BO IM		
			HUBS ARE CHANGED TO NEW ON SPECIFIED SURFACES ONLY.		
			EQUIPMENT VIEWS		
			NOT TO SCALE		
			APPLICATION		
			NEXT ASSY USED ON		
			DRAWING IS THE PROPERTY OF		
			REPRODUCTION IN PART OR AS A WHOLE		
			WITHOUT THE WRITTEN PERMISSION OF		
			CONTINENTAL RAILWORKS IS		
			PROHIBITED.		

APPENDIX 4

ASSEMBLY DRAWING – H105A018 FRONT AND REAR BRAKES

FRONT + REAR BRAKES

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	118-D	PLU HEX COUNTSNK	2
2	1464-6	TEE FITTING	1
3	1468-6B	FITTING CONNECTOR	2
4	1469-6B	90 ELBOW	1
5	1469-6C	90 ELBOW	2
6	D110-DC	FITTING	3
7	D122-B	HEX NIPPLE	1
8	D1468-6C	STRAIGHT FITTING	1
9	ZH381	BALL VALVE	1
10	ZQ408	PRESSURE REGULATOR	1
11	ZQ501	RELEASE VALVE	1

CONTINENTAL RAILWORKS

PNEUMATIC BRAKE VALVE KIT (F+R BRAKES)

REV. A

ENG. NO. H105A018

SCALE: 10:23

DATE: 03/10/19

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ITEM NO.

118-D

1464-6

1468-6B

1469-6B

1469-6C

D110-DC

D122-B

D1468-6C

ZH381

ZQ408

ZQ501

DESCRIPTION

PLU HEX COUNTSNK

TEE FITTING

FITTING CONNECTOR

90 ELBOW

90 ELBOW

FITTING

HEX NIPPLE

STRAIGHT FITTING

BALL VALVE

PRESSURE REGULATOR

RELEASE VALVE

QTY.

2

1

2

1

2

3

1

1

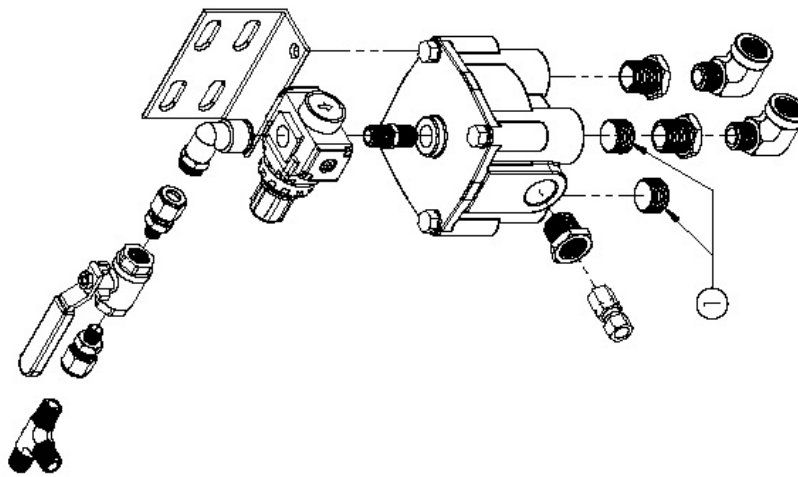
1

1

1

BRACKET COMES LOOSE WITH ZQ501 (BOLT TO RELEASE VALVE TO SHIP)

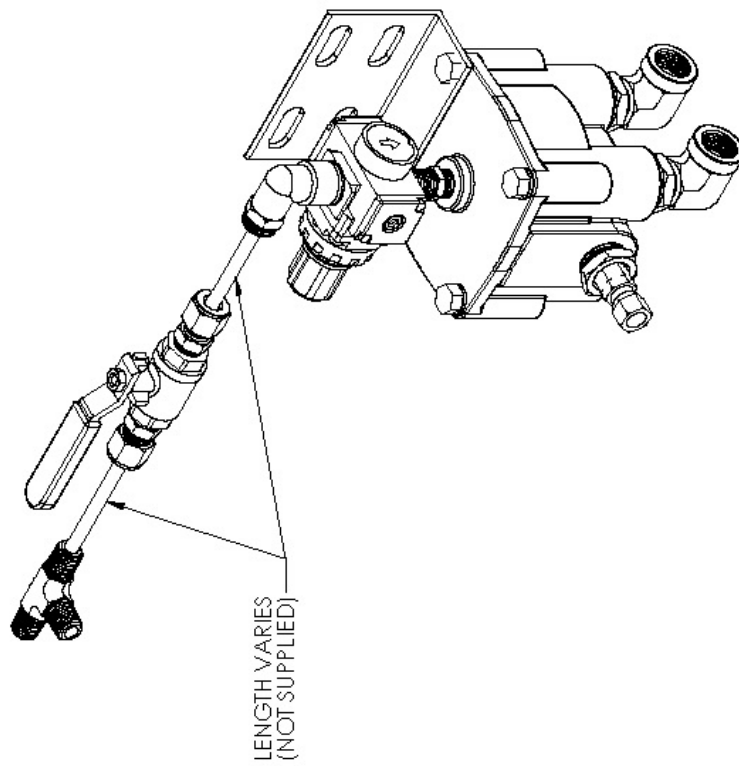
SERVICE





**EXPLODED VIEW**

[illegible]





## VIEW WITH HOSES

				 <b>CONTINENTAL RAILWORKS</b>	
		 <b>PNEUMATIC BRAKE VALVE KIT (F+R BRAKES)</b>			
		