

MANUAL

INSTALLATION – OPERATION

TRACK SIGNAL SHUNT KIT

October 2020
Revision 4

INTRODUCTION

The following installation manual has been prepared to be used with the Continental Railworks model **E077A300** Track Signal Shunt Kit.

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 Track Signal Shunt Kit has been designed to allow temporary or permanent track signal shunting by essentially removing the hi-rail insulation. Its purpose may be for testing of track signals or to comply with company policy.

The shunt kit is designed to be wired either through a switch in the cab (not supplied) to allow temporary shunting, or to be wired direct to allow permanent shunting.

Part number for replacement of the Track Signal Shunt Kit is E077A300 (individual shunt).

! SAFETY WARNING !

ENSURE WIRES ARE SECURED PROPERLY TO PREVENT PINCHING OR RUBBING WHICH MAY LEAD TO FAILURE.

ENSURE SHUNT KIT IS INCORPORATE IN THE HI-RAIL ANNUAL INSPECTIONS TO VERIFY ITS FUNCTIONALITY

INSTALLATION

CONTENTS OF KIT

INCLUDED

- 2 or 4 x Individual assembled plastic bushings and hardware
- 1 x Installation / Operation manual

Note: Components may be slightly different in appearance.

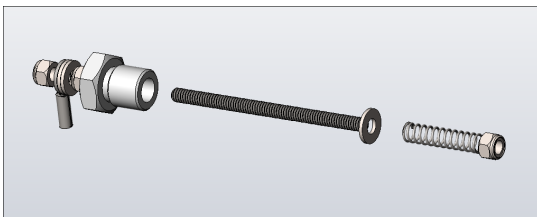


Figure 1: Shunt - Exploded View

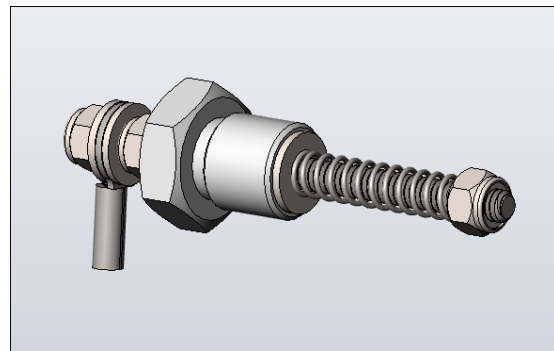


Figure 2: Shunt - Assembled

NOT INCLUDED

- 14-16 awg electrical wire
- Momentary or Maintained switch (if required)

LOCATION AND MOUNTING

- 1- The assembled plastic bushings can be installed once the hi-rail installation is complete and the rail gauge adjustment has been performed. Installing the bushings prior to performing the gauge adjustment may restrict the spindles from moving and prevent proper gauge adjustment.
- 2- The shunt kit can be installed either on the front or rear hi-rail unit. Installation on the front hi-rail is generally recommended due to the proximity to the cab and better accessibility for inspections.
- 3- Thread the plastic bushing through the $\frac{3}{4}$ " nut welded to the back of the spindle housings, until the bolt head makes contact with the spindle. Proper contact can be verified by following the "Adjustment" instructions that follow.

ELECTRICAL

- 1- Using 14-16 awg electrical wire, connect the two terminals on the assembled plastic bushings. Connection can be established as follows:
 - a. Wire directly from one side to the other, to allow permanent track signal shunting, or;
 - b. Wire to a momentary switch installed in the cab, to allow momentary track signal shunting, or;
 - c. Wire to a maintained switch installed in the cab, to allow maintained track signal shunting.
- 2- Ensure all wires are properly secured and kept away from moving parts.

ADJUSTMENT

- 1- With all electrical connections complete, perform a resistance test by measuring resistance between each wheels of the axle where the shunt kit is installed. The resistance value can be taken between the two rail wheels by poking through the paint layer.
- 2- With a megohmmeter, ensure values are as follows:
 - a. Shunt position (switch ON or hard wired): Lower than 22 k Ω
 - b. Insulated position (switch OFF): Higher than 22 k Ω
- 3- If values are not satisfactory, review all wiring connections and ensure the plastic bushing is inserted so that the bolt head comes in contact with the spindle.

LENGTH ADJUSTMENT

Depending on the hi-rail model or the state of alignment (spindles pushed to one side), the effective length of the shunt may need to be adjusted. A $\frac{1}{4}$ " washer on the spindle side of the threaded rod can be removed to shorten the shunt to the appropriate length.

See the drawing in the Appendices for details and measurements.

SERVICE

RECOMMENDED MAINTENANCE INTERVALS

ITEM	FREQUENCY	DESCRIPTION
Electrical Components	Every day	Inspect for proper connections or loose wires.
	Every month	Test for proper resistance and functionality of the system.

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

SHUNT KIT DRAWINGS

NOTE - Some components may differ slightly from drawings shown.

REV.	DESCRIPTION	DATE	BY
A	REDESIGN. NOT FOR LS60-D AND OLDER UNITS!	3/11/2020	N. Gromak
B	REDESIGN	4/16/2020	N. Gromak

SEE APPLICATION GUIDE ON SECOND PAGE

Exploded view diagram of the shunt kit components. The diagram shows a central threaded rod (3) with a length dimension of 4.000. Various washers (4), nuts (5), and a plastic bushing (2) are shown in their relative positions. A detailed view of the assembled shunt is shown at the bottom right.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	E077A004	HEX. NYLON PLASTIC BUSHING	1
2	ZQ564	MCMaster CARR SPRING 9434K8	1
3	ZQ565	MCMaster CARR 1/4" UNC THREADED ROD 95475A558	1
4		1/4" REGULAR FLAT WASHER	3
5		1/4" UNC LIGHT NYLON INSERT LOCKNUT	3
6		HD Terminal, 16-14 AWG, 5/16" Stud, Noninsulated	1

DESIGNED: 6/13/2016
DRAWN: W. Briceño 6/13/2016
CHECKED: F. Aubé 6/13/2016
ENG APPR: F. Aubé 6/13/2016
MFG APPR: N. Gromak 6/13/2016
PRINTED: 4/16/2020

COMMENTS:

CONTINENTAL RAILWORKS

SHUNT KIT

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.

ITEM NO. 1
PART NUMBER E077A004
DESCRIPTION HEX. NYLON PLASTIC BUSHING
QTY. 1

ITEM NO. 2
PART NUMBER ZQ564
DESCRIPTION MCMaster CARR SPRING 9434K8
QTY. 1

ITEM NO. 3
PART NUMBER ZQ565
DESCRIPTION MCMaster CARR 1/4" UNC THREADED ROD 95475A558
QTY. 1

ITEM NO. 4
PART NUMBER
DESCRIPTION 1/4" REGULAR FLAT WASHER
QTY. 3

ITEM NO. 5
PART NUMBER
DESCRIPTION 1/4" UNC LIGHT NYLON INSERT LOCKNUT
QTY. 3

ITEM NO. 6
PART NUMBER
DESCRIPTION HD Terminal, 16-14 AWG, 5/16" Stud, Noninsulated
QTY. 1

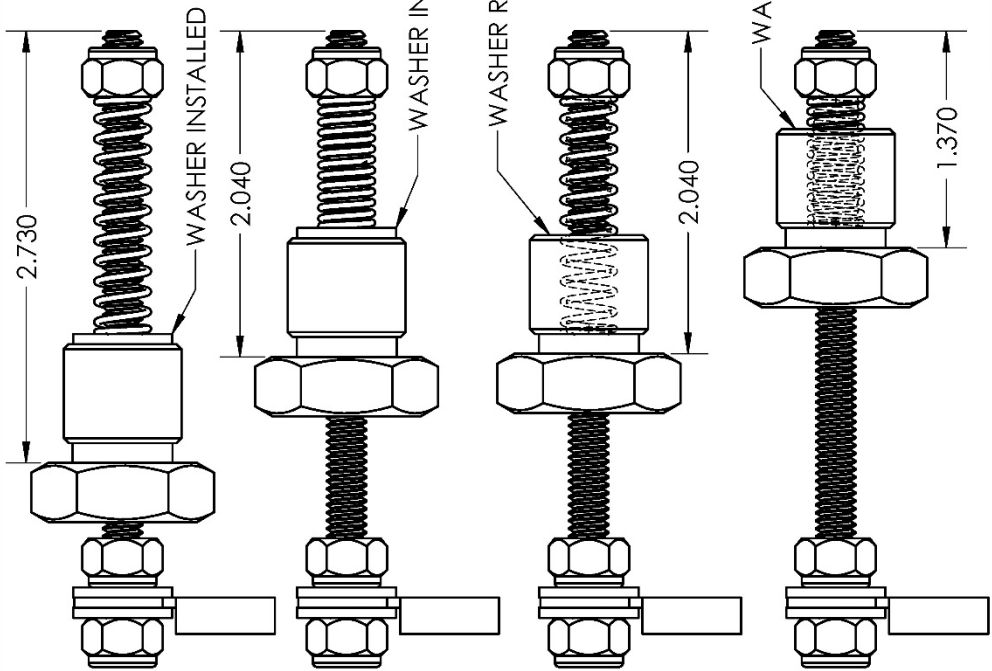
CONTINENTAL RAILWORKS

SHUNT KIT

SCALE: 1-2 WEIGHT: 0.11

REV. A E077A300

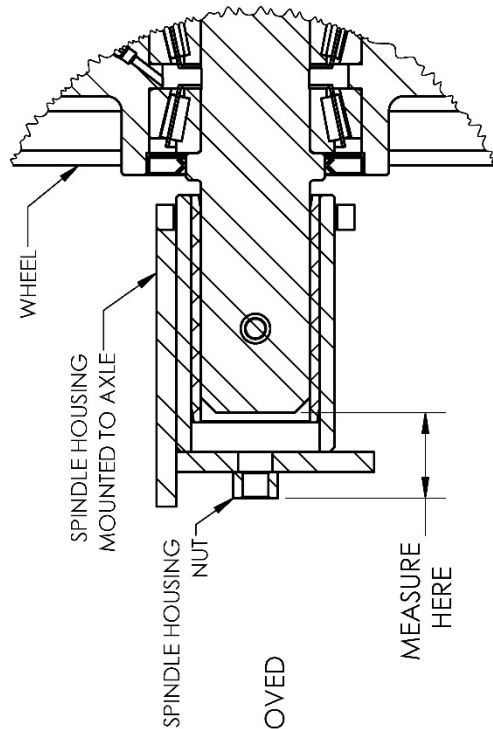
SHEET 1 OF 2




USING A SUITABLE INSTRUMENT, MEASURE THE DISTANCE FROM THE SPINDLE HOUSING NUT TO THE SPINDLE BACK. SEE BELOW.

IF THE MEASUREMENT IS ABOVE 2.040", LEAVE THE 1/4" WASHER INSTALLED.

IF THE MEASUREMENT IS BELOW 2.040", REMOVE THE WASHER AND ALLOW THE SPRING TO FALL INTO THE RECESS IN THE PLASTIC AND RE-ASSEMBLE.



		CONTINENTAL RAIL WORKS		SHUNT KIT		REV. B	
		DATE: 6/13/2016		SCALE: 1:1		SHEET 2 OF 2	
DESIGNED: W. Briceño		DRAWN: F. Aubé		CHECKED: F. Aubé		ENG. APPR.: F. Aubé	
MFG. APPR.: N. Gramak		PRINTED: 4/16/2020		COMMENTS:		DWG. NO. E077A300	
DIMENSIONS ARE IN INCHES. TOLERANCES, UNLESS OTHERWISE STATED: THREE PLACE DECIMAL: $\pm 0.015"$ ANGLE: $\pm 0.5^\circ$ BENT: $\pm 0.5^\circ$ WELDS: ± 0.125 TO $0.000"$ MATERIAL: SEE BOM		FINISH: MACHINED <input checked="" type="checkbox"/> MIN. ON SPECIFIED SURFACES I.O.S.		ISOMETRIC VIEWS <input checked="" type="checkbox"/> NOT TO SCALE		SITE: A	
NEXT ASSY		SHUNT USED ON		APPLICATION		WEIGHT: 0.11	
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