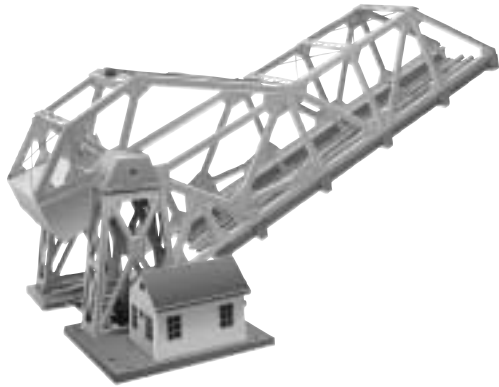




# LIONEL

71-2948-250  
05/98

## Lionel 313 BASCULE BRIDGE



Congratulations on your purchase of the Lionel 313 bascule bridge. This classic Lionel accessory has all the terrific action—and traditional quality—of the 1940-50 original. The illuminated bascule bridge is made of die-cast metal and stamped steel construction and features a powerful DC motor for years of reliable operation.

The bascule bridge can be placed in any Lionel O or O-27 three-rail layout, using the frame provided and is designed to operate at 12-18 volts alternating current.

### Operation of your bascule bridge

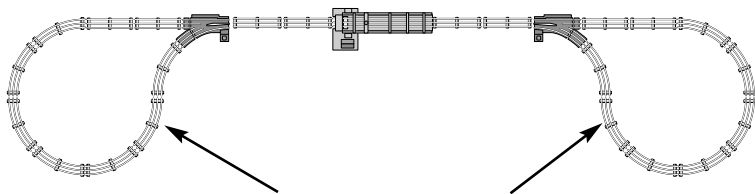
When properly installed on your layout, activation of the bridge causes the span to raise to approximately 45°. At the same time, power to the insulated block leading in and out of the bridge is removed automatically, to prevent trains from crossing the bridge while in operation. A second activation lowers the bridge span and reconnects the power to the insulated block allowing trains to proceed safely across the bridge. In conventional layouts, the reversing unit must be locked in forward for automatic train restart. In command mode, it is necessary to restart your train using your Cab-1 remote. The bulb inside the shed will light whenever power is on to the bridge. The flashing warning light atop the bridge will operate only while the

bridge is moving or in the raised position. If the bridge is activated while a train is on the span, a clutch mechanism is included to prevent damage to the gearbox. The clutch mechanism consists of interlocking “crowns” which are spring loaded. These will slip over each other in event of an overload on the bridge.

**Note!** The noise the clutch mechanism produces as it slips is loud, do not be alarmed. No damage has occurred.

**Note!** DO NOT deliberately activate the clutch. Overuse can lead to premature wear of the mechanism.

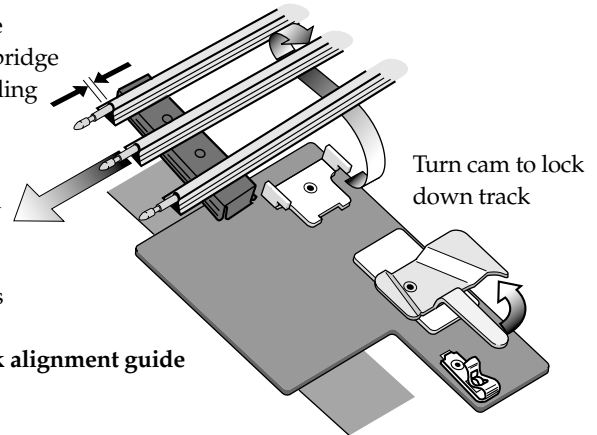
### Important notes on installation of your bascule bridge



**Note!** For Point to Point layouts, track power will need to be connected to both sides of the bridge, due to the insulated section

Leave 1/16 clearance between track and bridge rails to prevent binding

Orient track pins in this direction.  
Moving section of bridge rests on pins

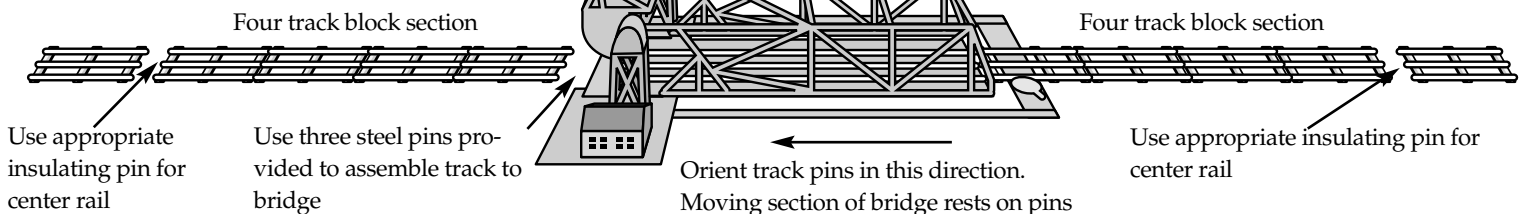


U channel track alignment guide

### Installation of your bascule bridge “O” gauge

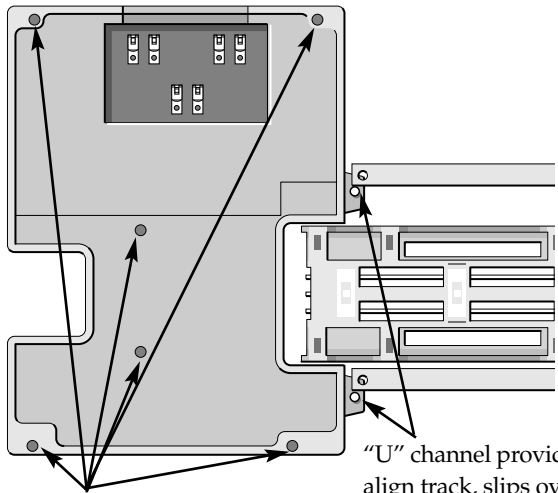
For optimum bridge operation, its location on your layout should be flat and level. Your bridge is assembled ready for “O” gauge installation. It displaces two pieces of “O” gauge straight track. To create the insulated block,

you will need to remove two center rail steel pins at the locations shown below. There is a large “U” channel/bracket supplied to hold and align the track at the base of the span (see Page 2 for installation).



## Installation of your bascule bridge "027" gauge

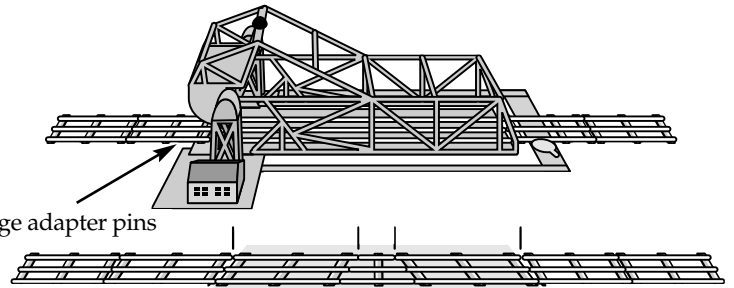
For "027" gauge layouts, first remove the six mounting supports under the base of the bridge. (see illustration below) Install the three adapter pins and "027" gauge insulating pins as above. For



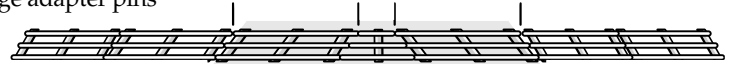
For "027" gauge layouts, remove these mounting supports

"U" channel provided to secure and align track, slips over pins on base of bridge

closed loop layouts, a piece of 027 track cut to 2 1/4" length will be required to compensate for the length of the bridge.



027 to 0 gauge adapter pins



Two, 027 track sections plus one 2 1/4" cut piece

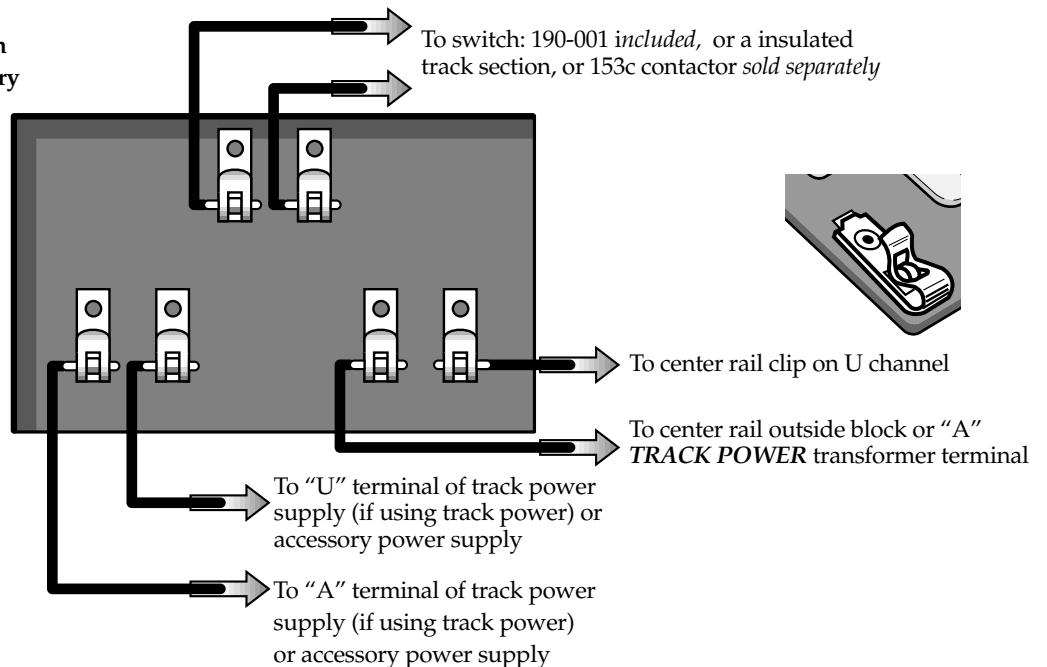
## Wiring your bascule bridge for conventional operation

Your bridge will operate best from 12 to 18 vac. It can be powered with track power or a separate accessory power supply. It is possible to operate your bascule bridge any number of ways. Your bridge will operate using an SC-1 (command control), or using the included momentary switch. It is also possible to automatically activate the bridge using a 153C contactor or insulated track section (sold separately). Variable voltage control is recommended so you can adjust the bridge speed of operation to your liking.

Connect two insulated wires (included) from 190-001 switch (included) to the spring clips on the bascule bridge as shown in the diagram below. To connect the wires to the spring clips, press down the springy upper half of the metal loop until the lower part projects through the slot. Insert the bare wire end into the loop, and release the upper part of the clip. Spring tension will hold the wire tight. To operate your bascule bridge using the switch, just push the button and enjoy being the bridge-master

### Note!

We recommend the Lionel 3 amp controller part no. 01-2885-000 as an ideal power source for this accessory

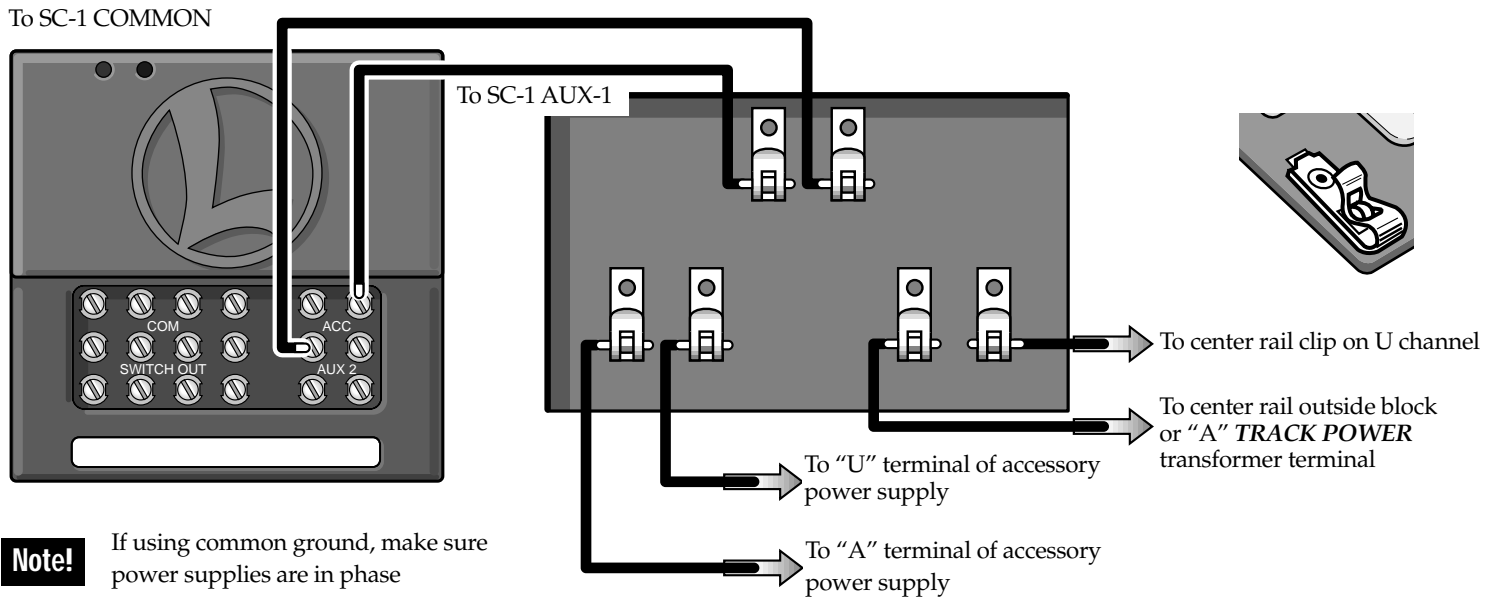


## Wiring your bascule bridge to an SC-1

Connect two insulated wires (included) from the SC-1 to the spring clips on the bascule bridge as shown in the diagram below. To connect the wires to the spring clips, press down the springy upper half of the metal loop until the lower part projects through the slot. Insert the bare wire end into the loop, and release the upper part of the clip. Spring tension will hold the wire tight. When all the connections have

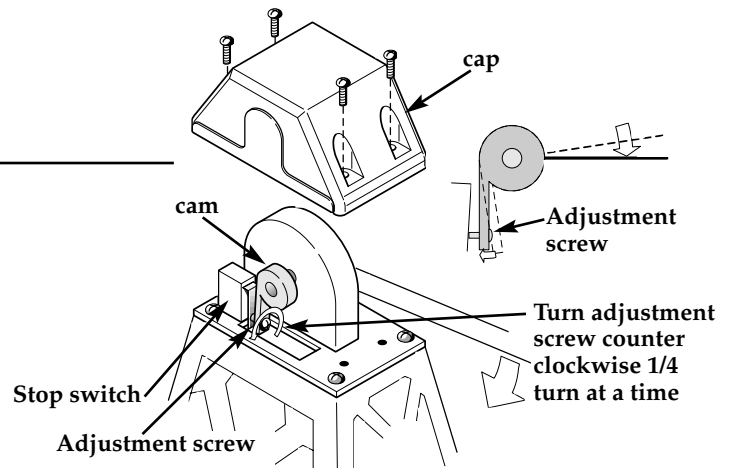
been made, plug your SC-1's wall pack into a standard outlet. To operate your bascule bridge using the SC-1, you must first assign it an accessory number (refer to your SC-1 instruction manual).

After the number has been assigned, press AUX1 on your CAB-1 remote to activate the bascule bridge's drive motor.



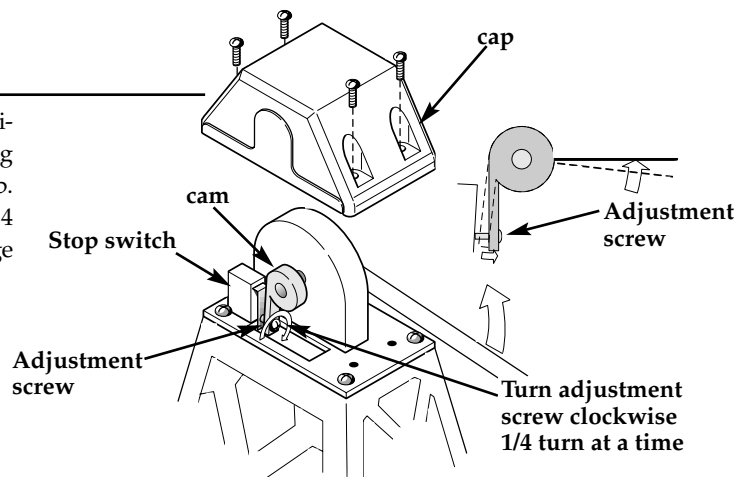
### Travel adjustment to lower the bascule bridge

**Note** If you are installing your bridge on an "027" gauge layout, it may be necessary to adjust the bridge's internal stop switch. If the bridge does not lower all the way and is not resting on the pins, make this adjustment. First remove the four screws holding the cap on the pivot point of the bridge (shed side). Remove the cap. To **LOWER** the stop position, turn the adjustment screw counter clockwise 1/4 turn at a time. **HOLD THE CAP IN PLACE** when running the bridge to verify your adjustment



### Travel adjustment to raise the bascule bridge

If the bridge lowers and does not switch off before the clutch activates, make this adjustment. First remove the four screws holding the cap on the pivot point of the bridge (shed side). Remove the cap. To **RAISE** the stop position, turn the adjustment screw clockwise 1/4 turn at a time. **HOLD THE CAP IN PLACE** when running the bridge to verify your adjustment

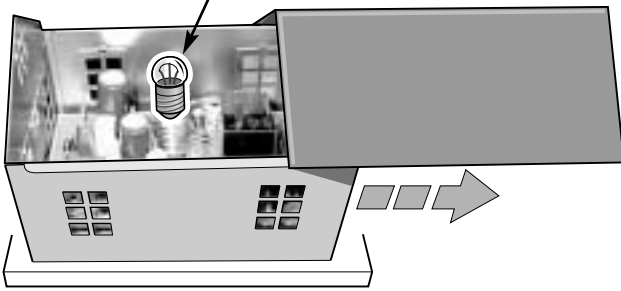


## Replacing the lamps on your bascule bridge

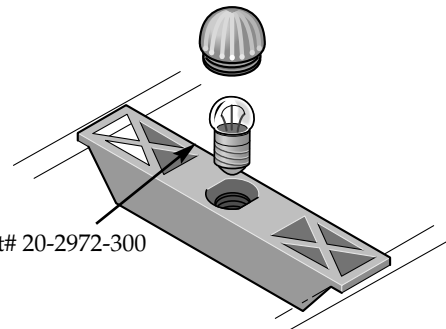
Your bascule bridge is illuminated by two 18-volt lamps (Lionel part# 20-2972-300). During the course of normal operation, they may require replacement. To replace the lamp in the shed, slide the roof off,

unscrew the expired lamp and install a fresh one. To replace the warning lamp on the bridge unscrew the red lens, then unscrew the expired lamp and install a fresh one.

Lionel part# 20-2972-300



Operators shack



Lionel part# 20-2972-300

Flashing warning light

## Lionel Service

This Lionel product including all mechanical and electrical components, moving parts, motors and structural components, except for light bulbs, is warranted to the original consumer-purchaser, for his or her life against original defects in materials or workmanship when purchased through an authorized Lionel merchant.

This warranty does NOT cover normal wear and tear, light bulbs, defects appearing in the course of commercial use, or damage resulting from abuse or misuse of the product by the purchaser. Transfer of this product by the original consumer-purchaser to another person voids this warranty. Modification of this product voids this warranty.

Any warranted product which is defective in original materials or workmanship and is delivered by the original consumer-purchaser to Lionel L.L.C. or an authorized Lionel L.L.C. service center, together with proof of original purchase, will at the option of Lionel L.L.C. be repaired or replaced, without charge for parts or labor. In the event the defective product cannot be repaired, and a replacement is not available, a refund of the original purchase price will be granted. Any products on which warranty service is sought must be sent freight or postage prepaid, as transportation and shipping charges are not covered by the warranty. **IN NO EVENT SHALL LIONEL L.L.C. BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you.

This limited warranty gives you specific legal rights, and you may have other rights which vary from state to state.

### INSTRUCTIONS FOR OBTAINING SERVICE

If service for this Lionel L.L.C. product is required, bring the item, along with your dated sales receipt and completed warranty information to the nearest Authorized Lionel Service Center. Your nearest Lionel Service Center can be found by calling 1-800-4-Lionel, or by contacting our

Website @ [www.Lionel.com](http://www.Lionel.com)

If you prefer to send it back to Lionel L.L.C. for factory repair, you must first call 810-949-4100 or FAX 810-949-5429 or write to Customer Service, P.O. Box 748 New Baltimore, MI 48047-0748 stating what the item is, when it was purchased and what seems to be the problem. You will be sent a return authorization letter and label to assure your merchandise will be properly handled upon receipt.

Once you have received your return authorization and label, make sure that the item is packed to prevent damage during shipping and handling. We suggest that you use the products original packaging. This shipment must be prepaid and we recommend that it be insured.

Please make sure you have followed all of the above instructions carefully before returning any merchandise for service.

### WARRANTY INFORMATION

Please complete the information below and keep it, along with your dated sales receipt. You must present this and your dated sales receipt when requesting warranty service.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

PLACE OF PURCHASE \_\_\_\_\_

DATE OF PURCHASE \_\_\_\_\_

PRODUCT NUMBER \_\_\_\_\_

PRODUCT DESCRIPTION \_\_\_\_\_

