Wiring your Operating Coal Loader to an SC-2

In order to run your coal loader in a Command Control environment with the use of an SC-2, connect a wire from one thumbscrew post to the Accessory 1, left, position (or the next available momentary position on your SC-2). Please see the diagram at the right. Next, connect another insulated wire from the common post on your SC-2 to the "U" terminal of your accessory power supply. Finally, connect another insulated wire from the other thumbscrew post to the "A" terminal of your accessory power supply. To wire your yard light to an SC-2, connect an insulated wire (included) from one thumbscrew post to the Accessory 1, right, position (or the next available on/off position on your SC-2). Finally, connect another insulated wire from the other thumbscrew post to the "A" terminal of your accessory power supply.

You can now use the AUX 1 button on your CAB-1 to begin loading coal. You can now use the AUX 2 button on your CAB-1 remote to turn the yard light on or off. You will need to keep the AUX 1 button depressed for the length of time you would like the conveyor to run. For more information regarding the use of the SC-2, please refer to your SC-2 Switch and

### Replacing the Lamp in your #70 Yard Light

Your yard light is illuminated by one 18-volt lamp (Lionel part #6SP-4071-200). During the course of normal operation, this bulb may require replacement. To replace the lamp, simply grasp the bulb and give it a quarter twist counterclockwise. The bulb should come right out. Now you can simply install a fresh one. To get a replacement bulb, please visit your local Lionel Authorized Service Center or the Lionel Customer Service Department.

### Limited Warranty/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 one year against original defects in materials or workmanship when purchased through an authorized Lionel dealer.

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 Station, together with proof of original purchase price, 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 Station. Your nearest Lionel Service Station can be found by calling 1-800-4-Lionel, or by accessing our Website at www.lionel.com.

If you prefer to send your product 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 ensure 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 product's 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**: _______________________________________

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[Diagram of wiring connections]

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Congratulations on your purchase of the Lionel #397 Operating Coal Loader. The operating coal loader is constructed of die-cast, stamped metal and injection molded plastic and features a powerful Can motor for years of reliable operation. Your coal loader also comes with a #70 Yard Light to help illuminate your loader. The operating coal loader and yard light can be placed on any Lionel O or O-27 gauge three-rail layout and is designed to operate at 12-18 volts alternating current.

Installation of your Operating Coal Loader

Your operating coal loader can be placed anywhere on your layout. No special sidings or spur lines are necessary since the loading and unloading are done at the same point in the track, in front of the coal loader. A remote control section (Lionel part numbers 6-12746 for O-27 Gauge or 6-65530 for O Gauge—both sold separately) should be located in front of the coal loader so that coal cars can be unloaded into the coal loader bin. This track section should be located far enough away from the edge of the bin so that any of your engines may pass by without striking the bin itself, but also allowing all dumping cars to unload into the bin. Because it is difficult to couple cars on a curve, it is advisable to have at least one straight section of track on both sides of the remote control track section.

Your coal loader also includes a #70 Yard Light that can be secured to the base of your coal loader if it is not already. Using the two black-oxide screws (included), simply align the holes on the base of the lamp to the holes on the base of the coal loader and secure in place with the two screws. This will allow you to illuminate your coal loader.
Operation of your Operating Coal Loader

Your coal loader can be used with any of the coal or ore dump cars made by Lionel, but only Lionel artificial coal (one bag included) should be used in the loader. Any other material such as gravel, sand, etc. will tend to clog up the conveyor mechanism. For this reason also the conveyor mechanism should not be lubricated. To prevent sticking of the conveyor belt, dust its inside surface occasionally with cornstarch or talcum powder.

After you have wired your coal loader (described in the next section), simply activate the switch, and your coal loader will begin loading coal into the car of your choice.

Wiring your Operating Coal Loader

Your operating coal loader will operate best from 12-18 VAC. It can be powered with track power or a separate accessory power supply. Variable voltage control is recommended, so you can adjust the loading speed of the coal loader to your liking. You will also be able to adjust the brightness of your yard light. It is possible to operate your operating coal loader any number of ways. Your operating coal loader will operate using an SC-2 or SC-1 (Command Control) accessory controller (sold separately), or using the included switch. To connect your included switch to your coal loader, simply connect one insulated wire (included) from one of the thumbscrew posts located behind the motor housing to the “U” terminal of track power or a separate accessory power supply. Please see the diagram at the right (see Figure #1). To connect the wires to the thumbscrew posts, remove the nut from the post and place the bare wire end through the hole located in the post. Replace the nut and tighten to secure.

Next, connect another insulated wire from the other thumbscrew post to the one side of the switch (600-5903-001 included). Finally, connect another insulated wire from the other side of the switch to the “A” terminal of track power or a separate accessory power supply. Your coal loader is now wired for operation in a conventional environment. To operate your operating coal loader in a Command Control environment, please see the section labeled Operating your Operating Coal Loader in Command Control.

You will notice that there are still two insulated wires remaining in your packaging. These are used to wire your yard light to your transformer (see Figure #2). Simply connect one insulated wire from one the thumbscrew posts located on the base of the yard light to the “U” terminal of track power or a separate accessory power supply. To connect the wires to the thumbscrew posts, remove the nut from the post and place the bare wire end through the hole located in the post. Replace the nut and tighten to secure. Finally connect the last insulated wire from the other thumbscrew post to the “A” terminal of track power or a separate accessory power supply. You are now ready to illuminate your coal loader.

![Figure #1](image1.png)

![Figure #2](image2.png)
Operating your Operating Coal Loader with your Operating Coal Ramp

If desired, your coal loader can be used in conjunction with the Lionel #456R Operating Coal Ramp as shown in the image below. Please note that in this installation, the bin of the coal ramp is mounted onto two nickel-plated posts inserted into the rubber grommets located on the base of the coal loader. This is done so that the coal from a hopper car on top of the coal ramp can be dumped directly into the coal loader. The posts and bin are furnished with your coal ramp.

To begin the installation of your two accessories, simply plug one nickel-plated post into one of the two grommets toward the back of the base. Place the second post into the other grommet. Place the bin from the coal ramp onto the top of the posts. Please note that the orientation of the bin should be so that sliding metal door on the coal ramp’s bin is facing the coal loader. Now, slide this assembly right up to the edge of the coal ramp so that the coal ramp’s bin is located under the location of the hopper car on the coal ramp. Now slide the stamped metal tray up so the coal is free to flow out this door.

You will notice that the space required between the two lines of track for the coal loader under this configuration is approximately 7 3/4". Shown below are two typical layouts suitable for the joint installation of your two accessories. One is shown for an O gauge configuration, and the other is for an O-27 configuration. You are now ready for continuous loading and unloading action of these two great Lionel accessories. For more information on operating your operating coal loader, please see your #456R Operating Coal Ramp Owner’s Manual.

Wiring your Operating Coal Loader to an SC-1

In order to run your coal loader in a Command Control environment with the use of an SC-1, connect an insulated wire (included) from one thumbscrew post to the AUX 1 position on the SC-1. Please see the diagram at the right. Connect another insulated wire from the other thumbscrew post to the “A” terminal of your accessory power supply. Finally, run the last wire from the “U” terminal of your accessory power supply to the center (ground) screw on your SC-1.

In order to run your yard light in a Command Control environment with the use of an SC-1, connect an insulated wire (included) from one thumbscrew post on the base of the yard light to the AUX 2 position on the SC-1. Connect another insulated wire from the other thumbscrew post on the base to the “A” terminal of your accessory power supply.

You can now use the AUX 1 button on your CAB-1 remote to operate your coal loader and the AUX 2 button to turn your light on or off. You will need to keep the AUX 1 button depressed for the length of time you would like the conveyor to run. For more information regarding the use of the SC-1, please refer to your SC-1 Switch and Accessory Guide.

Connecting your coal loader to an SC-2, please skip to section labeled Wiring your Operating Coal Loader to an SC-2.