E33 Rectifier Locomotive Owner’s Manual
Congratulations!

Congratulations on your purchase of this LionChief Plus Rectifier electric locomotive! Equipped with the RailSounds RC sound system and two electrocouplers, this LionChief Plus locomotive can be operated with the LionChief remote or the controls on a standard three-rail AC transformer.

**Locomotive Features:**
- Electric locomotive with user-selected operational modes: Conventional AC transformer control mode or LionChief wireless remote control with AC or DC power
- ElectroCouplers (compatible with LionChief Plus remote only)
- Operating headlights
- RailSounds RC sound system with electric engine background sounds, horn, bell, and user-activated announcements
- On/off switch background sounds
- Lighted cab interior
- Powerful maintenance-free motors
- Die-cast metal trucks, pilots and fuel tank
- Metal frame
- Traction tires
- Constant speed control
- Sprung Pantograph

**Remote Features:**
- Forward and reverse speed control knob
- Buttons for horn sound, bell, and special freight crew announcements
- Requires three AAA alkaline batteries (not included)
- Allows activation of the ElectroCouplers

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**Locomotive control**

You may choose to control your LionChief Plus locomotive with the included LionChief remote (using a transformer or power supply capable of supplying a constant 18 VAC or 18 VDC to the track) or using a conventional three-rail AC transformer with a throttle and whistle/horn and bell button. Use the TRANSFORMER/REMOTE control switch to select between LionChief remote operation or conventional three-rail AC transformer operation.

If you choose to run your locomotive in LionChief mode, slide the TRANSFORMER/REMOTE switch to the REMOTE position. Your locomotive runs on fixed 18 VAC or 18 VDC voltage, which is optimal for the sound system. The locomotive listens to commands from its LionChief remote at a specific frequency to increase or decrease speed, change directions, trigger sounds, or operate the ElectroCouplers. That's why the locomotive and remote must be operated as a matched pair.

If you choose to run your LionChief locomotive with a transformer, slide the TRANSFORMER/REMOTE switch to the TRANSFORMER position with the track power off. The powered locomotive responds to the transformer's throttle, direction, horn, and bell buttons.

**LionChief RC sound system**

Your locomotive features a wide range of sounds to make operation even more realistic and interactive! The revving sounds are synchronized with the speed of the locomotive. You may choose to turn the sounds off by sliding the RPM/SOUND switch to the OFF position. See page 5 for switch locations.
**LionChief Plus system features**

**ElectroCouplers**

The ElectroCouplers can only be activated when the TRANSFORMER/REMOTE switch is in the REMOTE position. For more information on activating the ElectroCouplers, see page 9.

Note that in Transformer mode, you should open the coupler on the car when coupling to your train as you will not have remote control of the locomotive’s ElectroCouplers. Press the bell button twice to operate the front coupler. Press the horn button twice to operate the rear coupler.

**Switch locations**

Refer to Figure 1 for the location of the switches on the underside of the locomotive’s cab.

**RPM/SND switch:** Turns background sounds on and off. Horn, bell, and announcement are not affected.

**TRANSFORMER/REMOTE switch:** Toggles between Remote control mode and transformer control mode.

![Figure 1. Switch locations](image-url)
The LionChief Plus remote

Installing AAA batteries into the Remote Control

For safety purposes, you must use a Phillips screwdriver to access the battery compartment. Use a Phillips screwdriver to remove the screw that secures the battery compartment hatch and lift the hatch to access the battery compartment (as shown in Figure 2). Insert three AAA alkaline batteries orienting the +/- as shown in the bottom of the battery compartment. Replace the battery door and tighten the Philips head screw. Be careful to avoid overtightening the screw.

**Important!** Use only Alkaline AAA batteries. Use only new batteries. Never mix new and used batteries or use different types together.

![Image of the remote control](image)

**Figure 2. Opening and closing the battery compartment**

**Important!** REMOVE ALL BATTERIES WHEN THE TRAIN WILL NOT BE USED FOR AN EXTENDED PERIOD OF TIME. LIONEL’S LIMITED WARRANTY DOES NOT COVER DAMAGE TO YOUR REMOTE CAUSED FROM LEAKING BATTERIES.

**Important!** When you are not operating the train, move the On/Off switch to the Off position to conserve the battery life.
The LionChief Plus remote

Operating your locomotive set with your LionChief remote

**THROTTLE**

Turn the throttle knob clockwise to go forward and adjust the speed. Turn the throttle knob counter-clockwise to go reverse and adjust the speed. To stop the train, simply return the throttle knob to the center position.

**SPEED INDICATOR LIGHT**

The red light will remain on during normal operation. The light will begin to flash when the locomotive is in motion, and the flashing will vary with the locomotive's speed.

**ON/OFF SWITCH**

To conserve your batteries, move the On/Off switch to the Off position when you are done operating your train.

**BELL**

The BELL button will activate the bell sounds on locomotives equipped with this feature. Press the BELL button to begin the sounds; press the button again to turn off the bell. Press two times within ONE second to trigger the ElectroCoupler on the front pilot.

**COUPLER**

The COUPLER button will activate your locomotive’s couplers. Press two times within ONE second to trigger the ElectroCoupler on the rear pilot. Press once to trigger the front coupler.

**HORN**

The HORN button will activate your locomotive’s horn. Press two times within ONE second to trigger the ElectroCoupler on the rear pilot.

**ANNOUNCEMENTS**

Press the center button for a variety of announcements. See page 10 for more information.
Remote operations

Running your locomotive set with the LionChief remote

1. **Slide the TRANSFORMER/REMOTE switch to the REMOTE position.** Refer to Figure 1 on page 5 for the location of this switch.

2. **With track power turned off, place your locomotive on the track.**

3. **Power up the track to 18 volts (AC or DC) and move the remote power switch to ON.** When the locomotive is powered up, it will beep until it syncs with the remote. When the locomotive is synced up with the remote, the locomotive start-up sounds will begin to play.

   **Note!** When in remote mode and powered up on the track, the locomotive will continue to beep until it is synced up with its remote. If the locomotive beeps during operation, be sure that fresh batteries are installed properly in the remote and the TRANSFORMER/REMOTE switch is in the REMOTE position.

4. **Move ‘em out!** Use your remote to run your train. You can adjust the speed in forward or reverse, blow the whistle, sound the bell, or trigger an announcement. Refer to page 7 for complete details.

5. **Turn off the power supply when you are done running your trains. Switch off your remote control to conserve the batteries.**
Remote operations

Operating the ElectroCouplers with the LionChief remote

In LionChief remote mode, press the HORN/ElectroCoupler button two times within one second to open the rear ElectroCoupler. Press the BELL/ElectroCoupler button two times within one second to open the front ElectroCoupler. The buttons must be pressed quickly and then released in the period of one second to activate the ElectroCouplers.

Note! Keep in mind that it’s easier to couple cars on a straight stretch of track.

Operating multiple LionChief Plus locomotives

You may choose to operate more than one LionChief Plus locomotive at the same time—including locomotives of the same type (e.g., two E33 Rectifiers with different road names and/or road numbers). Each locomotive is paired with a unique remote. A locomotive will only respond to commands from its corresponding remote.

If you attempt to operate two of the exact same locomotives (same type, roadname, and Lionel part number), then one remote will control both locomotives simultaneously.
Remote operations

Triggering sounds and announcements with the LionChief remote

Press the announcement on the LionChief remote to trigger the corresponding sounds. In addition, your locomotive plays a variety of announcements that are designed to match the way you operate the train. You can trigger an announcement that corresponds to each part of the journey. See page 13 to silence the sounds or adjust the volume level.

<table>
<thead>
<tr>
<th>When the locomotive is…</th>
<th>The announcement states…</th>
</tr>
</thead>
</table>
| Sitting still less than 30 seconds | “Stand by” announcement #1  
Response #1 |
| Sitting still longer than 30 seconds | “Cleared out bound” announcement  
Response |
| Running less than 30 seconds | “Departed” announcement #1  
Response #1 |
| Running more than 30 seconds | “All clear ahead” announcement  
Response |

Note that the dialog is different between locomotive types (e.g., between GP7s and E33 Rectifiers.) As such, the actual announcements are not listed out in the table above.
Transformer operations

Running your locomotive set with the transformer

1. Slide the TRANSFORMER/REMOTE switch to the TRANSFORMER position. Refer to Figure 1 on page 5 for the location of this switch.

2. With track power turned off, place your locomotive on the track.

3. Power up the track using your conventional AC transformer.

4. Get your locomotive moving. Your locomotive goes through a repeating pattern of operations: neutral, forward, neutral, reverse, neutral, and so on. To sequence the reverse unit, press the DIRECTION button on your conventional three-rail AC transformer, or briefly bring the throttle all the way back to the OFF position and then forward. When track power is interrupted, the locomotive advances to the next operational state. Adjust track voltage until your locomotive moves at your desired speed.

Note! The ElectroCouplers can only be activated using the LionChief remote (with the TRANSFORMER/REMOTE switch in the REMOTE position). The LionChief remote will not send any commands to the locomotive when operated in a conventional environment.
Transformer operations

Triggering sounds and announcements with the transformer

Using the HORN/WHISTLE button on your conventional three-rail AC transformer, you can trigger the sounds listed below. In addition, your locomotive plays a variety of announcements that are designed to match the way you operate the train. To activate the announcements on your LionChief Plus locomotive, simply press the HORN/WHISTLE button for a period less than a second (there must not be any additional horn/whistle activations for another two seconds for the announcements to play.) See page 13 to silence the sounds or adjust the volume level.

<table>
<thead>
<tr>
<th>When the locomotive is…</th>
<th>The announcement states…</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sitting still less than 15 seconds</td>
<td>“Stand by” announcement #1</td>
</tr>
<tr>
<td></td>
<td>Response #1</td>
</tr>
<tr>
<td></td>
<td>“Stand by” announcement #2</td>
</tr>
<tr>
<td></td>
<td>Response #2</td>
</tr>
<tr>
<td>Sitting still longer than 15 seconds</td>
<td>“Cleared out bound” announcement</td>
</tr>
<tr>
<td></td>
<td>Response</td>
</tr>
<tr>
<td>Running less than 7 seconds</td>
<td>“Departed” announcement #1</td>
</tr>
<tr>
<td></td>
<td>Response #1</td>
</tr>
<tr>
<td></td>
<td>“Departed” announcement #2</td>
</tr>
<tr>
<td></td>
<td>Response #2</td>
</tr>
<tr>
<td>Running more than 7 seconds</td>
<td>“All clear ahead” announcement</td>
</tr>
<tr>
<td></td>
<td>Response</td>
</tr>
</tbody>
</table>

*Note that the dialog is different between locomotive types (e.g., between GP7s and E33 Rectifiers.) As such, the actual announcements are not listed out in the table above. Announcements and responses will be selected at random by the internal electronics.*

Three-rail AC transformers have a wide variety in their internal designs. As such, your specific transformer may not activate the sounds in the manner described above. If you find this is the case with your transformer, some experimentation may be required to find the correct timing, based on your transformer.
**Locomotive operation and maintenance**

**Adjusting the volume using the LionChief remote**

To turn off the locomotive’s background sounds, slide the SOUND switch to the OFF position. Refer to Figure 1 on page 5 for the location of this switch.

The overall volume of the sounds in your locomotive can be adjusted, but this requires the use of the LionChief remote (in remote operation mode). To enter Volume Control Mode, place the remote on a flat surface. Using one hand, press the HORN and BELL buttons simultaneously. After three seconds, the remote’s red LED will begin to flash, acknowledging that you are in volume adjustment mode. Keep the HORN and BELL buttons depressed.

Using your other hand turn the speed control knob up or down to adjust the volume to your preference. Release the HORN and BELL buttons to exit volume adjustment mode.
Locomotive operation and maintenance

Installing the pantograph

Your locomotive is equipped with a pantograph to simulate electrical pick up from a catenary, or overhead power line. Simply place the pantograph onto the base as shown and can be removed simply by pulling the base frame upward. This is a very important feature as it prevents damage to the pantograph in the event of a derailment.

The pantograph can be operated in the raised or lowered position. Note that in the raised position, clearances on tunnels and bridges may be a concern. The pantograph is decorative only and will not supply power to the locomotive.

To raise the pantograph, press down on the two bars in the top center. The arms will spring up. To lower, press down on the pick up bars again until the clip engages in the lowered position.

Figure 3. Installing the pantograph
**Locomotive operation and maintenance**

**Lubricating your locomotive**

Help your Lionel locomotive lead a long and productive life on your railroad by maintaining it properly.

We recommend that you purchase a Lionel Lubrication and Maintenance Kit (part no. 6-62927), available from your Lionel dealer. Two basic rules to keep in mind: *never* over-lubricate (a small amount will do), and avoid getting grease or oil on the locomotive wheels, contact rollers, or your track.

You’ll know your locomotive requires lubrication when visual inspection reveals dryness on the parts indicated in Figure 4 or the locomotive begins to squeak. Remove accumulated dirt and dust before lubricating, and always lubricate any locomotive emerging from prolonged storage. Also, lightly lubricate the front and rear truck pivot points after each 25 hours of operation.

Lubricate with Lionel oil *sparingly*

Lubricate with Lionel grease *sparingly*

Figure 4. Lubrication points and screw locations
**Locomotive operation and maintenance**

**Servicing your locomotive's LEDs**

Your locomotive is equipped with LED-style lamps for longer life. Please contact your Factory Trained Authorized Lionel Service Center or Lionel Service if LED replacement is required.

**Replacing the traction tires**

Your locomotive is equipped with traction tires to increase the tractive effort of your locomotive and allow it to pull more cars at once.

During the course of normal operations, the traction tires may become worn out. To replace the traction tires, remove the side frame screws from the underside of the trucks and lift away the side frame. Remove the worn tire, then slip the replacement around the wheel. Reposition the side frame on the truck and secure it with the two screws.

Two replacement tires are included with your locomotive set. If additional tires are needed, see our parts list for this locomotive on www.lionel.com for a replacement part number and ordering information.
**FCC Statement**

**FCC and RSS Statements**

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

---------------------------------------------------------------

Notes: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipement off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.
**LionChief Troubleshooting**

**Problem: The locomotive stopped dead:**

LionChief Plus locomotives are equipped with “motor lock out” technology. This means that if the internal electronics do not detect the motor feedback signal (a function of the constant speed control system) within a two-second period of being given a command to start moving (or has been underway for a period of time) the motor will lock itself out. This is done to prevent the locomotives from losing control.

**Solution:** Simply return the Lionchief dial to the center (stopped) position, if using Remote mode or cycle the power on your conventional transformer. Once you tell the locomotive to begin moving it will. If the problem persists you likely have a loose electrical connector inside the locomotive and it should be taken to a local Factory Trained Authorized Service Station or contact Lionel Service directly.

**Problem: The LionChief Remote will not control the locomotive**

**Resolution:**
- Ensure you have fully charged batteries in the remote. (The LED on the top of the remote will illuminate when the remote is turned on.)
- Ensure you are using the remote paired with the locomotive you are trying to operate (road name and road number match).
- Ensure the TRANSFORMER/REMOTE switch is in the REMOTE position. Turn the track power off, turn the remote OFF. Power up the locomotive set with the track power. The locomotive will begin to beep when power is applied, now turn the remote on and wait. The remote is synced to the locomotive. When the sounds in the locomotive come alive you will know the locomotive and remote have synchronized.
- If the red LED on the top of the remote begins to blink when the throttle is turned and the locomotive does not begin to move it may be an instance of the “motor lock out” feature. Ensure the batteries in the remote are new and fully charged.

**Problem: Sound volume is low**

**Resolution:** Follow the volume adjustment directions found on page 14. If this does not correct the problem please contact Lionel Service.

**Problem: The locomotive continues beeping and will not respond to the LionChief Remote**

**Resolution:**
- Ensure the remote you are using is matched to the locomotive you are trying to control (road name and road number). Follow the instructions on page 8.
- Ensure the TRANSFORMER/REMOTE switch is in the REMOTE position.
- Ensure the remote is powered on.
Lionel Limited Warranty Policy & Service

This Lionel product, including all mechanical and electrical components, moving parts, motors and structural components, with the exception of Lamps, LED’s, Traction Tires and smoke unit batting are warranted to the original owner/purchaser for a period of ONE YEAR from date of Purchase against defects in materials or workmanship. This warranty does NOT cover the following:

- Normal wear and tear
- Defects appearing in the course of commercial use
- Damage resulting from abuse / misuse of the products

Modification to this product in any way, visually, mechanically or electrically and / or evidence of any attempt of consumer repair voids the warranty in its entirety.

Any warranted item which is found to be defective in original materials or workmanship and is delivered by the original owner/purchaser to Lionel LLC or a Factory Trained Authorized Service Station MUST be accompanied by the original receipt or gift receipt from the original place of purchase. The product will be repaired or replaced without charge for parts or labor. In the event the defective item cannot be repaired and a suitable replacement is not available, Lionel will offer to replace the product with a comparable model (at the discretion of Lionel LLC), if available.

To obtain service please contact Lionel Customer Services at 586-949-4100 option 2 Monday through Friday 9am to 5pm EDT. You can also contact us online at: TalkToUs@Lionel.com Having the product accessible during the call will help expedite the service process. Our Customer Service Representatives are required to walk you through some simple troubleshooting steps to help identify / resolve the problem with your specific product. In the event a product, sent in for repair, is found to be in proper working order a handling fee of $50.00 will be charged to the customer.

If it is deemed your product must be sent to Lionel LLC for repair you will be assigned a Return Authorization Number to identify and track your repair. Please, under no circumstances, send a product to Lionel LLC without a Return Authorization Number. Items received without a Return Authorization Number will be refused for delivery. The Return Authorization Number must be clearly printed on the outer shipping carton.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you. This warranty gives you specific legal right and you may have other rights which vary from state to state.

Instructions for Obtaining Service

Warranty Information

Please complete the information below and keep it, along with a copy of the original DATED sales receipt. The sales receipt must be presented when requesting warranty service.

| Name | ________________________________ |
| City, State, Zip | ________________________________ |
| Daytime Phone Number | (_______)________________________ |
| Email address | ________________________________ |
| Product Number | (example: 6-30208) | ________________________________ |
| Product Name (Name on the Set Box) | ________________________________ |
| Place of Purchase | ________________________________ |
| Date of Purchase | ________________________________ |

Lionel Customer Services
6000 Victory Lane
Concord, NC 28027.