Congratulations

Congratulations on your purchase of the Lionel 4-4-2 steam locomotive and tender. Featuring an air whistle and an operating smoke unit, this locomotive is ready for duty on your layout.

Features of this locomotive

- Transformer controlled forward, neutral and reverse operation
- Operating headlight
- Operating coupler on rear of tender
- Powerful maintenance-free motor
- Puffing smoke unit
- Air whistle in tender

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Locomotive operation

Running your locomotive

1  **With track power off, place your locomotive on the track.**
Refer to page 6 for information on coupling the cars.

2  **Connect the drawbar between the locomotive and tender.**
See Figure 1.

![Figure 1. Drawbar connection](image)

**Caution!** If the smoke unit switch is in the ON position, add smoke fluid to your locomotive’s stack to prevent damage to the smoke unit. Refer to page 7 for additional information.

3  **Power up your locomotive with your transformer.**

**Your locomotive is designed to operate on 7-15 volts alternating current.** Virtually all Lionel and Lionel-compatible alternating-current transformers are suitable.

**Note!** Do not power your locomotive with direct current (DC) transformers. The locomotive was designed for use with alternating current (AC) transformers only.

4  **Move ‘em out!**

**Get your locomotive moving.** Your locomotive goes through a repeating pattern of operations: forward, neutral, reverse, neutral, and so on. To sequence the reverse unit, press the DIRECTION button on your transformer, or briefly bring the throttle all the way back to the OFF position and then forward. Each press of the DIRECTION button or interruption in track power causes the locomotive to advance to the next operational state.

**Adjust track voltage** until your locomotive moves at your desired speed.
The electronic reverse unit inside your Lionel locomotive acts like the transmission in a car. When you apply power to the track, the locomotive moves in the direction specified by the reverse unit—or it sits in neutral, awaiting another power interruption. Power interruptions are the signal that tells the reverse unit to sequence to the next operational state.

To interrupt power and sequence the locomotive’s reverse unit, press the direction control button or briefly bring the throttle lever all the way back to the OFF position. The reverse unit alternates between three states: forward, neutral, and reverse.

Also, the locomotive can be “locked” into a certain mode of operation by throwing the reverse unit switch located on the underside of the frame (see Figure 2). When the switch is thrown to the OFF position (towards the rear of the locomotive), the locomotive will be locked in the next mode of operation in the sequence. To lock your locomotive into a specific operational state, sequence the locomotive into the desired state and reduce track power without completely powering down the locomotive, then throw the switch to the OFF position. The DIRECTION button will then have no effect on the direction of the locomotive. Return the switch to the ON position to resume forward-neutral-reverse operation.

Additionally, this reverse unit has a “power-up reset” feature. If the locomotive sits without power for a short period of time, the reverse unit will automatically reset and start in the forward direction when the transformer is turned on or “powered up,” regardless of the reverse unit switch position. If the switch is in the OFF position, the locomotive will start in the forward direction and be “locked” there.
Press the HORN/WHISTLE button on your controller to sound the locomotive’s whistle. If your controller does not have a HORN/WHISTLE button, install a Lionel Sound Activation Button (available separately, part no. 610-5906-001). Connect the button as shown in Figure 3.

Note! All track power must feed through the Sound Activation Button. Do not bypass the button.

Figure 3. Sound Activation Button wiring

Note! The no. 610-5906-001 button works with any Lionel AC transformer except no. 6-4690 Type MW.
**Locomotive operation**

*Using your locomotive’s magnetic couplers*

Your Lionel locomotive’s tender is equipped with an operating magnetic knuckle coupler, a revolutionary design first introduced by Lionel in 1945.

Lionel magnetic couplers react to the magnetic field generated by a Lionel Remote-Control Track section (available separately, 6-65149 or 6-12746 for O-27 gauge; 6-65530 for O gauge; or 6-12020 for FasTrack layouts).

As illustrated in Figure 4, place your tender’s coupler trigger disc over the central coil of a Remote-Control Track section and press UNCOUPLE on the controller. The magnetic field pulls the disc downward, and the knuckle opens.

One operating technique favored by Lionel railroaders is the “moving uncouple.” Press the UNCOUPLE button as the locomotive passes over a Remote-Control Track section. The magnetic field will open the coupler; the consist remains behind as the locomotive moves on. But be careful—the speed of a newly uncoupled and moving locomotive can increase dramatically.

Figure 4. Coupler operation
Adding smoke fluid to your locomotive's smoke generator

Your locomotive is equipped with a smoke generator that produces safe, clean, white smoke during operation if the smoke unit switch is in the ON position. Refer to Figure 2 on page 4 for the location of the switch.

The smoke generator requires the periodic addition of Lionel smoke fluid in order to function. Add about four drops of fluid directly into the locomotive's stack. Smoke production commences momentarily, faster if you run your locomotive at higher speeds. When smoke production decreases, add more fluid (about four drops). An idle locomotive will not smoke.

Smoke production is greater at higher voltages and when the locomotive is pulling a heavy load or a long consist.

**Note!** If you prefer to operate the locomotive without smoke or you do not want to add smoke fluid, slide the smoke unit switch to the OFF position.

**Caution!** When the smoke unit switch is in the ON position, always keep a small amount of smoke fluid in the locomotive’s smoke generator; the generator’s element can become damaged if operated without smoke fluid. This is particularly true if your locomotive sits in neutral for an extended period of time without smoke fluid in the generator.
Maintaining and servicing your locomotive

Replacing your locomotive’s traction tire

One of the locomotive’s drive wheels is fitted with a rubber traction tire to enhance tractive effort, allowing your locomotive to pull many cars at once.

To replace the traction tire, simply unscrew the drive rod nut from the wheel using a 3/16” nut driver. Refer to Figure 5. Remove the old traction tire from under the drive rod and slip on the replacement, Lionel part no. 600-0242-206. Replace the spacer, retighten the drive rod nut, and you’re ready to pull that long freight back to the yard.

Figure 5. Traction tire replacement
Help your steam 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 (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’s wheels, contact rollers, or your track.

You’ll know your locomotive requires lubrication when visual inspection reveals dryness on the parts indicated in Figure 6. Remove accumulated dirt and dust before lubricating, and always lubricate any locomotive emerging from prolonged storage.

Figure 6. Lubrication points
Maintaining and servicing your locomotive

Replacing your locomotive's headlamp

Your locomotive is equipped with an LED style headlight for longer life. Please contact your nearest Lionel Service Center or Lionel Service if this needs replacing.
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 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 accessing our Website at www.lionel.com.

If you prefer to send your product back to Lionel L.L.C. for repair in Michigan, you must first call 586-949-4100 or FAX 586-949-5429, 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. You may choose to have your product repaired by one of our Authorized Lionel Service Centers after its warranty has expired. A reasonable service fee will be charged.

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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