Congratulations!

The classic Lionel EP-5 is a model of the famous 4,000 H.P. electric locomotive as it was delivered to the railroads in 1955. Often called “The Jet” because of the sound the fans and blowers made as it flashed past. The EP-5 was a quick passenger locomotive, many times topping its maximum allowed speed of 70MPH. Updated now with RailSounds and Command Control, the “New” Lionel EP-5 is the best we’ve built, ENJOY!

- Powerful Lionel Pullmor® motor
- Lionel Command™ reverse unit for use with the Lionel TrainMaster® Command™ model railroad control system
- RailSounds™ - digital samples from a real EP-5
- Magne-Traction®
- Die-cast ElectroCouplers™
- Directional headlights
- CrewTalk™ and TowerCom™ (in command mode)

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Transformer operations

**NOTE!** It is very IMPORTANT to determine which end of your EP-5 is the front. Since it is symmetrical it may start off in the opposite direction you are intending to go! Turn over your EP-5 and locate the PROG/RUN and SIG/FULL switches, (see page 6) this is what we consider to be the “front” of your EP-5. Please run your EP-5 the first time by itself just to make sure you know where it’s going.

**Running your Lionel EP-5 with a Lionel transformer**

1. **Place your EP-5 on Lionel or Lionel-compatible O gauge track.**
   - Note the pull of Magne-Traction between your EP-5 and the steel track. Magnetized wheels and axles increase your pulling power (more than 20 cars on straight and level track) and keep your EP-5 on track while passing swiftly through curves.

2. **Power up your EP-5 with your transformer.**
   - Your EP-5 is designed to operate on 7-18 volts alternating current. Virtually all Lionel and Lionel-compatible alternating-current transformers are suitable; we recommend the TrainMaster Command model railroad control system.
   - Do not power your EP-5 with direct current (DC). Damage to sensitive electronic components may occur.
   - When you first power up your track, the EP-5 will wait between 3 and 8 seconds as it “listens” for digital language from the TrainMaster Command Base (available separately). When it’s determined that it’s on a conventional (nonCommand) railroad, the EP-5’s headlights will illuminate and RailSounds will fire up. At this point, the EP-5 is in neutral. (This occurs when placing the EP-5 on your railroad for the first time. Thereafter, it starts in forward after every three-second power interrupt.)

3. **Move ‘em out!**
   - Get your EP-5 moving. Press the DIR button on your CAB-1 remote or Lionel transformer. This sequences the Liontech Command reverse unit (R2LC) to the next operating state. The R2LC alternates between three states: forward, neutral, and reverse.
   - Adjust track voltage until your EP-5 moves at your desired speed. To increase speed, increase track voltage. To decrease speed, reduce voltage. To stop the locomotive set, cut track power.
   - To select a single operating state (example: forward only), you can deactivate the R2LC’s sequencing function. Get your EP-5 moving in the desired direction, then slide the reverse unit control switch on the EP-5’s underside to PROGRAM (PGM). See page 12 for the switch location and positioning.
Transformer operations

Using your EP-5’s ElectroCouplers in the non-Command environment

to use your EP-5’s ElectroCouplers in the non-Command environment, you must first couple a piece of rolling stock equipped with Lionel magnetic couplers directly to your EP-5. The magnetic coupler on the rolling stock will then react to the magnetic field generated by a Lionel remote-control track section (available separately). Place your rolling stock’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 coupler opens.

Magne-Traction

Your EP-5 is equipped with Lionel Magne-Traction, magnetized wheelsets and axles that help increase tractive effort during operation. Because the wheelsets are magnetized, take care to prevent small metallic objects from attaching to the wheelsets and working their way into the EP-5’s motor assembly. They can damage your locomotive.

Note! Magne-Traction is not effective on nonferrous track.

Using your EP-5’s ElectroCouplers in the TrainMaster Command environment

Your Lionel EP-5 is equipped with ElectroCouplers™ that respond to either the COUPLER F (front) or COUPLER R (rear) button on your CAB-1 remote when operated in the Trainmaster Command environment.

Simply press either button on your CAB-1 remote, and that coupler opens.

Note! Your EP-5’s ElectroCouplers are NOT designed to be opened manually.

A note on Magne-Traction

Your EP-5 is equipped with Lionel Magne-Traction, magnetized wheelsets and axles that help increase tractive effort during operation. Because the wheelsets are magnetized, take care to prevent small metallic objects from attaching to the wheelsets and working their way into the EP-5’s motor assembly. They can damage your locomotive.

Note! Magne-Traction is not effective on nonferrous track.
Transformer operations

Your EP-5’s RailSounds system—the basics

Lionel RailSounds is the most realistic model railroad sound system in the world. Your EP-5 features digital samples from an authentic EP-5 for the ultimate in realism.

Begin by installing a 9-volt alkaline battery in your EP-5. This ensures interruption free operation of RailSounds. Remove the two screws (see Figure #1) and lift off the body. Connect the 9-volt battery to the mother board (see figure #2). Replace the body and reinsert the two screws.

Apply track power and the EP-5’s RailSounds system delivers an authentic start-up sequence. As the EP-5’s speed increases, the RPMs move through six levels of roar. Sounds return to idle only after the locomotive has come to a complete stop. To silence the RPM roar (horn and bell remain unaffected), slide the RailSounds (RS) switch to its signal (SIG) position before powering up the locomotive. See page 12 for the switch location and positioning. To return to the RPM roar, return the switch to the FULL position.

Note! Although track voltage powers RailSounds, the battery is required for uninterrupted operation and shutdown sequences. Use only alkaline batteries; do not use “heavy duty” batteries.

Note! Discontinue locomotive power for 10 seconds before changing the RailSounds (RS) switch position.

Note! If RailSounds “drops out” during track power interrupts, replace the battery.
Transformer operations

Experiencing the range of your EP-5’s RailSounds system

With RailSounds, you experience the sounds of real railroading like never before. Simply put, it’s the most sophisticated, authentic model railroad sound system in the world.

- **Six RPM-roar levels.** Your EP-5’s speed determines the level of RPM roar—automatically.
- **MultiHorn™.** A different horn sound every time—a RailSounds exclusive.
- **Mechanical bell.** Press BELL on your CAB-1 or transformer to begin the effect; again to discontinue.
- **Reverse unit reset sound.** Power down your track, wait for 3.5 seconds, and listen for the air-release sound—that’s the EP-5 telling you its Liontech Command reverse unit has just reset to forward operation.
- **Shutdown sequence.** No other model railroad sound system shuts down like RailSounds. Turn off track power, and after the air-release reset sound, you have 2 seconds to restart your EP-5. If you’re done with operations, RailSounds will commence with an authentic EP-5 shutdown sequence about 2 seconds after the air-release reset occurs.

Notes on RailSounds

- Use the EP-5’s frame mounted volume control to adjust sound output. (See below for its location.)
- Listen for incidental locomotive sounds during RailSounds operation. They’re automatic and, of course, authentic.
- The 9-volt alkaline battery you installed ensures continuous EP-5 sounds.
- Longer track-power interruptions (including locomotive derailments) cause RailSounds to shut down after about 7 seconds.
- For even more authentic RailSounds effects, operate in the TrainMaster Command environment.
Transformer operations

Installing the Lionel no. 610-5906-001 sound activation button

To operate the bell and horn sounds when operating your EP-5 with conventional transformers, you’ll need to install the Lionel no. 610-5906-001 sound activation button (available separately). Connect the button(s) as shown below.

![Diagram]

For AC transformers lacking a horn/whistle button (two no. 5906s required)

The no. 610-5906-001 sound activation button (available separately) works with any Lionel AC transformer except no. 6-4690 Type MW. Transformers made by other manufacturers may not be compatible with RailSounds.

Note!
TrainMaster Command operations

The Command control environment

Lionel TrainMaster Command is the fun and sophisticated model railroad control system from Lionel. Your EP-5 features the Lionel Command reverse unit, which acts as both a conventional reverse unit as well as the key to unlocking many extra features when you operate in Command mode.

TrainMaster Command gives you the power to operate multiple Command-equipped locomotives on the same track, at the same time. It’s the most fun you can have with electric trains, and it’s incredibly easy too! Just follow the directions below and you’ll be on your way.

To operate in Command, you need a Command Base and a CAB-1 remote. Find them both at your authorized Lionel retailer.

1. Place your EP-5 on Lionel or Lionel-compatible O gauge track.
   - Make sure track power is OFF before placing it on the track.
   - Make sure your Lionel Command Base is ON and its communications wire is connected to the COMMON post on your Lionel transformer or the U on any of your installed PowerMasters.
   - Once positioned on the track, increase track voltage to FULL (on PowerMaster, slide the CMD/CONV switch to CMD).

   - Press ENG and 1 on the numeric keypad of your CAB-1 remote. This command is sent by CAB-1 to the Command Base, which then translates your command into digital code. That code is sent around your railroad’s outside rails in the form of a digital “halo.” All Command-equipped Lionels listen to this digital communication, but they do not respond until they hear their individual ID number—in this case, “1.”
   - The digital language of TrainMaster Command—and not track power—controls the actions of Command-equipped Lionels. Track power is simply like gasoline in the tank of your car—it gives you the power to go places, but it doesn’t tell you where to go or how fast to get there.
   - All Command-equipped Lionels come factory-programmed with an ID# of “1.” To change the ID# of your EP-5 (equipped with an R2LC) see page 12.

3. Move ‘em out!
   - Throttle up or press any command button on CAB-1. Your EP-5 will respond to your every command. Read on.
TrainMaster Command operations

Running your EP-5 in the TrainMaster Command environment

Example address Locomotive #1

PowerMasters set to CMD or traditional power supplies ON FULL

Press ENG
Press 1 (the ID#)
Throttle up/press any command button

CAB-1 commands for your EP-5


Press AUX2 to turn your EP-5’s headlight on and off.

Activates keypad.

Turn the THROTTLE to the right to accelerate, left to decelerate.

Press HALT to shut down all PowerMaster electrical output on your railroad. Stops all Command-equipped Lionels in operation.

Your Command-equipped EP-5 comes factory-programmed with an ID# of “1.” To get your EP-5 in action, set PowerMasters to CMD or set all power supplies on full. Press ENG and “1” on CAB-1. Turn the throttle or press any command button; RailSounds starts up. Your EP-5 is ready for Command operations.

Press WSTL/HRN to activate the EP-5 horn, release it to discontinue. MultiHorn horn sound.

Press BELL once to activate the bell, again to discontinue. Mechanical bell sound.

Press DIR—the locomotive decelerates to a complete stop; turn the throttle up, and the locomotive will accelerate in the new, opposite direction. There is no neutral state. Air-release sound.

Press and hold BOOST for extra power. Release BOOST and return to the EP-5’s previous speed.

Press and hold BRAKE to slow down or stop. Release BRAKE and return to the previous speed. Squealing brake sounds.
TrainMaster Command operations

CAB-1 numeric keypad commands for your EP-5

When you press AUX1 on CAB-1, you turn the numeric keypad into 10 command buttons. The keypad lets you control extra command features (until you press any top-row button like SW, ACC, RTE, TR, or ENG). The CAB-1 keypad overlays included with your EP-5 are designed to help you learn the auxiliary features specific to this locomotive. RailSounds sounds in bold italic.

0 Stops and resets the EP-5’s. Resets the EP-5’s direction to FORWARD. Resets RailSounds to automatic RPM operation. **Horn blows. RPMs return to automatic.**

1 Raises the volume of RailSounds. **Sound volume increases.**

2 CrewTalk™ is the sound of inaudible walkie-talkie communication.

3 Raises RailSounds RPM level. Starts up RailSounds. **RPMs increase. Startup sequence commences.**

4 Lowers the volume of RailSounds. **Sound volume decreases.**

5 Activates the RailSounds shutdown sequence. Just like the real thing, your EP-5’s RPMs must be at idle for shutdown to occur. Press 6 repeatedly to lower RPMs until they won’t descend further. Your locomotive is now at idle. Press 5 to initiate the shutdown sequence. **Shutdown commences.** Remember, the horn, bell, and RPMs will not sound until you restart RailSounds. **CrewTalk announcement.**

6 Lowers RailSounds RPM level. **RPMs decrease.**

7 TowerCom™ is an audible announcement that includes that engine’s road number and/or name.

8 Cab light off. **Air release sound.**

9 Cab light on. **Air release sound.**
TrainMaster Command operations

Tuning your EP-5’s performance

**MOMENTUM**

TrainMaster Command’s momentum feature simulates the labored performance of a locomotive pulling a heavy load. Press L, M, or H (located under CAB-1’s removable panel) for light, medium, or heavy momentum. The EP-5’s R2LC remembers this setting until you change it. **For quick locomotive response, choose L.**

**BRAKING AND BOOSTING**

There’s more to starting and stopping than just turning the CAB-1 throttle. Use the BOOST and BRAKE command buttons—they give you incremental control of speed and are the superior way to handle grades, gradual stops-and-starts, and more. Plus, using BRAKE in the Command environment gives you a bonus RailSounds effect—the ultrarealistic sound of squealing brakes.

**SOUND QUALITY**

To achieve your preferred RailSounds master volume level, we recommend you use your EP-5 volume control dial (see page 6 for location). Turn the dial left or right to adjust the volume to your liking.

For quick remote-control of volume below the master setting—for example, muting—use the CAB-1 numeric keypad’s volume control. Press AUX1 and then 4 on the numeric keypad to lower overall RailSounds output.

**HIGH VOLTAGE SETTING**

Press SET, headlight will flash. Get your locomotive moving to the maximum speed you want it to run, press BOOST. Use this to keep your locomotive from excess-speed derailing. Turn off the high voltage setting by pressing SET, then BOOST, holding each for one second.

**STALL**

Make your EP-5 feel more responsive by setting a “stall” voltage. Get your locomotive moving, then press SET; the EP-5 will stop. Turn the throttle clockwise to get the locomotive moving, then decrease speed until the locomotive just stops. Then press SET again; the R2LC remembers the stall setting until you change it. To clear stall, press SET twice, holding it for one second each time.

These settings will be lost when you assign a new engine ID number.
TrainMaster Command operations

Assigning your EP-5 a new ID#

As your fleet of Command-equipped Lionels grows, give your EP-5 its own ID#. Choose from any between 1 and 99. Turn the Command Base ON and place the EP-5 on track. Power up, then slide EP-5’s reverse unit control switch to PROGRAM (PGM).

Using CAB-1, press ENG, the locomotive ID#, then press the SET button located under CAB-1’s removable panel. See the EP-5’s headlight flash and hear the horn blow; that’s your signal that the programming has been accepted. Slide the control switch to RUN. Your EP-5 is now programmed to respond to the number you entered.

We recommend that you choose an easy to remember ID# for your engine. Some possibilities are part of the engine road number, your age, any two digit number that is not used by another engine. If you like write the number on a small piece of tape and put this on the bottom of the frame to aid in remembering.

Example
Assign a new ID# to your Command-equipped EP-5

Command Base ON
Place the EP-5 on track
PowerMasters set to CMD or traditional power supplies ON FULL
Set the EP-5 reverse unit control switch to PROGRAM (PGM)

Turn track power on (PowerMasters):

Press BOOST

Program the EP-5 with a new ID#:

Press ENG

Press a number you choose (the ID#)

Press SET

Set reverse unit control switch to RUN

Your EP-5 remembers its ID# forever; change it any time with these steps

EP-5 reverse unit control switch
Maintaining and servicing your EP-5

Replacing your EP-5 lamps

Your EP-5 is illuminated by 3 14-volt lamps. During the course of normal operation, they may require replacement.

Start by separating the body from the frame (see page 5).

Each lamp rests in a holder, with its prongs plugged into a socket. Carefully pull the bulb straight up out of the holder to remove it. Replace the expired lamp with Lionel part no. 610-8049-300, available from your local Lionel Authorized Service Center or Lionel Service. (For more information, see Lionel Service on page 17.)

Insert the replacement lamp’s prongs into the socket, making sure of a tight connection. To reinstall the shell, reverse the process. Make sure all of the wires are inside the body before you tighten the screws.

**Note!** Press Aux2 to make sure headlamp was not accidently turned off, before replacing headlights. Press Aux1-9 to make sure cab light was not turned off.

Lubricating your EP-5’s Pullmor motor armature

Your EP-5 will require occasional lubrication of its Pullmor motor armature. If you hear excess noise during operation, or if the locomotive slows down intermittently, you may need to oil the top armature bearing.

Start by separating the body from the frame (see below for screw locations). Apply a small amount of Lionel oil (two drops) in the armature shaft hole.

Finish the job by reinstalling the body shell. Line up the screw holes and reinsert the screws.

**Note!** The Liontech Command reverse unit is a sophisticated electronic device and is extremely sensitive to static electricity. Please avoid all physical contact with the R2LC.
Maintaining and servicing your EP-5

Lubricating your EP-5

Help your Lionel EP-5 lead a long and productive life on your railroad by maintaining it properly. We recommend you purchase a Lionel Lubrication and Maintenance kit (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 EP-5’s wheels or your track.

You’ll know your EP-5 requires lubrication when visual inspection reveals dryness on the parts indicated in the illustration. Remove accumulated dirt and dust before lubricating, and always lubricate any locomotive emerging from prolonged storage.

Lubricate with Lionel oil sparingly

Reprogramming R2LC 2 circuit boards to restore features

Due to the inevitable derailments, static, and the nature of electricity, it is possible that your R2LC could someday lose its setup program. The symptoms of this condition would be unresponsiveness in command mode. This can be easily remedied by “reprogramming” your R2LC using the following steps:

Step 1: Move switch on locomotive from run to program.
Step 2: Turn on Command Base.
Step 3: Place locomotive on track, then turn on power to track.
Step 4: Press “ENG” then input locomotive’s ID#. Press “SET”
Step 5: Press “ENG”, then the ID#, “AUX1”, then press 6 for your locomotive.
Step 6: Turn off power to track, wait ten seconds.
Step 7: Remove locomotive from track, move switch from program to run.
Step 8: Place locomotive back on track, turn power on to track.
Step 9: Press “ENG” and ID#, then operate as normal.
Maintaining and servicing your EP-5

Installing the pantograph on your EP-5

Although your engine is wired to operate on a three-rail track, it is equipped with operating pantographs which can be wired into the power circuit by any model railroader whose layout works with a catenary, or overhead power line.

The pantographs are held in place with a spring catch 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 or catching on a catenary. To replace, open the pantograph and snap into place by pushing in the center portion.

If you do wire power to the pantograph, you absolutely must fold down and secure the other pantograph with wire or string so that it does not accidentally pop up and touch the power line.

Note! One of the pantographs acts as the antenna. Your EP-5 may not respond to command control without the pantographs installed.

Note! If you do wire power to the pantograph, you absolutely must fold down and secure the other pantograph with wire or string so that it does not accidentally pop up and touch the power line.

Catenary Operation

First remove the body from the frame of your EP-5. (see page 5) For prototypical operation, (raised pantograph in the rear) it will be necessary to switch the order of connections to the pantographs. To do this you will need to unsolder the antenna lead from the rear pantograph pick-up, and solder it to the front pantograph pick-up. Next establish a wire from the rear pantograph pick-up to the collector leads from each truck (unsolder or clip leads). These are the black leads with stripes running from each truck to the mother board, ending in a black two wire connector plug. You have now established the pantograph power circuit, please read the notes at left for cautions while operating under live catenary.
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 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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