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LIONEL

Lionel GP-9 diesel locomotive with SignalSounds Owner's Manual

Congratulations!

Congratulations! You now own one of the most sophisticated model trains ever built—the Lionel SignalSounds GP-9 diesel locomotive.

From the crisp detail and expert decoration on the outside to the brute power under its hood, your Lionel GP-9 is ready for duty on your model railroad.

Read this instruction manual thoroughly for important tips on operating and maintaining your GP-9 locomotive. When properly cared for, it will last a lifetime. Experience the superiority of today's Lionel.

- Powerful Lionel Pullmor® motor
- Lionel Command Ready
- Magne-Traction®
- Illuminated headlights
- Die-cast metal trucks
- Stamped metal frame

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Transformer operations

Running your GP-9 with a Lionel transformer

1 Place your GP-9 locomotive on Lionel or Lionel-

- Note the pull of Magne-Traction between your GP-9 and the steel track. Magnetized wheels and axles increase your pulling power (more than 25 cars on straight and level track) and keep your GP-9 on track while passing swiftly through curves.

2 Power up your GP-9 with your transformer.

- Your GP-9 is designed to operate on 7-18 volts alternating current. Virtually all Lionel and Lionel-compatible alternating-current transformers are suitable.
- DO NOT POWER YOUR GP-9 WITH DIRECT CURRENT (DC). Damage to sensitive electronic components may occur.
- When you first power up your track, your GP-9's headlights will illuminate. At this point, the locomotive is in neutral. This occurs when placing the GP-9 on your railroad for the first time. When your train is first powered up, the default state will be neutral and the default direction is forward. This means whenever you power up your engine the engine will remain in neutral, and when the power is removed and again applied, the train will move forward. This condition holds true if the engine is being powered up for the first time or if the engine has been powered down longer than five seconds.

3 Move 'em out!

- Get your GP-9 moving. Press the DIR button on your CAB-1 remote or Lionel transformer. This sequences the Lionel 104 E reverse unit to the next operating state. The 104 E unit alternates between three states: forward, neutral, and reverse.
- Adjust track voltage until your GP-9 moves at your desired speed. To increase speed, increase track voltage. To decrease speed, reduce voltage. To stop the locomotive, cut track power.
- See table on page 5 for information on locking your GP-9 in a single operating state

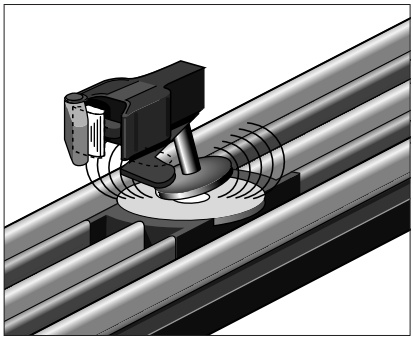
Transformer operations

Using your GP-9's magnetic couplers

Your Lionel GP-9 is equipped with operating magnetic knuckle couplers, 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).

Place your locomotive'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.



Position your GP-9's trigger disc over the remote-control section, then press "uncouple." The coupler opens.

One operating technique favored by Lionel railroaders is the "moving uncouple." Press the UNCOUPLE button as the GP-9 passes over a remote-control 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.

A note on Magne-Traction

Your GP-9 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 wheel sets and working their way into the GP-9's motor assembly. They can damage your locomotive.

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

Experiencing the range of your GP-9's SignalSounds system

With SignalSounds, you experience the sounds of real railroading like never before. Simply put, it delivers realistic, and authentic sounds to your model railroad.

- Diesel Horn. Press horn to produce an authentic diesel horn blast.
- Mechanical bell. Press BELL on your CAB-1 or transformer to begin the effect; again to discontinue.

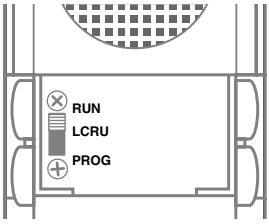
Your GP-9's 104 E Reverse unit

The New E-Series Reversing Unit controls the direction of the engine. When the reversing unit senses an interruption in track power, it will cycle into the next direction in the sequence. The sequence is neutral, forward, neutral, reverse.... Track power interruptions are created using the direction control on your transformer or Cab-1, or by turning the throttle to zero.

When power is first applied (or after a 5 second power interruption), the engine will power up in neutral, always before forward. A single press of the direction button will set your engine in forward motion. This will help eliminate unexpected start ups, derailments, and crashes. Listed in the table below is the direction sequence pattern that your 104 E unit will follow under the given conditions.

As always, a lockout switch is included to deactivate the 104 E's sequencing function. (for switch location see illustration below) A new feature is that now you will have a neutral available even when the reversing unit is "off". In addition, you no longer have to slow the engine by hand to turn off the reversing unit while the train is moving. Simply stop the engine, and throw the switch. The 104 E unit will be locked into its last moving direction, plus neutral. Even simpler, just put the switch in the "PROG" position and keep power off for 5 seconds. When you start, you will be locked in neutral/forward. If you want to lock your engine in reverse for any length of time, it is recommended that you reverse the spade connections (blue and yellow) on the top of the motor (see page 8). Otherwise, your "reverse" lock will become a "forward" lock after any 5 second power off.

NOTE: Due to limitations of the electronic components, it is hard to predict how each engine will function when power is interrupted between 2.5 seconds and 5 seconds. Engines will function either as in case #1 or case #2. This solely depends on the tolerances of the installed electronics and is not affected or caused by your power supply.



Underside of GP-9

With your 104 E reversing unit, positioning the switch in the **PROG** position locks your engine into its last moving direction plus neutral. Positioning the switch in the **RUN** position resumes normal sequencing operation.

Summary Table of Engine Directions

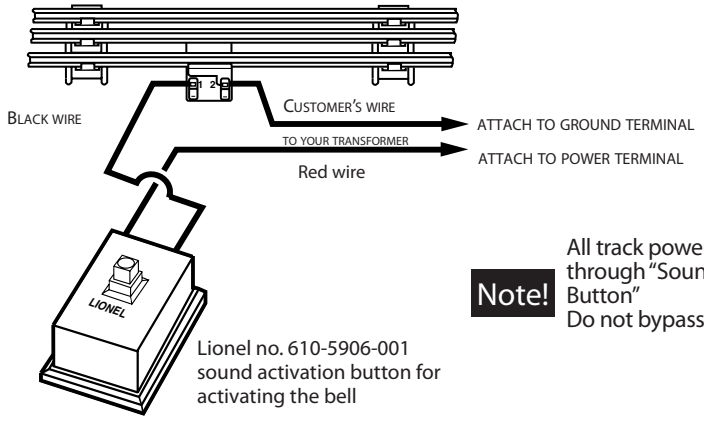
Condition	Direction Change Cycle
Case #1: First power up or without power longer than 5 sec.	
E unit off (switch in **PROG** position)	N, F, N, F, etc.
E unit on (switch in **RUN** position)	N, F, N, R, etc.
Case #2: Engine without power for less than 2.5 seconds	
E unit off (switch in **PROG** position)	N, Last-Dir, N, Last-Dir, etc.
E unit on (switch in **RUN** position)	N, F, N, R, etc.

Transformer operations

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

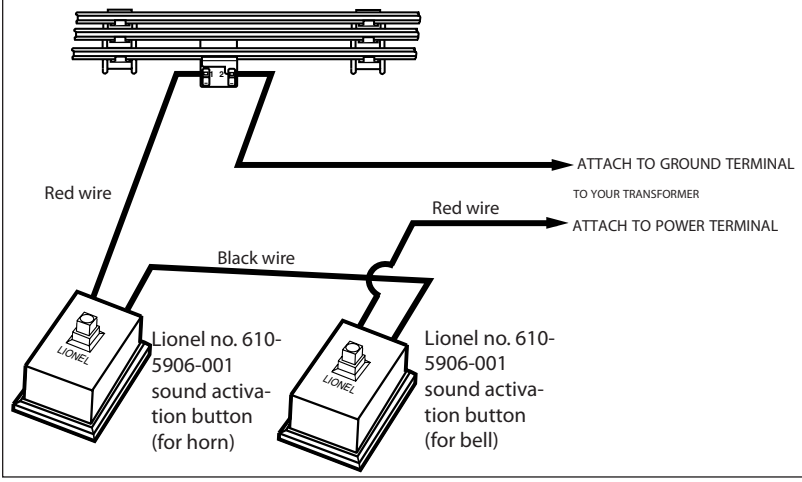
To operate the bell and horn sounds when operating your GP-9 with conventional transformers, you'll need to install the Lionel no. 610-5906-001 sound activation button (available separately). Connect the button(s) as shown below.

For AC transformers with a horn/whistle button



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

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



Note! 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.

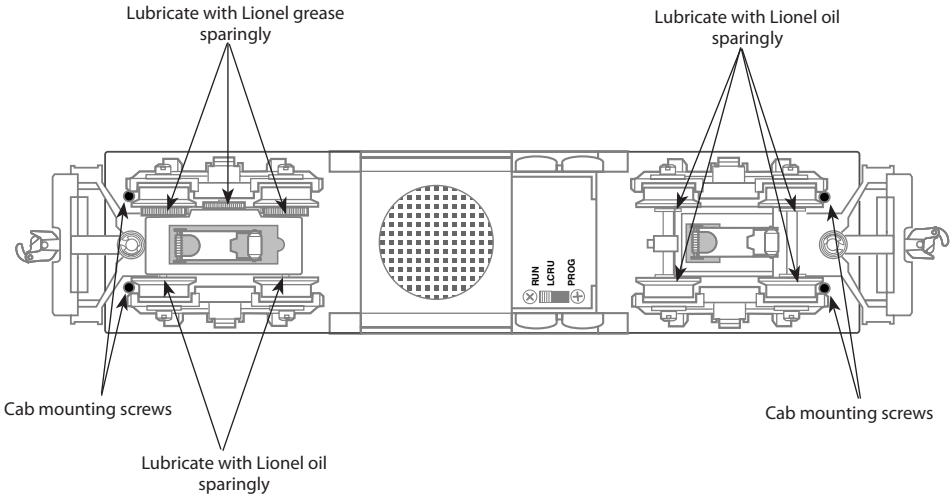
Maintaining and servicing your GP-9 locomotive

Lubricating your GP-9 locomotive

Help your Lionel GP-9 locomotive lead a long and productive life on your railroad by maintaining it properly.

We recommend you purchase a Lionel 929 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 GP-9's wheels, contact rollers, or your track.

You'll know your GP-9 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.



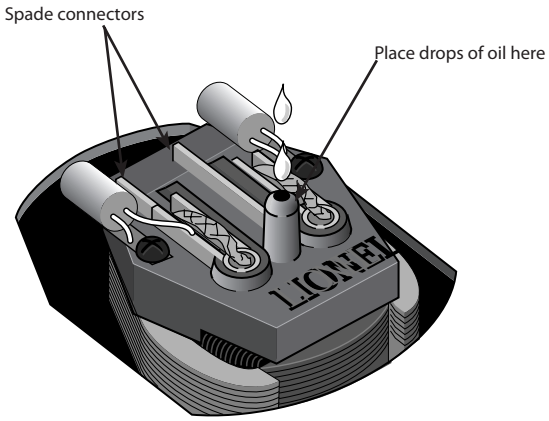
Underside of GP-9

Lubricating your GP-9's Pullmor motor armature

Your GP-9 locomotive 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 shell from the frame; remove the four cab mounting screws (see illustration on page 7). Apply a small amount of Lionel oil (two drops) in the armature shaft hole.

Finish the job by reinstalling the body shell and reinserting the four cab mounting screws

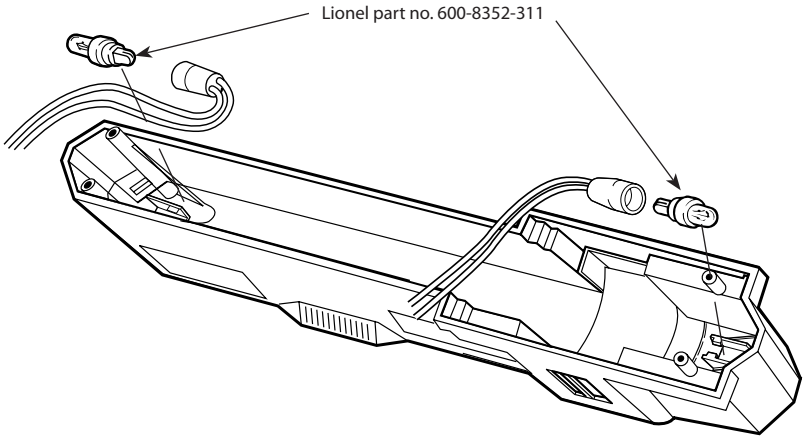


Replacing your GP-9's lamps

Your GP-9 locomotive is illuminated by two 12-volt lamps. One illuminates the rear lights and the other illuminates the front lights and cab interior. During the course of normal operation, they may require replacement.

Start by separating the plastic body shell; see the previous section on armature lubrication for detailed shell-removal information. Carefully lift the shell away from the frame. Take care with the various wiring assemblies connected to the shell.

Locate the assembly containing the expired lamp. It's held in position by a retaining clip; carefully remove the lamp assembly from the retaining clip. Then gently pull the expired lamp from its socket. Replace the expired lamp with Lionel part no. 600-8352-311, available from your local authorized Lionel Service Center or Lionel Service. (For more information, see page 12.) Reinstall the shell.



Remove the expired bulb, then insert the new bulb into the lamp socket.

Installing your Command Upgrade Kit

Your locomotive comes from the factory equipped with a transformer controlled 104 E reverse unit. The upgrade kit (Lionel part No.6-22960) will allow it to operate in the Lionel TrainMaster Command environment.

You may wish to have your local authorized Lionel Service Center install your locomotive's upgrade kit for you, or you may do so yourself by carefully following these instructions.

Remove the locomotive's body shell by following the instructions on page8. Place the shell on a soft cloth to avoid damage, and locate the reverse control unit. (see page 11 for illustration of the connector, and it's location) Remove the old reverse unit, and save it if you like. Next take the R2LC board from it's static guard packet and plug it into the 24 pin connector as shown at right. Reassemble the cab to frame being carefull not to pinch any wires. Follow the remaining instructions included with the Command upgrade kit you purchased.

Tuning your upgraded GP-9's performance

MOMENTUM

Simulate the labored performance of a locomotive pulling a heavy load with momentum. Press L, M, or H (located under CAB-1's removable panel) for light, medium, or heavy momentum. The LCRU2 remembers the setting until you change it. For delayed response, use H. For quick response, choose L.

BOOSTING AND BRAKING

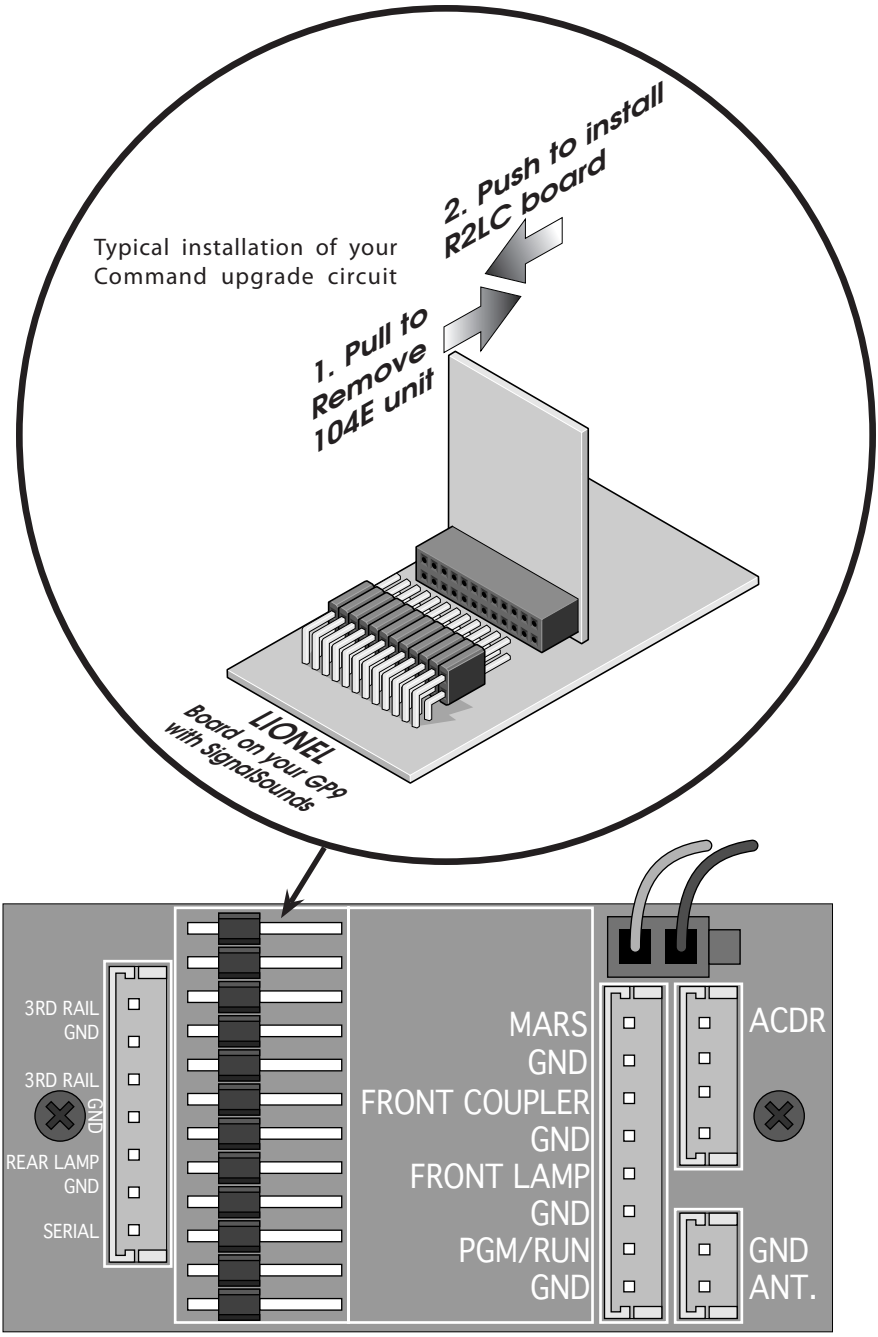
Use the BOOST and BRAKE command buttons for incremental control of speed and a superior method for handling grades, stops-and-starts, and more.

STALL

Make your GP-9 feel more responsive by setting a "stall" voltage. Get your locomotive moving, then press SET; the GP-9 will stop. The headlight will flash, indicating it's in the SET mode. Turn the throttle clockwise to get the engine moving, then decrease speed until the locomotive just stops. Then press SET again; the LCRU2 remembers the stall setting until you change it. To clear stall, press SET twice, holding it for one second each time.

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 accidentally being derailed.



Note! The R2LC circuit board is a sophisticated electronic device and is extremely sensitive to static electricity. Please avoid all physical contact with the components on the R2LC.

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 1 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 contacting our Website @ 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 _____
_____