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**2-8-8-2**  
***Steam Locomotive***  
***and Tender***  
***Owner's Manual***

featuring **TRAINmaster**  
COM-M-A-N-D

*Rail Sounds*<sup>™</sup>  
and

**ODYSSEY**<sup>™</sup>  
SYSTEM

# Congratulations!

**Y**ou own one of the finest and most sophisticated model trains ever built—the Lionel TrainMaster Command and Odyssey System-equipped 2-8-8-2 steam locomotive. From its many hand-applied

scale details, to the advanced technology found inside, your locomotive is ready for duty on your model railroad layout. Experience the superiority of today's Lionel.

## Features of the 2-8-8-2 steam locomotive

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- High-torque Pittman® motor
- Command reverse unit for use with the Lionel TrainMaster Command Control system
- Fan-driven smoke generator that produces clean, safe, realistic smoke
- Die-cast ElectroCoupler (rear of tender)
- Wireless Tether connection between locomotive and tender
- Odyssey System speed control
- Lighted cab interior
- RailSounds digital sound system
- Brilliant headlight
- Marker Lights
- CrewTalk (in Command)
- TowerCom (in Command)
- Tire-Traction
- Directional lighting
- Flickering fire box

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*Lionel®*, *TrainMaster®*, *Odyssey®*, *RailSounds™*, *CrewTalk™*, *TowerCom™*, *DynaChuff™*, *StationSounds™*, *Pullmor®*, *ElectroCoupler™*, *Magne-Traction®*, *CAB-1 Remote Controller®*, *Powermaster®*, *Lionel ZW®*, *ZW®*

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# Transformer operations

## Running your locomotive with a Lionel transformer

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1

**Place your locomotive on Lionel or Lionel-compatible 0-72 or larger track.**

- **With track power OFF**, connect the drawbar between locomotive and tender as illustrated in Figure 1. That's all you have to do with Lionel's Wireless Tether, an infrared communication system that eliminates the plugs and wires of the past.

**Note!**

Your locomotive is designed to operate on track with a minimum diameter of 72".

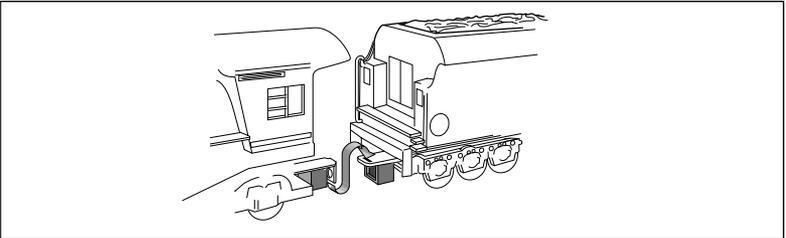


Figure 1. Drawbar connection

2

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

**Your locomotive is designed to operate on 8-18 volts alternating current (AC).** Virtually all Lionel and Lionel-compatible alternating current transformers are suitable.

**Do not power your locomotive with direct current (DC).** Damage to sensitive electronic components may occur.

**Note!**

**When you first power up your track, the locomotive will wait between three and eight seconds** as it “listens” for digital language from the TrainMaster Command Base (available separately). When it's determined that it's on a conventional (non-Command) railroad, the locomotive headlight will illuminate and RailSounds will start up. At this point, the locomotive is in neutral. (This occurs when placing the locomotive on your railroad for the first time. Thereafter, it starts in forward after every three-second power interruption.)

- **To experience all of your locomotive's features**, we recommend using the TrainMaster Command Control system, available at your authorized Lionel dealer.

3

**Move 'em out!**

- **Get your locomotive moving.** Press the DIR button on your CAB-1 Remote Controller or Lionel transformer. This sequences the Command reverse unit to the next operating state.
- **Adjust track voltage** until your locomotive moves at your desired speed.

# Transformer operations

## Locking your locomotive into a single operational state

To select a single operational state for your Lionel locomotive (example: forward only), you can deactivate the Command reverse unit's sequencing function with the PROG/RUN switch, located on the right hand side, below the cab. Refer to Figure 2 for the switch location.

Get your locomotive moving in the desired direction, then slow it down without stopping. Set the PROG/RUN switch to PROG while the

engine is in motion. The locomotive is now "locked" into your chosen direction.

When you no longer want single-direction operation, just slide the PROG/RUN switch back to RUN.

**Note!** When powered down, the Command reverse unit will reset to forward after approximately five seconds, regardless of the locked-out direction.

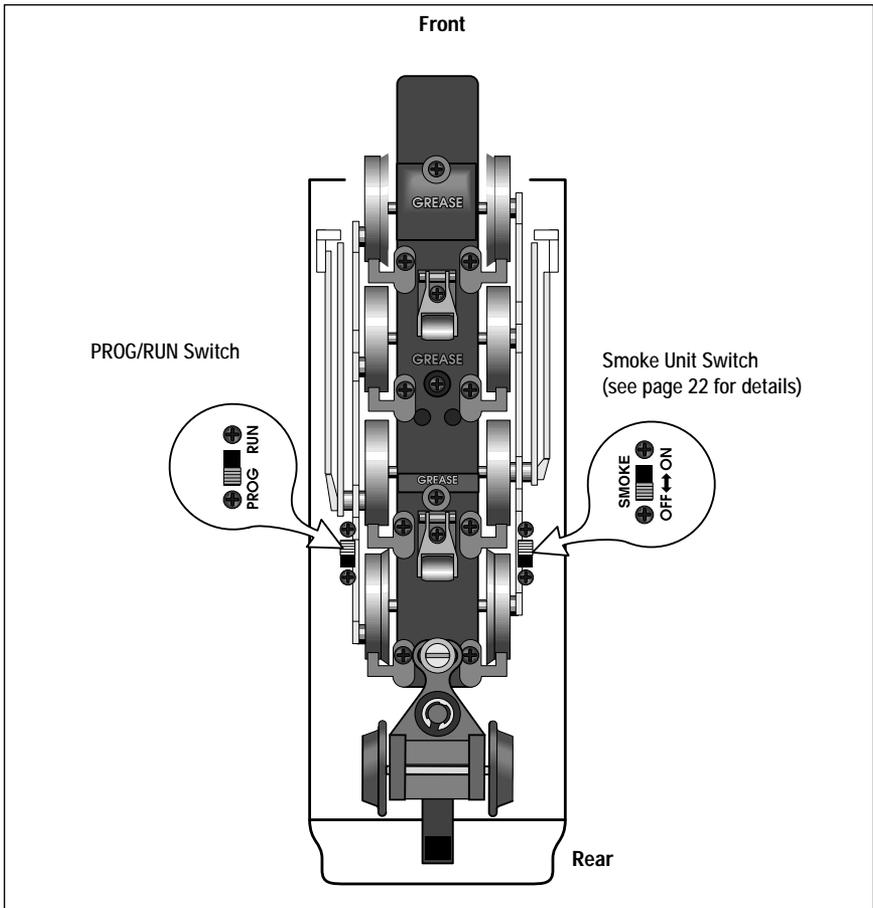


Figure 2. Switch location

# Transformer operations

## Your locomotive's Odyssey System speed control

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**Y**ou can lock your locomotive into speed control mode (ideal for low-speed operation) so it will automatically compensate for grades and heavy loads, always maintaining a specific speed setting. **To turn on the Odyssey System speed control**, get your locomotive moving at the desired speed, *in forward or reverse*. Let it run at the desired speed for at least 5 seconds. Press and hold the HORN/WHISTLE button on your transformer for 2-3 seconds as you increase the throttle by at least 3 volts. Your locomotive will accelerate briefly and will then return to your set speed. You can then release the HORN/WHISTLE button. As long as the throttle position is maintained at a higher setting than the initial level, your locomotive will maintain a constant speed. If the throttle is turned below the original level, your locomotive will slow down as the voltage decreases below the “set” level. To check if the speed control setting has been “accepted,” turn up the throttle. You will see the lights brighten, but the speed will remain constant. For best results, adjust the track voltage about 3-4

volts above the “set” point. This will provide enough spare voltage to compensate for uphill grades, etc., but will prevent excessive voltage to the lamps and smoke unit. (In conventional mode, these features operate at track voltage, and excessive voltage may lead to premature bulb burn-out.)

- If you wish to change the speed control setting, you must first deactivate the speed control, then reactivate at the new setting.

**To turn the Odyssey System speed control off**, get your locomotive into neutral for at least 5 seconds, then increase the track voltage to full power with the throttle on your transformer. This will give you more “room” to lower the voltage. Press the HORN/WHISTLE button on your transformer for 2-3 seconds while lowering the throttle voltage to 1/4 of full power, or at least three volts. The speed control deactivates when it sees a 3 volt change with the HORN/WHISTLE button pressed, regardless of initial voltage level. Do not turn the throttle off, or speed control may not deactivate.

**Note!** Speed control settings are retained in memory even if power is turned off. They will remain present until deactivated.

# Transformer operations

## Using your tender-mounted ElectroCoupler in the non-Command environment

---

To use your locomotive tender's ElectroCoupler in the non-Command environment, you must rely on a piece of rolling stock equipped with Lionel magnetic couplers coupled directly to your locomotive tender's rear ElectroCoupler. The magnetic cou-

pler on the rolling stock will then react to the magnetic field generated by a Lionel remote-control track section (available separately, 6-65530 for O gauge, 6-65149 or 6-12746 for O-27 gauge). Place your rolling stock's coupler "trigger disc" over the central coil of a remote-control track section and press UNCOUPLE on the track controller. The magnetic field pulls the disc downward, and the coupler opens.

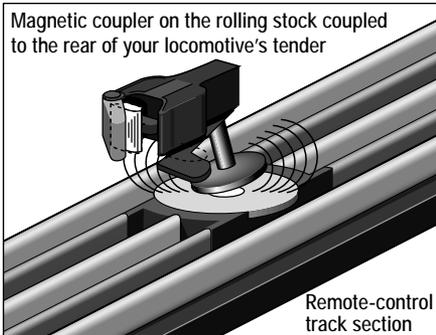


Figure 3. Magnetic coupler operation

**Note!** Your locomotive tender's ElectroCoupler will NOT open manually or by using a remote-control track section.

# Transformer operations

## Your locomotive's RailSounds sound system—the basics

**L**ionel RailSounds sound system is the most realistic model railroad sound system in the world. Your locomotive features digital samples from real-life steam locomotives for the *ultimate* in realism.

Begin by installing a 9-volt *alkaline* battery in the tender as illustrated in Figure 4. This ensures interruption-free operation of the RailSounds sound system. The battery clip is located in the tender. To remove the tender body, refer to the diagram on page 10 for the location of mounting screws.

When you first apply track power, the locomotive's RailSounds sound system produces

the sounds of the locomotive at rest. As the locomotive moves, chuffing begins, increasing with the locomotive's speed.

To silence the steam chuffing sound (whistle/bell are unaffected), slide the RailSounds sound system switch, located on the underside of the tender (see page 10 for location), to the OFF position *before powering up the locomotive*. The whistle is activated by using the lever or button on your transformer or CAB-1 Remote Controller. The volume control knob is located on the underside of the tender near the front truck (see page 10).

*Installing a 9-volt alkaline battery in your locomotive's tender.*

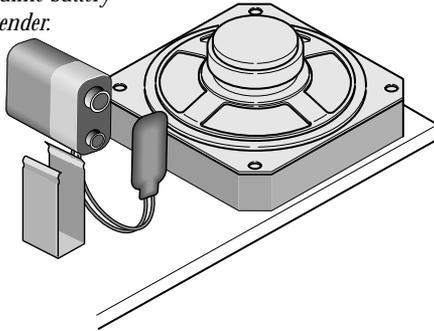


Figure 4. Battery installation

**Note!** Please remove the protective cover from the battery clip before installing the battery.

**Note!** Although RailSounds is powered by track voltage, *the battery is required* for uninterrupted operation and shutdown sequences. Use only alkaline batteries.

**Note!** Discontinue locomotive power *for 10 seconds* before changing the RailSounds ON/OFF switch position.

**Note!** If the RailSounds sound system “drops out” during track power interruptions (during direction changes, switches, crossings, etc), replace the battery.

# Transformer operations

## Experiencing the range of your locomotive's RailSounds system

---

**W**ith 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. And remember—coming from inside your Lionel locomotive's tender are the authentic sounds of the RailSounds digital sound system. No other electric train can offer you **authentic** sounds. *That's* the power of Lionel.

- **Variable chuff rate.** The speed of your locomotive speed determines the steam chuff rate.
- **MultiWhistle.** Different whistles for different speeds—a RailSounds exclusive.
- **Authentic bell.** Press BELL on your CAB-1 or transformer to begin the effect, again to discontinue. Even the final “hit” is muted like the real thing.
- **Reverse unit reset sound.** Power down your track, wait for 3-5 seconds, and listen for the air-release sound—that's the locomotive telling you its 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 two seconds to restart your locomotive. If you're done with operations, RailSounds will commence with an authentic shutdown sequence about two seconds after the air-release reset occurs.

**Note!** A 9-volt alkaline battery must be installed for the shutdown sequence.

# Transformer operations

## Notes on RailSounds

- Use the volume control knob, located on the underside of the tender, to adjust sound output. Refer to Figure 5.
- Listen for incidental locomotive sounds during the operation of the RailSounds sound system. They're automatic and, of course, authentic.
- The 9-volt alkaline battery you installed ensures *continuous* sounds, even during short track-power interruptions. The battery must be installed for the shut-down sequence.
- Longer track-power interruptions (including locomotive derailments) cause RailSounds to shut down after about 7 seconds.
- For even *more* authentic RailSounds effects, operate your locomotive in the TrainMaster Command environment. See pages 14-16 for details.

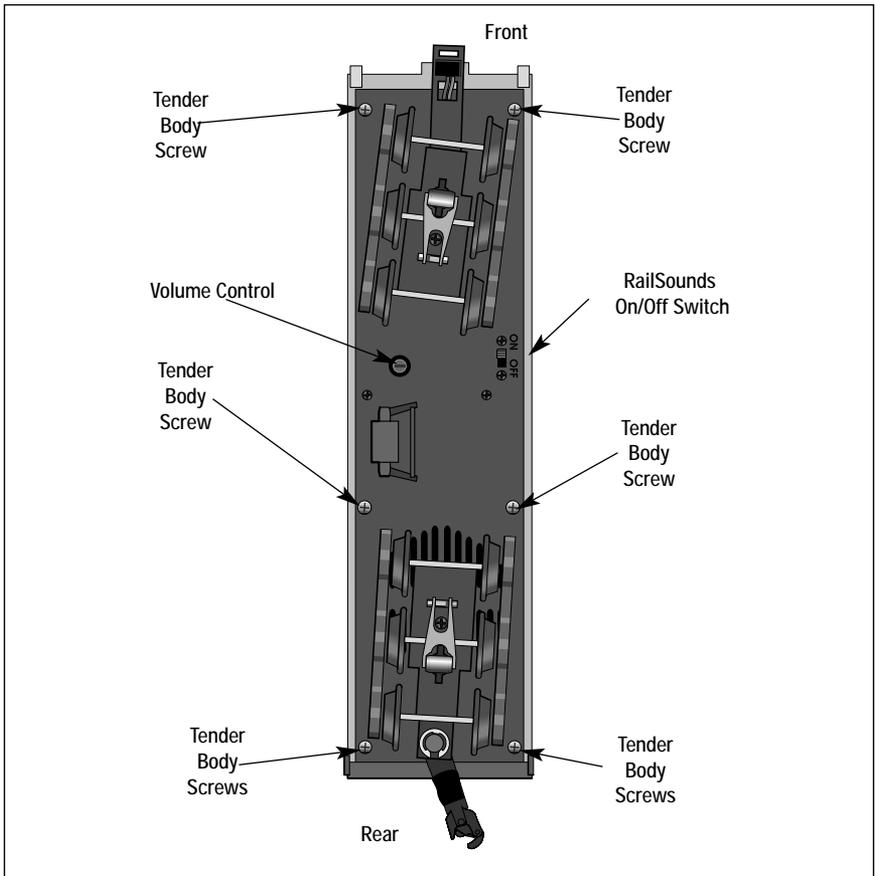


Figure 5. Underside of the tender

# Transformer operations

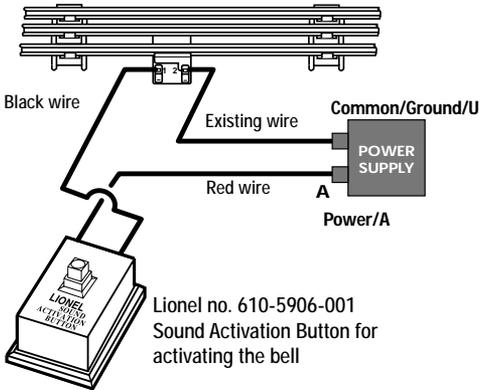
## Installing the Lionel Sound Activation Button

To operate the bell and horn sounds when operating your locomotive with conventional transformers, you'll need to install the Lionel no. 610-5906-001 Sound Activation Button (available separately). Connect the

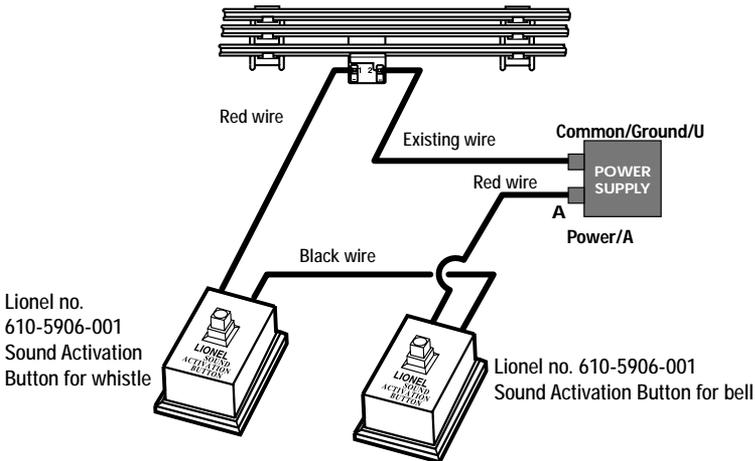
button(s) as shown below.

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

### For AC transformers with a horn/whistle button



### For AC transformers lacking a horn/whistle button



**Note!**

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

# TrainMaster Command operations

## Your locomotive in the TrainMaster Command Control environment

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**L**ionel TrainMaster Command Control is the fun and sophisticated model railroad control system from Lionel. Your locomotive features a 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 Control 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 mode, you need a Command Base (6-12911) and a CAB-1 Remote Controller (6-12868).** Find them both at your authorized Lionel retailer.

**1**

### ***Place your locomotive on Lionel or Lionel-compatible 0-72 or larger track.***

- **Make sure track power is OFF before placing it on track.**
- **Make sure your Lionel Command Base is plugged-in** and its communications wire is connected to the COMMON post on your Lionel transformer *or* the U terminal on any of your installed PowerMasters.
- Once positioned on the track, **increase track voltage to FULL (or a maximum of 20 volts)**. If you are using any PowerMaster units, slide the CMD/CONV switch to CMD on the units.

**2**

### ***Address your locomotive with CAB-1.***

- **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 commands into digital code. That code is sent around your railroad's outside rails in the form of a digital "halo." All Command-equipped Lionel locomotives listen to this digital communication, but they *do not respond* until they hear their own ID number.
- **The digital language of TrainMaster Command Control—not track power—controls the actions of Command-equipped Lionel locomotives.** 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.

**Note!**

**All Command-equipped Lionel locomotives come factory-programmed with an ID# of "1."** To change your locomotive ID#, see page 18.

**3**

### ***Move 'em out!***

- **Throttle up or press any command button on CAB-1.** Your locomotive will respond to your *every* command. Read on. The fun is just beginning!

# *TrainMaster Command operations*

## **Running your locomotive in the TrainMaster Command environment**

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**Example**    *Address Locomotive #1*  
*Set PowerMaster to CMD or traditional power supplies to full throttle*



*Press ENG*



*Press 1 (the ID#)*

*Throttle up/press any command button*

**Y**our Command-equipped locomotive comes factory-programmed with an ID# of "1." To get your locomotive into action, set PowerMasters to CMD or set all power supplies on full or a maximum of 20 volts. Press ENG and "1" on CAB-1. Turn the throttle or press any command button; RailSounds starts up. Your locomotive is ready for Command operations.

# TrainMaster Command operations

## CAB-1 commands for your locomotive

*Locomotive RailSounds effects in bold italic.*

**F** **Coupler release sounds.**

**R** Tender rear coupler releases. **Coupler release sounds.**

**Y** Press AUX2 to turn your locomotive's headlight on and off.

 Turn the THROTTLE to the right to accelerate, left to decelerate. **Speed-dependent variable steam chuffing. DynaChuff dynamic chuffing effect.**

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

**Note!** Use HALT only in *emergency* situations.



 Press WSTL/HRN to activate the locomotive's whistle, release to discontinue. **Multi-Whistle steam whistle sound.**

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

 Press DIR—the locomotive decelerates to a complete stop; turn the throttle up, and the locomotive moves in the opposite direction. There is no neutral. **Steam air-release sound.**

 Press and hold BOOST for extra power. Release BOOST and return to the locomotive's previous speed. **Labored chuff.**

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

# *TrainMaster Command operations*

## **RailSounds in the Command environment**

---

**Y**our locomotive's RailSounds system gives you even *more* in the TrainMaster Command environment.

- **DynaChuff.** Real steam locomotive chuffing depends on the locomotive's load. DynaChuff simulates both labored and relaxed chuffing sounds. Highball down the mainline and hear the labored chuffing of a locomotive battling inertia. Reduce your throttle setting, and chuff-

ing relaxes to a more sedate sound, as though the load placed on the locomotive has decreased. Experience DynaChuff on steep grades, at yard crawls, and at speed. Another RailSounds exclusive.

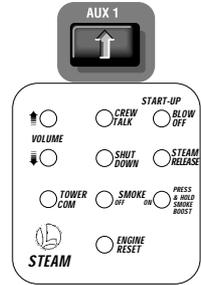
- **Bonus sounds** like squealing brakes with the CAB-1 BRAKE command.
- **Incidental sounds** you control with CAB-1 numeric keypad commands, like steam let-off and steam release effects.

# TrainMaster Command operations

## CAB-1 numeric keypad commands for your locomotive

**W**hen you press AUX1 on CAB-1, you turn the numeric keypad into 10 command buttons. The keypad “stays open” and gives you access to extra command features until you press any top-row button (SW, ACC, RTE, TR, or ENG). The CAB-1 keypad overlay included with your locomotive is designed to help you learn the auxiliary features specific to this classic locomotive.

**Locomotive RailSounds effects in bold italic.**



**0** Stops and resets the locomotive to FORWARD. **Headlight flickers.**

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

**2** CrewTalk is the sound of unintelligible walkie-talkie communication.

**3** Starts-up RailSounds. **Start-up sequence commences. Steam blowoff sound.**

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

**5** Activates the RailSounds steam shutdown sequence. Just like the real thing, *your locomotive must be idle for shutdown to occur.* **Steam shutdown commences.** Remember, the whistle and bell will not sound until you *restart* RailSounds. **CrewTalk sounds\*.**

**6** **Steam release sound\*.**

**7** TowerCom is an audible announcement that includes that engine's road number and/or name. *There is a four second delay in this function.*

**8** Turns off the smoke generator. **Steam release sound\*.**

**9** Turns on the smoke generator. Press and hold 9 (10 seconds maximum) to initiate Smoke Boost—this superheats the smoke generator and enhances smoke output when you start running your locomotive. **Steam release sound\*.**

*\* Hearing the Steam release sound or the CrewTalk sounds lets you know that the locomotive has received these commands.*

**Note!** AUX, 1-9 only works if the smoke unit switch is in the ON position.

# TrainMaster Command operations

## Tuning your locomotive 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 Command reverse unit 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 stops and starts. Plus, using BRAKE in the Command environment gives you a bonus RailSounds effect—the ultra-realistic sound of squealing brakes.

### **STALL**

Make your locomotive feel more responsive by setting a “stall” voltage. Get your locomotive moving, then press SET; the locomotive will stop. The headlight will flash, indicating it's in the SET mode. Turn the throttle clockwise to get the locomotive moving, then decrease speed until the locomotive just stops. Press SET again; the Command reverse unit 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 ENG, the locomotive ID#, and then SET; the locomotive's headlight will flash. Get your locomotive moving to the maximum speed you want it to run, then press BOOST. Use this to keep your locomotive from accidentally being derailed at high speed.

**Note!** To clear the setting, press ENG, the ID#, then immediately press BOOST.

### **SOUND QUALITY**

To set your maximum volume level, use the volume control knob located on the bottom of the tender (see page 10). Turn the knob left or right to adjust the volume to your liking.

For quick remote-control of volume *below* the master setting—like muting—use the CAB-1 numeric keypad's volume control. Press AUX1 and 4 on the keypad to lower overall RailSounds output.

**Note!** These settings will be lost when you assign a new engine ID number.

## Your locomotive's Odyssey System in the Command environment

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**S**peed control in Command mode is automatic. Simply adjust the speed to the

desired level, and the Odyssey System will maintain it over grades and with heavy loads.

# TrainMaster Command operations

## Assigning your locomotive a new ID#

### Example *Assign a new ID# to your Command-equipped locomotive*

Set the locomotive PROG/RUN Switch to PROG (see the illustration below)

Command Base plugged-in

Place the locomotive on track

PowerMasters set to CMD or

traditional power supplies ON FULL

Turn track power on (PowerMasters):

 Press BOOST

Program the locomotive with a new ID#:

 Press ENG

 Press a number you choose (the ID#)

 Press SET

Set PROG/RUN Switch to RUN

Your locomotive remembers its ID# forever; change it any time with these steps.

As your fleet of Command-equipped Lionel locomotives grows, give your locomotive its own ID#. Choose from any number between 1 and 99. Slide the locomotive's PROG/RUN switch to PROG. (See the Figure 6 below.) Plug in the Command Base and place the locomotive on track. Then, power up.

Using CAB-1, press ENG, the locomotive ID#, then press the SET button located under CAB-1's removable panel. See the locomotive's headlight flash; that's your signal that the programming has been accepted. Now slide the switch back to RUN.

We recommend that you choose an easy-to-remember ID# for your locomotives. Some possibilities are part of the locomotive road number, your age, or any two-digit number that is not used by another locomotive. 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.

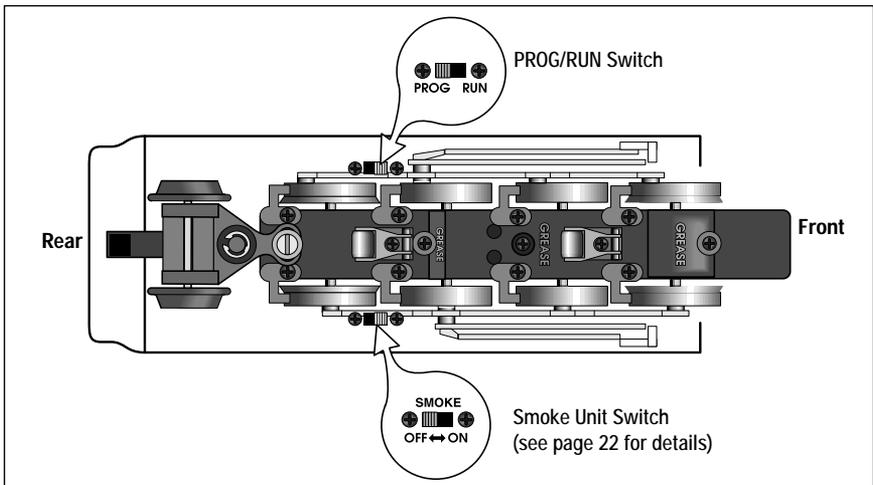


Figure 6. Switch location

# TrainMaster Command operations

## Reprogramming the Command reverse unit circuit board to restore features

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**D**ue to the inevitable derailments, static, and the nature of electricity, it is possible that your Command reverse unit 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 Command reverse unit using the following steps.

**STEP 1:** Move switch on locomotive from RUN to PROG.

**STEP 2:** Plug in 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 **the number 74**.

**STEP 6:** Turn off power to track and wait ten seconds.

**STEP 7:** Remove locomotive from track, move switch from PROG to RUN.

**STEP 8:** Place locomotive back on track, then turn power on to track.

**STEP 9:** Press “ENG” and enter the ID#, then operate as normal.

## Maintaining your locomotive’s handrail antenna

---

**Y**our locomotive handrails are more than just model grab irons—they’re the Command reverse unit’s antenna for receiving Command Base digital communications. *Please handle the locomotive carefully to avoid handrail damage.* To ensure optimum reception, both handrails are insulated from the die-cast metal shell. If your locomotive

experiences difficulty receiving Command Base communications, check the handrail ends in the cab and pilot for the presence of insulating material. Ensure that each insulator is present and enjoys a proper fit. Finally, prevent the handrails from touching any part of the die-cast metal locomotive cab.

# Maintaining and servicing your locomotive

## Lubricating your locomotive

**H**elp 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 7. Remove accumulated dirt and dust before lubricating, and always lubricate any locomotive emerging from prolonged storage. Also, *lightly* lubricate the locomotive side rods, drive rods, linkage, front and rear truck pivot points, and tender wheel bearings after each 25 hours of operation.

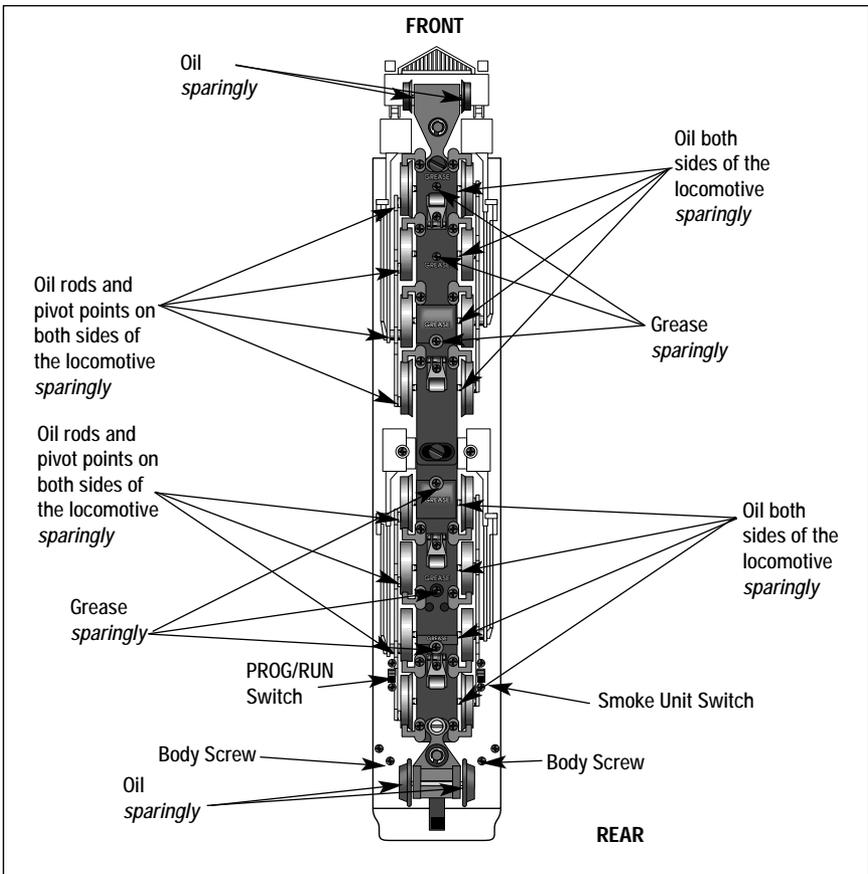


Figure 7. Switch location and lubrication points

# Maintaining and servicing your locomotive

## Servicing your locomotive's lamps

---

**Note!** Before changing the lamps in your locomotive, be sure to check that the AUX2 command was not used to turn off the front headlight.

Your locomotive is illuminated by several lamps. One is located in the headlight housing mounted on the front pilot deck. Two more lights are in the boiler front number boards. A lamp illuminates the interior of the cab and a lamp assembly illuminates the ashpan and glows brighter as the locomotive's speed increases. During the course of normal operations, these may require replacement.

**Note!** Removing the four screws as shown on page 20 will allow access to the inside of the cab and the expired lamps. Due to the complexity of the disassembly required, you

may wish to take your locomotive to your Lionel Authorized Service Center for any lamp replacement.

Lamp Numbers:

Number Board Lights(2)	620-8064-300
Headlight (1)	620-8029-300
Cab light (1)	610-8082-019
Ash pan light assembly	620-8063-300

**Note!** The two green marker lights and firebox glow lights are LED's (light emitting diodes) and are not user serviceable. They can be replaced by your authorized Lionel Service Center

## Replacing your tender's lamps

---

Your 2-8-8-2 tender is illuminated by one lamp, located at the rear of the tender. Remove the tender body by unscrewing the six screws located on the underside of the tender (see page 10 for screw locations).

Carefully lift the tender body from the frame, taking care with the lamp wiring assembly which is still attached to the tender body. Grasp the leads and pull the lamp out of the bracket where it is held in place by a rub-

ber grommet. Unplug the connector and replace with Lionel part no. 620-8029-300. All lamps are available from your Authorized Lionel Service Center or direct from Lionel Service. See the Lionel Service section on page 24 for more information.

Reassemble in reverse order. While reassembling the tender, make sure all wires are inside the body before the screws are tightened.

# Maintaining and servicing your locomotive

## Tire-Traction

---

**Y**our locomotive is equipped with Tire-Traction. This means that four of the drive wheels are fitted with rubber traction tires to enhance tractive effort so your locomotive can pull many cars at once.

Lionel has provided extra traction tires to replace the installed traction tires if they ever wear out. The traction tires on the rear set of drivers are replaced by unscrewing the drive rod screw from the wheel using the 3/16" nut

driver included with this locomotives. Slip off the old traction tire and remove it from under the drive rod. Place the new traction tire on the wheel and re-tighten the drive rod screw. Replacement of the traction tires on the front set of drivers requires much more disassembly of the locomotive to accomplish. You may wish to take your locomotive to your Authorized Lionel Service Station to have this maintenance performed.

## Adding fluid to your locomotive's smoke generator

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**Y**our locomotive is equipped with a smoke generator that produces safe, clean, white smoke during operation.

The smoke generator requires the periodic addition of Lionel smoke fluid in order to function. A small tube of smoke fluid was included with this locomotive. Pierce the fluid tube's end with a pin, then add 8 to 10 drops of fluid directly into the smoke stack. Smoke production will commence momentarily, faster if you run your locomotive at speed. When smoke production wanes, add more fluid (8 to 10 drops).

In Command Control, when the locomotive

is first placed on the track and powered up, the smoke generator will be in a default "OFF" position. Using any function key on your CAB-1 remote will turn the smoke generator on. Turning off the sound (AUX1, 5) or resetting the locomotive (AUX1, 0) will return the smoke unit to the initial "OFF" position. *Always* keep a small amount of smoke fluid in the locomotive smoke generator; the generator's element can become damaged if operated without fluid. Smoke production is greater at higher voltages and when the locomotive is pulling a heavy load or long consist.

**Note!** Always keep smoke fluid in your locomotive smoke generator. If not, turn it off when smoke is not desired using the switch shown on page 5 or the AUX1, 8 command if you are running in Command mode. Using Smoke Boost with depleted fluid can damage the generator's element.

# Maintaining and servicing your locomotive

## Installing the 0 gauge front coupler

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**A**n 0 gauge coupler (non-operating) is included with your locomotive for those who may wish to “double-head” their trains with a second 2-8-8-2 or another locomotive. Straighten out the wire coupler pin with a pair of needle nose pliers. The coupler pin runs through the scale coupler.

Using a small Phillips blade screwdriver, loosen and remove the screw holding the scale coupler. Remove the scale coupler. Position the 0 gauge coupler and secure with the previously removed screw.

Store the scale coupler in a safe place for possible reassembly at a later date.

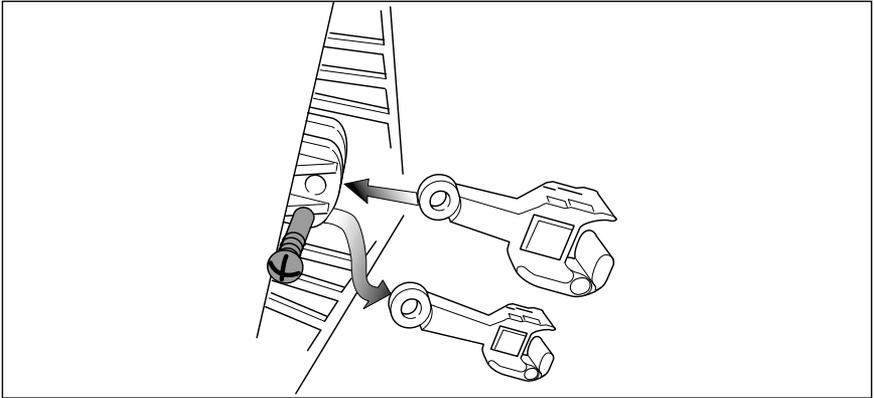


Figure 8. Coupler installation

## Limited Warranty/Lionel Service

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**T**his 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](http://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 \_\_\_\_\_

\_\_\_\_\_

