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Chessie System Merger Special Freight Set Ready-to-Run Set Owner's Manual

Featuring TrainSounds™

CAUTION—ELECTRIC TOY

NOT RECOMMENDED FOR CHILDREN UNDER FOURTEEN YEARS OF AGE. AS WITH ALL ELECTRIC PRODUCTS, PRECAUTIONS SHOULD BE OBSERVED DURING HANDLING AND USE TO PREVENT ELECTRIC SHOCK.

TRANSFORMER RATINGS—INPUT: 120 VAC; 60 HZ ONLY.
AC OUTPUT: 18 V; 80 VA

Congratulations!

Congratulations on your purchase of the ready-to-run Chessie System Merger Special Freight Train Set! This set features everything you need to get started—a mighty CW-80 Transformer, a huge loop of easy-to-assemble FasTrack track, a string of detailed cars, and a powerful Lionel locomotive.

Have fun growing with this complete train set! Start with the set components, then follow your imagination into your own miniature world. Expand your railroad empire with additional FasTrack track sections, enhance your layout with accessories, lengthen your consist with extra cars, or operate a new locomotive at the head end of your train! Explore the possibilities at your authorized Lionel dealer.

Use this Owner's Manual to learn how to set up, operate, and maintain your train set for years of reliable operation.

Train Set Features

- **Bright headlight**
- **TrainSounds sound system**
- **Operating couplers**
- **Lighted caboose interior**

Parents! **The transformer included with this set should be periodically examined for conditions that may result in the risk of fire, electric shock, or injury to persons (such as damage to the output cord, blades, housing, or other parts). In the event that such conditions exist, the transformer should not be used until properly repaired.**

Table of contents

Train Set Inventory

- **GP-38 locomotive**
- **Boxcar**
- **Gondola with scrap load**
- **Flatcar with trailer**
- **Square window caboose**
- **CW-80 Transformer with accessory wire**
- **Three straight FasTrack track sections**
- **Eight curved FasTrack track sections**
- **One straight FasTrack terminal track section**
- **Replacement traction tire**
- **Owner's Manual**

Creating your layout

Operating your CW-80 Transformer safely

Your Lionel CW-80 Transformer is listed by Underwriter's Laboratory Inc. and has been carefully designed to ensure peak performance. When using electrical products, basic safety precautions should be maintained.

Be sure to observe the following guidelines:

- Read the manual thoroughly before using this device.
- This device is not recommended for children under eight years of age.
- Parents should periodically inspect this product for potential hazards and, if necessary, have them repaired by an authorized Lionel Service Center. In the event that such a condition exists, the transformer should not be used until it has been properly repaired.
- The CW-80 Transformer is intended to be used indoors. Do not use this device if water is present. Serious or fatal injuries may result.
- Use the CW-80 Transformer only for its intended purpose.
- The CW-80 Transformer was meant to operate on 120-volt, 60-Hertz power. Do not connect this product to any other power supply.
- Do not operate the CW-80 Transformer with a damaged cord, plug, or case.
- To avoid the risk of electrical shock, do not disassemble the unit. There are no user serviceable parts inside. If damaged, take this product to an authorized Lionel Service Center. A list of authorized Service Centers is packed with this unit.
- Do not operate the CW-80 Transformer on your layout unattended. Obstructed accessories or stalled trains may overheat, resulting in damage to your layout.
- Always unplug the CW-80 Transformer from the power source when not in use.
- Never insert objects into the ventilation slots on this product. Damage to sensitive electronic components can result.

Creating your layout

Building your Lionel layout

Your set comes with eight curved, three straight, and one terminal section of track. Figure 1 provides some examples of layouts that you can build with these track sections.

By adding more FasTrack track sections, you can create an endless number of exciting track arrangements for more fun, action, and variety. The railroad empire of your dreams can quickly become a reality!

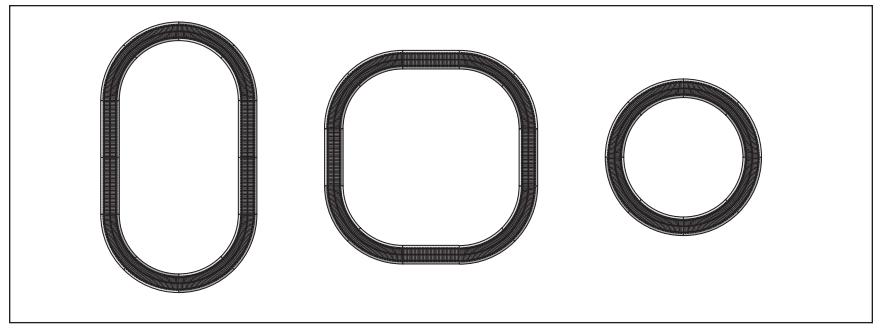

Figure 1. Track layout ideas

FasTrack Add-on Track Packs make it easy to expand your railroad. Each Track Pack includes all the track sections you need to create a more advanced layout using the sections included with this set. Refer to Figure 2 to explore the possibilities.

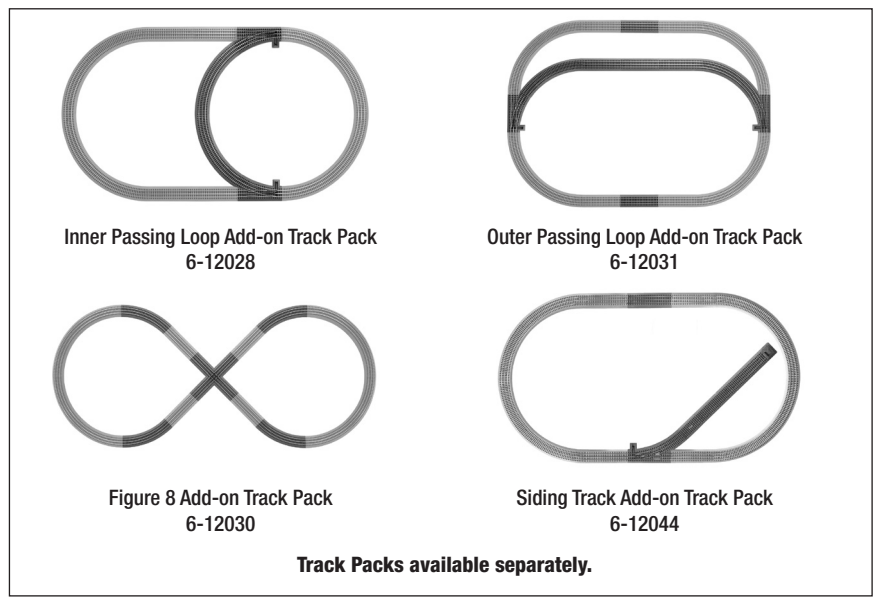

Figure 2. Add-on Track Pack layouts

Joining the FasTrack track sections

FasTrack track sections join together easily. With interlocking roadbed sections and large rail tabs, the track fits together securely so you always get good electrical contact. Take a look at Figure 3 to see how to join the track sections.

1. **Line up your two sections of track.**
2. **Insert the rail tabs into the openings at the ends of the corresponding rails.**
3. **Press the sections together until the interlocking roadbed snaps into place.**

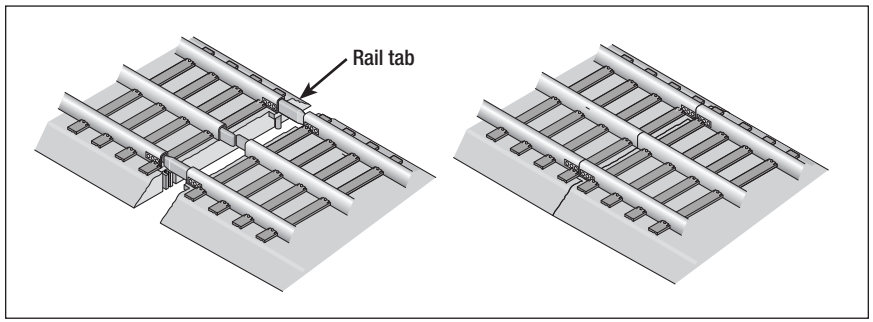

Figure 3. Joining the track sections

Wiring your CW-80 Transformer

Connect your FasTrack terminal section to the CW-80 Transformer. Use the wires that are already attached to the terminal section. Make sure that all connections are secure. Loose connections can produce extremely high temperatures. For this reason, do not touch the terminals or track connections during use. Also, do not locate scenery materials such as lichen or ground foam near the terminals.

1. **Feed the wires through the notch in the FasTrack terminal section.** Refer to Figure 4 on page 7.
2. **Loosen the red TRACK thumbscrew terminal, then slide the red spade-shaped connector into position.** The thumbscrew post should be positioned between the "blades" of the spade connector. Be sure that the blades are touching the metal post. Tighten the thumbscrew to secure the connection.
3. **Loosen the black TRACK thumbscrew terminal, then slide the black spade-shaped connector into position.** Tighten the thumbscrew to secure the connection. Be sure that the blades are touching the metal post. Tighten the thumbscrew to secure the connection.

Wiring your CW-80 Transformer (continued)

4. **If you need to power an accessory (available separately at your authorized Lionel dealer), connect the accessory to the ACCESSORY thumbscrew terminals.** Use the accessory wire included with the CW-80 Transformer.
5. **Plug the CW-80 Transformer into your wall outlet (120 volts).**

As your layout expands, you may also make power connections with the stripped ends of wires, placing no more than two wires on each terminal. For best performance on large layouts, it is recommended that you use 16-gauge wire to connect your CW-80 Transformer to the track. On larger layouts where several track connections are required, the use of separate junctions/terminal strips (available at your local electronics store) is recommended to prevent voltage drops.

Caution! To prevent the excessive build up of heat, be sure to select the proper wire gauge for your layout. Follow these guidelines:

- Track connections must be made with 18-gauge wire or heavier. Larger layouts require a minimum of 16-gauge wire.
- Use 24-gauge wire only when connecting single accessories that require lower current.
- When wiring multiple accessories (two or more) or accessories that require higher current, be sure to use 18- to 16-gauge wire.

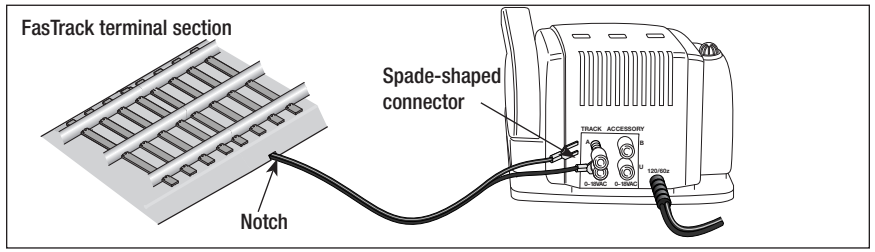

Figure 4. Controller connections

Running your trains

Running your train set

1 ***With track power off, place your train set on the track.***

Refer to the following section for information on coupling the cars.

2 ***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.

3 ***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.

Coupling

When coupling your cars, at least one of the mating couplers must be open as shown at the left in Figure 5. Press down on the lock release to open the coupler, then push the cars toward each other until they lock together.

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

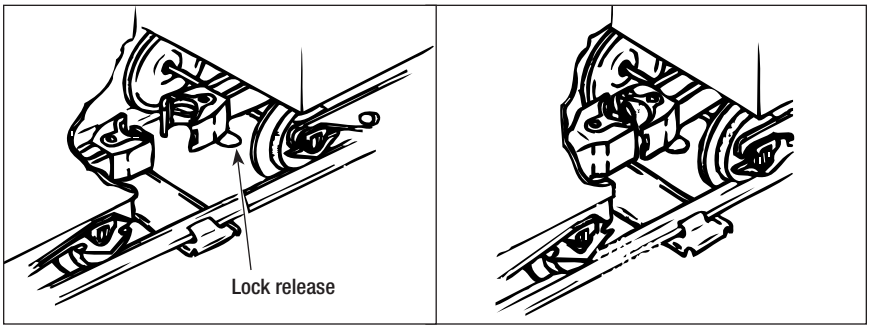

Figure 5. Coupler operation

Experiencing the features of the CW-80 Transformer

Refer to Figure 6 on page 10 for the location of the Transformer features listed in this section.

THROTTLE

Push the throttle forward to increase track power. The markings on the throttle approximate the percentage of full power. For more realism, push the throttle slowly to gradually increase or decrease the speed of the locomotive. Slowing or stopping the locomotive with the throttle instead of the DIRECTION button will allow you to continue in the same direction when you increase the throttle again. To achieve this effect, reduce the throttle to the point that the locomotive stops moving, but don't completely turn off the throttle. That way, your train won't sequence into neutral.

DIRECTION

The DIRECTION control button interrupts track power to activate the reverse unit in your locomotive. Your locomotive will not respond to this button when the reverse unit switch is in the OFF position.

WHISTLE

The WHISTLE button will activate your locomotive's whistle or horn. The sound will continue until the button is released. No external sound activation buttons are needed.

Note! Your locomotive features an operating air whistle in the tender.

BELL

The BELL button will activate the bell sounds on locomotives equipped with this feature. Press and hold the BELL button for two to three seconds to begin the sounds; press and hold the button again to turn off the ringing.

Note! Do not activate horns, whistles, or bells on RailSounds-equipped locomotives until track power has been turned on for a few moments, or a continuous horn/whistle or bell sound may occur. To correct this problem, simply turn off the CW-80 Transformer, then turn it back on.

POWER-ON INDICATOR

The green light will remain on during normal operation. The green light will begin to flash if you exceed the power limit of the Transformer. The unit will allow you to momentarily exceed the power limit, but power will be gradually reduced until the problem is corrected. The benefit is that the Transformer will not instantly turn off.

Experiencing the features of the CW-80 Transformer (continued)

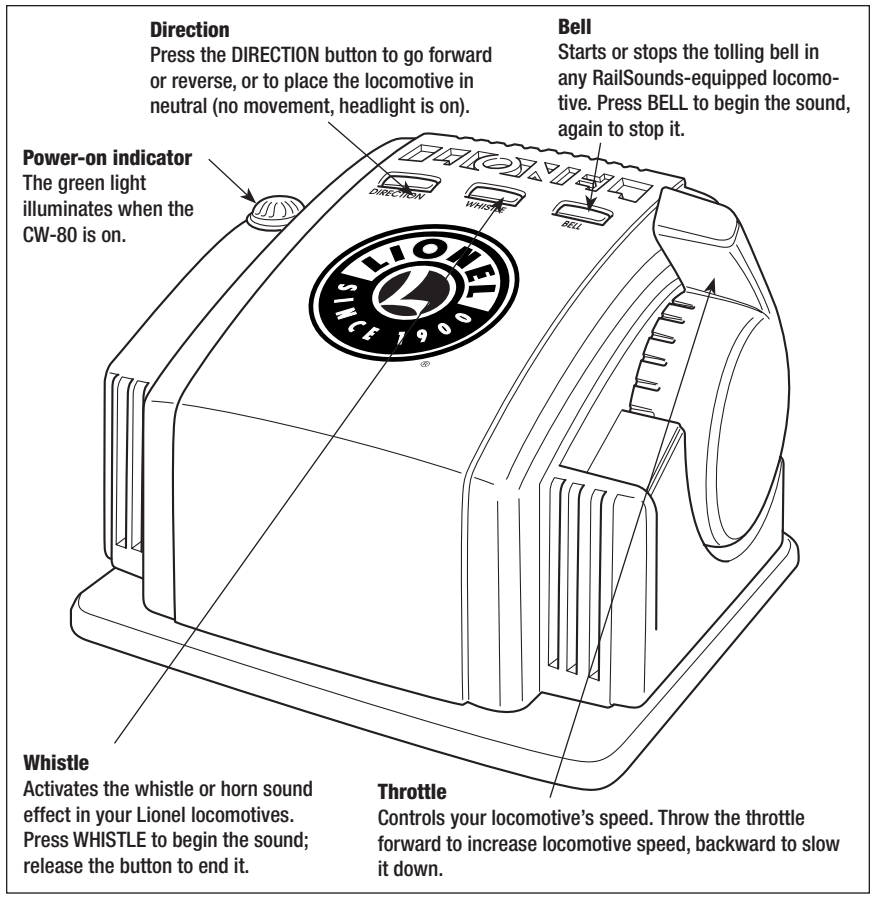

Figure 6. Transformer features

Running your train

Reverse unit procedure

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. Refer to Figure 8 for the location of these controls. 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 7). 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 affect on the direction of the locomotive. If you would like to resume forward-neutral-reverse operation, simply throw the reverse unit switch back to the ON position.

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.

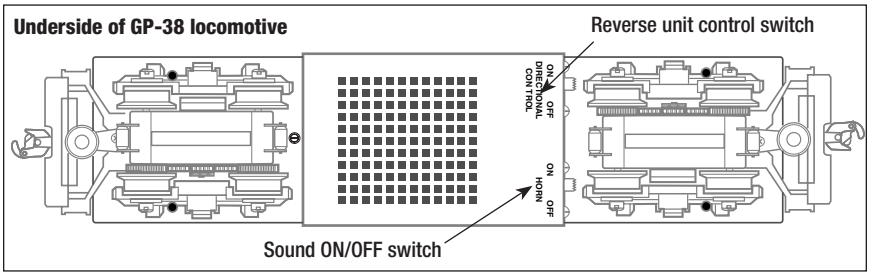

Figure 7. Switch locations

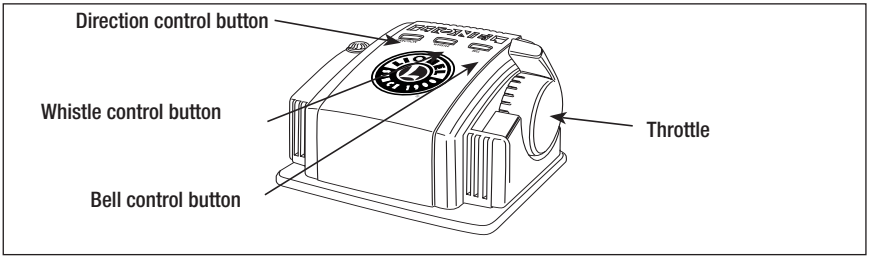

Figure 8. Direction control button location

Operating the TrainSounds sound system

When you power up the locomotive on the track, you will hear the sounds of the idling diesel motor. As you increase speed, the RPM sounds will ramp up through two levels.

Horn

Press the **HORN** button on your transformer to sound the horn. The sound will play for as long as you hold the button.

Bell

Press the **BELL** button on your transformer to activate the bell sound. Press **BELL** again to discontinue the sound.

Brake squeal

To activate the sound of squealing brakes, operate your locomotive at the highest RPM level for at least ten seconds, and then slow to a lower level. The brake sounds will discontinue automatically after a few moments.

Note! If you are unable to activate the brake sounds, your locomotive's speed may be too low. Increase the speed of your locomotive, operate for at least ten seconds, and then reduce the throttle by half.

Crew dialogue

When the locomotive is not in motion, you may activate random crew dialogue using the HORN button on your controller.

Note! The locomotive must be powered up on the track and not in motion for the dialogue to play. Do not turn off track power.

Press the HORN button	*Dialogue*
Stop/Power-up to about 35 seconds	"Stand by" dialogue
After 35 seconds	"Clear for departure" dialogue
After 60 seconds	Random, automatic crew dialogue

Note! If you activate multiple "stand by" dialogues during the first 35 seconds, the length of time before the "clear for departure" dialogue becomes 35 seconds, plus the length of the diaglogue.

Adjusting the volume

Use the volume control knob on the underside of the locomotive to adjust the volume. Refer to Figure 9. Use a small screwdriver to access the volume control knob.

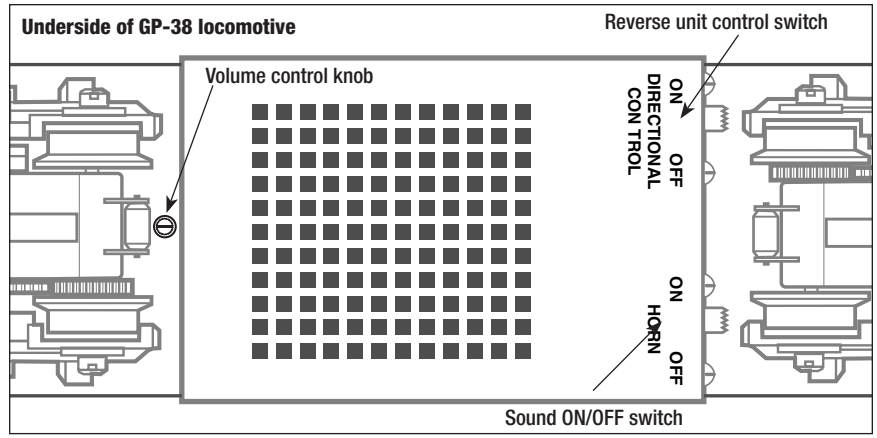

Figure 9. Volume control knob and switch locations

Silencing the diesel roar

To silence the diesel roar, slide the SOUND switch on the underside of the car to the OFF position. The user-activated horn and bell are not silenced. Refer to Figure 9 for the location of the switch.

CW-80 Transformer operation

Powering your layout with the CW-80 Transformer

Your CW-80 Transformer provides a total output of five amps. The track outputs will deliver all of this power to the track when no accessories are connected to the Transformer. Keep in mind that connected accessories borrow some of this power. For example, if the accessories require two amps of the total five-amp capacity of the Transformer, you have three amps available for track power. This built-in flexibility will provide power for virtually any small- to medium-sized railroad. Also, available voltage depends on how much load is on the two outputs. Generally, track voltage and accessory voltage are 0-18 volts (AC) each.

This Transformer is capable of operating trains up to and including dual-motored AC locomotives. To operate at this level of track power, it may be necessary to disconnect any accessories. You may also attempt to lower the accessory voltage settings. Refer to the "Setting the accessory output" section on page 15.

You may momentarily approach or exceed the five-amp limit of the CW-80 Transformer when pulling illuminated cars, fighting over grades with heavy loads, or operating accessories. When you reach five amps, the green light on the Transformer will begin to flash. This indicates that the Transformer is in "fold-back mode." In fold-back mode, the Transformer is automatically reducing, or folding back, power. This gradual reduction in power provides interruption-free operation while you bring the amperage back down to a safe level.

CW-80 Transformer operation

Setting the accessory output

Lionel offers accessories of all shapes and sizes — from crossing signals to coal and lumber loaders — available at your authorized Lionel dealer. When you are ready to operate your new accessory, the CW-80 Transformer allows you to choose how much power your accessory receives with programmable accessory output. The ability to control the voltage allows you to set the speed of your accessory motors and the intensity of your lights. Accessories connected to the accessory output terminals receive constant voltage whenever the transformer is plugged in, regardless of the throttle position. Follow these steps to set the voltage.

Note! The accessory output voltage was set to 12 volts at the factory.

1. **Connect your accessory to the CW-80 Transformer as discussed on pages 6-7.**
2. **Bring the throttle all the way back to the OFF position.**
3. **Press and hold down the DIRECTION, WHISTLE, and BELL buttons on the Transformer. Refer to Figure 6 on page 10 for the location of these buttons.**
   The green light on the Transformer will flash, and track power will turn off.
4. **With all three buttons held down, raise the throttle slowly until you reach your desired accessory voltage.**
5. **Release the buttons once you have reached your desired voltage.**
   The accessory turns off, and the solid green light indicates that you have set the accessory voltage.
6. **Bring the throttle all the way back to turn off the power.**

   The voltage will momentarily increase, briefly causing the lights to shine brighter or the motors to operate faster, before returning to the set level. At this point, increasing the throttle again will control track power only.

Maintaining and servicing your set

Lubricating your locomotive

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

We recommend that you purchase a Lionel Lubrication and Maintenance Kit (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 10. Remove accumulated dirt and dust before lubricating, and always lubricate any locomotive emerging from prolonged storage.

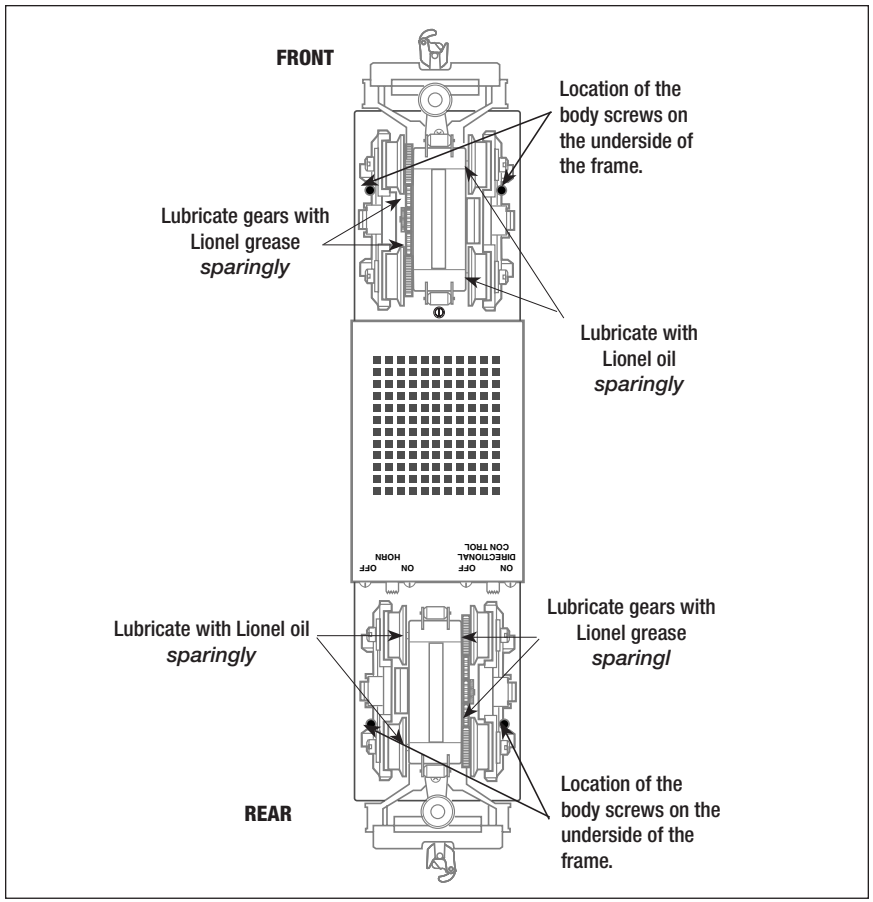

Figure 10. Underside details and lubrication points

Maintaining and servicing your set

Replacing your locomotive's traction tire

Your locomotive is equipped with four traction tires. These rubber tires increase the tractive effort of your locomotive, allowing it to pull more cars at once. During the course of normal operations, the traction tires may become worn out. Because you must remove the trucks and the side frames to access the wheels, we recommend that you have the traction tires replaced by your authorized Lionel Service Center.

Replacing your locomotive's lamps

Your locomotive is illuminated by three 12-volt lamps. One lamp illuminates the rear lights, another illuminates the front lights, and one illuminates the cab interior. During the course of normal operations, they may require replacement.

To replace the expired lamp, remove the four body screws (see Figure 10 on page 18`) and carefully lift the body away from the frame. Take care with the various wiring assemblies connected to the shell.

Locate the assembly containing the expired lamp, which is held in position by a retaining bracket. Refer to Figure 11. Carefully remove the lamp assembly from the bracket, then gently pull the expired lamp from its socket. Replace the expired lamp with Lionel part no. 630-8352-311, available from your authorized Lionel Service Center or Lionel Service in Chesterfield, MI. For more information, see page 20. Reinstall the body and secure it with the four body screws.

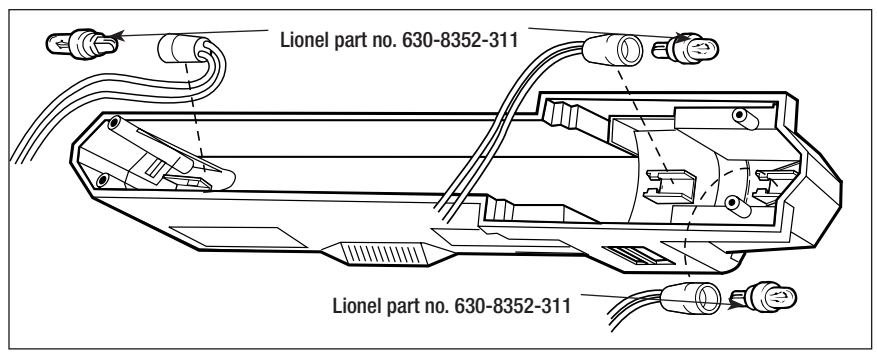

Figure 11. Lamp replacement

Maintaining and servicing your set

Replacing your square window caboose lamp

During the course of normal operation, the lamp inside your caboose may require replacement. Follow these steps and refer to Figure 12.

1. Lift off the roof from the window shell and body.
2. Pull out the end frame tab from the slot formed by the caboose body and roof. The end frames are hinged at the platform to swing outward, away from the body.
3. Remove the window shell. To remove the window shell, carefully bend the sides of the caboose outward while pulling up on the window shell until the tabs are released from the windows.
4. Pull the lamp straight up and out of the socket. Replace it with Lionel lamp no. 630-8352-311, available at your authorized Lionel Service Center or Lionel Service.
5. Lower the window shell back into the body, making sure that the tabs snap into the windows.
6. Reposition the roof above the window shell and body, fit the tabs on the end frames into the corresponding slots in the body, and press down the roof to secure the end frame tabs.

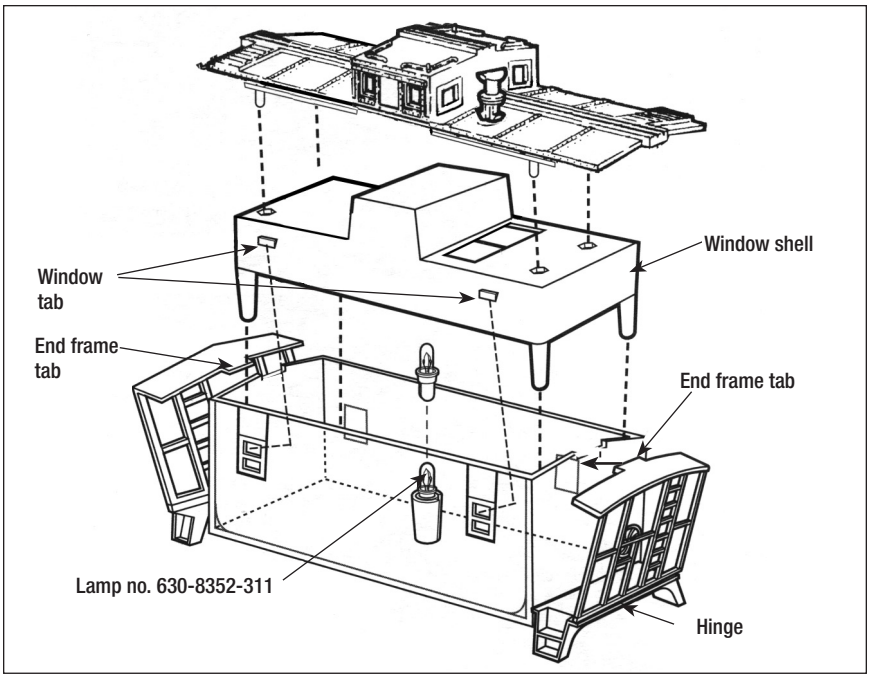

Figure 12. Caboose lamp replacement

Maintaining and servicing your set

Advanced connections: powering two isolated blocks with two transformers

As you expand your layout, you may decide to create two isolated blocks of track. Trains in each block are controlled by separate transformers.

Before you operate your trains on this type of layout, be sure that your transformers are in phase. Operating your trains on a layout with two transformers that are out of phase may cause damage to the locomotive's sensitive electronic components.

To be certain that your transformers are in phase, use a small 18-volt lamp with leads (available at your local electronics supply store) to perform a quick test. Refer to Figure 13.

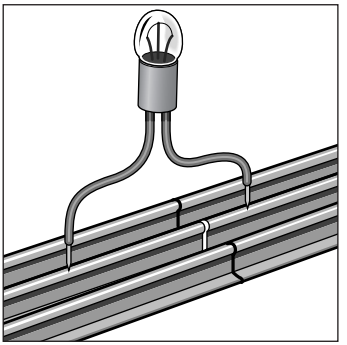

Figure 13. Testing for proper phasing

1. Attach one lamp wire to the center rail in one block.
2. Attach the second lamp wire to the center rail in the other block.
3. Power up both blocks of track. Both transformers should be set to full power.
4. See if the lamp illuminates.

If the lamp illuminates brightly, your transformers are not in phase. Do not operate your trains on the layout until you change the wiring. If the lamp does not illuminate or the lamp is dim, your transformers are in phase and should not cause problems.

To bring your transformers into phase, simply swap the track wires at the A and U terminals on one of the transformers. If you are using an older transformer that lacks a polarized plug, you may reverse the plug at the outlet so that the prongs are inserted into the opposite openings. Repeat the procedure described above, and you should find that the lamp does not illuminate or the lamp is dim.

Note! This will also reverse the operation of the BELL and WHISTLE buttons on the transformer with the switched wires.

Lionel Limited Warranty Policy & Service

This Lionel product, including all mechanical and electrical components, moving parts, motors and structural components, with the exception of **LIGHT BULBS, LED's & TRACTION TIRES** are warranted to the original owner-purchaser for a period of **one year from the original date of purchase** against original defects in materials or workmanship when purchased through a **Lionel Authorized Retailer***.

This warranty does **NOT** cover the following:

- Normal wear and tear
- Light bulbs or LED's
- Defects appearing in the course of commercial use
- Damage resulting from abuse/misuse of the product

Transfer of this product by the original owner-purchaser to another person voids this warranty in its entirety. Modification of this product in any way; visually mechanically or electronically, voids the warranty in its entirety.

Any warranted product which is defective in original materials or workmanship and is delivered by the original owner-purchaser (this warranty is non-transferrable) to Lionel LLC or any Lionel Authorized Service Station **MUST** be accompanied by the original receipt for purchase (or copy) from an **Authorized Lionel Retailer***, will at the discretion of Lionel LLC, be repaired or replaced, without charge for parts or labor. In the event the defective product cannot be repaired, and a suitable replacement is not available, Lionel will offer to replace the product with a comparable model (**determined by Lionel LLC**), if available. In the event a comparable model is not available the customer will be refunded the original purchase price (requires proof of purchase from the **Authorized Lionel Retailer*** it was originally purchased). Any products on which warranty service is sought must be sent freight or postage prepaid (Lionel will refuse any package when postage is due). **Transportation and shipping charges are not covered as part of this warranty.**

NOTE: Products that require service that do not have a receipt from an LIONEL AUTHORIZED RETAILER* will be required to pay for all parts required to repair the product (labor will not incur a charge) providing the product is not older than 3 years from date of manufacture and is within 1 year from date of purchase. A copy of the original sales receipt is required.

In no event shall Lionel LLC be held 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 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 LLC product is required; bring the item, along with your DATED sales receipt and completed warranty information (at the bottom of this page) to the nearest Lionel Authorized Service Station. Your nearest Lionel Service Station can be found by calling 1-800-4-LIONEL or by accessing the website at www.lionel.com.

If you prefer to send your Lionel product directly to Lionel, for repair you must FIRST call 586-949-4100 extension 9105 or FAX Lionel at 586-949-5429 or write to Customer Service, 26750 Twenty Three Mile Road, Chesterfield, MI 48051-2493. Please have the 6-digit Lionel product number, the date of original purchase, the dealer where the item was purchased and what seems to be the problem. You will receive a return authorization (RA) number to ensure your merchandise will be properly tracked and handled upon receipt at Lionel LLC.

Once you have your Return Authorization (RA) number, make sure the item is packed in its original Styrofoam inner container which is placed inside the original outer display box (this will help prevent damage during shipping and handling). This shipment MUST be prepaid and we recommend that it be insured with the carrier of your choice.

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 Lionel LLC's Authorized Service Stations after its warranty has expired. A reasonable service fee should be expected once the product warranty has expired.

Warranty Information

Please complete the information below and keep it, along with your **DATED ORIGINAL SALES RECEIPT**. You MUST present this form **AND** your **DATED SALES RECEIPT** when requesting warranty service.

*A complete listing of Lionel Authorized retailers can be found by calling 1-800-4-LIONEL or by visiting our website at www.lionel.com.

Products that are more than 3 years old, from date of manufacture, are not applicable for warranty coverage, even if they have never been sold prior to this date. (Under no circumstance shall any components or labor be provided free of charge.)

Name _____

Address _____

Place of Purchase _____

Date of Purchase _____

Product Number _____

Product Description _____