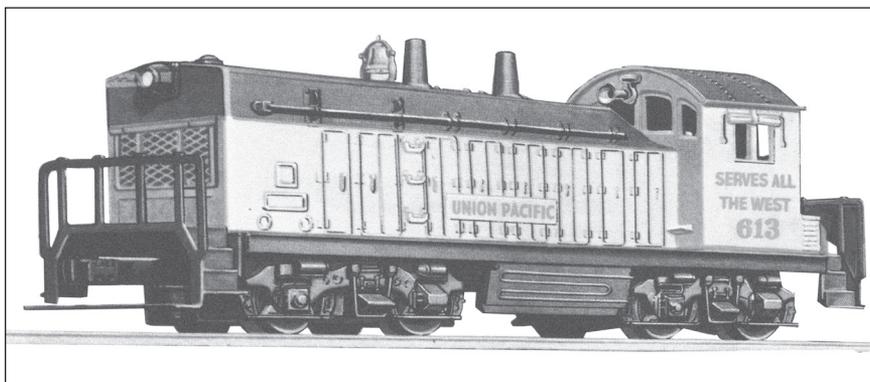


Instructions for Operating **LIONEL NO. 613 DIESEL LOCOMOTIVE**



Lionel No. 613 Diesel is a versatile road switcher based on GM's 125-ton NW2 and carries the famous colors and markings of the Union Pacific. These switchers worked hard in the rail yards moving freight and work cars.

Lionel's No. 613 is equipped with a powerful Magne-Traction, brilliant headlight, and magnetic couplers on both ends. This handsome engine is built to run on either "O" or "O27" track and measures 12 1/4" long.

LIONEL "MAGNE-TRACTION"

This locomotive is equipped with "Magne-Traction" which means that its driving wheels are magnetized by powerful Alnico magnets inserted in the driving axles in order to grip the track and enable the locomotive to pull heavier loads and climb steeper grades without slipping on the track. Be careful not to let pins, paperclips, carpet tacks or other small iron objects come in contact with the locomotive or they will be attracted to the wheels, gears, or axles and interfere with the action of the locomotive. NOTE: "Magne-Traction" is not effective on aluminum, brass or other non-magnetic rails. The locomotive also includes two traction tires, which will improve traction on both magnetic and non-magnetic rails.

#1593 WORK TRAIN SET INCLUDES:

NW-2 diesel switcher, hopper car, flat car with transformer, boom car, gondola with canisters, and a work caboose

LOCOMOTIVE FEATURES:

- Electronic E-Unit with Direction Lock
- Transformer controlled forward, neutral and reverse operation
- Electronic diesel horn and bell with volume control
- Dual operating couplers
- Powerful Pullmor motor
- Magne-Traction track gripping system
- Traction tires
- Operating headlight
- Minimum Curve: 0-31

ROLLING STOCK FEATURES:

- Die-cast metal trucks and operating couplers
- Gondola includes three canisters
- Hopper includes a removeable coal load
- Flat car includes transformer
- Boom car includes operating boom, hook, and outriggers

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Transformer operations

RUNNING YOUR LOCOMOTIVE WITH A LIONEL TRANSFORMER

Caution!

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

1

PLACE YOUR TRAIN SET ON LIONEL OR LIONEL-COMPATIBLE O GAUGE TRACK.

2

THROTTLE UP YOUR LOCOMOTIVE WITH YOUR TRANSFORMER.

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

Throttle up your locomotive and it will begin to move in the forward direction. Adjust track voltage until your locomotive moves at your desired speed. To increase speed, increase track voltage. To decrease speed, decrease voltage.

Pressing the DIRECTION button on your transformer will sequence the Electronic E-unit to the next operating state in the repeating sequence of: forward, neutral, reverse, neutral, and so on.

To stop the locomotive, cycle the Electronic E-unit to neutral or turn-off track power.

Transformer operations

LOCKING YOUR LOCOMOTIVE INTO FORWARD DIRECTION ONLY OPERATION

When the Electronic E-unit Direction Lock switch is in the RUN position, your locomotive sequences through a repeating pattern of operations: forward, neutral, reverse, neutral, and so on.

To lock your locomotive into forward direction only operation, you can deactivate the Electronic E-unit's sequencing function. Follow the steps below and refer to figure 1 for the location of the Electronic E-unit Direction Lock switch.

Note! Always turn off track power before removing the locomotive from the track.

1. Turn off track power, wait three seconds, and remove the locomotive from the track. Now slide the Electronic E-unit Direction Lock switch to the LOCK position. Your locomotive is now locked into forward direction only operation.
2. Place your locomotive back on the track. Power up the track and press the direction button on your transformer to confirm that the locomotive is now locked into forward direction only operation.

To restore the forward-neutral-reverse sequence, turn off power and remove your locomotive from the track. Slide the Electronic E-unit Direction Lock switch back to the RUN position. Place the locomotive back on the track and restore track power.

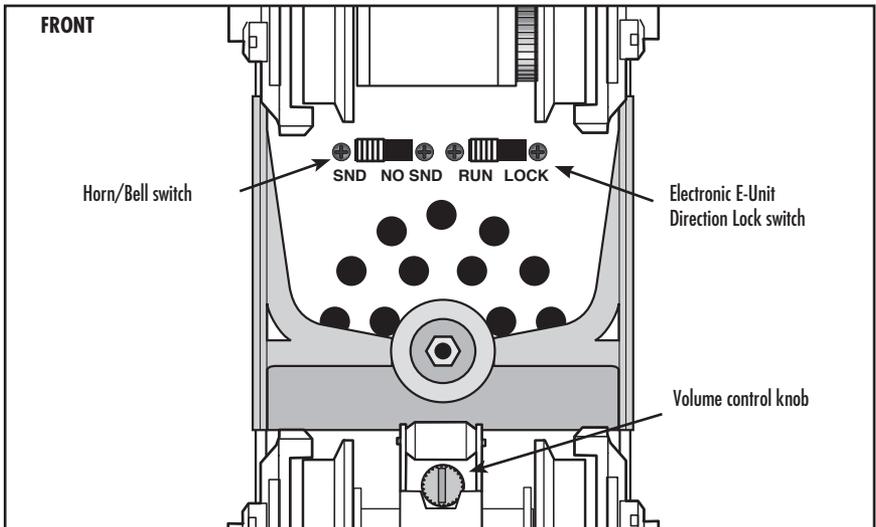


Figure 1. Switch locations

Transformer operations

USING YOUR LOCOMOTIVE'S MAGNETIC COUPLERS

Your Lionel locomotive 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, 6-65149 or 6-12746 for O-27 gauge; 6-65530 for O gauge; or 6-12020 and 6-12054 for FasTrack layouts).

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.

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

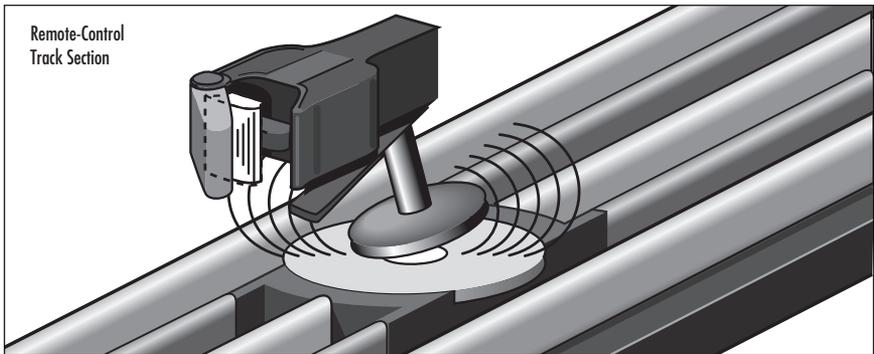


Figure 2. Magnetic coupler operation

Transformer operations

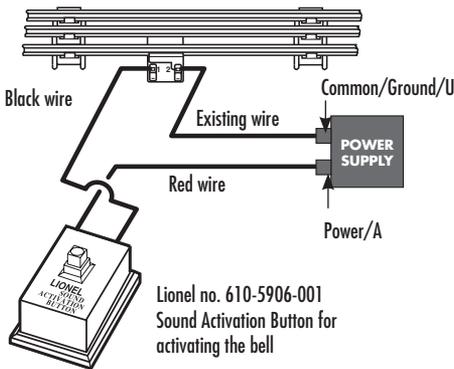
SOUNDING YOUR LOCOMOTIVE'S ELECTRONIC HORN AND BELL

Use the HORN and BELL buttons on your transformer to activate the locomotive's horn and bell sounds.

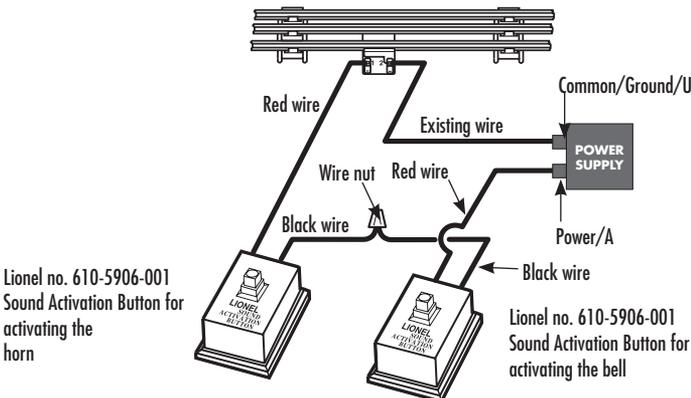
If your transformer lacks HORN and BELL buttons, you will need to install Lionel no. 610-5906-001 Sound Activation Buttons (available separately) to activate the locomotive's horn and bell sounds.

Connect the buttons as shown below. Be sure that all track power passes through the Sound Activation Button(s).

FOR AC TRANSFORMERS LACKING A BELL BUTTON



FOR AC TRANSFORMERS LACKING BELL AND HORN/WHISTLE BUTTONS



To adjust the volume of the horn and bell sounds, use the volume control knob located on the underside of the locomotive. See Figure 1 on page 4 for the location of the Volume Control Knob.

To deactivate the electronic horn and bell sounds, slide the HORN/BELL switch to the NO SND position. See Figure 1 on page 4 for the location of the HORN/BELL switch.

Operating and servicing your set

LUBRICATING YOUR LOCOMOTIVE SET

The life and performance of the locomotive depends to a considerable extent upon proper care and lubrication of the motor and other moving parts. Since your locomotive might have been stored on the dealer's shelves for some time, be sure to lubricate it according to the lubrication chart in Figure 4 on page 8 before running it for the first time. Put a small dab of Lionel Lubricant at all points marked "L". Using the point of a pin or a thin wire, put a drop of Lionel Oil at points marked "O". Lubricate carefully but never to excess. A small amount of oil or lubricant, properly applied, goes a long way. Be careful not to get any oil or lubricant on the running surfaces of the wheels or on the rails, or your locomotive will lose traction and do not lubricate locomotive rollers.

The motor of this locomotive requires occasional lubrication with a few drops of light machine oil. See Figure 5 on page 9. To get at the motor the locomotive body must first be removed. See Figure 4 on page 8.

A complete Lubrication and Maintenance Kit No. 927 (6-62927) which contains all the material and equipment necessary to keep your outfit in top notch condition may be obtained from your authorized Lionel dealer or service station.

LUBRICATING THE ROLLING STOCK TRUCKS

Improperly lubricated rolling stock trucks may double the drag on your locomotive. Spin the wheels by hand. If they show any signs of drag or binding, remove the old lubricant and the accumulated dust and dirt with Lionel Cleaner and apply a drop of fresh oil at the ends of the axles. The lubrication points are designated as "O". See Figure 3.

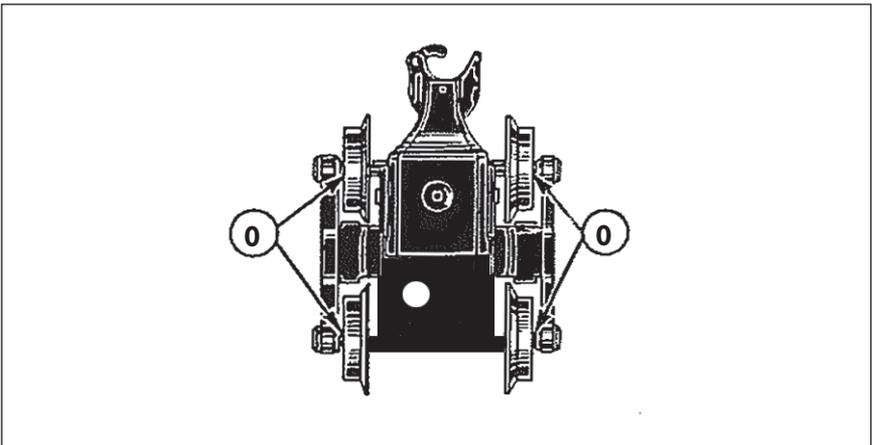


Figure 3. Lubricating the trucks

Operating and servicing your set

LUBRICATING YOUR LOCOMOTIVE

Help your Lionel locomotive lead a long and productive life on your railroad by maintaining it properly. To keep your locomotive lubricated, we recommend that you purchase a Lionel Lubrication and Maintenance Kit (6-62927), available from your authorized Lionel dealer or service station.

When you find that the lubrication points illustrated in Figure 4 appear dry, lubricate your locomotive after you have removed any accumulated dirt and dust. There are two basic rules to keep in mind when you are lubricating your locomotive: use only a small amount of lubrication and avoid getting grease or oil on your locomotive's wheels, roller pick-ups, or the track.

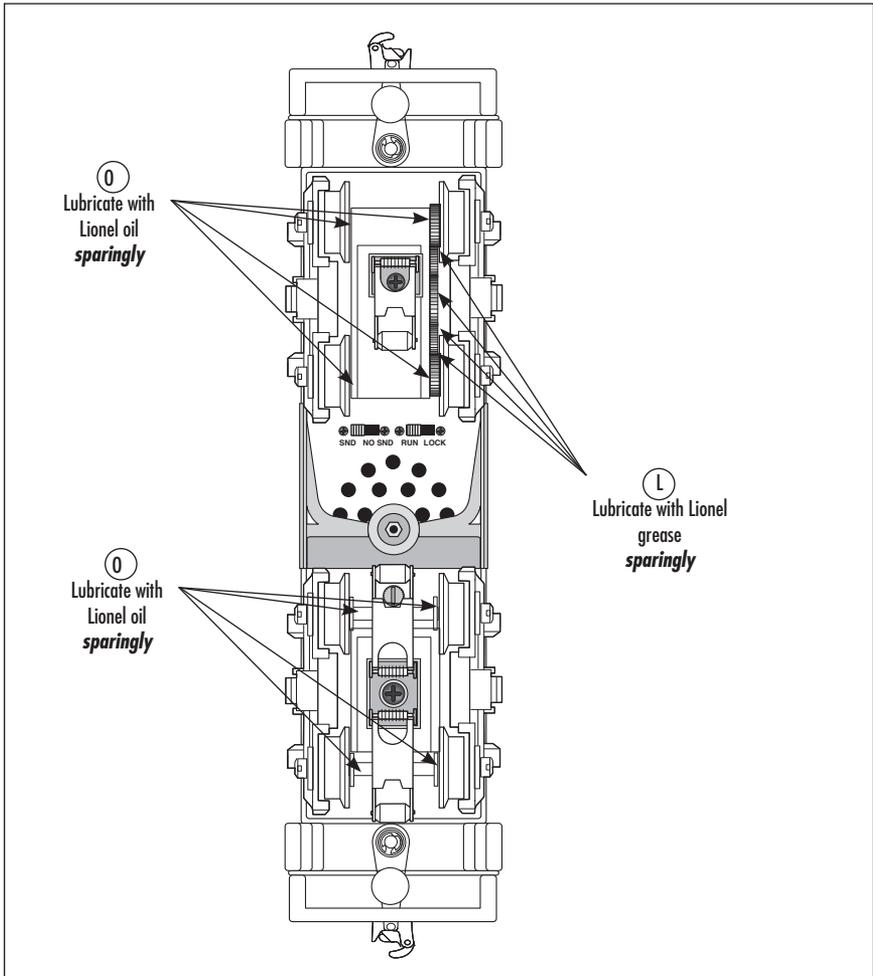


Figure 4. Underside details and lubrication points

Operating and servicing your set

LUBRICATING YOUR NW-2 SWITCHER'S PULLMOR MOTOR ARMATURE

Your powered NW-2 Switcher 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..

1. Remove the screw from the front of the body. Lift the front end of the body up slightly and pull it forward to release the rear clip from the slot in the rear of the body.
2. Apply a small amount of Lionel oil (two drops) in the armature shaft hole. Refer to Figure 5 below.
3. To reinstall the body, first insert the clip into the slot in the rear of the body. Lower the front of the body onto the frame and insert the screw. Make sure all of the wires are inside the body before you tighten the screw.

Note! To prevent damage to the locomotive body, do not overtighten the body screws.

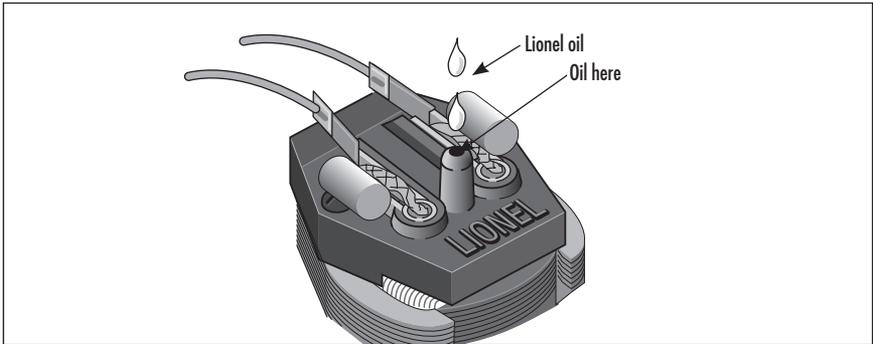


Figure 5. Pullmor motor lubrication

Operating and servicing your set

REPLACING THE LAMP IN YOUR NW-2

Your NW-2 is illuminated by a 14-volt lamp. During the course of normal operation, the lamp may require replacement.

1. Remove the screw from the front of the body. Lift the front end of the body up slightly and pull it forward to release the rear clip from the slot in the rear of the body.
2. To remove the lamp, gently unscrew from the socket.
3. Replace the expired lamp with Lionel part no. 600-2314-300, available from your local Authorized Service Center or Lionel Service. (For more information, see Lionel Service on page 12.)
4. To reinstall the body, first insert the clip into the slot in the rear of the body. Lower the front of the body onto the frame and insert the screw. Make sure all of the wires are inside the body before you tighten the screw.

Note! To prevent damage to the locomotive body, do not overtighten the body screws.

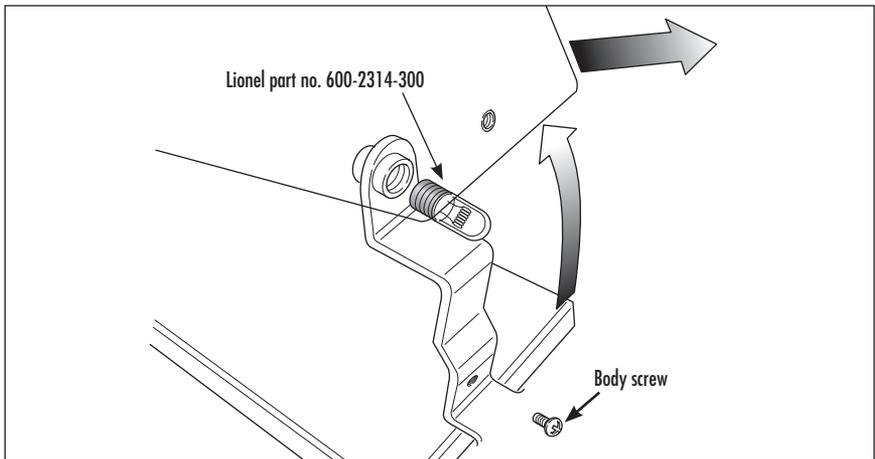


Figure 6. Lamp replacement

REPLACING THE TRACTION TIRES

Your locomotive is equipped with traction tires to increase the tractive effort of your locomotive and allow it to pull more cars at one time.

During the course of normal operations, the traction tires may become worn out. Replacement traction tires are included with the locomotive. We recommend that you have the traction tires (610-6001-065) replaced by an authorized Lionel dealer or service station because the truck and side frames must be removed to access the wheels. See **Instructions for Obtaining Service** on page 12 for more information.

Operating and servicing your set

Caution! Be sure that the derrick clears the objects on your layout, including trains and scenery. Also, raise the hook and the boom to avoid tangling the lines and dragging the hook.

SETTING UP THE DERRICK

Your Boom car is packed with its mast folded down. It also has retractable outriggers to stabilize the car while the winch-operated derrick is put to work. Refer to Figure 7.

To set the outriggers in the down position, pull them straight out and then turning them down until they lock into position. Adjust the height of the outriggers to match your track height by rotating each foot on its leg until it is firmly planted beside the track, but don't extend them so far that the car is lifted off the rails. Refer to Figure 7.

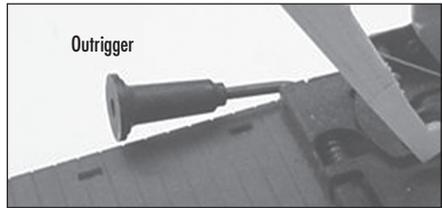


Figure 7. Locking the derrick into position

To prepare the car for use, simply raise the mast until it snaps into place in its vertical position. Also, check that the lines are properly threaded through the pulleys. Before moving the car, retract the outriggers so that they will not interfere with train operation.

Note! To fold down the mast, pull the mast lock away from the derrick.

OPERATING THE DERRICK

Your derrick is operated by two hand cranks. Refer to Figure 8. Use crank #1 to raise and lower the boom. Use crank #2 to control the block and tackle.

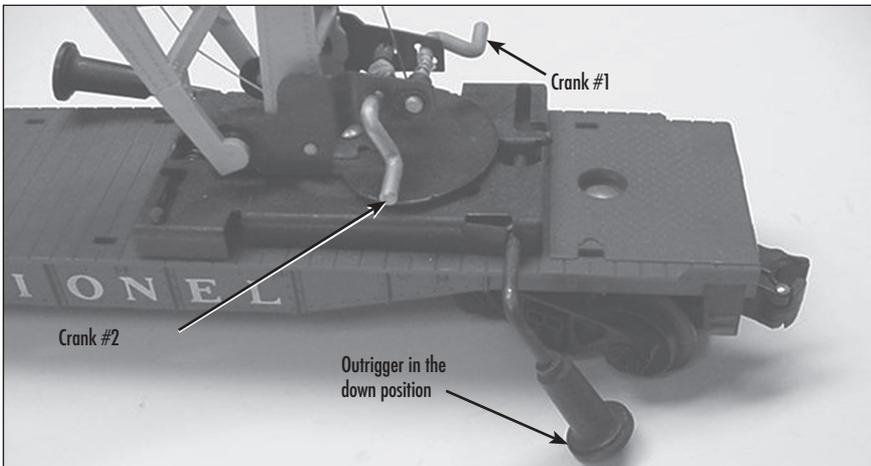


Figure 8. Locking the derrick into position

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 _____

