



73-4639-250
6/11

Lionel
F3 Non-powered B Unit
Diesel Locomotive
Owner's Manual

Featuring



Congratulations!

Congratulations on your purchase of this non-powered Lionel diesel Locomotive! On the outside, this locomotive features numerous prototypical details and expert decoration in your favorite livery. Inside the body, this locomotive is equipped with some of the most advanced controls in model railroading. This unit is ready for duty on your layout.

Features of the non-powered locomotive

- **LEGACY Control System equipped—able to run with the new LEGACY Control system, in the TrainMaster Command Control environment, or in the conventional environment with only a standard transformer**
- **Directional lighting**
- **ElectroCoupler on rear of the unit**
- **Fan-driven smoke unit**
- **Minimum curve: 0-31**

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LEGACY Control System operations—overview

Please note that not all LEGACY products have all the features mentioned in this section.

Note! This section is a brief overview of the LEGACY Control System. For a more in depth explanation of the LEGACY Control System features, please see your LEGACY Control System Operations Manual. Couple your non-powered locomotive to a powered locomotive for operation with the LEGACY Control System.

GET READY TO RUN

Note! Couple your non-powered locomotive to a powered locomotive for operation in the LEGACY Control System environment.

Get your engine running now by following the instructions in this guide. We'll power up the track and then "address the engine" so it can be controlled by your CAB-2 remote controller.

Power Up The Track

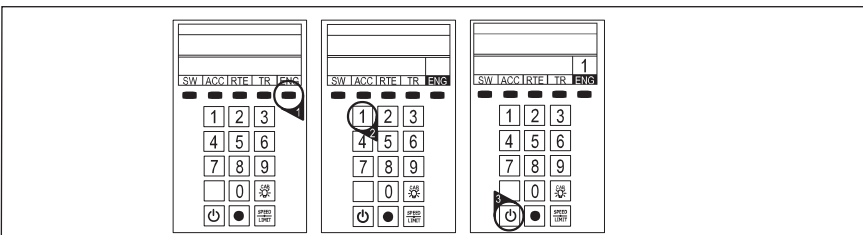
Refer to PowerMaster, TPC, or ZW manual for the correct method to power up. With your locomotive on the track, power-up your track to a constant 18 volts. If a circuit breaker trips when you turn on the Lionel power supply, check the wheels of your locomotive to make sure they are all securely on the track. Check to make sure the track is free of all metals that may cause a short circuit.

Address Your Engine

First, you must address the engine. This "tells" your CAB-2 which locomotive you want to control. This is important when you have more than one engine on your layout.

To address an engine:

1. Press ENG
2. Press 1
3. Press Start Up



See reference numbers 1, 2, and 3

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Lionel®, TrainMaster®, Odyssey®, RailSounds®, CrewTalk™, TowerCom™, DynaChuff™, StationSounds™, Pullmor®, ElectroCoupler™, Magne-Traction®, CAB-1® Remote Controller, PowerMaster®, Lionel ZW®, ZW®, PowerHouse®, TMCC®, Lionelville™, Lockon®, Wireless Tether™, LionMaster®, FatBoy™, American Flyer®, TrainSounds™, PowerMax™, LEGACY™, PowerMax™ Plus, Odyssey II™, LEGACY RailSounds™

The name FasTrack® is used with permission from Pilsco, Inc.

LEGACY Control System operations

The LEGACY CAB-2 Remote Controller

Main Display

Displays real-time information about your railroad system. Displays real-time feedback of operation.

Scroll Button

Navigates through the entire list of Engines, Trains, Switches, etc.

Select Button

Performs addressing by 3-4 digit road number.

Touch Screen Key Pad

A group of touch sensitive keys with icons for each function. These keys serve many purposes and their icons change accordingly.

Train Brake Slider

This slider is used to increase or decrease the amount of Train Brake effecting the engine or train.

Train Link Button

For future use.

AUX-1/Thru Button

Press to view the Control Panel while operating. Controls switch direction.

AUX-2/Out Button

Controls switch direction.

Emergency Halt Button

Stops everything on layout, also stops recording playback.

Record Button

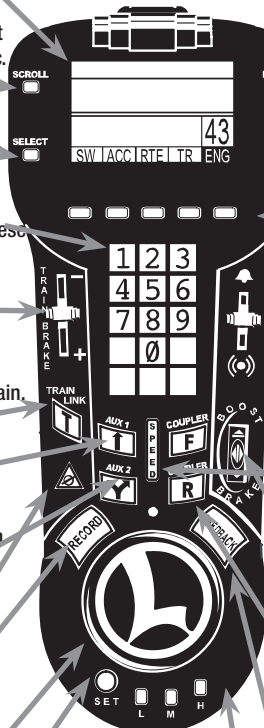
Used to record and playback events.

Velocity Throttle

Throttle control over engines, also used to navigate thru info/options.

Set Button

Used to set Engine address and for programming.



Info Button
Used to enter/view the info/options of selected components.

CTC Button
Turns the Remote Control ON and OFF. Used to enter the Remote and Base options. Pressing CTC while in a menu will always bring you back to main screen.

Soft Keys
These keys directly correlate to the 5 selection boxes located at the bottom of the main screen. These are also used in the info/options menus to select options.

Warning Sound Controller
Warning Bell and Variable Whistle/Horn control. Pull down to sound Whistle/Horn. Push up and release to trigger Warning Bell.

Official R.R. Speed Control Bar
Toggles the touchscreen display of R.R. preset speeds and control panel.

Multi Controller
Boost, Brake, and Direction control. Rock forward for Boost, rock backward for engine brake, and press down for direction change. Click-hold-and rock for absolute direction select.

Front & Rear Coupler Buttons
Fire couplers.

Feedback Buttons
Toggle ON/OFF the vibration feedback feature in the CAB-2 Remote.

Low, Medium, High Momentum Buttons
Used to select the desired momentum of your addressed engine/train/accessory.

Locomotive switch function overview

Switch overview

Command Reverse Unit Switch

Used to assign an ID# and reprogram the non-powered locomotive in LEGACY and Command operation when the switch is in the “PGM” position. See pages 8 and 10.

Smoke Unit Switch

Used to turn the smoke unit function “on” and “off”. See page 14.

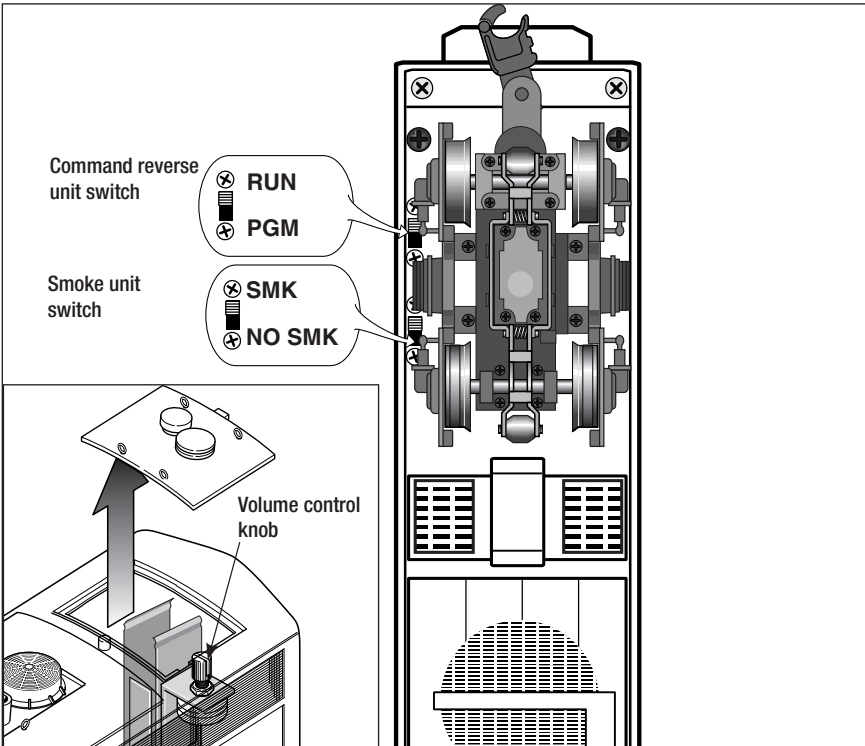


Figure 1. Switch locations

TrainMaster Command Control operations

TrainMaster Command Control operations

In addition to your transformer, to operate your non-powered locomotive in the Command Control environment, you need a Command Base (available separately, 6-12911) and a CAB-1 Remote Controller (available separately, 6-12868).

Your commands are sent by the CAB-1 Remote Controller to the Command Base, which then translates the command into digital code. That code is sent through the outside rails to your locomotive, which will not respond until it recognizes its unique ID#. TrainMaster Command Control gives you the power to operate multiple Command-equipped locomotives on the same track at the same time.

Operating your non-powered locomotive in the Command Control environment

Note! Couple your non-powered locomotive to a powered locomotive for operation in the TrainMaster Command Control environment.

- 1. Turn off track power and plug-in the Command Base.** Be sure that the Command Base is connected to the outside rail or to the Common/Ground/U terminal on your track power supply.
- 2. Place your non-powered locomotive on Lionel or Lionel-compatible 0-31 or larger track.**
- 3. Increase track voltage to full power (no more than 19 volts AC).** On PowerMasters, slide the CMD/CONV switch to CMD. Program Track Power Controllers to Command Control operation.

Caution! Power your non-powered locomotive with an alternating-current (AC) transformer only. Powering your locomotive with a direct-current (DC) transformer, or in excess of 19 volts AC, may result in damage to sensitive electronic components.

- 4. Press ENG and enter the ID# to address your locomotive with your CAB-1 Remote Controller.** All Lionel locomotives come factory-programmed as ID# 1. To change the ID#, see page 8.
- 5. Throttle up and move 'em out!** Your locomotive will respond to every command from your CAB-1 Remote Controller.

TrainMaster Command Control operations

CAB-1 Remote Controller commands

The CAB-1 Remote Controller commands are detailed below.



Releases the rear coupler.



Activates the numeric keypad.



Toggles all directional lighting on and off.



Shuts down all PowerMasters on your railroad. Stops all TrainMaster Command Control-equipped locomotives in operation. Use **HALT** only in emergency situations.



TrainMaster Command Control operations

CAB-1 Remote Controller numeric keypad commands

When you press the **AUX1** button on your CAB-1 Remote Controller, you turn the numeric keypad into ten command buttons. These commands are specific to your locomotive. After you press the **AUX1** button, you will be able to press any numbered button until you address a different Command Control equipped product.



Resets the locomotive.



Turns off the smoke unit.



Turns on the smoke unit if the smoke unit switch is in the SMK position. Be sure to add smoke fluid before turning on the smoke unit to prevent damage to your locomotive.

Note!

AUX1, **8** and **9** function only if the locomotive's smoke unit switch is in the SMK position.

Assigning your non-powered locomotive a new ID#

As your roster of TrainMaster Command Control-equipped locomotives grows, you will want to give each unit a unique ID#. The locomotive will respond to commands associated with its ID# while all other units will disregard these commands.

Note!

To restore your locomotive's functions, see page 10.

1. Slide the Command reverse unit switch on your locomotive to the PGM position. See Figure 1 on page 5.
2. Place the locomotive on the track.
3. Connect the Command Base and plug it in.
4. Power up the track.
5. Press **ENG**.
6. Enter the unique ID#. Choose any number from 1 to 99 that has not been assigned to another locomotive (**ENG**). We recommend using a part of your locomotive's cab number.
7. Press **SET**. The locomotive's headlights will flash.
8. Slide the Command reverse unit switch back to the RUN position.

The locomotive's ID# has been set. Be sure to record the new ID# for your reference.

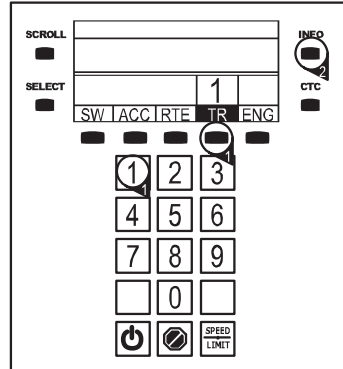
TrainMaster Command Control operations

Building a lash-up

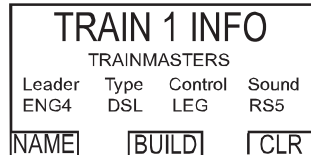
In the Command environment, building a lash-up allows you to control your locomotive as one in a prototypical manner. It is still possible to control any of the engines in the lash-up individually. When you issue a train command, the individual engine you were controlling will return to the group. If there is a difference in speed, the individual Engine will return to the speed of the lash-up at the rate set in the train momentum.

To build a lash-up, assign a unique engine (ENG) ID# to each unit. See page 10 for details.

1. Address the train ID# you wish to create or edit, 1 to 99.
2. Press INFO.
3. Press BUILD softkey (button directly under BUILD).
4. Enter the front engine number. It is not necessary to enter ENG, just enter the #. It will appear in the blinking box.
5. Press ADD to add the front engine. The engine will move to the right and the blinking box will be ready for your next engine to be added.
6. Enter the second engine ID# in the blinking box.
7. Press ADD to add the second engine. The engine will move to the right and the blinking box will be ready for your next engine to be added.
8. Add all the engines you want in your lash-up in this manner.
9. To change the direction of an engine in your lash-up, turn the Velocity Throttle to move the engine you want into the blinking box. Then press DIR to change the direction of the engine.
10. To delete an engine in your lash-up, turn the red Velocity Throttle knob to move the engine you want to delete into the blinking box. Then press DEL.
11. To save your lash-up, press SET. Watch the on-screen prompts and wait until you see the message TRAIN CREATED.
12. Press CTC to exit to the operating screen.



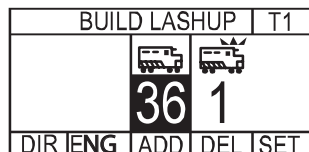
See reference numbers 1 and 2



See reference number 3



See reference number 4



See reference numbers 6 and 7

TrainMaster Command Control operations

Reprogramming your non-powered locomotive to restore features

If your locomotive is unresponsive to your commands in the Command Control environment, we recommend that you follow this procedure to reset your locomotive. All factory default settings will be restored when you reprogram the locomotive.

- 1. Slide the program run switch to the PGM position.**
- 2. Plug in and connect your LEGACY Base.**
- 3. Place your locomotive on the track, then power up the track.**
- 4. Press ENG and enter the locomotive's ID#.**
- 5. Press SET.**
- 6. Turn off track power and wait ten seconds.**
- 7. Slide the program run switch back to the RUN position.**

At this point, your locomotive has been reset. Restore power to the track and operate the locomotive as usual. Be sure to use the ID# entered in Step 4.

Conventional transformer operations

Operating your non-powered locomotive in the conventional environment

Your non-powered locomotive is capable of operating in the conventional environment with nothing more than a standard Lionel alternating-current (AC) transformer.

To experience all of your non-powered locomotive's features, we recommend operating in the LEGACY Command Control environment. With a simple one-wire connection, you can use the CAB-2 Remote Controller to access all of the functions of your locomotive. Refer to pages 3 and 4 to see how to operate your locomotive in the LEGACY Command Control environment.

Note! Couple your non-powered locomotive to a powered locomotive for operation in the conventional environment.

- 1. Place your non-powered locomotive on Lionel or Lionel-compatible O-31 or larger track.**
- 2. Power your non-powered locomotive at 12-18 volts with your alternating current (AC) transformer.**

Caution! Power your non-powered locomotive with an alternating-current (AC) transformer only. Powering your locomotive with a direct-current (DC) transformer, or in excess of 19 volts AC, may result in damage to sensitive electronic components. 60 HZ AC is required. Do not power with 50 HZ AC.

- 3. Wait three to eight seconds as your non-powered locomotive determines whether it is in a conventional environment or a TrainMaster Command Control environment.**

Conventional transformer operations

Uncoupling your locomotive in the conventional environment

Your non-powered locomotive features an ElectroCoupler that is released by remote control at any point around your layout in the TrainMaster Command Control environment.

In the conventional environment, the ElectroCouplers will not open manually or by using a Remote-Control Track section. To couple your locomotive in the conventional environment, you must rely on a piece of rolling stock equipped with a magnetic coupler. Simply release the magnetic coupler and couple the rolling stock to the locomotive, even if the ElectroCoupler is closed.

Keep in mind that you may still make use of Lionel Remote-Control Track sections (6-65530 for O gauge; 6-12746 and 6-65149 for O-27 gauge; and 6-12020 and 6-12054 for FasTrack layouts) with the magnetic couplers on the rolling stock. Place the trigger disc on the magnetic coupler over the central coil on the Remote-Control Track section, then press UNCOUPLE on the track section's controller. As illustrated in Figure 2, the magnetic field pulls the disc downward, releasing the coupler.

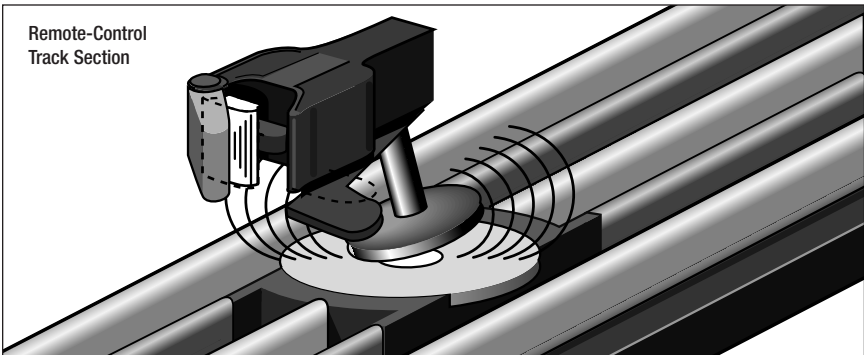


Figure 2. Magnetic coupler operation

Maintaining and servicing your locomotive

Lubricating your non-powered locomotive

Help your Lionel non-powered 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.

When you find that the lubrication points illustrated in Figure 3 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.

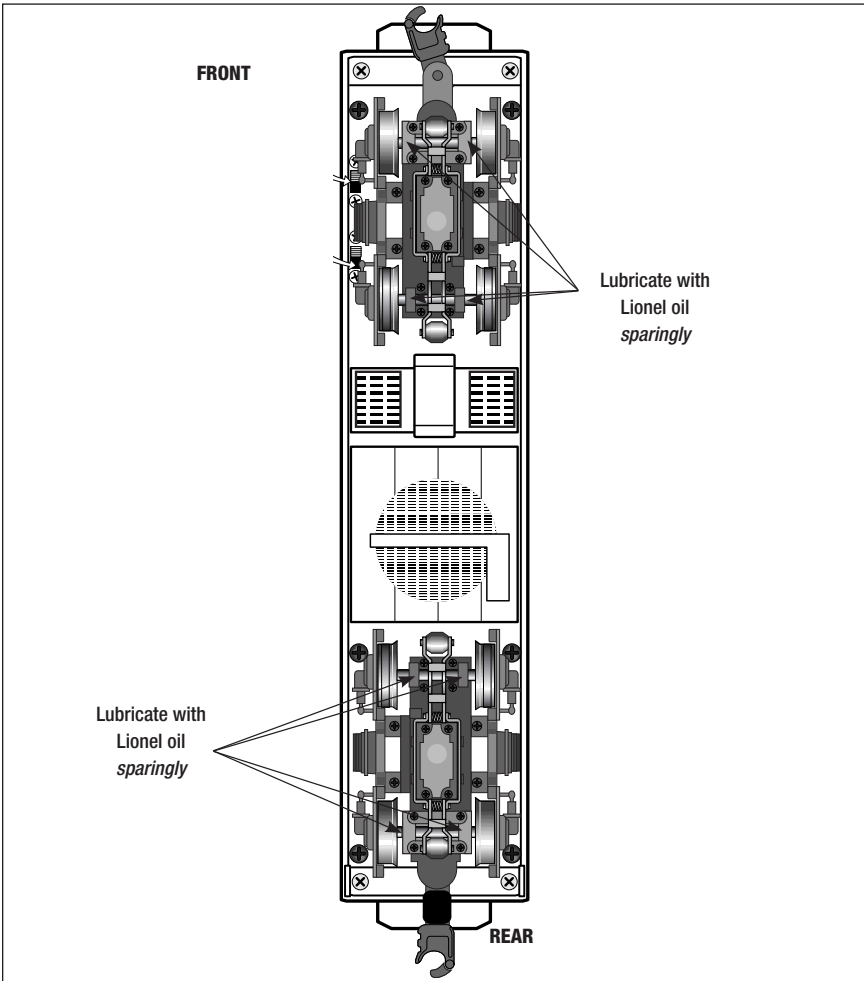


Figure 3. Details and lubrication points

Maintaining and servicing your locomotive

Adding fluid to your non-powered locomotive's smoke generator

Your non-powered locomotive is equipped with a smoke generator that produces a safe, clean, white smoke during operation. In order to function, the smoke generator requires the periodic addition of Lionel smoke fluid. Add 10 to 15 drops of fluid into the stack of your locomotive as illustrated in Figure 4. Power up your locomotive, and smoke production will start momentarily. Smoke production will start faster if you operate your locomotive at higher speeds. Smoke production is greatest at high voltages and when the locomotive pulls a heavy load. When smoke production decreases, add four to eight additional drops of smoke fluid.

If you prefer to operate your locomotive without smoke, locate the smoke unit switch on the underside of the locomotive and slide it to the NO SMK position. Refer to Figure 1 on page 5 for the location of this switch.

When the smoke unit switch is in the SMK position, always keep a small amount of smoke fluid in the smoke unit. Operating your locomotive's smoke unit without smoke fluid will cause damage to the heating element.

Caution! Always operate your locomotive's smoke unit with the addition of smoke fluid to prevent damage to the heating element.

Caution! Use only Lionel smoke fluid with this engine. Do NOT use smoke fluid from ready-to-run train sets.

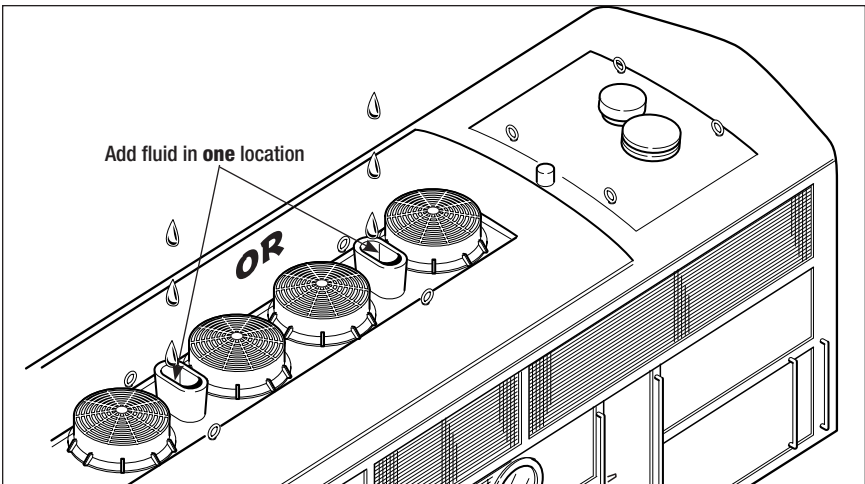


Figure 4. Stack location

Maintaining and servicing your locomotive

Setting the smoke level

You may adjust the level of smoke production using your Remote. Use the sequences below.

Low smoke production: **AUX2, 9, L, AUX2**

Medium smoke production: **AUX2, 9, M, AUX2**

High smoke production: **AUX2, 9, H, AUX2**

Replacing your locomotive's LED

Your non-powered locomotive's back-up light is illuminated by one LED. During the course of normal operations, the LED may require replacement.

We recommend that you have the LED replaced by a Factory Trained authorized Lionel Service Center. See the **Instructions for Obtaining Service** section on page 16 for more information.

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 _____

