

LIONEL

71-2961-250
3/98

Instruction sheet for Upgrade kits 6-2961, 6-2962, & 6-2979

LIONEL GP9B STANDARD & DELUXE

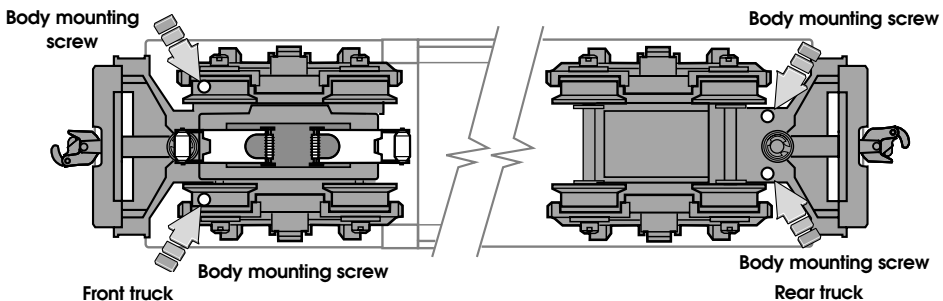
Installing your GP9B's Upgrade Kit (standard or deluxe)

Your GP9B is factory-equipped with magnetic couplers and non-directional lighting. This upgrade kit will give your GP9B directional lighting and Electrocouplers™ that operate in the TrainMaster Command environment.

You may wish to have your local authorized Lionel Service Center install your GP9B's

upgrade kit for you, or you may do so yourself by carefully following these instructions.

Remove the GP9B's body shell by removing the four screws, (see below) lay the frame and shell on it's side on a soft protective surface. **Note:** The front of your GP9B unit is the short hood/porthole end.



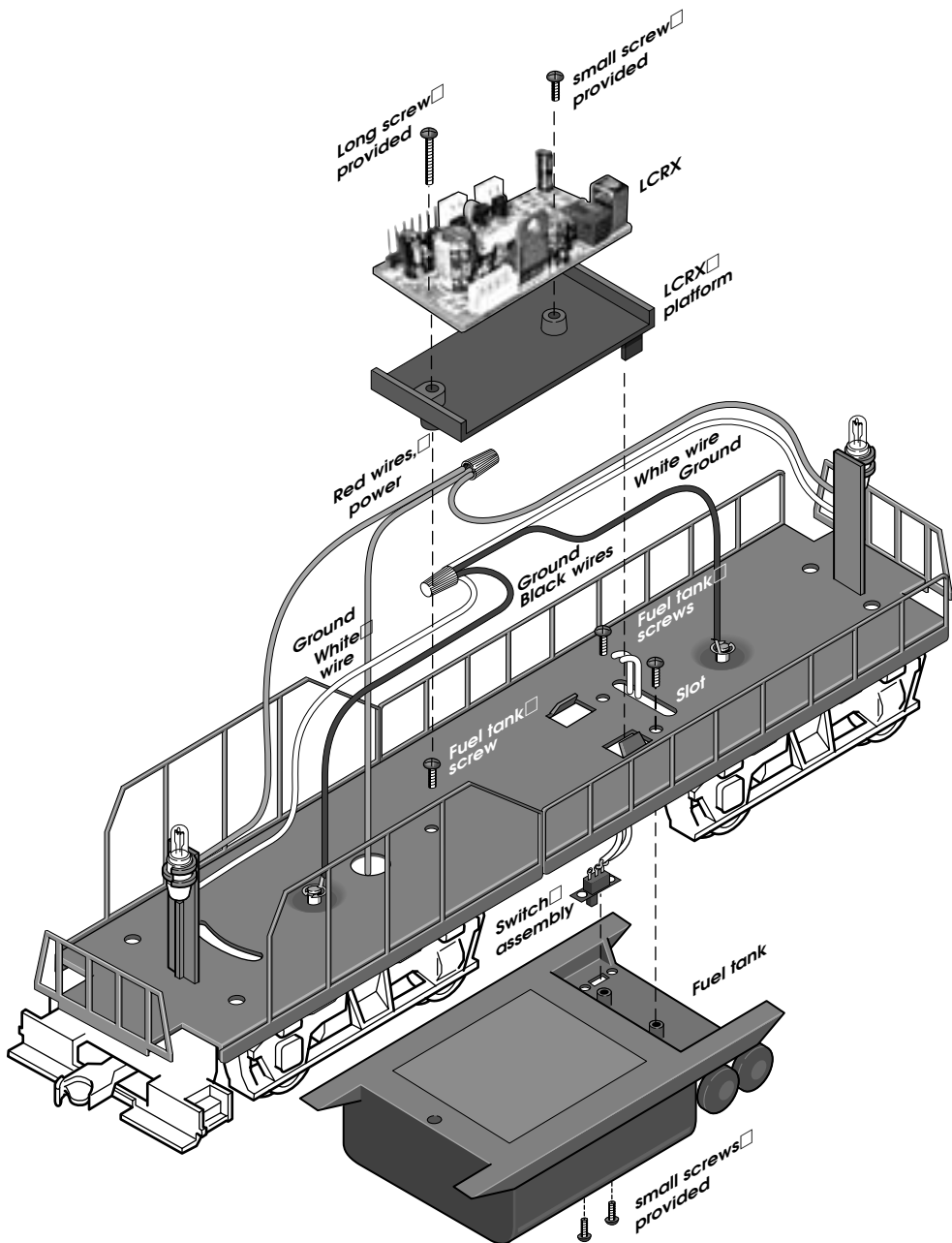
Looking at your GP9B's frame with the shell removed you will see two groups of wires, one group contains all red wires, the other black and white wires. The red wires are the power or hot wires, the other group is the ground wires. Gently move both bundles out of the way for now, we will come back to them soon. Towards the middle of the frame there are three screws, one by the front and two located towards the rear of the frame. These screws secure the fuel tank to the frame, remove these screws and place them aside. In your kit locate the LCRX switch assembly, (switch, four wires and a black plug) insert the switch facing down with wires up and use small screws provided

to secure it in place on the fuel tank. **NOTE** the open solder pin (no wire soldered to it) must be towards the front of your GP9B. After installing the switch run the wires through the slot in the frame behind the two fuel tank screws. Now reinstall the fuel tank and switch assembly, using the two rear screws only. (See exploded view on the next page)

Locate the LCRX platform in your upgrade kit and place it on the frame with the tabs on the bottom facing the back. There are two short bosses on the top of the platform, one is very close to the edge and should face towards the front. Next locate the LCRX board and remove it from it's static guard protection.

Note!

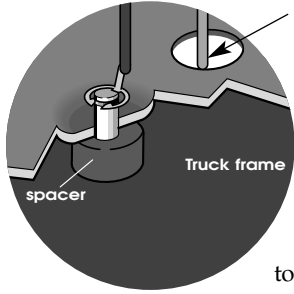
The LCRX circuit board is a sophisticated electronic device and is extremely sensitive to static electricity. Please avoid all physical contact with the components on the LCRX.



Place the LCRX board on the platform as shown on the diagram to the left. The hole that is closest to the edge, should be towards the front of your GP9B. Take the long screw provided and secure the board to the platform. This screw also will secure

the front of the fuel tank to the frame, so the small screw that was used originally can go into your spares box. Use one of the small screws from your upgrade kit to hold the rear of your LCRX board to the platform.

Removing your GP9B's trucks



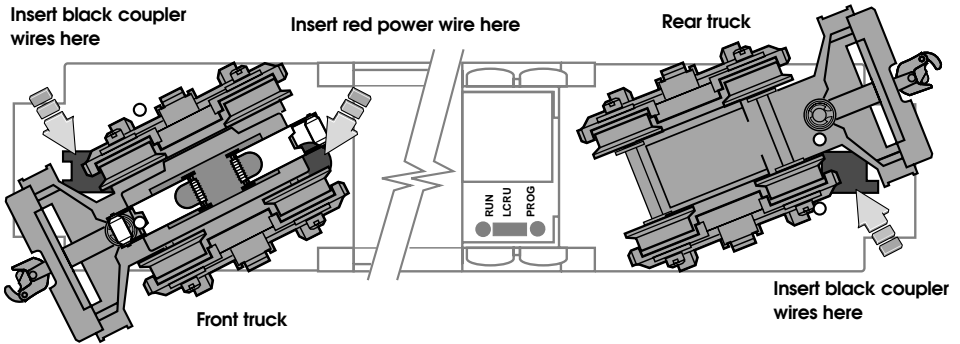
Remove the front truck from your GP9B by first unscrewing the wire nut that holds the red wire bundle. Unfasten the red pick-up wire from the bundle and pass it through the frame. Next remove the retaining clip with the ground wire attached to the truck center post. The front truck and spacer may now be placed aside.

Remove the rear truck the same way, but there are no red wires to worry about (Standard upgrade kit part No. 1-2961, continue on page 4)

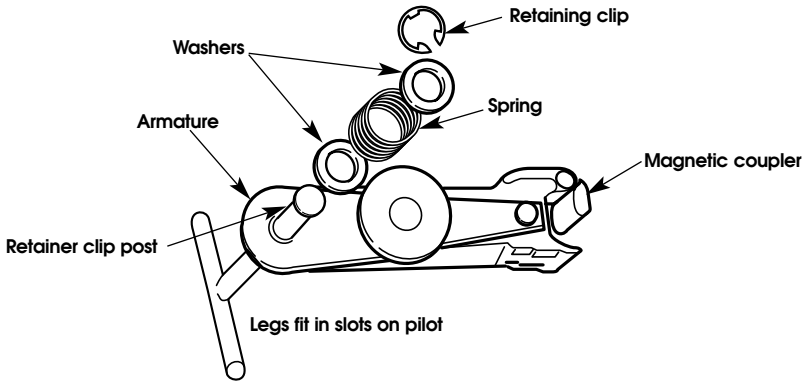
Installing your GP9B's trucks (Deluxe kit)

Insert the post from your new front truck, include the old spacer and secure it with the same retaining clip. The front truck has the dual pickups and a red wire attached; both trucks have wiring for the electrocouplers. Route the red power wire from the new front truck through the same hole. Now route the coupler wires through the holes shown below

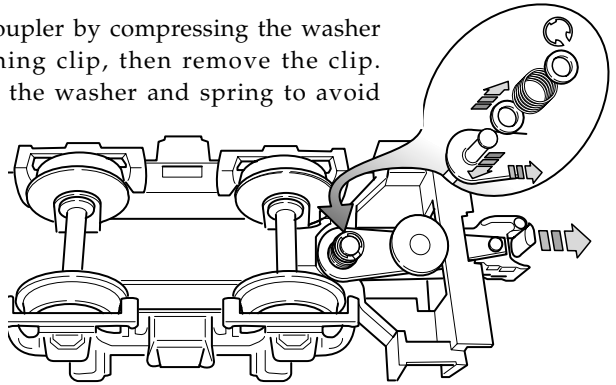
Install the rear truck the same way, but there are no red wires to worry about. Next proceed to page 5, the section on connecting the wires to your LCRX



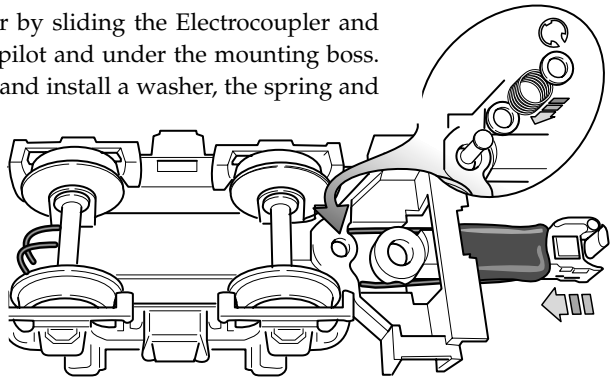
Installing your GP9B's Electrocouplers (Standard kit)



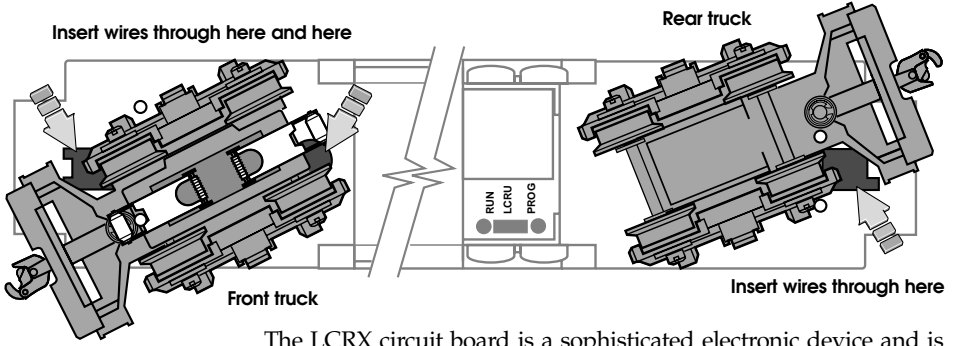
Remove the old magnetic coupler by compressing the washer and spring under the retaining clip, then remove the clip. *Carefully* release pressure on the washer and spring to avoid launching the parts through the air. The retaining post will then drop down and you can remove the old coupler armature. Pull the old coupler through the pilot and you're ready to install your Lionel Electrocoupler (repeat this procedure for the other truck on your GP9B)



Install the new Electrocoupler by sliding the Electrocoupler and its two wire leads through the pilot and under the mounting boss. Push the retaining clip post up and install a washer, the spring and another washer. Compress the washer and spring, then insert the retaining clip. Be careful when doing this so the parts do not become airborne causing possible eye injury. Now reinstall the truck using the reverse of procedures on page 3. You are now ready to install the wiring (repeat this procedure for the other truck on your GP9B).

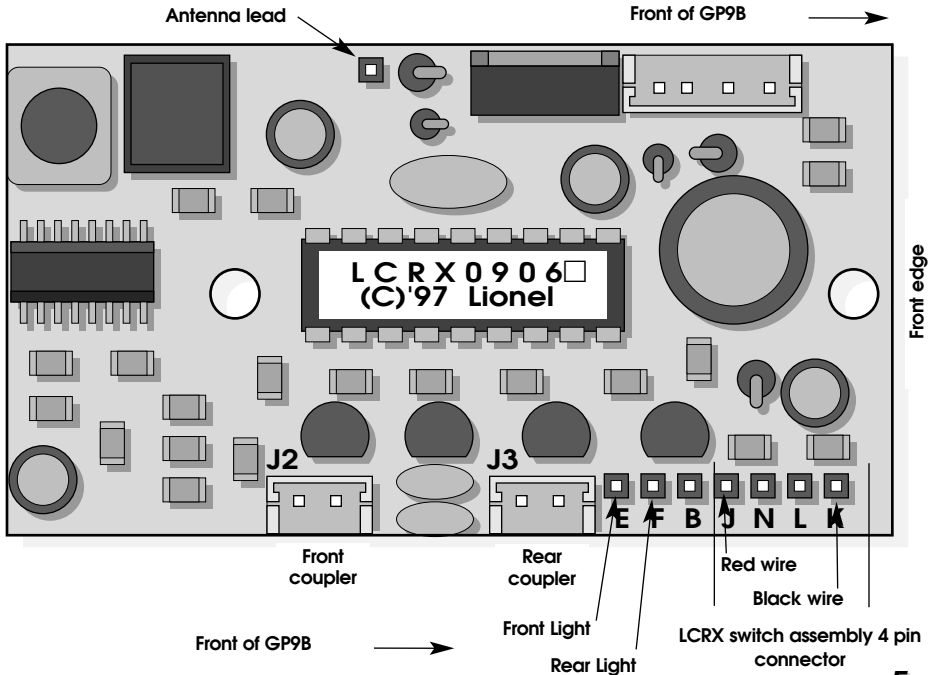
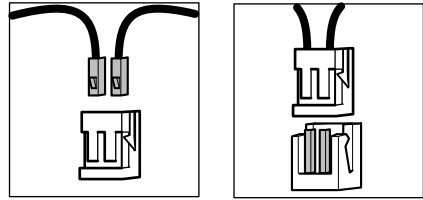


Conecting the wires on your Upgrade kit Standard&Deluxe



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

Insert the wires from your Electrocouplers through the holes in the GP9B frame as shown above. Lay your GP9B on it's trucks, upright. Included in your update kit are two small white female connectors, with the front facing you as shown at the right, insert the pair of wire leads from each electrocoupler with the snap facing forward, into the slots of a female connector. Locate on the schematic below were each female connector from your electrocouplers should be placed



Connecting the wires on your Upgrade kit (Standard&Delux)

In your update kit you will find a metal strip with a wire lead attached to it. This is the antenna for your LCRX board and must be installed for your GP9B to receive Command control signals. Take the wire and place the connector on the post on the top of your LCRX board shown on page 5. Finally insert antenna under front lens and align hole in antenna with peg in cab roof and secure with palnut provided.

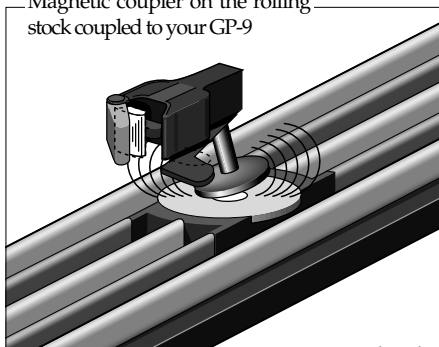
Now back to that switch that we installed in the beginning. Take the black plug and plug it into the LCRX board with the red wire on the left and the black wire on the right, closest to the edge of the board(see page 5). Next take the red wire lead from the LCRX plug and the power lead from the front truck

and wire nut them together with the wire nut provided. Now take the black lead from the LCRX plug and add it to the group of ground wires (shown on page 2), and wire nut them together. To allow your GP9B to have directional lighting we must wire the lights to the newly installed LCRX board. Take a red wire jumper and using a wirenut provided, attach it's bare end to the red wire from the front lamp (porthole end). Now take the wire lead from that jumper and place it on the post marked E on your LCRX as shown on page 5. Repeat this process with the rear lamp except place it on the post marked F on the diagram on page 5. Your installation is complete. Lets go to the next step to see the features of your GP9B now.

Using your GP-9's Electrocoupler in the non-Command environment

To use your GP-9's Electrocoupler in the non-Command environment, you must first couple a piece of rolling stock equipped with Lionel magnetic couplers directly to

Magnetic coupler on the rolling stock coupled to your GP-9



Remote-control track section

your GP-9. The magnetic coupler on the rolling stock will then react to the magnetic field generated by a Lionel remote-control track section (available separately). Place your rolling stock'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 coupler opens.

Note!

Your GP-9Bs Electrocouplers will NOT open manually or by using a remote-control track section

Using your GP-9's Electrocoupler in the TrainMaster Command environment

Now your Lionel GP-9B is equipped with front and rear Electrocouplers that respond to the COUPLER F (front) and COUPLER R (rear) button on your CAB-1 remote when operated in the Trainmaster Command envi-



ronment. Simply press either button on your CAB-1 remote, and that coupler opens.

Note!

Your GP-9B's Electrocouplers are NOT designed to be opened manually.

TrainMaster Command operations

Assigning your GP-9B non-powered unit a new ID#

Example

Assign a new ID# to your LCRX-equipped GP9B

Command Base ON

Place the GP9B on track

PowerMasters set to CMD or traditional power supplies ON FULL

Set the GP9B reverse unit control switch to PROGRAM

Turn track power on (PowerMasters):



Press BOOST

Program the GP9B with a new ID#:



Press ENG



Press a number you choose (the ID#)



Press SET

Set reverse unit control switch to FORWARD/RUN

Your GP9B remembers its ID# forever; change it any time with these steps

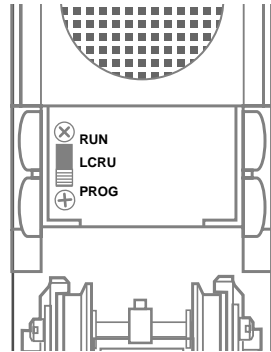
Set the GP-9's reverse unit program switch to PROGRAM. When you've finished programming the ID#, set the switch to RUN.

As your fleet of Command-equipped Lionels grows, give your GP-9B locomotive its own ID#. Choose from any between 1 and 99. Turn the Command Base ON and place the GP-9B locomotive on track. Power up, then slide the locomotive's reverse unit control switch to PROGRAM.

Using CAB-1, press ENG, the locomotive ID#, then press the SET button located under CAB-1's removable panel. See the GP-9B's headlight flash; that's your signal that the programming has been accepted. Slide the control switch to RUN.

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

Non-powered GP-9's reverse unit program switch



Advanced TrainMaster Command operations

Building lash-ups

When real railroads operate two, three, or even four locomotives together, they call it a "lash-up." A lash-up is railroading's answer to steep grades, long trains, and extra-heavy loads.

In the TrainMaster Command system, lash-ups are addressed as "TRAINS" - the TR button on CAB-1. When you build lash-ups with TrainMaster Command, several engines are grouped under a single TR ID#. Lash-up building should be attempted only after you've mastered ordinary TrainMaster Command operations.

Pick the locomotives in your lash-up and place them together (but don't couple them) using ENG and each one's ID#. Because CAB-1's TR button also means "TRACK" for PowerMaster control, select a TRAIN (TR) ID# that is NOT a number identifying PowerMaster TRACKs. For example, if you're using four PowerMasters and have named their TRACKs 1,2,3, and 4, choose a number between 5 and 9 for your TRAIN ID#.

Finally, make certain the locomotive's direction switch is on FORWARD/RUN. Perform a locomotive reset (AUX1, 0) to see what the locomotive's first-start direction is. It's possible to have a "contrary" locomotive that's simply following the direction of the reverse unit control switch.

Example

build a Train # (you select) using engine numbers you assigned.

All Locomotives reverse unit control switches set to FORWARD

Address each engine individually with its engine ID

Move each engine into position; do not couple them

"Front" locomotive should be positioned in the forward direction (headlight in front); Position your GP9B unit so the porthole/short hood is forward too.

In Train # (you select), assign the engine using the F (front) button:



Press TR



Press ? (the train number you select)



Press ?? (the engine number you assigned it)

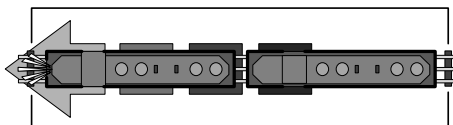


Press F



Press SET

Hear the horn/whistle blow



Powered #?? Non-powered GP9B???

Note!

"Wrong" ENTRIES. If you press a wrong button while building a lash-up, start over with that particular locomotive assignment at the TR command; the assignment isn't sent until you press SET.






Note!

It's still an ENGINE.

Whenever a locomotive is in a lash-up, you can still individually address it (using its ENG ID#) to adjust lighting, open individual couplers, and tune performance.

The non-powered B unit electrocoupler will respond to the TR# (number you select) rear coupler button if programmed correctly. (It will also still respond to the rear coupler button if addressed by its engine # you selected)





Assign the lash-up's rear locomotive (engine #?? facing forwards) using the DIR button:

-  Press TR
-  Press ? (the train number you select)
-  Press ?? (the engine number you assigned it)
-  Press R
-  Press SET

Note!

Your GP9Bs reverse light will not operate when it is in a lash-up unless it is the last engine, or you use the engine# direction command.

Reset the direction of the lash-up

-  Press TR
-  Press ? (the train number you select)
-  Press AUX1
-  Press 0

Note!

If any engine in the lash-up faces backwards, press DIR before SET

Now all engines respond together when you address them as Train #?

If an engine is out of sync after a TR reset, read "lash-up troubleshooting" on page 26 of your Trainmaster Instruction Manual

Note!

As an additional caution with the directional lighting on your GP9B press Aux2 to make sure headlamp was not accidentally turned off, before replacing bulb

Limited Warranty/Lionel Service

This Lionel product including all mechanical and electrical components, moving parts, motors and structural components, except for light bulbs, is warranted to the original consumer-purchaser, for 1 year against original defects in materials or workmanship when purchased through an authorized Lionel merchant.

This warranty does NOT cover normal wear and tear, light bulbs, defects appearing in the course of commercial use, or damage resulting from abuse or misuse of the product by the purchaser. Transfer of this product by the original consumer-purchaser to another person voids this warranty. Modification of this product voids this warranty.

Any warranted product which is defective in original materials or workmanship and is delivered by the original consumer-purchaser to Lionel L.L.C. or an authorized Lionel L.L.C. service center, together with proof of original purchase, will at the option of Lionel L.L.C. be repaired or replaced, without charge for parts or labor. In the event the defective product cannot be repaired, and a replacement is not available, a refund of the original purchase price will be granted. Any products on which warranty service is sought must be sent freight or postage prepaid, as transportation and shipping charges are not covered by the warranty.

IN NO EVENT SHALL LIONEL L.L.C. BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you. This limited warranty gives you specific legal rights, and you may have other rights which vary from state to state.

INSTRUCTIONS FOR OBTAINING SERVICE

If service for this Lionel L.L.C. product is required, bring the item, along with your dated

sales receipt and completed warranty information to the nearest Authorized Lionel Service Center. Your nearest Lionel Service Center can be found by calling 1-800-4-Lionel, or by contacting our Website @ www.Lionel.com

If you prefer to send it back to Lionel L.L.C. for factory repair, you must first call 810-949-4100 or FAX 810-949-5429 or write to Customer Service, P.O. Box 748 New Baltimore, MI 48047-0748 stating what the item is, when it was purchased and what seems to be the problem. You will be sent a return authorization letter and label to assure your merchandise will be properly handled upon receipt.

Once you have received your return authorization and label, make sure that the item is packed to prevent damage during shipping and handling. We suggest that you use the products original packaging. This shipment must be prepaid and we recommend that it be insured.

Please make sure you have followed all of the above instructions carefully before returning any merchandise for service.

WARRANTY INFORMATION

Please complete the information below and keep it, along with your dated sales receipt. You must present this and your dated sales receipt when requesting warranty service.

NAME _____

ADDRESS _____

PLACE OF PURCHASE _____

DATE OF PURCHASE _____

PRODUCT NUMBER _____

PRODUCT DESCRIPTION _____

