

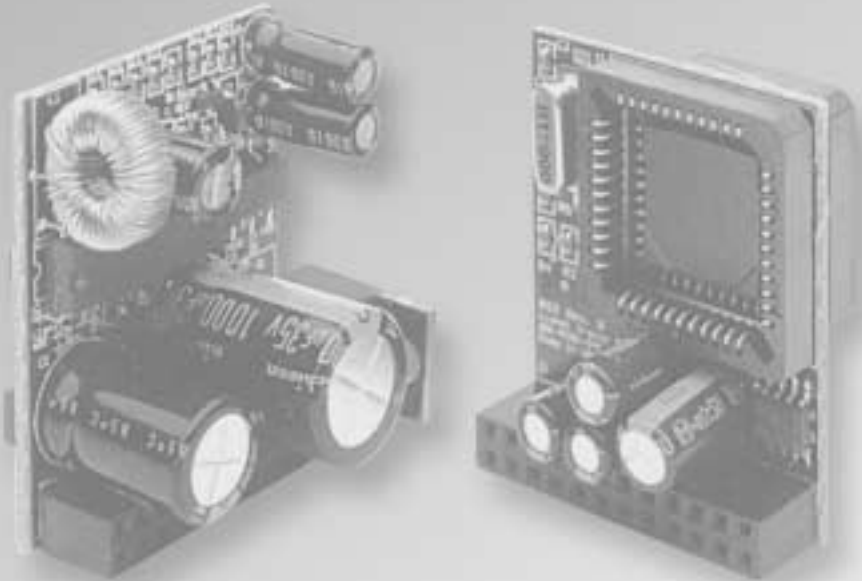
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*Rail Sounds*TM

***Upgrade Kit for
Diesel and Steam***



Congratulations!

Congratulations on your purchase of the Lionel RailSounds Upgrade Kit! This kit allows you to add the RailSounds sound system to your SignalSounds-equipped Lionel engine that has been specifically designated as “RailSounds upgradeable.” These locomotives were first offered in the 1998 Lionel Catalog.

If you are running your locomotive on a conventional (non-Command) layout, you get the diesel roar or steam chuffing sounds, along with horn or whistle and bell sounds.

Is your locomotive going to be operating on a Command layout? When you upgrade to TrainMaster Command Control, you also get many additional sounds—squealing brakes, TowerCom announcements, CrewTalk communication, and air release (diesel) or let-off (steam) sounds.

Caution! The Lionel RailSounds Upgrade Kit is composed of electronic circuit boards that are extremely sensitive to static electricity. Please avoid all physical contact with the chips and handle the boards by their edges only.

Note! To upgrade the Platinum Ghost F-3 (6-38150), follow the upgrade instructions in the Owner’s Manual for that locomotive.

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Replacing the sound control circuit boards

The following steps outline the basics of RailSounds sound system installation.

1. Remove the diesel locomotive body or the steam locomotive's tender body. Refer to the locomotive's manual for the location of these screws.
2. Locate and remove the SignalSounds plug-in circuit board. This circuit board is illustrated in Figure 2 on page 4 (diesel locomotives) and Figure 3 on page 5 (steam locomotives). Store the old SignalSounds circuit board in one of the anti-static bags that is included in the kit.

Note! If the RailSounds circuit board does not fit above the speaker, remove the two motherboard mounting screws and rotate the board 180 degrees. Reinstall the two screws, then plug in the RailSounds circuit board. With the motherboard in its new location, the power board is plugged in towards the front of the tender, and the RailSounds board is plugged in closest to the speaker.

3. Install the new RailSounds sound system circuit board. As illustrated in Figures 2 on page 4 and Figure 3 on page 5, the RailSounds sound system circuit board replaces the SignalSounds circuit board.
4. Install the RailSounds sound system power circuit board, identified by the large coil. This board is plugged into the empty connector.

Caution! Be sure that the black connector plug on each circuit board is properly aligned with both rows of pins. An improper connection could damage the circuit board.

5. Install a nine-volt alkaline battery for continuous RailSounds sound system operation.
6. Complete the appropriate operations for steam locomotives listed below. For diesel locomotives, skip to Step 7.

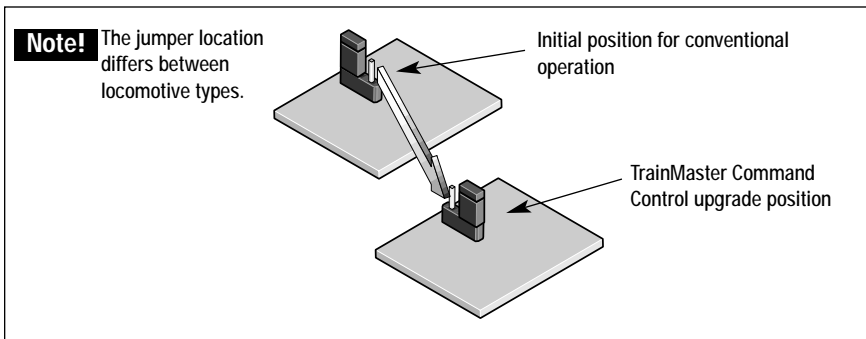


Figure 1. Repositioning the jumper

- **Steam locomotives only.** Reposition the SS/RS jumper to the RS/R2LC/COMMAND position IF you are simultaneously upgrading to TrainMaster Command Control. Do not reposition the jumper if you are only upgrading to the RailSounds sound system. The jumper is illustrated in Figure 1.

Note! Early 4-6-4 Hudson and 4-6-2 Pacific locomotives (6-18082, 6-18083, 6-18084, 6-18085, 6-18086, 6-18087, 6-18088, 6-28000) do not have this jumper. See page 7.

Replacing the sound control circuit boards (continued)

- **Steam locomotives only.** Follow the black tether cable (which plugs into the locomotive) back to the end of the black insulation. See Figure 4 on page 6. If all four wires (yellow, red, black, and green) are plugged into a white connector, the upgrade is complete, and no further action is required. If the green wire is “loose” at the end of the black insulation, refer to the section entitled “Connecting the green tether wire” on page 6.
7. Replace the body.

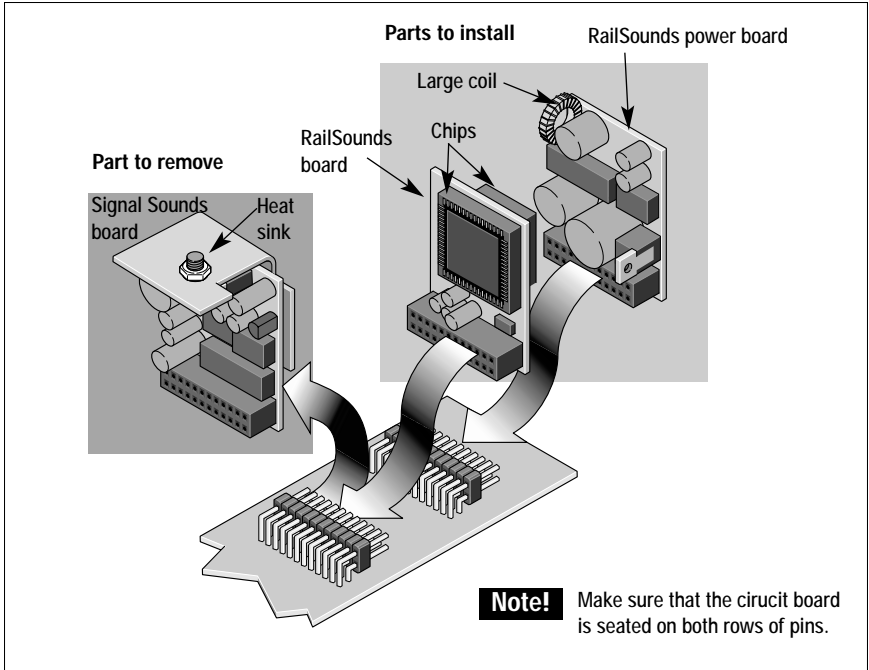


Figure 2. Diesel circuit boards

Replacing the sound control circuit boards (continued)

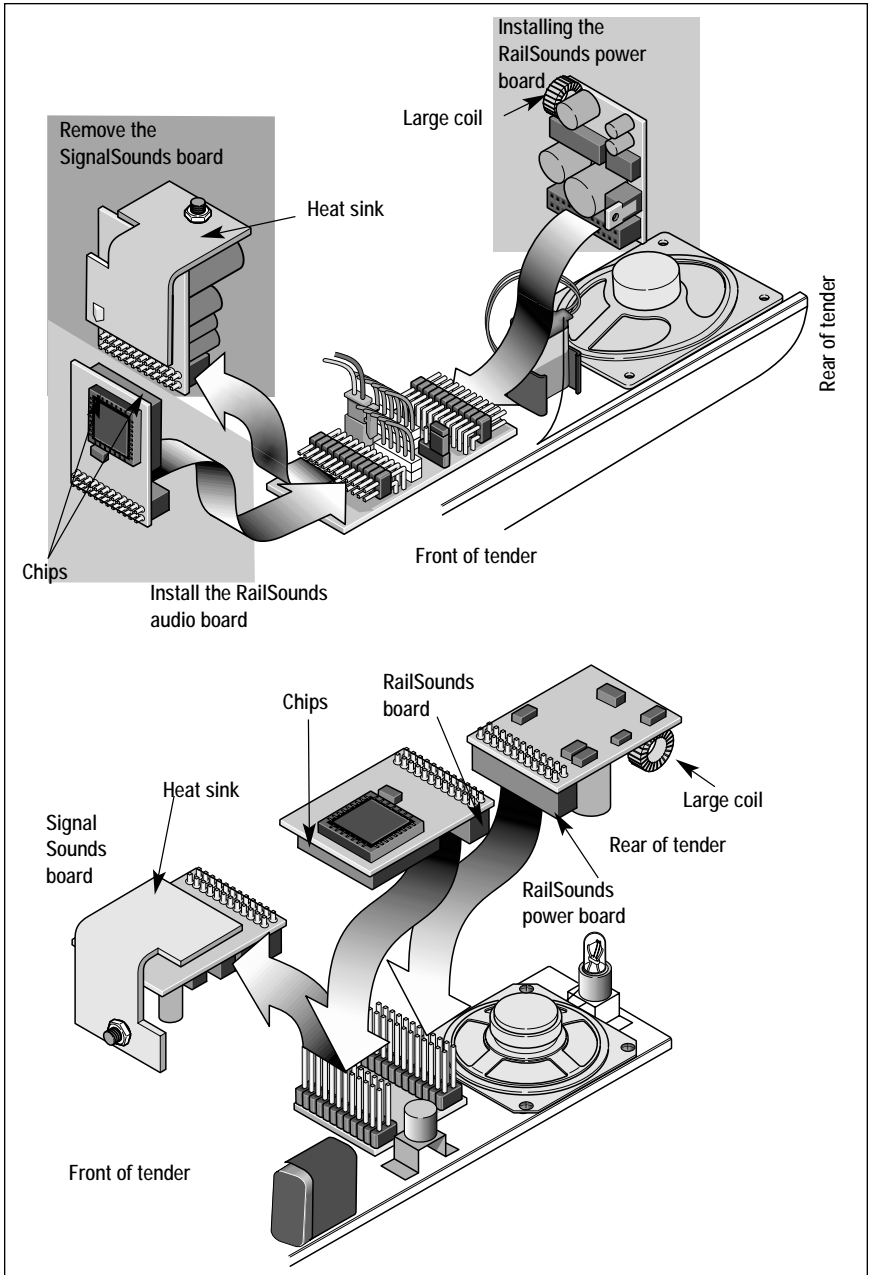


Figure 3. Steam circuit boards

Connecting the green tether wire

If the green wire at the end of the tender's tether cable is "loose" at the end of the black insulation (as described in the previous section), follow these steps to attach the wire and complete the upgrade. Refer to Figure 4.

1. Pull the black insulating sleeve off the end of the loose green tether wire.
2. Grasp the white housing of the four-pin connector and pull it straight up and off the circuit board.
3. Insert the connector pin at the end of the green wire into the empty fourth position on the connector.
4. Plug the four-pin connector back into the circuit board.
5. Install a nine-volt battery.

At this point, the upgrade is complete. Replace the body, making sure that the wires are not pinched between the body and the frame.

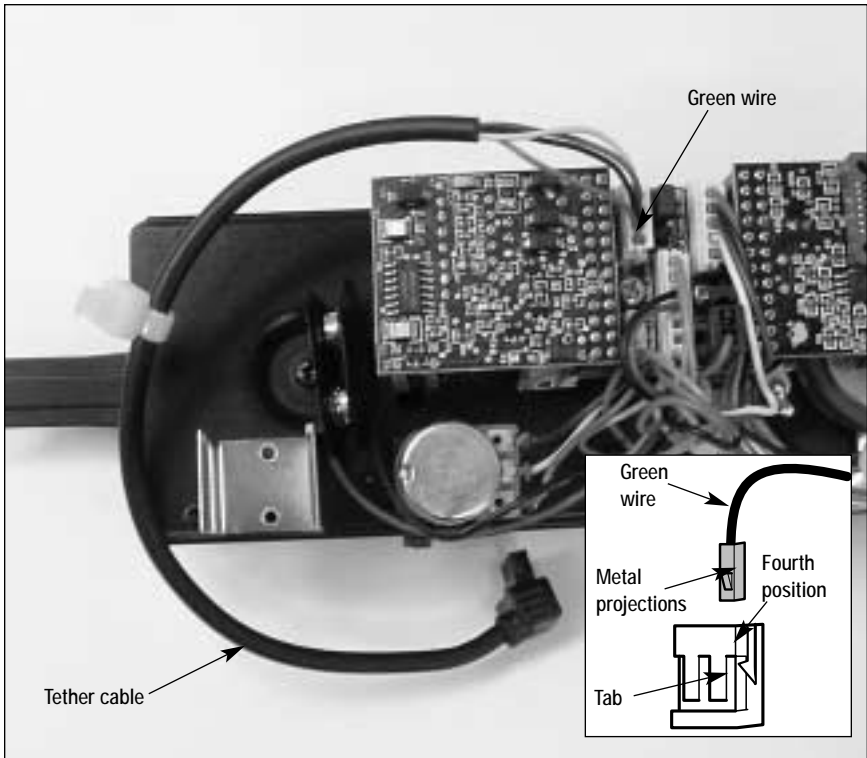


Figure 4. Four-pin connector

Early Hudson and Pacific locomotive modifications

If you are performing the RailSounds sound system upgrade only, the early versions of the upgradeable Hudson and Pacific locomotives (6-18082, 6-18083, 6-18084, 6-18085, 6-18086, 6-18087, 6-18088, and 6-28000) will require several wiring modifications. This procedure calls for two soldering operations. Please read through the following procedure before committing to make these modifications yourself. Remember that you may also seek non-warranty service at your authorized Lionel Service Center.

Note! If you are simultaneously upgrading to TrainMaster Command Control, skip Steps 1 through 6 and begin with Step 7.

1. Remove the locomotive body. Refer to the locomotive's manual for the location of the body screws that secure the body to the frame.
2. Remove the two screws that secure the motherboard to the frame.
3. Locate and unsolder the black wire attached to the bottom of the motherboard. Refer to Figure 5 for the location of this wire.

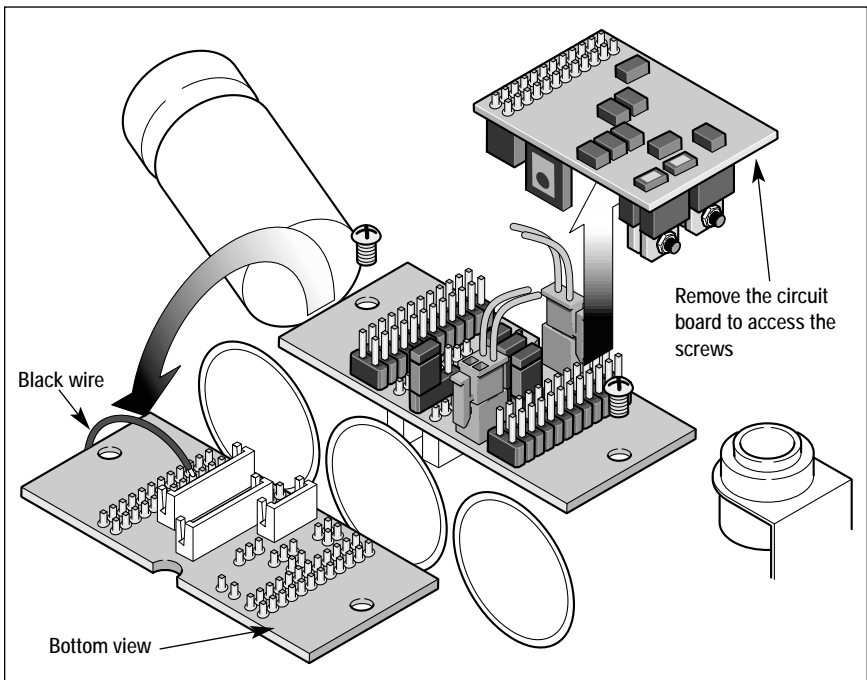


Figure 5. Unsolder black wire

Early Hudson and Pacific locomotive modifications (continued)

4. Remount the motherboard using the two motherboard screws and reinstall the circuit board.
5. Solder the black wire that you removed in Step 3 to the #1 pin on the bottom of the J-5 connector (the connector itself is on the underside of the board). The #1 pin is immediately to the right of the J-6 jumper. Refer to Figure 6 for the location of this solder point.
6. Replace the locomotive body.

Note! If you upgrade to TrainMaster Command Control at a later date, be sure to return the black wire to its original position.

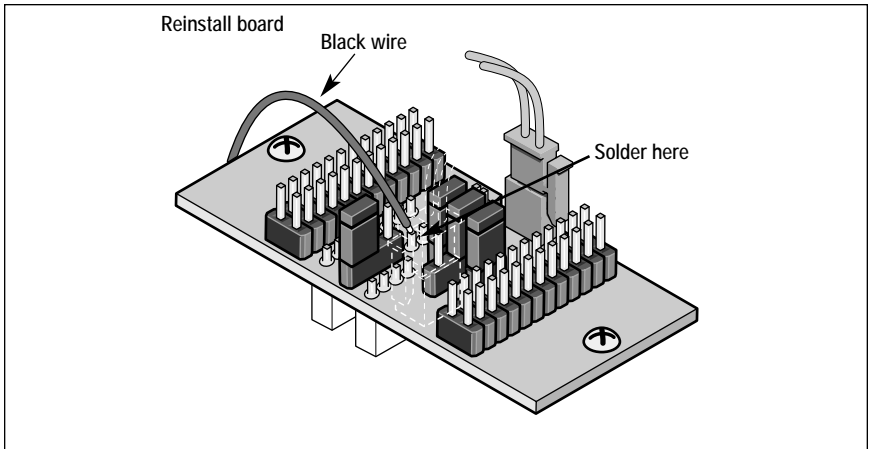


Figure 6. Soldering the black wire under the J-5 connector

Early Hudson and Pacific locomotive modifications (continued)

7. Remove the tender body. Refer to the locomotive's manual for the location of the screws that secure the body to the frame.
8. Remove the yellow wire from the fourth position on the five-pin Leaco connector on the motherboard in the tender. Wrap the end of the yellow wire in electrical tape. Make note of the wire's pin location if you are upgrading to the RailSounds sound system only (and you are not upgrading to Command Control).

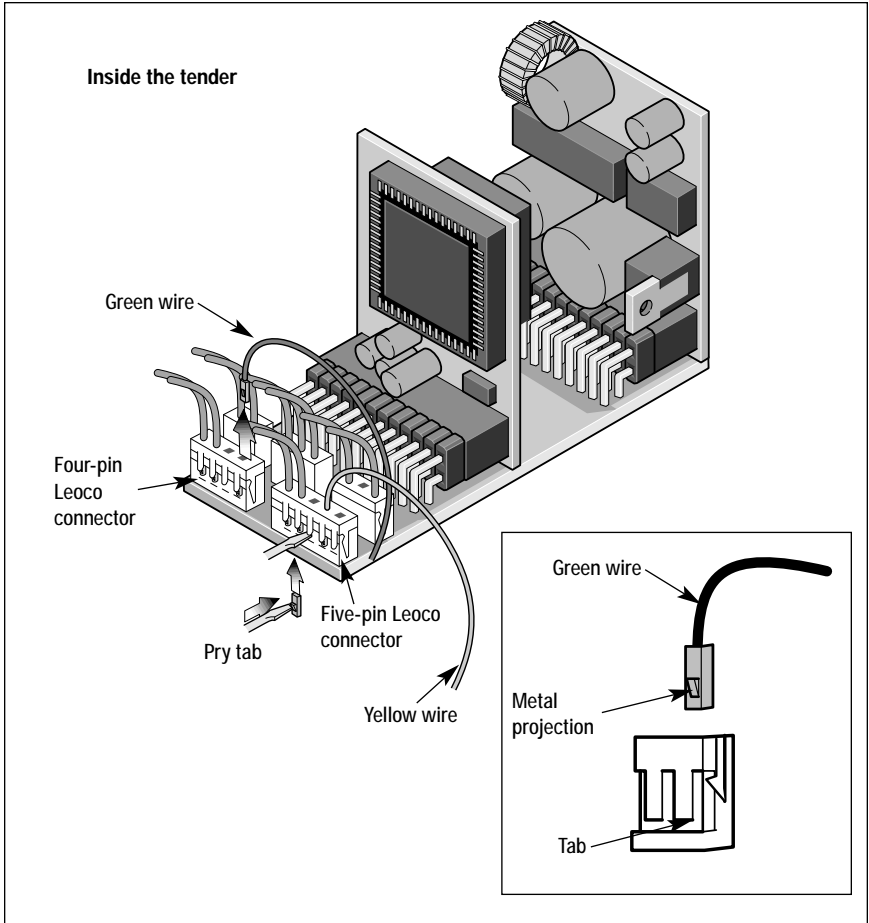


Figure 7. Leaco connector

Early Hudson and Pacific locomotive modifications (continued)

Note! To free the wire from the connector housing, use a small flat-head screwdriver to pry up the tab on the side of the connector, then slide out the end of the wire.

9. Locate the loose green wire in the tender harness. Remove the black insulation at the end of the green wire by pulling it off. A metal pin will be exposed.
10. If you are upgrading to the RailSounds sound system only (and you are NOT upgrading to Command Control), install the green wire into the fourth position on the five-pin Leoco connector, which was previously held by the yellow wire. Refer to Figure 7.
11. If you are upgrading to both RailSounds and Command Control, the green wire must be installed in the fourth position of the four-pin Leoco connector. Refer to Figure 7.
12. Replace the tender body. At this point, the upgrade is complete.

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 **one year** against original defects in materials or workmanship when purchased through an authorized Lionel merchant.

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

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

In no event shall Lionel L.L.C. be liable for incidental or consequential damages.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion may not apply to you.

This limited warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Instructions for Obtaining Service

If service for this Lionel L.L.C. product is required, bring the item, along with your dated sales receipt and completed warranty information to the nearest Authorized Lionel Service Center. Your nearest Lionel Service Center can be found by calling 1-800-4-Lionel, or by accessing our Website at www.lionel.com.

If you prefer to send your product back to Lionel L.L.C. for repair in Michigan, you must first call 586-949-4100 or FAX 586-949-5429, or write to Customer Service, P.O. Box 748, New Baltimore, MI 48047-0748, stating what the item is, when it was purchased and what seems to be the problem. You will be sent a return authorization letter and label to ensure your merchandise will be properly handled upon receipt.

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

Please make sure you have followed all of the above instructions carefully before returning any merchandise for service. You may choose to have your product repaired by one of our Authorized Lionel Service Centers after its warranty has expired. A reasonable service fee will be charged.

Warranty Information

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

Name _____

Address _____

Place of Purchase _____

Date of Purchase _____

Product Number _____

Product Description _____



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