



[www.lionelcorporation.com](http://www.lionelcorporation.com)

# Tinplate No. 6 and No. 7 Steam Locomotive

OPERATOR'S MANUAL

## Traditional Version

### **Compatibility**

This engine will operate on any traditional 42" diameter STD. Gauge track system, including M.T.H.'s traditional tubular track. It is also compatible with most standard AC transformers. (See page 7 for a complete list of compatible transformers and wiring instructions.)

PLEASE READ BEFORE USE AND SAVE

# Table of Contents

|   |   |
|---|---|
| Set Up Checklist.....                           | 3 |
| Lubrication.....                                | 3 |
| Basic Operation.....                            | 4 |
| Activating Features.....                        | 4 |
| Maintenance.....                                | 5 |
| Lubricating and Greasing Instructions.....      | 5 |
| Cleaning The Wheels and Track.....              | 5 |
| Headlight Replacement Instructions.....         | 6 |
| Transformer Compatibility and Wiring Chart..... | 7 |
| Service & Warranty Information.....             | 8 |
| Limited One-Year Warranty.....                  | 8 |

## **CAUTION: ELECTRICALLY OPERATED PRODUCT:**

**Recommended for Ages 14 and up. Not recommended for children under 14 years of age without adult supervision. As with all electric products, precautions should be observed during handling and use to prevent electric shock.**

**WARNING:** When using electrical products, basic safety precautions should be observed, including the following: Read this manual thoroughly before using this device.

- M.T.H. recommends that all users and persons supervising use examine the hobby transformer and other electronic equipment periodically for conditions that may result in the risk of fire, electric shock, or injury to persons, such as damage to the primary cord, plug blades, housing, output jacks or other parts. In the event such conditions exist, the train set should not be used until properly repaired.
- Do not operate your layout unattended. Obstructed accessories or stalled trains may overheat, resulting in damage to your layout.
- This train set is intended for indoor use. Do not use if water is present. Serious injury or fatality may result.
- Do not operate the hobby transformer with damaged cord, plug, switches, buttons or case.
- The transformer was designed to operate on regular US household current (120 volt, 50-60 Hertz). Do not connect to any other source of power.
- To avoid the risk of electrical shock, do not disassemble the transformer unit. There are no user-serviceable parts inside. If the unit is damaged contact M.T.H. Service for instructions.
- The transformer is equipped with an internal circuit protector. If the circuit protector trips, unplug the power cord from the electrical wall outlet, check your layout for any short circuits. The circuit breaker will reset automatically when the short is removed from the circuit.
- Unplug the transformer from the electrical wall outlet when not in use.
- Do not use this transformer for other than its intended purpose.

## **Transformer Ratings:**

Input: 120 VAC, 60 Hz Only, Output: Z-750: 21VAC 3.75A 78VA; Z-1000: 14VAC 80W or 18VAC 100W

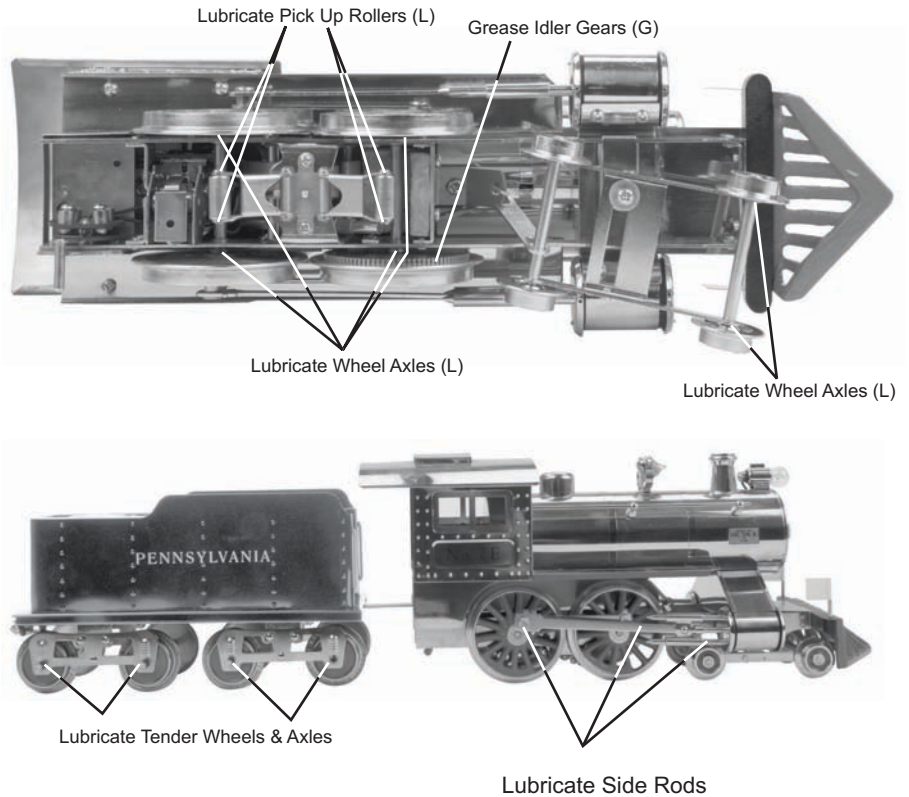
This product may be protected by one or more of the following patents: 6,019,289; 6,280,278; 6,281,606; 6,291,263; 6,457,681; 6,491,263; 6,604,641; 6,619,594; 6,624,537; 6,655,640.

# Set Up Checklist

- Lubricate the locomotive
- Apply power to run as described in the Basic Operating Section of this manual

## Lubrication

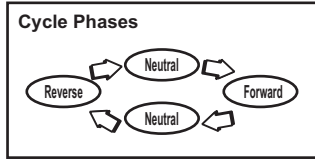
You should lubricate the engine and tender to prevent it from squeaking. Use light household oil and follow the lubrication points marked "L" shown below. Do not over-oil. Use only a drop or two on each pivot point. Make sure you lubricate all side rods, leading and trailing trucks and drive wheel axles.



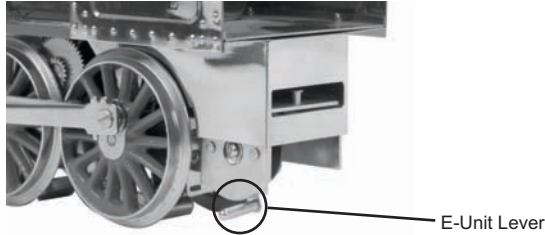
*Lubricating The Side Rods and Linkage and tender wheels and axles*

The Throttle knob controls how fast your train will travel.

The locomotive is stopped, started and reversed by means of the reversing 'E-Unit' located inside the locomotive. The E-Unit is a three position sequence relay which cycles whenever current to the locomotive is interrupted. This can be done by operating the 'direction' control on the transformer, or by moving the transformer voltage control to the OFF position. The sequence of its operation is Forward, Neutral, Reverse, Neutral, etc. In other words, if the locomotive is in forward motion, operate the 'Direction' control once to stop it, and twice to reverse it.



If you want to operate the train in one direction only, which is necessary if you have automatic stations or Insulated blocks in your layout, you must 'lock-out' the E-Unit. Make sure the locomotive is moving in the desired direction then stop it. Now, move the E-Unit lever (located at the rear of the motor) to its OFF position or toward the rear of the locomotive. If the E-Unit is 'locked out' while it is in the Neutral position, the locomotive will not run at all. Also, because the E-Unit works partially by gravity, it will not operate properly if the locomotive is held on its side or upside down. To resume normal operation move the E unit lever forward.

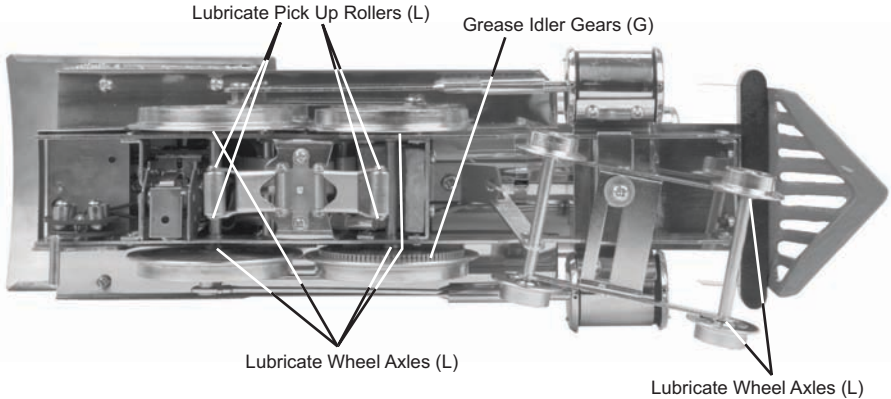


## Activating Features

**Throttle-** To increase or decrease track voltage, and therefore train speed, turn the throttle control knob. Turning clockwise will increase voltage and speed, while turning counterclockwise will decrease voltage and speed. The engine will maintain the speed you set after you release the throttle until you turn it again to change the voltage and speed.

The engine and tender should be well oiled and greased in order to run properly.

Regularly lubricate all axles and linkage components and pickup rollers to prevent squeaking. Use light household oil, such as that found in M.T.H.'s maintenance kit. Do not over oil. Use only a drop or two on each pivot point.



The locomotive utilizes a direct drive motor that should not need direct lubrication. However, it will be necessary to lubricate the idler gears located on the inside of the drive wheels.

## Cleaning The Wheels and Track

Periodically check the locomotive wheels and pickups for dirt and buildup, which can cause poor electrical contact and traction. Wheels and tires can be cleaned using denatured (not rubbing) alcohol applied with a cotton swab.

To clean the track, use RailKing Track Cleaning Fluid and a clean rag or denatured (not rubbing) alcohol. Unplug the transformer and wipe the rails of the track, turning the rag frequently to ensure that you are using clean cloth on the rails. Thereafter, keep an eye on the track and clean it when it gets dirty to ensure good electrical contact and to lengthen the life of the tires.

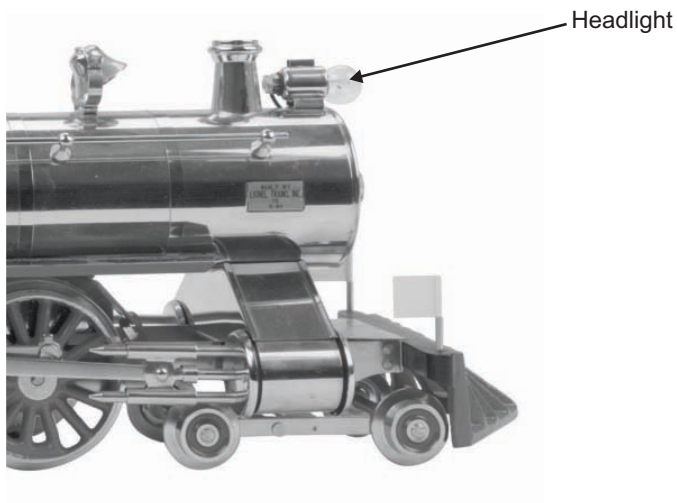


# Headlight Replacement Instructions

The locomotive's headlight is controlled by track power. The headlight is easy to remove and replace when it burns out. The bulb screws into a bracket affixed to the top of the boiler.

Gently unscrew the bulbs from the socket on the mounting bracket and replace the bulb.

Replacement bulbs are available directly from the M.T.H. Parts Department. (Order online: [www.mthtrains.com](http://www.mthtrains.com), e-mail: [parts@mth-railking.com](mailto:parts@mth-railking.com), Fax: 410-423-0009, Phone: 410-381-2580, Mail: 7020 Columbia Gateway Drive, Columbia MD 21046-1532, ).



# Transformer Compatibility and Wiring Chart

The chart below lists the many compatible transformers. Please follow the chart details for how the terminals on these transformers should be attached to your layout.

| <b>RECOMMENDED AC TRANSFORMERS</b>    |                        |                       |                         |                     |                         |
|---------------------------------------|------------------------|-----------------------|-------------------------|---------------------|-------------------------|
| <b>Transformer Model</b>              | <b>Center Rail</b>     | <b>Outside Rail</b>   | <b>Min/Max. Voltage</b> | <b>Power Rating</b> | <b>Transformer Type</b> |
| MTH Z-500                             | Red Terminal           | Black Terminal        | 0-18v                   | 50-Watt             | Electronic              |
| MTH Z-750                             | Red Terminal           | Black Terminal        | 0-21v                   | 75-Watt             | Electronic              |
| MTH Z-1000                            | Red Terminal           | Black Terminal        | 0-21v                   | 100-Watt            | Electronic              |
| MTH Z-4000                            | Red Terminal           | Black Terminal        | 0-22v                   | 390-Watt            | Electronic              |
| Lionel 1032                           | U                      | A                     | 5-16v                   | 90-Watt             | Standard                |
| Lionel 1032M                          | U                      | A                     | 5-16v                   | 90-Watt             | Standard                |
| Lionel 1033                           | U                      | A                     | 5-16v                   | 90-Watt             | Standard                |
| Lionel 1043                           | U                      | A                     | 5-16v                   | 90-Watt             | Standard                |
| Lionel 1043M                          | U                      | A                     | 5-16v                   | 90-Watt             | Standard                |
| Lionel 1044                           | U                      | A                     | 5-16v                   | 90-Watt             | Standard                |
| Lionel 1053                           | U                      | A                     | 8-17v                   | 60-Watt             | Standard                |
| Lionel 1063                           | U                      | A                     | 8-17v                   | 60-Watt             | Standard                |
| Lionel LW                             | A                      | U                     | 8-18v                   | 75-Watt             | Standard                |
| Powermaster                           | U                      | A                     | 8-18v                   | 135VA               | Electronic              |
| All-Trol                              | Left Terminal          | Right Terminal        | 0-24v                   | 300-Watt            | Electronic              |
| Dallee Hostler                        | Left Terminal          | Right Terminal        |                         |                     | Electronic              |
| Lionel LW                             | A                      | U                     | 8-18v                   | 75-Watt             | Standard                |
| Lionel KW                             | A or B                 | U                     | 6-20v                   | 190-Watt            | Standard                |
| Lionel MW                             | Outside Track Terminal | Inside Track Terminal | 5-16v                   | 50V.A.              | Electronic              |
| Lionel RS-1                           | Red Terminal           | Black Terminal        | 0-18v                   | 50V.A.              | Electronic              |
| Lionel RW                             | U                      | A                     | 9-19v                   | 110-Watt            | Standard                |
| Lionel SW                             | U                      | A                     | Unknown                 | 130-Watt            | Standard                |
| Lionel TW                             | U                      | A                     | 8-18v                   | 175-Watt            | Standard                |
| Lionel ZW                             | A,B,C or D             | U                     | 8-20v                   | 275-Watt            | Standard                |
| Lionel Post-War Celebration Series ZW | A,B,C or D             | Common                | 0-20v                   | 135/190 Watt        | Electronic              |

# Service & Warranty Information

## How to Get Service Under the Terms of the Limited One-Year Warranty

When you suspect an item is defective, please check the operator's manual for standard operation and troubleshooting techniques that may correct the problem. Additional information may be found on the M.T.H. Website. Should you still require service, follow the instructions below to obtain warranty service. First, e-mail, write, call or fax a M.T.H. Authorized Service Center (ASC) in your area to obtain Repair Authorization. You can find the list of ASCs on the M.T.H. Website, [www.mthtrains.com](http://www.mthtrains.com). Authorized Service Centers are required to make warranty repairs on items sold only from that store; all other repairs may-- or may not be done at the store's own discretion. If you did not purchase the item directly from the ASC, you will need to select a National Authorized Service Center (NASC). These centers are compensated by M.T.H. to perform warranty service for any customer whose repair qualifies for warranty service. A list of NASC retailers can be located on the M.T.H. Website or by calling 410-381-2580. Should the warranty no longer apply, you may choose either an ASC or NASC retailer to service your M.T.H. Product. A reasonable service fee will be charged.

**CAUTION:** Make sure the product is packed in its original factory packaging including its foam and plastic wrapping material to prevent damage to the merchandise. There is no need to return the entire set if only one of the components is in need of repair unless otherwise instructed by the Service Center. The shipment must be prepaid and we recommend that it be insured. A cover letter including your name, address, daytime phone number, e-mail address (if available), Return Authorization number (if required by the service center, a copy of your sales receipt and a full description of the problem must be included to facilitate the repairs. Please include the description regardless of whether you discussed the problem with a service technician when contacting the Service Center for your Return Authorization.

Please make sure you have followed the instructions carefully before returning any merchandise for service. Authorized M.T.H. Service Centers are independently owned and operated and are not agents or representatives of M.T.H. Electric Trains. M.T.H. assumes no responsibility, financial or otherwise, for material left in their possession, or work done, by privately owned M.T.H. Authorized Service Centers.

If you need assistance at any time email MTH Service at [service@mth-railking.com](mailto:service@mth-railking.com), or call 410 381-2580.

## Limited One-Year Warranty

All M.T.H. products purchased from an M.T.H. Authorized Retailer are covered by this warranty provided the product was manufactured within five years of the date of purchase. This warranty is for the original purchaser and is non-transferable.

See our website [www.mthtrains.com](http://www.mthtrains.com) to identify an M.T.H. Authorized Retailer near you.

M.T.H. products may be registered online in advance of warranty work at [www.mthtrains.com/warranty](http://www.mthtrains.com/warranty). The original sales receipt and the conditions below must be met regardless of whether the product is registered on the M.T.H. website in order to obtain warranty service.

M.T.H. products manufactured within five years from the date of purchase are warranted for one year against defects in material or workmanship, excluding wear items such as light bulbs, pick-up rollers, batteries, smoke unit wicks, and traction tires. We will repair, replace, or credit (at our option) the defective part without charge for the parts or labor if the following conditions are met: (1) the item is returned to an M.T.H. Authorized Service Center\* (ASC) or M.T.H. National Authorized Service Center (NASC) or M.T.H. Electric Trains Service Department, (2) was manufactured within the previous five years and (3) was purchased within one year of the original date of purchase from an M.T.H. Authorized Retailer. Products manufactured after the five year cutoff from the date of purchase are not covered under any warranty by M.T.H. Electric Trains. The manufacture date of an item can be verified on the item's detail page "shipping date field" on the M.T.H. website ([www.mthtrains.com](http://www.mthtrains.com)). This warranty does not cover damages caused by improper care, handling, or use. Transportation costs incurred by the customer are not covered under this warranty.

Items sent for repair must be accompanied by a return authorization number, a description of the problem, and a **copy of the original sales receipt from an M.T.H. Authorized Retailer**, which gives the date of purchase. If you are sending this product to an Authorized Service Center, contact that Center for their return authorization.

This warranty gives you specific legal rights, and you may have other rights that vary from state to state. Specific questions regarding the warranty may be forwarded to M.T.H. Directly.

\* Authorized Service Centers (ASC) are only obligated to provide warranty service for any consumer who has purchased the specific M.T.H. item from them that requires service work.

Service Department:  
M.T.H. Electric Trains  
7020 Columbia Gateway Drive