

RAILKING
READY-TO-RUNTM *sets*
THE COMPLETE SOLUTION

www.railking.com

Trolley Set

Operation Manual



Thank you for purchasing this RailKing product.
PLEASE READ BEFORE USE AND SAVE

Table of Contents

Set Up Checklist 3

Getting Started 4

 Assembling RealTrax 4

 Connecting the Transformer 4

 Lubricating the Trolley Car 5

 Placing Trolley Car onto the Track and Operation 6

 Lamp Replacement 7

 Operating Overhead Trolley Pole 7

 RailWare Interactive CD-ROM 8

 Compatibility 9

 Transformer Compatibility Chart 9

 Service and Warranty Information 10

CAUTION: ELECTRICALLY OPERATED PRODUCT:
Not recommended for children under 10 years of age. M.T.H. recommends adult supervision with children ages 10 - 16. As with all electric products, precautions should be observed during handling and use to reduce the risk of 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

- Assemble RealTrax®
- Connect the transformer
- Lubricate the engine
- Placing Trolley Car onto the Track and Operation

Set Includes

- Trolley Car

8-Pieces
O-31 Curve RealTrax



ZDC-1 Transformer and harness

Lighted Lock-On

DVD/CD-Rom

Tools Needed

Pliers

Scissors

Philips Screwdriver

Cotton Swab or Rag

RailKing Maintenance Kit or
Light Household Oil and Bearing Grease

You can obtain replacement parts and replacement instructions from the M.T.H. Parts Department

e-mail: parts@mth-railking.com

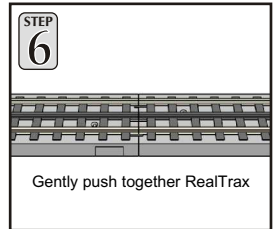
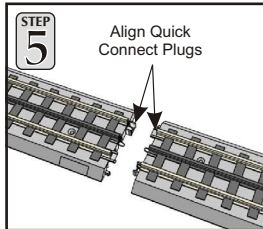
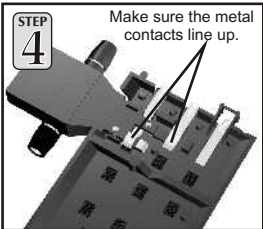
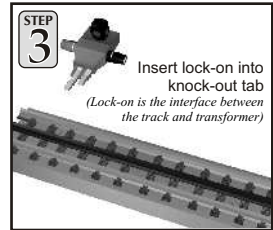
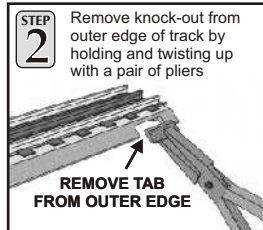
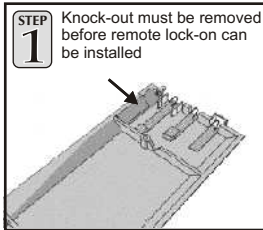
phone: 410-381-2580

mail: 7020 Columbia Gateway Drive, Columbia MD 21046-1532

Getting Started

Assembling RealTrax[®]

The quick connectors and built-in roadbed allow you to set up RealTrax anywhere, including carpeted surfaces.

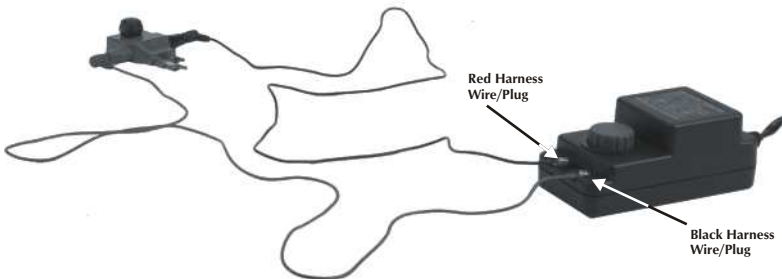


Connecting the Transformer

The transformer included with this set provides an easy-to-use, safe power source for AC-powered trains and accessories.

To complete the connection between the track and the transformer, simply plug in the color-coded wire harness that was included in your set and plug the transformer into your wall outlet.

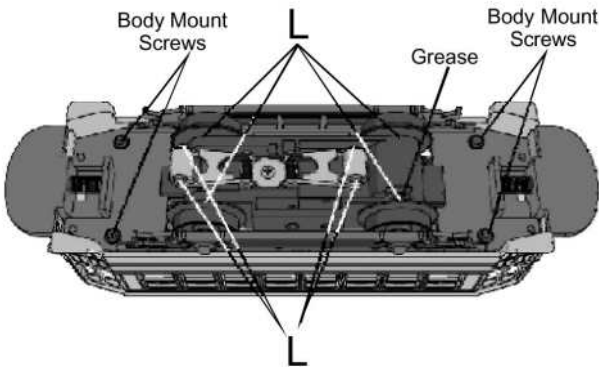
- Plug the wire from the transformer into the Z-Controller's center port.
- Connect the Wires from the Z-Controller to the Lighted Lock-On, being sure that the wires are connected from red-to-red and black-to-black.
- Unplug when not in use.



Lubricating the Trolley Car

Before you run your trolley car, you must lubricate it to prevent squeaking and premature wear. Use a light household or hobby oil to lubricate the gears, truck block bronze bushings, and pickup rollers. Apply a small drop of oil (a pinpoint oiler will help place the right amount of oil where you need it) to each of the points indicated below. The trolley car's internal gearing in the power trucks has been greased at the factory and should not need additional grease until after 50 hours of operation or one year, whichever comes first. To insert grease into the gear box inside the locomotive chassis, do the following:

1. Remove the body from the frame by unscrewing the four body mounting screws as shown below.
2. Once the shell is removed, open the gear box by unscrewing the two screws on the plate located in front of the motor.
3. Use a grease tube dispenser to apply a small amount of grease.

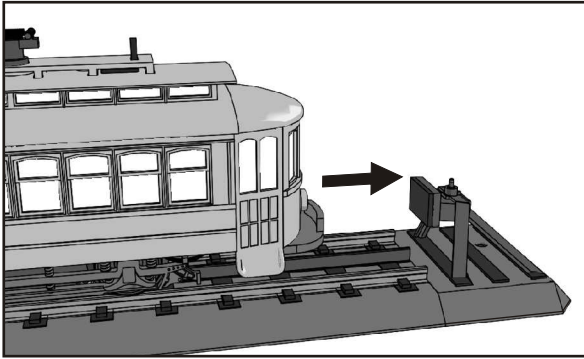


Lubrication points of Trolley

Placing Trolley Car onto the Track and Operation

- Place the trolley car on the track and apply power to run. Once power has been applied, the trolley car will immediately begin moving. The trolley will reverse direction when the Automatic Reversing Bumper Mechanism (ARBM) in its bumper is depressed. To do this, you may depress the bumper with your hand or run the car into a track bumper (shown below) or another car. Interrupting the transformer throttle voltage will only affect the trolley's speed; it will not cause the unit to change directions.

If the trolley does not move when you apply power, the reversing switch may be between positions. Gently press in one of the bumpers. If the car still does not move, press in the bumper on the other end of the trolley.



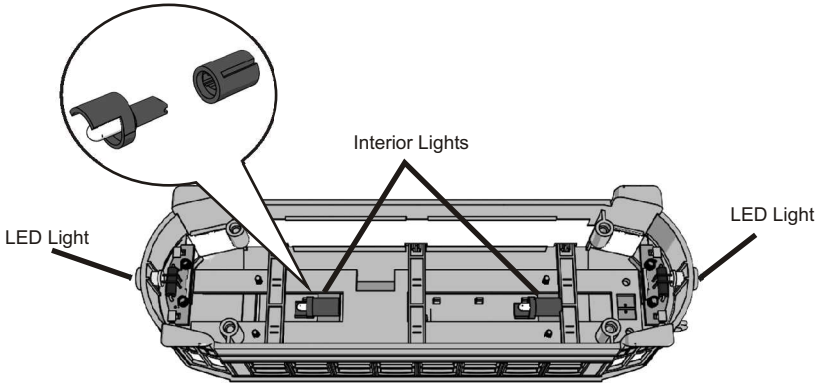
Trolley bumping into a bumper to reverse its direction

Exercise caution when running the trolley car into a bumper or another car to change its direction. Running the trolley car at excessive speed into a bumper or another car could damage the reversing bumpers and thus disable the reversing feature.

Lamp Replacement

The trolley uses two LEDs for directional headlights and two incandescent bulbs for interior lights. To replace the headlights or interior lights remove the four screws that attach the body to the frame, shown in figure 2. Lift the body from the frame and replace the bulbs.

Note: Although the body shell can be rotated 180 degrees and still be fitted to the frame, the directional lights will only work properly in the original orientation. Before removing the body shell, mark an indication on which ends of the trolley frame and body shell match, so that the shell can be replaced properly.



The location and the removal of the bulbs in the trolley.

You can obtain replacement bulbs directly from the MTH Parts Department by calling 410-381-2580

Operating Overhead Trolley Pole

The Trolley is equipped with a set of third rail pickup rollers for supplying voltage to the motor and lights. The trolley pole as delivered is not an operating trolley pole. However, it is possible to reroute the wire from the pickup rollers to the trolley pole inside the body shell so you can obtain power prototypically from an overhead catenary wire. Please contact: M.T.H. Service (phone: 410-381-2580; fax:410-423-0009; e-mail: service@mth-railking.com; mail: 7020 Columbia Gateway Drive, Columbia, MD 21046-1532) for instructions on making this adjustment.

Quick-Start DVD

The included Quick-Start DVD demonstrates the start-up and basic operation of this set as well as other information about model railroading. You may find it helpful to view the DVD before operating this set.

RailWare Interactive CD ROM

M.T.H. provides a free RailWare CD ROM in each Ready-To-Run set. It is full of helpful information on M.T.H. product history, track planning software, a dealer finder, and information and video clips on Loco-Sound and Proto-Sound 2.0. Follow the directions below to use the CD ROM.

Minimum System Requirements: Pentium 100, 16MB RAM, Windows 95 or later, CD ROM drive, Sound Card, display properties set to greater than 256 colors. The CD will not work on a Mac OS unless you run VirtualPC®.

Running RR-Track Software

You may run the RR-Track software directly off of the CD ROM or you may install the software to your hard drive.

1. On the Desktop, click on the icon that says My Computer.
2. Find your CD ROM drive.
3. With the M.T.H. CD ROM in the drive, double click on the icon for the CD ROM drive.
4. Find the folder on the CD ROM entitled INSTALLATION.
5. Choose the folder inside entitled RRTRAXSETUP.
6. Run the file in that folder called SETUP.EXE and follow the directions it provides.

The program may ask you for a registration code. If it does type in "M.T.H." and it will run.

Additional track libraries can be obtained directly from RR-Track. See their website for more information www.rtrack.com.

Installing Adobe Acrobat Software

To read some of the electronic documents included on the CD ROM, you will need to install the Adobe Acrobat Reader® if it is not already on your computer. To install the software:

1. On the Desktop, click on the icon that says My Computer.
2. Find your CD ROM drive.
3. With the MTH CD ROM in the drive, double click on the icon for the CD ROM drive.
4. Find the folder on the CD ROM entitled INSTALLATION.
5. Choose the folder inside entitled ACROBAT READER.

*If you are running Windows 95, 98 or NT choose the folder 32 BIT. Run the file AR32E301.EXE and follow the directions it provides.

If you have problems you cannot resolve by using these directions, contact custserv@mth-railking.com or call 410-381-2580 for further help.

Compatibility

The trolley will operate on any traditional O-27 or larger O Gauge track system, including RealTrax.® It is also compatible with any standard AC transformer (See below for a complete list of compatible transformers and wiring instructions.).

TRANSFORMER COMPATIBILITY AND WIRING CHART

The chart below lists many of the compatible transformers and how the terminals on these compatible transformers should be attached to your layout.

Transformer Model	Center Rail	Outside Rail	Min/Max. Voltage	Power Rating	Transformer Type
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
All-Trol	Left Terminal	Right Terminal	0-24v	300-Watt	Electronic
Cab-1/Powermaster	A	U	0-18v	135V.A.	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
MRC Tech II	Left Terminal	2 nd From Left	0-15v	40V.A.	Electronic
Lionel MW	Outside Track Terminal	Inside Track Terminal	5-16v	50V.A.	Electronic
R.O.W.	Red Terminal	Black Terminal	0-24v	384-Watt	Standard
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 Trainmaster	Red Terminal	Black Terminal	0-18v	135-Watt	Electronic
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-4000	Red Terminal	Black Terminal	0-22v	390-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 trouble-shooting 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.mth-railking.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 1-888-640-3700. 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, or call 410 381-2580.

Limited One-Year Warranty

All M.T.H. products purchased from an Authorized M.T.H. Train Merchant are covered by this warranty.

See our website at www.mth-railking.com or call 1-888-640-3700 to identify an Authorized M.T.H. Train Merchant near you.

M.T.H. products are warranted for one year from the date of purchase 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 or replace (at our option) the defective part without charge for the parts or labor, if the item is returned to the M.T.H. Authorized Service Center (ASC) where it was purchased or a M.T.H. National Authorized Service Center (NASC) within one year of the original date of purchase. 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 Authorized M.T.H. Train Merchant**, 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.

Service Department
M.T.H. Electric Trains
7020 Columbia Gateway Drive
.Columbia MD 21046-1532