



TROLLEY CAR SET OPERATING INSTRUCTIONS



Your new M.T.H. Trolley Car Set is designed to bring excitement to someone new to model railroading or to add fun to an existing layout. Your train set comes with everything you need to get started: a sturdy trolley car, a 47-watt Z-DC1

RAIL KING

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Compatibility

While this trolley car set is equipped with everything you need to operate it, the design allows flexibility. The trolley will operate on any traditional O-27 or larger O Gauge track system, including the RealTrax

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.

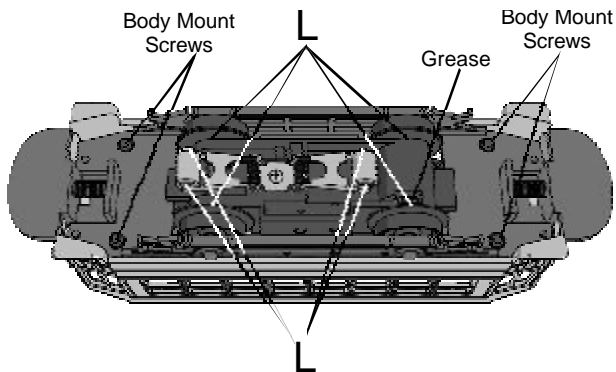


Figure 2: Lubrication points of Trolley.

Assembling RealTrax®

Unlike other O Gauge track systems, each RealTrax section features a realistic built-in roadbed base, solid nickel-silver track rails, and realistic railroad ties, all designed to give the owner an authentic looking track system. In addition, each RealTrax track section uses quick-connect connectors instead of track pins or railjoiners to assemble lengths of track. The quick connectors and built-in roadbed allow you to set up RealTrax anywhere, including carpeted surfaces, without the need for track nails or the worry of carpet stains. We've included a few track designs on the included CD-ROM for your future reference. Each RealTrax segment has two knock-out tabs in the roadbed (on either end of the segment) that can be removed to reveal an opening for the lock-on. To assemble RealTrax, follow the instructions below.

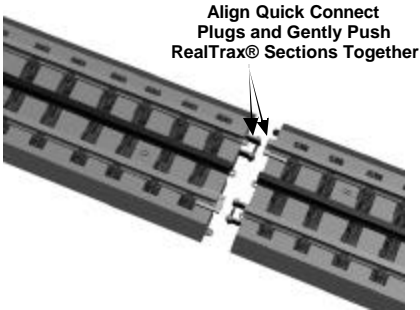


Figure 3: Preparing to snap RealTrax® sections together by aligning Quick Connect Connectors



Figure 4: RealTrax® sections in properly connected position.

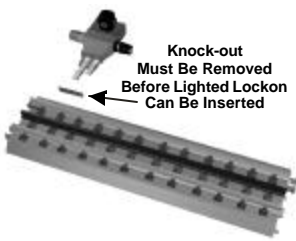


Figure 5: Top view position of lighted lockon preparing to enter RealTrax® section.

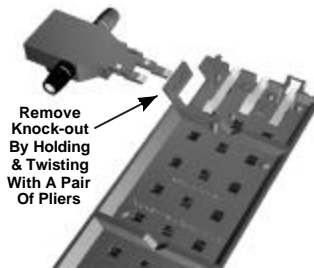


Figure 6: Underside view of RealTrax® section with "knock-out" removed and lighted lockon in position for insertion.

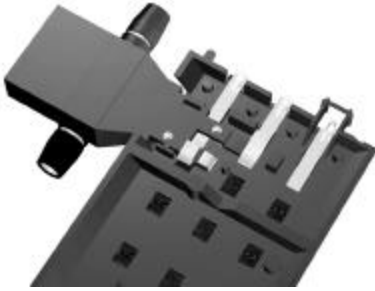


Figure 7: Underside view of RealTrax® track section with lighted lockon in fully seated position.



Figure 8: Top view of RealTrax® section with lighted lockon in fully seated position.

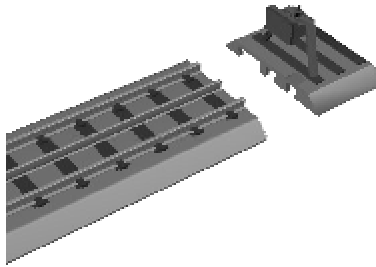


Figure 9: Attaching the Bumper to the end of the RealTrax section.

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.

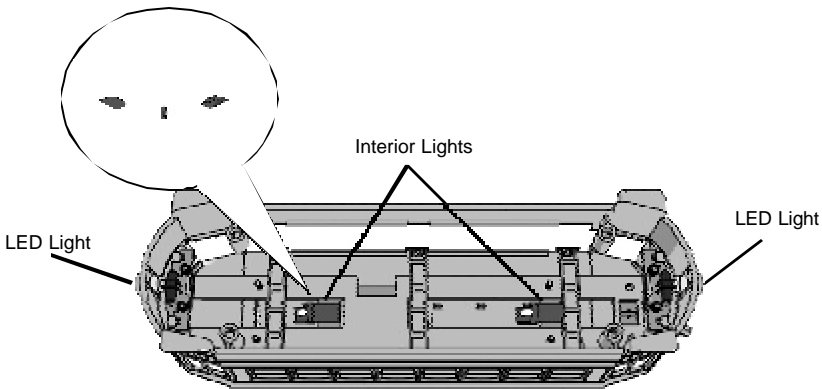


Figure 10: The location and the removal of the bulbs in the trolley.

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@meth-railking.com; mail: 7020 Columbia Gateway Drive, Columbia, MD 21046-1532) for instructions on making this adjustment.

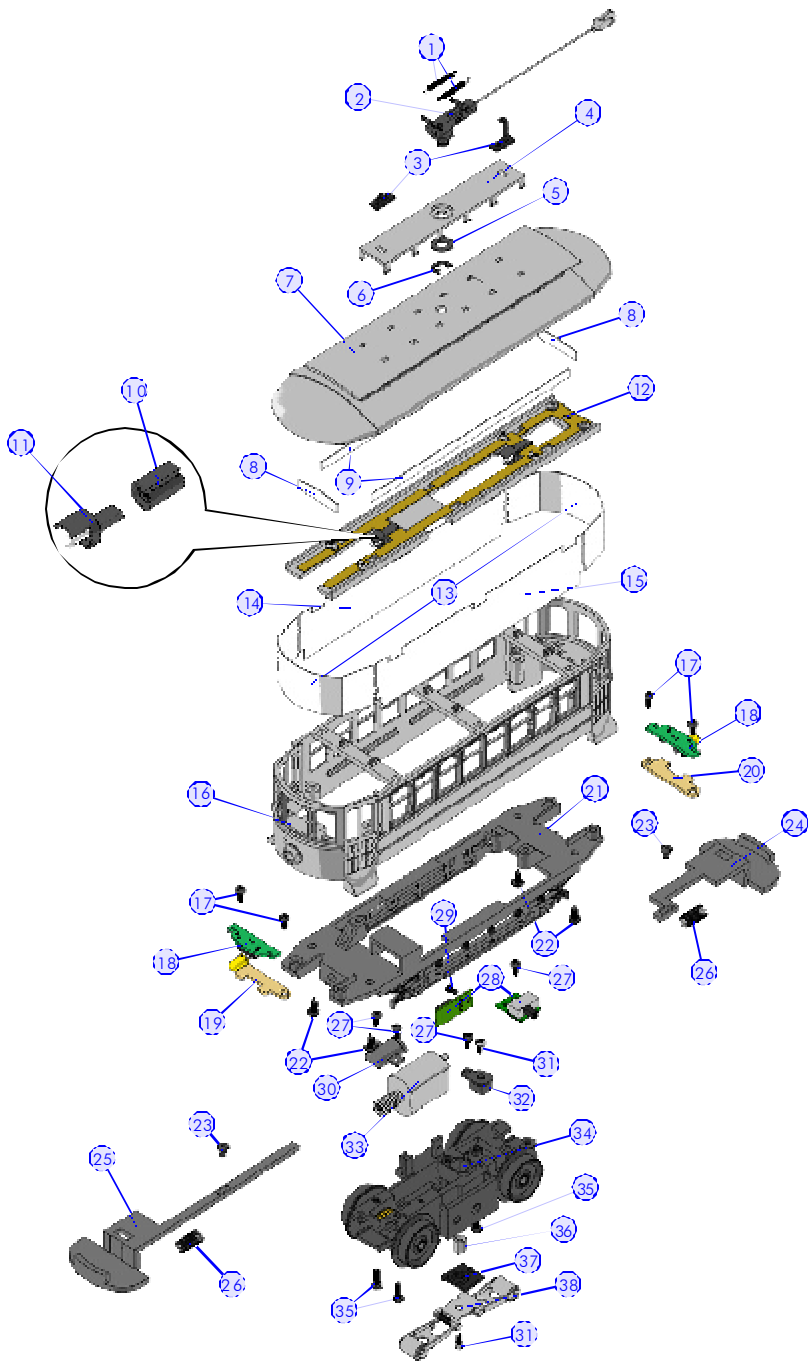
Exploded Parts View

The chart and diagram on the next few pages should be referenced when requesting replacement parts for your RailKing® locomotive. Parts can be ordered directly from MTH Electric Trains, 7020 Columbia Gateway Drive, Columbia, MD 21046-1532.

Trolley

Parts

Name and Number	Part #	Name and Number	Part #
1.) Spring (2.0X17.0mm)(w/ a hook on each end)	IE-0000038	32.) Insulator (pick-up)(top)	BD-0000047
2.) Trolley pole (complete)	FF-3200001	33.) Motor (FK-130SH)(w/ 6.8X11.0mm worm gear)	BE-0000042
3.) Bracket (pole hook)(black)	IH-0000093	34.) Truck (powered)(2 axle)	DA-3200003
4.) Cover (silver) (New York City Transit)(# 6688)	FF-3200021	35.) Screw (6/32X12.0mm)(roundhead)	IA-0000103
4.) Cover (red) (Merry Christmas)(# 2000)	FF-3200022	36.) Nut (2.5X5.0X7.0mm)	IC-0000008
5.) Washer (4.5X10.0X0.5mm)	ID-0000009	37.) Insulator (pick-up)(bottom)	BD-0000001
6.) E-clip (3.5X9.0X0.5mm)	IF-0000009	38.) Pick-up	BD-0000049
7.) Roof (silver) (New York City Transit)(# 6688)	FF-3200023		*Requires Exchange
7.) Roof (red) (Merry Christmas)(# 2000)	FF-3200024		
8.) Lens (short)	FA-3200004		
9.) Lens (long)	FA-3200005		
10.) Socket	CH-0000018		
11.) Bulb (w/ base)(gray) (base has a overhang over the bulb)	CG-0000018		
12.) Bulb guide (172.0mm long)	CH-0000019		
13.) Lens (end windows)	FA-3200006		
14.) Lens (window)(right) (man-front window, woman-rear window)	FA-3200007		
15.) Lens (window)(left) (woman-front window, man-rear window)	FA-3200008		
16.) Shell (red) (New York City Transit)(# 6688)	FF-3200025		
16.) Shell (red, green & gold) (Merry Christmas)(# 2000)	FF-3200026		
17.) Screw (M3X8.0mm)(roundhead)(self-drilling)	IA-0000072		
18.) Light board (w/ L.E.D.)	CE-0000003		
19.) Contact board (front)	BH-0000024		
20.) Contact board (rear)	BH-0000025		
21.) Chassis (black)	GB-3200001		
22.) Screw (M3X10.0mm)(self-drilling)(washer head)	IA-0000013		
23.) Screw (M2.4X3.0mm)(slotted head) (large head)	IA-0000123		
24.) Reverse mechanism arm (rear)(short)	FF-3200008		
25.) Reverse mechanism arm (front)(long)	FF-3200009		
26.) Spring (5.0X16.0mm)(w/ 0.2mm thick wire)	IE-0000039		
27.) Screw (4/40X6.0mm)(roundhead)	IA-0000003		
28.) Boards (switch and bridge rectifier)	BB-0000017		
29.) Screw (M2X4.0mm)(roundhead)	IA-0000058		
30.) Gear box cover	BI-0000032		
31.) Screw (M3X6.0mm)(roundhead)	IA-0000015		



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

WARNING: When using electrical products, basic safety precautions should be followed including the following:

Read this manual thoroughly before using this device.

This device is not recommended for children under ten years of age without adult supervision.

M.T.H. Electric Trains recommends parents examine the Z-DC1 Hobby Transformer 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 or other parts, and that, in an event such conditions exist, the transformer should not be used until properly repaired.

This Z-DC1 Hobby Transformer is intended to be used indoors. Do not use if water is present. Serious or fatal injury may result.

Do not operate the Z-DC1 Hobby Transformer with damaged cord, plug or case.

To avoid the risk of electrical shock, do not disassemble the unit. There are no user serviceable parts inside. If damaged call M.T.H. Electric Trains' Service Department for instructions.

CAUTION: Do not operate your layout unattended. Obstructed accessories or stalled trains may overheat resulting in damage to your layout.

The Z-DC1 is equipped with an internal circuit protector. If the circuit protector trips, unplug the power cord from power source (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 Z-DC1 Hobby Transformer from power source (electrical wall outlet) when not in use.

Do not use this Z-DC1 Hobby Transformer for other than its intended purpose.

SERVICE AND WARRANTY INFORMATION

HOW TO GET SERVICE UNDER THE TERMS OF THE LIMITED ONE YEAR WARRANTY

For warranty repair, do not return your product to the place of purchase. Instead, follow the instructions below to obtain warranty service as our dealer network is not prepared to service the product under the terms of this warranty.

1. First, write, call or FAX MTH Electric Trains, 7020 Columbia Gateway Drive, Columbia, MD 21046, 410-381-2580 (FAX No. 410-423-0009), email at service@mth-railking.com, or visit us on the web at www.mthtrains.com, stating which product you have when the product was purchased and what seems to be the problem. You will be given a return authorization number to assure that your merchandise will be properly handled upon its receipt by our service department.

2. CAUTION: Make sure the product is packed in its original factory packaging including its foam and plastic wrapping material so as to prevent damage to the merchandise. The shipment must be prepaid and we recommend that it be insured. *A cover letter, including your name, address, daytime phone number, a copy of your sales receipt, your Return Authorization number 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 one of our service representatives when contacting MTH for your Return Authorization number.*

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

LIMITED ONE YEAR WARRANTY

This item is warranted for one year from the date of purchase against defects in material or workmanship. We will repair or replace (at our option) the defective part without charge for parts or labor, if the item is returned to the address above within one year of the original date of purchase. This warranty does not cover items that have been abused or damaged by careless handling, or consumable items such as traction tires or lamps. Transportation costs incurred by the customer are not covered under this warranty.

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