

*RAILKING*  
**READY-TO-RUN™**  
THE COMPLETE SOLUTION

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

# Semi Convertible Brill Trolley

## Operation Manual



**LOCO SOUND**  
Loco Speed Control

**RAILKING**  
By MICHÉLE LORAIN

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

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## CAUTION: ELECTRICALY 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 condition 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 shorts are 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.

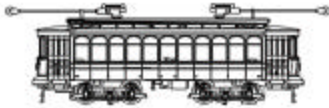
## Transformer Ratings:

Input: 120VAC, 60Hz Only, Output: 18VAC, 3.75A/78VA

# Set Up Checklist

- Assemble RealTrax®
- Connect the transformer
- Lubricate the engine
- Place the engine on the track
- Position remote lock-on lens
- Apply power to run as described in the Basic Operation section of these instructions.

## Set Includes



Brill Trolley with Loco-Sound™



8-Pieces  
O-31 Curve RealTrax



Track Clips



Remote Control



Lock-On



CD-Rom



Video

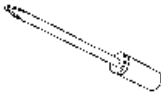
## Tools Needed



Pliers



Scissors



Philips Screwdriver



Cotton Swab or Rag



Rail King Maintenance Kit or  
Light Household Oil and Bearing Grease

## Optional Equipment



Microphone w/ 1/8" Plug



1/8" Male to Male Plug



Cassette Player

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

e-mail: [parts@mth-railking.com](mailto:parts@mth-railking.com)

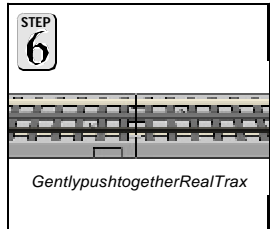
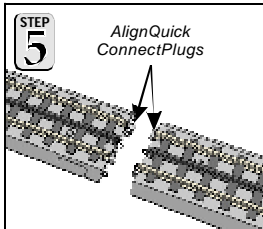
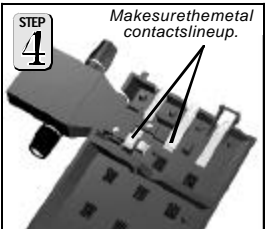
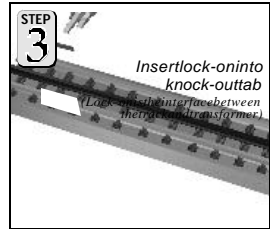
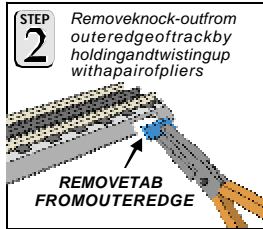
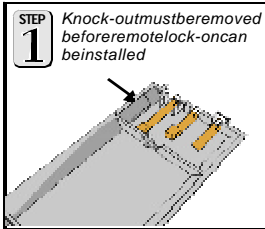
phone: 410-381-2580

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

# Getting Started

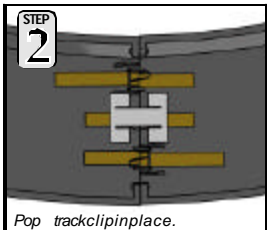
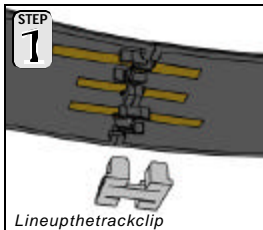
## Assembling RealTrax<sup>®</sup>

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



### Connecting TrackClips

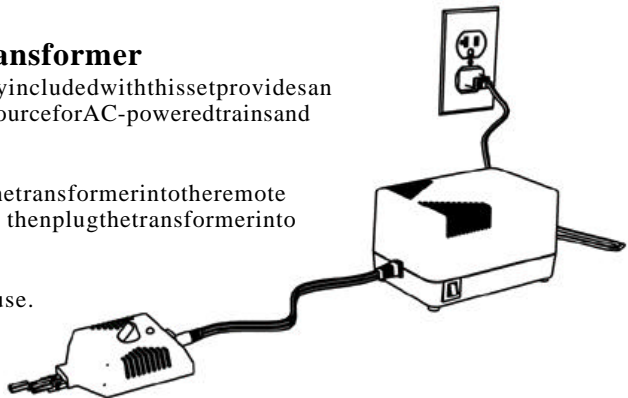
If you prefer not to screw your track to the table for a permanent layout, use the enclosed track clips on adjoining curved RealTrax sections to secure them in place.



### Connecting the Transformer

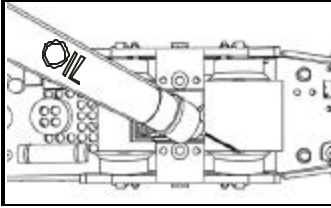
The 50-watt power supply included with this set provides an easy-to-use, safe power source for AC-powered trains and accessories.

- Plug the wire from the transformer into the remote lock-on's center port, then plug the transformer into the wall outlet.
- Unplug when not in use.

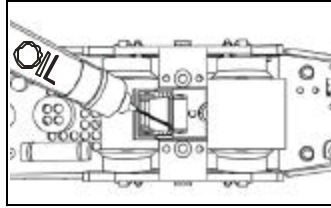


## Lubricating the Engine

Lubricate all exposed moving parts before operating using a multi-purpose, plastic-compatible oil (available with M.T.H.'s Maintenance Kit, sold separately) or a light household oil. Follow the lubrication points.



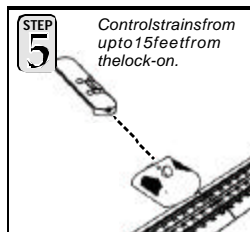
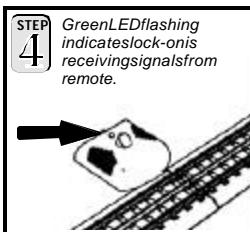
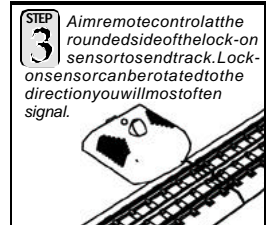
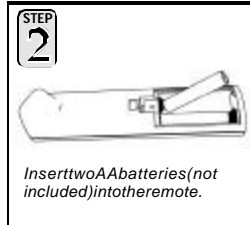
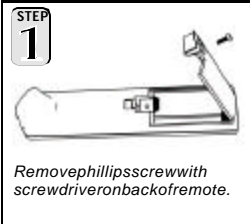
Lubricate Axles



Lubricate Pick-Up Rollers  
(Do Not Oil the Flat Part of  
Pick-Up Rollers)

## Remote Control

The remote and lock-on are designed for use with moderate power supplies such as the one included with this set. It is compatible with virtually any manufacturer's engines.



**Note:** The RailKing® Remote Control and Remote Lock-on will not operate engines equipped with pre-1997 versions of Proto-Sound® or with Proto-One,™ Proto-Plus,™ Proto-Deluxe,™ aftermarket systems.

# Basic Operation

## Operation Buttons

**Throttle Up** Throttle up the power to your track by pressing the top end of the Throttle Control Rocker Switch firmly for about 5 seconds, until the engine's headlight and lighted cars burn bright. Then put the engine in motion by firmly pressing the Direction button (hold it for approximately 1 second) on your remote once. If the engine does not begin to move as soon as you firmly press the Direction button, you may not have sent enough voltage to the track to make the train move. Press the throttle up for a few more seconds until the train begins to move.

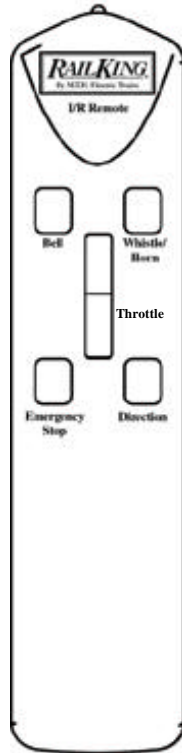
To increase or decrease track voltage, and therefore train speed, press the throttle control rocker switch. Pressing the top end of the throttle will increase voltage and speed. Pressing the bottom end of the throttle will decrease voltage and speed.

The engine will maintain the speed you set after you release the throttle until you press it again to change the voltage and speed.

**Bell** - To sound the bell, firmly press and release the Bell button. To turn the bell off, press and release the Bell button again. The bell will continue to ring from the time you turn it on until you press and release the button again to turn it off.

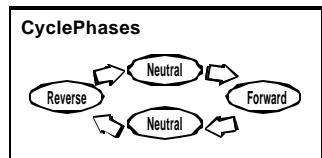
**Emergency Stop** Press the Emergency Stop button and all train on the track controlled by the remote will stop until you reapply voltage. This is an easy way to shut down your trains at the end of a session or to stop suddenly if the train's path becomes obstructed.

**CAUTION:** *Do not mix old and new batteries. Do not mix alkaline, standard (carbon-zinc), or rechargeable (nickel-cadmium) batteries.*



**Horn/Whistle** - To sound the horn, firmly press the Horn button. The horn will sound for as long as you continue to depress the button. It will stop when you release the button. The horn has four different endings, depending on whether you hold the button for less than three seconds, three seconds, four seconds, or five seconds or longer.

**Direction** Your train is programmed to start in neutral. The train will always cycle neutral-forward-neutral-reverse with each press and release of the direction button. The engine is programmed to restart in neutral each time the track voltage is turned off for 25 seconds or more.



## Speed Control

M.T.H.engines equipped with Loco-Sound have speed control capabilities that allow the engine to maintain a constant speed up and down grades and around curves, much like an automobile cruise control. You can add or drop cars on the run, and the engine will maintain the speed you set.

The engine is programmed to start with the speed control feature activated, you can opt to turn it off. This means the engine's speed will fall as it labors up a hill and increase as it travels downward. It is also affected by the addition or releasing of cars while on the run. Because the engine will run more slowly at a given throttle voltage when speed control is on than when it is off, you should adjust the throttle to a lower power level for operation with speed control off to avoid high-speed derailments.

**To turn speed control on and off**, put the engine in neutral, then quickly tap the transformer's Horn button one time then quickly tap the Bell button two times, allowing approximately 1/2 second to lapse between each quick button press. Repeat the 1 horn, 2 bells code to return it to the other condition. **You will want to do this during the initial neutral upon start-up if you ever couple this engine to another engine that is not equipped with speed control to avoid damaging the motors in either engine.** Each time you shut down the engine completely, it will automatically turn speed control on.

Timing Chart				
Press Horn Short & Firm	1/2 Sec. Pause	Press Bell Short & Firm	1/2 Sec. Pause	Press Bell Short & Firm
Total Time Lapse: 1 1/2 Seconds				



Place Engine into Neutral



=

Speed Control Repeat to Return to Normal Condition

## Direction Lock

You can lock your engine into a direction (forward, neutral, or reverse) so that it will not change directions. To do this, put the engine into the direction you want (or into neutral to lock it into neutral), run it at a very slow crawl (as slowly as it will move without halting), and quickly but firmly tap the Horn button once followed by three quick taps of the Bell button, allowing approximately 1/2 second to lapse between each quick button press. The engine will not change direction (including going into neutral) until you repeat the 1 horn, 3 bells code to return the engine to its normal condition, even if the engine is kept without power for extended periods of time.

Place Engine into Desired Direction



=

Direction Lock Repeat to Return to Normal Condition

## Proto-Cast and Proto-Dispatch:

When used with the remote lock-on included in this set, Loco-Sound-equipped engines gain Proto-Cast™ and Proto-Dispatch™ features.

### Proto-Cast:



Allows you to play audio recordings through your engine's speakers. You must supply the audio source (a small portable CD/tape player is sufficient) and a male-to-male minicable (1/8" plug, like that used for the headset with a portable CD/tape player) to connect your audio source to the remote lock-on.

### To use Proto-Cast

- Plug the mini-cable *first* into your audio source (usually into the headphone jack)
- Plug Cable into the "Audio" port on the right side of the remote lock-on.
- Adjust the volume. If engine sounds keep breaking through the recorded sounds, increase the volume on the audio source.



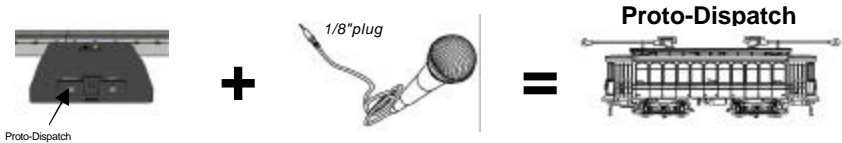
### Proto-Dispatch:



This feature allows you to broadcast your own voice through your engine's speakers. You must supply the microphone and a minicable (1/8" plug, like that used for the headset with a portable CD/tape player) to connect your microphone to the remote lock-on.

### To use Proto-Dispatch

- Mini-cable attached to the microphone must be an 1/8" plug.
- Plug the "Mic" into the proto-dispatch port on the left side of the remote lock-on and speak into the microphone.



When these features are in use, the locomotive's own sounds (engine sounds and bells, whistles, and horns) will be muted so that only the sounds you broadcast will be heard. Because these two features are voice activated, there will be a several second delay after you stop speaking into the microphone or turn off the audio source before the engine sounds resume. To stop using the feature and return to normal operation, unplug the cable from the lock-on jack.

If using parallel tracks with multiple Loco-Sound-equipped engines, Proto-Cast and Proto-Dispatch transmissions from one track may be picked up by the other nearby engines.

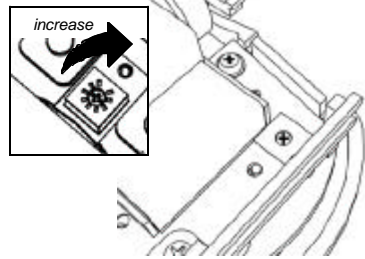


If you experience popping and interference when using Proto-Castor Proto-Dispatch, try cleaning the track with denatured alcohol as described in the "Cleaning the Wheels, Tires and Track" section of this booklet.

**Note:** M.T.H. does not recommend using Proto-Cast and Proto-Dispatch at the same time.

### Manual Volume Control

To adjust the volume of all sounds made by this engine, turn the master volume control knob located under the tender clockwise to increase the volume and counter-clockwise to decrease the volume.



# Maintenance

## Care of the Remote Control

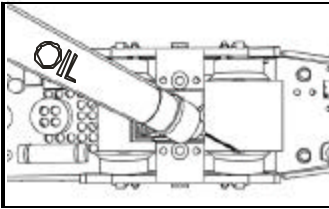
To ensure trouble-free operation:

- Do not drop the remote. It can damage the delicate electronics inside.
- Remove batteries before storing for extended periods.
- Any attempt by anyone other than an authorized M.T.H. repair person to open and repair the handheld transmitter or lock-on may result in damage and the loss of warranty protection.
- If your train responds inconsistently, replace old batteries with fresh ones. Do not mix old and new batteries.

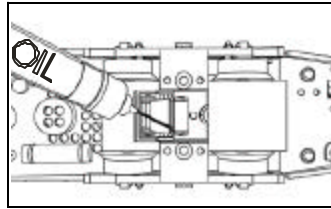
## Lubrication Instructions

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

Regularly lubricate all slider rods and linkage components and pick-up rollers so prevents squeaking. Use light household oil, such as that found in M.T.H.'s maintenance kit. Do not overoil. Use only a drop or two on each pivot point.



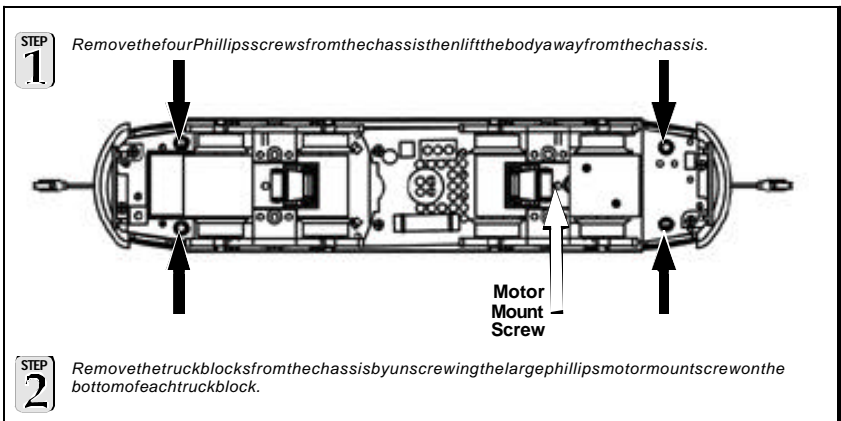
Lubricate Axles

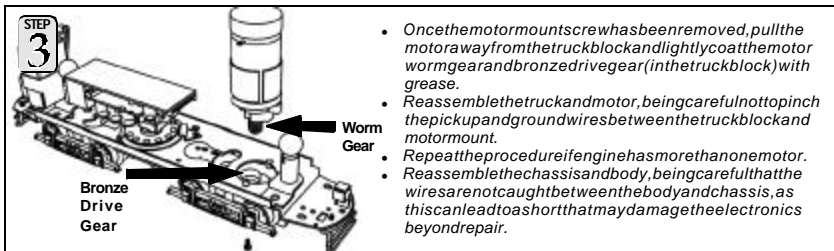


Lubricate Pick-Up Rollers  
(Do Not Oil the Flat Part of  
Pick-Up Rollers)

## Greasing Instructions

The locomotive's internal gearing was greased at the factory. Grease engine every 50 hours of use or one year. Use lithium based grease and follow the greasing instructions.





## Cleaning the Wheels, Tires and Track

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



To clean the track, use Rail King 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 a clean cloth on the rails. Because the manufacturing process leaves a coating on Real Trax center rail, you should clean the rails after the first 30 minutes of use (you may notice an electrical smell during initial use as the coating wears off; this is normal). 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.

## Trolley Light Bulb Replacement

Follow the cab removal instructions found in the “Lubrication and Greasing” section of this booklet. (page 10)

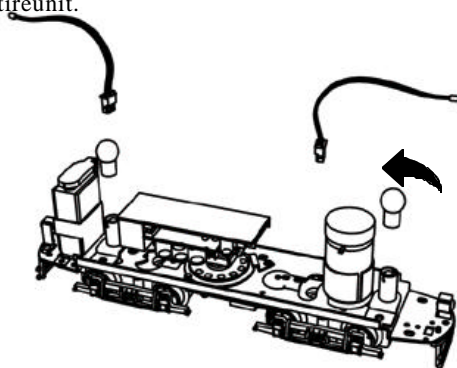
**Interior lights:** Twist and lift out the bulbs as shown.

**Destination Board Lights:** Unplug the two-pin connector holding the shell to the chassis. Pull the LED bulbs from their housing and remove from the clip holding the wires to the ceiling. Replace entire LED unit.

**Headlights:** Pull the LED bulb from its housing, trace the wire back to its two-pin connector and unplug. Replace the entire unit.

*Note: When changing lights, please be sure to tuck all wires back into their protective clips or bundle to prevent chafing on movable parts.*

You can obtain replacement bulbs directly from the M.T.H. Parts Department.



# Quick-Start Video

The included VHS Quick-Start video 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 video 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 a Virtual PC.

# 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](http://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 ACROBATREADER.

\*If you are running Windows 95, 98 or NT choose the folder 32BIT. 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](mailto:custserv@mth-railking.com) or call 410-381-2580 for further help.

# Troubleshooting Loco-Sound™ Problems

Although Loco-Sound has been designed and engineered for ease of use, you may have some questions during initial operation. The following table should address most questions. If your problem cannot be resolved with this table, contact M. T. H. for assistance (e-mail: [service@mth-railking.com](mailto:service@mth-railking.com); telephone: 410-381-2580; fax: 410-423-0009; mail: 7020 Columbia Gateway Drive, Columbia MD 21046-1532).

<b>Starting Up</b>	<b>Remedy</b>
When I first turn the power on, the engine will not begin to run. I have to turn the throttle off and then on again to get the engine to operate.	This is normal behavior. To prevent accidental high-speed start-ups, Loco-Sound is programmed to start up in neutral any time track power has been turned off for several seconds. See the "Basic Operation" section for more details.
<b>Horn</b>	<b>Remedy</b>
When I press the Horn button, the bell comes on instead.	Reverse the transformer leads.
I can't get the Horn to blow when I press the Horn button.	You may be pressing the button too quickly. Try pressing the Horn button more slowly, taking approximately one full second to fully depress the button.
<b>Bell</b>	<b>Remedy</b>
When I press the Horn button, the bell sounds.	Reverse the transformer leads.
I can't get the bell to ring when I press the bell button.	You may be pressing the button too quickly. Try pressing the whistle button more slowly, taking approximately one full second to fully depress the button.
The bell won't work on a separate bell button.	Check the wiring of these separate buttons.
<b>Lock-out</b>	<b>Remedy</b>
I can't get the engine to run after I power up the transformer. It's still with the engines under running.	The engine is locked into the neutral position. Follow the procedure in the "Lock into a Direction" section.
The engine won't lock into forward, neutral, or reverse.	Engine speed must be below 10 scale mph (approx. 10 volts or less in conventional mode).
<b>Volume</b>	<b>Remedy</b>
The sounds seem distorted, especially when the Horn or bell is activated.	Loco-Sound volume is set too high. Turn the volume control knob on the bottom of the chassis counter-clockwise to reduce the volume.
No sound.	Volume is set too low, adjust volume control knob on the bottom of the chassis clockwise to increase the volume or check connector to speaker.
<b>Proto-Cast and -Dispatch</b>	<b>Remedy</b>
When I try to play music or my voice through my engine's speakers, there is popping and interference.	Clean the track with denatured alcohol, as described in the "Cleaning the Wheels, Tires, and Track" section of this book.
My Proto-Cast sounds play too quietly or unclearly.	Unplug the cable between the audio source and the remote lock-on. Re-plug it into the audio source first, then into the lock-on, pushing firmly to make sure it is fully installed.
When I try to play Proto-Cast, the engine's sounds keep breaking in on my recording.	Your recording may be playing too quietly to trigger the engine to stop playing its own sound set. Turn up the volume of the audio source you are using.
When I run two Loco-Sound engines on tracks near each other, the Proto-Cast and Dispatch sounds play from both engines, not just from the one connected to the audio source or microphone.	This is normal behavior. Because Loco-Sound uses radio waves to transmit the sound to the engine, other Loco-Sound engines in the same range will also pick up the sound. Try moving one of the sets.

# Compatibility

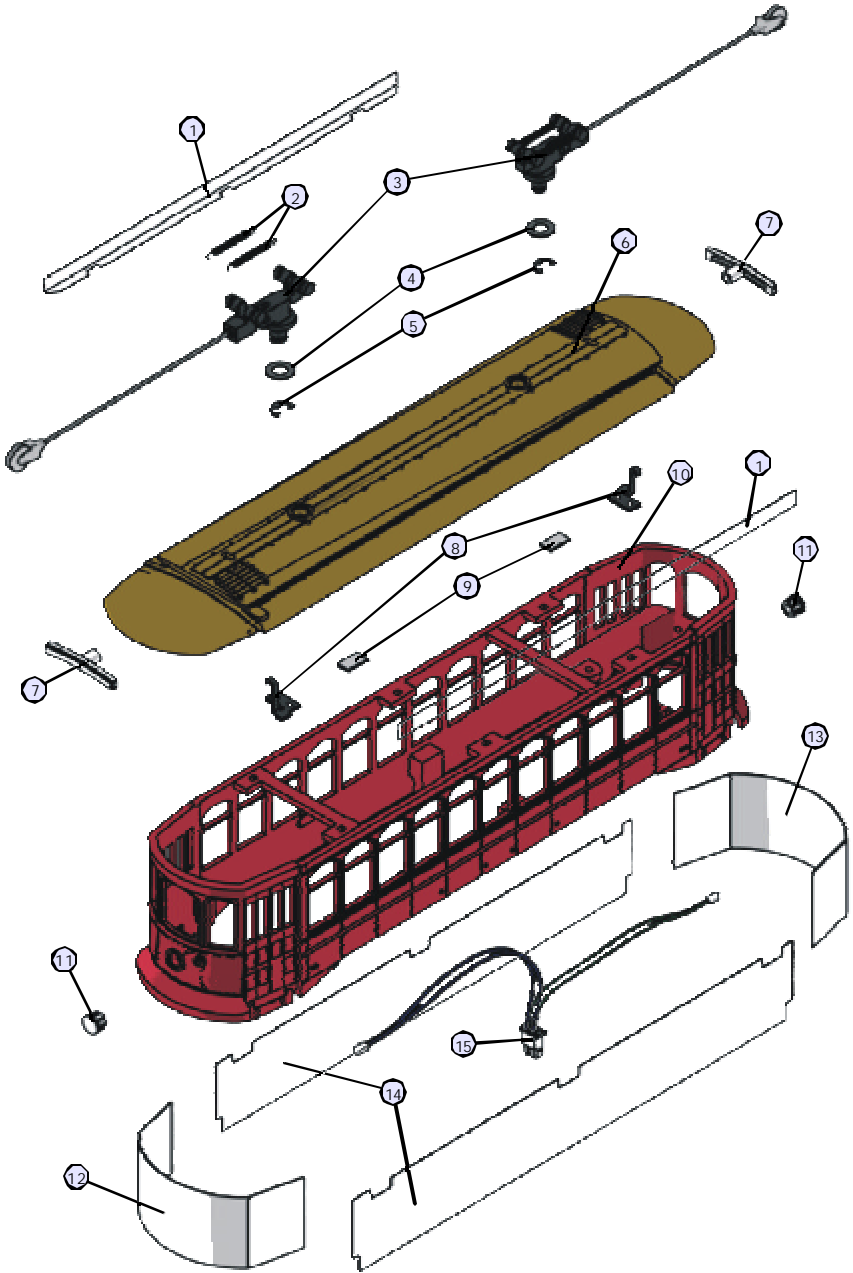
While this Ready-To-Run set is equipped with everything you need to operate it, the design allows flexibility. The train will operate on any traditional O-31 or larger O Gauge track system, including the RealTrax<sup>®</sup> included with this set or traditional tubular track. It is also compatible with most standard AC transformers, including the hobby transformer packaged with your set.

## Transformer Compatibility and Wiring Chart

Note that many of the operational commands described in these instructions require a bell button, so if you are using a transformer other than the one included in this set and your transformer does not have its own bell button, you should consider adding one to get the full benefit of the system.

Transformer Model	Center Rail	Outside Rail	Min/Max. Voltage	Power Rating	Transformer Type
MTHZ-500	Red Terminal	Black Terminal	0-18v	50-Watt	Electronic
MTHZ-750	Red Terminal	Black Terminal	0-21v	75-Watt	Electronic
MTHZ-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
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

# Brill Trolley Locomotive Shell Parts

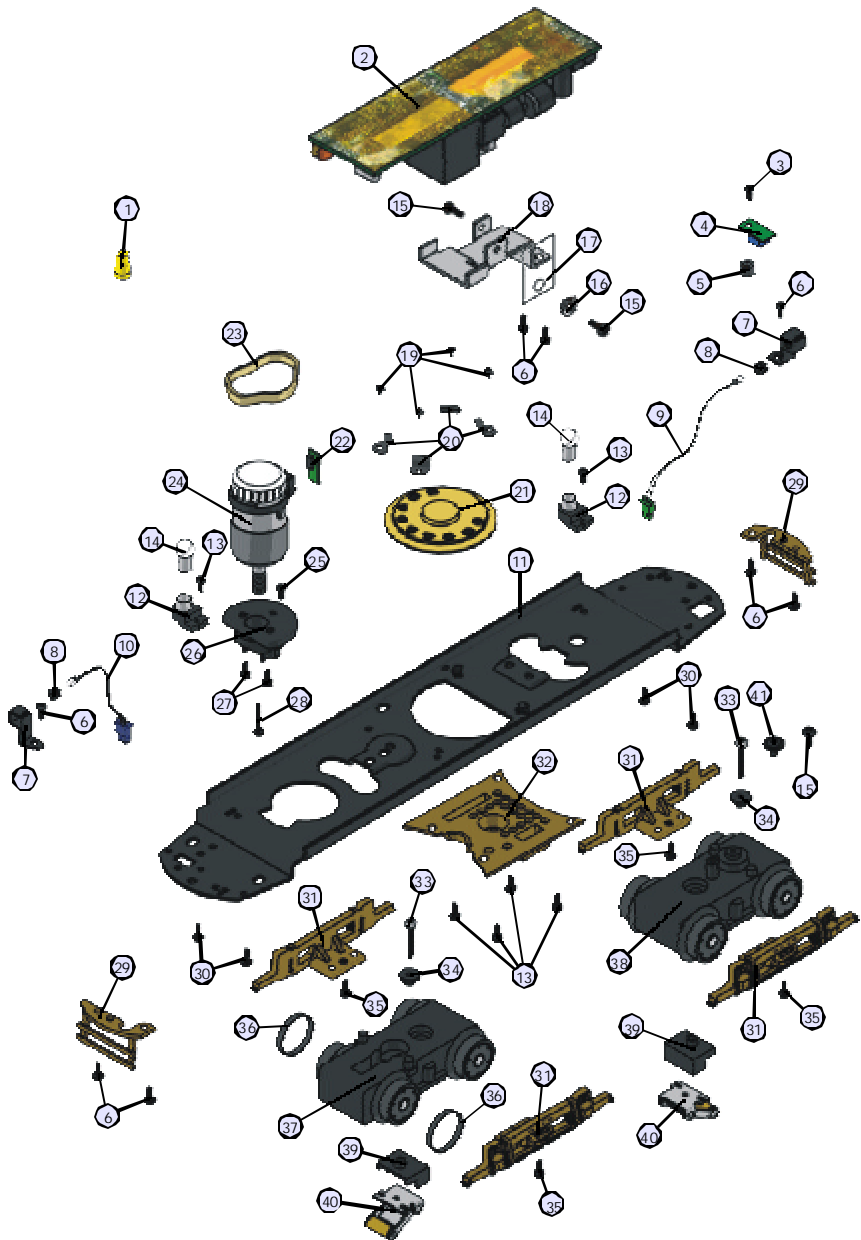


# Brill Trolley Locomotive Shell Parts

<u>Name and Number</u>	<u>Part #</u>
1.) Lens(clear)(187.0mmlong)	FA-3200009
2.) Spring(black) (3.0x16.5mm)(w/0.3mmthickwire)	IE-0000053
3.) Trolley pole(black&nickel) (completew/springs)	FF-3200027
4.) Washer(clear) (5.0x9.0x0.2mm)	ID-0000086
5.) E-clip(black)(3.0x8.0x0.5mm)	IF-0000002
6.) Roof(gray) (NewYorkTransit)(#1144)	FF-3200050
Roof(red)	FF-3200051
(Christmas)(#2001)	
Roof(black)	FF-3200052
(PhiladelphiaTransit)(#27)	
7.) Lens(blackw/clearletters) (145TH&LenoxAve.)(NewYorkTransit)(#1144)	FA-3200016
Lens(blackw/whiteletters) (NorthPole)(Christmas)(#2001)	FA-3200017
Lens(blackw/clearletters) (SharonHill)(PhiladelphiaTransit)(#27)	FA-3200018
8.) Clip(black) (forholdingdowntrolley pole)	FF-3200031
9.) Wirestrap(white) (plastic)(clip)	IH-0000289
10.) Shell(red,cream,gray) (NewYorkTransit)(#1144)	FF-3200053
Shell(red,green,white) (Christmas)(#2001)	FF-3200054
Shell(red,cream,silver,black) (PhiladelphiaTransit)(#27)	FF-3200055
11.) Lens(clear) (headlight/back-up light)	FA-3200012
12.) Lens(tintedw/figure) (doorlenshastwotabsoneside)	FA-3200015
13.) Lens(tintedw/figure) (doorlenshasonetabsoneside)	FA-3200013
14.) Lens(tintedw/figures)	FA-3200014
15.) Bulbs(clear)(2)(6v) (170.0mmlongwiresw/blackmale2pinplug) (grainofwheat)	CC-0000047



# Brill Trolley Locomotive Chassis Parts



# Brill Trolley Locomotive Chassis Parts

Name and Number	Part #
1.) Wirenut(yellow)	BI-4500003
2.) Boards (Loco-Sound™) (DIESEL/ELECTRIC)	AE-0000002
3.) Screw(M3x8.0mm)(roundhead)	IA-0000035
4.) Volumepot(small) (bluepotmountedongreenPCboard)	BI-0000040
5.) Spacer(black) (plastic)(3.0x6.0x4.0mm)	ID-0000071
6.) Screw(M3x4.0mm)(roundhead)	IA-0000010
7.) Bracket(black)(lightbracket) (8.2x14.0mm)(15.6mm&6.8mmsteps)(metal)	IH-0000291
8.) Grommet(black) (cupped)(rubber)	IH-0000144
9.) Bulb(clear)(6v) (90.0mmlongwiresw/greenmale2pinplug) (grainofwheat)(reverselight)	CF-0000012
10.) Bulb(clear)(6v) (90.0mmlongwiresw/bluemale2pinplug) (grainofwheat)(headlight)	CA-0000045
11.) Chassis(black)(metal) (Loco-Sound™)	GB-3200004
12.) Bracket(black) (15.0x22.0mmplasticbasew/9.2mmstep) (forbayonetbulb)	IH-0000267
13.) Screw (M3x6.0mm)(roundhead)	IA-0000016
14.) Bulb(clear) (6v)(smallglobe)(bayonetbase)	CG-0000024
15.) Screw (4/40x6.0mm)(roundhead)	IA-0000003
16.) Insulatorwasher(white) (3.0x6.0x3.0mm)	ID-0000025
17.) Insulator(clear) (13.0x16.0x0.1mm)(singlehole)	ID-0000024
18.) Bracket(Aluminum) (14.0x47.0mm)(12.0mmstep) (forLoco-Sound™ board)	IH-0000292
19.) Screw(M3x3.0mm)(roundhead)	IA-0000296
20.) Bracket(brass) (speaker)(9.0x9.5mm)(0.7mmthick)(3.0mmstep)	IH-0000271
21.) Speaker (UnisonU4508BSR,8ohms,0.9watt)	BF-4500013
22.) Tachboard	AG-0000033
23.) Rubberband	BI-4500004

24.) Motor(RS-365SH) (7.9x18.5mmwormgearw/10.0mmlongthreads) (9.5x30.0mmwhitetaperedflywheelw/blackstripes) (w/tachboardmount)	BE-0000100
25.) Screw (4/40x4.0mm)(roundhead)	IA-0000021
26.) Motormount(black)	BI-0000041
27.) Screw(yellowZink) (M2.5x6.0mm)(roundhead)(w/lockwasher)	IA-0000089
28.) Screw (M3x10.0mm)(roundhead)(w/lockwasher)	IA-0000155
29.) Grill(black) (NewYorkTransit)(#1144)(PhiladelphiaTransit)(#27)	FF-3200056
Grill(red) (Christmas)(#2001)	FF-3200057
30.) Screw (M3x16.0mm)(washerhead)(self-drillingthreads )	IA-0000025
31.) Truckside(black) (NewYorkTransit)(#1144)(PhiladelphiaTransit)(#27)	DB-0000007
Truckside(green) (Christmas)(#2001)	DB-0000008
32.) Undercarriagedetail(black) (NewYorkTransit)(#1144)(PhiladelphiaTransit)(#27)	FF-3200058
Undercarriagedetail(red) (Christmas)(#2001)	FF-3200059
33.) Screw(nickel) (M2.5x12.0mm)(roundhead)	IA-0000160
34.) Insulator(black) (pick-up)(round)(top)	BD-0000046
35.) Screw (4/40x6.0mm)(flathead)	IA-0000038
36.) Tractiontire(black)(rubber)	DE-0000014
37.) Truck(black) (2axle)(powered)(spokedwheels)	DA-0000009
38.) Truck(black) (2axle)(non-powered)(spokedwheels)	DA-0000010
39.) Insulator(black) (pick-up)(bottom)	BD-0000003
40.) Pick-up(6.0x11.0mmroller) (18.5mmlong)(screwsonfromtop)	BD-0000004
41.) Screw (6/32x6.0mm)(washerhead)	IA-0000214
NS.) Wireharness (blackmale12pinplug)	BC-3200005
NS.) Wireharness (blackmale7pinplug)	BC-3200003
NS.) Wireharness (blackmale5pinplug)	BC-3200006

# Service & Warranty Information

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

For warranty repair, follow the instructions below to obtain warranty service.

- First, e-mail, write, call or fax an Authorized M.T.H. Service Center in your area or M.T.H. Electric Trains to obtain Repair Authorization. You can find the list of Authorized Service Centers on the M.T.H. website, [www.mth-railking.com](http://www.mth-railking.com). Otherwise, contact M.T.H. (e-mail: [service@mth-railking.com](mailto:service@mth-railking.com); 7020 Columbia Gateway Drive, Columbia, MD 21046; tel: 410-381-2580; fax: 410-423-0009), stating when the item was purchased and describing the problem. If you contact M.T.H., you will be given a return authorization number to assure that your merchandise will be properly handled upon its receipt.
- **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 phononumber, e-mail address (if available), Return Authorization number, 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 servicetechnician when contacting the Service Center or M.T.H. for your Return Authorization.***
- Please make sure you have followed the instructions carefully before returning any merchandise for service.

## 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](http://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 light bulbs, pick-up rollers 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 an Authorized M.T.H. Service Center or M.T.H. Electric Trains 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 **acopy of the original sales receipt from an Authorized M.T.H. Train Merchant**, which gives the date of purchase. If you are sending the item to M.T.H., call 410-381-2580, fax 410-423-0009, or e-mail the Service Department at [service@mth-railking.com](mailto:service@mth-railking.com) to obtain a return authorization number. 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.

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

