

RAILKING
READY-TO-RUN™
sets
THE COMPLETE SOLUTION

www.railking.com

F-3 Freight Set®

Operation Manual



LocoSound
Loco Speed Control

RAILKING
By MTH Electric Trains

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

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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 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: 120 VAC, 60Hz Only, Output: 21 VAC, 3.75A 78VA

Set Up Checklist

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

Set Includes



Steam Engine with Loco-Sound™



Steam Tender



8-Pieces
O-31 Curve RealTrax



Box Car



Lock-On



4-Pieces
Straight RealTrax



Video



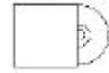
Caboose



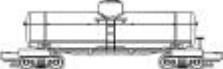
Remote Control



or
Controller with wire harness



CD-Rom



Tank Car

Tools Needed



Phillips Screwdriver



Pliers



Scissors



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

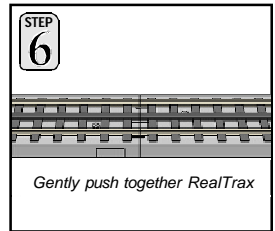
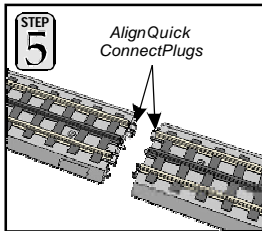
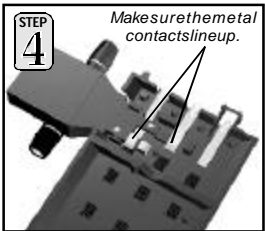
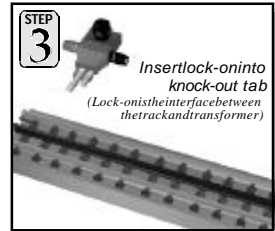
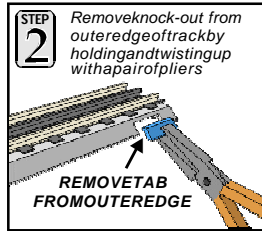
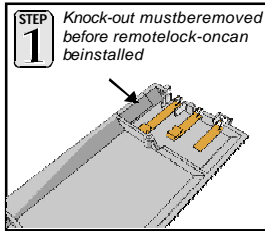
phone: 410-381-2580

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

Getting Started

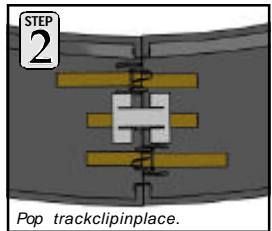
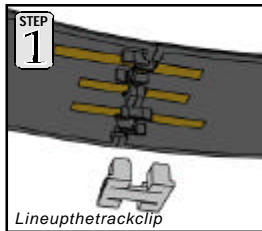
Assembling RealTrax®

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



Connecting Track Clips

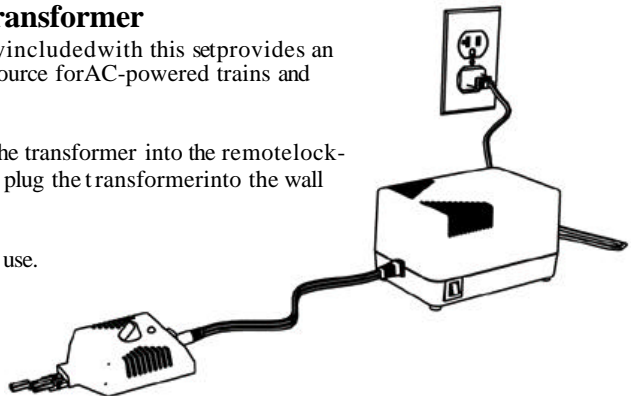
If you prefer not to screw your track to the table for a permanent layout, use the enclosed track clips on adjoining curved RealTrax sections to secure them in place.



Connecting the Transformer

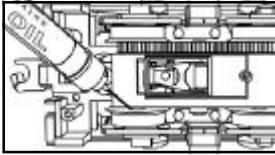
The 75-watt power supply included with this set provides an easy-to-use, safe power source for AC-powered trains and accessories.

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

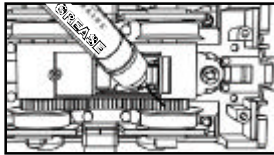


Lubricating and Greasing the Engine

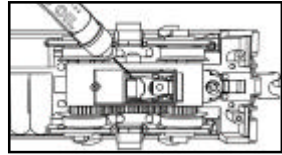
Lubricate all exposed moving parts before operating using a multi-purpose, plastic-compatible oil (available with M.T.H.'s Maintenance Kit, sold separately) or a light household oil. Follow the lubrication points.



Lubricate Axles

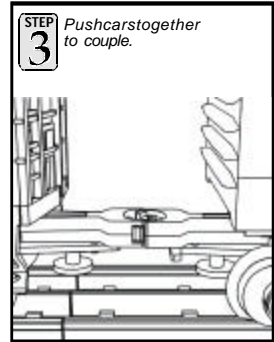
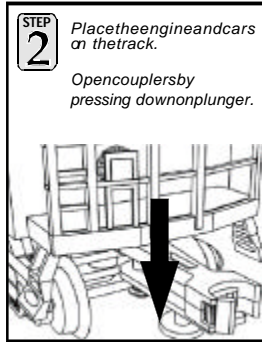
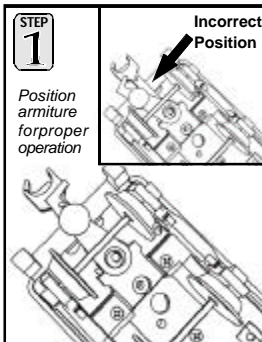


Grease Gears



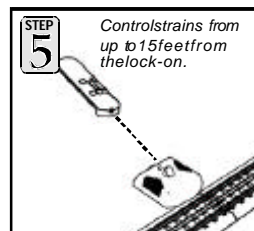
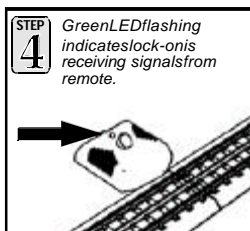
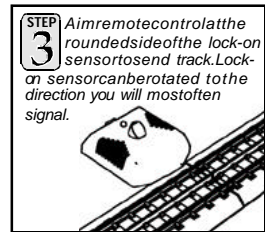
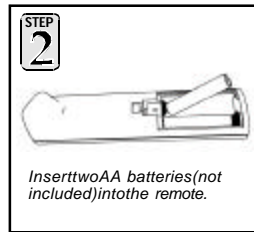
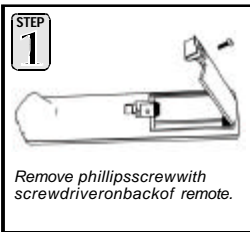
Lubricate Pick-Up Rollers
(Do Not Lubricate the Flat Part of Pick-Up Rollers)

Coupling the Engine and Cars



Remote Control

The remote and lock-on are redesigned 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 into 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.

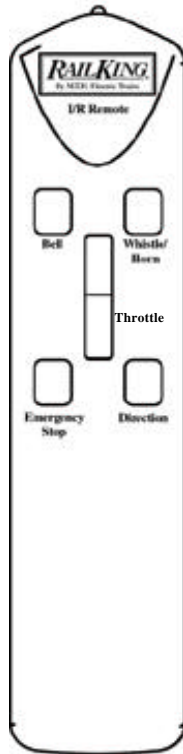
To increase or decrease track voltage, and therefore train speed, press the throttle control rocker switch. Pressing the top end of the throttle will increase voltage and speed. Pressing the bottom end of the throttle will decrease voltage and speed.

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.

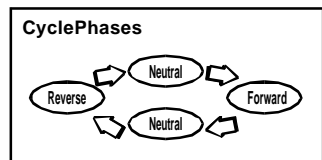
Emergency Stop Press the Emergency Stop button and all trains on the track controlled by the remote will stop until you reapply voltage. This is an easy way to shut down your trains at the end of a session or to stop suddenly if the train's path becomes obstructed.

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/Whistle button. The horn will sound for as long as you continue to depress the button. It will stop when you release the button.

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 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 derailment and 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 recording through your engine's speakers. You must supply the audio source (a small portable CD/tape player is sufficient) and a male-to-male mini cable (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 mini cable (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 a 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.

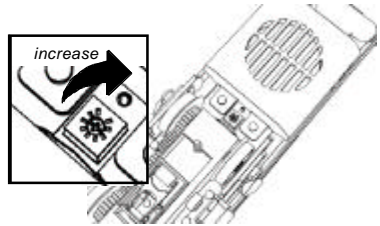
If using parallel tracks with multiple Loco-Sound-equipped engines, Proto-Cast and Proto-Dispatch transmissions from one track may be picked up by the other nearby engines.

If you experience popping and interference when using Proto-Cast or 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 engine clockwise to increase the volume and counter-clockwise to decrease the volume.



Maintenance

Care of the Remote Control

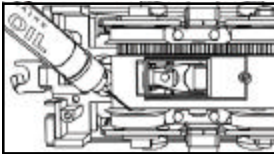
To ensure trouble-free operation:

- 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.

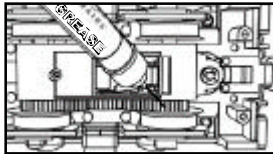
Lubrication and Greasing Instructions

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

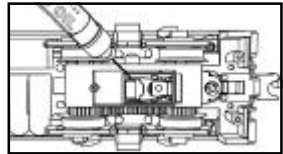
Regularly lubricate all axles and linkage components and pick-up rollers to prevent squeaking. Use light household oil, such as that found in M.T.H.'s maintenance kit. Do not overoil. Use only a drop or two on each pivot point.



Lubricate Axles

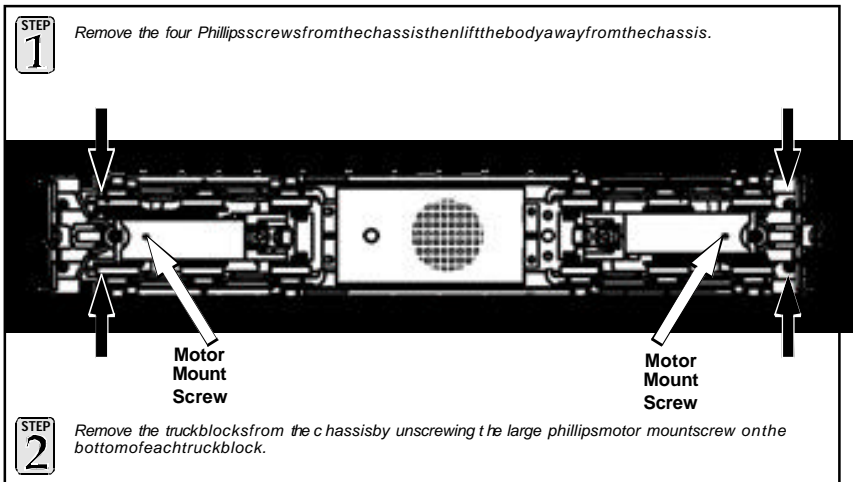


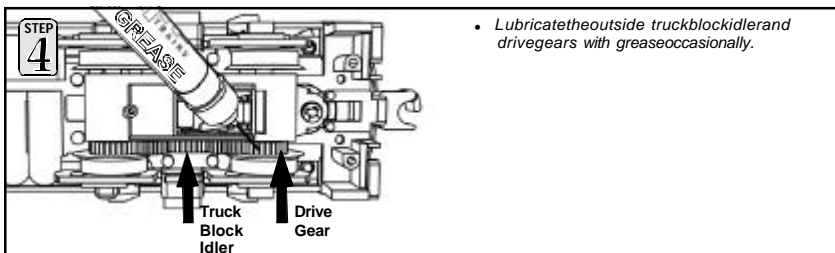
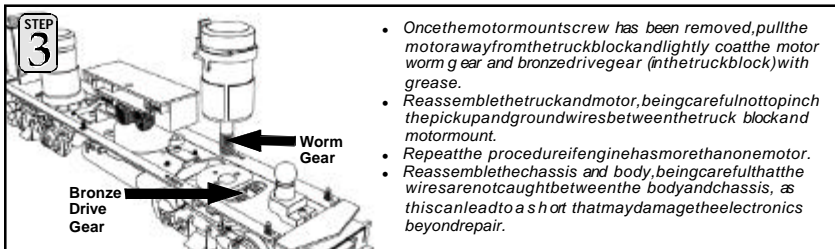
Grease Gears



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

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





Cleaning the Wheels, Tires and Track

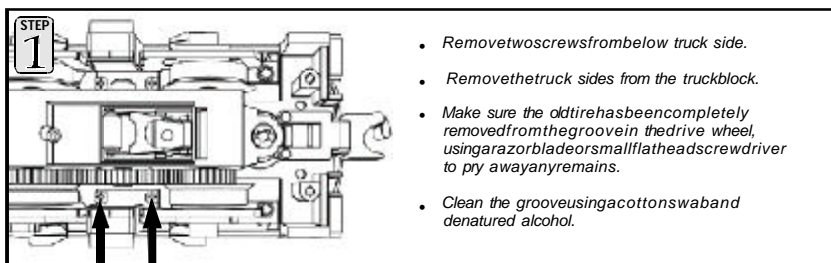
Periodically check the locomotive wheels and pickups for dirt and buildup, which can cause poor electrical contact and traction and prematurely wear out the neoprene traction tires. Wheels and tires can be cleaned using denatured (not rubbing) alcohol applied with a cotton swab.



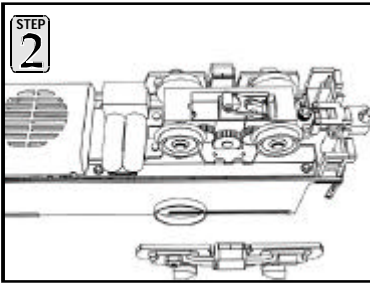
To clean the track, use RailKing Track Cleaning Fluid and a clean rag or denatured (not rubbing) alcohol. Unplug the transformer and wipe the rails of the track, turning the rag frequently to ensure that you are using clean cloth on the rails. Because the manufacturing process leaves a coating on RealTrax 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.

Traction Tire Replacement Instructions

Your locomotive is equipped with two neoprene rubber traction tires on the rear set of flanged drivers. While these tires are extremely durable, you may need to replace them at some point.



STEP 2



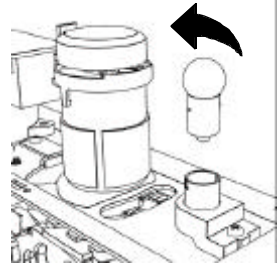
- Slip the new tire onto the wheel. You may find it useful to use two small flathead screwdrivers to stretch the tire over the wheel.
- As you twist the tire while stretching it over the wheel, you will need to remove and reinstall the tire. Otherwise your engine will wobble while operating.
- Make sure the tire is fully seated inside the groove. Use a razor blade to trim away any excess tire that doesn't seat itself inside the groove properly.
- Reassemble the truck side to the truck blocks.

Locomotive Light Bulb Replacement

Follow the cab removal instructions found in the Greasing Instructions section of this booklet (page 10).

- Rotate the headlight bulb counter-clockwise to remove.

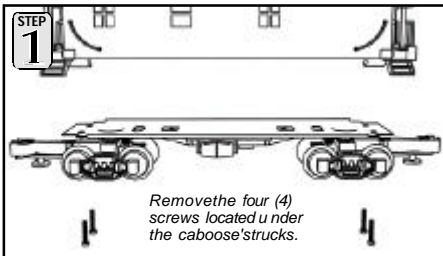
You can obtain replacement bulbs directly from the M.T.H. Parts Department.



Caboose Light Bulb Replacement

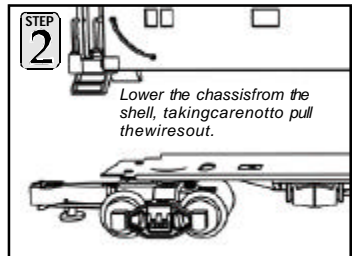
To replace the interior light bulbs follow these instructions and see the diagrams below.

STEP 1



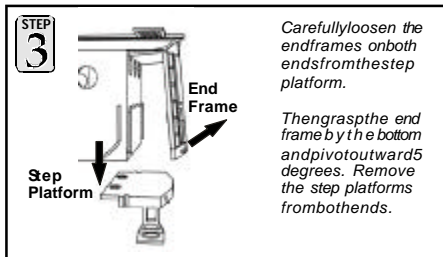
Remove the four (4) screws located under the caboose trucks.

STEP 2



Lower the chassis from the shell, taking care not to pull the wires out.

STEP 3



Carefully loosen the end frames on both ends from the step platform.

Then grasp the end frame by the bottom and pivot outward 5 degrees. Remove the step platforms from both ends.

End Frame

Step Platform

STEP 4



Lower the chassis from the shell, taking care not to pull the wires out.

STEP 5

Replace the bulb by pushing it in at an angle from the bulb holder. Push the bulb from its socket.

Replace with a new bulb and reassemble the caboose.



Light Bulb
#CG-0000017)

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 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.rrtrack.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 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.

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 tables should answer most questions. If your problem cannot be resolved with this table, contact M.T.H. for assistance (e-mail: service@mth-railking.com, telephone: 410-381-2580; fax: 410-423-0009; mail: 7020 Columbia Gateway Drive, Columbia MD 21046-1532).

Starting Up	Remedy
When I first turn the power on, the engine will not begin to run.	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.
The engine will not start after I press the Direction button.	You may not be sending enough power to the track to power the engine. Press the throttle up for a few more seconds to increase track power.
Horn	Remedy
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.
Bell	Remedy
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 bell button more slowly, taking approximately one full second to fully depress the button.
Lock-out	Remedy
I can't get the engine to run after I power up the transformer. It's still with the engine sounds running.	The engine may be locked into the neutral position. Follow the procedure in the "Lock into a Direction" section to unlock the engine's direction.
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).
Volume	Remedy
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.
Proto-Cast and -Dispatch	Remedy
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® 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
MTH Z-500	Red Terminal	Black Terminal	0-18v	50-Watt	Electronic
MTH Z-750	Red Terminal	Black Terminal	0-21v	75-Watt	Electronic
MTHZ-4000	Red Terminal	Black Terminal	0-22v	390-Watt	Electronic
Lionel1032	U	A	5-16v	90-Watt	Standard
Lionel1032M	U	A	5-16v	90-Watt	Standard
Lionel1033	U	A	5-16v	90-Watt	Standard
Lionel1043	U	A	5-16v	90-Watt	Standard
Lionel1043M	U	A	5-16v	90-Watt	Standard
Lionel1044	U	A	5-16v	90-Watt	Standard
Lionel1053	U	A	8-17v	60-Watt	Standard
Lionel1063	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

F-3 Diesel Locomotive Engine Parts

~~Engine Parts~~

Name and Number	Part #	\$Price Per Unit
1.) Diaphragm (black)(3 rib) (26.0x50.0x10.0mm)(2 center mount tabs)	FI-0000027	2.00
2.) Shell (black, yellow, green) (John Deere)	FC-2200375	*65.00
3.) Lens (clear) (portal)(9.3x8.3x1.7mm)	FA-2260001	2.00
4.) Horn (nickel)(1 chime)	FC-2200010	3.00
5.) Battery charger jack (complete)	BG-0000001	3.00
6.) Number board (# 4010) (white numbers on black background)(sticker) (John Deere)(#4010)	FG-2200104	0.25
7.) Lens (clear) (headlight)(7.7x6.7x4.5mm)	FA-2230009	2.00
8.) Windows (clear)(front & sides)	FA-2230008	5.00
9.) Rubberband	BI-4500004	0.50
10.) Tach board (standard)(for Proto-Sound 2.0® and Loco-Sound™)	AG-0000033	6.00
11.) Motor (RS-365SH) (7.8x17.0mm worm gear w/ 10.5mm long threads) (9.0x30.0mm white tapered flywheel w/ black stripes) (w/ tach board mount)	BE-0000142	25.00
12.) Boards (Proto-Sound® 2.0) (Proto-Sound® 2.0)(w/ Rom memory)(5v board)	AE-0000001	*200.00
13.) Motor (RS-365SH) (7.8x17.0mm worm gear w/ 10.5mm long threads) (9.0x30.0mm black tapered flywheel)	BE-0000143	25.00
14.) Bulb (6v)(small globe) (bayonet base)(headlight/cab interior)	CG-0000024	1.00
15.) Socket (black)(plastic)(7.0mm thick bayonet base)	CH-0000037	3.00
16.) Screw (M3x6.0mm)(roundhead)	IA-0000016	0.15
17.) Motor mount (black)	BI-0000005	15.00
18.) Screw (4/40x6.0mm)(roundhead)	IA-0000003	0.15
19.) Screw (6/32x12.0mm)(roundhead)	IA-0000062	0.15
20.) Screw (M3x4.0mm)(roundhead)	IA-0000010	0.15
21.) Screw (yellow Zinc) (M2.5x6.0mm)(roundhead)(w/ lock washer)	IA-0000089	0.15
22.) Screw	IA-0000012	0.15

23.)	(M3x14.0mm)(roundhead)(w/ lock washer) Screw	IA-0000035	0.15
24.)	(M3x8.0mm)(roundhead) Bracket (Aluminum) (for Proto-Sound® 2.0 boards) (mounts boards sideways)	IH-0000385	4.00
25.)	Wire strap(black)(metal)(small)	IH-0000012	1.00
26.)	Insulator (white) (washer)(3.0x6.0x3.0mm)(plastic)	ID-0000025	0.15
27.)	Voltage regulator (LM2937ET)	AG-0000032	3.00
28.)	Volume pot(small) (blue pot mounted on green PC board)	BI-0000040	5.00
29.)	Spacer (black) (3.0x6.0x4.0mm)(plastic)	ID-0000071	0.15
30.)	Insulator (clear) (13.0x16.0x0.1mm)(single hole)	ID-0000024	0.15
31.)	Switch (large)(2 position)	BB-0000006	5.00
32.)	Screw (M2x4.0mm)(roundhead)	IA-0000058	0.15
33.)	Bracket (brass)(speaker) (6.0x8.5x1.0mm)(rounded corners on one end)	IH-0000372	1.00
34.)	Wire nut (yellow)	BI-4500003	0.25
35.)	Battery leads (60.0mm long wiresw/smallblack male 2 pin plug) (80.0mm long wiresw/battery charger jack)	BC-0000189	6.00
36.)	Battery (8.4 volts)(re-chargable)(nickel-cadium)	BG-4000001	10.00
37.)	Bracket (black)(metal) (9.3x46.0x34.4mm)(horizontal mount)(battery)	IH-0000165	3.00
38.)	Screw (4/40x6.0mm)(flathead)	IA-0000038	0.15
39.)	Pilot (black)(front) (2screw holes for mounting pilot)	DG-2230026	15.00
40.)	Chassis (black)(A unit) (Proto-Sound® 2.0 & Loco-Sound™) (w/ holes for batterycharger jack)	DH-2200079	*20.00
41.)	Speaker (Star)(NR-045-A1Z04)(16 ohms)(2.0 watt)	BF-0000031	10.00
42.)	Screw (M3x16.0mm)(washer head)(self-drilling)	IA-0000025	0.15
43.)	T-bar (black) (4.0x20.0mm)(plastic)	IG-0000001	0.50
44.)	Proto-Coupler® (Proto-Coupler® 2.0)(44.5mm long)	DD-0000033	10.00
45.)	Spring (nickel) (6.5x14.0mm)(0.5mm thick wire)	IE-0000022	0.50
46.)	Washer (4.5x10.0x0.6mm)	ID-0000041	0.15
47.)	E-clip (3.0x8.0x0.5mm)	IF-0000002	0.15

48.) Truck (black)(2 axle) (powered)(2 holes tapped for mounting pilot) (2 M2.5 holes tapped for mounting PCB under coupler) (truck sides mount from bottom)	DA-2000030	*30.00
49.) Insulator (black) (pick-up)(plastic)(top)(square)	BD-0000047	2.00
50.) Traction tire(black) (rubber)(4.0x17.0mm)	DE-0000018	0.75
51.) Nut (nickel)(2.5x5.0x10.0mm)	IC-0000005	0.50
52.) Insulator (black) (pick-up)(plastic)(bottom)(square)	BD-0000039	2.00
53.) Pick-up (8.0x11.0mm roller)(28.0mm long)	BD-0000025	5.00
54.) Truck side (black) (fits 2 axle truck)(truck side screws mount from bottom)	DB-2150002	7.00
55.) Screw (M2x4.0mm)(roundhead)	IA-0000058	0.15
56.) Wire harness (black flat male 4 pin plug w/ 130.0mm long wires) (w/ black female 4 pin plug on PC board)	BC-0000190	10.00
57.) Spacer (black)(hexagon shaped) (25.0mm long)(4.0mm long M2.5 screw on one end) (M2 tapped hole on the other end)	ID-0000121	1.00
58.) Truck (black)(powered) (2 axle)(2 holes tapped for mounting pilot) (truck sides mount from bottom)	DA-2000012	*30.00
59.) Screw (nickel) (M3x6.0mm)(roundhead)	IA-0000015	0.15
60.) Gasket (black)(foam) (39.0x45.0x2.0mm)(for 45.0mm speakers)	IB-0000013	1.00
61.) Screw (M3x3.0mm)(roundhead)	IA-0000296	0.15
NS.) Speaker cone (cardboard)	BF-0000032	2.00
NS.) Bracket (black)(metal) (8.0x62.5mm)(18.5mm step)(2 mounting holes) (mounts speaker cone)	IH-0000386	3.00
NS.) Screw (M3x3.0mm)(roundhead) (mounts speaker cone bracket to chassis)	IA-0000296	0.15
NS.) Wire harness (black male 7 pin plug) (215.0mm long wires w/ standard tach board) (60.0mm long red & black wires)	BC-0000191	8.00
NS.) Wire harness (black male 5 pin plug)(for motors) (200.0mm & 90.0mm long yellow & white wires)	BC-0000192	5.00
NS.) Wire harness (for speaker) (110.0mm long wires w/ white male 2 pin plug)	BC-0000138	3.00

NS.) Wire harness	BC-1100008	4.00
(90.0mmlong wires w/ black male 2 pin plug) (black wire shield on wires)(for Proto-Coupler®)		
NS.) Wire harness	BC-0000193	4.00
(125.0mm long red & black wires w/ eyelets) (has black wire shield on wires) (power supply from pick-ups)		
NS.) Wire harness	BC-2200075	16.00
(black male 1 2 pin plug) (115.0mm long wires w/ small volume pot) (65.0mmlong black wire w/ black female 2 pin plug) (90.0mmlong brown wire w/ large switch) (60.0mmlong wires w/ white female 2 pin plug) (100.0mm long green wire w/ black female 4 pin plug) (165.0mm long light blue wire)		

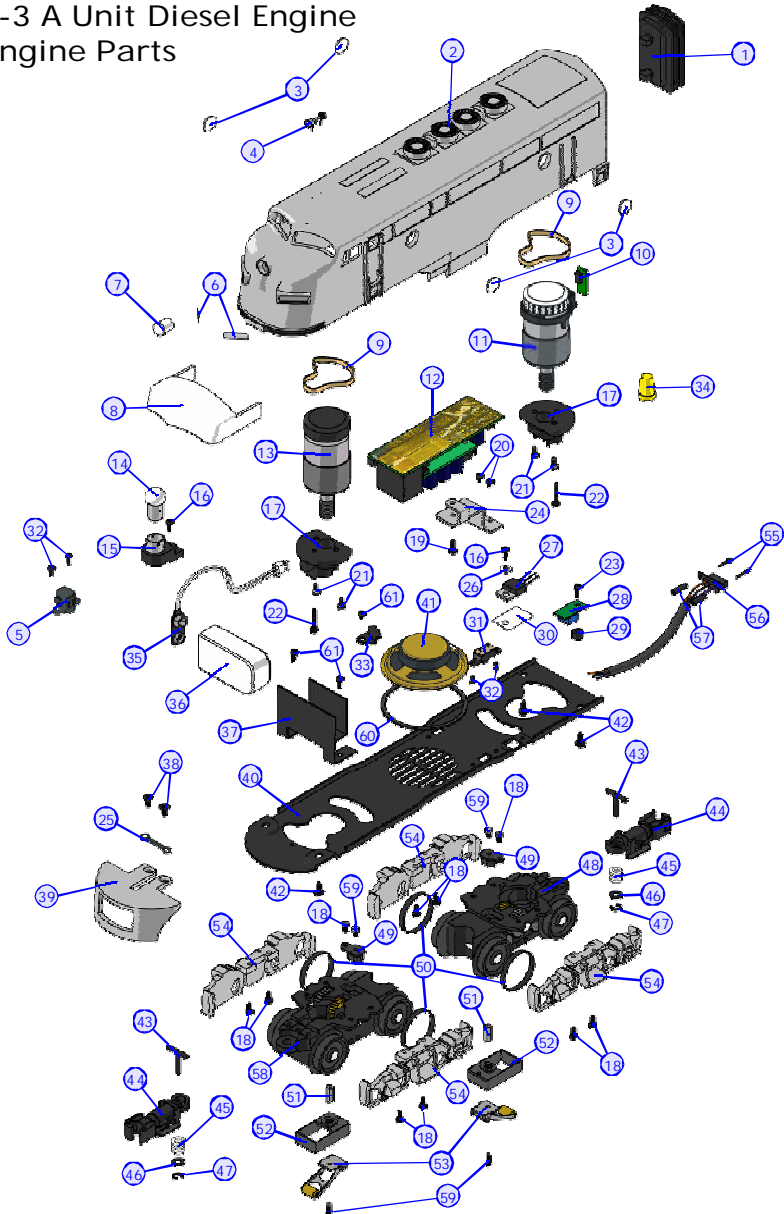
Loco-Sound™ Only Parts

41.) Speaker (Unison)	BF-4500013	8.95
(U4508BSR, 8 ohms, 0.9 watts)		
45.) Spring (nickel)	IE-0000009	0.50
(6.5x9.0mm)(0.4mm thick wire)		
46.) Washer (black)(plastic)	ID-0000060	0.15
(4.6x8.5x0.5mm)(cup shaped for spring to fit in)		
NS.) Coupler (black)	DD-0000003	3.00
(mechanical)(44.0mm long)		
NS.) Armature (black)	DD-0000010	1.00
(37.8mmlong)		
NS.) Board	AE-0000002	*100.00
(Loco-Sound®)(DIESEL/ELECTRIC)		
NS.) Bracket (Aluminum)	IH-0000387	3.00
(14.0x63.0mm)(24.0mm step) (for mounting Loco-Sound® board)		
NS.) Wire harness	BC-0000194	5.00
(black male 5 pin plug)(for motors) (170.0mm & 170.0mm long yellow & white wires)		
NS.) Wire harness	BC-2200076	12.00
(black male 1 2 pin plug) (115.0mm long wires w/ small volume pot) (50.0mmlong wires w/ white female 2 pin plug) (170.0mm long light blue wire) (140.0mm long purple wire)		

*Requires Exchange
All parts are priced as each

F-3 Diesel Locomotive Engine Parts

F-3 A Unit Diesel Engine Engine Parts



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 tires if only one of the components is in need of repair *unless otherwise instructed by the Service Center. The shipment must be repaid 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 I.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 410381-2580.

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.

I.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) a defective part without charge for the parts or labor, if the item is returned to an M.T.H. Authorized Service Center (ASC) or I.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.

Essential 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
I.T.H. Electric Trains
220 Columbia Gateway Drive
Columbia MD 21046-1532





AUTHORIZED SERVICE CENTER

7020 Columbia Gateway Dr. - Columbia, MD 21046

Information: 410-381-2580 Fax: 410-381-6122

www.mth-railking.com

PARTICIPATING N.A.S.C. RETAILER LIST

CANADA

TOYTRAIN WORKSHOP
CUMBERLAND
613-833-3125

THETRAINROOM
ERGUS
519-787-3280

CALIFORNIA
TINPLATEJUNCTION
OAKLAND
510-444-4780

COLORADO
MIZELTRAININC
WESTMINSTER
303-429-4811

CONNECTICUT
NEW ENGLAND HOBBY
SUPPLY
MANCHESTER
860-646-0610

FLORIDA
ROUNDHOUSE SOUTH
PORT O RANGE
386-304-7002

MARYLAND
PLAZAHOBBY
CUMBERLAND
301-729-6424

ENGINEHOUSEHOBBIES
GATHERSBURG
301-590-0816

CATOCTINMOUNTAINTRAINS
THURMONT
301-694-8331

MICHIGAN
MICHIGANMODELTRAIN
CENTER
PINCKNEY
734-426-1651

BRASSEURELECTRIC TRAINS,
INC.
SAGINAW
989-793-4753

NEWHAMPSHIRE
TREASUREDTOYS
SALEM
603-898-7224

NEWYORK
AURORA RAILS&HOBBIES
EASTAURORA
716-652-5718

OHIO
DAVISELECTRONICS
MILFORD
513-831-6425

RICK'STOYTRAINS
TOLEDO
419-478-0171

PENNSYLVANIA
BUSSINGERTRAINS
AMBLER
215-628-2366

FAIRCHANCEPHARMACY
FAIRCHANCE
724-564-7817

THE STATION
NEWCUMBERLAND
717-774-7096

VIRGINIA
LOCUST GROVE TRAINS
LOCUST GROVE
540-854-8955

DAVISHOBBYSUPPLIES
PORTSMOUTH
757-397-1983

T S G HOBBIES
WARRENTON
540-347-9212

WISCONSIN
SOMMERFELD'S TRAINS
BUTLER
262-783-7797

GRAMPA'S TRAINSHOP
RICE LAKE
715-234-2996



AUTHORIZED SERVICE CENTER

7020 Columbia Gateway Dr. - Columbia, MD 21046

Information: 410-381-2580 Fax: 410-381-6122

www.mth-railking.com

PARTICIPATING A.S.C. RETAILER LIST

CANADA

TOYTRAIN WORKSHOP
CUMBERLAND
613-833-3125

THETRAINROOM
ERGUS
519-787-3280

CREDITVALLEYRAILWAY
COMPANY
STREETSVILLE
905-826-1306

B&HTRAINS
TERREBONNE, QUEBEC
450-492-0317

ALABAMA

SOUTHERLAND STATION
HUNTSVILLE
256-533-4720

LIL' BOBBY'SHOBBIES
MONTGOMERY
334-277-1715

ARIZONA

ARIZONATRIN DEPOT
MESA
480-833-9486

CENTRALCOAST TRAINS
ATASCEDERO
805-466-1391

CALIFORNIA

CENTRALCOAST TRAINS
ATASCEDERO
805-466-1391

TRAIN SHACK
BURBANK
818-842-3330

ROUNDHOUSE
NORTH HOLLYWOOD
818-769-0403

DOLLHOUSES, TRAINS &
MORE
NOVATO
415-883-0388

TINPLATEJUNCTION
OAKLAND
510-444-4780

RON'SWORLD
SANCLEMENTE
949-361-5596

TRUCKS & TRAINS HOBBIES
SANTAROSA
707-537-6586

COLORADO
CUSTOM RAILWAYSUPPLY
COLORADOSPRINGS
719-634-4616

MIZELL TRAINS INC
WESTMINSTER
303-429-4811

CONNECTICUT
NEWENGLANDHOBBY
SUPPLY
MANCHESTER
860-646-0610

DELAWARE
KRRBMODEL TRAINS INC.
NEWARK
302-292-2779

FLORIDA
HOLLYWOOD STATION
HOLLYWOOD
954-921-2700

DEPOTHOBBYSHOP
LAKE WORTH
561-585-1982
READYTO ROLL
MIAMI
305-688-8868

FRANK'S TRAINS & HOBBIES
INC.
OLDSMAR
813-855-1041

COLONIAL PHOTO & HOBBY
ORLANDO
407-841-1485

WARRICK CUSTOM HOBBIES
PLANTATION
954-370-0708

ROUNDHOUSE SOUTH
PORT ORANGE
386-304-7002

ILLINOIS
BIKE & CHOOCHOO
CONNECTION
SCHAUMBURG
847-882-7728

INDIANA
Y.O.R.K. TRAINS
MUNSTER
219-838-9999

SAMUELSON'S TRAINSHOP
VALPARAISO
219-462-2708

IOWA
CABOOSESTOPHOBBIES
CEDARFALLS
800-642-7012

KENTUCKY

L& N TRAINS & THINGS
LOUISVILLE
502-897-9005

LOUISIANA

AMERICA'S TRAIN YARD
BATON ROUGE
225-926-5592

MAINE

WHEELS, WINGS & THINGS
LUDLOW
207-532-6277

MARYLAND

PLAZA HOBBY
CUMBERLAND
301-729-6424

HOBBYTOWN U S A
FREDERICK
301-694-7395

ENGINE HOUSE HOBBIES
GAITHERSBURG
301-590-0816

J & B TRAINS
HAGERSTOWN
240-420-4930

THE TRAIN ROOM
HAGERSTOWN
301-745-6681

PURKEY'S TOY TRAINS
SYKESVILLE
410-549-6061

CAT OCTIN MOUNTAIN TRAINS
THURMONT
301-694-8331

N & W TRAINS HED
WILLIAMSPORT
301-223-8801

MASSACHUSETTS

NORTHEAST TRAINS
PEABODY
978-532-1615
EAST BAY HOBBIES
SEEKONK
508-336-5573

MICHIGAN

MICHIGAN MODEL TRAIN
CENTER
PINCKNEY
734-426-1651

BRASSEUR ELECTRIC TRAINS,
INC.
SAGINAW
989-793-4753

MISSOURI

SWITCHSTAND
SAINT LOUIS
314-781-4458

MARKTWIN HOBBY CENTER
ST. CHARLES
636-946-2816

NEVADA

RENO RAILS
RENO
775-337-6669

NEW HAMPSHIRE

RAILROAD SPECIALTIES
NASHUA
603-801-0801

TREASURED TOYS
SALEM
603-898-7224

NEW JERSEY

COUNTRY AND STUFF
ANDOVER
973-786-7086

COLUMBUS TRAINS STATION
COLUMBUS
609-518-1800

ATLANTIC RAILS
HAMMONTON
609-567-8490

GRAND CENTRAL STATION
KEARNY
201-955-6200

J & B TRAINS, INC.
MAPLESHADE
856-414-0092

HOBBY SHOP
MATAWAN
732-583-0505

HOBBY MASTERS, INC
RED BANK
732-842-6020

RIDGEFIELD HOBBY
RIDGEFIELD
201-943-2636

TRAINS & THINGS
TRENTON
609-883-8790

COAST TRAINS AND
COLLECTIBLES
WALL
732-556-9005

HOLLY BEACH TRAIN DEPOT
WILDWOOD
609-522-2379

NEW YORK

AURORA RAILS & HOBBIES
EAST AURORA
716-652-5718

NASSAU HOBBY CENTER, INC.
FREEPORT
516-378-9594

HOBBY WORLD
MONTICELLO
845-794-8770

CITY DEPOT, INC.
NEW HAMPTON
845-374-3010

AMERICAN STORE
TIVOLI
845-757-4246

KROSS HARDWARE
WEST BABYLON
631-669-3069

NORTH CAROLINA

THE ROUNDHOUSE &
BACKSHOP
CARY
919-465-0810

TRAINS I.D.
CHARLOTTE
704-566-9070

DRY BRIDGE STATION
MOUNTAIRY
336-786-9811

THE FREIGHTYARD
SMITHFIELD
919-934-6229

TRAIN LOFT
WINSTON-SALEM
336-760-9817

OHIO

GLEN'S TRAIN SHOP
AKRON
330-253-6527

E & S TRAINS
AKRON
330-745-0785

T & K HOBBY SHOP
BRIDGEPORT
740-633-6607

SCHAFFNER'S TRAINS
CANTON
330-452-4444

TRAINS-N-THINGS
CANTON
330-499-1666

PARMAHOBBY
CLEVELAND
216-741-6440

SANDY'SHOBBY'S &
COLLECTIBLES
ELYRIA
440-365-9999

HUDSONTOY, TRAIN &
HOBBY
HUDSON
330-653-2997

CLEARVIEW TRAIN & HOBBY
LORAIN
440-277-4488

DIXIEUNION STATION
MASON
513-459-0460

DAVISELECTRONICS
MILFORD
513-831-6425

GRAND PACIFICJUNCTION
OLMSTEADFALLS
440-235-4777

RICK'STOYTRAINS
TOLEDO
419-478-0171

ERIERAILWAYDEPOT
TROY
937-440-9972

PENNSYLVANIA
AMERICANHOBBYCENTER
ALIQUIPPA
724-378-3930

ALLENTOWN TOY TRAIN
SERVICE
ALLENTOWN
610-821-0740

ON THE RIGHT TRACK
ALTOONA
814-942-4345

BUSSINGER TRAINS
AMBLER
215-628-2366

YE OLDE TRAIN & CHRISTMAS
SHOPPE
BOYERTOWN
610-369-0755

CHARLEROI SWEEPER
CENTER
CHARLEROI
724-483-3397

CRANBERRYHOBBYDEPOT
CRANBERRY TWP
724-776-3640

FAIRCHANCEPHARMACY
FAIRCHANCE
724-564-7817

TOY TRAINSTATION
FEASTERVILLE TREV
215-322-5182

THE CABOOSE
LEHIGHTON
570-386-5352

HOBBYCITY
McMURRAY
724-942-2557

THE STATION
NEW CUMBERLAND
717-774-7096

FRYER'S STORE
ORWIGSBURG
570-366-2258
CHESTNUTTOYBOX
PHILADELPHIA
215-545-0455

TOBY TYLER'S HOBBY
CENTER
PITTSBURGH
412-653-5030

C. T. MCCORMICK HARDWARE
ZELIENOPLE
724-452-6130

SOUTH CAROLINA
EMERALD TRAIN & HOBBY
GREENWOOD
864-223-2247

TENNESSEE
MODEL RAILROAD & HOBBY
SHOP
MEMPHIS
901-384-6500

TEXAS
HOBBY TIME
AMARILLO
806.352.9660

RIVERVIEW TRAINS
ANGLETON
979-848-3895

GREAT TRAINS & HOBBIES
LONGVIEW
903-757-2720

VIRGINIA
LOCUST GROVE TRAINS
LOCUST GROVE
540-854-8955

TRAINS. ETC.
LORTON
703-550-1779

TRAIN DEPOT
MANASSAS
703-335-2216

CHESTERFIELD HOBBIES
MIDLOTHIAN
804-379-9091

DAVIS HOBBY SUPPLIES
PORTSMOUTH
757-397-1983

TOY TRAIN CENTER
RICHMOND
804-288-4475

TSG HOBBIES
WARRENTON
540-347-9212

NORGE STATION
WILLIAMSBURG
757-564-7623

WEST VIRGINIA
PATRICK'S STRAINS
WHEELING
304-232-0714

WISCONSIN
SOMMERFELD'S TRAINS
BUTLER
262-783-7797

WOODCRAFTER'S
BURLINGTON
262-763-5239

HOBBY OUTLET
FOND DU LAC
920-924-3770

G B T V & TRAINS
GREEN BAY
920-496-9697

GRAMPA'S TRAIN SHOP
RICELAKE
715-234-2996

THE TRAIN STORE
WAUKESHA
262-650-6675