

# **LIONEL ELECTRIC TRAINS**

MODEL RAILROAD  
ACCESSORIES

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**LIONEL CORPORATION TINPLATE**

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

# LCA

## 616 Flying Yankee Streamline Train Set

OPERATOR'S MANUAL

### Traditional Version

#### **Compatibility**

This engine will operate on any traditional O-31 Gauge track system, including RealTrax® or ScaleTrax™ or traditional tubular track. It is also compatible with most standard AC transformers. (See page 8 for a complete list of compatible transformers and wiring instructions.)

PLEASE READ BEFORE USE AND SAVE

# Table of Contents

Set Up Checklist.....	3
Lubrication.....	3
Assembling the Set.....	3
Basic Operation.....	5
Activating Features.....	5
Maintenance.....	6
Lubricating and Greasing Instructions.....	6
Cleaning The Wheels and Track.....	7
Locomotive Light Bulb Replacement.....	7
Transformer Compatibility and Wiring Chart.....	9
Service & Warranty Information.....	10
Limited One-Year Warranty.....	10

**CAUTION: ELECTRICALLY OPERATED PRODUCT:**

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

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

- M.T.H. recommends that all users and persons supervising use examine the hobby transformer and other electronic equipment periodically for conditions that may result in the risk of fire, electric shock, or injury to persons, such as damage to the primary cord, plug blades, housing, output jacks or other parts. In the event such conditions exist, the train set should not be used until properly repaired.
- Do not operate your layout unattended. Obstructed accessories or stalled trains may overheat, resulting in damage to your layout.
- This train set is intended for indoor use. Do not use if water is present. Serious injury or fatality may result.
- Do not operate the hobby transformer with damaged cord, plug, switches, buttons or case.

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

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# BEFORE YOU BEGIN:

By visiting the M.T.H. website, [www.mthtrains.com](http://www.mthtrains.com), you will be able to view any additional manual updates that affect your engine. Enter the MTH Item number of the engine you want to check and select the manual icon to download or view it. You will need Adobe Acrobat Reader to view the manual.

**You can obtain replacement parts and replacement instructions from the M.T.H. Parts Department** (Order online: [www.mthtrains.com](http://www.mthtrains.com), e-mail: [parts@mth-railking.com](mailto:parts@mth-railking.com), Fax: 410-423-0009, Phone: 410-381-2580, Mail: 7020 Columbia Gateway Drive, Columbia MD 21046-1532).

## Set Up Checklist

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

## Lubrication

You should lubricate the engine to prevent it from squeaking. Use light household oil and follow the lubrication points marked “L” (shown below). Do not over-oil. Use only a drop or two on each pivot point.

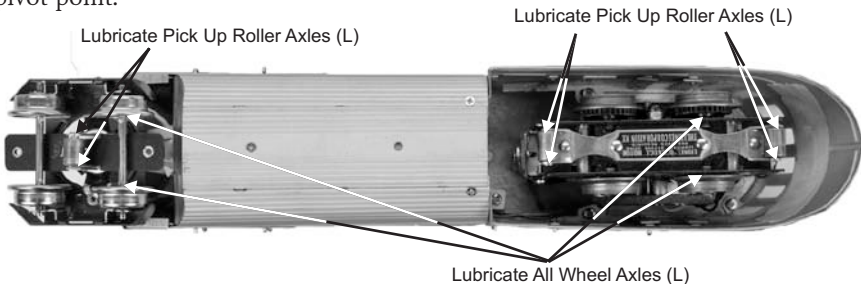


Figure 1: Lubrication Points on the Locomotive

## Assembling The Set

1. Place the engine and cars on straight, level track.
2. Press down on the button on top of the vestibule over the truck

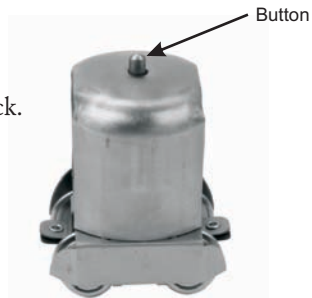
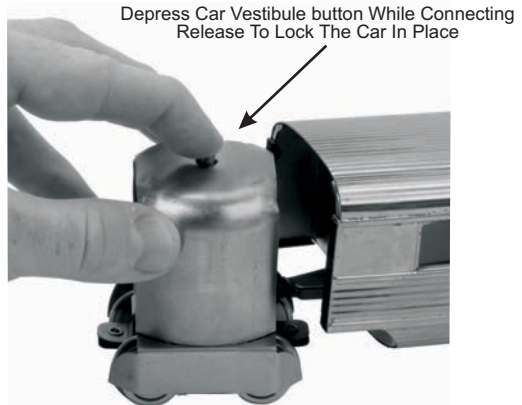


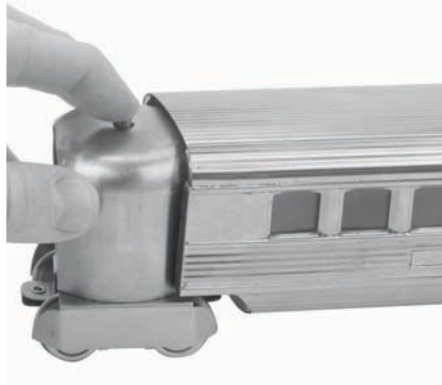
Figure 2: Step 2[Vestibule Button]

3. Slide the tongue on the first car between the depressed vestibule and the truck.



*Figure 3: Step 3 [Connecting with Car]*

4. Release the vestibule button and listen for the tongue to lock into place.

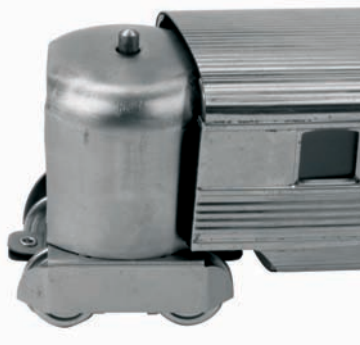


*Figure 4: Step 4 [Locking Vestibule in Place]*

5. Repeat to connect the second car

In order to disconnect the cars, Simply depress the vestibule button and pull the cars apart.

At this point, you are ready to put your engine on the track and begin running it.

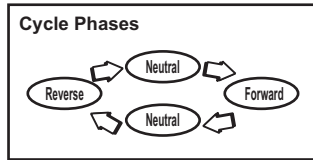


*Figure 5: Vestibule and Car Connected*

# Basic Operation

The Throttle knob controls how fast your train will travel.

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



to stop it, and twice to reverse it.

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

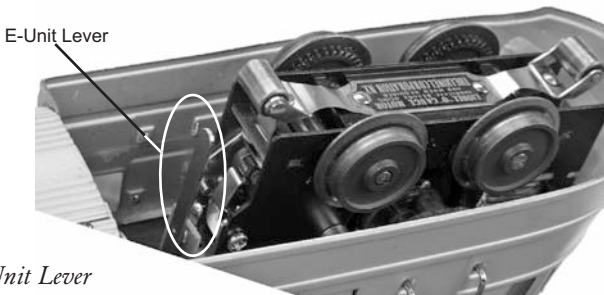


Figure 6: E-Unit Lever

## Activating Features

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

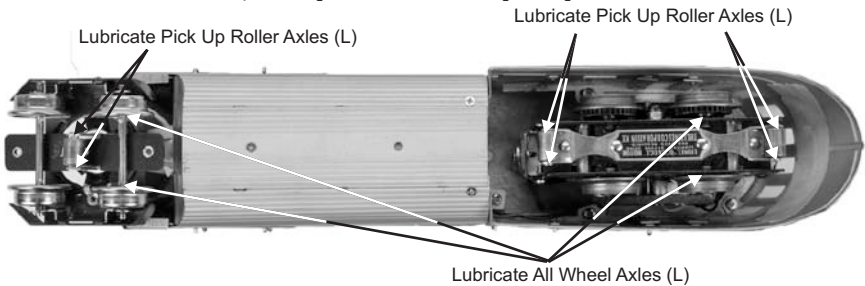
**Whistle-** If your model includes a whistle, to sound the whistle, firmly press the horn/whistle button on your transformer or controller. The whistle will sound for as long as you continue to depress the button. It will stop when you release the button.

# Maintenance

## Lubricating and Greasing Instructions

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

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



*Figure 7: Lubrication Points on the Locomotive*

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



*Figure 8: Grease Idler Gears*

# 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 found in Maintenance Kit (30-50010) or denatured (not rubbing) alcohol and a clean rag. Unplug the transformer and wipe the rails of the track, turning the rag frequently to ensure that you are using clean cloth on the rails. Thereafter, keep an eye on the track and clean it when it gets dirty to ensure good electrical contact and to lengthen the life of the tires.



Maintenance Kit (30-50010)

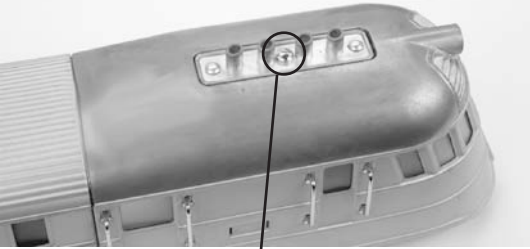
Clean any type of track with this heavy-duty track cleaning block (40-1099). Durable constructed from ABS plastic, the block includes a built-in cleaning pad. For really stubborn track, you can insert sandpaper into the block in just a few quick steps.



## Locomotive Light Bulb Replacement

To replace the burned out light bulbs on this locomotive, remove the truck block as described below:

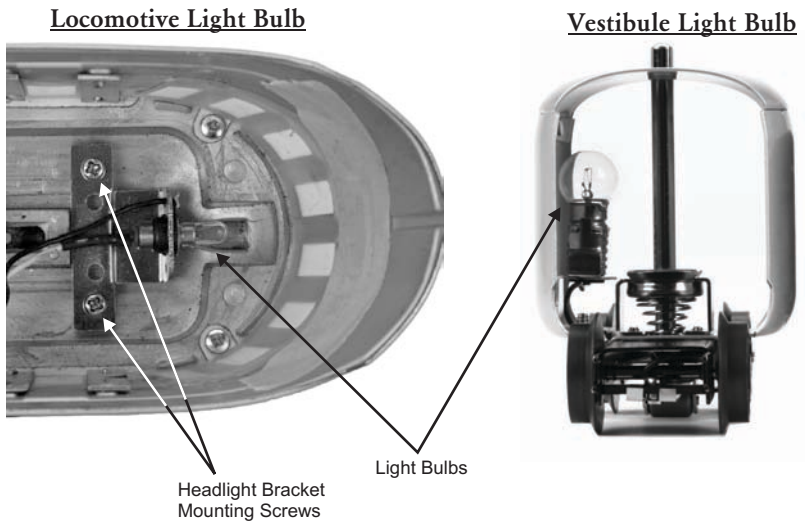
1. Unscrew the truck block mounting screw shown below.



Remove Truck Block Mounting Screw

Figure 9: Remove Mounting Screw

2. Remove the screw to allow the truck block to release from the body
3. Remove headlight mounting bracket screws and remove bracket
4. Replace burned out headlight



*Figure 10: Light Bulbs*

5. Reassemble in reverse order; being careful not to pinch any wires.

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



# Transformer Compatibility and Wiring Chart

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

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

\* Conventional Mode Only

## LIMITED ONE YEAR WARRANTY

This LLCA product is covered under the following warranty terms provided the product was manufactured within five years of the date of purchase. This warranty is for the original purchaser and is non-transferable.

Lionel Corporation Tinplate products are produced under license from Lionel Trains by M.T.H. Electric Trains and may be registered online in advance of warranty work at [www.mthtrains.com/warranty](http://www.mthtrains.com/warranty). Proof of purchase and the conditions below must be met regardless of whether the product is registered on the M.T.H. website in order to obtain warranty service.

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

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

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

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

## SERVICE & WARRANTY INFORMATION

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

When you suspect an item is defective, please check the operator's manual for standard operation and troubleshooting techniques that may correct the problem. Additional information may be found on the Lionel Corporation Tinplate 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. National Authorized Service Center (NASC) in your area to obtain Repair Authorization. You can find the list of NASCs on the Lionel Corporation Tinplate Website, [www.lionelcorporation.com](http://www.lionelcorporation.com). These centers are compensated by M.T.H. to perform warranty service for any customer whose repair qualifies for warranty service. A list of NASC retailers can be located on the M.T.H. Website or by calling 410-381-2580. Should the warranty no longer apply, you may choose either an M.T.H. Authorized Service Center (ASC) or NASC retailer to service your Lionel Corporation Tinplate Product. A reasonable service fee will be charged.

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

Please make sure you have followed the instructions carefully before returning any merchandise for service. Authorized M.T.H. Service Centers are independently owned and operated and are not agents or representatives of M.T.H. Electric Trains. M.T.H. assumes no responsibility, financial or otherwise, for material left in their possession, or work done, by privately owned M.T.H. National Authorized Service Centers. If you need assistance at any time email MTH Service at [service@mth-railking.com](mailto:service@mth-railking.com), or call 410 381-2580.