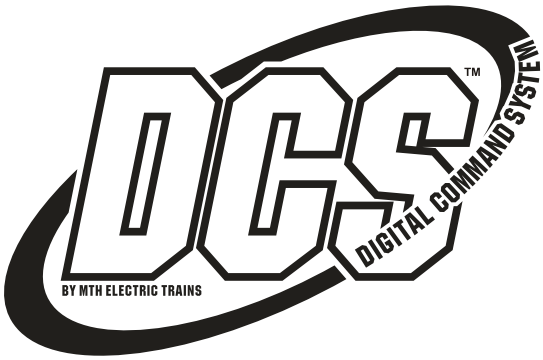


4.00 ADDENDUM

The latest upgrade of M.T.H.'s Digital Command System (DCS) software, version 4.0, was released in February 2008 as a free download from www.protosound2.com. Like previous versions of DCS software, version 4.0 is compatible with all DCS systems and all Proto-Sound® 2.0 and 3.0 and TMCC® engines ever made. The most exciting new features in version 4.0 fall into three main categories.

1. New engine control options: New options for existing features like brake, boost, and speed control to make Proto-Sound engines even more fun to operate.

2. Improved TMCC® control: Virtually complete control of all current TMCC features from the DCS handheld, including lashups, full Acela and wrecking crane operation, and Engineer On Board speed control.

3. Remote backup: Download the data from your DCS remote handheld ProtoSound and TMCC engines, routes, scenes, etc. onto your PC for backup purposes or to clone the data to another handheld.

Table of Contents

New Engine Control Options
Auto Coupler

You can now elect to have the coupler slack sounds play automatically every time an engine pulls away from a stop, or only when you press the SCS soft key.

1. Press MENU

2.Select SOUND

3. Scroll to AUTO COUPLER and press Select

4. Select either OFF or AUTO. AUTO will enable the feature for ALL engines in the remote

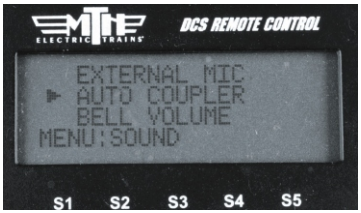
5. Press the ENG button and select a DCS engine

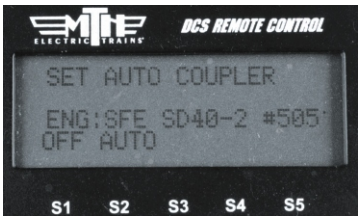
6. Ensure the engine has been start-up.

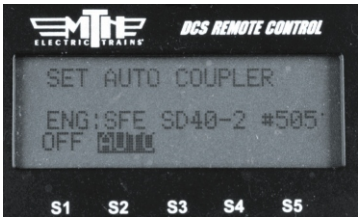
7. Scroll the thumbwheel up to get the engine moving and as soon as it pulls away it will play the Coupler Slack sound

8. Once the engine goes back to 0sMPH then pulls away at any speed the sound will play again. It will work this way on every DCS engine in your remote until you shut it off.

9. To turn the feature Off, repeat steps 1-3 and press the OFF softkey



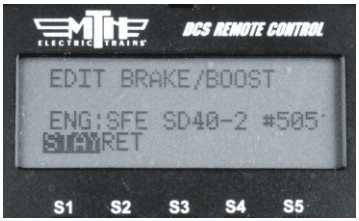




NOTE - This setting is a global setting, so when you make this setting it will affect all engines in the DCS Remote

Brake/Boost

The Boost/Brake button can now function in two different ways, which you can select from a menu. Select the "Stay" option and your engine will remain at the faster (Boost) or slower (Brake) speed when you release the Boost/Brake button. But select "Return" and your engine will return to its previous speed when the Boost/Brake button is released (as it does with previous software versions).



1. Press MENU

2. Select CONTROL

3. Select BOOST/BRAKE
4. Press either STAY or RET. STAY holds the engine speed at the indicated value after releasing either the Boost or Brake button. For example, if you have STAY selected and you are currently going 15sMPH, pressing and holding the BOOST button until you reach 25sMPH then releasing the BOOST button will make the engine run at 25sMPH. If you had selected RET, the engine speed would have gone back to 15sMPH (the speed you started at when you pressed Boost/Brake). This works the same way with BRAKE.

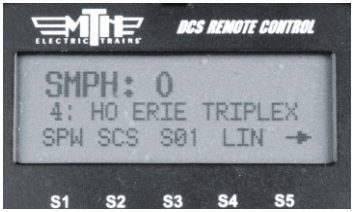
NOTE - This setting is a global setting, so when you make this setting it will affect all engines in the DCS Remote

Proto-Whistle

This feature allows you to use the thumbwheel to simulate the engineer's feathering or “quilling” of the whistle/horn rope, producing a much more realistic whistle/horn sound.

Proto-Whistle is not available on all DCS-equipped engines. This feature will only work on those engines whose hardware is capable of utilizing the software feature. Therefore, the softkey acronyms will not be visible on the DCS screen for locomotives not equipped with the proper hardware. Downloading the sound set from a locomotive equipped with the Proto-Whistle feature and loading it into an engine not factory equipped with the feature will not give the user the Proto-Whistle feature even though the Proto-Whistle softkey acronyms will appear on the DCS screen.

1. Select the Proto-Whistle-equipped engine from your DCS remote



2. Press the SPW softkey. It will highlight

3. Your display will change to indicate that Proto-Whistle is active

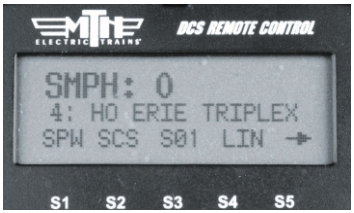
4. Scrolling the thumbwheel up one click at a time will produce the different whistle tones.

5. Practice varying how fast you scroll up and down on the thumbwheel and in no time you'll be making whistle sounds just like a real engineer!

6. To disable the feature and return to controlling your engine press the SPW softkey again

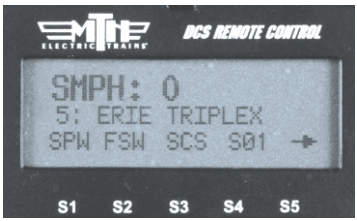
Note: When Proto-Whistle is active your regular Whistle/Horn button is inactive as well as the thumbwheel for controlling the speed of your engine

Smoking Whistle



This feature allows you to enable a smoking whistle feature that adds more realism to your model by blowing steam (smoke) out of the whistle whenever the whistle sound is activated. It works in conjunction with the Proto-Whistle feature. Like the Proto-Whistle feature, the Smoking Whistle is not available on all DCS-equipped engines. This feature will only work on those engines that have the proper hardware and an actual whistle smoke unit.

1. Select the Proto-Whistle/Smoking Whistle-equipped engine from your DCS remote



2. Press the SPW softkey. It will highlight

3. Your display will change to indicate that Proto-Whistle is active

4. Press the FSW softkey to enable the Smoking Whistle Feature. This softkey will also highlight

5. Now watch your whistle detail on your engine as you scroll the thumbwheel up and down. You will see that the intensity of the smoke varies with the intensity of the whistle sound.

6. To disable the Smoking Whistle feature press the FSW softkey again and it will no longer be highlighted

Note: When Proto-Whistle is active your regular Whistle/Horn button is inactive. Pressing on the thumbwheel (Select) will allow you to control the speed of your engine. Pressing Select again will return you to Proto-Whistle control.

ALL Mode (Tracks)

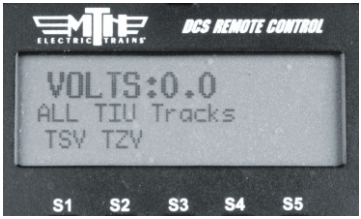
ALL Mode for Tracks has been added. You now have the ability to select either All TIU or All Z4K tracks and have them power on/off simultaneously.

Lashups and Record/Playback can now be included in "All" mode operation.

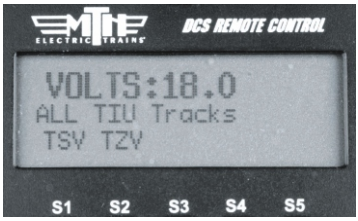
1. Press the TR button

2. Select the ALL softkey

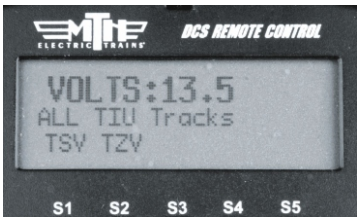
3. Select either Z4K or TIU tracks



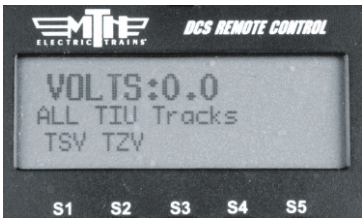
4. Press the TSV softkey (**T**rack **S**tarting **V**oltage). The remote will tell all the tracks (Z4K or TIU, depending upon which one you selected in Step 3) to go to 18V. Similarly, you can roll the thumbwheel up one click and you will get to 18V as well



5. You can now control the voltage applied to the tracks (Z4K or TIU-controlled) by varying the thumbwheel up or down from 5.0-22.0 Volts



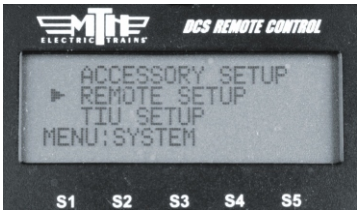
6. When you are finished and want to shut the tracks off you can press the TZV (**T**rack **Z**ero **V**olts) softkey and all the tracks you were controlling will go to zero volts



Quickset Speed

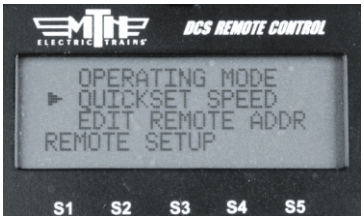
Press the thumbwheel, enter a desired speed on the keypad, then press the thumbwheel again. Your engine will smoothly accelerate or decelerate to that speed setting. Observe speed restrictions on your railroad like a real engineer!

1. Press MENU



2. Select SYSTEM

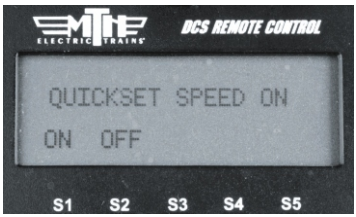
3. Select REMOTE SETUP



4. Select QUICKSET SPEEED

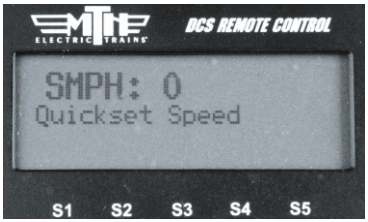
5. Select ON or OFF

6. When ON is selected you are able to send any speed you want to an engine quickly



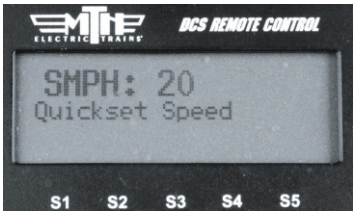
7. Press the ENG button and then select a DCS-equipped engine from the list

8.Press down on the thumbwheel (Select) and you will see the display change to indicate “QUICKSET SPEED”



9.Using the numeric keypad enter the speed you want that engine to go

10. Press the thumbwheel down again (Select) and you will see your engine moving at the speed you selected



Double-Tap Brake

Double-press the Brake button and your engine will smoothly brake to a stop, complete with squealing brakes. This also works in "All" mode.

1. While controlling either an individual DCS-equipped engine or ALL engines press the BRAKE button twice (like double-clicking a mouse on your PC). The display on the LCD will show 0SMPH and your engine(s) will stop

Existing Feature Improvements

▪Super TIU mode has been improved to reduce latency

▪E-Stop functionality in Track Mode has been improved such that when pressed, ALL tracks, both Z4K and TIU go to zero volts

▪Master Volume has been greatly sped up. Pressing the VOL+/- button now does not require the user to wait between button presses

▪Added more items to the list of Remote Messages we do not display when Remote Messages is turned OFF

▪Improved Reset Remote to add automatic power down of remote after Resetting

Improved TMCC® Control

Create TMCC Lash-up

Select an individual engine in a lash-up, change its settings (lighting, sounds, or smoke, for example), and those changes will be retained when you go back to controlling the lash-up.

1. Ensure the engines you wish to add to the Lash-up are in the ACTIVE LIST on the Remote

2. Ensure the TMCC Command Base is powered on, connected to the TIU you use to talk to TMCC engines, and connected to the outer rail of your track from the "U" post on the Command Base

3. Apply track power

4. Press MENU

5. Select ADVANCED

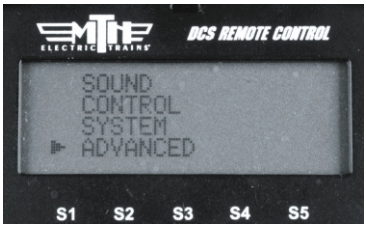
6. Select CREATE LASH-UP

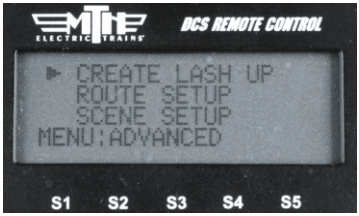
7. Select TMCC LASH-UP

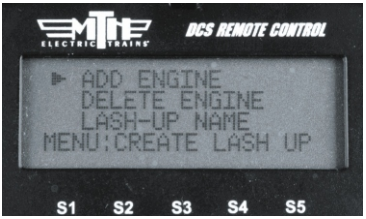
8. Select ADD ENGINE

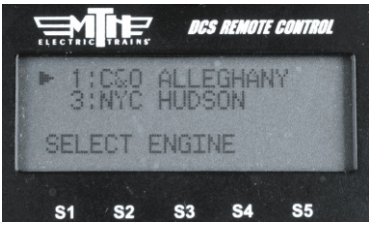
9.Scroll through your engine list to grab the engine you want to place into the lash-up

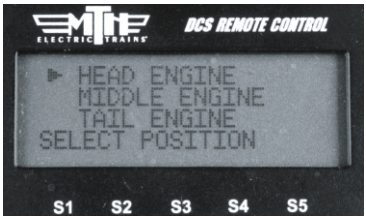
10. Select HEAD, MIDDLE, or TAIL depending upon which engine you want to add first. It's easiest to start with the Head engine and then work your way to the Tail engine





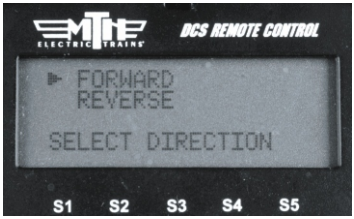






Create TMCC Lash-up Cont.

11. Select FORWARD or REVERSE for the direction the engine is facing in the Lash-up (the engine must already be facing this way on the track)



12. Repeat steps 7-9 for the remaining engines you want to add to the lash-up

13. If you make a mistake on adding an engine you can use the DELETE ENGINE function to select the engine to delete from the lash-up

14. Once you have completed adding engine in the position and which direction they are facing you can now give your new lash-up a name. Select LASH-UP NAME

15. Enter the name of the lash-up in 16 characters or less and then select the "D" character at the end of the list to tell the remote you're done. If you make a mistake while entering the lash-up name you can use the "<" character to backspace and correct the text

16. Now that you have completed the lash-up building process your engines will power on and then each one will sound it's horn/whistle three times to signify that it's received the lash-up data and is ready to operate. Once all the engines in the lash-up have sounded their horn/whistle the new lash-up will appear in your DCS remote in the INACTIVE ENGINE list.

NOTE: When TMCC lash-ups are built in the DCS Remote they Are placed at locations 91-99 in the DCS Remote

17. Press the ENG button and scroll down to the new lash-up you built and press the thumbwheel (Select)

Create TMCC Lash-up Cont.

18. The new lash-up will be displayed in the LCD

Your new TMCC lash-up is now ready to operate.

19. To delete a TMCC lash-up press the MENU button (ensure track power is applied)

20. Select SYSTEM

21. Select ENGINE SETUP

22. Select DELETE ENGINE

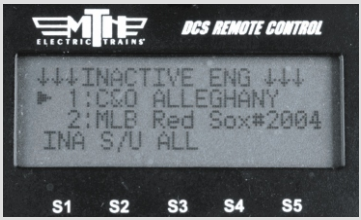
23. Scroll to the TMCC lash-up you want to delete and press the thumbwheel (Select)

24. The engines in the lash-up will sound their whistle/horn 1 time to indicate they are now individual engines

Create a TMCC lash-up using the same procedure you use to create DCS lash-ups. It's a much easier process than using a CAB-1.

Notes

If you want to control any of the individual engines that make up a TMCC lash-up you can go into the Inactive Engine list and select the engine, this will make it Active. Scroll up to the Active engine list and select the engine, press Start-Up and now you have full control of that TMCC engine



When adding/deleting a TMCC lash-up ensure you have track power applied and the TIU-TMCC cable connected as well as the track connection from the TMCC Command Base connected to the outer rail of the track.

When TMCC lash-ups are created they are placed at DCS locations 91-99. Should an engine exist at one or more of those locations the remote will place the TMCC lash-up in the next available position. If all positions are taken up (91-99) then you will need to move one or more of the engines at 91-99 to allow room for your lash-up. Just like TMCC engines, your TMCC lash-ups will not operate under ALL mode

You cannot add or edit TMCC engine addresses to 91-99 as these are reserved for DCS Proto-Sound 2.0 engines and TMCC lash-ups. You are free to add or edit TMCC engines to addresses 1-90.

TMCC Engine Control

• DCS Version 4.0 has made a big improvement to how you operate your TMCC-equipped engines. You will notice right away the screen looks different.

1. AX1/AX2

▪Pressing AX1 or AX2 will highlight that softkey

▪Once one of the AX softkeys is highlighted the numeric keypad is available for input. For example, if you wanted to play the Steam Release sound (Aux1, button 6 on the CAB-1) you would press the AX1 softkey so it's highlighted, then press keypad button 6 on your DCS Remote. The Steam Release sound will now play on your TMCC engine

▪If you press the AX1 or Ax2 softkey again it will disable the keypad (the AX softkey highlighting goes away)

▪Below is the button sequence for changing a Train America Studios Engineer On-Boardequipped engine from 32 to 128 speed steps (select the EOB engine first from your engine list):

•DIR AX1-AX1-AX1-AX1-AX1-keypad button #2-AX1

(You should hear the engine's horn after the 5th AX1 button press and then again after the keypad #2 press). It's important to note that it takes two presses of the AX1 softkey on the DCS Remote to equal one press of the AUX 1 button on the CAB-1 remote

▪If you press AX1/2 so that it's highlighted but do not enter anything on the keypad within 3 seconds the DCS remote will automatically disable keypad input. Press the AX1/2 softkey twice to re-highlight it. Your numeric keypad will again be active

TMCC Engine Control cont.

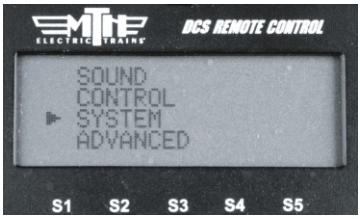
SPD
Pressing the SPD softkey enables the display to show up to 128 speed steps (0-127).

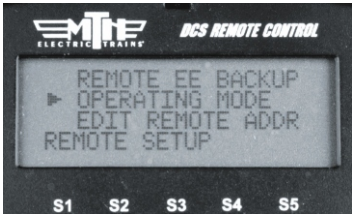
MOM
Pressing the MOM softkey allows you to set the Momentum of an individual engine or a lash-up

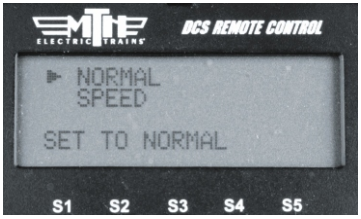
REL
Pressing the REL softkey enables Relative speed stepping. This is particularly useful when operating items such as Crane Cars that have 360 degree movement. Rolling up on the thumbwheel is the same as spinning the knob clockwise on the CAB-1/CAB-2 remote, while rolling down on the DCS thumbwheel is the same as spinning the knob on the CAB-1/CAB-2 remote counterclockwise

All the data you have entered into a DCS handheld, including engine setups, routes, scenes, etc., can now be downloaded to a personal computer and uploaded back into any DCS handheld any time you want. In addition to backup purposes, this provides an easy way to clone identical handhelds for multiple operators on your layout.

1. See the Remote Cloning Instructions available with the Data Loader.exe software at www.protosound2.com







Operating Mode

This allows you to select whether you want the DCS Remote to operate in Speed Mode or Normal Mode. The difference is that Speed Mode allows for much faster response times and does not require a response from the TIU before moving on to the next command

1. Press MENU

2. Select SYSTEM

3. Select REMOTE SETUP

4. Select OPERATING MODE

5. Select SPEED or NORMAL

Remote Powerdown

Allows you to adjust the power down (sleep) timer on your DCS Remote from 1-60 minutes

1. Press MENU

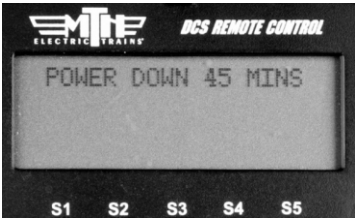
2. Select SYSTEM

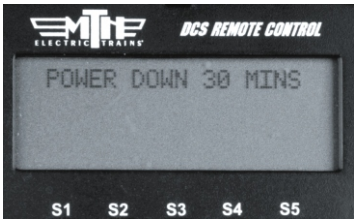
3. Select REMOTE SETUP

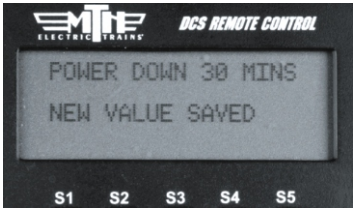
4. Select REMOTE POWERDOWN

5. Use the thumbwheel to display the value you wish to set as your DCS Remote's sleep timer (from 1-60 minutes)

6. Press the thumbwheel to select the value. When pressed the remote will say "NEW VALUE SAVED"







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 410-381-2580. Should the warranty no longer apply, you may choose either an ASC or NASC retailer to service your M.T.H. Product. A reasonable service fee will be charged.

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

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

Limited One-Year Warranty

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

See our website at **www.mth-railking.com** or call 410-381-2580 to identify an Authorized M.T.H. Train Merchant near you.

M.T.H. products are warrantied for one year from the date of purchase against defects in material or workmanship, excluding wear items such as light bulbs, pick-up rollers, batteries, smoke unit wicks, and traction tires. We will repair or replace (at our option) the defective part without charge for the parts or labor, if the item is returned to an M.T.H. Authorized Service Center (ASC) or M.T.H. National Authorized Service Center (NASC) within one year of the original date of purchase. This warranty does not cover damages caused by improper care, handling, or use. Transportation costs incurred by the customer are not covered under this warranty.

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

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

Service Department:
M.T.H. Electric Trains
7020 Columbia Gateway Drive