



Tinplate IVES 3245R Electric Locomotive

OPERATOR'S MANUAL (TRADITIONAL)

Compatibility

This engine will operate on any traditional Standard Gauge tubular track system, including M.T.H.'s tubular track. It is also compatible with most standard AC transformers. (See page 7 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
Couplers.....	3
Basic Operation.....	4
Maintenance.....	5
Lubricating and Greasing Instructions.....	5
Cleaning The Wheels, Tires and Track.....	6
Headlight Replacement Instructions.....	6
Transformer Compatibility and Wiring Chart.....	7
Service & Warranty Information.....	8

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 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.

Set Up Checklist

- Lubricate the locomotive
- 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” in Fig. 1. Do not over-oil. Use only a drop or two on each pivot point.

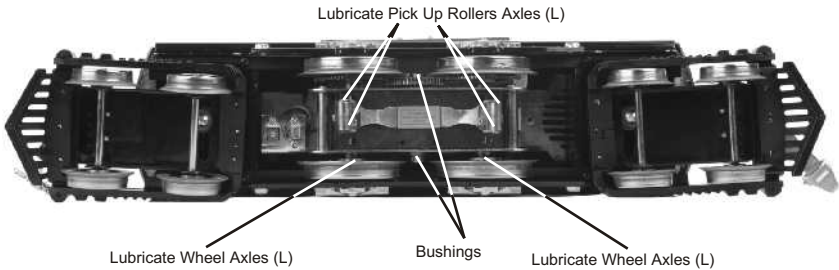


Figure 1. Lubrication Points on the Locomotive

Couplers

The couplers on your Ives 3245 R Electric Locomotive are faithful reproductions of the couplers that were originally supplied with the Ives 3245R. They are designed to couple with Ives rolling stock.

If you wish to use this engine to pull a train of 200 series cars, a set of Latch Style couplers are packed in the styrofoam box for your convenience.

To install the 200 series style latch couplers simply remove the screw in the center of the pilot, pull out the Ives coupler and replace it with the latch style coupler and replace the screw.

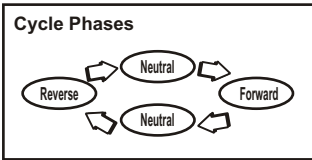
Basic Operation

The Throttle knob controls how fast your train will travel.

Turn the throttle knob up 1/2-way, until the engine lights shine bright.

Put the engine into motion by pressing the Direction button on your transformer once. (hold it for approximately 1 second)

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. Turn the throttle up a bit higher until the train begins to move.



Maintenance

Lubricating and Greasing Instructions

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

Regularly lubricate all axles 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.

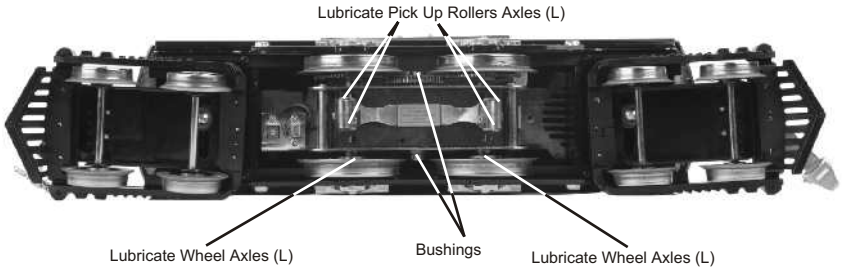


Figure 2

The locomotive's internal gearing was greased at the factory and should not need additional grease. However, it will be necessary to lubricate the idler gears located next to the drive wheels with grease every 25 hours of operation. Follow the greasing points illustrated in Figure 3.

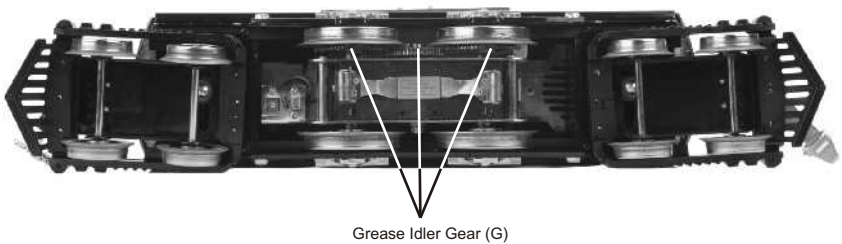


Figure 3

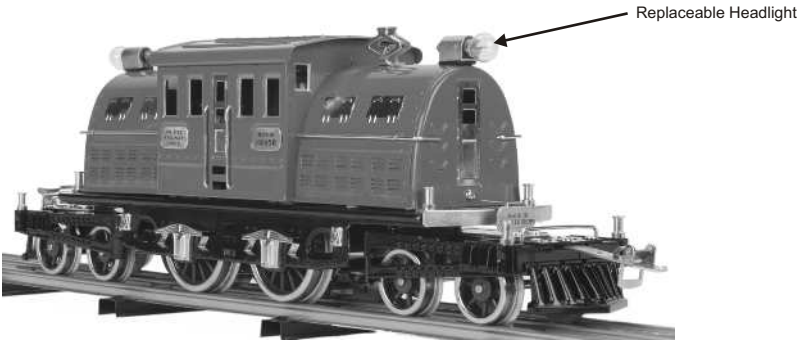
Cleaning The Wheels, Tires, and Track

Periodically check the locomotive wheels and pickups for dirt and buildup which can cause poor electrical contact and traction. Wheels 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. 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.

Headlight Replacement Instructions

The locomotive's headlights are controlled by a constant voltage circuit in the engine. The headlight is easy to remove and replace when it burns out. The bulb(s) simply unscrew from their sockets. Replacement bulbs are available directly from the M.T.H. Parts Department.



Transformer Compatibility and Wiring Chart

Proto-Sound 2.0 is designed to work with most standard AC transformers. The chart below lists the many compatible transformers. Note the chart details how the terminals on these transformers should be attached to your layout.

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
MTH Z-1000	Red Terminal	Black Terminal	0-14v 0-18v	80-Watt 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
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

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 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 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 1-888-640-3700 to identify an Authorized M.T.H. Train Merchant near you.

M.T.H. products are warranted for one year from the date of purchase against defects in material or workmanship, excluding 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
.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 A.S.C. RETAILER LIST

ALABAMA

SOUTHERLAND STATION
HUNTSVILLE
256-533-4720

ARIZONA

ARIZONA TRAIN DEPOT
MESA
480-833-9486

CALIFORNIA

CENTRAL COAST TRAINS
ATASCADERO
805-466-1391

TRAIN SHACK
BURBANK
818-842-3330

REED'S HOBBY SHOP
LA MESA
619-464-1672

ROUNDHOUSE
NORTH HOLLYWOOD
818-769-0403

DOLLHOUSES, TRAINS &
MORE
NOVATO
415-883-0388

TIN PLATE JUNCTION
OAKLAND
510-444-4780

RON'S WORLD
SAN CLEMENTE
949-361-5596

BLACK NIGHT TRAINS &
HOBBIES
SANTA ROSA
707-523-3522

COLORADO

CUSTOM RAILWAY SUPPLY
COLORADO SPRINGS
719-634-4616

CABOOSE HOBBIES, INC.
DENVER
303-777-6766

MIZELL TRAINS
WESTMINSTER
303-429-4811

CONNECTICUT

TIME MACHINE HOBBY, LL C
MANCHESTER
860-646-0610

FLORIDA

AMHERST DEPOT
ENGLEWOOD
941-475-2020

DEPOT HOBBY SHOP
IANTANA
561-585-1982

HOLLYWOOD STATION
MIAMI
954-921-2700

READY TO ROLL
MIAMI
305-688-8868

COLONIAL PHOTO & HOBBY
ORLANDO
407-841-1485

WARRICK CUSTOM HOBBIES
PLANTATION
954-370-0708

ROUNDHOUSE SOUTH
PORT ORANGE
386-304-7002

ILLINOIS

BERWYN'S TOY TRAINS &
MODELS
BERWYN
708-484-4384

CHICAGOLAND HOBBY
CHICAGO
773-775-4848

BILL'S ENGLEWOOD STATION
ORLAND PARK
708-460-4906

BIKE & CHOO CHOO
CONNECTION
SCHAUMBURG
847-882-7728

INDIANA

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

SAMUELSON'S TRAIN SHOP
VALPARAISO
219-462-2708

IOWA

CABOOSE STOP HOBBIES
CEDAR FALLS
800-642-7012

KANSAS

HOBBY HAVEN
OVERLAND PARK
913-381-3111

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

HOBBYTOWN U S A
FREDERICK
301-694-7395

FREDERICK JUNCTION
FREDERICK
301-694-3434

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

CATOCTIN MOUNTAIN TRAINS
& HOBBIES
THURMONT
301-694-8331

E.L. JONES & SONS
WILLIAMSPORT
800-810-8138

MASSACHUSETTS

FLYING YANKEE HOBBY
SHOP
BOSTON
617-323-9702

NORTHEAST TRAINS
PEABODY
978-532-1615

EAST BAY HOBBIES
SEEKONK
508-336-5573

PIONEER VALLEY HOBBIES
W. SPRINGFIELD
413-732-5531

MICHIGAN

MICHIGAN MODEL TRAIN
CENTER
PINCKNEY
734-426-1651

BRASSEUR ELECTRIC
TRAINS INC.
SAGINAW
989-793-4753

MINNESOTA

DON'S HOBBY CO.
MANKATO
507-387-1330

MISSOURI

SWITCH STAND
SAINT LOUIS
314-781-4458

MARK TWAIN HOBBY CENTER
ST. CHARLES
636-946-2816

NEVADA

RENO RAILS
RENO
775-337-6669

NEW HAMPSHIRE

TREASURED TOYS
SALEM
603-898-7224

NEW JERSEY

HOBBY SHOP
ABERDEEN
732-583-0505

COUNTRY AND STUFF
ANDOVER
973-786-7086

GENE'S TRAINS
BRICK
732-840-9728

COLUMBUS TRAIN STATION
COLUMBUS
609-518-1800

ATLANTIC RAILS
HAMMONTON
609-567-8490

C B TRAIN DEPOT
HILLSDALE
201-666-9598

GRAND CENTRAL STATION
KEARNY
201-955-6200

J & B TRAINS, INC.
MAPLE SHADE
856-414-0092

HOBBYMASTERS, INC
RED BANK
732-842-6020

RIDGEFIELD HOBBY
RIDGEFIELD
201-943-2636

TOM'S MODEL TRAINS
SCOTCH PLAINS
908-322-6122

TRAINS & THINGS
TRENTON
609-883-8790

HOLLY BEACH TRAIN DEPOT
WILDWOOD
609-522-2379

NEW YORK

L B C MODEL TRAINS
BUFFALO
716-631-3081

KURT'S TRAINS & HOBBIES
CALEDONIA
585-538-2960

AURORA RAILS & HOBBIES
EAST AURORA
716-652-5718

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

J & R JUNCTION
LIVERPOOL
315-451-6551

HOBBY WORLD
MONTICELLO
845-794-8770

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

THIRD STREET DEPOT
NIAGARA FALLS
716-285-6464

ISLAND TRAINS
STATEN ISLAND
718-317-0008

SCAG'S ELECTRIC TRAIN
SHOP
STATEN ISLAND
718-727-7373

AMERICANA STORE
TIVOLI
845-757-4246

KROSS HARDWARE
WEST BABYLON
631-669-3069

WESTCHESTER CENTRAL
TRAINS
WHITE PLAINS
914-421-1262

NORTH CAROLINA

THE ROUNDHOUSE &
BACKSHOP
CARY
919-465-0810

DRY BRIDGE STATION
MOUNT AIRY
336-786-9811

THE FREIGHT YARD
SMITHFIELD
919-934-6229

LITTLE CHOO CHOO SHOP
INC.
SPENCER
704-637-8717

TRAIN LOFT
WINSTON-SALEM
336-760-9817

OHIO

E & S TRAINS
AKRON
330-745-0785

T & K HOBBY SHOP
BRIDGEPORT
740-633-6607

PARMA HOBBY
CLEVELAND
216-741-6440

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

DUNHAM'S TOY TRAINS
LONDON
740-852-0899

CLEARVIEW TRAIN & HOBBY
LORAIN
440-277-4488

DIXIE UNION STATION
MASON
513-459-0460

DAVIS TRAINS
MILFORD
1-800-448-1060

ERIE RAILWAY DEPOT
TROY
937-440-9922

PENNSYLVANIA

AMERICAN HOBBY CENTER
ALTIQUIPPA
724-378-3930
BUSSINGER TRAINS
AMBLER
215-628-2366

JIM'S HOBBY SERVICE
BERWICK
570-759-2695

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

NICHOLAS SMITH TRAINS
BROOMALL
610-353-8585

CHARLEROI SWEEPER
CENTER
CHARLEROI
724-483-3397

JERRY QUINN TRAINS & TOYS
COATESVILLE
610-383-1931

CRANBERRY HOBBY DEPOT
CRANBERRY TWP
724-776-3640

FAIRCHANCE PHARMACY
FAIRCHANCE
724-564-7817

TRAINS R FUN
FRAZER
610-644-4585

THE CABOOSE
LEHIGHTON
570-386-5352

SCHUYLKILL FLYER HOBBIES
LEESPORT
484-248-2100

HOBBY CITY
McMURRAY
724-942-2557

ENGLISH MODEL RR
MONTOURSVILLE
800-327-5126

STATION/M H INDUSTRIES
NEW CUMBERLAND
717-774-7096

FRYER'S STORE
ORWIGSBURG
570-366-2258

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

WILCOX GREENHOUSE &
NURSERY
TITUSVILLE
814-827-3823

EASTERN DEPOT
TROY
570-297-1975

J & J RAILROAD CROSSING
INC
TURTLE CREEK
412-824-6009

THE TRAIN SHOPPE & HOBBY
CENTER LD
WILKES BARRE
570-824-7688

RHODE ISLAND

GRANDMA'S HOUSE
GRANDPA'S TRAIN
WARWICK
401-463-7803

SOUTH CAROLINA

EMERALD TRAIN & HOBBY
GREENWOOD
864-223-2247

TENNESSEE

MODEL RAILROAD & HOBBY
SHOP
MEMPHIS
901-384-6500

TRAINS-N-THINGS
PARIS
731-641-8880

TEXAS

HOBBY TIME
AMARILLO
806.352.9660

RIVERVIEW TRAINS
ANGLETON
979-848-3895

GREAT TRAINS & HOBBIES
LONGVIEW
903-757-2720

UTAH

ALMOSTA JUNCTION
CLEARFIELD
801-776-1656

VIRGINIA

LEESBURG HOBBIES &
COLLECTIBLES
LEESBURG
703-779-8600

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

T S G HOBBIES
WARRENTON
540-347-9212

NORGE STATION
WILLIAMSBURG
757-564-7623

WASHINGTON
EASTSIDE TRAINS
KIRKLAND
425-828-4098

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

WISCONSIN
WOODCRAFTERS SHOP
BURLINGTON
262-763-5239

SOMMERFELD'S TRAINS
BUTLER
262-783-7797
HOBBY OUTLET
FOND DU LAC
920-924-3770

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

GRAMPA'S TRAIN SHOP
RICE LAKE
715-234-2996

CANADA
TOY TRAIN WORKSHOP
CUMBERLAND
613-833-8331

THE TRAIN ROOM
FERGUS
19-787-3280

CREDIT VALLEY RAILWAY
COMPANY
TREETSVILLE
905-826-1306

B&H TRAINS
TERREBONNE
514-793-9696

PARTICIPATING N.A.S.C. LIST

CALIFORNIA
TIN PLATE JUNCTION
OAKLAND
510-444-4780

COLORADO
MIZELL TRAINS
WESTMINSTER
303-429-4811

CONNECTICUT
TIME MACHINE HOBBY, LL C
MANCHESTER
860-646-0610

FLORIDA
COLONIAL PHOTO & HOBBY
ORLANDO
407-841-1485

ROUNDHOUSE SOUTH
PORT ORANGE
386-304-7002

ILLINOIS
CHICAGOLAND HOBBY
CHICAGO
773-775-4848

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

MARYLAND
ENGINE HOUSE HOBBIES
GAITHERSBURG
301-590-0816

CATOCTIN MOUNTAIN TRAINS
& HOBBIES
THURMONT
301-694-8331

MICHIGAN
MICHIGAN MODEL TRAINS
PINCKNEY
734-426-1651

BRASSEUR ELEC. TRAINS
SAGINAW
989-793-4753

NEW HAMPSHIRE
TREASURED TOYS
SALEM
603-898-7224

NEW YORK
L B C MODEL TRAINS
BUFFALO
716-631-3081

AURORA RAILS & HOBBIES
EAST AURORA
716-652-5718

THIRD STREET DEPOT
NIAGARA FALLS
716-285-6464

OHIO
DAVIS TRAINS
MILFORD
1-800-448-1060

PENNSYLVANIA
BUSSINGER TRAINS
AMBLER
215-628-2366

JIM'S HOBBY SERVICE
BERWICK
570-759-2695

FAIRCHANCE PHARMACY
FAIRCHANCE
724-564-7817

ENGLISH MODEL RR
MONTOURSVILLE
800-327-5126

TOBY TYLER'S HOBBY CEN.
PITTSBURGH
412-653-5030

VIRGINIA
LOCUST GROVE TRAINS
LOCUST GROVE
540-854-8955

DAVIS HOBBY SUPPLIES
PORTSMOUTH
757-397-1983

T S G HOBBIES
WARRENTON
540-347-9212

WISCONSIN
SOMMERFELD'S TRAINS
BUTLER
262-783-7797

GRAMPA'S TRAIN SHOP
RICE LAKE
715-234-2996

CANADA
TOY TRAIN WORKSHOP
CUMBERLAND
13-833-8331

THE TRAIN ROOM
FERGUS
519-787-3280