



# **RUGGED RAILS NON-POWERED F-3 B UNIT DIESEL ENGINE OPERATING INSTRUCTIONS**



Thank you for purchasing the Rugged Rails F-3 Non-Powered B Unit diesel engine. The engine's durable ABS body and die-cast trucks are traditionally sized for operation on any O-31 Gauge track. The engine makes a perfect complement for a powered Rugged Rails F-3 AA diesel engine set and is completely compatible with most 3-rail locomotives, rolling stock and accessories.

# OIL & LUBRICATION INSTRUCTIONS

In order for the non-powered engine to perform correctly and quietly, it is important that the chassis be lubricated before operation. Lubrication should include all truck block bushings and pickup rollers to prevent them from squeaking. Use light household oil and follow the lubrication points marked "L" in Figure 1 below.

Periodically, check the locomotive wheels and for dirt buildup as this can significantly affect the engine's ability to perform properly. Dirty track and dirty wheels can cause poor traction, especially on elevated track sections.

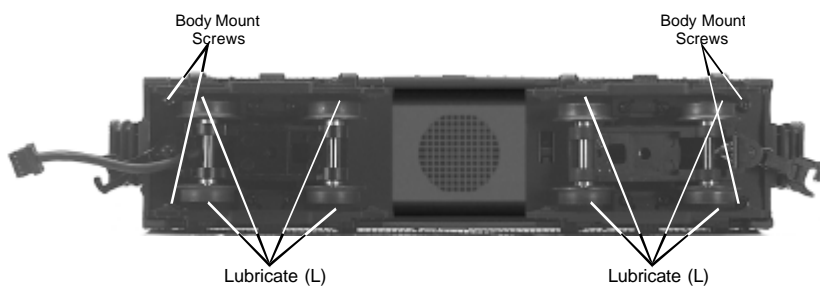
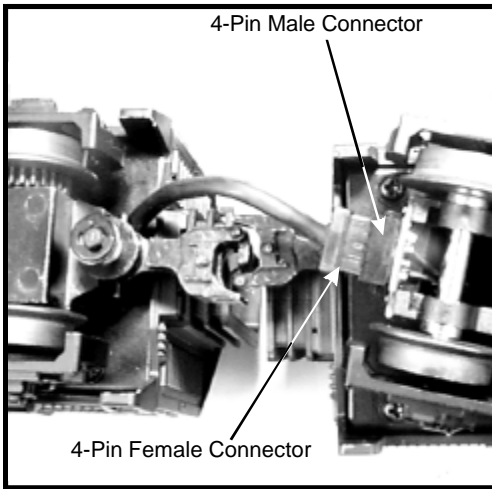


Figure 1: Lubricating The Chassis

# WIRE HARNESS CONNECTION

If you are operating your Rugged Rails F-3 B Unit with the MTH Rugged Rails F-3 AA set see Figure 2 for connecting the wire harness. If you are operating your Rugged Rails F-3 B Unit with an engine not equipped with a 4-pin wire harness connection, you might want to remove the shell as shown in Figure 1 and place the wire harness into the shell so that the wire harness will not cause any operational problems.



*Figure 2: connecting the Proto-Coupler extension*

## O-31 OPERATION

While the F-3 B Unit diesel is more than capable of operating on O-31 curves and switches, you may find that certain light freight cars are prone to derailing when being pulled or pushed by the Rugged Rails F-3 B Unit through O-31 switches. Should this occur, we suggest adding weight to the cars making them heavier and less likely to derail.

# 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](http://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](mailto: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](http://www.mth-railking.com) or call 1-888-640-3700 to identify an Authorized M.T.H. Train Merchant near you.

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



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