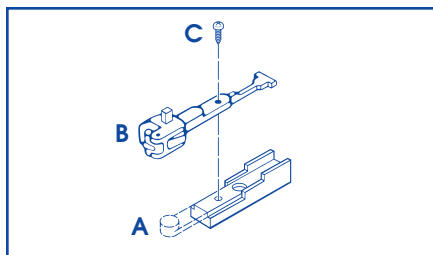


KNUCKLE COUPLER INSTALLATION

- Remove Hook & Loop coupler.
- Clip tab "A" from end of tongue and file smooth.
- Attach USA knuckle coupler "B" with #4 screw (C) provided.



SERVICING

This Diesel locomotive is built with pride by USA Trains and is covered by a limited warranty. (See limited warranty terms). Please follow these instructions carefully before sending your locomotive for service:

1. Return locomotive in its original blue/red box with the proper foam inserts and then pack the original box in a proper shipping carton so it is well protected in shipment. The package must be fully insured and pre-paid. USA Trains is not responsible for damage or loss during shipment.

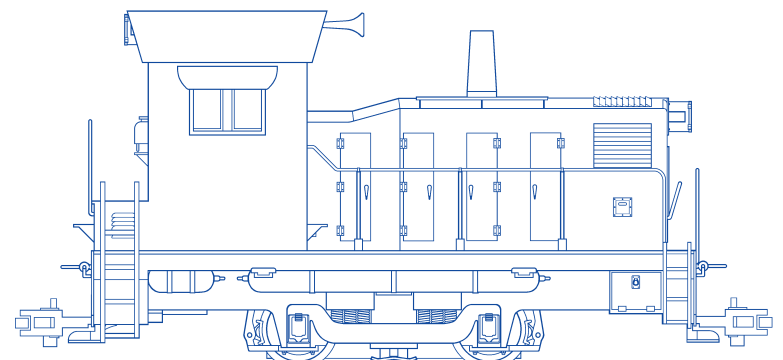
2. Include a note explaining the problem and servicing you need performed. Be sure to include your name, street address, (NO P.O. BOXES PLEASE) City, State, Country (if outside U.S.A) and zip code along with a daytime phone number including area code. If the locomotive service is not covered by warranty, a reasonable service fee will be charged. For any locomotives to be returned outside the continental U.S.A., please include \$25.00 U.S. currency to cover return postage. Any locomotives returned in the continental U.S.A. will be pre-paid by USA Trains.

3. Ship your item to:

USA TRAINS
662 CROSS STREET
MALDEN, MA. 02148

LIMITED ONE YEAR WARRANTY

This USA Trains locomotive is warranted for one year from the date of purchase against defects in material or workmanship. We will repair or replace (at our option) the defective part without charge for parts or labor within one year of the original date of purchase provided the warranty registration card has been received by USA Trains. This warranty does not cover items that have been abused or damaged by careless handling or improper operation such as a train derailment, modification or repair by non-factory technicians. Parts that "wear out" due to excessive use are also not covered under warranty. USA Trains reserves the right to determine "excessive use". Transportation costs incurred by the customer are not covered under this warranty.



MIGHTY MOE

20 TONNER

DIESEL LOCOMOTIVE

OWNERS MANUAL

USA TRAINS
662 Cross Street
Malden, MA 02148, USA
www.usatrains.com



Dear Customer,

Congratulations on your purchase of this highly detailed Mighty Moe 20 Tonner locomotive.

The engineering and design staff at USA Trains has spent many hours developing a locomotive that looks authentic and will provide you with many hours of operating enjoyment all at a

reasonable price. This locomotive will enhance the appearance of any modelers railroad.

Please read the following instructions which will help you understand and operate the numerous features of this locomotive.

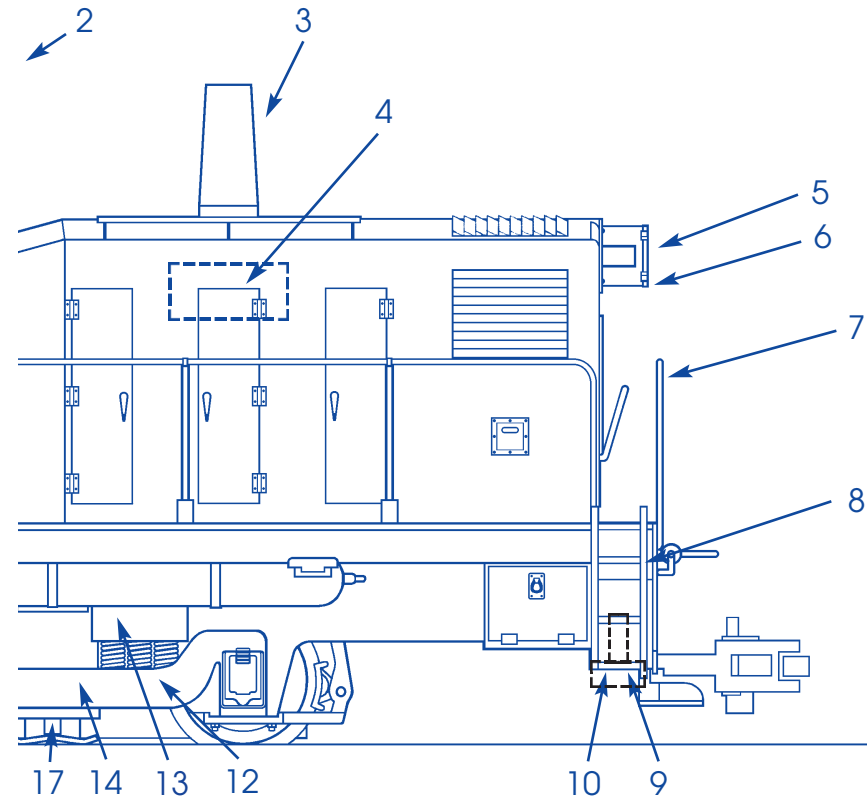
Happy Railroading
USA TRAINS

HISTORY OF YOUR 20 TONNER LOCOMOTIVE

Non-Revenue Switchers/Shunters like this 20 Tonner were produced between 1922 - 1944. These locomotives were owned and operated by railroads and many types of heavy Industries to move large loads around.

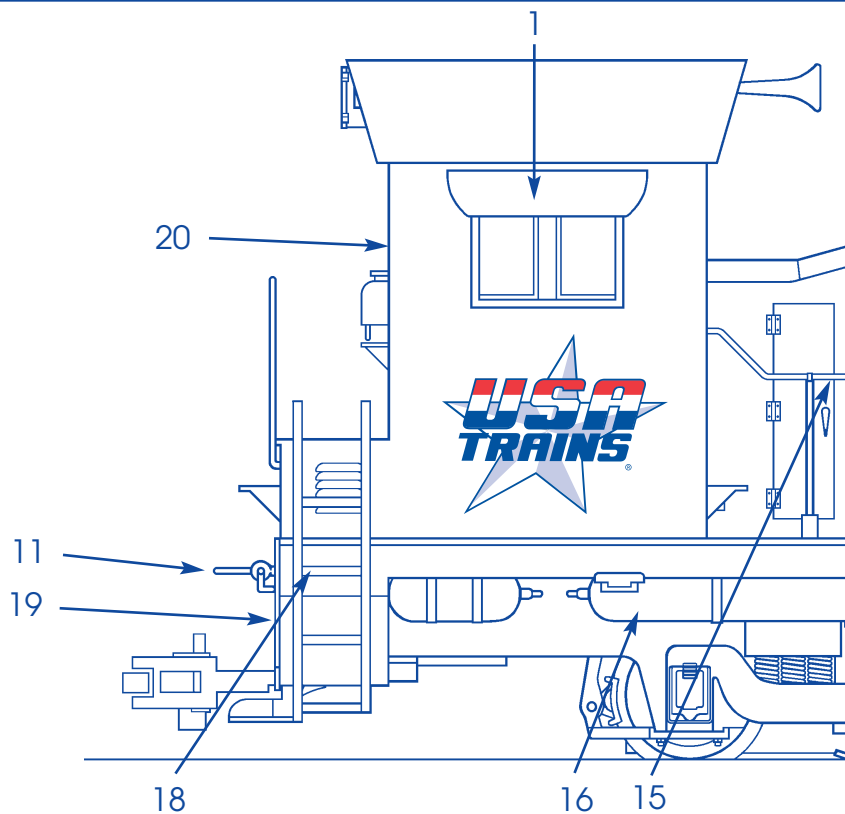
FEATURES

- Powerful motor.
- Operating smoke stack puffs real smoke.
- Metal handrails.
- Front & rear directional lighting.
- Interior cab lighting.
- Opening cab doors.
- Detailed cab interior complete with engineer and control panel.
- Authentic detailing including diamond plate walkways, grating on steps, window shades, and sliding windows.
- Expert decoration reproducing authentic paint schemes of your favorite railroad.



ITEM No.	PART No.	DESCRIPTION
12	R22-12	REPLACEMENT MOTOR TRUCK (1)
13	R22-13	REPLACEMENT MOTOR ONLY (1)
14	R22-29	TRUCK SIDEFRAME (2)
15	R22-30	SIDE HAND RAILS WITH HOLDERS (2)
16	R22-31	AIR TANK (SPECIFY COLOR)
17	R22-17	SLIDE SHOES & SPRINGS (4)
18	R22-32	REAR CORNER LADDER (SPECIFY COLOR)
19	R22-20	AIR HOSES (16)
20	R22-23	WINDSHIELD WIPERS (4)
	R50001	USA TRAINS SMOKE FLUID (1)
	R50002	USA TRAINS CONDUCTIVE LUBRICANT (1)

Please call our parts department for prices and availability or visit our web site www.usatrains.com • Phone: 781-322-6084 • Fax: 781-321-6459



ASSEMBLY

Due to the high level of detail designed into the USA Trains 20 Tonner locomotive some simple assembly is required.

(1) HANDRAILS/STEPS/COUPLER LIFTBAR

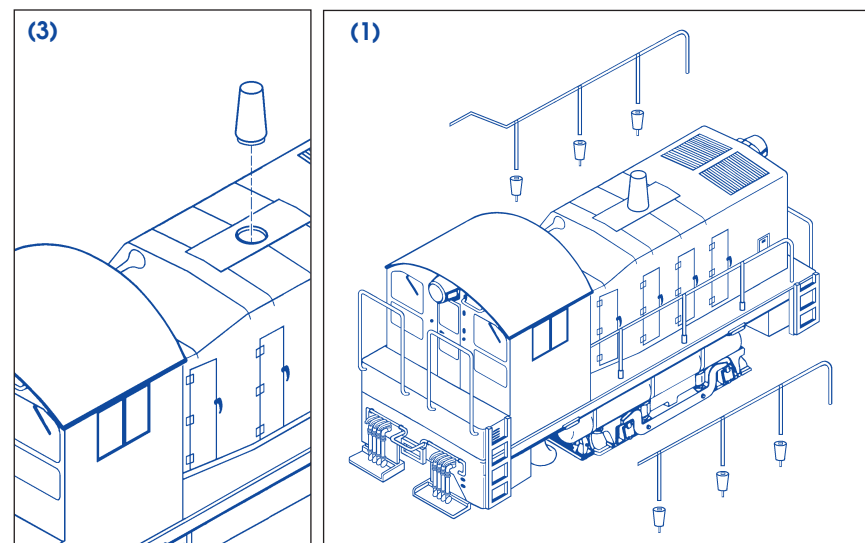
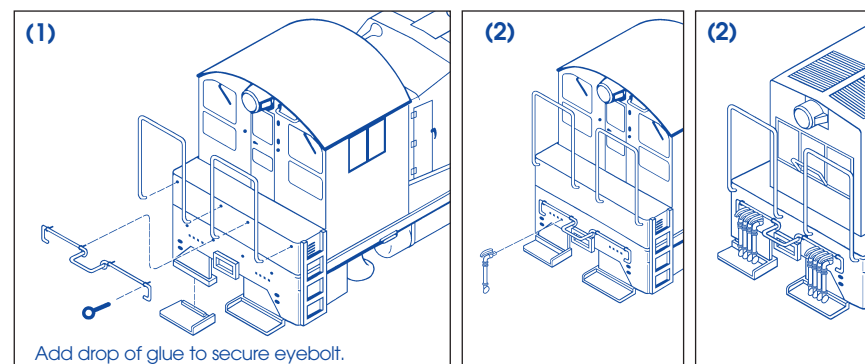
See diagrams below for simple insertion into the proper holes.

(2) AIR HOSES

See diagram below for simple insertion into the proper holes.

(3) SMOKE STACK

See diagram below for simple insertion.



ITEM No. PART No.

DESCRIPTION

1	R22- 01	SUNSHADE (Specify Color)
2	R22-02	DIESEL HORN
3	R22-03	SMOKE STACK
4	R22-04	SMOKE UNIT
5	R22-06	LENS COVER (1)
6	R22-07	LIGHT BULB AND WIRE (Also for Cab and Rear Light)
7	R22-24	FRONT/REAR HAND RAILS FOR 20 TONNER (2)
8	R22-25	FRONT CORNER LADDER (SPECIFY COLOR) (2)
9	R22-26	COUPLER MOUNTING BLOCK & PIVOT ARM (No Coupler)
10	R22-27	COUPLER SPRING & MOUNTING PLATE
11	R22-28	COUPLER LIFT BAR WITH 4 ATTACHMENT RINGS (1)

20 TONNER REPLACEMENT PARTS LIST

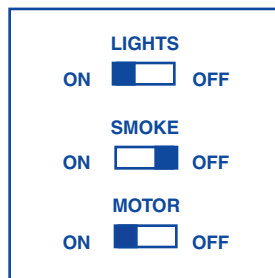
OPERATION

POWER REQUIREMENTS

The 20 Tonner locomotive is designed to operate on direct current (DC) with outputs of 0-22 volts.

CONTROL BOX SWITCH

The locomotive contains three switches to operate the on/off motors, on/off smoke generator, and on/off lights. The switches are located underneath the locomotive. (see diagram below)



CAUTION! To prevent generator burnout, never run the locomotive without smoke fluid in the smoke generator. If no smoke fluid is in the generator, switch smoke generation to the OFF position. For more info, see smoke generator operation instructions.

SMOKE GENERATOR

The locomotive contains a smoke unit which produces "diesel exhaust" through the stack on the top of the body. The smoke generator requires the periodic addition of smoke fluid in order to operate properly. When doing so make sure the switch marked "smoke" (see control box switch operation above) is in the ON position. Remove the stack from the top of the locomotive, and add 10-20 drops of USA Trains smoke fluid (USA Trains Part #R50001) to the smoke generator hole. Never overfill the smoke generator and promptly wipe up any excess smoke fluid that may have spilled onto any painted surfaces. Place the smoke stack back on the top of the locomotive and begin operation. Smoke production will begin when the fluid becomes heated. It may take longer to generate the smoke if the unit is full. By following these directions, the smoke generator will provide hours of enjoyment and enhance the realistic operation of your 20 Tonner locomotive.

CAUTION! NEVER RUN THE UNIT WITHOUT SMOKE FLUID UNLESS THE SMOKE SWITCH IS IN THE OFF POSITION. THIS WILL PREVENT THE SMOKE GENERATOR FROM BURNING OUT!

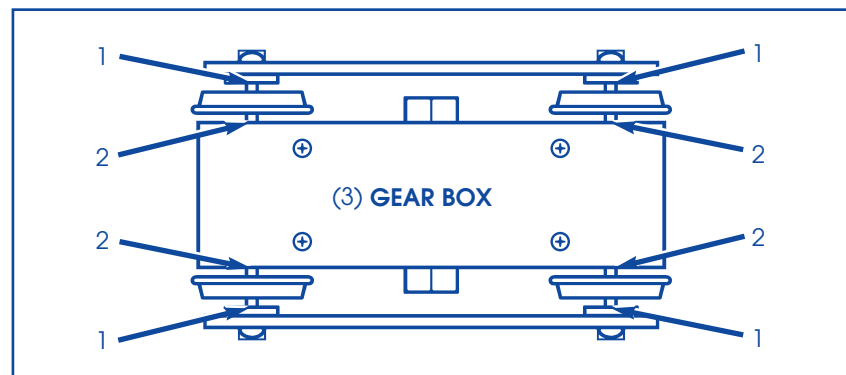
POWER PLUGS

Each locomotive is equipped with two receptacles under the rear step to power sound or lights only. (Do not interconnect any two locomotives together using these plugs or damage to one or both units will occur).

MAINTAINING AND SERVICING YOUR 20 TONNER

LUBRICATION

Your locomotive was lubricated at the factory and under normal operating conditions will not need to be lubricated during the first 50 hours of operation. The locomotive has three lubrication points. (See diagram below)



1. SIDEFRAME JOURNAL BOX: The axle ends fit into brass bushings which bring power into the locomotive. These brass bushings should periodically be cleaned out and lubricated with a small amount of USA Trains electrically conductive lubricant (USA Trains Part #R50002). Use only our conductive lubricant to avoid loss of electrical contact which could cause your locomotive to loose power or run erratically. The frequency of lubrication depends on your operating conditions.

2. AXLE LUBRICATION: Two drops of oil should be placed on all four contact points where the axle enters the gear box. An ultra light oil such as Hob-E-Lube (#HL653) is recommended.

3. GEAR BOX LUBRICATION: Under normal operating conditions, the gear box should not have to be lubricated. However, you may want to lubricate the gears after each 100 hours of operation by removing the four screws on the bottom of the gear box to expose the gears and applying moly grease by Hob-E-Lube to the gears on the axle only. Do not apply grease to any electrical contacts inside the gear box as you may hinder the electrical contacts required for smooth operation.

WHEEL/SLIDE SHOES

The locomotive is equipped with a six point electrical pickup motor truck. Each of these must be cleaned periodically to ensure proper electrical contact with the track and to ensure smooth operation of your locomotive. Clean all four wheels and the bottom surface of the slide shoes periodically to ensure good electrical contact with the track. A good indication that you need to clean these contacts is flickering lights, non-operation of the smoke unit, or a jerking motion of the locomotive.