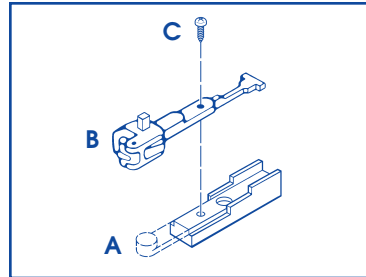


KNUCKLE COUPLER INSTALLATION

- 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:

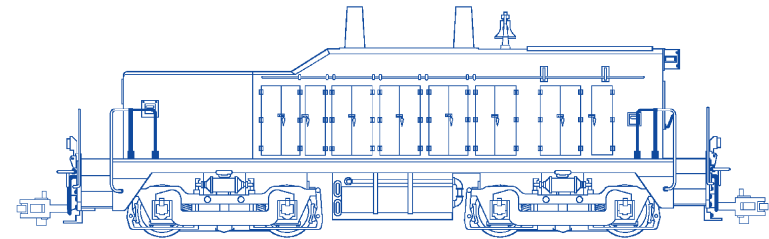
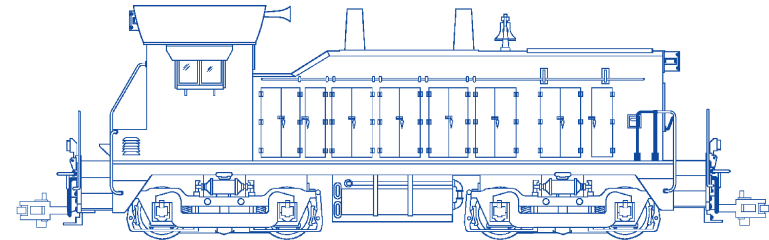
USA TRAINS,
662 CROSS STREET,
MALDEN, MA. 02148

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.



EMD NW-2 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 replica of the electro-motive (EMD) NW-2 switcher.

The engineering and design staff at USA Trains has spent many hours reviewing original blue-prints and 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 THE EMD NW-2 AND CALF UNIT

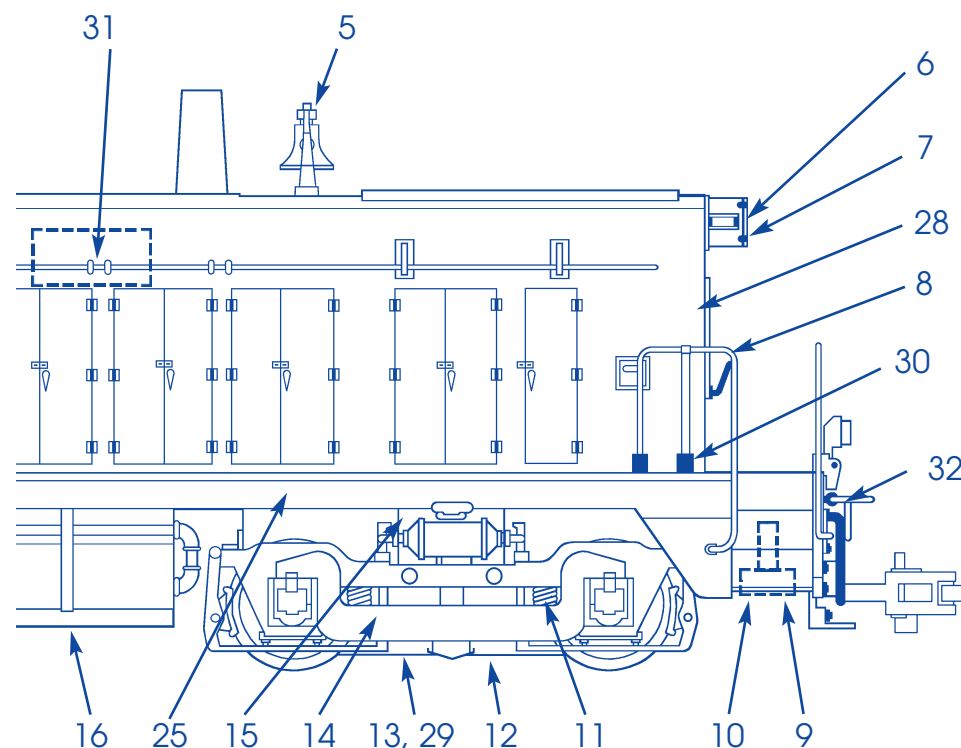
Electro-Motive first introduced the NW-2 in February, 1939 and continued its production until December, 1949. It was the second most popular switcher built, with 1143 units constructed during its ten year run. It may have been the most popular, but the war production board during World War II dictated that EMD produce only road diesels and any production of the NW-2 was suspended from 1942 until 1945.

The NW-2 was powered by EMD'S new 12 cylinder 567 series diesel engine producing 1000 H.P. The other features of this locomotive were MU capability as a standard option and a cabless booster version to make two or three-unit transfer versions commonly called "cow-calves".

The accurate reproduction of this locomotive by USA Trains will allow the modeler of the early diesel-late steam era to have his favorite railroad diesel switcher "nested" among the steamers at the roundhouse.

FEATURES

- Powerful dual-motor 8 wheel drive powertrain.
- Dual operating smoke stacks puff 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, sliding windows, and MU connections.
- Expert decoration reproducing authentic paint schemes of your favorite railroad.



ITEM No.	PART No.	DESCRIPTION
17	R22-17	Slide Shoes & Springs (4)
18	R22-18	Side/Corner Handrails - Nw-2 (2)
19	R22-19	Corner Steps (Specify Color) (4)
20	R22-20	Air Hoses (16)
21	R22-21	Rear Side/Corner Handrails-Calf Unit (2)
22	R22-22	Front/Rear Handrails (2)
23	R22-23	Windshield Wipers (4)
24	R22-011	Metal Wheels With Gears (2)
25	R22-25	Truck Circuit Board (672-SP08)
26	R22-26	Front/Rear Handrail Connectors (6)
27	R22-27	Light Circuit Board (672-SP07)
28	R22-28	Main Sound Board with Switch Panel
29	R22-29	Pick Up Wire inside Motor Block (2)
31	R22-31	Smoke Unit Circuit Board (NW-2)
32	R22-32	Coupler Lift Bar w/4 Holders (1) (Specify Color)
	R50001	Usa Trains Smoke Fluid (1)
	R50002	Usa Trains Conductive Lubricant (1)

ASSEMBLY

Due to the high level of detail designed into the USA Trains NW-2 and calf unit, some simple assembly is required.

(1) BELL/SMOKE STACK

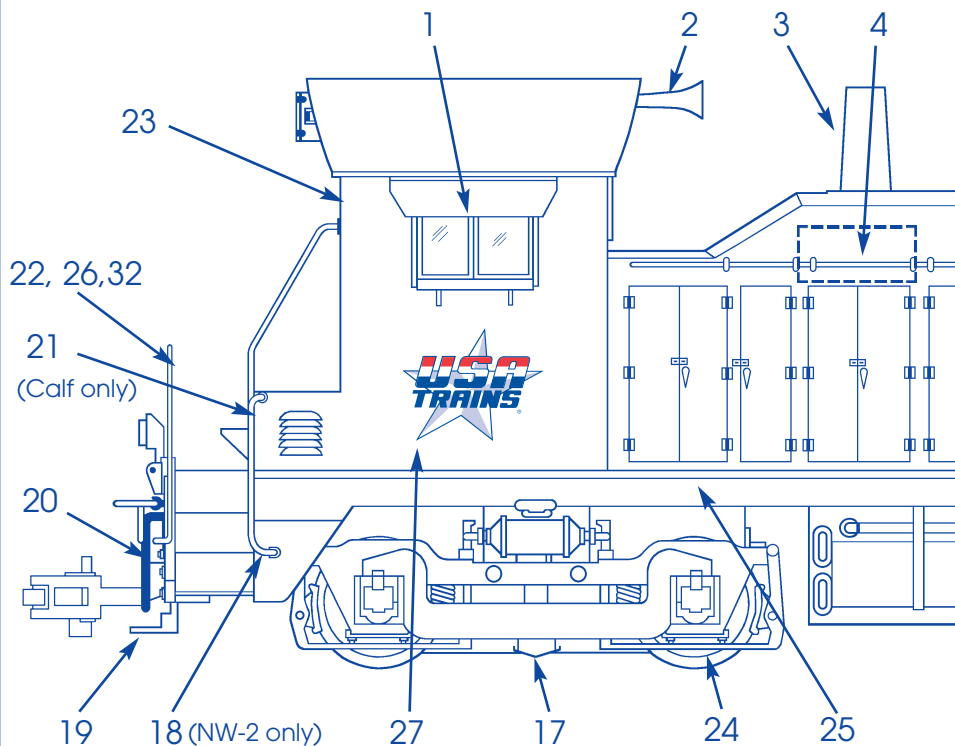
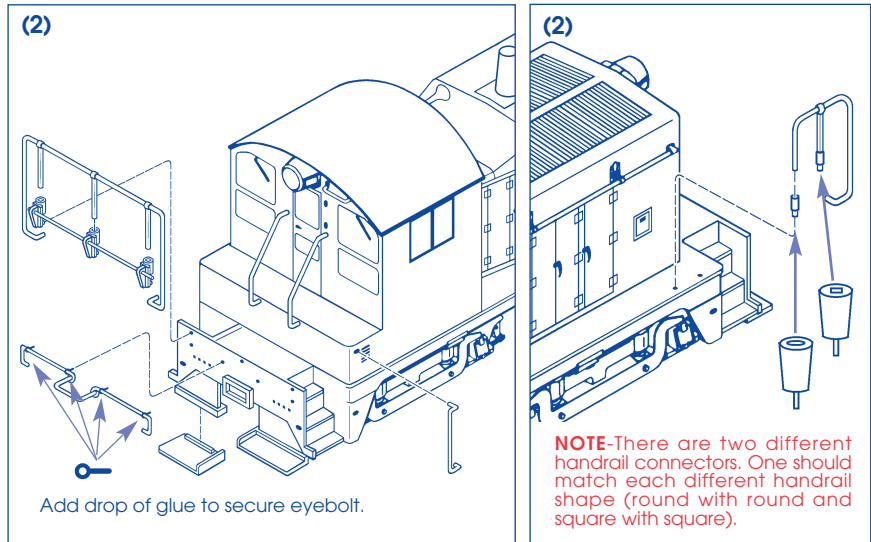
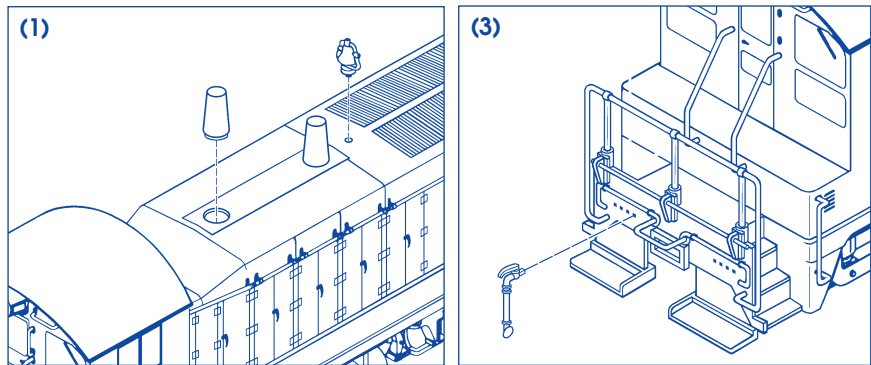
See diagram below for simple insertion into the proper holes.

(2) HANDRAILS/STEPS

See two diagrams below for simple insertion into the proper holes.

(3) AIR HOSE

See diagram below for simple insertion into the proper holes.



ITEM No.	PART No.	DESCRIPTION
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1	R22-01	Sunshade (Specify Color)
2	R22-02	Diesel Horn
3	R22-03	Smoke Stack
4	R22-04	Smoke Unit (Non- Fan Driven)
5	R22-05	Bell & Bell Holder
6	R22-06	Lens Cover (1)
7	R22-07	Light Bulb And Wire (Also For Cab And Rear Light)
8	R22-08	Front Side/Corner Rails - NW-2 (2)
30	R22-08a	Square/Round Front Side Rail Holders (4)
31	R22-09a	Coupler Lift Bar With Eyelets (Specify Color)
9	R22-09	Coupler Mounting Block & Pivot Arm (No Coupler)
10	R22-10	Coupler Spring & Mounting Plate
11	R22-11	Truck Sideframe Springs (8)
12	R22-12	Replacement Motor Truck (1)
13	R22-13	Replacement Motor Only (1)
14	R22-14	Truck Sideframe (2)
15	R22-15	Truck Mounting Block (1)
16	R22-16	Fuel Tank (Specify Color)

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

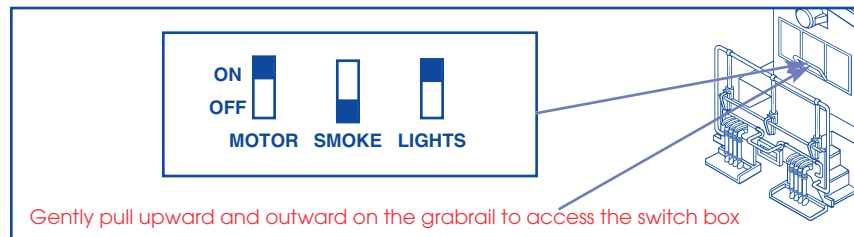
OPERATION OF YOUR NW-2 AND CALF

POWER REQUIREMENTS

The 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. To access the switches, pull up gently on the grab rail of the vent grill on the front of the locomotive. (see diagram below)



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

SMOKE GENERATOR

The locomotive contains two smoke units which produce "diesel exhaust" through the two stacks on the top side of the cab body. The smoke generators require the periodic addition of smoke fluid in order to operate properly. When doing so make sure the switch marked "smoke" in the front of the locomotive (see control box switch operation above) is in the OFF position. Remove both stacks from the top of the locomotive, and add 10-20 drops of USA Trains smoke fluid (USA Trains Part #R50001) to BOTH smoke generator holes. Never overfill the smoke generator and promptly wipe up any excess smoke fluid that may have spilled onto any painted surfaces. Place both smoke stacks back on the top of the locomotive. Turn the smoke unit switch to the ON position 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 NW-2 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!

NOTE: It is not uncommon for the front stack to smoke more than the rear stack due to the draft created by movement of the locomotive

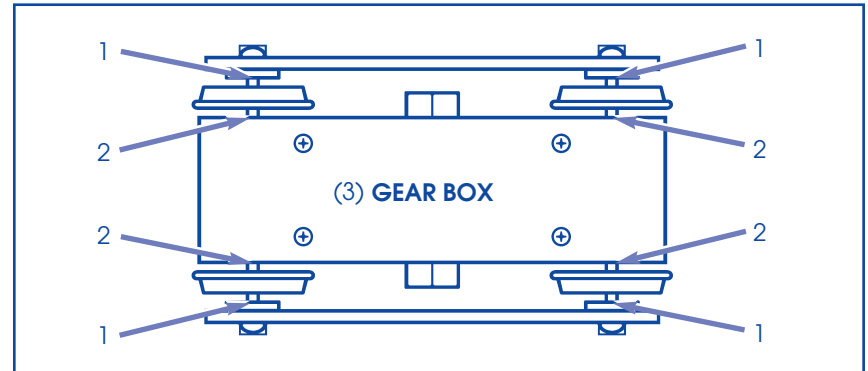
POWER PLUGS

Each locomotive is equipped with two receptacles 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 NW-2 AND CALF

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 brings power into the locomotive. These brass bushings should periodically be cleaned out and lubricated with a small amount of U.S.A.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 lose 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 NW-2 and calf units are equipped with twelve electrical pickup points-six per 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.