



**Milwaukee Road S-3 4-8-4
Steam Locomotive
Owner's Manual
(2-Rail & 3-Rail models)**

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Thank you for purchasing this Weaver Milwaukee Road S-3 4-8-4 steam locomotive. Our 1/4" scale brass reproduction is highly detailed and designed for years of operation on your O Scale pike. Weaver steam locomotives are completely compatible with most other O Scale engines, rolling stock, and accessories. Refer to this manual for information about your 2-Rail and 3-Rail Weaver Milwaukee Road S-3 4-8-4 Northern.

Traction Tires

Two of the drive wheels of this locomotive are equipped with traction tires. These traction tires provide for maximum pulling capability of your locomotive. An extra set of traction tires are included with your engine (3-Rail models only).

Before You Use Your Engine:

This 4-8-4 brass steam locomotive is tested and greased before leaving the factory and is ready-to-run on your layout. However, it is recommended that all moving parts on this engine are lubricated lightly upon the first initial use and after a heavy or extended period of use, in order to enhance performance. For specific lubrication points please refer to the diagram in Figure 1.

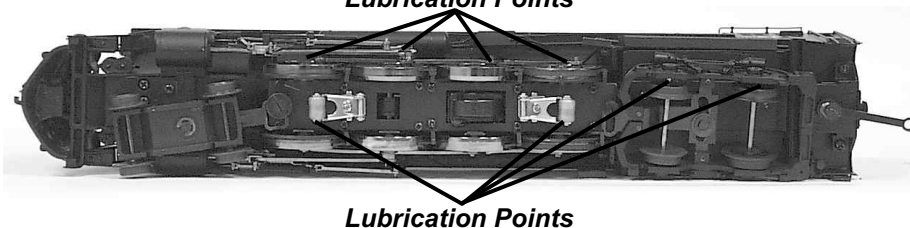
Maintaining Your Engine:

As with all our Weaver steam engines, this locomotive is designed so that very little maintenance is required from the owner. It is recommended that all moving parts (side rod linkages and axles) be oiled after 25 hours of operation. On heavily used engines, bearing grease (or a similar lubricant) should be added to the gear box, located between the blind drivers on the drive train. To add grease, remove the two small Phillips screws on the inspection cover and insert the grease using a screw driver. For specific greasing points, please refer to the diagram in Figure 2 on page 3. Reassemble and run the engine as normal.

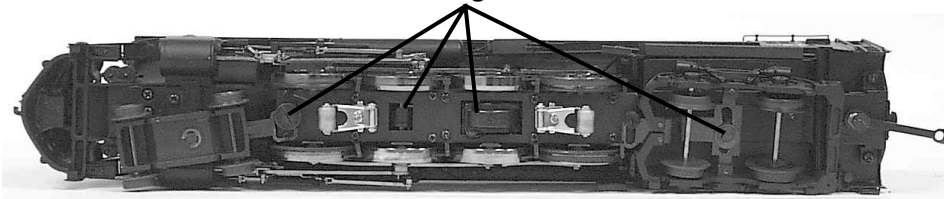
Operating Instructions For The Puff N Chuff II Smoke Unit

Your locomotive is equipped with the most state-of-the-art smoke unit available today. The Puff N Chuff II smoke unit is equipped with an auto shut off circuit that protects the smoke units longevity by constantly monitoring the temperature of the heating element. When the heating element exceeds the maximum allowable temperature the power to the element is shut off and the fan motor is turned on full speed to cool the element. Once the element reaches the nominal operating temperature the power to the element is restored and the fan motor resumes normal operation. Even if you run your smoke unit without smoke fluid the auto shut off circuit will prevent damage from occurring to the unit. This system ensures years of enjoyment with no maintenance.

Figure 1
Lubrication Points



**Figure 2
Greasing Points**



The Puff N Chuff II smoke unit is designed to puff in synch with the chuffing sounds of your locomotive. When the locomotive is at idle the smoke simply lofts out of the stack. Once the locomotive begins moving the smoke puffs in synch with the chuffing, just like the real thing! (NOTE: If you notice the smoke pouring out of the stack at any time, don't panic. This is the auto shut off circuit in action.)

Adding Smoke Fluid To Your Smoke Unit

The Puff N Chuff II smoke unit is capable of holding up to 40 drops of fluid. Before running the locomotive be sure to add at least 20 drops of fluid to prime the unit. While running without fluid will not damage the smoke unit it is advisable to add fluid at start up.

Smoke Unit Operation

If you plan to operate your locomotive in a command controlled environment be sure the smoke on/off selector switch (under the locomotive cab) is in the "TMCC" position. If you plan to operate your locomotive in a conventional environment be sure the smoke on/off selector switch is in the "CONV" position. If you do not plan on operating the smoke unit be sure the smoke on/off selector switch is in the center "OFF" position.

3-Rail Without Sound (non command mode)

All 3-Rail non sound steam engines contain an electronic reversing unit (e-unit). The operation of the e-unit is as follows: Each time the power to the locomotive is interrupted, the e-unit changes states. This can be done by moving the transformer control to the off position, or pushing the direction button on your transformer (if the transformer is equipped with a direction button). The sequence of operation is neutral-forward-neutral-reverse. All 3-Rail without sound engines can be upgraded to RailSounds™ and TrainMaster® Command Control. Weaver Models also offers Rail Waves as a sound option which includes a steam whistle and bell sound. Contact us today to upgrade your engine. Rail Waves is your simple sounds for your steam locomotive needs.

Lionel® Railsounds™

All our 3-Rail with sound engines are equipped with Railsounds™, the finest sound system available today, and the industry's premier digital operating control system, TrainMaster® Command Control. This system will operate with a non command control transformer, but the additional sound features which include coupler sound, steam release sounds, volume control, tower command, and crew talk will not function without the remote control and command base.

3-Rail With Sound (non command mode)

This engine is equipped with RailSounds™ and is also TrainMaster® Command Control ready. This steam engine features digital samples from authentic steam locomotives for the ultimate in realism. An engine running in a non command mode will have steam engine chuff sounds, and also steam whistle and bell. Also, listen for incidental locomotive sounds during RailSounds™ operation, as they are automatic and authentic. For even more authentic RailSounds™ effects, operate in a TrainMaster® Command Control environment. This engine will operate on 7-18 volts alternating current. Virtually any alternating current transformer is suitable to operate your locomotive as well as the Lionel® TrainMaster® Command Control system.

NOTE: Do not power your locomotive with direct current (DC). Damage to electronic components may occur.

A 9-volt battery is only necessary when the engine is to be used with a conventional transformer such as the QW, TW, KW, etc. This will enable the locomotive to maintain uninterrupted sound when the voltage drops below 8 volts. To install the battery, there are four tender body screws, one at each corner of the tender floor. Remove the four screws from the bottom of the floor and the body shell will then remove easily. You will find a 9 volt battery connector end among the wires. Install the battery, place the installed battery in the bracket provided in the tender, place the shell back on the floor, and reinstall the screws.

When you first power up your track, the engine will wait 3 to 8 seconds as it listens for the digital language from the TrainMaster® Command Base (sold separately). When it's determined that it's on a conventional (non command) railroad, the headlights will illuminate and

RailSounds™ will fire up. At this point the engine is in neutral. (This occurs when placing the locomotive on your railroad for the first time. Thereafter, it starts in forward after every three second power interrupt).

The e-unit in your locomotive alternates between three states: forward, neutral, and reverse. You may deactivate the operation of the e-unit by moving the "Full - Signal" switch to the "Signal" position. This will put your locomotive in a Forward lock out operating state. This will allow your engine to only run in the Forward position.

TrainMaster® Command Operations

Lionel® TrainMaster® Command is the advanced model railroad control system from Lionel. Your steam locomotive is equipped with the Lionel® Command reverse unit and an LCRX for digital RailSounds™ control. TrainMaster® Command gives you the power to operate multiple Command equipped locomotives on the same track, at the same time. To operate in Command mode, you need a Command Base and a CAB-1 Remote Controller®. These can be purchased from your train retailer.

Place your engine on the track. Make sure track power is OFF before placing the engine on the track. Make sure your Lionel® Command Base is ON and its communications wire is connected to the COMMON post on your transformer or the U on any of your installed Powermaster®. Once positioned on the track, increase track voltage to FULL (on Powermaster®, slide the CMD/CONV switch to CMD).

Address your steam engine using the CAB-1 Remote Controller®. Press ENG and 1 on the numeric keypad of your CAB-1 Remote Controller®. This command is sent by the CAB-1 Remote Controller® to the Command Base, which then translates your command into digital code. That code is sent around your railroad's outside rails in the form of a digital "halo". All command equipped engines listen to this digital communication, but they do not respond until they hear their individual ID number - in this case, 1. The digital language of TrainMaster™ Command - and not track power - controls the actions of command equipped engines.

All command equipped engines come factory programmed with an ID# of 1. See page 5 for information on changing this ID#.

Throttle up or press any command button on the CAB-1 Remote Controller®. Your engine will respond to every command. Your command equipped engine comes factory programmed with an ID# of 1. To get your locomotive in action, set Powermaster® to CMD or set all power supplies on full. Press ENG and 1 on CAB-1 Remote Controller®. Turn the throttle or press any command button; your engine is ready for command operations.

CAB-1 Remote Controller® Commands

Press AUX1 to activate numeric keypad



Press AUX2 to turn headlight on and off



Couple F/R buttons will release coupler and produce coupler release sounds.



Press HALT to shut down all Powermaster® electrical outlets on your railroad. Stops all Command equipped engines in operation.



Turn the THROTTLE to the right to accelerate, left to decelerate.



Press WSTL/HRN to activate whistle. Release it to discontinue.



Press BELL once to activate the bell, again to discontinue.



Press DIR - the locomotive decelerates to a complete stop; turn the throttle up, and the locomotive will accelerate in the new, opposite direction. There is no neutral state.



Press and hold BOOST for extra power. Release BOOST and return to the engine's previous speed.



Press and hold BRAKE to slow down or stop. Release BRAKE and return to previous speed.

CAB-1 Remote Controller® Numeric Keypad Commands

When you press the AUX1 on CAB-1 Remote Controller®, you turn the numeric keypad into 10 command buttons. The keypad lets you control extra command features (until you press any top row button).

0 Stops and resets the steam locomotive to forward. Whistle blows. Headlight flickers.

1 Raises the volume of RailSounds™.

2 CrewTalk™ is the sound of inaudible walkie talkie communication.

3 Starts up RailSounds™. Startup sequence commences. Steam blowoff sound.

4 Lowers the volume of RailSounds™.

5 Activates the RailSounds™ shutdown sequence. Just like the real thing, your steam locomotive must be at idle for shutdown to occur. Steam shutdown commences. Remember, the whistle and bell will not sound until you restart RailSounds™.

6 Steam release sound.

7 TowerCom™ is an audible announcement from the tower.

8 Turns the smoke unit off.

9 Turns the smoke unit on.

Turning Your Locomotive's Performance Momentum

TrainMaster® Command's momentum feature simulates the labored performance of a locomotive pulling a heavy load. Press L, M, or H (located under the CAB-1 Remote Controller's® removable panel) for light, medium, or heavy momentum. The LCRU2 remembers the setting until you change it. For delayed response, use H. For quick response use L.

Braking and Boosting

There's more to starting and stopping than just turning the CAB-1 Remote Controller® throttle. Use the BOOST and BRAKE command buttons - they give you incremental control of speed and are the superior way to handle grades, gradual stops-and-starts and more. Plus, using BRAKE in the Command environment gives you a bonus RailSounds™ effect - the realistic sound of squealing brakes.

Stall

Make your locomotive feel more responsive by setting a stall voltage. Get your locomotive moving, then press SET; the engine will stop. Turn the throttle clockwise to get the locomotive moving, then decrease the speed until the locomotive just stops. Then press SET again; the LCRU2 remembers the stall setting until you change it. To clear stall, press SET twice, holding it for one second each time.

Assigning Your Locomotive A New ID#

As your fleet of command equipped engines grows, new engines require a different ID#. Choose from any between 2 and 99. Remember, all command equipped engines ship as ID#1.

We recommend that you choose an easy to remember ID# for your engine. Some possibilities are part of the engine road number, your age, or any two digit number that is not used by another engine. If you like, write the number on a small piece of tape and put this on the bottom of the engine chassis to aid in remembering.

Step 1: Turn the Command Base ON and set the engine on the track.

Step 2: Power up, then slide the PROGRAM / RUN switch to PROGRAM.

Step 3: Turn track power on (Powermaster®).

Step 4: Press BOOST.

Step 5: Press ENG and new ID#.

Step 6: Press SET located under the removable cover.

Step 7: See the headlight flash and hear the horn blow; that's your signal that programming has been accepted.

Step 8: Set the PROGRAM / RUN switch to RUN.

Your engine remembers its ID# forever, change it any time with these steps.

Reprogramming LCRU Circuit Boards To Restore Features

Due to the inevitable derailments, static and the nature of electricity, it is possible that your LCRU could someday lose its setup program. The symptoms of this condition would be unresponsiveness in command mode. This can easily be remedied by "reprogramming" your LCRU using the following steps.

- Step 1: Move switch on locomotive from RUN to PROGRAM.
- Step 2: Turn on Command Base.
- Step 3: Place locomotive on track, then turn on power to track.
- Step 4: Press ENG, then input locomotive ID#. Press SET.
- Step 5: Press ENG, then the ID#, AUX1 then press 43.
- Step 6: Turn off power to track, wait ten seconds.
- Step 7: Remove locomotive from track, move switch from PROGRAM to RUN.
- Step 8: Place locomotive back on track, turn power on to the track.
- Step 9: Press ENG and ID#, then operate normally.

Service And Warranty Information

This item is warranted for one year from the date of purchase. We will repair or replace (at our option) the defective part without charge for parts or labor, if the item is returned in the manner listed below within one year of the original date of purchase. This warranty does not cover items that have been abused or damaged by careless handling. Transportation costs incurred by the customer are not covered under this warranty.

For warranty repair, DO NOT return your product to the place of purchase. Instead, follow the instructions below to obtain warranty service as our dealer network is not prepared to service the product under the terms of this warranty.

1. First: WRITE, CALL or FAX Weaver Models, PO Box 231, RR 1 Route 11, Northumberland, PA 17857, 570-473-9434 (FAX #570-473-3293), requesting a Return Authorization Number and stating when the unit was purchased and a description of the problem.

2. **CAUTION:** Make sure the product is packed in its original factory packaging including its foam and plastic wrapping material so as to prevent damage during shipping. The shipment must be prepaid and we recommend that it be insured. **A cover letter, including you name, address, daytime phone number 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 one of our service technicians when contacting Weaver Models.**

3. Please make sure you have followed the instructions carefully before returning any merchandise for service.