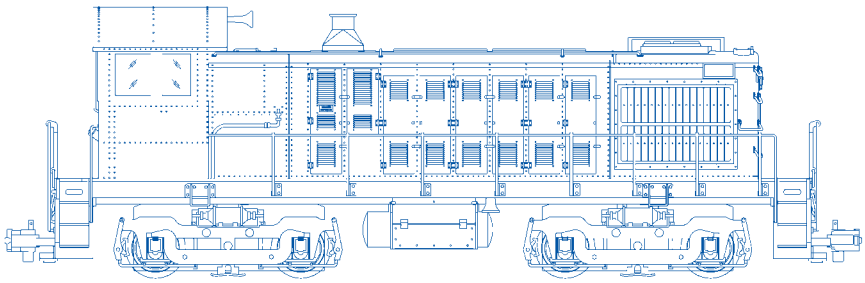
ALCO S4
DIESEL LOCOMOTIVE
OWNERS MANUAL



USA TRAINS
P.O. BOX 100
MALDEN, MA 02148
USA
www.usatrains.com

Dear Customer,

Congratulations on your purchase of this highly detailed replica of the Alco S4 Switcher.

The engineering and design staff at USA Trains has spent many hours reviewing original blueprints 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 ALCO S4 SWITCHER

In the thirties and forties, when diesel locomotives began to supplant steam engines, a number of manufacturers turned to producing diesels. Among them was Alco. Alco produced one of the most popular diesel switchers, the S1, S2, S3 and S4. These were rather boxy machines compared to its competing EMD SW1, NW2, SW7, SW8, SW9, SW900 and SW1200 diesel switchers. The 1.000 horse power Alco "S" series diesels were Alco's most popular diesel switcher and used by many railroads. Over 1,500 were sold in the forties and fifties.

The accurate reproduction of this locomotive by USA Trains will allow the modeler of the early diesel - late steam era to have their favorite railroad Alco S4 running among the other locomotives on his/her railroad.

FEATURES

- Powerful dual-motored 8 wheel Power Trac drive train
- Operating fan driven smoke stack emits realistic diesel exhaust
- Metal handrails
- Front & rear directional headlights
- Interior cab lighting
- Opening cab doors
- Detail cab interior complete with 2 engineers and control panel
- Authentic detailing including diamond plate walkways, grating on steps, window shades, sliding windows and see-thru grills
- Expert decoration reproducing authentic paint schemes of your favorite railroad
- Multiple road numbers available for prototypical multi-unit operation

ASSEMBLY

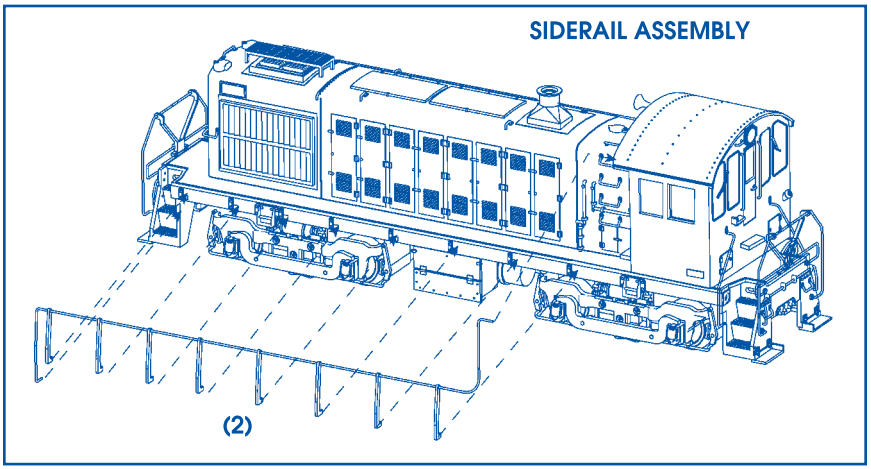
Due to the high level of detail designed into the USA Trains Alco S4 switcher, some simple assembly is required.

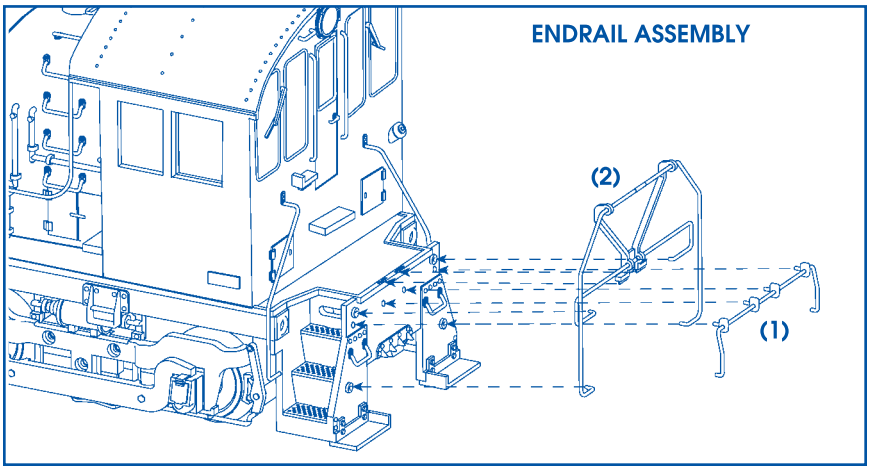
(1) Coupler Lift Bar Assembly (2 pieces)

Insert 2 eye bolts onto each side of lift bar and then insert all 4 eye-bolts into the end of pilot as shown in the diagram below. (both ends)

(2) Hand Rails - Sides and Ends (4 pieces)

Insert right and left siderails into openings in the side of frame and into cab roof as shown in the diagram below. Next, insert the two slotted plastic pins into the top of the frame. While pushing down lightly on the end rails to hold the pins into the top of the frame, insert the wire ends into the end pilot at all 4 points.





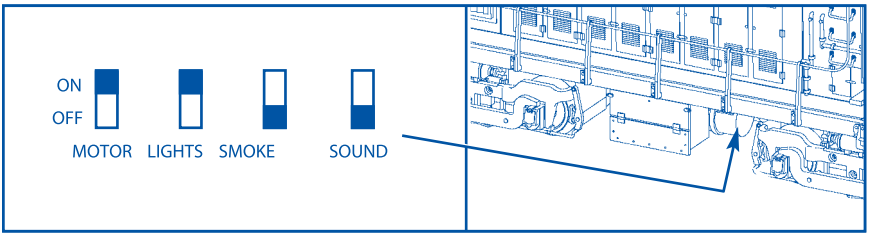
OPERATION

POWER REQUIREMENTS

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

CONTROL SWITCHES

The locomotive contains four switches to operate the on/off motors, on/off smoke generator, on/off lights and on/off sound. The control switches are located on the underside of the locomotive, between the rear motor truck and the fuel tank. (see diagram below)



CAUTION! If the locomotive is going to be run for any period of time without smoke fluid, please position the smoke switch to the OFF position.

SMOKE GENERATOR

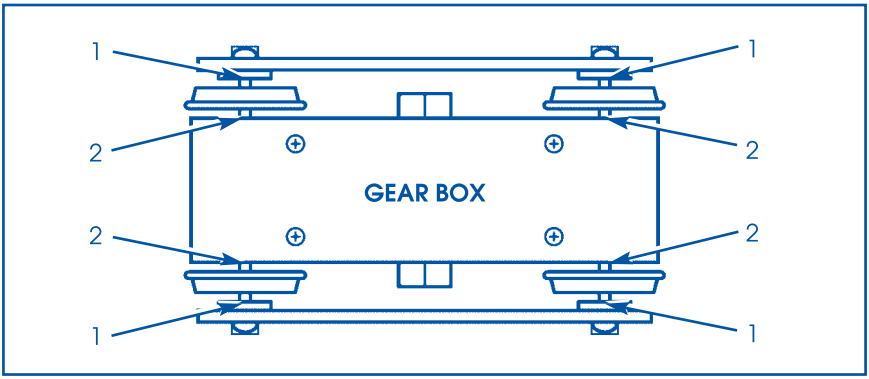
The locomotive contains a fan driven smoke unit which produces "diesel exhaust" through the stack on the topside of the cab body. The smoke generator requires the periodic addition of smoke fluid in order to operate properly. To add smoke, remove the stack from the top of the locomotive and add 25-30 drops of USA Trains smoke fluid (USA Trains part # R50001) into 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 top of the locomotive and begin operation. Smoke production will begin when the fluid becomes heated and should last approximately 20 minutes. It may take longer to generate the smoke if the unit is full. When the smoke chamber is empty the unit will shutdown automatically until more fluid is added. By following these directions the smoke generator will provide hours of enjoyment and enhance the realistic operation of your S4 locomotive.

CAUTION! Even though your locomotive is equipped with an automatic shut-off when the smoke generator runs out of fluid, we suggest you shut off the smoke switch on the underside of the locomotive to prevent accidental burning out of the smoke generator.

MAINTAINING AND SERVICING YOUR ALCO S4 SWITCHER

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)



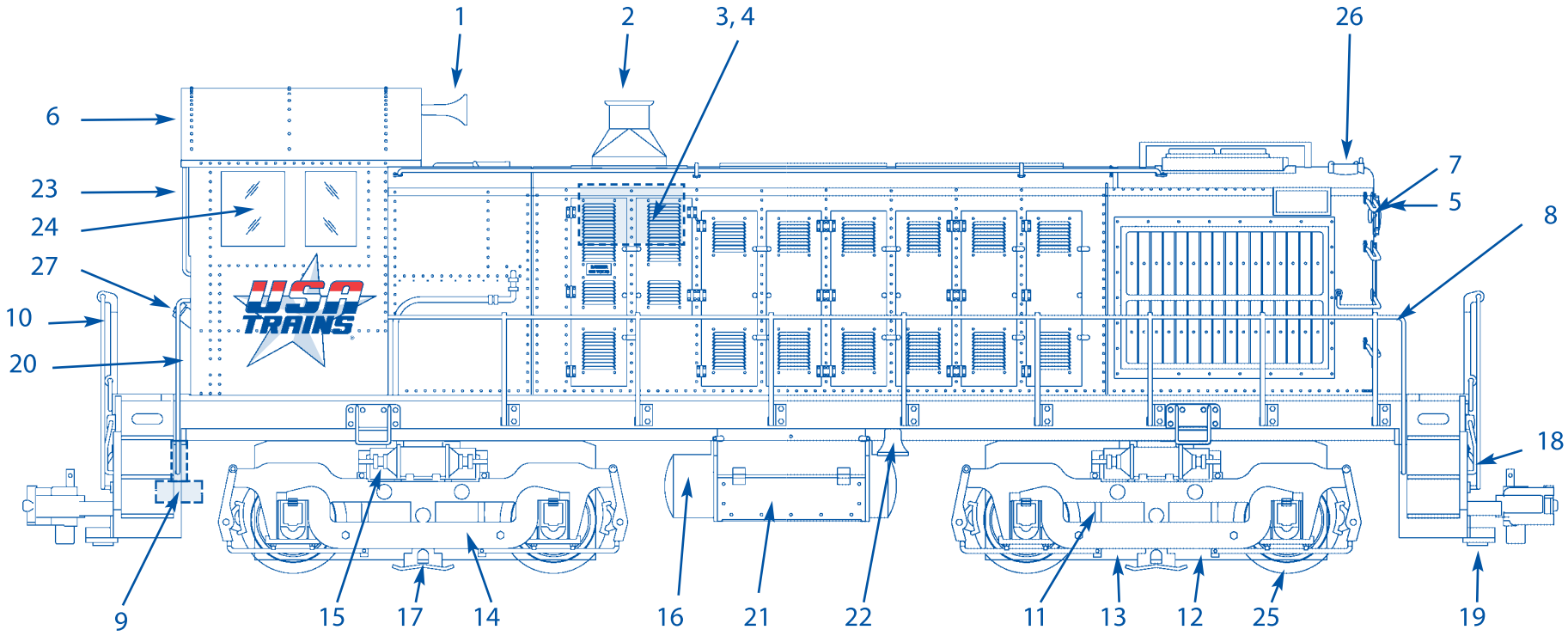
1. SIDEFRAME JOURNAL BOX: The axle ends fit into brass bushings which bring power into the locomotive. These brass bushings should periodically be cleaned out and lubricated with a small amount of USA Trains electrically conductive lubricant (USA Trains Part #R50002). Use only our conductive lubricant to avoid loss of electrical contact which could cause your locomotive to 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 six 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 Alco S4 switcher is 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 which will 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.



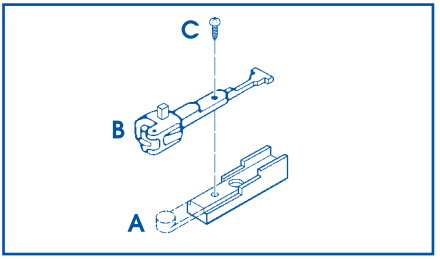
ITEM NO.	PART NO.	DESCRIPTION	PRICE
1	R22-551	DIESEL HORN	$2.00
2	R22-552	SMOKE STACK	3.00
3	R22-553	SMOKE UNIT (Fan Driven)	24.95
4	R22-554	SMOKE REGULATOR PCB BOARD	19.95
5	R22-555	FRONT LENS COVER (1)	1.95
6	R22-556	REAR LENS COVER (1)	1.95
7	R22-557	LIGHT BULB AND WIRE (Headlight)	3.50
8	R22-558	SIDE RAILS (specify color) (2)	14.95
9	R22-559	COUPLER MOUNTING BLOCK & PIVOT ARM (No Coupler)	4.95
10	R22-560	END RAILS (specify color) (2)	12.95
11	R22-11	TRUCK SIDEFRAME SPRINGS (8)	1.95
12	R22-12	REPLACEMENT MOTOR TRUCK (1)	24.95
13	R22-13	REPLACEMENT MOTOR ONLY (1)	14.95
14	R22-14	TRUCK SIDEFRAME (2)	6.95
15	R22-15	TRUCK MOUNTING BLOCK (1)	2.95
16	R22-561	FUEL TANK (specify color)	7.95
17	R22-17	SLIDE SHOES & SPRINGS (4)	$3.95
18	R22-562	COUPLER LIFT BAR W/4 HOLDERS (1)	1.95
19	R22-563	CORNER STEPS (specify color) (4)	5.95
20	R22-564	REAR BODY RAILINGS (specify color) (2)	4.95
21	R22-565	BATTERY BOXES (specify color) (2)	7.95
22	R22-566	BELL	2.95
23	R22-567	WINDSHIELD WIPERS (3)	1.95
24	R22-568	LIGHT BULB & WIRE (Cab)	3.50
25	R22-011	METAL WHEELS WITH GEARS (2)	8.95
26	R22-569	SAND FILL HATCH RIGHT/LEFT (specify color) (2)	3.95
27	R22-570	FUEL FILL (specify color)	2.95
	R50001	USA TRAINS SMOKE FLUID (1)	6.95
	R50002	USA TRAINS CONDUCTIVE LUBRICANT (1)	9.95

ALCO S4 SWITCHER REPLACEMENT PARTS LIST

Please use diagram above and circle the required part(s)
Fax copy with method of payment or mail with check made payable to
USA Trains, P.O. Box 100 Malden, MA 02148
Fax: 781-321-6459 No phone orders please
Include $4.00 for shipping and handling.

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 Alco S4 switcher 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 prepaid. 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 $20.00 U.S. currency to cover return postage. Any locomotives returned to customers 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 Alco S4 switcher 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.