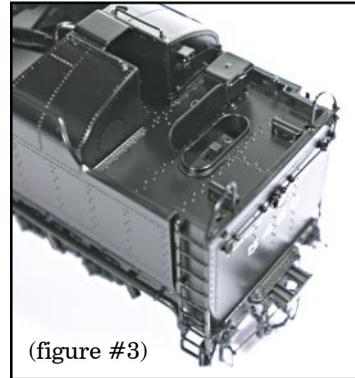


NOTE: IF THE TENDER SOUND SYSTEM SWITCH IS LEFT ON, THE BATTERIES WILL BE DRAINED OF POWER EVEN IF ALL CONNECTIONS TO THE LOCOMOTIVE ARE NOT COMPLETE.

Your 'Hudson' is also equipped with an electronic control for the reverse-gear mechanism. The system responds to the polarity of the power reaching the model and not the movement of the model. During operation take care not to reverse the direction of the locomotive without first bringing the model to a complete stop, this will protect the reverse-gear mechanism and also the drive gears which could otherwise be damaged. It is normal for the current draw to be considerably higher (approx 1.5A) in reverse due to the reverse-gear actuator.



(figure #3)

To improve the tractive effort of your J3a 'Hudson', we have included a removable ballast load that will add approximately 1/2 pound of additional weight to your model. The ballast is in the form of a soft pouch which can be placed in the smokebox of your model. The entire smokebox front is hinged, just as is the prototype, which allows for easy access to this area. For display purposes, you may choose to leave the ballast uninstalled to allow the display of the interior detail.

DYNAMIC ELECTRONIC BRAKE (optional)

The dynamic brake uses power from the sound system batteries located in the tender bunker; these batteries must be installed and the switch turned on in order for the brake system to function. To activate the brake, press the 'whistle' and 'bell' buttons on the sound control box simultaneously, to deactivate the system press the buttons again. Make certain that you do not operate the locomotive routinely with the brake engaged, this will cause unnecessary additional wear and tear on the drive system in the locomotive. The brake system offers the final dimension in train control, use it together with the throttle for the ultimate in control on downgrades and in emergency situations.

LOCOMOTIVE CARE AND MAINTENANCE

Routine maintenance consists of periodic lubrication as described under the heading 'Preparing For Operation' and replacement of the sound system batteries covered under the heading 'Sound System'. It is advisable to periodically check the tightness of the small fasteners used to assemble the side rods and other detailing to make certain that parts will not be lost. If the model will not be operated for an extended period of time, remove the batteries from the locomotive and sound controller.

SERVICE

The Kohs & Company J3a 'Hudson' comes with a limited lifetime warranty to the original owner. We will repair any model requiring service as a result of normal use, but not abuse. All of our guidelines for operation must be followed including the use of a proper power supply, otherwise the warranty is voided. We will not replace consumable items such as light bulbs and batteries as a matter of course, but will make such items available to customers on a cost basis. If you have technical questions or questions regarding service, please contact us directly:

Phone: 248-625-6396

Fax: 248-625-7994

Email: gwk@kohs.com

Kohs & Company **The Finest in O'scale**
I N C O R P O R A T E D

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New York Central 'Late' J3a Hudson

OPERATION AND MAINTENANCE INSTRUCTIONS

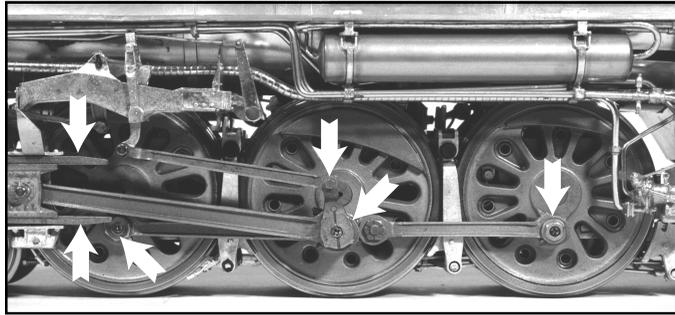
The Kohs & Company New York Central 'Late' J3a Hudson locomotive is an exact scale replica of the original prototype. It is constructed of formed and fabricated brass and incorporates many scale operational features. Although the model is very sturdily built, the boiler, tender shell and particularly the detailing are very susceptible to damage by rough or careless handling. To prevent damage, please exercise great care in unpacking and handling the model. The locomotive is best handled by lifting under the pilot 'horns' and rear cab deck. When touching the painted surfaces, be advised to wear the supplied gloves to protect the finish.

This locomotive model is designed to operate on Direct Current (DC) electricity. Any application of Alternating Current (AC) **WILL DESTROY THE INTERNAL ELECTRONIC COMPONENTS OF THIS MODEL**. Kohs & Company will not be responsible for damage caused by the application of AC power to the model. We will offer further power supply specifications under the heading of 'Power Supply Requirements', please make note of these recommendations.

Before unpacking, handling or operating this model **PLEASE TAKE THE TIME TO FULLY READ THIS MANUAL**. This is a small investment in time to protect your substantial financial investment and to prevent unnecessary disappointment and frustration.

PREPARING THE LOCOMOTIVE FOR OPERATION

Although your 'Hudson' is ready to operate, a few preventive maintenance steps should be taken to ensure the smooth operation and longevity of the model. The locomotive has been lightly lubricated during assembly and testing, while this will suffice for initial operation and break-in, you may wish to further lubricate the side rod assemblies by applying 1 or 2 drops of good quality fine oil to areas where moving parts are in contact with each other (refer to figure #1).



(figure #1)

LOCOMOTIVE AND TENDER CONNECTIONS

The J3a 'Hudson' locomotive and tender require that two pair of connectors be joined to allow the operation of the model. The locomotive will not operate without the tender connected. The connections are made by matching the shape of the connectors and firmly pressing them together while holding them by the black housings (it is not possible to incorrectly make these connections). With the connection made, the excess wire may be carefully pushed into the locomotive and tender. When disconnecting the locomotive from the tender, pull only on the housings - **Do Not Pull On The Wires!** It is advised that the wire connections be made with the locomotive and tender in place on the track, do not attempt to move the pair while connected together.

The stoker feed tube should be positioned inside the stoker feed-ramp receptacle under the cab when joining the locomotive and tender. The feed-ramp will swivel from side to side during operation to prevent binding. The rear cab deck apron should rest on the front edge of the tender deck when you are ready to operate. The drawbar has two coupling holes, the one closest to the end of the drawbar being for normal operation and the one closest to the cab being for close-coupled operation. The ability to operate in the close-coupled manor will depend on your operating radius. The locomotive and tender may be close-coupled when running on a radius of 72" or greater and for display purposes. When operating on a smaller radius, you must use the coupling hole at the end of the draw bar to move the loco and tender further apart. When making the draw bar connection, do not attempt to lift the tender on to the draw bar, instead you should use a pair of tweezers to pull down on the draw bar, align it with the draw bar pin on the tender and then allow it to spring up on the pin. You must have patience to properly connect the loco and tender, there are many small detail items that may be otherwise damaged.

POWER SUPPLY REQUIREMENTS

The Kohs & Company 'Hudson' is a Direct Current (DC) electric scale locomotive. **Do not attempt to use AC power as damage will occur.** The following criteria should be used when selecting your power supply:

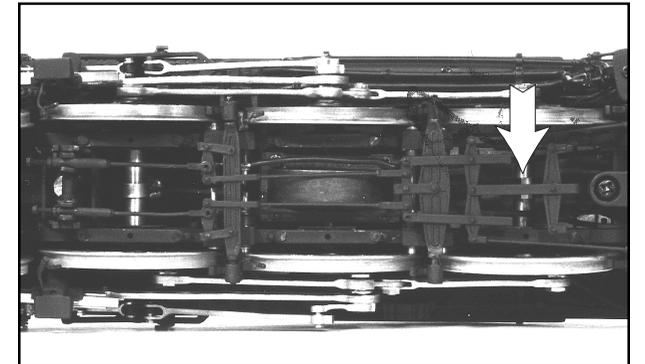
- 1) Direct Current (DC) which is filtered
- 2) 0-18 volts (DC)
- 3) Minimum available current should be approximately 8.0 amps

Your local hobby dealer should be able to guide you in the selection of a suitable lubricant. Care must be taken to avoid soiling the surface of the sound cams located on the rear-most drive axle (see figure #2). Should this occur you will notice an alteration of the chuffing pattern heard during the operation of the locomotive. This situation can be corrected by carefully removing the lubricant using a cotton swab and alcohol.

Should you choose to use a less expensive power supply or one which does not meet the above criteria, undesirable operating characteristics may result as well as possible damage to the electronics used in the model. If you have questions regarding your selection, do not hesitate to contact us for advise.

PREPARING THE SOUND SYSTEM FOR OPERATION

The locomotive and tender contain a state-of-the-art sound system which digitally recreates actual locomotive sounds including steam whistle, bell, blowers, compressors, emergency relief valve and cylinder exhaust chuff. While this sound unit requires track voltage to actuate certain sounds, the actual power used to operate the sound system is supplied by two standard 9 volt batteries that are placed in the tender coal bunker during operation of the locomotive, the batteries and wiring harness are packed in the box along with the locomotive and tender. At the end of the wiring harness is a male plug which needs to be inserted into the receptacle under the bearing box hatch cover on the floor of the bunker, with this connection made, the coal load can be placed over the batteries to conceal their installation. When you unplug the batteries, **do not pull on the wires**, only the plug shell.



(figure #2)

NOTE: Your tender and sound control unit come equipped with batteries. If you do not plan to use your locomotive for an extended period of time it is highly recommended that you remove these batteries.

The supplied sound system controller needs to be wired in-line between your power supply and the track in order to control the internal sound system. There are four (4) screw terminals inside the control box which are labeled 'track' and 'cab'. To allow easy access to these terminals, we left the upper and lower control-box shells unassembled. The assembly screws and rubber feet are included inside the box for use after your connections have been made.

The tender was shipped to you with a scale 'tite-lock' style coupler installed for display purposes. For operating and pulling consists you may replace the display coupler with the Kadee unit of your choice, the holes are predrilled and tapped for the installation.

OPERATING THE LOCOMOTIVE

It is recommended that you operate the locomotive at a varying speeds and in both directions during the break-in period, the break-in period should last for a total of approximately 60 minutes (this may be accomplished on an incremental basis). This will help the drive system to 'run-in' resulting in smoother running characteristics.

You are now ready to put the locomotive into operation. To activate the sound system, locate the sound system switch under the water tank hatch (see figure #3). Shortly after turning the system on you will hear the blowers activate. With the locomotive stationary you will hear, in addition to the blowers, the air compressors and pressure relief valves on an intermittent basis. When 'track' power is applied to the locomotive, the blowers will turn off and the brake release will sound. As soon as the drivers begin to turn, the chuffing of the cylinder exhausts will start in independent synchronization with each set of drivers. When the loco is brought to a stop, the blowers will again start up while the intermittent sounds continue. The whistle may be sounded at any time, when the system is turned on. The bell may be activated by touching the control button once to turn it on and again to turn it off.