INSTRUCTION MANUAL

ACCUCRAFT TRAINS
MUSEUM QUALITY BRASS MODELS

Instruction Manual - Baldwin 4-4-0 1:20.3 Scale, Live Steam

OPERATING INSTRUCTIONS

INTRODUCTION:

The 4-4-0 was a small sized inside frame locomotive that worked all over North and South America. They were Built in the 1870's and 1880's. The 4-4-0 shared many common parts with other similar sized locomotives of the same period. The three point suspension allowed these engines to go over fairly rough track without derailing, and also because of their large drivers move along at a good speed with a passenger train on level track. The classic 4-4-0 or American is the locomotive that most people think of when the old west was young. Hollywood correctly uses these preserved locomotives even today when needing trains of that period.

SAFETY FIRST:

All our locomotives are safe to run, and will give many hours of pleasure, providing the following safety procedures are followed:

1. Please read the instructions thoroughly before running for the first time.
2. Always do a complete refill of gas, oil and water. Never refill just the gas to prolong the run.
3. Never let the engine run out of water.
4. When refilling the gas, do not have any naked flame present, and NO SMOKING!
5. Do not pick up the engine by the body work, chimney or boiler, especially when hot.
6. Only pick up the engine by the buffer beams and, when hot, use gloves or cloth.
7. Do not stand over the chimney. Ejected boiling water or steam may cause seri ous injury.

GENERAL HINTS:

Keep the engine as clean as possible, and the locomotive free from dirt and garden debris, the valve gear, axles and crank pins should be oiled sparingly with light oil, e.g. "3-in-1 oil." Over-oiling attracts dirt and grit, which will increase wear.

Regularly check that all screws and motion-bolts are firm. Do not over tighten, as this will strip threads and shear bolts, **When filling the lubricator, always use high temperature superheat steam oil, suitable for locos fitted with super heaters; this is available from garden railway product retailers. FAILURE TO USE THE CORRECT GRADE OF OIL CAN LEAD TO BLOCKED STEAM PIPES, AND WILL INVALIDATE THE GUARANTEE.**

When running your engine, avoid excessive speed and acceleration, both will cause premature wear in the valve gear. Prototypically, narrow gauge locomotives ran at a speed of between 20 and 40 m.p.h. and never should exceed 45 m.p.h.

END OF RUN:

As previously mentioned, the locomotive will slow (due to pressure dropping) when the fire has gone out. Stop at a convenient place and open the lubricator drain valve. Blow out all condensed water and the remaining oil. Leave the drain open allow all the remaining steam oil blow out. The locomotive should be allowed to cool. When cool, clean the engine, check the motion and oil if necessary. The locomotives should always be put away in a clean condition, as it attracts less dust and is always ready for the next run (or to be shown to an admiring friend). It is advisable to store the loco where any residual drips of oil or water do not matter.

BLOCK GAS JETS:

If the gas jet becomes blocked with particles of dirt within the gas, the jet will have to be removed and cleaned. Using a spanner carefully. Remove the jet holder assembly from the burner. Holding the jet holder, gently, unscrew the jet. To clear, place the jet nozzle against the inverted gas can nozzle and clear the jet with a blast of gas. Under no circumstances use a wire, this will damage the jet hole. Replace the jet in the holder, ideally using a thread sealant sparingly on the threads. Ensure its tightened up firmly. Replace the assembly into the burner.

PREPARATION FOR RUNNING:

Always service the engine in the following order; gas, oil then water.

To fill the gas tank: invert the gas can and apply the nipple to the gas inlet valve on the top of the tank turret. You will know when the tank is full; gas will blow back from the inlet valve in a strong jet. A small amount of gas and air will escape during filling, but the difference between this and when the tank is full is always clear. Always keep the gas can valve vertical when filling the gas tank.

New Adjustable Lubricator:

Accucraft's new 4-4-0 American locomotive comes with Accucraft's new adjustable Lubricator with a Regular Valve allowing you to regulate the amount of steam cylinder oil going to the cylinders. We feel this is a significant improvement over the previous lubricator design.

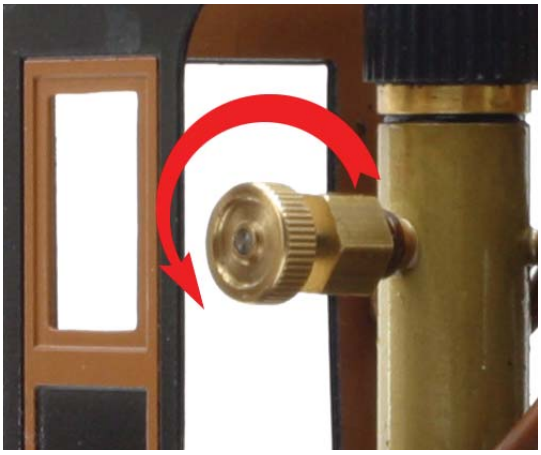
Filling the Adjustable Lubricator:

The steam oil should be warm and free flowing (room temperature minimum) when filling the lubricator so it easily flows into the lubricator.

WARNING:

It is important to make sure the regulator valve is open and the Lubricator is full of steam cylinder oil before starting your run. No lubrication in the cylinders for long periods of time will cause premature failure of the O rings on the piston.

Make sure the valve on the lubricator is open one(1) or two (2) full turns when you start your locomotive run. At the end of the run there should be a little oil left after a 30 or 40 minute run.



Lubricator Regulator Valve Adjustment:

Adjusting the Lubricators Regulator Valve entails a certain amount of experimentation due to different in weight of load. For example, if during the run or at the end of run you have completely run out of steam oil then you try closing the Lubricator Regulator Valve a little at a time(¼ to ½ a turn at a time) to find the correct valve setting and see if it will last the run. If you find Steam Oil dripping from the bottom of the loco this is also an indication there is too much steam oil flowing, again try closing the valve a little at a time (¼ to ½ a turn) until you find best setting. Once the regulator is set you can simply leave it in that position.

Draining the Adjustable Lubricator:

At the end of the run the lubricator condensate needs to be blown out through drain valve. The easiest way of doing this is to open the lubricator drain valve and the open the throttle a small amount to allow pressure to enter the lubricator and push the condensate out through the drain valve. Close the throttle then close the lubricator drain.

LIGHTING UP:

Open the smoke box door; just pull it open by the door handle. Light your lighter/match etc., and gently open the gas control valve until a gentle hiss is heard in the burner. Apply your light in to the smoke box and the glame should 'pop' down the fire tube and ignite the burner inside the fire tube. If the gas valve is opened too much the flame will not pop back; it will either fail to ignite, will roar in flame out of the smoke box, or there will be a ball of flame around the front of the engine, which will then blow the whole fire out (After giving the driver a fright)! When the fire sound has stabilized, after about 30 seconds the gas can be turned up until a healthy roar is heard. The smoke box door may be shut after about two minutes. Now leave the locomotive to raise steam.

RUNNING:

When the engine has raised about 40 psi, you are ready to start running, It is advisable to run the engine in reverse first; It clears the condensed water from the cylinders best this way. Before commencing your first run of the day, it is advisable to put a cloth loosely over the chimney for a few minutes, as condensed water will be ejected from the chimney. This is quite normal; the motion of the engine will be jerky until all condensate has been ejected. DO NOT stand over the chimney as ejected boiling water/steam could cause serious scalding.

Place the direction lever into the reverse position, and then open the main steam valve. The engine should start to move off in the reverse direction . When starting from cold it will be jerky, this is normal, as it has to clear the condensate from the system. The more the main steam valve is opened, the faster the engine will go; our advice is to start slowly and learn the road with your engine.

After a minute or so, remove the cloth and continue running. In running it is correct practice to balance the boiler pressure against the load being pulled and the track conditions. With a light load and level track the pressure may need to be only 25~30 p.s.i. Therefore, turn the gas control down to keep this pressure. When running a heavy train with steep gradients, increase the pressure. This can be learned by experience and is one of the pleasures of running a live steam engine. There is no need to have the safety valve constantly blowing off (it is what its name implies - a safety vent for excess steam pressure). In all our designs, the gas has been programmed to run out just before the water, thus it is important not to

refill with gas alone in order to lengthen the run by a few minutes. When the gas runs out a complete gas, oil and water service must be done (remember GOW, also remember to shut the gas regulator before refilling, and DO NOT refill with gas near any other live steam loco). When locomotive slows as the pressure falls at the end of a run, stop the engine. Gently open the lubricator valve and blow out any condensed water. If you intend to continue running, close the drain when you see oil coming out of it and carry out a general refill. If it is the last run of the day, leave the lubricator drain valve open and blow the lubricator completely clean.

POSITIONS OF FILLERS AND DRAINS ETC.:

The cab roof tilts up to give access to all fillers.

The gas tank is in the tender. Once the tank is charged you must put a water bath around the tank to keep the tank from freezing. This keeps the gas pressure up!

The lubricator is in the left rear corner of the cab. The lubricator drain is directly beneath the lubricator. To drain, un-screw the drain valve through about one full and remove the cap turn.

The boiler water filler is on the top of the steam turret on the boiler in the middle of the cab. Undo the knurled cap to fill with distilled water. The main steam regulator valve is the wheel valve on the rear of the boiler-filling turret.

The direction control is lever in the right side cab door. To operate, pull gently outwards and move to the desired direction. The control is "gated", and will therefore hold itself in the full forward or reverse position.

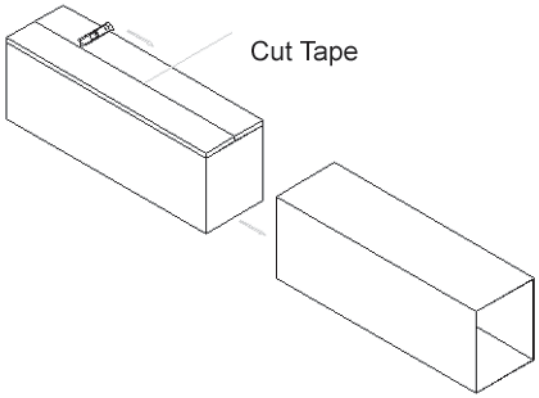
Unpacking Baldwin 4-4-0

Accucraft Trains locomotives are fine scale brass models with small parts. To provide maximum protection from shipping damage, we carefully pack the models in metal cases. We ship via UPS with insurance coverage to its full value. Please contact UPS if package is damaged.

Each locomotive is packed under UPS guide-line for shipping. We do not warrant any dam-age resulted from re-packaging by any party other than Accucraft Trains.

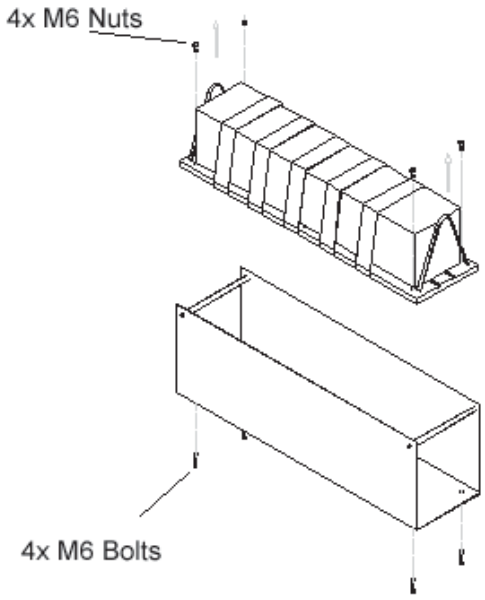
Please read the following directions before unpacking your locomotive.

1. Remove foam around the locomotive. Slide the inner box cover to the side, and open the inside cardboard box with a cutting knife.

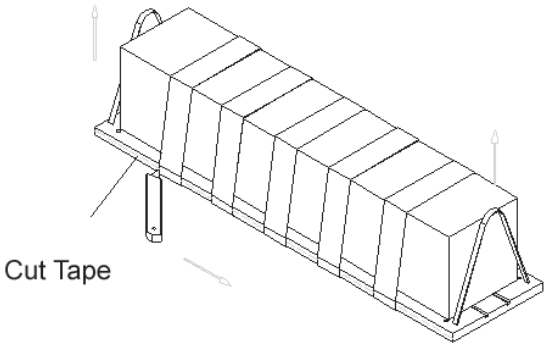


2. Lift the metal case from the cardboard box.

3. The locomotive is firmly taped to a ½" wood board which is then fastened to the metal case with 4 M6 bolts. Bolts must be removed before lifting the locomotive with wood board from the metal case.



4. Place taped locomotive on a flat surface. Carefully cut the tape along the wood board side surface. Be sure to cut both sides of the wood board. Slowly lift the tape from the locomotive. Be very careful with small parts. Tape cannot be re-used to re-pack the model. Use new packing tape if necessary.



Parts & Tools

SKU	DESCRIPTION
AP-28201	Steam Oil
AP-28301	Treadmill Roller
AP-29101	M2 Hex Screw Driver
AP-29102	M1.6 Hex Screw Driver
AP-29201	Syringe - Metal
AP-29202	Syringe 50ml, Water
AP-29203	Syringe 5ml, Oil
AP-29204	Gas Adaptor

Where to buy:

- Contact Accucraft authorized dealers
- Call 510-324-3399
- Shop online: www.accucraft.com

ACCUCRAFT TRAINS

33268 Central Avenue
Union City, CA 94587
Tel: 510-324-3399
Fax: 510-324-3366
www.accucraft.com