
Instruction Manual - Lilly Belle 1:20.3 Scale, Live Steam



INSTRUCTION MANUAL

ACCUCRAFT TRAINS
33268 Central Avenue
Union City, CA 94587
Tel: 510 324-3399
Fax: 510 324-3366
email: info@accucraft.com



ACCUCRAFT TRAINS
MUSEUM QUALITY BRASS MODELS

The Carolwood Pacific Railroad - A Brief History

Walt Disney's lifelong passion for railroads started while he was a boy growing up in Missouri. He and his older brother Roy would often wait for the trains that roared through their hometown of Marceline. Often, their uncle, Mike Martin, would be at the throttle of the mighty steam engine and would wave to the boys as he passed. During visits to the family farm, Mike would entertain the boys with exciting stories of life on the rails, and legendary figures such as Casey Jones and Buffalo Bill.

Many years later, Walt rekindled his love of trains. In the 1940's, he frequently visited the backyard railroads of two of his key animators, Ward Kimball and Ollie Johnston. He decided to construct a home with enough land to allow him to build his own backyard railroad. It was located in the Holmby Hills area of Los Angeles on Carolwood Drive, and he called his railroad the Carolwood Pacific.

He decided that the size of his steam engine would be one-eighth of a full-scale locomotive. He based his engine on the famous Central Pacific 173, which was the first steam engine built in California. Walt, Roger Broggie and the machinists at the Disney Studios machine shop built the large-scale miniature. Its first run at Carolwood was in May 1950, and he named it "Lilly Belle" in honor of his beloved wife, Lillian.

Walt's friends and family enjoyed the Carolwood Pacific for over three years. Walt even started work on a second engine to handle the many guests that came to Carolwood. Over time, however, the dangers of running a railroad at his home became troublesome for him. He shut down the Carolwood Pacific and set his sights on a new goal: a wondrous park where families could play together. His first description of this magical place was, "I just want it to look like nothing else in the world... and it should be surrounded by a train." This vision would become the place we all know as Disneyland.

In 1993, Michael Broggie, son of Roger and author of "Walt Disney's Railroad Story", founded the Carolwood Pacific Historical Society. We are dedicated to preserving and promoting Walt Disney's rich railroad legacy. Among our activities are the care of Walt's Carolwood barn (now located in Griffith Park), the restoration of Walt Disney World's Fort Wilderness railroad, and products such as this recreation of Walt's Lilly Belle. You may learn more about us at www.carolwood.com. We hope that you will consider joining our Society.

Instruction Manual - Lilly Belle 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 serious injury.

GENERAL HINTS:

Keep the engine as clean as possible, and the motive 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 the strips threads and shears 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 tall 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 it tightened up firmly. Replace the assembly into the burner.

Instruction Manual - Lilly Belle 1:20.3 Scale, Live Steam

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.

To fill the lubricator: as you will read in the instructions for the "end of the run", the lubricator should be empty of oil and water with the valve and remove the filler cap. Fill-up the lubricator with steam oil to about a 1/4 inch below the top. Leave the filler cap off from the present, so that any trapped air can escape. Remember to refit the cap after you have filled the boiler.

To fill the boiler: remove the filler cap. Fill the boiler completely - ideally using distilled. When the boiler is full of water, pull out 30 ml of water using the large syring. This will allow space in the top of boiler filler cap. Filler caps should be firm finger tight. They are sealed with a trapped "O" ring and, therefore should not be over-tightened.

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 flame 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 smokebox door may be shut after about two minutes. Now leave the locomotive to raise steam.

Instruction Manual - Lilly Belle 1:20.3 Scale, Live 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 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. It 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 1/2 a 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 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.

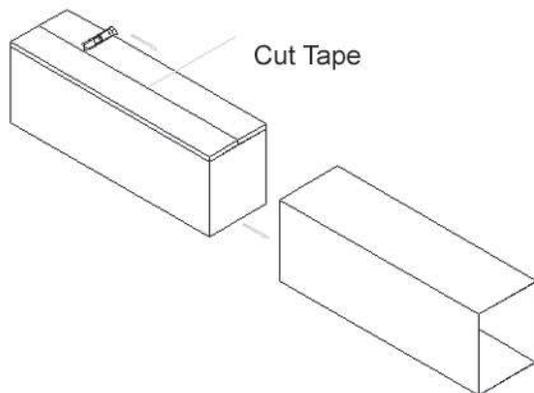
Unpacking Lilly Belle

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 guideline for shipping. We do not warrant any damage resulted from re-packaging by any party other than Accucraft Trains.

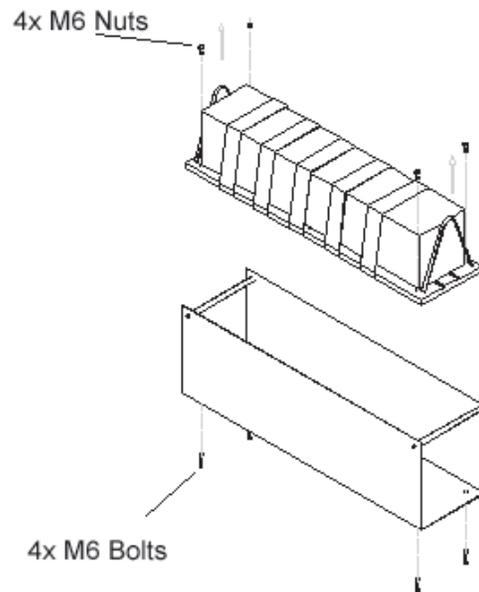
Please read the following directions before unpacking your locomotive.

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 1/2" 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.

