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## VOLUNTEERING AT THE GOLDEN SPIKE (part 2)

By Jim O'Connor

PROMONTORY, UTAH

(continued from part 1)

**B**efore we can leave, someone has to throw the switch to the other wye track. I volunteer and step back down onto the right-of-way. I was told to always enter and exit from the engineer's side (the right side of the engine).

This was a real old-fashioned switch. Instead of points, you actually reposition the rails. This is where the term "bending the rail" is from. After throwing the switch, I climb back into the 119.

Rick asks me to release the tender brake, then he opens the cylinder cocks and inches the throttle back just a hair. I brace for a jerk, but there is none. The 119 starts slowly, taking the left branch of the wye. Continuing down the track, she will soon end up facing the Jupiter in the same exact positions the famous locomotives took over 130 years before.

As we travel the short distance to the site, Rick asks me to "blow-down" the boiler. He points out the lever that opens the blow-down valve. I lift the handle quickly. The sound of rushing steam from a high pressure boiler always gives me a good feeling. Rick counts out the seconds and gives me a signal to

The reenactment is well scripted. Before it starts, the 119 backs up a couple of hundred feet and waits for its cue to approach. On cue, a practice cheer from the crowd of visitors assembled in the seating area in front of the golden spike site, the 119 slowly pulls up to the Jupiter. The crowd of visitors, now well practiced in cheering, bursts into a regal cheer for the approach of the locomotive from the East. In addition to ringing the bell, Rick says to smile and wave to the crowd and be excited. Right, like I'm not excited.

close the valve. Blow-down is part of the operation of all steam boilers. Any solid particles that remain when steam is made tend to build up on the bottom of the boiler, forming a "mud". The quick action of the blow-down valve disturbs the mud and carries it away with the rushing extremely hot water. The "super" hot water flashes to steam the instant it reaches normal atmospheric pressure, expanding over 1600 times its volume. This looks and sounds impressive at any distance.

While studying for my stationary engineer's license back in Chicago, I learned that failure to blow down the boiler regularly will cause the mud to build up and reduce the cooling effect of the boiler water on the hot boiler metal causing a catastrophic failure. Blow-down is the best way to control boiler "mud" in any size boiler from a 3/4" scale live steamer to a 10,000 horsepower water tube boiler in a power plant.

When we came to the crossing, Rick asks me to ring the bell. Then, he blows the familiar 2 longs, a short and a long pattern with that great steam whistle.

It's a short trip from the engine house to the actual site of the original ceremony, taking less than a couple of minutes. As we approach, I can see the visitors' center on the left. It's a low building that houses a theater, several exhibits and a gift shop. Between the visitors' center and the track we are on, is a rustic seating area where the visitors watch and participate in the Saturday reenactments of the golden spike ceremony. There are several folks eagerly waiting for our locomotive to arrive, many with cameras and camcorders.



Rick approaching the site of the Golden Spike

We slow as we approach the Jupiter facing us. I begin to ring the bell again. I stop pulling the bell rope a little too early and am told to keep ringing until we completely stop. We come to rest only 4 railroad ties from the Jupiter's pilot.

We have some time before the first reenactment starts, so we go over some of the controls such as the throttle, Johnson bar, tender air brakes, the cross head pump, the injector, the lubricator for the air pump, try cocks, you name it.

I try my hand at adding water via the injector. Here's what you do...

1. open the valve at the tender
2. open the priming valve
3. crack open the steam injector valve
4. close the priming valve
5. open the injector valve fully

Rick tells me to listen for a "whistling sound" which indicates the water is entering the boiler and not just dumping on the track. Fresh water reduces boiling and drops boiler pressure considerably. The idea here is to add water until the boiler pressure drops 5 psi., no more.

For those of you that don't know how a steam injector works, in my opinion, the injector is the coolest thing the locomotive builders ever came up with. How you can take steam and bring it back into the boiler AND bring loads of water with it, all at the same pressure is pure magic. It's all done with velocity. With enough speed, you can overcome the pressure in the boiler.

Steam injectors were not used in the original engines. To put water into the



The reenactment as seen from the cab of 119

After we come to a complete stop, the speeches start. The actors (all volunteers, some for many years) speeches are punctuated with "spontaneous" displays of excitement from the crowd and the locomotives too. On cue, the engines give forth a burst of whistles and bell ringing. These displays of excitement are repeated for each of several speakers who's lines have been taken from the historical record. When the time comes, it seems the dignitaries can't hit a thing. Rick scrambles down from the cab and hurries to the front of the locomotive, takes the silver maul from a dignitary and completes driving of the last spike (missing only once himself). The telegraph operator taps out the letters **D O N E**. The entire country now knows, we have been united, East and West, and nothing will ever be the same.

I learned so much today. But one of the most important things I learned was about the future of the GOLDEN SPIKE NATIONAL HISTORIC SITE, they need volunteers!!!! Without volunteers, there is no future. It may be hard to believe, but they have a difficult time getting volunteers. It's tough to make the long drive each week to help with the engines or assist visitors or take part in the reenactment. It's rough on the over worked core of dedicated volunteers. The Golden Spike has taken steps to promote volunteering. One step is the availability of RV parking stalls which are made available to out of town volunteers. These stalls boast running water, electricity, phone lines and sewage hook-ups. Another step is to reach out to live steamers. Live steamers make great volunteers because of there working knowledge of locomotives.

boiler, they used a cross-head pump. We used the cross-head pump only once all day. A major drawback of the cross-head pump is that it only works while you are moving. It's no good if you spend too much time on a siding. Although every attempt was made to make these two gals historically accurate, some concessions were made for operational and safety concerns.

I got some tips on the finer points of managing the fire. At one point, Rick notices a "hole" in the fire. "Look at the smoke", he says, "you'll get less smoke if you have a hole in the fire". In at least one spot on the grate, we had an area with no coal. Most of the draft coming up through the grate passed through the hole. The remaining coal was starved for air and was cooling off fast. I had to fill the hole with a scoop of coal. With the first of two reenactments of the day coming up, we need to have a good head of steam.



[Rebirth of the Jupiter and the 119](#) The reproduction of the Jupiter and 119, the two steam locomotives that met face-to-face at Promontory. Paperback, 48 pages, 43 pictures



Rick and the author at the end of a long day

Engineer Rick is himself, a live steamer with two locomotives, 3/4" and 1" scale.

If you think you might be able to come out and spend some time with Rick and the gang, and have a real blast, drop [Rick](#) a line. Or visit them on line at their web site:

#### [Official Golden Spike Site](#)

Information: (435) 471-2209.

Directions: from Salt Lake City: take Interstate 15 north to exit 368, toward Corinne. After a few miles veer left on Highway 83 to the Golden Spike turn. Golden Spike is 32 miles from I-15.

Re-enactments with the cast are held on Saturdays (1 pm and 3 pm). Locomotive demonstrations are held daily at 1:30 and 3:30 plus the engines arrival at 10:30 (Jup), 11:00 (119) and their departure at 4:30 (119), 5:00 (Jup).



#### About the author



[Jim O'Connor](#) is a web site publisher and live steamer from Northeastern Illinois near Chicago. To pay his bills, he works as a maintenance mechanic and has a stationary engineer's license. Jim has operated and helped maintain several live steam engines.

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