



*The
805A
Report*
by
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WP 805A, an EMD FP7, is the last remaining Western Pacific locomotive that pulled the famous passenger train, "The California Zephyr." Our "B" unit, 925C, which is an F7B that was upgraded to F9B specifications, will be M.U.ed to the 805A. This report is a continuing update on the progress of the restoration of these units at our museum.

Hello everyone! I hope you've all had a very happy holiday season, and that a fine new year is about to unfold. With the onset of Fall, there hasn't been a great deal of activity on the 805, but there is some news to report.

Recent Results

On Nov. 2, Dave McClain and I switched the 805 out of the house, filled the cooling system, and replaced the inspection cover gaskets that had showed oil leaks when the engine was previously run. All but 1 were still originals that had looked good enough to use and were not replaced back in September when we were rushing to get the engine started. Two of them were so fossilized that I had to chisel them out of the metal cover; it's no wonder they didn't seal! Dave also replaced the bad flashcock on #4 cylinder.

After prelubing, we started her up. Again she started easily, thanks to Gordy Wollesen's well-charged batteries. Again the governor would not maintain an idle, and showed no inclination of even trying to work. Dave and John Ryczkowski brought another governor from the parts boxcar, and we replaced it --- success! At least mostly; it seems to have a defective "B" solenoid, which we should also be able to replace. With the engine idling smoothly away, we set about checking other primary systems in the locomotive.

We were able to get throttle response this time, limited by the bad B solenoid. After about an hour at idling speed, we ran the engine in Run 3 for a couple of hours and got it up to normal operating temperature. The remaining trickle of water from the left side airbox drain stopped, and the one on the right side decreased significantly in size. No other significant water leaks were seen, just a slight ooze from one water pump connection flange, which certainly is good news.

The air compressor unloader was not working; Dave suspects a closed valve in the unloader supply line in addition to the disconnected wires we found. A quick comparison of the air compressor control circuitry with that in 921 showed 805's to be completely different; it will probably have to be traced out to reconnect it properly. Nevertheless, the independent and automatic brake controls work, although the automatic is a bit fussy about the running position.

There was no output from the auxiliary generator, main generator, or alternator, which explains why the 805 wouldn't move. It also meant that the batteries were discharging rather than being charged while we ran the engine. We checked the relevant fuses, and Dave found and freed up sticking brushes on the auxiliary generator and alternator,

but no luck. I manually moved the voltage regulator arm, but again, no change. Manually closing the BC (battery charging) relay drew a huge arc, proof that the auxiliary generator armature circuit was OK but there was no magnetic field present. At this point we ran out of time, so that was as far as the electrical diagnosis got. We shut down the engine, drained the cooling system, and switched her back into the shop.

On Nov. 9 and 10, 1991 Dan Ogle was tracing out the wiring of the electrical system for the generators. He found that a newer style voltage regulator had been removed and the old original one reinstalled. This undoubtedly happened on the L&NW before shipment West. The connections are not the same, so they were left off. No wonder we had no output voltage from the auxiliary generator!! We decided to replace the regulator with the one from 708, and acquire a replacement to reinstall in 708 (if we don't already have a spare). Dan also found that the wires to the SH (main generator shunt field) relay were hanging loose, suggesting a similar trade had been done. This relay is critical to obtaining useful output from the main generator, so it's no wonder the 805 wouldn't move. Dan has reconnected that wiring.

Next Steps for 805 Work

The next mechanical work is planned for Dec. 29, 1991 when we'll try to get the B solenoid and air compressor unloader to behave and the locomotive to move. Regular sessions will start up again on the second weekend of March.

Come help!

- Repair dent in pilot.
- Clean out dirt, rust, etc. from interior of nose and spot prime.
- Fabricate and install replacement stirrup steps on pilot.
- Repair, prep middle side panels for painting.
- Complete sanding and polishing of stainless lower side panels.
- Obtain and install original cab windows.
- Check injector and valve timing.
- Tighten crankcase-oil pan bolts.
- Check control functions and move locomotive.
- Perform insulation resistance tests on traction motor, generator, and other high voltage cables.
- Inspect traction motor oil wick assemblies; replace damaged filler caps.

See you next time.....

