

# Mechanical Department Report

## October 11, 2018

### Acting Asst. CMO DS Elems

I don't have much to report from the last month and a half since I haven't really been around and worked on much. As I write this I'm finishing up the Mid Term period for both my own school work and my work with the community college which has meant lots of last minute scrambling to get things completed on everyone's part and completing grades for the end of the week which has left me without enough time to drive over to Portola when I'd like during the week. Hopefully in the coming week I can get back to planning and working on the projects that need to be completed. Since my last written report back in August there have been several projects worked on at the museum.

Work was completed for what I hope is all the required items for WRIX 849 which is I assume just waiting on one last inspection from "the Railroad" so it can be billed out. A couple of weeks ago in addition to the work on WP165 we had some people come up to work on the Magnolia Grove over on West Rip #1 so that it can hopefully be sent back up to Doyle McCormack, though I don't expect that to happen until sometime in the spring depending on when the next bit of work happens. I'd like to thank everyone that gave me a hand in getting the sleeper prepped for and removing of the truck and wheels; Charlie Spikes, Ethan Doty, Bil Jackson, Steve Habeck, Roger Stabler and Steve Lee to name but a few. The plan for the wheel sets under the other end of the Magnolia Grove seems to call for lifting the truck up with the car. While undertaking that adventure I discovered the reason for our Loed material handler being unable to pick the truck frame was due to the fact that even minus the two wheel sets it still came in around double the rated capacity of the lift (~12,000lbs.); seeing as we were able get just about all the weight off the ground I'm quite impressed with the Loed and thankful that we didn't tip it over or damage anything.

Work has also began on prepping the WP1503 for painting. The areas to receive the orange lettering and stripes have been sanded. Currently the locomotive is spotted in the west end of the shop on 1 rail for prep and removal of the bad radiator and possible adjustment of the radiators on the other side of the car body. I'll go over that later in the report.

## **Radiators**

I still have plans for radiator the end of this season/year and next year in the spring. I've had WP708 moved out of the shop while work is done on WP1503, but still plan on pulling the radiators for later use in WP917 but that will not happen until sometime next spring when we get closer to working on the F-unit more extensively. Currently I'd like to get 1503 and SP2873 done first. I've been talking with Roger Stabler about sources of radiators and just need to get the timing worked out on when I'll be able to head down to Woodland to pick them up. Roger has procured the approval for us to pick up the radiators that are left over from I believe a GP9 that the shortline cut up a while back. At any rate, they are the same size as the radiators found in both the 1503 and 2873 as well as any other EMD equipment with six inch radiator cores such as WP725, WP731, WP925C and the rotary snail. I know that the latter two have some bad radiators but I cannot recall how many.

## **WP1503**

I'm not sure on the time lines for the work but there is painting and radiator work planned in the very near future as previously mentioned. Prior to the end of the season there should be some orange on the locomotive as the weather permits and time allows for the personnel to come up and do the work. The green has been undergoing some debate but should be pretty well solved, I'm sure by the time this report is covered directors Greg Elems and Roger Stabler will have talked about it. At the moment I believe they are the currently the ones planning the painting schedule.

I hope to start work on prepping the radiators this weekend and get the bank with the leak removed within the next week or so. Though the radiators that I plan on putting in that side will consist of a triple-length assembly the only real difference should be visual; if the slight difference in appearance bothers anyone then they can go look at the locomotive's other side. There will be an probable issue with the lack of support brackets on the older radiators that I plan on using but I believe I have a solution for making sure they are properly supported by the provided support tabs on the car body. Additionally, the radiator assembly we placed in the other side should probably be flipped, which is entirely my fault. I insisted on the arrangement they are currently in based off the now leaking left side which also has some support issues. The double length core is supposed to have the v-shaped support brace and placed such that it rests on the four tabs at the front portion of the radiator area. While probably not a major issue we'd have peace of mind knowing they are properly supported.

Once the engine can be run without spraying all of its water on the walk ways there is some other work I'd like to do, mainly checking and setting the injector timing and checking and setting the fuel rack positions. Unfortunately this requires the engine to be warmed up to operating temperature.

## **WP917-D**

As some of you may have already heard the 917 will not be getting placed into service at the start of next season until some major work is completed. Currently the locomotive presents two major safety concerns. The lube oil is heavily fuel contaminated and the L4 wheel is a major derailment hazard. While the oil issue has only been noted in the last couple of years the contamination became noticeably worse towards the end of last season and the beginning of this season. The bad wheel has been known about for quite a long time but we chose to ignore it for far too long and had the oil not posed such a fire hazard I'd still have called for the 917's removal from service pending a wheel change.

There are also a myriad of smaller issues to be looked into as well as cosmetic work and some other mechanical issues that will be easier to address while the locomotive is down for maintenance. I'll list all the issues that I can think of below. I also plan on writing up a full restoration report/plan later this season when I get some more time.

**Known Issues:**

1. Contaminated lubricating oil (fuel): presents a major fire hazard.
2. Leaking fuel injectors: causing major oil contamination, see above.
3. Cooling system, shutters and controls: right side shutters inoperable due to bad air line
4. Air compressor, loud knocking: unknown cause but there are a couple of theories.
5. Excessive oil from air box drains: fire hazard.
6. Exhaust leak, #9 cylinder: cylinder knocks and fills upper deck with smoke until engine warms up to ~100°F.
7. Electrical cabinet, various contactors and wiring: issues with contactor picking up, some wiring needs to be addressed.
8. Airbrake stand: some minor leaks and valves could use some attention/servicing.
9. Air leaks, various: there are a multitude of leaks in and around the locomotive.
10. Water leaks, various: left bank water pump, engine fill lines, radiators etc.
11. Oil leaks, various: there are a multitude of minor oil leaks likely from failing seals on the accessory and gear covers at both ends of the engine block; fire hazard.
12. Body work

I'm sure there are a few things I left out but that gives an overall encompassing look at what needs to be addressed. The first four items in addition to the leaking radiators will need to be dealt with before I'd feel comfortable releasing the locomotive back into service. Since the work will likely have the unit down for a while it presents an opportunity to complete a lot of other work without worry of rushing it back into service.

Ideally the injector and other engine work would be done when the radiators are out, especially considering what I'd like to do in regards to the type of engine work. The length of time to complete the mechanical work would also be an ideal time to work on the nose and body panels.

**WP707**

While I'd hoped to have the 707 ready for the pumpkin trains things didn't work out. While I have the part numbers for the injectors I haven't had the time to work on getting a decent price quote from Hatch & Kirk. The price of \$128 per injector from last year was only good for October of that year. My work schedule and the sudden work on Doyle's sleeper would have prevented me from arranging the planned work session even if we'd have had injectors on hand. Hopefully I'll get a chance to call H&K tomorrow (October 12) but I doubt that I will. Likely I'll have to wait until Monday the 15, which is likely good since there have been some apparent financial questions and I've yet to get my third of the injector costs finalized.

Currently I hope to get everything taken care of so that a work session/training class can be held sometime in the first couple weeks of November. If possible I'd like to cover the annual inspection process and filling out of the paperwork as well as the previously planned class on injector replacement and timing and fuel rack setting. There will also need to be some work done on the automatic brake valve cutout which leaks when cut-in.

While there is a lot more that I'd like to cover in this report it is starting to drag on and I've broached enough issues to keep us busy well into the next operating season. I'm sure I'll have more to discuss by the time of the meeting on Saturday and I doubtlessly left something out of this report. Hopefully I was able to address some of the more pertinent issues.