



Willamette # 7 Work Party Notes

Historic Museum Fort Missoula, Missoula, MT

7/4,5,6/19 - # 4, 4A, 4B

4th of July event at the Fort, we set up an informational table and display about the locomotive. Large number of visitors with lots of interest in the project and folks supportive of the restoration effort. We worked also on Friday and Saturday (5th and 6th) on the locomotive.

Finished removing the tapered bolts on the # 1 rod and removed the wedges from all three rods and the wedge adjustment “bolts”. Found all to have both top and bottom shims plus a bottom ¼” plate. Shims marked for replacement after cleaning. The shims measured different thickness so will need to be placed back in the position as found. The rod bearings were found to be a bit rough but serviceable to operated on a limited basis. If the locomotive were to be used in heavy service new brass would need to be made. #1 and #3 were babbitted and #2 was brass. #2 T was cracked but the way it’s captured in the strap should not affect the limited operation. All brasses were marked as to location by Willamette i.e.; 2T, 3B etc. Shims were as follows:

#1 – 5 T and 3 ½ (length) B bottom plate 0.230

2 – 3 T and 2 B bottom plate 0.610

3 – 2 T and 2 B bottom plate 0.345

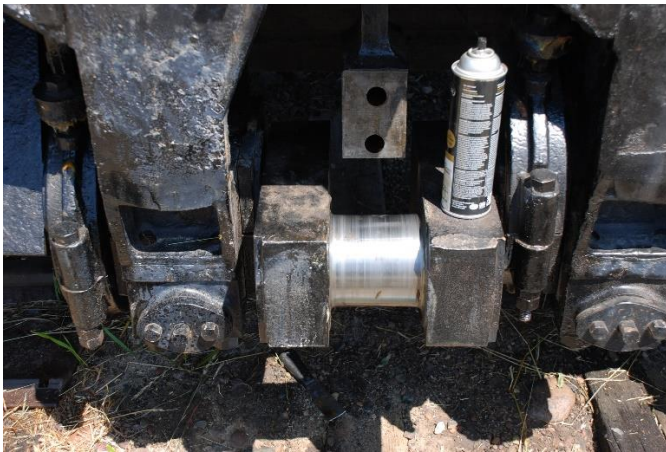
All three crank shaft rod journals (throws) were found to be in good condition, with distributed grease that we ran into them at a pervious work party, along with remnants of heavy grease (appeared to be “Pin Dope” or Hard Grease) from previous operations in the 1950’s. There was also some marking on the journals which was more like a staining from the earlier grease. The journals were cleaned, greased and covered to protect the surface.

The straps were cleaned and will be wire wheeled to remove remaining paint and some minor rust. All old grease was removed from passages, and threads checked and cleaned on grease cups. # 1 crosshead was blocked up to prevent the rod from dropping onto the crank shaft. #’s 2 and 3 will clear the crank shaft.

It was reported early on by a number of people, that # 7 will never move again account the cylinders were frozen and would not move. This included several that worked at the Bonner Mill and a knowledgeable machinist in Missoula. This is not the case, all three cylinders move freely, along with the valves. Both have

Been lubricated and are still “wet” with oil (PB Blaster). The packing on both the valves and cylinders will need replacement. The Valve packing is Garlock (1/2” Packing) and the Piston rods are metallic packing most likely Paxton Mitchell which is also available. The rod packing will need to be confirmed on removal at a later work party.

MRL Donated 35 ties towards track repairs and delivered them to the Fort 7/1/19.



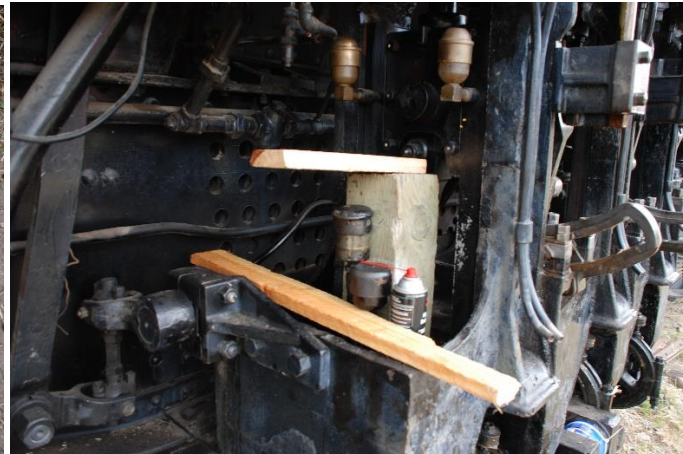
Rod Journal on # 2 after bearing removal



Mike and Bill removing cotter key from wedge



Rod Brass Strap after removal



Crosshead supported during removal of brass

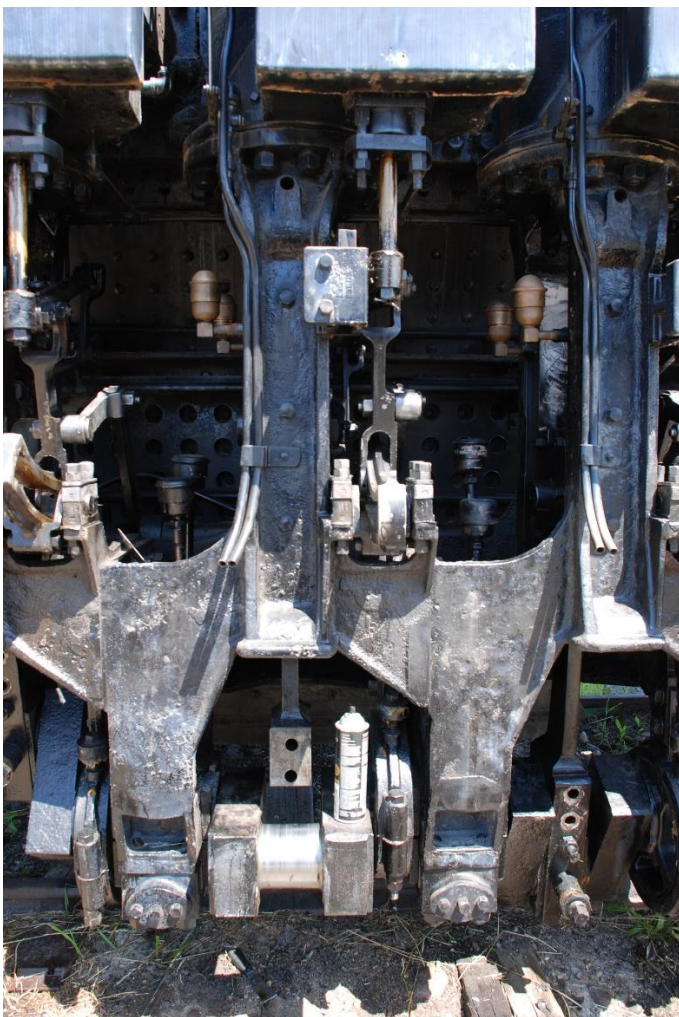
Parts removed for cleaning an inspection Tapered Rod Bolts, all brasses, 3 rod straps, 3 wedges including adjustment “bolts” and Jam Nuts and all shims for brasses. Cotter Keys removed will not be reused but replaced with new keys. Noted that wedges had multiple number marking as to position which appear to be from Willamette.



1 Crank Journal as found prior to cleaning



2 Journal with plastic sheet over it for protection



2 Overview of assembly



3 wedge with Willamette marks visible