

Shay - Painting the Engine

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Initial: 03/17/04 Last Revised: 06/06/2004

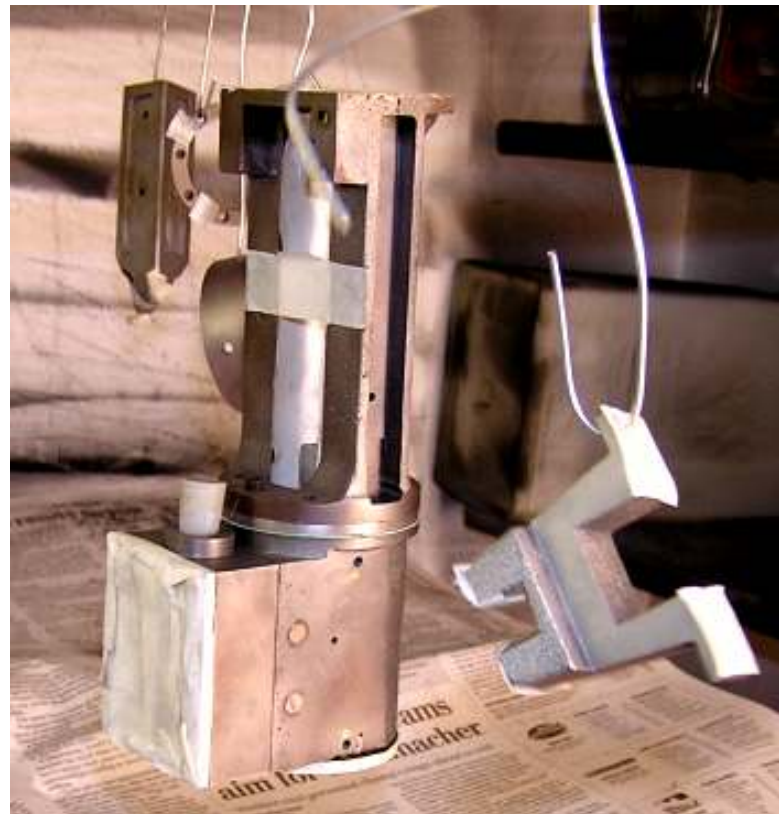
The engine was the last thing to be painted before the Shay was operational again. I was undecided at first whether to use powder coat or black oxide on the engine. The black oxide is nice because it doesn't build on the surface and interfere with operation. The oxide coating has a flat finish but is shiny when covered with oil which will likely be the case on the engine. When disassembling the engine I found several areas with rust ---- in spite of the oil. The steam environment is harsh on the rust prone castings. So, decided to do the powder coat.

The following engine parts were powder coated:

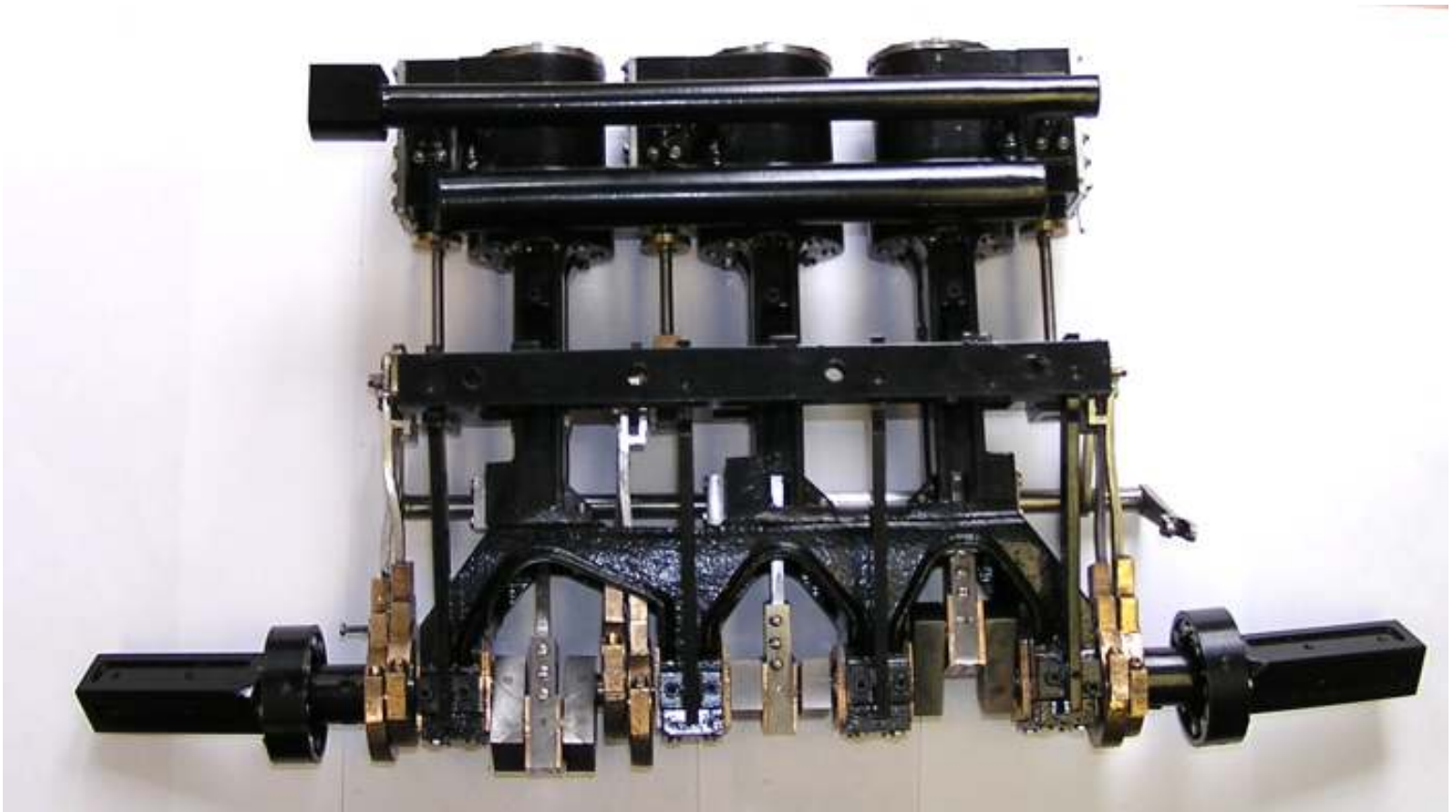
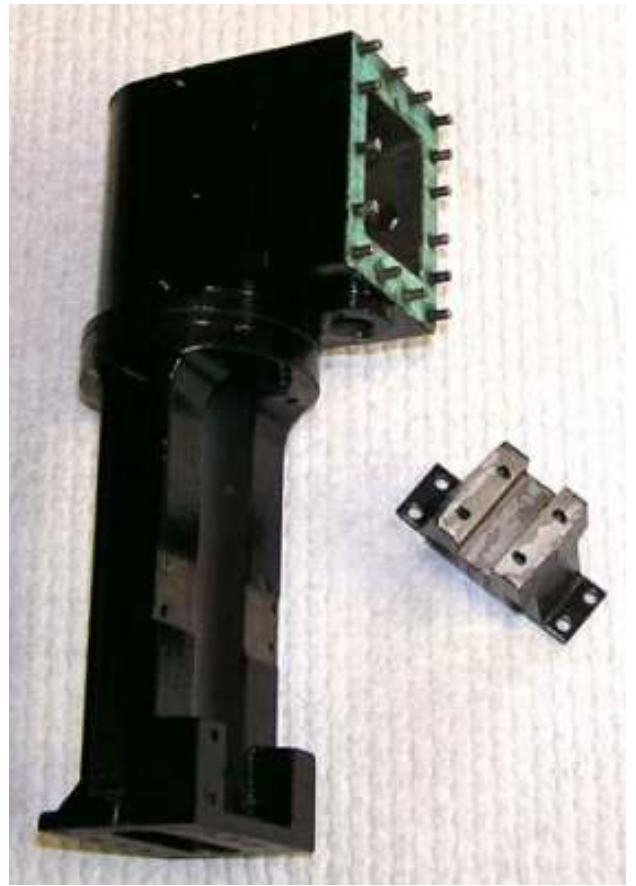
- Crankcase
- Main bearing caps
- Crosshead guides
- Valve stem guides
- Cylinders
- Steam chests
- Steam input header
- Exhaust manifold.

The upper cylinder heads, steam chest covers, valve mechanisms, rods, crossheads , packing glands, crank and bearings weren't painted.

Painting the Cylinders: The hardest part was to disassemble each cylinder to remove the piston rod, cross head and valve stem, then to temporarily reassemble the units. The inside surfaces of the cross head guide as well as the head and steam chest cover were all masked. The bottom of the crosshead guide and the machined surfaces of the valve stem guide were also masked. The photo shows one cylinder about to be sprayed (powdered). That's part of one of the slip joints in the background that was being sprayed at the same time.



This photo shows the painted cylinder parts after curing but before reassembly.



The photo above shows the back side of the reassembled engine. It'll probably never look this good again

This photo shows the front of the engine after it was mounted on the locomotive and tested on compressed air.

Photo below shows the right side of the locomotive with engine, air tank (whistle), lubricator all painted and installed.



A steam test is next so that all the leaks can be found. Also, a way to hold the locomotive in my small SUV must be devised. After that must wait for decent weather for a trip to the track (there's several inches of snow on the ground and more coming). The cab window frames are next on the list to finish off the cab so that it can be painted.

[Shay Project
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