



The Swan's combustion chamber after disassembly (left) and piston (above).

### Bringing it Home

For the next two weeks all I could think about was the Swan, and as show time approached I readied my truck and trailer to bring the Swan home. I arrived at the museum on Thursday – the day before the show started – so I would have a full day to get her loaded without a lot of people around. With Mike Murphy operating the museum's Army crane, we got the Swan loaded and secured. I spent the next few days at the swap meet talking to friends and enjoying the engines at the museum.

When people at the swap meet saw the Swan strapped to my truck, they asked if I was nuts. The engine looked in pretty sad shape, and it was. It had been sitting outside for 54 years, it had been in a fire, and all the babbitt (except for the mains) was gone. It really needed some tender loving care. I couldn't wait to get home and start working on her.

After returning to Pavilion from the swap meet, I spent a few days getting my shop ready for my new restoration project. Once the Swan was in my shop, I just stood there and savored the moment. I couldn't believe what I was getting to restore.

The first thing I did was spray all the nuts and bolts with penetrating oil to help loosen them up. It was mostly rusted, and I knew I'd probably have to use a "heat wrench" to get things apart. My first objective was to remove the head and answer some basic questions: How badly is the piston stuck? What does the cylinder bore look like? These were all unknowns I couldn't answer until I removed the head.

### 25 HP Swan

- Manufactured 1901, Lima, Ohio, by The John W. Swan Co.
- Engine Specs: 25 HP, 12-1/4-inch bore by 18-inch stroke, 69-inch flywheels.
- 4-cycle "T" head, crosshead, sideshaft, vertical flyball governor.
- Mechanically actuated intake and exhaust valves.

I started by removing the intake and exhaust valve chests. The Swan is a "T" head, with intake and exhaust valve chests located 180 degrees apart on each side of the head. The intake valve chest came apart pretty easily, but the exhaust valve chest didn't, probably a result of the heat it suffered in its working life.

The cylinder sleeve, combustion chamber, head and cover plate are mounted to the engine bedplate and held together by six, 38-inch-long tie rods. I removed the tie rods first, and then the cylinder head cover plate came off. The cover plate, which has the engine's manufacture information, horsepower and serial number cast into it, is a thing of beauty. The head, unfortunately, was badly stuck to the combustion chamber. By applying heat and driving thin chisels between the head and the combustion chamber the head finally let loose, followed by the combustion chamber – complete with piston.



Left: A main bearing saddle prior to rebabbitting.

Below: Freeze crack ran the entire length of the cylinder water jacket.

