Steam Pumping

A Short Course in Steam Pumping

Over the years, many changes have occured in the business of putting out fires, but the most modern pumpers don't really do the job of "putting the wet stuff on the red stuff" any better than the steamers of a hundred years ago. In fact, the old rigs have capacity to spare. And what with the trend to recycle, maybe some municipalities will dig their old steamers out of the museums and return them to service. If so, here is how to get up steam.

Working steamers are kept warm, rather than cold, one way or another. Most have provisions for quick water disconnects to keep the boiler water hot at all times. On the grate is kindling, soaked in kerosene and a supply of coal in small, fist size chunks. At the first tap of the alarm bell, a firefighter ignites the kindling and disconnects the water lines while another company member hitches the horses. All of which takes mere seconds.

The firefighters left the pumper configuration for quick action. Water will be in the boiler and a sight glass will show the level of water. It is the engineers' job to manage this part of the operation. Water level management is crucial while the steamer is in operation. All vents and petcocks for the steam part of the pump must be open at first until the metal warms. The lubrication system, oil pump and grease fittings must be properly configured. The water pump outlet and valves must be open. The outlet on a positive displacement piston pumps, like on most steamers, cannot be turned off without breaking large chunks of metal.

The suction inlet must be connected to a hydrant or other source of water. Two 2 1/2 inch lines go to the nozzles. Each line will deliver about 250 gallons per minute. If the water supply is clean, it can be used for boiler feed, otherwise, a clean source has to be used.

Within minutes the pressure gauge will come up to working pressure - 55 pounds or so. Then the engineer opens the valve to let steam into the engine.

By the time the firefighters arrive on the scene, the boiler fire roars. There are two kinds of boilers: fire-in-tube and water-in-tube. Water-in-tube works much faster. Fire management is the full time business of the fireman. The boiler fire has to be stoked with coal and not allowed to get too low or too high. Once the pump starts working, the exhaust steam vents up through the smokestack, providing a tremendous draft for the fire.

There are about forty different items that need to be checked and adjusted to have the pumper in action. While they hardly ever blow up, it is quite possible to bend things badly if the engineer forgets somethings on the checklist. In 1910, one New York engine company was so well rehearsed that they bolted out the door and were on the scene four blocks away and had water on the fire in two minutes and 35 seconds.