

Why Hydraulic Inspections Matter

Generally, hydraulic systems installed in facilities are ignored when it comes to maintenance. They don't tend to fail catastrophically; they are more likely to run slow and create heat. You may not notice the slow down until the system is on the brink of failure.

In the steel industry some 30 years ago, I implemented weekly surveys on the hydraulic systems, such that in 8 weeks we had surveyed all the systems in the rolling mill, before starting again. In one example of how inspections helped; we had 3 pressure compensated axial piston pumps on the AGC System (Automatic Gauge Control), 2 were working and 1 was on standby. The control system display showed the percentage of full load current of the pumps when operating. When compensating the pumps had a 22% loading. One Friday the inspection, noted the current on one pump was 19% so notified me. We had the standby pump started and isolated the pump in question.

During the following week we removed the pump from the motor and found the coupling to be in good condition. When the pump cover, was removed, in the workshop, the parts fell onto the bench, with brass slippers bent and the piston retaining ring broken in half. The pump could not produce flow, and in turn pressure so that explained the low current draw. The pump had failed catastrophically and only the inspection had seen a small change, which turned out to be a complete pump failure. Without the pump, the mill may have run slower, affecting productivity and revenue generation.

The above inspection saved the business a lot of money.



The picture shows a working hydraulic system in a production facility and highlights the need for regular inspections. From the picture you can see some old oil leaks. If you inspect your hydraulic systems, you will find the leaks earlier and reduce the use of increasingly expensive hydraulic oil. Hydraulic leaks can cause safety hazards, creating slipping and fluid injection hazards.

Other inspections should include looking at the pressure of the system, is it the same as the drawings and is it stable? What is the noise of the pump and coupling, subjectively the sound may be different. Are warning lights on your electrical panels working? Are hydraulic hoses in good condition? Are your accumulator precharge pressures okay?

There are numerous check/inspections that you can perform on a hydraulic system that will give you an early warning of potential problems; saving time and money.

MGR Fluid Engineering can help develop and implement maintenance inspections that will reduce unexpected hydraulic system failures and save time and money.