

Cylinder Maintenance

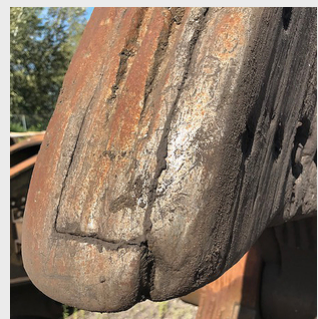


The cylinder is the heart of every hydraulic attachment, and like any heart, its performance is affected by the operation of the entire system. When one component malfunctions, others are likely to do the same.

Given the number of components in, and the job of, an attachment, there are many factors that can impact cylinder performance.

This Tech Tip focuses on three - poor blade maintenance, worn bushings and material being processed.

Excessive blade gaps and worn blades cause the upper jaw to flex and sideload the cylinder rod and piston. This also happens when the main bearings and upper cylinder bushings are worn beyond their service limit, as the main shaft and cylinder pin will want to twist in their respective bearings. If you see a wavy looking appearance in the cylinder rod chrome and/or worn wear bands when taking the cylinder apart for resealing, sideloading has occurred.



Breaking high-strength steel or hardened material also severely affects cylinder life. Damaging decompression spikes pound the piston, rod and head seals with spikes that go from 0-7000psi in a millisecond and cause the oil to reverberate within the circuit. This reverberation causes the piston seal to twist back and forth on top of the energizer, eroding the energizer and causing oil to bypass the piston seal.

The high-pressure, high-velocity oil bypass washes out the wear bands, causing them to plug the excavator return filters and the filter bypass to open. Once open, any material sent back toward the tank will go straight into the suction side. If the suction screen plugs, you will have pump cavitation, or worse yet, metal from the cylinder piston and barrel wear going straight to the pumps.



This is just the tip of the iceberg when it comes to cylinders so if you have questions, contact Tim at 218-349-5755, talseth@genesisattachments.com