



Hydraulic Oil Cleanliness

Models Affected: All Hydraulic Systems

Tech Tip
TT-904

Subject:

One of the most common factors of poor performance and damage to a hydraulic system is also one of the easiest to avoid - **dirty hydraulic fluid**. Although invisible to the naked eye, germ size particles at high counts are detrimental to the performance of close-tolerance valves and system components. A single large particle or an accumulation of small particles may cause valve control to become erratic. The presence of many small particles also leads to shortened pump, motor, and actuator life by causing accelerated wear to seals and bearings.

Description:

Contamination enters a system in many ways. The following are some of the most common:

- **Built In Contamination** – Typical built-in contaminants include metal burrs, dust, lint from rags, and sealant which can be introduced into the system during the assembly process.
- **New Oil** – New oil is not necessarily clean oil and should be pre-filtered before it is put into the machine. Improperly cleaned reservoirs contain contaminants that mix with the new oil and are recirculated into the system
- **Environmental Contamination** – Dust, dirt, and other airborne contaminants typically found in manufacturing environments can enter a system through exposed cylinder rods. Removal of any cap, cover, plug or line connection will expose a system to environmental contaminants.
- **Generated Contamination** – Even the best maintained machine in the cleanest environment will have contamination introduced from the normal wear of components and degradation of oil. Exposure to the sources described above will accelerate the generation of contaminants.

Recommendation:

Proper monitoring and maintenance of system fluids can improve operating performance more than any other single factor. BHS recommends to change oil filters (10 micron or better) at least every 250 hours of operation and to change hydraulic oil every 500 hours under normal conditions. Oil sampling and testing can be very helpful in determining a proper maintenance schedule for your application and environment.

For more information call: **1.877.BHS.4YOU**
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