This is part three of a three-part series on the importance of clean oil. Read part one and two here. We have talked about the importance of clean oil and how it contributes to the bottom line of the company, as well as the dangers of contaminants. Now, we want to address how you keep hydraulic oil clean.

Step 1 – Stop it at the Source

The first step is the obvious one — stop putting contaminated fluid in your equipment. Do you know it costs ten times more to clean the oil in your system than it costs to use preventative measures to keep contaminants out?

If you prevent contaminants from getting into your hydraulic oil supplies you're already off to a good start. Those prevention measures begin by keeping storage systems properly closed and protected.

Far too often we've seen hydraulic oil storage tanks, especially at construction sites, left with open fill caps without breathers, when breathers can very effectively remove moisture from the air without letting in harmful particulate contaminants.

Step 2 – Filter the Air

Everyone knows that if you drop a cell phone in water, you should immediately place it in a container of rice. Desiccant filters on bulk hydraulic oil storage tanks work the same way, by absorbing moisture.

There are easy ways to see if you are doing it right. First, check for dirt at the fill point of the storage tank, and at the fill point of the equipment's hydraulic tanks.

Next, run your finger against the inside of the top of the tank. If you find dirt, condensation, or even rust on metal tanks, you're not keeping the moisture out. Worse, you're likely transferring that contamination from the tank to the components on your equipment.

Step 3 – Install New Certified Clean Oil

This is a vital important step as you do not want to add further contamination to your system with new oil. It is important to purchase clean lubricants that meet your equipment manufactures ISO Cleanliness

requirements. Typical new lubricants normally do not meet the equipment manufactures cleanliness specifications.

Work with your lubricant supplier to ensure the product being delivered to your business is certified by the lubricant manufacture and follows a stringent testing procedures.

Step 4 – Make a Checklist

Keeping hydraulic oil clean doesn't stop once the fluid is in your equipment. There are a list of things you can check once the oil is in use, such as addressing loose piping and worn seals to keep air out and fluids in, and to prevent the introduction of contaminants that cause cavitation, vibration, excessive heat and wear, all things that lead to equipment problems and shorter service life.

Check your equipment filters, and change intervals, as this is an important area of focus as well. "Absolute ratings" on hydraulic filters tell you the largest particles that a given filter will capture. "Beta ratios" are a measure of a filter's efficiency as a percentage of the number of specific size particles upstream to downstream of the filter. Many operators use a series of filters to remove contaminants in stages, a cost effective filtration method (see our blog on choosing the right filter).

As we mentioned at the very beginning of this series of articles on clean hydraulic oils, the importance of cleanliness can't be underestimated. Effectively addressing lubricant contamination begins by keeping the fluids clean in the first place.

To learn more about how to verify that you have certified lubricants that are free from particulate contamination, check out Chevron's ISOCLEAN program that recently launched.