



## Two Days of Research

### DAY1

I went to an oil manufacturing company and toured their facility, with an emphasis on the means of production. Did you know there are no filters in the production of most oils? This left me with the impression that there is not much “contamination control” during manufacturing of their oil.

When oils are packaged (quarts, gallons, drums and bulk), there were no cleanliness standards for those containers. Not only could they use any condition container they desired, there were no ingress controls in areas where the oils were packaged.

My tour concluded with a thought, “what does the word NEW mean”. It certainly didn’t mean clean. There were no cleanliness safeguards, measurements or quality standards for clean oil. How many other oil manufacturers resemble this plant?

### DAY2

I was allowed to ride along with a local distributor (of the oils manufactured during day 1 of my research). This local oil distributor delivers oil in bulk, to companies all over the Twin Cities metro area. The truck I rode in was 3 years old with a capacity of 2000 gallons. The truck has a small 10um nominal filter, but it is the original filter when the truck was manufactured and there was no filter indicator ever installed. The truck driver didn’t even know it was there, but assured me it was “probably” still working.

*7 am.* The truck was filled with 500 gallons of 10W40 motor oil. The oil was pumped out of an underground bulk oil tank and into the truck. Both reservoirs had 40 micron wire mesh breathers that have never been changed. The breathers on the bulk oil tank and truck did nothing to address finer contaminants, humidity or moisture.

*8:30 am.* The 500 gallons of motor oil was delivered to a local oil change business with practices that were so appalling, I’m committed to changing my own engine oil for the remainder of my life.

*11:00 am.* The same truck was filled with hydraulic oil and sent out to deliver to a plastic molding company and a hydraulic repair shop. There were no flushing procedures for the tank, hoses and the filter element was not changed... before the truck was filled with a different oil type.

*12:00 pm.* At the plastic molding company, they had a steel reservoir with a removable lid. The bulk oil was pumped out (through the “probably” not working filter) and into the steel tank. With the lid removed, many airborne plastic particles were also entering the tank, as did a rag, but it was removed. The oil was pumped in above the oil level, so there was much aeration of the oil. To dispense oils from this tank, there was a faucet near the bottom of the reservoir, no filtration of the oils before use.



Y2K Fluid Power, Inc. 3500 N. St. Paul Sioux Falls, SD 57104  
888.925.8882 Ph 605.338.9982 Ph 605.338.5109 Fx

[www.y2kfluidpower.com](http://www.y2kfluidpower.com)



1:00 pm. At the hydraulic repair shop, there was a Tote-A-Lube poly tank. For oils to be pumped from the lube truck into this tank, the breather was removed and the trucks' hose was inserted down below the oil level. When the tank was filled, the breather was replaced on the tote. However, like the prior mentioned plastic molding company, the only way to get oils out of the container was a faucet near the bottom of the tank.

These are static containers of oil. Water and contamination will settle to the bottom of the tank and there hasn't been any filtration thus far. When the faucets near the tank bottom are opened and oil comes out, trouble could be emerging also. Before the same truck I was riding in returned, for a load of gear oil, I had finished my research for day2. This oil was manufactured (without filtration), put into a bulk oil tank (without filtration), transferred into a large delivery truck (without filtration), delivered to a local oil distributors' bulk oil tank (without filtration). When ordered, these oils were taken out of the storage tank by a truck (without filtration) and put into a local delivery truck that delivers various oil types. They pump oils from the local truck into their customers' oil storage tanks (without filtration) and used by the customer (without filtration).

I had wondered what condition the oil would be... IF the oil was filtered each time it was handled? Have you ever wondered why it is so hard to achieve target Oil Cleanliness Levels?

What I recommend is more involvement before oils are purchased and used.

- Get more information about the oil manufacturers practices.
- Get your local oil supplier more involved with your oil cleanliness program and targets.

Make them a partner on your cleanliness program.

- Inspect the bulk oil delivery trucks and their practices for hauling and dispensing oils, especially before they become your property/problem.
- Insist they deliver clean oils and back those with oil cleanliness reports. Take an oil sample on-site before they are accepted or used to verify their condition.
- Make sure they connect their trucks to your oil storage totes through quick disconnects (leaving the oil storage tanks closed). I would even recommend that you transfer the oils out of their bulk oil trucks with your filter cart or filtration system, to ensure it is properly filtered.
- Off-line filter the oils in your bulk oil tanks. This is where oils are pumped out, filtered and returned into the tanks, cleaning the oils before they are needed.
- Try to make sure all oils that are dispensed from the oil tank are filtered again before use.

Remember you are filtering what the oil manufacturer might not have and all of the handling between them and you!

Check out some of the Oil Handling Solutions Manufactured by Y2K FLUID POWER, INC.

We have stationary totes with "filtered" dispensing systems and solutions to some of the problems outlined in this 2-Day Research Project.

By Steven Anderson  
Y2K FLUID POWER, INC.



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