

**Clean oil means less destructive wear, less downtime, and lower operating cost.**

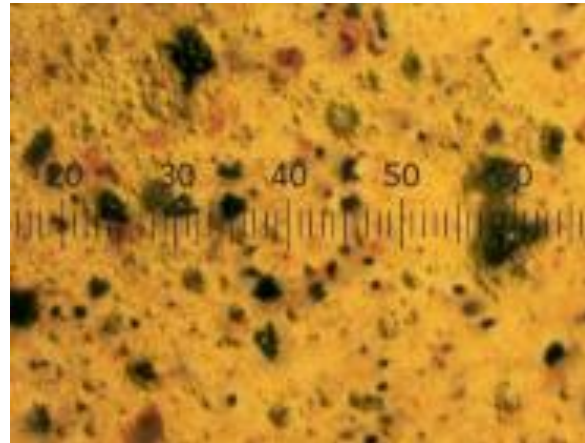
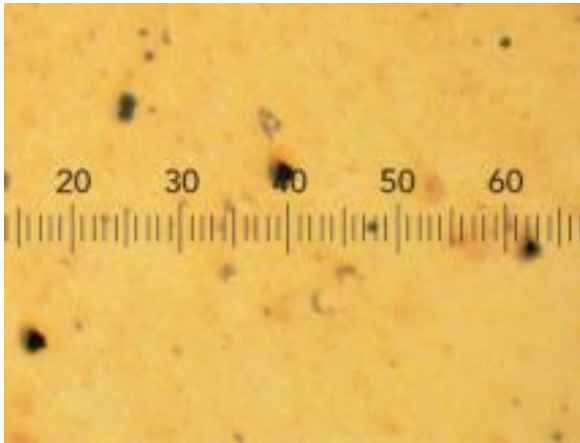
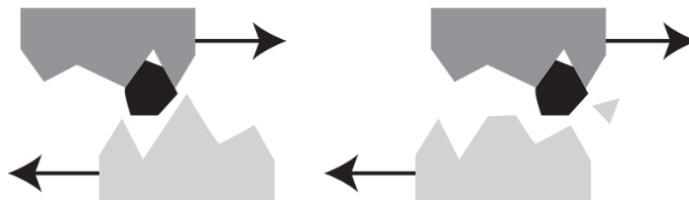


Image of unfiltered 'new' oil at 100x magnification vs. image of oil pre-filtered oil at 100x magnification.

**What kind of oil do you want to use in your equipment? Filtered or unfiltered? Clean or dirty?**

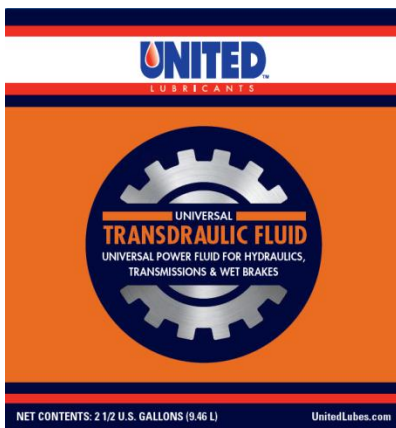
No matter the brand or manufacturer, as lubricants are transferred from transport to bulk plant, tank to tank, or barrel to equipment, more and more particulate matter is accumulated in "new" hydraulic oil. Studies show that particulate matter and moisture content in sealed, barreled oil can DOUBLE in as little as 180 days in a typical storage facility. See above, at 100x magnification, just how much solid contamination can accumulate by the time you install it in your equipment. The particles you see are tiny wrecking balls that cause three-body abrasive wear, damaging your equipment.

### Three Body Abrasive Wear



**At Farmers Cooperative, we're doing something to fight three-body abrasive wear!**

In the photo at right, "Big Blue" filters United Universal Transdraulic Power Fluid coming in to the Farmers Cooperative bulk lubricants plant at Emerald, NE.



# At Farmers Cooperative, We Believe Cleaner Oil is Better Oil



Hydraulic fluid must meet a specific level of cleanliness in order to be considered clean enough to avoid damaging the most sensitive components in tractor and combine hydraulic systems. Check the owner's manual on your new tractor or combine, and you'll probably find a section entitled "oil cleanliness," and it is almost certain that the concern will be contamination of the hydraulic circuit. Modern systems have extremely tight tolerances, and microscopic particles can cause tremendous harm to hydraulic components. Trouble is, even though it may be fresh from a drum or bulk transport, new hydraulic fluid is rarely clean.

Regardless of manufacturer, oil out of shipping containers or fresh off the tanker is usually contaminated to a level far above what is acceptable for most hydraulic systems. In fact, new fluid typically contains three or four times too much particulate to be considered acceptable for use in hydraulic components built into systems for new tractors and combines. And as lubricants are transferred from transport to bulk plant, storage tank to drum, or pail to equipment, more and more microscopic, abrasive particulate matter is accumulated in "new" hydraulic oil. The result of this contamination, and that which occurs during normal operation and maintenance of hydraulic circuits, can be catastrophic if these contaminants are not properly filtered out of the system.

For sure, if you don't start with clean oil when you fill your machine, you can't count on your oil filter to correct the problem. After all, we're talking about microscopic particles doing damage that you can't see until it's too late. You need to start with clean hydraulic fluid for your equipment.

At Farmers Cooperative, we believe it is our responsibility to help protect your equipment from excessive wear, reduced component life, and premature failure brought about by use of hydraulic fluid contaminated by abrasive particulates. That's why we offer pre-filtered United Transdraulic Power Fluid. We believe that Cleaner Oil is Better Oil. Here's how we help protect your equipment investments:

1. Every drop of bulk United Universal Transdraulic Power Fluid that we accept from our supplier is circulated through a big manifold fitted with eight 4-micron elements prior to storage in our holding tanks. We call this manifold "Big Blue."
2. Using a special port, we pull a sample downstream of the filter elements for lab analysis to ensure our products meet our exacting cleanliness standards. If the sample fails the test, we recirculate the product through our kidney-looping filtration systems built in to each of our bulk plants.
3. United Universal Transdraulic Power Fluid is filtered once more as the product is transferred from our 3000-g holding tanks to our delivery shuttles or drums for repackaging.
4. Every 30-gallon or 55-gallon drum of United Transdraulic Power Fluid is stored in our warehouses fitted with a poly "shower cap." Studies show that particulate matter and moisture content in sealed, barreled oil can double in as little as 180 days in a typical storage warehouse (a problem easily corrected with use of poly caps).
5. Air Sentry breathers are used on EVERY tank and shuttle at Farmers Cooperative. These 2-micron breathers remove all moisture from replacement and headspace air; and no particle larger than 2-microns in size can enter to contaminate your new fluid—or damage your machine!
6. We are a bit obsessed with CLEAN in our warehouses and in the box areas of our trucks. Oil shuttles staged for delivery are kept spotless on top. Suction tubes are meticulously cleaned before placed in enclosed storage, and are cleaned again before insertion into a delivery shuttle. That's a big part of the clean oil solution.
7. Our bulk oil delivery truck operators carefully remove all dust and grime from around the fill-cap of your storage tank prior to opening your tank and pumping in clean United Universal Transdraulic Power Fluid.

**Cleaner Oil is Better Oil.** Find out how we can help protect your tractor or combine with the cleanest fluid in the field: Pre-filtered United Universal Transdraulic Power Fluid, only from Farmers Cooperative.