The Games People Play with THF

Tractor Hydraulic Fluid (THF), also referred to as Universal Tractor Hydraulic Transmission Fluid (UTF), is a unique multifunctional lubricant used in farm and industrial tractors and construction equipment. It acts as a hydraulic fluid, transmission fluid, and gear oil. An estimated 60 million gallons of THF, valued at roughly $350 million, was consumed in the U.S. in 2003.

Numerous specifications define the performance of THF, and many are OEM specific. As a result, it’s not unusual for the labels on a pail or drum of THF to list as many as 14 OEMs representing more than 25 specifications. But, according to several jobbers, the Deere specification listed on some THFs is obsolete, so, although farmers may pay less for the fluid when they buy it, they could end up paying significantly more in equipment repairs by using it.

What jobbers are specifically referring to is product in the market labeled as meeting John Deere JD-303, JDM-20A, and Quatrol®. They say these specifications are obsolete. Moreover, they note that even if a farmer is comfortable using an obsolete product because he has an old or leaking tractor, the quality of these products is highly suspect because it is not being monitored. Are these just sour grapes and fear tactics coming from jobbers that can’t compete on price? According to Deere, Lubrizol, and many others in the industry, they are not.

The JD-303 specification was dropped in the 1970s because it was based on sperm oil, and sperm oil can no longer be legally used as a lubricant. And the JDM-20A specification has been “defunct” since the early 1990s it was superceded by JDM-20C. Also, according to Jim Walton, Product Manager and Parts Marketing for Deere & Company, listing (Quatrol®) on labels can also be misleading. Quatrol® was the licensing program for JDM-20A. It required blenders to submit test data to Deere prior to use of its specification on product labels. The Quatrol® program was, however, discontinued at the same time JDM-20A was deemed defunct. This means that Deere has not monitored the quality of THF or claims relating to use of the Deere specifications or brand name on THF since the early 1990s. In the view of some, the result has been a “free for all” in the use of Deere nomenclature on labels and in how products are formulated.

According to John Winslow, Global Business Manager Farm Tractor Fluids at Lubrizol (the leading global provider of specialty additives and fluid technologies), product formulation is of particular concern with THF. This is because some blenders reportedly take an additive package designed to meet JDM-20C and use it at a lower treat rate to make fluids they then claim will meet JDM-20A. The reasoning is that, since JDM-20C was superceded by the defunct JDM-20A specification, they believe they can down-treat with the JDM-20C package and hit the mark. This hokemew is then reportedly sold to unsuspecting farmers as THF that meets the specifications of their older equipment.

Winslow notes, “this blending logic is flawed.” What some blenders apparently do not understand or choose to ignore is that Lubrizol and other additive manufacturers did not have to change the additive packages when the specification changed from JDM-20A to JDM-20C. The primarily reason Deere upgraded to JDM-20C was to capture the requirements of the Allison C-4 specification. This was done by the addition of an oxidation and seal test. All of the other tests rigs carried over from JDM-20A. As a result, Lubrizol’s THF packages met the new specification without any additional work. Because the JDM-20C package is virtually identical to
that of JDM-20A, a down-treat of the JDM-20C packages will likely yield a fluid that does not meet the performance requirements of even the defunct JDM-20A specified for older Deere tractors.

Others in the industry are even more direct about their concerns with down-treating. They say that beyond being an innocent error born from blenders attempting to meet the needs of older tractors, down-treating is a deliberate attempt by some to cut cost and capture sales on price. For example, Anwer Hussain, Senior VP Lubricant Operations, CHS, Inc., a leading supplier of farm oils in North America, reports it has tested low-priced THF where treat rates are half of what they should be to meet Deere’s specifications.

Even more disturbing, Hussain notes, “Some products on the market have no additives at all.” Others looking at test data report similar findings.

Walton notes that the problem with down-treating becomes an even greater concern when one considers that the JDM-20C specification meets only the minimum requirement for Deere equipment. In his words, “If you dumb down this fluid even a little, you are getting very bad oil.” This issue is only one of the reasons Deere and meets the exact specification of their “held to a higher standard than JDM-20C because, according to Walton, Hy-Gard is encouraged its customers to use Hy-Gard (Deere & Company’s genuine product) because, according to Walton, Hy-Gard is “held to a higher standard than JDM-20C and meets the exact specification of their machines for both factory-fill and aftermarket service.”

Some suggest that down-treating is just the tip of the THF iceberg. For example, Joe Wilson, Senior Engineer with Deere & Company, notes that another issue of serious concern is that in some cases “very low quality base oils are used to blend THF.” In fact, Deere reportedly has seen products on the market that are “not even close to meeting the hot- or cold-temperature viscosity requirements.” When buying low price THF, “customers may be buying themselves cold flow problems starting, starvation, etc. and/or hot operation problems such as high pump leakage, excessive gear wear, and others,” notes Wilson. In addition, “The oxidation resistance of the THF may be very poor and this could lead to deposits, sludging, thickening, shortened service intervals, and shortened equipment life.”

Another important issue that speaks to the depth and breadth of the THF problem can be seen by looking at the wording on THF labels. Many of the THFs on the market reportedly don’t even say the products meet Deere and other OEM specifications. Instead, they use such phrases as “recommended for use,” “commonly used,” typically used,” or “can be used,” where the following recommendations are made. An extensive listing of OEMs and an alphabet soup of specifications, brands, and trade names then follow this wording. Based on JW’s review of products in the market, this is indeed true; very few of the many THF products on the market actually state that they “meet” or “exceed” the specifications listed on the label.

There is little argument from Deere and others that such practices as down-treating, use of low quality base oils, and “weasel wording” on labels is going on. Furthermore, to the chagrin of many, there continues to be a market for these products and there is little wonder why. The THFs in question are priced well below that of legitimate products and they list the specifications farmers are looking to see. Furthermore, THF packaging often uses colors that farmers associate with onspec products. But in the words of one jobber, “It’s a disgrace to the industry, and if marketers refuse to play the price game by offering the yellow bucket fluid they are boxed out of a significant volume of business.”

Apparently jobbers are not the only ones being tempted to take a bite out of the apple by playing the price game. Hussain notes that a number of OEM dealers are even selling this low cost-low quality juice in an effort to meet the needs of their price sensitive customers. And it’s a tough battle to convince farmers the fluid doesn’t meet specifications and could cost them much more in the long run when the dealers themselves are selling it.

So can a low price-low quality THF really cost more in the long run? Well, according to Deere, Lubrizol, and others when asked if it would hurt a tractor to use fluid that doesn’t meet JDM-20A or JDM-20C specifications, the answer is a definitive “Yes.” Lower treat rates on the antitrust could result in damage to the spiral gear in the final drive. It could also cause excessive wear in the planetary. Lower treat rates on the friction modifier could result in improper and poor shifting. It could also cause improper operation of the wet brakes. The bottom line, in the words of Winslow: “Its use could bring the tractor to an early demise.” Deere agrees.

How this problem can be cleaned up to assure farmers are protected and legitimate jobbers and blenders have an opportunity to compete on a level playing field when selling THF will be addressed in the next issue of JW.