

# UNIVERSAL TORQUE FLUID



**Also Known As:**  
**Tractor Hydraulic Fluid**  
**Hydraulic Gear Oil**  
**Hydraulic Tractor Fluid**  
**Universal Tractor Trans/Hydraulic Fluid**  
**Universal Tractor Transmission Oil**

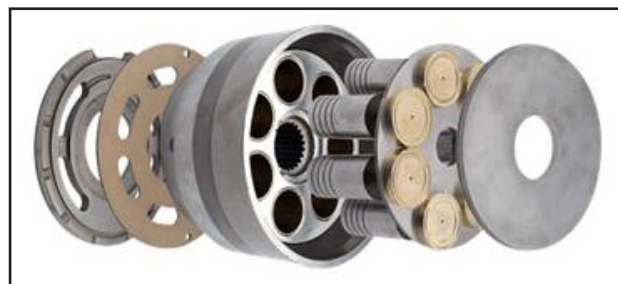
# Texas Refinery Corp of Canada Limited



# A High-Performance Tractor Fluid

Tractors today are more sophisticated, and so are the hydraulics that run them. A tractor or implement is a critical piece of equipment and capital investment. With proper maintenance, the average working life of a farm tractor is typically about 15 years. But, without a quality lubricant in the hydraulic systems, the equipment life will be shortened, downtime can occur and your cost per acre for production will increase.

Fifty years ago, your hydraulic system consisted of something to raise and lower the 3-pt hitch and maybe one remote cylinder to raise a plow. Now, you are running sophisticated air planters that have the ability to put down fertilizer at the same time as seed. This is all done through utilizing the tractor hydraulic system, whereas in the past you might have driven those things with a PTO shaft.



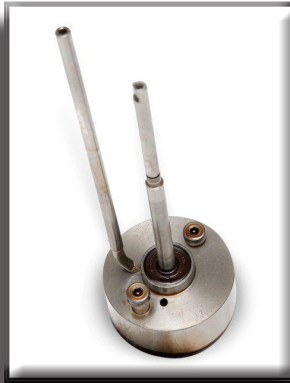
*Balanced Anti-Wear to prevent steel on steel while protecting yellow metals*

Implements are getting larger, so hydraulics are being used not only to raise and fold the unit, but also to steer and brake the unit. Fluid is controlled by precise valves that are controlled electronically. Today's electronic controls allow many more types of functions, and the rated flow on some large tractors is now 300 to 340 litres per minute with up to nine remote circuits available.

Texas Refinery's Universal Torque Fluid is a high-performance tractor fluid and contains enhanced additive packages to effectively protect gears, clutches and pumps by providing oxidation resistance, anti-wear protection, wear tolerance and enhanced performance in temperature extremes







and harsh conditions. Texas Refinery has taken another big step and formulated more protection chemistry in our product than required by tractor OEM's . . . to provide your equipment with the best possible protection!

Oxidation causes the formation of sludge deposits in a hydraulic system, which reduces performance and shortens

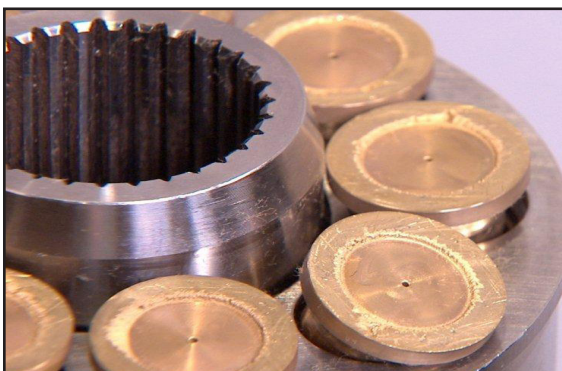
the life of any tractor. Oxidation protection found in Universal Torque Fluid will keep your hydraulic parts cleaner and eliminate sludge. The fluid doesn't have to be replaced as often and you will experience better overall performance, gear protection and reduced brake noise.

The gears, bearings and soft, yellow metals in hydraulic pumps today require the chemistry formulated in Universal Torque Fluid to provide the necessary wear protection. Other hydraulic tractor fluids do not have the load carrying, anti-wear and extreme pressure characteristics – as a result, severe ridging, visible wear and scoring may occur on gear parts.



Low quality hydraulic tractor fluids lack the chemistry to protect against the effects of water contamination. Water in the oil creates a corrosive mixture, and the corrosive mixture will then erode the yellow metal on hydraulic pumps, causing deep scratches on the pump's brass piston shoes. Corrosion often leads to sluggish tractor performance and potential hydraulic pump failure. Texas Refinery's Universal Torque Fluid contains additional corrosion additive chemistry to protect the parts from corrosion and erosion, optimizing tractor performance and reliability.

Brake chatter can be annoying for a farmer, and damaging to the tractor if allowed to continue over a long period of time. When braking, a loud squeaking noise can be heard, and the operator may feel vibration. Many users who switch to TRC's Universal Torque Fluid find their brake chatter stops, thanks to the frictional characteristics of the product. Better braking definitely leads to better safety!



*Low quality fluid*



*TRC UTF*



# SHINING A LIGHT ON TRC'S TORQUE FLUIDS



With so many options on store shelves for hydraulic and tractor/torque fluids, it is hard for the consumer to choose the product that is going to provide the value they seek for their operation. Today's hydraulic operations demand a fluid that provides proper lubrication, while allowing the system to operate at peak performance. Fortunately, Texas Refinery Corp of Canada has the answer. Texas Refinery Corp of Canada's UTF-CNH and UTF RED-CNH is manufactured to exceed the competition.

## **WHAT OPERATIONS CAN BENEFIT FROM UNIVERSAL TORQUE FLUID?**

Universal Torque Fluid has long been the product of choice in operations calling for a high-performance tractor fluid for either hydrostatic transmissions, wet brake systems, and/or clutches and final drives. However, the agriculture industry is not the only industry where TRC's

Universal Torque Fluid shines. Industries using Caterpillar equipment calling for a fluid meeting the TO-2 specification can use Universal Torque Fluid with confidence. Forestry operators looking for a hydraulic fluid that works great in cold temperatures and protects their lines from the harsh environments can benefit from Universal Torque Fluid. Even manufacturing operations with stationary hydraulic systems can choose Universal Torque Fluid to reduce their inventory of multiple SAE/ISO hydraulic fluids. The number of locations and industries that can benefit from the value provided by using Universal Torque Fluid is almost endless.



## **WHY DOES UNIVERSAL TORQUE FLUID PROVIDE BETTER PROTECTION THAN THE COMPETITION?**

The answer is simple, TRC simply packs in more additive protection than the competition. The industry minimum required amount of zinc additive in an anti-wear package for hydraulic oil is 400 ppm. Many hydraulic fluids and/or tractor hydraulic fluids on the market claim to contain between 400 ppm - 1,200 ppm of zinc in their anti-wear package. However, because hydraulic fluids are not independently tested by OEMs (even though they claim to meet OEM specifications), many fluids contain less than their stated amounts of anti-wear additive. Universal Torque Fluid is formulated with 1,400 ppm of zinc in its anti-wear package.



## HOW DOES UNIVERSAL TORQUE FLUID REDUCE HEAT BETTER THAN THE COMPETITION?

Generic hydraulic fluids simply are not formulated with the additive packages needed to provide the level of protection needed to reduce heat for long periods of time. These fluids tend to generate heat in the system very quickly, creating foam that often leads to cavitation and premature wear. Often heat is generated because the fluid lacks thermal and oxidative stability. Universal Torque Fluid is formulated with higher than recommended amounts of anti-oxidation additives to handle higher temperatures and anti-foaming additives to suppress the formation of foam in the fluid. The presence of foam in a hydraulic system leads to increased temperatures, reduced fluid life, and shortened equipment life. Suppressing foam and combating fluid oxidation are critical to reducing operational temperatures, thus extending the life of the fluid and the life of the equipment.

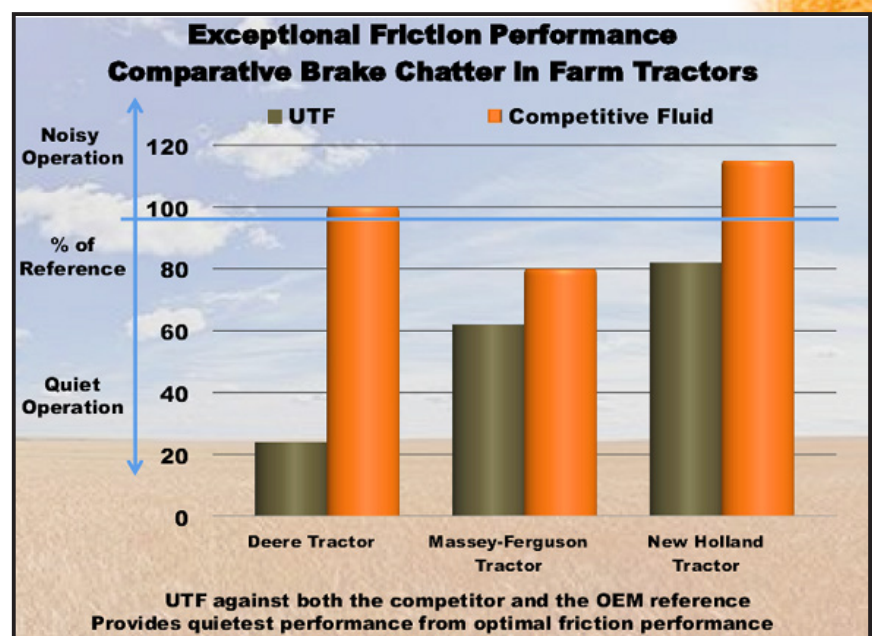


## DOES UNIVERSAL TORQUE FLUID PROVIDE BETTER PROTECTION IN WET BRAKE SYSTEMS?

In a wet brake system, the brakes are encased in the axle housing and bathed in oil to keep them cool under heavy loads. Wet brake systems require the use of a fluid containing an additive package to reduce friction without negatively impacting the braking capacity of the braking system. Inferior fluids can cause brake chatter and/or vibration while the equipment is braking. Universal Torque Fluid is formulated with several friction modifiers, including one additive specifically designed for wet brake systems. The special attention to detail in the TRC formulation for Universal Torque Fluid is what allows our fluid to outperform the competition, reduce brake chatter, and provide the proper amount of lubrication to the system.

## WHAT CAUSES CHATTER IN WET BRAKE SYSTEMS?

- High amount of fluid degradation
- Large amount of water in the fluid
- Lack of sufficient lubrication of the brake couplings
- Degradation of the brake friction material from high loads, with excessive applications of heavy braking





# Common Variable Transmissions

Over the last several years manufacturers have made rapid advancements in tractor transmissions with the development of CVT's (Common Variable Transmissions), IVT's (Infinitely Variable Transmissions) as well as continued improvements in Powershift Transmissions. Based on their needs, people may continue to be split on which transmission type is best, and while the debate continues, our customers can be assured they are covered no matter what transmission type their equipment possesses with Universal Torque Fluid. TRC's Universal Torque Fluid has protected Powershift Transmissions for many years while also meeting specs required for both CVT Transmissions and IVT Transmissions.

Pros and Cons exist for each of these transmission types, and it could be years before the market is decided either way, but the market seems to be leaning toward the use of CVT's. Either way the market goes, Universal Torque Fluid offers protection for each of these transmission types and therefore is a one fluid fits all solution for TRC of Canada customers.

## **VARIABLE TRANSMISSIONS**

The move to Variable Transmissions (CVTs and IVT's) by OEMs in the agriculture, construction and forestry industries is driven by the need for more fuel-efficient units and higher productivity. While the initial cost of the Variable Transmission might be higher, this is offset by the fuel efficiency and productivity it provides. Also, there is more accurate control of speed, they are easy to operate, and they are long-lasting which helps with resale value of equipment.

Variable Transmissions offer less wear when compared to Powershift Transmissions, where clutchplates are used to shift through the gears and wear can occur over time. But Variable Transmissions do place additional stress on the lubricating fluid and require a special shear stable additive found in Universal Torque Fluid.

## **BENEFITS FOR VARIABLE TRANSMISSIONS**

Universal Torque Fluid is formulated to meet the latest specifications needed for the OEMs versions of their CVTs and IVTs. Universal Torque Fluid contains an extremely shear stable additive to maintain viscosity and promote long fluid life which enables longer drain intervals.

Universal Torque Fluid's shear stability additive also provides dispersant properties to help deposits and promote system cleanliness and provides enhanced demulsibility in the oil when water contamination is present.



# Infinitely Variable Transmissions

## PROVEN CHEMISTRY AND ONE COMPLETE FLUID

Universal Torque Fluid has decades of use in the field and has adjusted to the needs of customers as technology and government requirements have changed over the years. Universal Torque Fluid is formulated to provide a one fluid solution for equipment with various transmissions, to include Powershifts plus CVTs and IVTs such as Case IH, New Holland, John Deere IVT™ AutoPowr™, JCB Fastrac, and more.

Universal Torque Fluid is formulated to be a high-performance fluid and contains enhanced additive packages to effectively protect gears, clutches, and pumps by providing boosted anti-wear protection and corrosion protection. Oxidation in the system is greatly reduced with Universal Torque Fluid to keep hydraulic components cleaner and eliminate sluggish or erratic operation. The enhanced additive package also boosts the foam inhibitors in Universal Torque Fluid, which also contributes to reduced operating temperatures and smoother valve and hydraulic function.

Whether you have a Powershift Transmission or a Variable Transmission, Universal Torque Fluid provides the versatility of one fluid for most of your transmission applications, reducing inventory and providing superior protection to all transmissions requiring one of the specifications listed on our data sheet. Texas Refinery Corp of Canada Limited recommends checking your OEM manual for the specification listed on the back.

## PROBLEMS ASSOCIATED WITH LESSER QUALITY HYDRAULIC FLUIDS

### • *Excessive Wear*

1. Low Quality fluids lack the chemistry and additives necessary to stop excessive wear

### • *Hydraulic Pump Failure*

1. Leads to costly repairs
2. Time lost in the field
3. Stresses on other components that didn't break... for the time being
4. Allows contaminants from outside to enter the system

### • *Slow Control Response Time*

1. Slow lifting and lowering of implements and front-end loaders
2. Bouncing/Rough movement from implements
3. Reduced wheel brake response time

### • *Blown Hydraulic Lines*



UNIVERSAL TORQUE FLUID is a high performance tractor hydraulic fluid formulated to exceed the chemical and physical requirements of the following current specifications and can be used in transmissions, final drives, clutches, wet brakes, and hydraulic systems:

AGCO Powerfluid 821X  
AGCO Q-1826 (White Farm)  
Alison C-4  
API GL-4  
Case MS-1209 (Hy-Trans Ultra Mastertran)  
Case MS-1210  
Case MS-1230  
Case New Holland 410B  
Case New Holland MAT 3506  
Case New Holland MAT 3509  
Case New Holland MAT 3510  
Case New Holland MAT 3525  
Case New Holland MAT 3526  
Case New Holland MAT 3540  
Caterpillar TO-2

Claas/Renault  
Clark HR 500  
Clark TA 12  
Clark TA 18  
Deutz-Allis 246634  
Deutz-Allis 257541  
Deutz-Allis 272843  
Deutz-Fahr  
Fendt (Non-Vario)  
Ford New Holland M2C-86C  
Ford New Holland M2C-134D  
Ford New Holland FNHA-2-C-200  
Ford New Holland FNHA-2-C-201  
JCB  
John Deere J20C  
John Deere J21A

Komatsu B-06-0001  
Komatsu B-06-0002  
Kubota UDT  
Kubota Super UDT  
Landini  
Massey Ferguson CMS M-1135  
Massey Ferguson CMS M-1141  
Massey Ferguson CMS M-1143  
Massey Ferguson CMS M-1145  
Parker-Denison T6H20C  
Renault Transmissions  
Volvo VCE WB 101  
Volvo VCE WB 102  
Yanmar TF-500  
Zetor OTH  
ZF TE-ML 03E, 05F, 08K, 17E, 21F

Hydraulic Pump Specifications: Denison HF-0, HF-1, HF-2; MAG Cincinnati Machine; Sauer-Danfoss (Sunstrand) Hydrostatic Fluid; Vickers (Eaton) I-286-S, 35VQ25, M-2950-S

## SPECIFICATIONS

### UNIVERSAL TORQUE FLUID

Product Code #108893

**APPLICATION:** Used in systems having a common oil for Hydraulic Systems, Wet Clutch, Transmission and/or Wet Brakes where squeak or chatter is a problem. UTF can replace ISO 32, ISO 46, and ISO 68 hydraulic oils. UTF is approximately a 10W/30 fluid.

	John Deere J20C Specifications	Universal Torque Fluid
Percent weight of:		
Zinc	--	.15 Minimum
Phosphorous	--	.12 Minimum
Calcium	--	.36 Minimum
Viscosity Index	--	170 Minimum
Base Number	--	11.5
Kinematic Viscosity, cSt at 40°C	--	55.0
Kinematic Viscosity, cSt at 100°C (212°F) (ISO 3104)	9.1 min.	9.5
Brookfield Viscosity @ -35°C, cSt (ASTM D2983)	<70,000	37,500
Flash Point, °F	392 min.	485
Pour Point, °F	-32	-40
Copper Strip Corrosion	—	1A
John Deere Oxidation Stability Test (JDQ23)		
Viscosity Increase @ 100°C	10% Max	1.3%
Evaporation loss @ 100°C	5 % Max	.9 %
Sludge Formation	None	None
Additive Separation	None	None
John Deere Gear Wear Test (JDQ95)		
Spiral Bevel Rating	Pass	Pass
Sun Pinion Wear	Pass	Passes at <0.018mm
Gear Surface Condition	Pass	Pass
John Deere Transmission Test (JDQ94)		
Total Cycles	2,000	2,000
Initial Coefficient of friction	0.15 max	0.089
Final Coefficient of friction during stalls	0.08 min	0.083
Stall Times	5.00 max	1.82
John Deere Water Sensitivity Test (JDQ19)		
Solids % Volume	0.1 max	0.0
Additive loss, % mass	15% max	0.0
John Deere Rust Protection (JDQ22)		
Rust protection, hours	100	100
FZG Gear Scuff Test	—	10

Handling Information: For safe handling of the product, read the Safety Data Sheet (SDS).



CANADA

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