





GENUINE
TUFF™
TECH
premium hydrostatic drive fluid

Tested to be the BEST



The new ***Tuff Tech™ premium hydrostatic drive fluid*** is not just another motor oil. It has been specifically and uniquely designed and formulated to provide optimum performance and protection within the working parameters of a hydrostatic transaxle. It is the only oil on the market that has been developed and tested to provide the very best performance for your Tuff Torq hydrostatic drive system.

The Tuff Tech™ difference



≈15% less wear than standard oil in wear tests.* Less wear on critical parts means better efficiency and longer component life.



200% increase in EP support over standard oil in weld tests.** Extreme Pressure (EP) tests show how well an oil performs under hydrostatic pressure.



10% less PVL loss than standard oil in 200 hour durability tests.† Permanent Viscosity Loss (PVL) shows how much an oil loses its ability to lubricate and protect components over its working life. Lower PVL loss provides higher volumetric efficiency for longer transaxle life.

* Wear test compared to standard 10W-30 motor oil using ASTM D4172 Standard Test Method for Wear Preventive Characteristics of Lubricating Fluid (Four-ball Method).

** Weld test compared to standard 10W-30 motor oil using ASTM D2783 Standard Test Method for Measurement of Extreme-Pressure Properties of Lubricating Fluid (Four-ball Method).

† Permanent Viscosity Loss (PVL) analysis performed compared to standard 10W-30 motor oil after 200 hour durability test using similar hydrostatic transaxle units under controlled conditions. All claims for this product are based on test results on the use of the fluid conducted in accordance with all applicable industry standards and protocols. Results may vary based on operating conditions and equipment.

The Tuff Tech™ difference

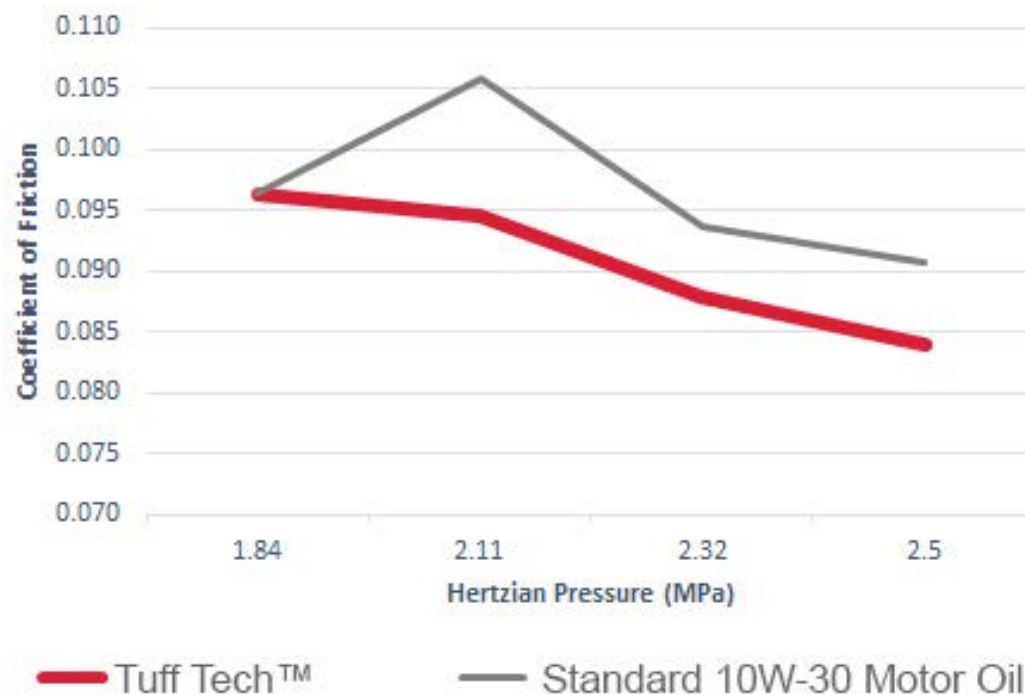
Up to

8%

Lower Coefficient of Friction

Friction coefficient has been calculated using Hertzian Pressure (MPa) analysis. Lower friction coefficient means lower operating temperatures and higher system efficiency.

Friction Coefficient vs. Surface Pressure



How we tested to develop the best oil for our drive systems

Tuff Torq Corporation made a large investment in capital and manpower to test and refine a new hydrostatic drive fluid to provide optimum performance and protection for our hydrostatic drive systems.

We performed extensive lab and bench testing, as well as real world tests on our test track, to find the very best product. Tuff Tech™ premium drive fluid passed all tests and was proven as the clear winner. After over 200 hours on our test track in all weather conditions, heavy loads and varying slopes Tuff Tech™ showed lower operating temperatures, better performance and less wear on critical components.



How we tested to develop the best oil for our drive systems

The additives in standard motor oils are formulated to provide protection at the higher temperatures of an internal combustion engine. These protective additives remain inert at the operating temperatures of a hydrostatic transaxle. Tuff Tech™ is specifically designed to provide peak protection within the transaxle's normal operating temperature range.



How we tested to develop the best oil for our drive systems

Motor Gear Comparison

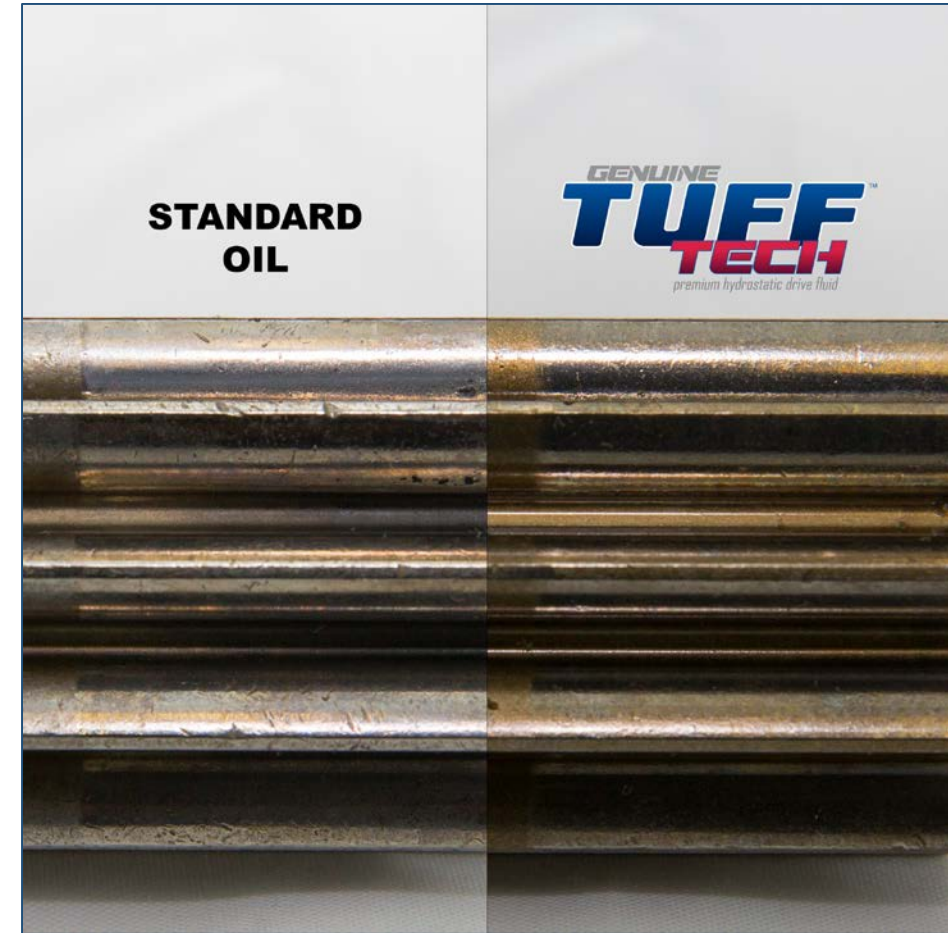
After testing for over 200 hours in controlled conditions, the motor gear from the Tuff Tech™ transaxles shows least wear damage and evidence of heat damage. You can also see the greater amount of pitting and material change in the motor gear using standard oil. Over time, this damage can worsen and cause loss of performance and transaxle failure.



How we tested to develop the best oil for our drive systems

Pinion Gear Comparison

After testing for over 200 hours in controlled conditions, the pinion gear from the transaxle that used standard oil shows a greater amount of damage. You can see marring, chipping and pitting that is not present in the Tuff Tech™ pinion gear.



How we tested to develop the best oil for our drive systems

Final Drive Gear Comparison

After testing for over 200 hours in controlled conditions, the final drive gear from the Tuff Tech™ transaxle shows very little wear at all. The standard oil final drive gear has begun to show chipping, pitting and heat effect in the metal. As this worsens, you could experience greater transaxle noise, loss of performance and ultimately failure.



Tuff Tech™ 3 Liter Resale Bottle Shown

Tuff Tech™ premium hydrostatic drive fluid is currently available through Tuff Torq Aftermarket Sales & Service. We are working to replace our manufacturing bulk oil with the Tuff Tech oil in the near future. If you have other questions, or need for more information, please contact Tuff Torq Sales and Marketing.





“Our mission is to provide a secure future for our employees, benefit the community and the environment while providing our customers the highest value off highway power train solutions in the world.”