



DURATRAN AND DURATRAN XL SYNTHETIC BLEND TRANSMISSION/HYDRAULIC FLUIDS

Introduction

Petro-Canada DURATRAN and DURATRAN XL Synthetic Blend are premium heavy duty transmission / hydraulic fluids designed for agriculture, mining, forestry and construction equipment with a common oil system for transmission, differential, final drive, hydraulic, power take-off, wet brake and power steering mechanisms.

The DURATRAN product line is formulated with the unique patented 99.9% pure crystal clear HT processed base oils in combination with minimal viscosity index improver and a leading edge additive package. This formulation offers exceptional performance surpassing equipment manufacturer's specifications and requirements.

Features and Benefits

- **Superior Wear Protection**
 - Minimizes and reduces wear on transmission, differential, and final drive gears at elevated temperatures reducing the need for replacement parts
 - Superior gear and bearing wear protection in the presence of water contamination
 - Less internal component wear reduces maintenance costs allowing increased operating up time and reliability
 - Extended service intervals, reducing the need for seasonal change-outs (**DURATRAN XL Synthetic Blend**)
- **Excellent Fluidity at Low Temperatures**
 - Smoother cold weather operation down to temperatures below -40°C (-40°F) (**DURATRAN XL Synthetic Blend**) or temperatures below -35°C (-31°F) (**DURATRAN**)
 - Extra protection for lubricated components during cold weather operation

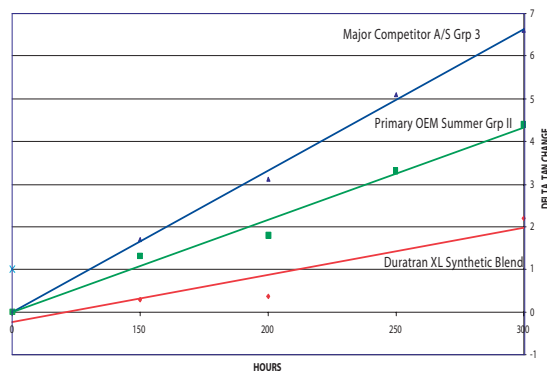
- **Superior Frictional Properties**
 - Exceptional frictional performance offering less brake chatter, and effective braking to avoid slip-skip problems
 - Allows superior clutch and transmission performance for smoother equipment operations
- **Long Life Protection**
 - Superior resistance to high temperature fluid break down
 - Superior oxidation stability resulting in resistance to viscosity increase and acid formation at elevated temperatures
 - Superior resistance to build up of sludge and varnish on transmission and hydraulic components for extended drain intervals
 - Surpasses the Allison C-4 oxidation test as well as the more demanding ABOT oxidation test used in Automatic Transmission Fluid validations

What is the HT difference?

Petro-Canada starts with the patented HT purity process to produce water-white, 99.9% pure base oils. The result is a range of lubricants, specialty fluids and greases that deliver maximum performance for our customers.



Aluminum Beaker Oxidation Test - ABOT (Delta TAN)
Duratran XL Syn Blend vs Major JDM J20C Summer and Competitor A/S

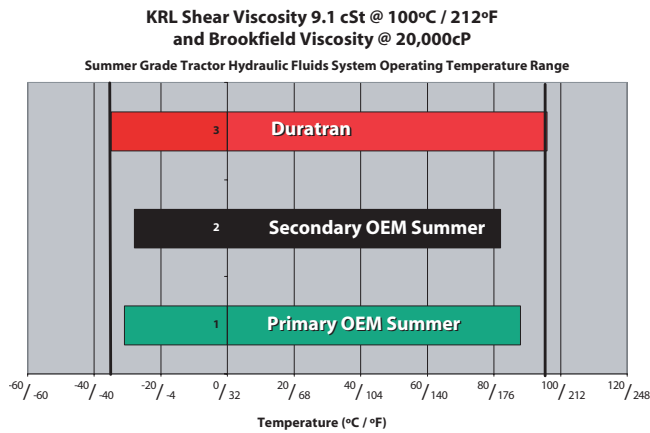


*Note: Results are after 300 ABOT Oxidation Test which is more severe than JD requirement Allison C-4 (GM 6137M) Oxidation Test.

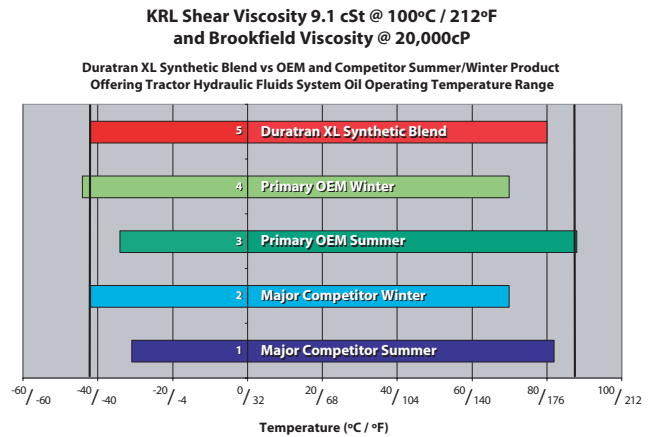
Applications

Petro-Canada DURATRAN and DURATRAN XL Synthetic Blend are recommended for use in agriculture, mining, forestry and construction equipment that use a common oil system for the transmission, final drive, hydraulic, power take-off, wet brake and power steering mechanisms.

DURATRAN is best suited for agriculture applications where various OEM farm equipment and/or extreme summer climate operating conditions are present.



DURATRAN XL Synthetic Blend is best suited for mining, forestry, construction and farming applications where equipment is operated in both hot and cold temperatures. One product for extended seasons.



Petro-Canada recommends **DURATRAN** and **DURATRAN XL Synthetic Blend** for use where the following farm tractor fluid types are called for:

Farm Tractor Fluids

| MANUFACTURER | CURRENT SPECIFICATION | MEETS OLDER SPECIFICATIONS |
|--|--|--|
| JOHN DEERE | JDM J20C (DURATRAN) JDM J20D (DURATRAN XL) | JDM J20A/B, JDM J148 JD 303 Fluid |
| MASSEY-FERGUSON | M-1141, M-1135 | M-1129-A, M-1127-A/B, M-1110 |
| CNH (CASE I.H., J.I. CASE NEW HOLLAND GROUP) | MS-1209, MS-1210/JIC145, MS-1230 | MS-1207, MS-1206, MS-1205, MS- 204/JIC-185, B6, B-5, JIC-144, JIC-143, FNHA-2-C-201.00 (DURATRAN) FNHA-2-C-200.00 (DURATRAN XL) ESN-M2C134-D (DURATRAN), ESN-M2C134-A/B/C, ESN-M2C86-B, ESN-M2C53-A, ESN-M2C48-B |
| KUBOTA UDT | Hydraulic Fluid Universal Transdraulic Fluid | — |
| WHITE FARM (OLIVER) | Q-1826, Hydraulic Transmission Fluid (HTF) | Q-1802, Q-1766B, Q-1722, Q-1705 |
| AGCO Deutz ALLIS, ALLIS | Power Fluid 821XL 272843 | 257541 246634 |
| STEIGER | Hydraulic/Transmission Fluid, SEMS 17001 | — |
| VERSATILE | — | Hydraulic/Gear Fluid Spec 24M Spec 23M |
| LANDINI | Tractor II Hydraulic Fluid | — |
| HESSTON FIAT | Oilofiat Tutela Multo-F | AF-87 |
| VOLVO | WB 101 (DURATRAN) | — |
| ZF TRANSMISSIONS | TE-ML 03 3E 5F 6K (DURATRAN) TE-ML 3F (DURATRAN XL) | — |

Transmissions, Differentials and Hydraulics

| MANUFACTURER | CURRENT SPECIFICATION | MEETS OLDER SPECIFICATIONS |
|---|--|---|
| SUNDSTRAND | Hydrostatic Transmission Fluid | — |
| ALLISON | Type C-4 Fluid (See TB1167E/F for additional information) | C-3 Fluid |
| CATERPILLAR | — | TO-2 |
| DRESSER CONSTRUCTION EQUIPMENT DIVISION | Transmission/Hydraulic Fluid | |
| PARKER/ABEX/DENISON | Hydraulic Fluid-HF-0/1/2 | |
| EATON/VICKERS | M-2950-S, 1-286-S | — |
| PLESSEY-SUNDSTRAND | Hydraulic Fluid | — |
| CLARK | Lift Truck Transmission Fluid TA12, TA18 | HR 500 (DURATRAN XL) HR 600 (DURATRAN) |

Typical Performance Data

| PROPERTY | TEST METHOD | DURATRAN | DURATRAN XL |
|--|----------------------------|---------------------------|--------------------------|
| Flash Point, °C / °F | ASTM D92 | 239 / 462 | 225 / 437 |
| Kinematic Viscosity cSt @ 40°C / SUS @ 104 °F cSt @ 100°C / SUS @ 212 °F | ASTM D445 CEC-L-45-T-93 | 60.1 / 279 9.5 / 57.5 | 39.7 / 185 8.3 / 53.4 |
| High Temp / High Shear Viscosity cP @ 150°C / 302 °F | ASTM D4682 | 2.9 | 2.6 |
| Viscosity Index | ASTM D2270 | 141 | 192 |
| Brookfield Viscosity cP @ -20°C / -4 °F cP @ -35°C / -31 °F cP @ -40°C / -40 °F | ASTM D2983 | 2,670 21,700 61,200 | 1,150 — 14,900 |
| Pour Point, °C / °F | ASTM D97 | -45 /-49 | -50/-58 |
| Vickers Pump Wear | ASTM D2882 | Pass | Pass |
| Total Base Number (TBN) | ASTM D2896 | 10.6 | 10.6 |
| KRL Shear Testing after 20 Hr, viscosity cSt @ 100°C/212°F | CEC-L-45-T-93 | 8.2 | 6.1 |
| ABOT, 155°C/311°F / 300 hr, Tan Increase | FORD Merc V | 1.7 | 2.2 |
| John Deere Tests | | | |
| Shear Stability Test | JDQ 102 | 8.45 | 6.9 |
| Rust Test – Humidity Cabinet (49°C / 120 °F), 100% R.H. | JDM J20C | Pass | Pass |
| Oxidation Stability Test | JDQ 23 | Pass | Pass |
| Oil Compatibility Test | JDQ 23 | Pass | Pass |
| Compatibility Sensitivity Test | JDQ 19 | Pass | Pass |
| Foam Test | JDQ 33 | Pass | Pass |

The values quoted above are typical of normal production. They do not constitute a specification.

Health and Safety

To obtain Material Safety Data Sheet (MSDS), contact one of Petro-Canada's TechData Info Lines.

TechData Info Lines

If you would like to know more about Petro-Canada's **DURATRAN and DURATRAN XL Synthetic Blend** transmission fluids / hydraulic fluids, or any other product in our complete line of quality lubricants, please contact us at:

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