



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 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

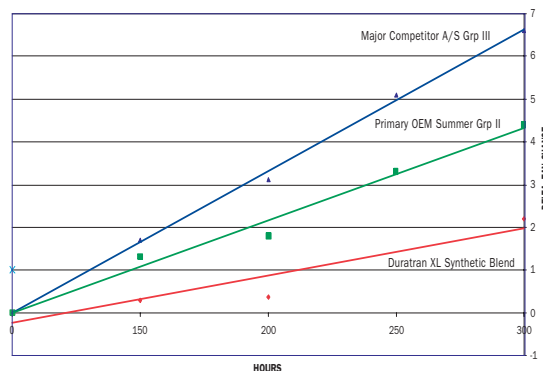
- **Superior Frictional Properties**
 - Exceptional frictional performance offering less brake chatter, and effective braking to avoid slip-skip problems
 - Allows superior clutch and transmission performance for smoother equipment operations
- **Long Life Protection**
 - Superior resistance to high 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 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



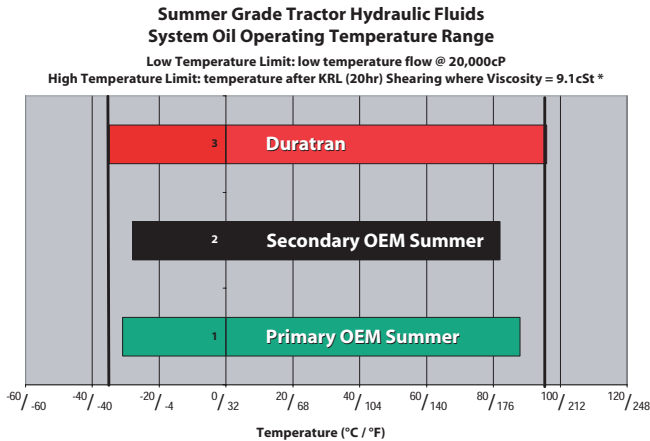
*Note: Results are after 300 hr ABOT Oxidation Test which is more severe than JD requirement Allison C-4 (GM 6137M) Oxidation Test.

Applications

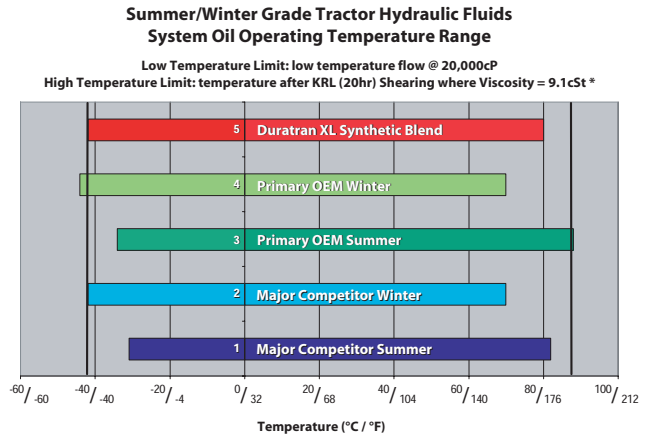
Petro-Canada DURATRAN and DURATRAN XL Synthetic Blend are recommended for use in agriculture, mining, forestry and construction equipment that use a common oil system for the transmission, final drive, hydraulic, power take-off, wet brake and power steering mechanisms.

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.



*Minimum viscosity is 9.1cSt @ 100°C. The after-shear temperature at 9.1cSt shows the stability of the fluid (higher is better).



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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, JDM J14B, JD 303 Fluid (DURATRAN) JDM J20B, JDM J14C, JD 303 Fluid (DURATRAN XL)
MASSEY-FERGUSON	M-1135, M-1141, M-1143 M-1145* (DURATRAN only) *Note: For UTTO applications only. Do not use in STOU applications.	M-1129-A, M-1127-A/B, M-1110
CNH (CASE I.H., J.I. CASE NEW HOLLAND GROUP)	MS-1209/MAT 3505, MS-1210/JIC-145/ MAT 3506, MS-1230/CNH MAT 3509, ESN-M2C134-D/MAT 3525	MS-1207, MS-1206, MS-1205, MS-1204/ JIC-185, B-6, B-5, JIC-144, JIC-143 FNHA-2-C-201.00 (DURATRAN) FNHA-2-C-200.00 (DURATRAN XL) ESN-M2C134-A/B/C, ESN-M2C86-B/C, ESN-M2C53-A, ESN-M2C48-B
KUBOTA	Kubota UDT 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	ESN-M2C134-D	Hydraulic/Gear Fluid Spec 24M Spec 23M
LANDINI	Tractor II Hydraulic Fluid	—
HESSTON FIAT	Oliofiat Tutela Multi-F	AF-87
VOLVO	WB 101	—
ZF TRANSMISSIONS	TE-ML 03, -03E, -05F; 6K, -06K, -21F (axles) (DURATRAN) TE-ML 03E, -05F, -21F (axles) (DURATRAN XL)	—

Transmissions, Differentials and Hydraulics

MANUFACTURER	CURRENT SPECIFICATION	MEETS OLDER SPECIFICATIONS
SUNDSTRAND	Hydrostatic Transmission Fluid	—
ALLISON	Type C-4 Fluid	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, COC, °C/ °F	ASTM D92	239 / 462	219 / 426
Kinematic Viscosity cSt @ 40°C/ SUS @ 100 °F cSt @ 100°C / SUS @ 210 °F	ASTM D445 CEC-L-45-T-93	60.1 / 307 9.5 / 57.9	39.2 / 198 8.3 / 53.6
High Temp / High Shear Viscosity cP @ 150°C / 302 °F	ASTM D4682	2.9	2.6
Viscosity Index	ASTM D2270	140	195
Brookfield Viscosity cP @ -20°C / -4 °F cP @ -35°C / -31 °F cP @ -40°C / -40 °F	ASTM D2983	2,670 23,700 61,200	1,300 — 13,500
Pour Point, °C / °F	ASTM D5950	-45 /-49	-50/-58
Vickers Pump Wear	ASTM D2882	Pass	Pass
Total Base Number (TBN)	ASTM D2896	10.6	10.4
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.

To order product or to learn more about how Petro-Canada Lubricants
can help your business visit: lubricants.petro-canada.com
or contact us at: lubecsr@petrocanadalsp.com



IM-7821E (2014.03)

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