



# Product Bulletin

## TRANSMISSION FINAL DRIVE & HYDRAULIC FLUIDS

**BRAD PENN<sup>®</sup> Transmission Final Drive & Hydraulic Fluids** are specialized transmission and drive-train fluids containing additive technology that meets or exceeds the Caterpillar TO-4 specification requirements for use in off-highway equipment.

**BRAD PENN<sup>®</sup> Transmission Final Drive & Hydraulic Fluids** are formulated to give smooth transmission power transfer under high horsepower conditions. Additionally, they provide:

- Good fluidity and low temperature properties
- Excellent antiwear protection to critical components
- Outstanding oxidation stability, foam resistance, and rust control
- Excellent shear stability to maintain viscosity over the life of the equipment
- Superior frictional characteristics eliminating excessive brake noise and clutch slippage
- Improved friction and antiwear performance compared to TO-2 fluids for longer equipment life

**BRAD PENN<sup>®</sup> Transmission Final Drive & Hydraulic Fluids** are designed for use in powershift, direct drive transmissions, winches, and final drives of all new Caterpillar equipment requiring the use of a TO-4 fluid. Their use will also provide improved performance and equipment life in older Caterpillar equipment which require a TO-2 fluid. They are available in four viscosity grades – **10W, 30, 50, and 60** as defined by the Society of Automotive Engineers (SAE). The SAE 10W and SAE 30 grades can be used in all Allison transmission, torque converter and hydraulic system applications specifying the use of an Allison C-4 fluid. Always follow the equipment manufacturer's recommendations for the selection of the appropriate viscosity grade.



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**BRAD PENN<sup>®</sup>**  
**Transmission Final Drive & Hydraulic Fluids – Typical Properties**

<b>SAE Grade</b>	<b>Test Method</b>	<b>10W</b>	<b>30</b>	<b>50</b>	<b>60</b>
Gravity, API	ASTM D-4052	30.8	28.1	26.7	25.7
Density, lbs/gal (g/L)	Calculated	7.274 (872)	7.4 (887)	7.46 (894)	7.513 (900)
Viscosity, cSt @ 40°C	ASTM D-445	50.6	90	190.3	291.2
Viscosity, cSt @ 100°C	ASTM D-445	7.75	10.8	17.5	23.25
Viscosity Index	ASTM D-2270	119	104	99	99
CCS, cP @ (-25)°C, cP	ASTM D-5293	6200	N/A	N/A	N/A
MRV @ -25°C, cP	ASTM D-4684	7100	N/A	N/A	N/A
Brookfield Vis @ -35°C, cP	ASTM D-2983	53,500	N/A	N/A	N/A
Brookfield Vis @ -25°C, cP	ASTM D-2983	N/A	43,500	N/A	N/A
Brookfield Vis @ -15°C, cP	ASTM D-2983	N/A	N/A	33,500	N/A
Pour Point, °F (°C)	ASTM D-5949	-49 (-45)	-30 (-22)	-24 (-11.2)	-0.4 (-18)
Flash Point, °F (°C)	ASTM D-92	400 (204)	425 (218)	465 (241)	465 (241)
Sulfated Ash	ASTM D-874	0.89	0.89	0.89	N/A
HTHS, mPa	ASTM D-5481	2.56	3.34	4.74	N/A
KF Moisture, ppm	ASTM D-6304	300 (max)	300 (max)	300 (max)	300 (max)
Color	ASTM D-1500	6.5	6.5	7.0	L 8.0
<b>Product Code</b>		<b>7354</b>	<b>7355</b>	<b>7356</b>	<b>7348</b>