



### RECOMMENDED LUBRICANTS FOR TORQUE CONVERTERS AND POWERSHIFT TRANSMISSIONS

Torque Converter/Transmission Lubricant Must Be Qualified By One Of The Following Specifications.

**Order Of Preference:**

- 1. Caterpillar TO-4
- 2. John Deere J20 C, D
- 3. Military Mil-Prf-2104G
- 4. Allison C-4
- 5. Dexron II Equivalent – See note Below

**Important:**

Dexron II Equivalent is acceptable; however, it is not compatible with torque converters or transmissions equipped with graphitic friction materials clutch plates.

**Lubricants Not Recommended: Dexron III, Engine oil, Any GL-5 oils**

**Oil Viscosity:** It is recommended that the highest viscosity monograde lubricant available be used for the anticipated ambient temperature. Typically this will be a Cat TO-4 qualified lubricant. When large swings in ambient temperature are probable J20 C, D multigrades are recommended. Multigrade lubricants should be applied at the lower viscosity rating for the prevailing ambient temperature i.e. a 10W20 should be used where a 10W monograde is used. If a C-4 multigrade is used in place of J20 lubricant it is recommended that the viscosity no more than 10 points, i.e. 10W20.

Synthetic lubricants are approved if qualified by one of the above specifications. Oil viscosity guidelines apply, but synthetic multigrades may span more than 10 points.

*For fire resistant fluid recommendations please contact Spicer Off-Highway Products.*

**Sump Preheaters** – Preheat the transmission fluid to the minimum temperature for the oil viscosity used before engine startup.

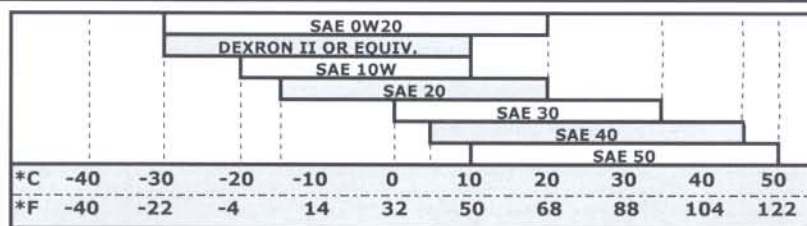
**Normal Oil Change Interval** – Drain and refill system every 1000 hours for average environmental and duty cycle conditions. Severe or sustained high operating temperature or very dusty atmospheric conditions will result in accelerated deterioration or contamination. Judgement must be used to determine the required change intervals for extreme conditions.

**Extended Oil Change Interval** – Extended oil service life may result when using synthetic fluids. Appropriate change intervals should be determined for each transmission by measuring oil oxidation and wear metals over time to determine a baseline. Wear metal analysis can provide useful information, but a transmission should not be removed from service solely on this basis

**Filters** – Service oil filter element every 500 hours under normal environmental and duty cycle conditions. Service the High Performance Extended Life filter element every 1000 hours, or upon warning indication from the filter backpressure sensor.

This recommended lubricant bulletin does not apply to transmissions with electronic modulation where separate approved oils are identified.

**Any deviation from this recommendation must have written approval from the Application Engineering Department of Spicer Off-Highway Products.**



Recommended J300 Viscosity Grade based on Prevailing Ambient Temperature

\*Dexron is a registered trademark of General Motors Corporation



## Spicer Off-Highway Products

### POWERSHIFT TRANSMISSION AND TORQUE CONVERTER HYDRAULIC FLUID ANALYSIS

Spicer Off-Highway Products Division recommends that when chemical sampling of Power Shift transmission lubrication circuit fluid is being taken that several samples be analyzed over a period of time to establish a baseline. Large changes in particle quantity from the normal level may indicate an abnormal condition within the transmission or it's lubrication fluid.

Any conclusion made of the transmission's actual condition, or action taken by the transmission user when interpreting the sample results is the full responsibility of the user.

***The following part per million (PPM) values represent general guidelines which may be used for references as a normal limit:***

Iron	Fe	125 PPM
Copper	Cu	350 PPM
Silicon	Si	20 PPM
Aluminum	Al	15 PPM
Lead	Pb	50 PPM
Chromium	Cr	5 PPM