

Lubrico

Exhibit "B"
University of Nebraska
Application for Test
Caterpillar R-5

Recommended for
"Caterpillar" Machines

THE following tables recommend the viscosity or body of oils to be used where the lubrication chart specifies "crankcase lubricating oil" or "transmission lubricant."

CRANKCASE LUBRICATING OIL

<u>Atmospheric Temperatures</u>	<u>S.A.E. Number</u>
Above 32°F. (0°C.)use.....	40 or 50 or 60
Below 32°F. (0°C.)use.....	20 or 30

For continuous maximum loads when temperature is above 32°F. (0°C.) use either S.A.E. 50 or S.A.E. 60 crankcase lubricating oil. For most operating conditions S.A.E. 50 is satisfactory.

For the same load conditions, but when temperature is near or below 32°F. (0°C.) use the heaviest oil which will permit satisfactory starting and immediate oil circulation. To facilitate starting in cold weather the engine should be kept warm when not in operation, or it should be warmed before starting. Heating the liquid in the cooling system and also the crankcase lubricating oil will likewise facilitate starting and insure immediate oil distribution. If possible the machine should be stored in a warm building, otherwise it should be covered with a tarpaulin under which a heater is kept burning to keep the temperature at a reasonably high point. When starting during cold weather the engine should be allowed to operate at a moderate speed (approximately 75% of rated r.p.m.) for at least fifteen minutes to insure adequate lubrication.

A major factor in determining the suitability of oils for use in cold weather is their ability to flow freely at low temperatures. For any atmospheric temperature below freezing, use a crankcase lubricating oil that has a low pour point. The pour point for any oil can be given by the Company that markets it.

TRANSMISSION LUBRICANT

<u>Atmospheric Temperatures</u>	<u>S.A.E. Number</u>
Above 32°F. (0°C.)use.....	160
Below 32°F. (0°C.)use.....	110 or 90

At all temperatures a transmission lubricant should be used that will flow freely and will not channel. In extremely cold weather, one of a lower viscosity than S.A.E. 90 may be needed. If this cannot be obtained, thin the lubricant by mixing in unused crankcase lubricating oil which has a low S.A.E. number and also a low pour point.

Caterpillar Tractor Co.