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Automatic Transmissions

OIL TEMPERATURE MEASURED AT CONVERTER OUTLET TO COOLER:

300° F= The maximum allowable temperature. This is the recommended place to install a temperature gauge or sensor. Do not allow the converter outlet temperature to exceed 300° F. The temperature at this location will vary significantly because of load, hill climbing, etceteras. If the temperature reaches 300° F, reduce throttle. To lower transmission temperature with transmission in neutral, run the engine at 1,200 RPM for at least 2 - 3 minutes while keeping a close check for signs of engine overheating. A transmission in a heavy throttle, stall condition (a typical situation is rocking a vehicle stuck in mud, sand, or snow), may increase temperature at a rate of 1° degree per second of stall.

150°C

OIL TEMPERATURE MEASURED AT OIL PAN OR SUMP:

150° F= The minimum operating temperature. Note: It is possible in low ambient temperatures to overcool the transmission with auxiliary oil to air coolers. Oil to water coolers in standard factory radiators will normally not overcool a transmission.

65°C

175-200° F= Normal pan oil temperature operating range.

80 - 93°C

275° F= Maximum allowable oil pan temperature for short durations during long hill climbs.

135°C

300° F= Damage occurs to internal transmission parts, including warpage of metal parts, degradation of clutches, and melting of seals. Transmission oil oxidizes, (forming varnish-like substances causing further clutch slippage and compounding heat build up) and transmission oil life is extremely short.

150°C

AUTOMATIC TRANSMISSION FLUID LIFE / TEMPERATURE RELATIONSHIP:

Automatic transmission oil can provide up to 100,000 miles of service before oxidation requires replacement, at an operating temperature of 175° F. Above this temperature, the oil oxidation rate doubles with each 20° degrees F increase in oil temperature. See chart.

160 934 km

| DEGREES F | MILES | DEGREES F | MILES |
|------------------|---------------------------|------------------|----------------------|
| 175 <i>80°C</i> | 100,000 <i>160 934 km</i> | 295 <i>146°C</i> | 1,500 <i>2414 km</i> |
| 195 <i>91°C</i> | 50,000 <i>80 467 km</i> | 315 <i>157°C</i> | 750 <i>1207 km</i> |
| 215 <i>102°C</i> | 25,000 <i>40 234 km</i> | 335 <i>168°C</i> | 325 <i>523 km</i> |

Transmission Oil

| | | | | | | | |
|-----|-------|--------|----------|-----|-------|-----|--------|
| 235 | 113°C | 12,500 | 20116 km | 355 | 179°C | 160 | 257 km |
| 255 | 124°C | 6,250 | 10058 km | 375 | 191°C | 80 | 128 km |
| 275 | 135°C | 3,125 | 5029 km | 395 | 202°C | 40 | 64 km |

Note: Transmission oil and filter should always be changed more frequently when driving with heavy loads (RVs), typically at least every 25,000 mile intervals, since converter outlet temperatures then normally far exceed the ideal 175° F.

80° 40 234 km

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