

Climate and Motor Oil

Climatic surroundings strongly influence the choice of the best motor oil and the frequency of oil changes.

Regarding the choice of the motor oil: It is the viscosity that is decisive. In very cold regions you have the problem at starting up to get the oil fast to all parts of the engine. So you should use motor oil with the lowest viscosity allowed by the manufacturer (see driver manual). At very high temperatures you should conversely use motor oil with the highest possible viscosity allowed.

In general high temperatures stress oil much more than low temperatures. A second stress factor is high air humidity. And a third factor is high engine loading, for example by many short distance trips. The oil change intervals stated by manufacturers base upon a moderate climate. We learned that oil in hot and humid climatic surroundings should be changed more often. We also recommend an engine flush with LIQUI MOLY Motorclean to get rid of residues that develop very fast under these circumstances. Otherwise you may experience engine break-downs despite being within the limits set by the manufacturer.

SAE	Low Temperature Viscosities		High-Temperature Viscosities		
	Cranking ² (mPa.s) max at temp °C	Borderline Pumping tempera- ture ³ (mPa.s) max at temp °C	Kinematic ⁴ (mm ² /s) at 100°C		High Shear ⁵ Rate (mPa.s) at 150°C, 10/s
Viscosity Grade			min	max	min
0W	6200 at -35	60 000 at -40	3.8	—	—
5W	6600 at -30	60 000 at -35	3.8	—	—
10W	7000 at -25	60 000 at -30	4.1	—	—
15W	7000 at -20	60 000 at -25	5.6	—	—
20W	9500 at -15	60 000 at -20	5.6	—	—
25W	13 000 at -10	60 000 at -15	9.3	—	—
20	—	—	5.6	<9.3	2.6
30	—	—	9.3	<12.5	2.9
40	—	—	12.5	<16.3	2.9 ⁶
40	—	—	12.5	<16.3	3.7 ⁷
50	—	—	16.3	<21.9	3.7
60	—	—	21.9	<26.1	3.7