SynMax Performance Lubricants
13750 Metric Drive, Roscoe, IL. 61073 (815) 389-9999 www.synmaxperformancelubricants.com

Q & A TECHNICAL BULLETIN – PRE HEAT RACING MOTOR OIL

Q: Is there a cold start advantage with synthetic base oils over paraffin base and blend oils?

A: Yes there is; Synthetic base oils have the ability to flow easier when cold, heat up to operational temperature quicker and hold the steady with better consistency. Paraffin / Mineral base oils are not as uniform in molecule structure and take longer to warm up to temperature, also the Paraffin / Mineral base oils over time, will want to continue to increase in temperature as compared to the synthetic that will hold steady. So, the higher amount of PAO Group IV base oils, the greater your advantage for thermal stability.

Q: What is the advantage(s) to pre-heating the RACING motor oil before use?

A: There is a couple of advantages. First, is the oil during initial start has the ability to flow into the smallest parts and bearing of the motor for maximum protection. Second, oil when warm / hot will reduce friction and bring up performance quicker. Third, engine components will not have temperature hot / cold shocks.

Q: What is the best temperature to pre heat the RACING engine oil?

A: Minimum 100F (good) 150°F (best) to warm the oil before turning the motor over to pressurized the motor before ignition and start. Try to get the oil close to initial operational temperature (150°F) – even 10°F difference from 140°F to 150°F in a late model race application could mean as much as 10 HP advantage. When the oil reaches 150°F (which is the same temperature when the oil is blended) this helps to activate the internal molecules at the smallest atomic level, allowing the base oils and additives to function at its premium ability to interact with the metal surfaces for lubrication and protection.

Q: NASCAR type engines pre heat the oil close to 300F – should I do the same?

A: That is not necessary – remember – the longer you “cook” the oil – the quicker you shorten the oils effective life – it is natural chemical fact. Hotter oil (300°F) is not a real advantage for the average race application, 150°F is sufficient. NASCAR type applications for immediate qualify conditions where they try to match the car temperature to be immediate at the start for the double lap qualify session. Also these extreme pre-heat conditions need to be observed and controlled, historically oil fires have happened.

Q: Should I pre-heat the engine oil for Break-In conditions as well just like pre-race conditions?

A: Yes, the same motor oil pre-heart advantage principals apply for Break-In procedures.

