



SynMax Performance Lubricants

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Q & A TECHNICAL BULLETIN BIG BLOCK MOTOR APPLICATIONS & EXPLANATIONS.

Q: I have a modern Big Block design motor what SAE weight should be used?

A: Always consult your OEM manual for specifications – modern big block motors – commonly used in heavy duty truck, camper or high performance applications. Suggest 5W30 or 10W30 synthetics since the engine is designed for the use of a 10W30. Problem is that most available 5W30 or 10W30 synthetics for modern emission systems do not have the high performance additive packages to perform in these extreme heavy duty applications. Titan has the DLA technology needed to protect the metal surfaces and increased power, performance fuel efficiency and component durability.

Q: I have an older Big Block design motor what SAE weight should be used?

A: Always consult your OEM manual for specifications – older bog block motors – commonly used in heavy duty truck, camper or high performance applications suggest 10W40 or 20W50. Reason for the higher SAE viscosity weight is that a Big Block engine has small water jackets and also creates high temperatures since it is placed in a small engine bay area that does not have air passing by to dissipate the heat. Because of the extreme horsepower, torque and requirements it punishes the oil. If the oil is cool and viscosity stays good – friction is reduced and parts protected. If the motor does not have a modern emission system and mufflers – you should consider using 5W50 or 20W50 competition racing oil (with increased additive package) for best performance. If the motor has many miles and is worn – consider to use quality petroleum or petroleum/synthetic (80/20) blend base oils. If the motor is new and tight with current seals – full synthetic will dissipate the heat much better. For improved metal surface component performance always use a oil with Diamond Like Additive® (DLA) Technology or Moly. Titan has the DLA technology needed to protect the metal surfaces and increased power, performance fuel efficiency and component durability.

Q: Could I use a higher weight SAE motor oil (W40 or W50) in my modern Big Block to protect it better?

A: Even though heavier SAE viscosity would provide more protection, modern OEM engineering design and emission systems are designed for a W30 for performance and efficiency.

Q: what happens when the oil gets to hot?

A: when the oil reaches a certain temperature (especially the lighter weight oils), you loose hydrodynamic film strength. When you loose hydrodynamic film strength (oil barrier) parts increase in friction. When parts increase in friction – this slows the engine performance, looses horsepower and torque since the motor is now fighting itself to do the same job. That is why you need to select the right oil to perform in real race conditions through out the entire race session (including last laps) not just the beginning. Remember: you need to first finish before you finish first. In professional race applications – the difference in 10 - 20 degrees of oil temperature (230F vs. 240F) in race conditions reduces horse power performance 5 to 15 horsepower depending on the situation.

Q: Will cooler oil temperatures help the oil last longer?



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A: Yes, this is a natural and chemical fact: once you get above 100C (180F), every 10C (20F) you can reduce the oil temperature; you will double the life durability of the oil (not including contaminate factors).

Q: I have higher oil pressure when the oil is cold on the 20W50 vs. the 5W50 – but the oil pressure stays stronger with the 5W50 what is best?

A: Remember 20W50 petroleum or synthetic blends will push itself through even a commercial truck oil filter, if you use a same design Special Racing oil filter – you could gain that initial 4-5 psi of oil pressure at the start up and cold operations. The 20W50 towards the end of the race session will begin to break down (slightly loose oil pressure) where the 5W50 has greater stability.

For further information please reference the following SynMax Technical Bulletins:

API Questions: Race Oil vs. Street Oil
Q & A Race Oil General Applications
Racing Products Application Guide