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piston de scooter image by Vetea TOOMARU from Fotolia.com An engine will quickly self destruct without oil. However, having oil in the engine is not enough. You must have the right oil to assure engine longevity. The composition of engine oil is always evolving as new discoveries are made, so the defined classifications follow suit with the evolution of oil quality. The American Petroleum Institute (API) defines specifications for engine oils, such as SG or SE. Engine oil manufacturers, in turn, label containers with the oil rating. In 2010, the API states that the classifications of SG and SE are obsolete. This is due to the chemical evolution in oils. As chemists make new discoveries, the old oils are phased out. For example, outdated oils thickened up in cold weather. In 2010 this is no longer the case with the advent of modern additives. Oils with the classification of SG and SE are antiquated technology. The API cautions that any oil with a classification of SE should not be used in engines built after 1979. Furthermore, the SG classification cannot be used in engines made before 1993. The recommended correct oil to use for all gasoline engines, in any year, is the classification SM. For engines made 2001 and before, classification SJ is acceptable. For engines made 2004 and before, classification SL is acceptable. If you are unsure as to what classification is suitable for your engine, the original manufacturer has the recommended oil information for each specific engine. If your engine is under warranty, using the wrong classification may void the warranty. Keep in mind the API states that any oil having an SM classification is suitable in all gasoline engines. For diesel engines, other classifications of oil are recommended. SAE 40 10w-40 5w-30 20w-50 5w-20 SAE 30 15W-40 Most of the time when viscosity is explained words are used that are too technical for the average person to quickly grasp. This leaves them still wondering what the viscosity numbers really mean on a bottle of motor oil. Simply put, viscosity is the oil's resistance to flow or, for the layman, an oil's speed of flow as measured through a device known as a viscometer. The thicker (higher viscosity) of an oil, the slower it will flow. You will see oil viscosity measurement in lube articles stated in kinematic (kv) and absolute (cSt) terms. These are translated into the easier to understand SAE viscosity numbers you see on an oil bottle. OK . . .What does a 5W-30 do that an SAE 30 won't? When you see a W on a viscosity rating it means that this oil viscosity has been tested at a Colder temperature. The numbers without the W are all tested at 210° F or 100° C which is considered an approximation of engine operating temperature. In other words, a SAE 30 motor oil is the same viscosity as a 10w-30 or 5W-30 at 210° (100° C). The difference is when the viscosity is tested at a much colder temperature. For example, a 5W-30 motor oil performs like a SAE 5 motor oil would perform at the cold temperature specified, but still has the SAE 30 viscosity at 210° F (100° C) which is engine operating temperature. This allows the engine to get quick oil flow when it is started cold verses dry running until lubricant either warms up sufficiently or is finally forced through the engine oil system. The advantages of a low W viscosity number is obvious. The quicker the oil flows cold, the less dry running. Less dry running means much less engine wear. SAE Viscosity Chart (High Temp) 100° C (210° F) SAE Viscosity Kinematic (cSt) 100° C Min Kinematic (cSt) 100° C Max 20 5.6