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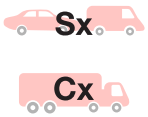
What are specifications and why are they important?

Automotive engine oil specifications fall into four main categories: SAE (Society of Automotive Engineers), ACEA (European Automobile Manufacturers Association), API (American Petroleum Institute) and OEM (Original Equipment Manufacturer). Each has a different set of criteria that define the performance parameters of a particular oil and determine their suitability for use in various vehicles. When selecting engine oil it is important to remember that each set of specifications has a part to play in helping to choose the right product to help ensure the vehicle is operating as well as it can.

Fig. 1 – Engine oil specifications

SAE		ACEA	API		OEM
Society of Automotive Engineers		European Automotive Manufacturers Association	American Petroleum Institute		Individual Vehicle Manufacturers
		Ax / Bx / Cx Ex		Sx Cx	Audi Land Rover Vauxhall Citroen Volkswagen Toyota

Viscosity Grade

The most prominent specification seen on any bottle of oil is the viscosity which is defined by the Society of Automotive Engineers or SAE. When it comes to choosing the right type of oil, viscosity is as important as any other specification and should never be ignored. Viscosity is a measure of how well a fluid will flow at a given temperature. The best way to describe this is by example. Water is a low viscosity fluid that flows freely at room temperature whereas treacle is a high viscosity fluid that flows very slowly at the same temperature. In practice, engine oil sits somewhere in between the two.

Fig. 2 – Specifications represented on engine oil labels.

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Industry Specifications

ACEA (European Automobile Constructors Manufacturers) have three sets of specifications which are referred to as sequences. The A/B sequence is the standard classification for petrol and diesel passenger vehicle and light commercial vehicle engine oils. The C sequence is a special classification for the same vehicles which defines low SAPS (Sulphated Ash, Phosphorus and Sulphur) or low ash oils that are required by some vehicles to protect DPFs (Diesel Particulate Filters) and CATs (catalytic converters). Finally, the E sequence covers heavy duty diesel applications.

API (American Petroleum Institute) have only two sets of specifications; the S sequence for spark ignition engines (petrol) and the C sequence for compression ignition engines (diesel). The S sequences for petrol engines generally apply to passenger vehicles and light commercial vehicles and the C sequences to heavy duty diesels. There are no classifications for diesel engines in passenger vehicles as this is not a big market in the US.

OEM Specifications

Almost every vehicle manufacturer has their own set of specifications for engine oil which may compliment or supersede both ACEA and API specifications. In recent years the number of unique manufacturer specifications has greatly increased resulting in a shift towards manufacturer specific oils. Increasingly demanding environmental regulations have led to much more complex and variable engine configurations which in turn can lead to quite different requirements for engine oil. This leads to different sets of specifications, even within the same make and model!

Renault	Mazda Land Rover Jaguar	Peugeot Citroen	Audi, Seat, Skoda, Volkswagen	BMW Vauxhall Opal Mercedes-Benz	GM Vauxhall Opal	Ford	Ford	Volvo	Toyota Subaru

How do I know which product to use on which car?

The safest way to make product recommendations is to use one of Comma's application tools. At www.CommaOil.com you will find product recommendations with 100% compatibility guarantee for engine oil and antifreeze & coolant for virtually every European vehicle going back over 30yrs, including system capacities and recommended service intervals. It also covers brake fluid, gear oil and power steering fluid should you find you need some help with those as well.

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