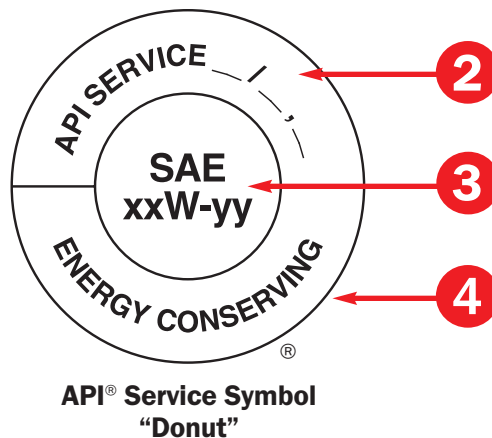


MOTOR OIL GUIDE



API's Service Symbol and Certification Mark identify quality engine oils for gasoline- and diesel-powered vehicles. Oils displaying these marks meet performance requirements set by U.S. and international vehicle and engine manufacturers and the lubricant industry. More than 500 companies worldwide participate in this voluntary program, which is backed by a marketplace sampling and testing program.

1. Starburst: An oil displaying this mark meets the current engine protection standard and fuel economy requirements of the International Lubricant Standardization and Approval Committee (ILSAC), a joint effort of U.S. and Japanese automobile manufacturers. Most automobile manufacturers recommend oils that carry the API Certification Mark.

2. Performance Level:

Gasoline engine oil categories (for cars, vans, and light trucks with gasoline engines): Oils designed for gasoline-engine service fall under API's "S" (Service) categories. See reverse for descriptions of current and obsolete API service categories.

Diesel engine oil categories (for heavy-duty trucks and vehicles with diesel engines): Oils designed for diesel-engine service fall under API's "C" (Commercial) categories. See reverse for descriptions of current and obsolete API service categories.

3. Viscosity Grade: The measure of an oil's thickness and ability to flow at certain temperatures. Vehicle requirements may vary. Follow your vehicle manufacturer's recommendations on SAE oil viscosity grade.

4. Energy Conserving: The "Energy Conserving" designation applies to oils intended for gasoline-engine cars, vans, and light trucks. Widespread use of "Energy Conserving" oils may result in an overall savings of fuel in the vehicle fleet as a whole.

5. CI-4 PLUS: Used in conjunction with API CI-4, the "CI-4 PLUS" designation identifies oils formulated to provide a higher level of protection against soot-related viscosity increase and viscosity loss due to shear in diesel engines. Like Energy Conserving, CI-4 PLUS appears in the lower portion of the API Service Symbol "Donut."

GUIDELINES TO HELP YOU GET MORE FROM YOUR MOTOR OIL

- ▶ Refer to your owner's manual for type of oil to use.
- ▶ Follow manufacturer's oil change recommendations.
- ▶ Use only the recommended API category: "S" for gasoline engines; "C" for diesel engines.
- ▶ Select the proper SAE oil viscosity grade.
- ▶ If you find it necessary to mix brands of oil, use the same viscosity grade and API service category to maintain performance.
- ▶ Properly dispose of used oil. Learn more about recycling used oil on the web at www.recycleoil.org. Go to www.earth911.org for used oil collection center locations.

Look for the API Quality Marks every time you buy motor oil.

Ask for API-licensed oil whenever you have your oil changed.

GUIDE TO SAE VISCOSITY GRADES OF MOTOR OIL FOR PASSENGER CARS

Multigrade oils such as SAE 5W-30 and 10W-30 are widely used because, under all but extremely hot or cold conditions, they are thin enough to flow at low temperatures and thick enough to perform satisfactorily at high temperatures. **Note that vehicle requirements may vary. Follow your vehicle manufacturer's recommendations on SAE oil viscosity grade.**

If lowest expected outdoor temperature is	Typical SAE Viscosity Grades for Passenger Cars
0°C (32°F)	5W-20, 5W-30, 10W-30, 10W-40, 20W-50
-18°C (0°F)	5W-20, 5W-30, 10W-30, 10W-40
Below -18°C (0°F)	5W-20, 5W-30

For more information about API's Engine Oil Program, visit our website at www.api.org/eolcs.

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Which oil is right for you?

The current and previous API Service Categories are listed below. Vehicle owners should refer to their owner's manuals before consulting these charts. Oils may have more than one performance level.

For automotive gasoline engines, the latest engine oil service category includes the performance properties of each earlier category. If an automotive owner's manual calls for an API SJ or SL oil, an API SM oil will provide full protection. For diesel engines, the latest category usually – but not always – includes the performance properties of an earlier category.

Gasoline Engines		
Category	Status	Service
SM	Current	For all automotive engines currently in use. Introduced November 30, 2004, SM oils are designed to provide improved oxidation resistance, improved deposit protection, better wear protection, and better low-temperature performance over the life of the oil. Some SM oils may also meet the latest ILSAC specification and/or qualify as Energy Conserving.
SL	Current	For 2004 and older automotive engines.
SJ	Current	For 2001 and older automotive engines.
SH	Obsolete	For 1996 and older engines. Valid when preceded by current C categories.
SG	Obsolete	For 1993 and older engines.
SF	Obsolete	For 1988 and older engines.
SE	Obsolete	CAUTION—Not suitable for use in gasoline-powered automotive engines built after 1979.
SD	Obsolete	CAUTION—Not suitable for use in gasoline-powered automotive engines built after 1971. Use in more modern engines may cause unsatisfactory performance or equipment harm.
SC	Obsolete	CAUTION—Not suitable for use in gasoline-powered automotive engines built after 1967. Use in more modern engines may cause unsatisfactory performance or equipment harm.
SB	Obsolete	CAUTION—Not suitable for use in gasoline-powered automotive engines built after 1963. Use in more modern engines may cause unsatisfactory performance or equipment harm.
SA	Obsolete	CAUTION—Contains no additives. Not suitable for use in gasoline-powered automotive engines built after 1930. Use in modern engines may cause unsatisfactory engine performance or equipment harm.

Note: API intentionally omitted "SI" and "SK" from the sequence of categories. For more information about API's Engine Oil Program, visit our website at www.api.org/eolcs.

Diesel Engines		
Category	Status	Service
CI-4	Current	Introduced in 2002. For high-speed, four-stroke engines designed to meet 2004 exhaust emission standards implemented in 2002. CI-4 oils are formulated to sustain engine durability where exhaust gas recirculation (EGR) is used and are intended for use with diesel fuels ranging in sulfur content up to 0.5% weight. Can be used in place of CD, CE, CF-4, CG-4, and CH-4 oils. Some CI-4 oils may also qualify for the CI-4 PLUS designation.
CH-4	Current	Introduced in 1998. For high-speed, four-stroke engines designed to meet 1998 exhaust emission standards. CH-4 oils are specifically compounded for use with diesel fuels ranging in sulfur content up to 0.5% weight. Can be used in place of CD, CE, CF-4, and CG-4 oils.
CG-4	Current	Introduced in 1995. For severe duty, high-speed, four-stroke engines using fuel with less than 0.5% weight sulfur. CG-4 oils are required for engines meeting 1994 emission standards. Can be used in place of CD, CE, and CF-4 oils.
CF-4	Current	Introduced in 1990. For high-speed, four-stroke, naturally aspirated and turbocharged engines. Can be used in place of CD and CE oils.
CF-2	Current	Introduced in 1994. For severe duty, two-stroke cycle engines. Can be used in place of CD-II oils.
CF	Current	Introduced in 1994. For off-road, indirect-injected and other diesel engines including those using fuel with over 0.5% weight sulfur. Can be used in place of CD oils.
CE	Obsolete	Introduced in 1985. For high-speed, four-stroke, naturally aspirated and turbocharged engines. Can be used in place of CC and CD oils.
CD-II	Obsolete	Introduced in 1985. For two-stroke cycle engines.
CD	Obsolete	Introduced in 1955. For certain naturally aspirated and turbocharged engines.
CC	Obsolete	CAUTION—Not suitable for use in diesel-powered engines built after 1990.
CB	Obsolete	CAUTION—Not suitable for use in diesel-powered engines built after 1961.
CA	Obsolete	CAUTION—Not suitable for use in diesel-powered engines built after 1959.

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