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## API API Engine Oil Service Category Charts

### Gasoline Engines

"S"	Status	Service Gasoline Engines
SN	Introduced in October 2010	Introduced in October 2010 for 2011 and older vehicles, designed to provide improved high temperature deposit protection for pistons, more stringent sludge control, and seal compatibility. API SN with Resource Conserving matches ILSAC GF-5 by combining API SN performance with improved fuel economy, turbocharger protection, emission control system compatibility, and protection of engines operating on ethanol-containing fuels up to E85.
SM	Introduced on 30 November 2004	Category 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. They may be used where API Service Category SJ and SL earlier categories are recommended.
SL	2001 Gasoline Engine Service	Category SL was adopted to describe engine oils for use in 2001. It is for use in service typical of gasoline engines in present and earlier passenger cars, sports utility vehicles, vans and light trucks operating under vehicle manufacturers recommended maintenance procedures. Oils meeting API SL requirements have been tested according to the American Chemistry Council (ACC) Product Approval Code of Practice and may utilize the API Base Oil Interchange and Viscosity Grade Engine Testing Guidelines. They may be used where API Service Category SJ and earlier categories are recommended.
SJ	1997 Gasoline Engine Service	Category SJ was adopted in 1996 to describe engine oil first mandated in 1997. It is for use in service typical of gasoline engines in present and earlier passenger cars, vans, and light trucks operating under manufacturers recommended maintenance procedures. Oils meeting API SH requirements have been tested according to the American Chemistry Council (ACC) Product Approval Code of Practice and may utilize the API Base Oil Interchange and Viscosity Grade Engine Testing Guidelines. They may be used where API Service Category SH and earlier categories are recommended.
SH	Obsolete	For model year 1996 and older engines.

SG	Obsolete	For model year 1993 and older engines.
SF	Obsolete	For model year 1988 and older engines.
SE	Obsolete	For model year 1979 and older engines.
SD	Obsolete	For model year 1971 and older engines.
SC	Obsolete	For model year 1967 and older engines.
SB	Obsolete	For older engines. Use only when specifically recommended by the manufacturer.
SA	Obsolete	For older engines; no performance requirement. Use only when specifically recommended by the manufacturer.

## Diesel Engines

"C"	Status	Service Diesel Engines
CJ-4	Current - 2006	Introduced in 2006 for high-speed four-stroke engines. Designed to meet 2007 on-highway exhaust emission standards. CJ-4 oils are compounded for use in all applications with diesel fuels ranging in sulphur content up to 500ppm (0.05% by weight). However, use of these oils with greater than 15ppm sulfur fuel may impact exhaust after treatment system durability and/or oil drain intervals. CJ-4 oils are effective at sustaining emission control system durability where particulate filters and other advanced after treatment systems are used. CJ-4 oils exceed the performance criteria of CF-4, C-4, AH-4 and C-4.
CI-4 Plus	Current - 2004	Used in conjunction with API C-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."
CI-4	Severe-Duty Diesel Engine Service	The CI-4 performance requirements describe oils for use in those high speed, four-stroke cycle diesel engines designed to meet 2004 exhaust emission standards, to be implemented October 2002. These oils are compounded for use in all applications with diesel fuels ranging in sulfur content up to 0.05% by weight. These oils are especially effective at sustaining engine durability where Exhaust Gas Recirculation (EGR) and other exhaust emission componentry may be used. Optimum protection is provided for control of corrosive wear tendencies, low and high temperature stability, soot handling properties, piston deposit control, valve train wear, oxidative thickening, foaming and viscosity loss due to shear. CI-4 oils are superior in performance to those meeting API CH-4, CG-4 and CF-4 and can effectively lubricate engines calling for those API Service Categories.
CH-4	Severe-Duty Diesel Engine Service	This service oils are suitable for high speed, four-stroke diesel engines designed to meet 1998 exhaust emission standards and are specifically compounded for use with diesel fuels ranging in sulfur content up to 0.5% weight. CH-4 oils are superior in performance to those meeting API CF-4 and API CG-4 and can

		effectively lubricate engines calling for those API Service Categories.
CG-4	Obsolete	This category describes oils for use in high speed four-stroke-cycle diesel engines used in both heavy-duty on-highway (0.05% wt sulfur fuel) and off-highway (less than 0.5% wt sulfur fuel) applications. CG-4 oils provide effective control over high temperature piston deposits, wear, corrosion, foaming, oxidation stability, and soot accumulation. These oils are specially effective in engines designed to meet 1994 exhaust emission standards and may also be used in engines requiring API Service Categories CD, CE, and CF-4. Oils designed for this service have been in existence since 1994.
CF-2	Obsolete	Service typical of two-stroke cycle diesel engines requiring highly effective control over cylinder and ring-face scuffing and deposits. Oils designed for this service have been in existence since 1994 and may be used when API Service Category CD-II is recommended. These oils do not necessarily meet the requirements of API CF or CF-4 unless they pass the test requirements for these categories.
CF	Obsolete	Service typical of indirect-injection diesel engines and other diesel engines that use a broad range of fuel types, including those using fuel with high sulfur content; for example, over 0.5% wt. Effective control of piston deposits, wear and copper-containing bearing corrosion is essential for these engines, which may be naturally aspirated, turbocharged or supercharged. Oils designated for this service have been in existence since 1994 and may be used when API Service Category CD is recommended.
CF-4	Obsolete	Service typical of high speed, four-stroke cycle diesel engines. API CF-4 oils exceed the requirements for the API CE category, providing improved control of oil consumption and piston deposits. These oils should be used in place of API CE oils. They are particularly suited for on-highway, heavy-duty truck applications. When combined with the appropriate S category, they can also be used in gasoline and diesel powered personal vehicles i.e., passenger cars, light trucks and vans when recommended by the vehicle or engine manufacturer.
CE	Obsolete	Service typical of certain turbocharged or supercharged heavy-duty diesel engines, manufactured since 1983 and operated under both low speed, high load and high speed, high load conditions. Oils designed for this service may also be used when API Service Category CD is recommended.
CD-II	Obsolete	Service typical of two-stroke cycle diesel engines requiring highly effective control of wear and deposits. Oils designed for this service also meet all performance requirements of API Service Category CD.
CD	Obsolete	Service typical of certain naturally aspirated, turbocharged or supercharged diesel engines where highly effective control of wear and deposits is vital, or when using fuels with a wide quality range (including high-sulfur fuels). Oils designed for this service were introduced in 1955 and provide protection from high temperature deposits and bearing corrosion in these diesel

engines.

CC	Obsolete	Service typical of certain naturally aspirated, turbocharged or supercharged diesel engines operated in moderate to severe-duty service, and certain heavy-duty gasoline engines. Oils designed for this service provide protection from bearing corrosion, rust, corrosion and from high to low temperature deposits in gasoline engines. They were introduced in 1961.
CB	Obsolete	Service typical of diesel engines operated in mild to moderate duty, but with lower quality fuels, which necessitate more protection from wear and deposits; occasionally has included gasoline engines in mild service. Oils designed for this service were introduced in 1949. They provide necessary protection from bearing corrosion and from high temperature deposits in naturally aspirated diesel engines with higher sulfur fuels.
CA	Obsolete	Service typical of diesel engines operated in mild to moderate duty with high quality fuels; occasionally has included gasoline engines in mild service. Oils designed for this service provide protection from bearing corrosion and ring-belt deposits in some naturally aspirated diesel engines when using fuels of such quality that they impose no unusual requirements for wear and deposits protection. They were widely used in the 1940s and 1950s but should not be used in any engine unless specifically recommended by the equipment manufacturer.

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#### ORGANIZATIONS

American Petroleum  
Institute

ACEA Europe

ISO International

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ILSAC

#### MANUFACTURERS

Volkswagen

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Renault

