



Explanation of API-SAE Engine Oil Service Categories

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The following engine service categories are guides to selecting proper oils for different engine designs and service conditions. Automotive and engine manufacturers include these category designations in their owner/operator manuals.

S – Service

Obsolete

SA – Utility Gasoline Engine Service

SB – Minimum Duty Gasoline Engine Service

SC – 1964 Gasoline Engine Warranty Service

SD – 1968 Gasoline Engine Warranty Maintenance Service

SE – 1972 Gasoline Engine Warranty Maintenance Service

SF – 1980 Gasoline Engine Warranty Maintenance Service

SG – 1989 Gasoline Engine Warranty Maintenance Service

SH – 1994 Gasoline Engine Service

Current

SJ – 1996 Gasoline Engine Service

Category SJ was adopted in 1996 and became mandatory in 1997, superseding API rating SH for gasoline-only engine oils. It addresses improved performance in compatibility for catalytic converters, volatility, high-temperature deposits, and low-temperature pumpability. Usual SJ viscosities include 0W-20, 5W-20, 5W-30 and 10W-30. SAE 15W-40 viscosity is allowed but does not have to meet the phosphorus limit for catalyst compatibility because it is usually a heavy-duty diesel oil. Monolec Ultra® Engine Oil (8800) and Monolec® GFS Engine Oil (8420-8450) meet the API SJ category requirements.

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, sport utility vehicles, vans and light trucks operating under vehicle manufacturers' recommended maintenance procedures. They may be used where SJ and earlier API service categories are

recommended. Monolec® Ultra-Blend Engine Oil (8130), Monolec Ultra (8800), Monolec® Engine Oil (8820), Monolec® Tetra-Syn™ Engine Oils (8521 & 8531) exceed SL requirements.

SM – 2004 Gasoline Engine Service

Introduced in 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 also may meet the latest ILSAC specification and/or qualify as Energy Conserving. Monolec® Ultra-Blend Engine Oil (8130), Monolec Ultra® Engine Oil (8800), and Monolec Tetra-Syn™ Engine Oils (8521 & 8531) meet API SM requirements.

SN – 2010 Gasoline Engine Service

Introduced in 2010, SN oils are for all automotive engines currently in use. SN oils are 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. Monolec® Tetra-Syn™ Engine Oils (8521 & 8531) meet API SN requirements.

C – Commercial

Obsolete

CC – Moderate-Duty Diesel and Gasoline Engine Service

CD – Severe-Duty Diesel Engine Service

CD-II – Severe-Duty Two-Cycle Diesel Engine Service

CE – Very Severe Diesel Engine Service

CF-4 – Severe Diesel Engine Service

CF – Indirect Injected Diesel Engine Service

CF-2 – Severe-Duty Two-Stroke Cycle Diesel Engine Service

CG-4 – 1994 Diesel Engine Service



Current

CH-4 – 1998 Reduced Emission Diesel Engine Service – The CH-4 category is intended to address the requirements for high-speed, four-stroke diesel engines to meet 1998 exhaust emission standards. CH-4 oils are specifically compounded for use with diesel fuels containing up to 0.5% sulfur. They also can be used in gasoline engines when combined with the appropriate “S” category recommended by the vehicle or engine manufacturer. CH-4 oils can replace those rated CD, CE, CF-4, and CG-4. Monolec Ultra® Engine Oil (8800) and Monolec Ultra® Syn Heavy Duty Engine Oil (8854) meet CH-4 requirements.

CI-4 – 2002 Severe-Duty Diesel Engine Service – The API CI-4 category describes oils for use in those high-speed, four-stroke cycle diesel engines designed to meet 2004 exhaust emission standards. 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 can be used. Optimum protection is provided for control of corrosive wear tendencies, low- and high-temperature stability, soot handling properties, piston deposit control, valvetrain wear, oxidative thickening, foaming, and viscosity loss due to shear. API CI-4 oils can effectively lubricate engines calling for API CH-4, CG-4 and CF-4 service categories. Used in conjunction with CI-4, **CI-4 PLUS** identifies oils formulated to provide a higher level of protection against soot-related viscosity

increase and viscosity loss due to shear in diesel engines. The CI-4 PLUS designation appears in the lower portion of the API Service Symbol donut. Monolec Ultra® Engine Oil (8800) and Monolec Ultra® Syn Heavy Duty Engine Oil (8854) meet the CI-4 and CI-4 PLUS requirements.

CJ-4 – 2006 Heavy-Duty Diesel Engine Service; Exhaust Aftertreatment – Introduced in 2006, the CJ-4 category is for high-speed, four-stroke engines designed to meet 2007 model year on-highway exhaust emission standards. CJ-4 oils are compounded for use in all applications with diesel fuels ranging in sulfur content up to 500 ppm (0.05% by weight). However, use of these oils with greater than 15 ppm (0.0015% by weight) sulfur fuel may impact exhaust aftertreatment system durability and/or oil drain interval. CJ-4 oils are effective at sustaining emission control system durability where particulate filters and other advanced aftertreatment systems are used. Optimum protection is provided for control of catalyst poisoning, particulate filter blocking, engine wear, piston deposits, low- and high-temperature stability, soot handling properties, oxidative thickening, foaming, and viscosity loss due to shear. API CJ4 oils exceed the performance criteria of API CI-4 with CI-4 PLUS, CI-4, CH-4, CG-4, and CF-4, and they can effectively lubricate engines calling for those API service categories. When using CJ-4 oil with higher than 15 ppm sulfur fuel, consult the engine manufacturer for service interval. Monolec Ultra® Engine Oil (8800) and Monolec Ultra® Syn Heavy Duty Engine Oil (8854) meet API CJ-4 requirements.