SAE The Engineering Society For Advancing Mobility Land Sea Air and Space®
INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

SURFACE VEHICLE STANDARD

SAE J2362

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Submitted for recognition as an American National Standard

Lubricating Oil, Automotive Engine, API Service SJ for Military Administrative Service

1. Scope

1.1 General—This SAE Standard describes lubricating oils meeting the API SJ performance category, SAE J300, the International Lubricant Standardization and Approval Committee (ILSAC) GF-2 Standard, and bear the API Certification Mark (starburst symbol) in accordance with API 1509. These oils are suitable for the lubrication of spark-ignition engines (gasoline engines). This document is equivalent to the military's Commercial Item Description A-A-52039 when all requirements are met.

1.2 Intended Use—The products described in this document are intended for use in administrative type, commercial vehicles equipped with spark-ignition, gasoline consuming engines.

2. References

2.1 Applicable Publications—The following publications form a part of this specification to the extent specified herein. Unless otherwise specified, the latest issue of SAE publications shall apply.

2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J183—Engine Oil Performance and Engine Service Classification (Other Than "Energy-Conserving")
SAE J300—Engine Oil Viscosity Classification

2.1.2 API PUBLICATION—Available from the American Petroleum Institute, Marketing Department, Program Manager, ESCS Program, 1220 L Street NW, Washington, DC 20005.

API 1509—The API Engine Oil Licensing and Certification System

2.1.3 ASTM PUBLICATIONS—Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM D 97—Test Methods for Pour Point of Petroleum Oils
ASTM D 287—Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)
ASTM D 445—Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and the Calculation of Dynamic Viscosity)
ASTM D 524—Test Method for Ramsbottom Carbon Residue of Petroleum Products
ASTM D 664—Standard Test Method for Acid Number of Petroleum Products by Potentiometric Titration
ASTM D 874—Test Method for Sulfated Ash from Lubricating Oils and Additives

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ASTM D 2270—Method for Calculating Viscosity Index from Kinematic Viscosity at 40 and 100 °C
ASTM D 2622—Test Method for Sulfur in Petroleum Products (X-Ray Spectrographic Method)
ASTM D 2896—Test Method for Total Base Number of Petroleum Products by Potentiometric Perchloric Acid Titration
ASTM D 3228—Total Method for Total Nitrogen in Lubricating Oils and Fuel Oils by Modified Kjeldahl Method
ASTM D 4485—Performance Specification for Automotive Engine Oils
ASTM D 4628—Test Method for Analysis of Barium, Calcium, Magnesium, and Zinc in Unused Lubricating Oils by Atomic Absorption Spectrometry
ASTM D 4629—Test Method for Organically Bound Trace Nitrogen in Liquid Petroleum Hydrocarbons by Oxidative Combustion and Chemiluminescence Detection
ASTM D 4739—Test Method for Base Number Determination by Potentiometric Titration
ASTM D 4927—Test Methods for Elemental Analysis of Lubricant and Additive Components—Barium, Calcium, Phosphorus, Sulfur, and Zinc by Wavelength-Dispersive X-Ray Fluorescence Spectroscopy
ASTM D 4951—Determination of Additive Elements in Lubricating Oils by Inductively Coupled Plasma Atomic Emission Spectrometry
ASTM D 5185—Test Method for Determination of Additive Elements, Wear Metals, and Contaminants in Used Lubricating Oils by Inductively Coupled Plasma Atomic Emission Spectrometry

2.1.4 ILSAC PUBLICATION—Available from American Automobile Manufacturers Association, 7430 Second Avenue, Suite 300, Detroit, MI 48202.

ILSAC GF-2

2.1.5 GOVERNMENT PUBLICATION—Available from Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19120.

FED-STD-313—Material Safety Data, Transportation Data and Disposal Data for Hazardous Materials Furnished to Government Activities

2.1.6 U.S. DEPARTMENT OF LABOR (DOL) (OSHA)—Available from the OSHA Publication Office, Room S-4203, 200 Constitution Avenue, NW, Washington, DC 20210.

OSHA 29 CFR 1910.1200—Hazard Communication; Interpretation Regarding Lubricating Oils

3. Classification

3.1 Viscosity Grades—The lubricating oils shall be of the following viscosity grades:

a. SAE 5W-30
b. SAE 10W-30

4. Salient Characteristics

4.1 Materials—The engine lubricating oils shall be derived from petroleum fractions, synthetically prepared compounds or a combination of the two types of products. They may be virgin, rerefined stocks, or a combination thereof. The stocks shall be compounded with such functional additives (detergents, dispersants, oxidation inhibitors, corrosion inhibitors, etc.) as are necessary to meet the specified requirements (see Sections 5 and 6).

4.2 Performance—The engine lubricants shall have an "SJ" API performance level as identified in SAE J183 and ASTM D 4485, shall carry the American Petroleum Institute (API) donut symbol, the API Certification Mark (starburst symbol).

4.3 Physical and Chemical Requirements—The lubricating oils shall meet all the physical and chemical properties required for the API Certification Mark and SAE J300. In addition, the lubricating oils must have those properties indicated in Table 1 when tested in accordance with the respective test method (ASTM test procedures are listed where applicable). Section 4.3.1 is required only for military contracts unless otherwise requested.

TABLE 1—LUBRICATING OIL PROPERTIES

Property(1)	SAE 5W–30	SAE 10W–30	ASTM Test Procedures
Viscosity Kinematic, cSt (mm^2/s) @ 40 °C	1	1	D 445
Viscosity Index	1	1	D 2270
Pour-Point, °C max.	–36	–30	D 97
Stable Pour Point, °C,(2) max.	–36	–30	FED-STD-791, Method 203
Gravity, API	1	1	D 287
Carbon Residue, mass %	1	1	D 524
Sulfur, mass %	1	1	D 2622, D 4927, D 4951(3), D 5185
Sulfated Ash, mass %	1	1	D 874
Total Acid Number,	1	1	D 664
Base Number,	1	1	D 2896, D 4739(3)
Nitrogen	1	1	D 3228(3), D 4629
Metallic components, mass %	1	1	D 4628, D 4927, D 4951(3), D 5185

1. Typical values for all physical and chemical properties required in Table 1, API 1509, and SAE J300 shall be provided at the time of solicitation or contract as specified by the contracting officer.
2. After being cooled below its pour point, the oil shall regain its homogeneity on standing at a temperature not more than 6 °C above the pour point, but not to exceed the previously stated values.
3. Denotes preferred method.

4.3.1 FORMULATION DATA—The contractor shall provide the name, type, percent, and manufacturer of all base stocks and additive packages for each formulation to be supplied under contract or order, or used in performance testing. Each formulation must be identified by a formula number or oil code, and if more than one code is used for a formulation, then all codes associated with that formulation must be indicated. In addition, the contractor must identify which formulation was used to run each performance test. This information shall be provided to the contracting officer at the time of solicitation.

4.3.1.1 Base Stocks—The contractor shall identify all base stocks used in each formulation offered or used in performance testing by base stock name, manufacturer, and type of base stock according to Appendix E of API 1509. The data listed in Table E-1 (Appendix E - API 1509) shall be included for all base stocks.

4.3.1.2 Additives—The contractor shall identify all additive systems used in each formulation offered or used in performance testing by additive package name, manufacturer, and type of additive system (i.e. Detergent Inhibitor (DI), Viscosity Improver Type (OCP, SIP, PMA, etc.), Pour Point Depressant, etc.). If there are read-across between different formulations, then an explanation on how the additive systems relate to one another must be provided.

5. Regulatory Requirements

5.1 Hazard Communication Standard—The stocks used shall not be considered carcinogenic or potentially carcinogenic as defined under the Hazard Communication Standard OSHA 29 CFR 1910.1200.

5.2 Toxicity—The engine lubricating oil shall have no adverse effect on the health of personnel when used for its intended purpose. Questions pertinent to this effect shall be referred by the contracting activity to the appropriate departmental medical service who will act as an advisor to the contracting agency. The contractor shall have the toxicological formulations and associated information available for review by the contracting activity to evaluate the safety of the material for proposed use.

5.3 Recovered Material—The offeror/contractor is encouraged to use recovered materials in accordance with Public Law 94-580 to the maximum extent possible. When re-refined base stocks are sought, the minimum content to be used in the formulation shall be indicated in the contract or solicitation.

6. Quality Assurance Provisions

6.1 Contractor Certification—The contractor shall certify and maintain substantiating evidence, that the product offered meets the salient characteristics of this document, and that the product conforms to the producer's own drawings, specifications, standards, quality assurance practices, and the information provided in 6.4.

6.2 Market Acceptability (MA)—The contractor shall provide products which have a proven market record based on the number of items sold, length of time the product has been on the market, and reliability and performance of the products as required under the contract or solicitation.

6.3 Inspection and Test—The inspection and testing of products to be supplied under the document shall be as specified in the contract or order.

6.4 Pre-Review Process—Awards will be made only for products which have been pre-reviewed by the Lubricant Review Institute Engine Oil Review Committee. The attention of the contractors is called to the requirement and manufacturers are urged to arrange to have their products pre-reviewed in order that they may be eligible to be awarded contracts or order covered by this document. Copies of the Lubricant Review Institute Procedures are available from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096-0001, Attention: Secretary of the Lubricant Review Institute.

7. Packaging

7.1 Preservation, Packaging, Packing, Labeling, and Marking—Preservation, packaging, labeling, and marking shall be as specified in the contract or order. The container will be as specified in the contract or order.

8. Notes

8.1 Ordering Data—The procuring agency should specify the preferred options permitted herein and include the following information in procurement documents:

a. Title, number, and date of this item description.
b. SAE grade of oil required.
c. Quantity of oil required.
d. Type and unit of issue required.
e. The certification requirement as indicated in 5.1 must be included in the solicitation/contract.
f. When this document is used for procurement, the inspection and test clause must appear in the solicitation.
g. Market Acceptability requirements must appear in the solicitation.

8.2 National Stock Numbers (NSN)—The following NSN's are for use by the Government and do not constitute a requirement on the contractor, unless required by the contract or order. The lubricating oils provided under this CID can be ordered using the following NSNs in Table 2:

TABLE 2—NATIONAL STOCK NUMBERS

National Stock Numbers	SAE Viscosity Grade	Unit Issue
9150-01-320-3706	5W-30	Box 12 1-qt plastic bottles
9150-01-348-1596		55-gal drum
9150-01-227-8210	10W-30	Box 12 1-qt plastic bottles
9150-01-230-9749		5-gal plastic container
9150-01-230-9748		55-gal drum
The following NSNs are for Rerefined Oil Only		
9150-01-413-6897	10W-30	Box 12 1-qt plastic bottles
9150-01-413-6892		5-gal plastic container
9150-01-413-6990		55-gal drum

PREPARED BY THE SAE MILITARY/INDUSTRY LUBRICANTS COMMITTEE