

Submitted for recognition as an American National Standard

(R) LUBRICANT TYPES—CONSTRUCTION AND INDUSTRIAL MACHINERY

Foreword—This document has also changed to comply with the new SAE Technical Standards Board format.

- Scope**—Table 1 lists the components of construction and industrial equipment and the various lubricants which may be used. Table 2 lists lubricant types and identifying abbreviations. Lubricants that had common usage in the past are retained in Table 2 to show where the new specifications originated.

TABLE 1—LUBRICATION OF EQUIPMENT COMPONENTS⁽¹⁾

Component	Lubricants Used
Engine crankcase (diesel and gasoline)	EO
Diesel fuel injection pump housing	EO
Air cleaner, oil bath	EO
Clutches and brakes (wet)	EO, ATF
Hydraulic wheel brake systems	BF, EO
Hydraulic control systems	EO, ATF, HTF, HYDO, FRF
Hydraulic transmissions	EO, ATF, HTF
Transmissions	EO, RGL, MPL
Bevel gear and final drive gears	EO, RGL, MPL
Limited slip differentials	MPL
Gear compartments (other than above)	EO, RGL, MPL, MPG
Open gears	MPL, OGL
Wheel bearings	MPG, MPL, WBG
Bearings, shafts, levers, drivelines	MPG, MPGM, EO
Track rollers	EO, TRL, MPL, MPG
Alternator, generator, electric motor	EO, MPG, HTG

- Several lubricants may be shown. They should not be mixed.
To minimize the number of lubricants used, specify engine oil, multipurpose type grease, and multipurpose type gear lubricant wherever possible.
Special lubricants may be required in any of the mentioned components.

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TABLE 2—LUBRICANT TYPES AND IDENTIFYING ABBREVIATIONS⁽¹⁾

Abbreviation	Lubricant Type
EO	Engine Crankcase Oil (diesel and gasoline), described in SAE J183, J300, J304, and J307 SA CA SB CB SC *CC *SD *CD *SE
ATF	Automatic Transmission Fluid, described in SAE J311 Type A Type A, Suffix A Dexron® Type F
HTF	Hydraulic Transmission Fluid Type C-1 *Type C-2
BF	Brake Fluid, described in SAE J1702 and SAE J1703 SAE J1702 *SAE J1703 (formerly SAE 70R3)
HYDO	Hydraulic Oil MIL-H-5606 Industrial hydraulic oil resistant to rust, oxidation and foaming Industrial hydraulic oil with antiwear additives, resistant to rust, oxidation and foaming
FRF	Fire Resistant Fluid (hydraulic) Oil/Water Emulsion Water Glycol Fluid Phosphate Ester Type Fluid
RGL	Regular Type Gear Lubricant, described in SAE J306, SAE J307, SAE J308, and ASTM RR25-D2 (addendum 10/68) Straight Mineral Oil or API Service GL-1
MPL	Multipurpose Type Gear Lubricant, described in SAE J306, SAE J307, SAE J308, and ASTM RR25-D2 (Addendum 10/68) API Service GL-4 or MIL-L-2105 *API Service GL-5 or MIL-L-2105B API Service GL-6
OGL	Open Gear Lubricant
TRL	Track Roller Lubricant
MPG	*Multipurpose Type Grease, described in SAE J310
MPGM	Multipurpose Type Grease with Molybdenum Disulfide
WBG	Wheel Bearing Grease, described in SAE J310
HTG	*High Temperature Grease
SPC	Special Lubricant

1. The specifications, classifications, or lubricants marked with an asterisk are found in common use today. It is strongly recommended that on any single machine a minimum number of lubricants be used. It is further recommended that engine oil, multipurpose type grease, and multipurpose type gear lubricant be used wherever possible.

These lubricants may be known by specific trade names or performance specifications.

Original factory lubrication may deviate from field recommendations because of special requirements, such as breakin.

Lubricant viscosity grade should be selected for various climatic conditions (described in SAE J300 and SAE J307).

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The final selection of the lubricant and grade will depend upon the requirements of the equipment manufacturer.

1.1 Purpose—This SAE Information Report is an introduction to lubricant classifications, specifications, and types in common use today. It emphasizes the desirability of using a minimum number of lubricants. Pertinent SAE reports are called out for easy reference. Lubricant abbreviations have been included that will assist in preparation of lubrication charts (described in SAE J753).

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
SAE J304—Engine Oil Tests
SAE J306—Axle and Manual Transmission Lubricant Viscosity Classification
SAE J307—Temperatures for Recommending Gear Lubricants
SAE J308—Axle and Manual Transmission Lubricants
SAE J310—Automotive Lubricating Greases
SAE J311—Fluid for Passenger Car Type Automatic Transmissions
SAE J753—Maintenance Internal Chart
SAE J1702—Self-Propelled Surveyors Sweep-Ability Performance
SAE J1703—Motor Vehicle Brake Fluids

2.1.2 MILITARY STANDARDS—Available from U.S. Government, DODSSP, Standardization Documents Order Desk, Building. 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

MIL-H-2105
MIL-H-5606
MIL-H-21058

3. Marginal Indicia—The change bar (I) located in the left margin is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. An (R) symbol to the left of the document title indicates a complete revision of the report.

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