

MIL-L-26087B
9 December 1968
Superseding
MIL-L-26087A
4 June 1965, and
MIL-L-22396 (Ships)
29 Aug 1961
(see 6.3)

MILITARY SPECIFICATION
LUBRICATING OIL, RECIPROCATING COMPRESSOR, GROUND SUPPORT

This specification is mandatory for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope - This specification covers lubricating oil for use in power driven, high pressure, reciprocating air compressors.

1.2 Classification - The oil shall be of the following grades as specified:

Grade I	Medium Weight
Grade II	Heavy Weight

2. APPLICABLE DOCUMENTS

2.1 The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

STANDARDS

Federal

Fed. Test Method - Lubricants, Liquid Fuels, and
Std. No. 791 Related Products; Methods of Testing

Military

MIL-STD-105 - Sampling Procedures and Tables for
 Inspection by Attributes
MIL-STD-290 - Packaging, Packing and Marking of Petro-
 leum and Related Products

(Copies of specifications, standards, drawings and publications required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer).

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2.2 Other Publications

ASTM Standards - American Society for Testing and Materials Publications

(Copies of ASTM publications may be obtained from the American Society for Testing and Materials, 1916 Race Street, Philadelphia Pennsylvania 19103).

3. REQUIREMENTS

3.1 Materials - The composition of the lubricating oil shall consist of a highly refined base stock. Pour point additives and viscosity index improvers shall not be permitted. However, other additives necessary to assure conformance to the requirements of the specification shall be permitted.

3.2. Appearance and Workmanship - The finished lubricating oil shall be uniform in appearance, and shall be free from sediment and suspended matter, when examined visually.

3.3 Properties - The properties of the finished oil shall be as specified in Table I, para 3.3.1, 3.3.2.

TABLE I - Properties of Finished Oil

	Grade I		Grade II	
	Min	Max	Min	Max
Viscosity, cs at 100°F	105	135	280	320
Viscosity, cs at 210°F	8	11	16	-
Pour Point, °F	-	(-) 5	-	(+) 15
Flash Point, °F	370	-	430	-
Autoignition Temp °F	600	-	600	-
Color, ASTM No.	-	5	-	5
Carbon Residue ^{1/} Percent	-	0.20	-	0.30
Acid No.	-	0.10	-	0.30
Precipitation No., Percent	-	0.05	-	0.05

^{1/} The residual carbon shall be soft, loose & flaky; formation of hard carbon deposits will be cause for rejection.

3.3.1 Copper-strip corrosion - Corrosion of the test strips shall not exceed ASTM Copper strip classification No. 2 when the oil is tested as specified in 4.4.1.

3.3.2 Foaming characteristics - The foaming characteristics of the lubricating oil shall not exceed the limits indicated in Table II.

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TABLE II - Foaming Characteristics of Finished Oil

<u>Test</u>	<u>Foaming tendency: max. foam volume, ml., at end of 5-minute blowing period.</u>	<u>Foam stability: max. foam volume ml., at end of 10-minute set- tling period</u>
At 75°F (24°C)	300	0
At 200°F (93.5°C)	100	0
At 75°F (24°C) after test at 200°F (93.5°C)	300	0

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection - Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all the inspection requirements as specified herein. Except as otherwise specified in the contract or order, the supplier may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to the prescribed requirements.

4.2 Classification of tests - Tests of individual lots which will serve as a basis for Government acceptance shall consist of tests for all the requirements specified in Section 3.

4.3 Inspection lot

4.3.1 Bulk lot - An indefinite quantity of a homogeneous mixture of one grade of oil offered for acceptance in a single isolated container; or manufactured in a single plant (not exceeding 24 hours) through the same processing equipment with no change in the ingredient materials.

4.3.2 Packaged lot - An indefinite quantity of 55-gallon drums or smaller containers of identical size and type, offered for acceptance at one time, and filled with a homogeneous mixture of one grade of oil manufactured in a single plant run (not exceeding 24 hours) through the same processing equipment with no change in the ingredient materials.

4.3.3 Sampling - A one-gallon sample of the lubricating oil from each lot under inspection shall be selected at random by the inspector in accordance with ASTM Standard Part V, ASTM Designation D270. Failure of any sample of lubricating oil to conform to any one of the requirements of this specification shall be cause for rejection of the lot represented.

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4.3.4 Examination of filled containers - A random sample of filled containers shall be taken from each packaged lot in accordance with Standard MIL-STD-105 Inspection Level II, Acceptable Quality Level (AQL) = 2.5 percent defective and subjected to examination of fill, closure and markings for conformance with the requirements of Section 5. If the number of defective containers in any sample exceeds the acceptance number of the appropriate sampling plan of Standard MIL-STD-105, the lot shall be rejected.

4.4 Test procedures

4.4.1 The following tests shall be conducted in accordance with the applicable method given in Table III.

TABLE III - Tests and Methods

<u>Test</u>	<u>ASTM Method No.</u>
Viscosity	D445
Pour Point	D97
Flash Point	D92
Autoignition Temperature	D2155
Color	D1500
Copper-Strip Corrosion ^{1/}	D130
Carbon Residue	D189
Acid or Base No.	D974
Precipitation No.	D91
Foaming Characteristics	D892

^{1/} Test shall be performed at 212°F

5. PREPARATION FOR DELIVERY

5.1 Packaging, packing and marking - The lubricating oil shall be packaged, packed and marked in accordance with Standard MIL-STD-290. The type and size containers and level of packaging and packing shall be as specified by the procuring activity (see 6.2).

5.2 Marking - Shipment marking information shall be provided on interior packages and exterior shipping containers in accordance with MIL-STD-290. The information shall include nomenclature, batch number, contract or order number, contractor's name, and destination.

6. NOTES

6.1 Intended Use - The lubricating oil covered by this specification is intended for use in high compression reciprocating air compressors at ambient temperatures ranging from 5°F to 130°F for Grade I and from 25°F to 140 F for Grade II.

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6.2 Ordering Data - Procurement documents should specify the following:

- a. Title, number and date of this specification.
- b. Grade of lubricating oil.
- c. Type and size of containers (see 5.1).
- d. Level of packaging and level of packing (see 5.2).
- e. Special markings other than those specified in 5.2, if required.
- f. Quantity in gallons. The material should be purchased by volume, the unit being a U.S. gallon at 15.6°C. (60°F).

6.3 Supersession Data - The specification consolidates the requirements of MIL-L-26087A dated 4 Jun 1965 and MIL-L-22396 (Ships) dated 29 Aug 1961. The extent of changes (additions, deletions, etc.), precludes the annotation of the individual changes from the previous issues of the two documents.

CUSTODIANS

Army - MR
Navy - AS
Air Force - 68

Preparing Activity
Air Force - 68

Project Number
9150-0077

REVIEWERS

Army - MO, MU
Navy AS, SH
DSA PS

SPECIFICATION ANALYSIS SHEET		Form Approved Budget Bureau No 119-R004
INSTRUCTIONS		
This sheet is to be filled out by personnel either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity (as indicated on reverse hereof).		
SPECIFICATION		
ORGANIZATION (Of submitter)		CITY AND STATE
CONTRACT NO	QUANTITY OF ITEMS PROCURED	DOLLAR AMOUNT \$
MATERIAL PROCURED UNDER A		
<input type="checkbox"/> DIRECT GOVERNMENT CONTRACT <input type="checkbox"/> SUBCONTRACT		
1 HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE? A GIVE PARAGRAPH NUMBER AND WORDING		
B RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES.		
2 COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID		
3. IS THE SPECIFICATION RESTRICTIVE? <input type="checkbox"/> YES <input type="checkbox"/> NO IF "YES", IN WHAT WAY?		
4 REMARKS (Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)		
SUBMITTED BY (Printed or typed name and activity)		DATE

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