

INCH-POUND

MIL-DTL-1213F  
 13 December 2013  
 SUPERSEDING  
 MIL-C-1213E  
 22 January 1986

## MILITARY SPECIFICATION

## CUPS, GREASE

Inactive for new design  
 after 5 April 1999

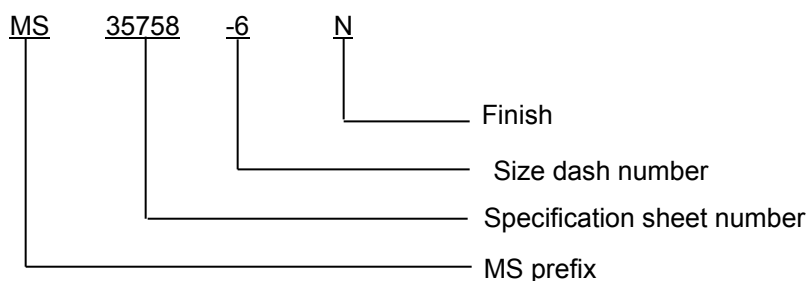
This specification is approved for use by all Departments and Agencies of the Department of Defense.

## 1. SCOPE

1.1 Scope. This specification covers general requirements for cups, grease used as containers to distribute lubricant material to moving metal parts in order to reduce friction.

1.2 Classification part. Pumps fabricated to this specification are classified as follows:

1.2.1 Part or Identifying Number (PIN). PINs to be used cups, grease acquired to this specification is created as follows:



## 2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3, 4, or 5 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3, 4, or 5 of this specification, whether or not they are listed.

2.2 Government documents.

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any data that may improve this document should be sent to: DLA Land and Maritime, ATTN: VAI, P.O. Box 3990, Columbus OH 43218-3990, or email [fluidflow@dla.mil](mailto:fluidflow@dla.mil). Since contact information can change you may want to verify the currency of the address information using the ASSIST Online database at <https://assist.dla.mil/>.

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2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

FEDERAL SPECIFICATIONS

- FED-STD-H28/1 - Screw Thread Standards for Federal Services (Section 1) Nomenclature, Definitions and Letter Symbols for Screw Threads
- FED-STD-H28/7 - Screw Thread Standards for Federal Services (Section 7) Pipe Threads, General Purpose

DEPARTMENT OF DEFENSE SPECIFICATIONS

- MS35758 - Cups, Grease, Manual Feed
- MS35759 - Cups, Grease, Automatic Feed

DEPARTMENT OF DEFENSE STANDARD

- MIL-STD-129 - Marking for Shipment and Storage

(Copies of these documents are available online at <http://quicksearch.dla.mil> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.3 Order of precedence. Unless otherwise noted herein or in the contract, in the event of a conflict between the text of this document and the references cited herein (except for related specification sheets), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS.

3.1 First article. When specified (see 6.1), samples shall be subjected to first article inspection in accordance with 4.4.

3.2. Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.2.1 Hazardous substances. The use of hazardous substances, toxic chemicals, or ozone depleting chemicals shall be avoided, whenever feasible.

3.3 Design.

3.3.1 Material. The greases cups shall be made of materials shown on MS35758 and MS35759.

3.3.2 Manual feed (Type I). The design of manual feed grease cups shall be as specified in MS35758. Cups shall be provided with a knurled edge.

3.3.2.1 Ratchet design. MS35758 may have either a ratchet design or without ratchet.

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3.3.2.1.1 Cup. The cup shall be provided with a sturdy cover-locking spring to prevent the cover from being shaken loose by vibration.

3.3.2.1.2 Base. The base shall be provided with two inside vertical grooves or ratchets, located 180° apart against which the locking spring of the cup shall bear in order to provide a proportioning guide for manually feeding grease and also to prevent change of position from vibration.

3.3.2.2 Non-Ratchet design. The non-ratchet design shown in MS35758 is acceptable.

3.3.3 Automatic feed (Type II). The design of automatic feed grease cups is as specified in MS35759.

3.3.3.1 Spring operated with tee handle (Class 1, Style 1).

3.3.3.1.1 Cup and cap. The cap shall be center drilled for passage of the threaded stem of the plunger. The shank of the cup shall be drilled for a slotted plug or similar device securely contained to regulate the flow of grease.

3.3.3.1.2 Plunger. The grease cup shall be provided with a plunger and threaded stem. The plunger shall be actuated by a conical, open-end spring of sufficient strength to maintain a flow of grease. The base of the plunger shall be provided with a non-metallic washer, snug fitting and securely placed to prevent leakage of grease.

3.3.3.1.3 Tee handle. Travel of the plunger shall be controlled by a tee handle, threaded to conform to the plunger stem threads. The tee handle shall be provided with a spring-loaded device to prevent change of position from vibrations.

3.3.3.2 Spring operated without tee handle (Class 1, Style 2).

3.2.3.2.1 Cylinder. The cylinder shall be vented at the top. The lower end shall be threaded for screwing into the housing.

3.2.3.2.2 Housing. The housing shall be threaded at the top for screwing in the cylinder. A grease fitting shall be screwed into the side.

3.2.3.2.3 Protective valve. The grease cup shall be provided with a protective valve screwed into the bottom of a wiper disk seal. The seal and valve shall be actuated by a conical spring of predetermined pressure. When it is the manufacturer's practice to furnish springs of different strengths according to application, then shall be furnish one spring of each strength with every grease cup, with suitable instructions for their application included in the unit package.

3.2.3.3 Diaphragm operated (Class 2).

3.2.3.3.1 Cylinder. The cylinder shall be vented at the top. The lower end shall be threaded for screwing it into the housing.

3.2.3.3.2 Housing. The housing shall be threaded at the top for screwing in the cylinder. A grease fitting shall be screwed into the side.

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3.2.3.3.3 Metering device. The grease cup shall be provided with a preformed, flexible non-metallic disk which, under pressure of the grease, assumes the shape of the cylinder. The return action of the disk shall force the grease out. The grease shall be metered either by a metering ball attached to the disk and sliding in the tapered bore of the housing or by an adjustable device extending through the side of the housing into the bore.

3.3 Threads. Thread dimensions shall conform to FED-STD-H28/1 - Screw Thread Standards for Federal Services (section 1) Nomenclature, Definitions and Letter Symbols for Screw Threads and FED-STD-H28/7 - Screw Thread Standards for Federal Services (section 7) Pipe Threads, General Purpose.

3.4 Wrench flats. Grease cups shall be provided with wrench flats on the shanks or bases that will fit a standard-size open-end wrench.

3.5 Surface finishes. The exterior and interior surfaces shall be smooth-finished to normal manufacturing standards.

3.6 Component parts. The component parts of the cups shall be so constructed such that the cups shall show no leakage (see 4.7.1).

3.7 Dimensions and tolerances. The dimensions and tolerances shall be as specified in MS35758 and MS 35759.

3.8 Protective coating. The cups shall be plated in accordance with instructions in MS35758 and MS35759.

3.9 Grease capacity. Capacity shall be as specified in MS35758 and MS35759.

3.10 Workmanship. The grease cups shall be manufactured in accordance with this specification, pertinent standards and best commercial practice. The component parts of the grease cups shall have no pits, rust, loose scale, chips, scraps, splits, cracks, burrs, slivers, foreign material or other defects that would affect proper operation.

## 4. VERIFICATION

4.1 Classification of inspection. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.5).
- b. Conformance inspection (see 4.6).

4.2 Inspection conditions. Unless otherwise specified, all inspections shall be performed in accordance with the test conditions specified in accordance with the applicable test method referenced in the test procedures.

4.3 Responsibility for compliance. All items shall meet all requirements of sections 3, 4, and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

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4.4 Lot records. Manufacturers shall keep lot records for 3 years minimum. Manufacturers shall monitor for compliance to the prescribed procedures, and observe that satisfactory manufacturing conditions and records on lots are maintained for these hose assemblies. The records, including as a minimum, an attributes summary of all quality conformance inspections conducted on each lot, shall be available to review by government at all times.

4.5 First article inspection. First article inspection may be performed at a laboratory acceptable to the procuring activity.

4.5.1 Samples for first article. Samples for first article inspection shall be representative of the products proposed to be furnished to this specification, see [table IV](#).

4.5.2 First article inspection routine. All samples shall be subjected to first article testing in accordance with [table I](#).

4.5.3 Failures. All samples must meet all of the contract requirements. Failure of a sample unit to pass any test shall be cause for rejection of the entire lot and to grant first article approval, [see 4.5](#).

4.5.4 Disposition of samples. First article samples shall be furnished to the Government as directed by the contracting officer (see [6.2](#)).

TABLE I. First article inspection.

Inspection	Requirement	Test method
Visual	<a href="#">3.10</a>	<a href="#">table III</a>
Dimensional	<a href="#">3.7</a>	<a href="#">table III</a>
Functioning test	<a href="#">3.3.3.1.2</a>	<a href="#">4.7.1</a>
Destructive test	<a href="#">3.8</a>	<a href="#">4.7.2</a>

4.6 Conformance inspection. Conformance inspection shall be done at the time of an order. The inspections shall be as shown in [table III](#). The sampling shall be as shown [table IV](#).

TABLE II. Conformance

Inspection	Requirement	Test method
Visual	<a href="#">3.10</a>	<a href="#">table III</a>
Dimensional	<a href="#">3.3.1</a> , <a href="#">3.3.2</a> , <a href="#">3.7</a>	<a href="#">table III</a>

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TABLE III. Conformance dimensional and visual.

Defects	Method of Inspection	Paragraph
Outside diameter exceeds maximum	Measure	3.3.1, 3.7
Overall length exceeds maximum	Measure	3.3.2, 3.7
Threads do not conform to FED-STD-H28/1	Measure	3.3
and FED-STD-H28/7	Measure	3.3
Spring cracked or broken Disk cracked leakage	Visual	3.10
Metering components (plunger, valve, ball, tee handle, adjusting screw) broken or deformed	Visual	3.10
Workmanship	Visual	3.10
Burrs, slivers	Visual	3.10
Foreign material	Visual	3.10

4.6.1 Inspection lot sampling.

4.6.2 Lot and sample. The inspection lot shall be selected at random from the production lot, without regard to quality and shall be the sample size as specified in [table IV](#).

TABLE IV. Lot and sample size.

Production lot size	Sample size
1 to 20	2
21 to 50	10
51 to 100	15
101 to 500	20

4.7 Tests.

4.7.1 Functioning tests. Grease cups, shall be prepared as for service and filled with grease. The grease cups, including metering, components, shall be checked for functioning, proper lubrication and leakage of lubricant. Failure of one or more tests shall be cause for rejection of the lot represented by the sample.

4.7.2 Destructive tests. Grease cups, shall be analyzed to determine compliance with pertinent specifications. Plating shall be checked for conformance with applicable specifications. Failure of one or more tests shall be cause for rejection of the lot represented by the sample.

4.8. Non conformance. In the event a failure should occur, then the production lot shall be screened for that particular defect and defects to be removed. An inspection lot shall be selected from the production lot and all sampling and tests shall be performed. If one or more defects are found in the second inspection lot, the production lot shall be rejected and shall not be supplied to this specification. Test data of part performance shall be made available to the contracting agency upon request.

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### 5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Service or Defense Agency, or within the Military Service's system commands. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity

### 6. NOTES.

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. Manual feed grease cups supply an intermittent flow of grease for light-duty service. Automatic feed grease cups supply a continuous flow of grease for heavy duty applications.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. PIN (see 1.2).
- c. First article required (see 3.1).
- d. Packaging requirements (see 5.1).

6.3 Additional reference information. American National Standard M11.1, "Wire Ropes for Mines", may be consulted as a safety standard for the proper usage of items covered by this specification.

6.4 Subject term (key word) listing.

Automatic feed  
Cylinder  
Locking spring  
Manual feed  
Ratchet  
Tee handle

6.5 Environmentally preferable material. Environmentally preferable materials should be used to the maximum extent possible to meet the requirements of this specification. As of the dating of this document, the U.S. Environmental Protection Agency (EPA) is focusing efforts on reducing 31 priority chemicals. The list of chemicals and additional information is available on their website <http://www.epa.gov/osw/hazard/wastemin/priority.htm>. Included in the EPA list of 31 priority chemicals are cadmium, lead and mercury. Use of these materials should be minimized or eliminated unless needed to meet the requirements specified herein (see section 3).

6.6 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

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CONCLUDING MATERIAL

Custodians:

Army - AR  
Navy - SH  
Air Force - 99  
DLA - CC

Preparing activity:  
DLA - CC

(Project 4730-2014-004)

Reviewers:

Army - AT, CR  
Navy - AS, MC  
Air Force - 71

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.