

INCH-POUND

A-A-59432  
21 May 1999  
SUPERSEDING  
MIL-P-54001A  
9 March 1973  
MS49006C  
15 November 1972

## COMMERCIAL ITEM DESCRIPTION

### PLUGS, PIPE, MAGNETIC, HEADLESS: IRON, STEEL OR ALUMINUM ALLOY

The General Services Administration has authorized the use of this Commercial Item Description (CID) for all federal agencies.

1. **SCOPE.** This CID covers: (1) headless magnetic pipe plugs having recessed hex heads, up to one inch size, conforming to Society of Automotive Engineers (SAE) Standard J531, and (2) headless magnetic pipe plugs having recessed square heads, for sizes over one inch, conforming to American Society of Mechanical Engineers (ASME) Standard B16.14.

These magnetic pipe plugs are intended for use in automotive engine oil systems, transmissions, gear boxes, and circulating oil systems, and other systems of circulating fluids in which ferrous metal particles and/or chips may be present.

2. **CLASSIFICATION.** Magnetic plugs shall be of the following types:

- a. Type I - Aluminum Alloy.
- b. Type II - Malleable Iron, Cast Iron, or Cold Finished Steel.

3. **SALIENT CHARACTERISTICS.**

3.1 **Design and Fabrication.** Casting, forging, or machining may be used to fabricate the magnetic pipe plugs. The plug design requirements for dimensions and tolerances, pipe thread size, and magnetic lift shall be in accordance with Figure 1 and Table I. The aluminum alloy plugs shall be anodized, in accordance with the contract or order. The ferrous plugs shall have a plain, uncoated finish, or other finish in accordance with the contract or order.

3.2 **Material.** The material for aluminum alloy plugs shall be in accordance with QQ-A-225/1, QQ-A-225/3, QQ-A-225/6, QQ-A-225/8 or QQ-A-367. The material for malleable iron plugs shall be in accordance with ASTM-A-47. The material for cast iron plugs shall be in accordance with ASTM A48. The material for cold finish steel plugs shall be in accordance with ASTM A 148.

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any other data which may improve this document should be sent to: Defense Supply Center Columbus, ATTN: DSCC-VAI, 3990 East Broad Street, Columbus, Ohio 43216-5000.

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3.3 Magnet. The magnet shall be a permanent magnet in accordance with Magnetic Materials Producers Association (MMPA) Standard 0100. The magnet lift rating is defined as the weight of soft steel having one smooth side, that the magnet will retain after contact has been established, and for at least 48 hours after magnetization. The magnet shall be attached to the plug in such a manner as to require physical displacement of metal before the magnet can be removed. The maximum diameter of the magnet shall be at least 0.100 inch smaller than the pitch diameter of the plug thread.

3.4 Threads. The threads shall be NPTF for plugs up to and including the three (3) inch size and NPT for the four (4) inch size.

3.5 Toxic Chemicals/Hazardous Substances. The use of toxic chemicals, hazardous substances, or ozone depleting chemicals (ODC) will be avoided, when feasible.

#### 4. REGULATORY REQUIREMENTS.

4.1 Recycled/Recovered Materials. The offerer/contractor is encouraged to use recovered materials to the maximum extent practical, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

#### 5. QUALITY ASSURANCE PROVISIONS.

5.1 Product Conformance. The products provided shall meet the salient characteristics of this commercial item description, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial market. The government reserves the right to require proof of such conformance.

5.2 Market Acceptance. The producer shall meet the following market acceptance criteria.

5.2.1 The producer producing the item must have been producing similar commercial grade items meeting the requirements of this CID for at least two (2) years.

5.2.2 The producer must have sold one hundred (100) similar commercial units that meet or exceed the requirements of this CID over the past two (2) years.

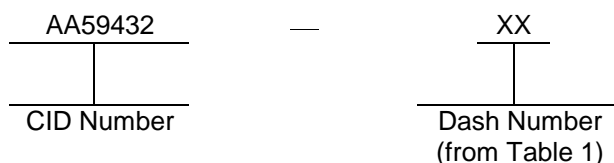
#### 6. PACKAGING.

6.1 Preservation, Packing, and Marking. Preservation, packing, and marking shall be specified in the contract or order.

#### 7. NOTES.

7.1 Part Identification Number (PIN). The PIN shall be used for Government purposes to buy commercial products described by this CID. The following part identification numbering procedure is for government purposes and does not constitute a requirement for the contractor.

##### PIN Construction



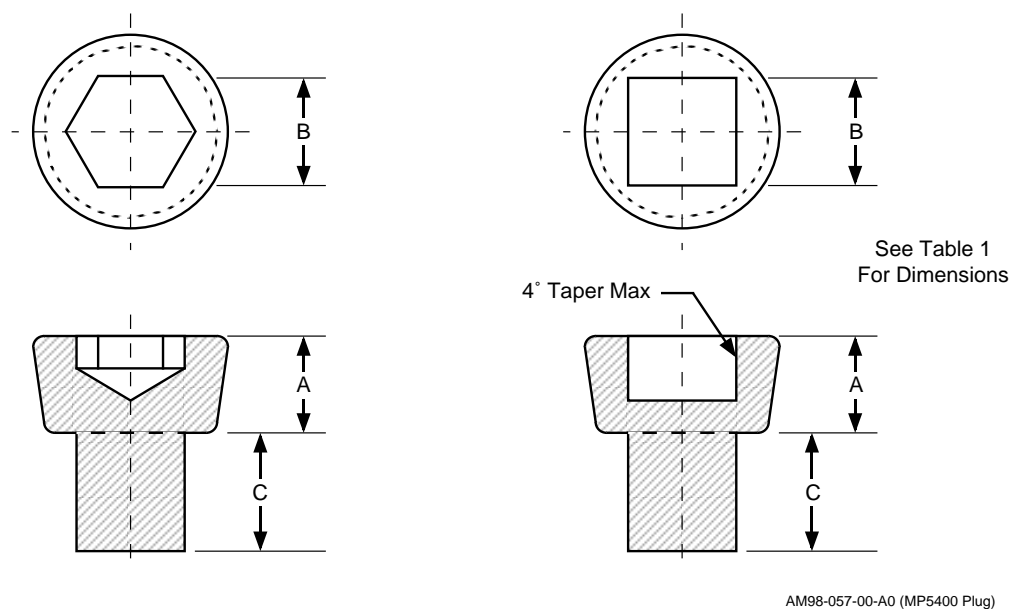


Figure 1. Pipe plugs, magnetic - headless.

Table I. Pipe plugs, magnetic - headless.

DASH NUMBERS <sup>1</sup>		NOMINAL SIZE - NPTF <sup>2</sup>	A <sup>3</sup>		B <sup>3</sup>		C <sup>3</sup> MAX.	LIFT <sup>4</sup> MIN.	HEAD STYLE (RECESSED)
TYPE I	TYPE II		MIN.	MAX.	MIN.	MAX.			
01	02	0.125 - 27	0.290	0.310	0.188	0.193	0.375	4 OZ	HEX SOCKET
03	04	0.250 - 18	0.445	0.475	0.250	0.255	0.375	4 OZ	HEX SOCKET
05	06	0.375 - 18	0.445	0.475	0.313	0.318	0.375	4 OZ	HEX SOCKET
07	08	0.500 - 14	0.590	0.630	0.375	0.390	0.375	4 OZ	HEX SOCKET
09	10	0.750 - 14	0.600	0.640	0.563	0.568	0.500	6 OZ	HEX SOCKET
11	12	1.000 - 11 1/2	0.750	0.790	0.625	0.630	0.500	6 OZ	HEX SOCKET
13	14	1.250 - 11 1/2	0.800	----	0.759	0.780	0.500	8 OZ	SQUARE SOCKET
	16	1.500 - 11 1/2	0.830	----	0.759	0.780	0.500	8 OZ	SQUARE SOCKET
	18	2.000 - 11 1/2	0.890	----	0.884	0.900	0.625	10 OZ	SQUARE SOCKET
	20	2.500 - 8	1.070	----	1.137	1.160	0.625	10 OZ	SQUARE SOCKET
	22	3.000 - 8	1.130	----	1.391	1.410	0.625	10 OZ	SQUARE SOCKET
	24	4.000 - 8 <sup>2</sup>	1.220	----	2.022	2.040	0.625	10 OZ	SQUARE SOCKET

## NOTES:

1. **Materials.** Type I, Aluminum Alloy, or Type II, Malleable Iron, Cast Iron, or Cold Finished Steel.
2. **Threads.** Threads shall be NPTF for plugs up to and including the 3-inch size and NPT for the 4-inch size.
3. **Dimensions and Tolerances.** All dimensions are in inches. Figure I and this table are for identification purposes only and are not intended to restrict designs or shapes of plugs not dimensioned herein. Dimensions and tolerances not shown shall be in accordance with SAE J531 for sizes up to and including one (1) inch and in accordance with ASME B16.14 for sizes greater than one (1) inch.
4. **Magnetic Lift Rating.** The magnetic lift rating is defined as the weight of soft steel, having one smooth side, that the magnet will retain after contact has been established, and for at least forty-eight (48) hours after magnetization.

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7.2 Ordering Data. The contract or order should specify the following:

- a. CID number, revision, and PIN.
- b. Type of metal and finish on the plug.
- c. Quality assurance provisions.
- d. Packaging requirements.

7.3 National Stock Numbers (NSNs). The following is a list of identified NSNs assigned that correspond to this CID.

<u>NSN</u>	<u>Procurement Specification</u>	<u>Detail Sheet PIN</u>	<u>New CID PIN</u>
4730-00-045-9764	MIL-P-54001	MS49006-1	AA59432-01
4730-01-113-2353	MIL-P-54001	MS49006-2	AA59432-02
4730-00-045-9767	MIL-P-54001	MS49006-4	AA59432-04
4730-01-307-0139	MIL-P-54001	MS49006-4	AA59432-04
4730-00-045-9768	MIL-P-54001	MS49006-5	AA59432-05
4730-00-045-9769	MIL-P-54001	MS49006-6	AA59432-06
4730-00-045-9771	MIL-P-54001	NONE	AA59432-08
4730-01-135-8310	MIL-P-54001	MS49006-8	AA59432-08
4730-00-968-6129	MIL-P-54001	MS49006-10	AA59432-10
4730-01-281-9381	MIL-P-54001	MS49006-11	AA59432-11
4730-00-045-9833	MIL-P-54001	MS49006-12	AA59432-12
4730-00-045-9835	MIL-P-54001	MS49006-14	AA59432-14
4730-00-045-9837	MIL-P-54001	MS49006-18	AA59432-18

7.4 Sources of Supply. The following is a list of suppliers that have provided magnetic pipe plugs meeting the requirements of this CID to the Government in the past. This is not intended to be an all-inclusive list and should not be used to restrict procurement from other qualified vendors.

<u>CAGE</u>	<u>COMPANY NAME</u>	<u>LOCATION</u>
02951	Pittsburgh Plug and Products Corp	Evans City, PA 16033-9212
03958	Mindeco Corporation	Oceanside, NY 11572
0KRH6	Piping Components, Inc.	Melvindale, MI 48122
0RVB7	Westwater Supply - Springfield, Inc.	Springfield, OH 45501-1145
0TMN8	M G Industries, Inc.	Camden, NJ 08103
0U3H4	J and B Owl Technologies, Inc.	Mount Vernon, NY 10550
1X015	Nestor Sale, Inc.	Largo, FL 34647
36540	Lisle Corporation	Clarinda, IA 51632-2342
57140	Salem Mfg. and Sales, Inc.	Columbus, OH 43232-3846
59680	B and E Manufacturing Company	Stanton, CA 90680
62727	Mid-State Sales, Inc.	Columbus, OH 43230-6600
66200	Pioneer Valve and Fitting Co., Inc.	Brooklyn, NY 11206-3299
6W912	MEG Technologies, Inc.	Long Beach, CA 90804
7H072	Napco International, Inc.	Hopkins, MN 55343-7464
9R205	Arlo Corporation	Caldwell, NJ 07007

## 8. SOURCE OF DOCUMENTS.

8.1 The Federal Acquisition Regulation (FAR) 23.403 and Federal Standards Documents, US Government Printing Office, Washington, DC 20402.

8.2 SAE standards are available from the Society of Automotive Engineers Inc., 400 Commonwealth Drive, Warrendale, PA 15096.

8.3 ASME standards are available from the American Society of Mechanical Engineers, 345 East 47 Street, New York, NY 10017.

8.4 MMPA standards are available from the Magnetic Materials Producers Association, 8 South Michigan Avenue, Chicago, IL 60603.

8.5 ASTM standards are available from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428.

### MILITARY INTEREST:

#### Custodians:

Army - AR  
Air Force – 99  
Navy – YD2  
DLA-CC

#### Review activities:

Army - AV  
Navy - MC

### CIVIL AGENCY COORDINATION ACTIVITY:

GSA - FSS

#### Preparing activity:

DLA - CC

(Project 4730-0728-02)