

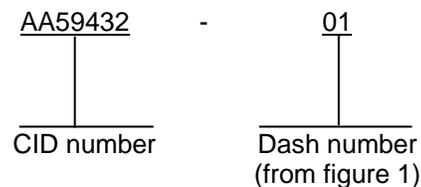
[INCH-POUND]
A-A-59432B
19 January 2015
SUPERSEDING
A-A-59432A
9 December 2013

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 for all federal agencies.

1. **SCOPE.** This commercial item description (CID) covers the general requirements for plugs, pipe, magnetic, headless: iron, steel or aluminum alloy. Plugs, pipe, magnetic, headless: iron, steel or aluminum alloy covered by this CID are intended for commercial/industrial applications.
2. **CLASSIFICATION/PART OR IDENTIFICATION NUMBER (PIN).** This CID uses a classification system which is included in the PIN as shown in the following example (see 7.1).



3. SALIENT CHARACTERISTICS.

3.1 Interface and physical dimensions. Plugs, pipe, magnetic, headless: iron, steel or aluminum alloy supplied to this CID shall be as specified herein (see figure 1).

3.1.1 Intended designs. These plugs, pipe, magnetic, headless: iron, steel or aluminum alloy are intended to cover (1) headless magnetic pipe plugs having recessed hex heads, up to 1 inch size, as specified in SAE-J531, and (2) headless magnetic pipe plugs having recessed square heads, for sizes over 1 inch, as specified in ASME B16.14.

3.1.2 Application. 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.

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. 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>.



3.2 Design. The plugs, pipe, magnetic, headless: iron, steel or aluminum alloy design requirements for dimensions, tolerances, and pipe thread size shall be in accordance with figure 1.

3.2.1 Types. Magnetic plugs shall be of the following types:

- a. Type I - Aluminum alloy, see 3.2.2.1.
- b. Type II - Malleable iron, cast iron, or cold finished steel, see 3.2.2.2.

3.2.2 Materials.

3.2.2.1 Aluminum alloy (Type I). Aluminum alloy plugs shall be in accordance table I.

TABLE I. Aluminum alloys.

Temper	Specification
0, H12, H14, H16, H18, H112, or F	ASTM B211 alloy 1100
T3, T4, T8, or T451	ASTM B211 alloy 2011
T4	SAE-AMS-QQ-A-367 alloy 6061
0	SAE-AMS4115, alloy 6061
T4,T42	SAE-AMS4116 alloy 6061
T6, T62, T651	SAE-AMS4117, alloy, 6061
F	SAE-AMS4115, SAE-AMS4116, or SAE-AMS4117, alloy 6061
T451	SAE-AMS4128, alloy 6061

3.2.2.2 Ferrous (Type II). The material for ferrous type alloys shall be of the following:

- a. The material for malleable iron plugs shall be in accordance with ASTM A47/A47M.
- b. The material for cast iron plugs shall be in accordance with ASTM A48/A48M.
- c. The material for cold finish steel plugs shall be in accordance with ASTM A48/A48M.

3.2.3 Finish.

3.2.3.1 Aluminum (Type I) . Anodize aluminum as in accordance with SAE-AMS2472 or MIL-A-8625, type I, class 1 or type II, class I.

3.2.3.2 Ferrous (Type II). Ferrous plugs shall be plain (uncoated) finish.

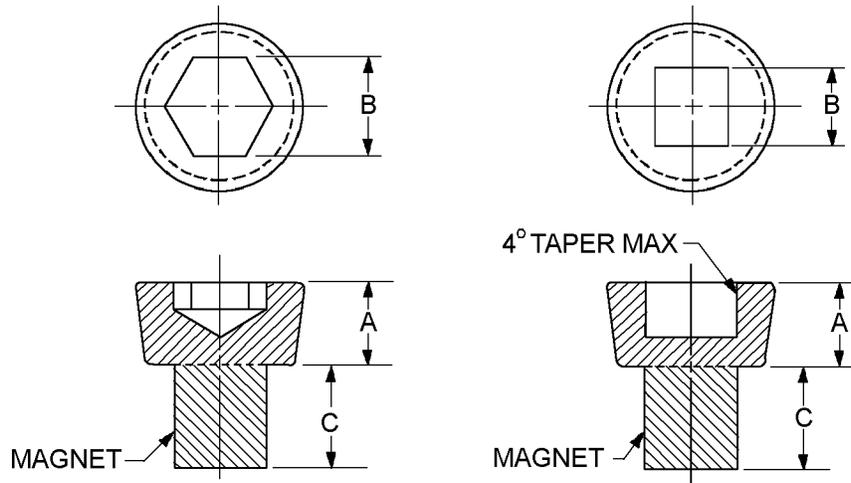
3.3 Physical requirements. The magnetic pipe plug shall conform to all of the requirements specified on figure 1 and in table II.

3.3.1 Magnet attachment. 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.

3.3.2 Magnet size. 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 3 inch size and NPT for the 4 inch size, see figure 1.

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Dash numbers		Pipe thread	A		B		C	Head style (recessed)
Type I Aluminum	Type II iron/steel		Min.	Max.	Min.	Max.	Max.	
-01	-02	0.125 - 27 NPTF	0.290	0.310	0.188	0.193	0.375	Hex socket
-03	-04	0.250 - 18 NPTF	0.445	0.475	0.250	0.255	0.375	
-05	-06	0.375 - 18 NPTF	0.445	0.475	0.313	0.318	0.375	
-07	-08	0.500 - 14 NPTF	0.590	0.630	0.375	0.390	0.375	
-09	-10	0.750 - 14 NPTF	0.600	0.640	0.563	0.568	0.500	
-11	-12	1.000 - 11 1/2 NPTF	0.750	0.790	0.625	0.630	0.500	
-13	-14	1.250 - 11 1/2 NPTF	0.800	----	0.759	0.780	0.500	Square socket
	-16	1.500 - 11 1/2 NPTF	0.830	----	0.759	0.780	0.500	
	-18	2.000 - 11 1/2 NPTF	0.890	----	0.884	0.900	0.625	
	-20	2.500 - 8 NPTF	1.070	----	1.137	1.160	0.625	
	-22	3.000 - 8 NPTF	1.130	----	1.391	1.410	0.625	
	-24	4.000 - 8 NPT	1.220	----	2.022	2.040	0.625	

NOTES:

1. Dimensions and tolerances. All dimensions are in inches. Tolerances not shown shall be in accordance with SAE-J531 for sizes up to and including 1 inch and in accordance with ASME B16.14 for sizes greater than 1 inch.
2. Figure is for identification purposes only and is not intended to restrict designs or shapes of plugs not dimensioned herein.

FIGURE 1. Pipe plugs, magnetic - headless.

3.5 Magnet capability. Magnetism shall be a permanent magnet in accordance with Magnetic Materials Producers Association (MMPA) Standard 0100-00.

3.5.1 Magnet lift rating. The magnet lift rating shall be in accordance with table II. 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. Testing shall not be performed for 48 hours after magnetization.

TABLE II. Magnet lift rating.

Dash numbers		Lift
Type I Aluminum	Type II iron/steel	Min.
-01	-02	4 oz
-03	-04	4 oz
-05	-06	4 oz
-07	-08	4 oz
-09	-10	6 oz
-11	-12	6 oz
-13	-14	8 oz
	-16	8 oz
	-18	10 oz
	-20	10 oz
	-22	10 oz
	-24	10 oz

3.6 Hydrostatic pressure test. Plugs supplied to this CID shall be capable of withstanding a hydrostatic pressure test of 250 psi for one minute. Plugs used for this test shall not be included in the shipment of plugs supplied to the contract or purchase order.

3.7 Marking. Plugs, pipe, magnetic, headless: iron, steel or aluminum alloy supplied to this CID shall be marked with the manufacturer's (MFR's) standard commercial PIN. (NOTE: The part number marked on the unit pack shall be the CID PIN.)

3.8 Recycled, recovered, or environmentally preferable, or biobased materials. Recycled, recovered, or environmentally preferable, or biobased 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.

3.9 Workmanship. Plugs, pipe, magnetic, headless: iron, steel or aluminum alloy shall be processed in such a manner as to be uniform in quality and shall be free from other defects that will affect life, serviceability, or appearance.

4. REGULATORY REQUIREMENTS. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with 23.403 of the Federal Acquisition Regulation (FAR).

5. PRODUCT CONFORMANCE PROVISIONS.

5.1 Product conformance. The products provided shall meet the salient characteristics of this CID, 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 Certification. Certification must be done with the procuring activity approval. The contractor shall certify that the product offered meets the salient characteristics of the description and conforms to the producer's own drawings, specifications, standards, and quality assurance practices, and is the same as the product offered for sale in the commercial marketplace. The government reserves the right to require proof of such conformance prior to first delivery and thereafter as may be otherwise provided for under the provisions of the contract

6. PACKAGING. Preservation, packing, and marking shall be as specified in the contract or order.

7. NOTES.

7.1 PIN. The PIN should be used for Government purposes to buy commercial products to this CID. See section 2 for PIN format example.

7.2 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 on the list should be minimized or eliminated unless needed to meet the requirements specified herein (see Section 3).

7.3 Commercial and Government Entity (CAGE) code. For ordering purposes, inventory control, and submission of these plugs, pipe, magnetic, headless: iron, steel or aluminum alloy to DLA Land and Maritime under the Parts Management Advisory Team (PMAT), CAGE code 58536 should be used.

7.4 Source of documents.

FEDERAL REGULATIONS

FAR - Federal Acquisition Regulations (FAR)

(Copies of this document are available online at www.acquisition.gov/comp/far/index.html or from the U.S. Government Printing Office, 732 North Capital Street, NW, Washington D.C. 20401.)

DEPARTMENT OF DEFENSE SPECIFICATION

MIL-A-8625 - Anodic Coatings For Aluminum and Aluminum Alloys

(Copies of this document are available online at <http://quicksearch.dla.mil>.)

ASME INTERNATIONAL

ASME B16.14 - Ferrous Pipe Plugs, Bushings, and Locknuts with Pipe Threads

(Copies of these documents are available online at <http://www.asme.org> or from the ASME International, Three Park Avenue, New York, NY 10016-5990.)

ASTM INTERNATIONAL

ASTM A47/A47M - Standard Specification for Ferritic Malleable Iron Castings
ASTM A48/A48M - Standard Specification for Gray Iron Castings
ASTM B211 - Standard Specification for Aluminum and Aluminum-Alloy Rolled or Cold Finished Bar, Rod, and Wire

(Copies of these documents are available online at <http://www.astm.org> or from the ASTM International, P.O. Box C700, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

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SAE INTERNATIONAL

SAE-AMS2472	-	Anodic Treatment of Aluminum Alloys Sulfuric Acid Process, Dyed Coating
SAE-AMS4115	-	Aluminum Alloy, Rolled or Cold-Finished, Bars, Rods, Wire, and Flash Welded Rings Annealed 1.0Mg - 0.60Si - 0.28Cu - 0.20Cr (6061-0) - UNS A96061
SAE-AMS4116	-	Aluminum Alloy, Bars, Rods, and Wire 1.0Mg - 0.60Si - 0.30Cu - 0.20Cr (6061-T4) Cold Finished, Solution Heat Treated and Naturally Aged - UNS A96061
SAE-AMS4117	-	Aluminum Alloy, Rolled or Cold Finished Bars, Rods, and Wire and Flash Welded Rings 1.0Mg - 0.60Si - 0.28Cu - 0.20Cr (6061; -T6, -T651) Solution and Precipitation Heat Treated - UNS A96061
SAE-AMS4128	-	Aluminum Alloy Bars, Rolled or Cold Finished 1.0Mg - 0.60Si - 0.30Cu - 0.20Cr (6061-T451) Solution Heat Treated and Stress Relieved by Stretching - UNS A96061
SAE-AMS-QQ-A-367	-	Aluminum Alloy Forgings
SAE-J531	-	Automotive Pipe, Filler, and Drain Plugs

(Copies of these documents are available online at <http://standards.sae.org/> or from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001.)

MAGNETIC MATERIALS PRODUCERS ASSOCIATION

MMPA STANDARD	-	0100-00
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(Copies of this document are available on line at <http://www.smma.org> or from the Magnetic Materials Producers Association (MMPA), 8 South Michigan Avenue, Suite 1000, Chicago, Illinois 60603-3452.)

7.5 Ordering data. The contract or order should specify the following:

- a. CID document number, revision, and CID PIN.
- b. Product conformance provisions.
- c. Packaging requirements.

7.6 Commercial products. As part of the market analysis and research effort, this CID was coordinated with the following manufacturers of commercial products. At the time of CID preparation and coordination, these manufacturers were known to have commercial products that would meet the requirements of this CID. (NOTE: This information should not be considered as a list of approved manufacturers or be used to restrict acquisition to only the manufacturers shown.)

<u>MFR's CAGE</u>	<u>MFR's name and address</u>
1MQB3	S I T Corporation 13200 SW 128TH ST BLDG H MIAMI, FL 33186-5881 Tel: (305) 255-3127 sitsyrny@twcny.rr.com Tel: (315) 422-5444 Otto@sitcorporation.com Tel: (305) 255-3127
3DPE3	JSO/MD, Inc. 1961 Saint Andrews Dr. Red Oak, TX 75154-5837 Tel: (972) 617-0677 JSOMDinc@msn.com Tel: (469) 556-2805
<u>MFR's CAGE</u>	<u>MFR's name and address</u> – continued.
050R4	Patriot Valve & Fitting Corp. 86 Broadway Freeport, NY 11520-2821 sales@patriotlogistics.com Tel: (516) 377-3300

7.7 Government users. To acquire information on obtaining these plugs, pipe, magnetic, headless: iron, steel or aluminum alloy from the Government inventory system, contact DLA Land and Maritime, ATTN: DLA Land and Maritime Call Center (-NAB), P.O. Box 3990, Columbus, OH 43218-3990 or telephone (614) 692-2271 or (614) 692-3191.

7.8 Legacy. This commercial item description is a replacement for MIL-P-54001 and MS49006 for all federal agencies (MIL-P-54001 is canceled as of 21 May 1999 and MS49006 is canceled as of 21 May 1995 copies of these documents are available online at <http://assist.quicksearch.dla.mil> or from the U.S. Government Printing Office, 732 North Capital Street, NW, Washington D.C. 20401-0001.

7.8.1 PIN supersession data. These CID PINs supersede the following MS part numbers as shown in table III. This information is being provided to assist in reducing proliferation in the Government inventory system.

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TABLE III. P/N data.

Active CID PIN	Superseded MS PIN
A-A-59432-01	MS49006-1
A-A-59432-02	MS49006-2
A-A-59432-03	MS49006-3
A-A-59432-04	MS49006-4
A-A-59432-05	MS49006-5
A-A-59432-06	MS49006-6
A-A-59432-07	MS49006-7
A-A-59432-08	MS49006-8
A-A-59432-09	MS49006-9
A-A-59432-10	MS49006-10
A-A-59432-11	MS49006-11
A-A-59432-12	MS49006-12
A-A-59432-13	MS49006-13
A-A-59432-14	MS49006-14
A-A-59432-16	MS49006-16
A-A-59432-18	MS49006-18
A-A-59432-20	MS49006-20
A-A-59432-22	MS49006-22
A-A-59432-24	MS49006-24

7.8.2 National stock numbers (NSNs). The following is a list of NSN's assigned which correspond to this CID. The list is for information only and may not be indicative of all possible NSN's associated with the CID. For up to date information on assigned NSN's, please contact the aforementioned DLA Land and Maritime office (See 7.7).

TABLE IV. NSN's.

Dash number (see figure 1) A-A-59432-	NSN
-01	4730-00-045-9764
-02	4730-01-113-2353
-03	
-04	4730-00-045-9767
-05	4730-00-045-9768
-06	4730-00-045-9769
-07	
-08	4730-01-135-8310
-09	
-10	4730-00-968-6129
-11	4730-01-281-9381
-12	4730-00-045-9833
-13	
-14	4730-00-045-9835
-16	
-18	
-20	
-22	
-24	

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

MILITARY INTERESTS

Custodians:

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

Review activities:

Army - AT
Navy - SA, MC
Air Force - 71

CIVIL AGENCY COORDINATING ACTIVITY:

GSA - FSS

Preparing activity:

DLA - CC

Project 4730-2015-003

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>.