

INCH-POUND

A-A-52420A

05 April 2013

SUPERSEDING

A-A-52420

13 January 1993

COMMERCIAL ITEM DESCRIPTION

PLUG, EXPANSION

The General Services Administration has authorized the use of this commercial item description (CID) as a replacement for MIL-P-20691C and MS35648A, which are canceled.

1. **SCOPE.** This commercial item description (CID) covers the requirements of a curved, circular steel disc expansion plug used for closing holes in castings and other similar openings. The expansion plug is referred to herein as “plug”.

2. **SALIENT CHARACTERISTICS.**

2.1 **Materials.** Plugs shall be of low or medium low carbon steel, Unified Numbering System (UNS) G10080 to G10220, inclusive. Protective coating is not required. The use of recovered material made in compliance with regulatory requirements is acceptable providing that all requirements of this CID are met (see 3.0).

2.2 **Design and construction.** Plugs shall meet the design requirements of figure 1.

2.3 **Hardness.** Plug hardness shall be HRB 50 to 80 when tested in accordance with ASTM E18.

2.4 **Identification and marking.** Identification and marking of plugs shall be permanent and legible and shall include as a minimum the CID part number and the manufacturer's identification code (CAGE).

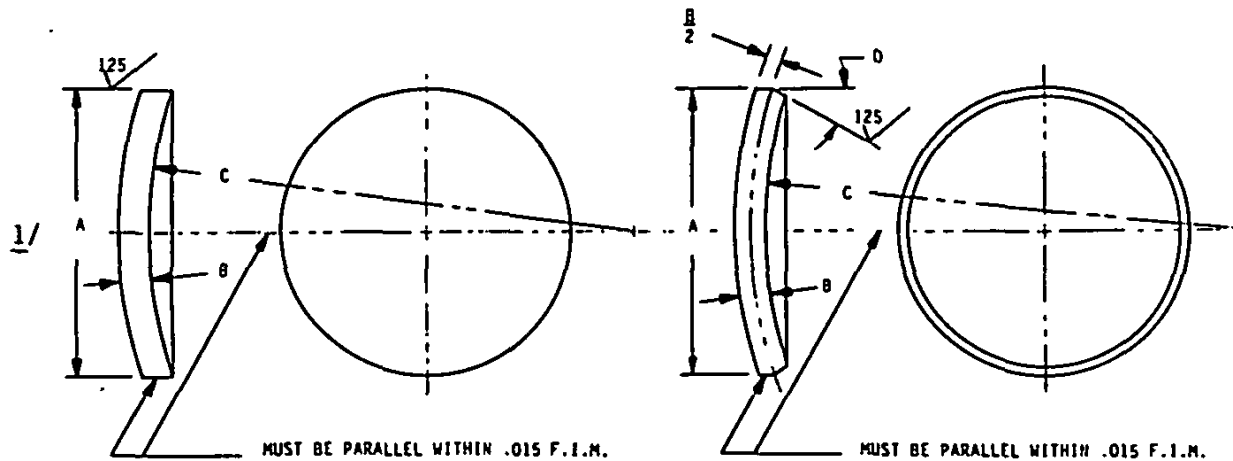
Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data that may improve this document should be sent to usarmy.detroit.rdecom.mbx.tardec-standardization@mail.mil or U.S. Army RDECOM, Tank Automotive Research, Development and Engineering Center, ATTN: RDTA-EN/STND/TRANS MS #268, 6501 E. 11 Mile Road, Warren, MI 48397-5000. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at <https://assist.dla.mil>.

AMSC N/A

FSC 5340

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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NOTES:

1. Recommended diameter for proper plug installation shall be maximum plug outside diameter plus .002.
2. Dimensions are in inches.

CID PIN	SUPERSEDED MS PIN	NOMINAL DIAMETER	OUTSIDE DIAMETER 'A'		THICKNESS 'B' ±.005	RADIUS 'C' ±1/64	ANGLE 'D' ±1°
			MAX 1/	MIN			
A52420-01	35648-01	1/4	.252	.248	.032	7/32	32
A52420-02	35648-02	3/8	.377	.372	.065	13/32	25
A52420-03	35648-03	1/2	.502	.498	.065	17/32	25
A52420-04	35648-04	5/8	.628	.622	.065	3/4	23
A52420-05	35648-05	3/4	.753	.747	.065	15/16	23
A52420-06	35648-06	7/8	.878	.872	.083	1 3/32	23
A52420-07	35648-07	1	1.003	.997	.083	1 1/8	24
A52420-08	35648-08	1 1/8	1.128	1.122	.083	1 3/8	24
A52420-09	35648-09	1 1/4	1.253	1.247	.083	1 5/8	21
A52420-10	35648-10	1 3/8	1.380	1.370	.083	1 13/16	21
A52420-11	35648-11	1 1/2	1.505	1.495	.083	2 1/8	21
A52420-12	35648-12	1 5/8	1.630	1.620	.083	2 3/8	21
A52420-13	35648-13	1 3/4	1.755	1.745	.083	2 11/16	19
A52420-14	35648-14	1 7/8	1.880	1.870	.083	2 7/8	19
A52420-15	35648-15	2	2.005	1.995	.083	3 3/16	19
A52420-16	35648-16	2 1/4	2.255	2.245	.083	3 9/16	19
A52420-17	35648-17	2 1/2	2.505	2.495	.083	4 5/32	17
A52420-18	35648-18	2 3/4	2.755	2.745	.083	4 1/2	17
A52420-19	35648-19	3	3.005	2.995	.083	5	17
A52420-20	35648-20	3 1/4	3.255	3.245	.134	5 1/2	17
A52420-21	35648-21	3 1/2	3.505	3.495	.134	6	17

FIGURE 1. Design requirements.

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2.5 Workmanship. Plugs shall be free of dirt, oil, or other foreign material, except as required for preservation (see 5.). Workmanship shall be of a quality which shall assure a product free of burrs, rust, loose scale, splits, cracks, or other defects which affect serviceability. Plugs shall have a clean, sharp edge on the concave side.

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

4. PRODUCT CONFORMANCE PROVISIONS.

4.1 Responsibility for inspection. The contractor is responsible for all inspections (examinations and tests) to assure the plug meets all salient characteristics specified herein.

4.2 Contractor certification. The contractor shall certify and maintain substantiating evidence that the product offered meets the salient characteristics of this CID and that the product conforms to the producer's own drawings, specifications, standards, and quality assurance practices. Items with known defects shall not be submitted for Government acceptance. The Government reserves the right to require proof of such conformance prior to the first delivery and thereafter as may be otherwise provided for under the provisions of the contract.

5. PACKAGING. Preservation, packing, and marking shall be as specified in the contract or order (see 6.2).

6. NOTES.

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

6.1 Addresses for obtaining copies of referenced documents.

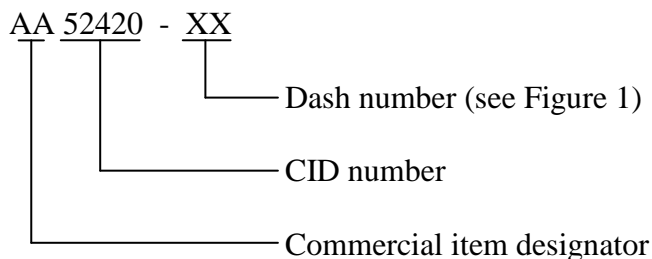
6.1.1 Non-Government publications. Copies of ASTM E18 "Standard Test Methods for Rockwell Hardness of Metallic Materials" and of IEEE/ASTM SI10 "American National Standard for Metric Practice" are available from www.astm.org or ASTM International, P.O. Box C700, West Conshohocken, PA 19428-2959.

6.2 Ordering data. Acquisition documents should specify the following:

- a. Title, number, and date of this CID.
- b. If required, the specific issue of individual documents referenced (see 6.1.1).
- c. Plug PIN (see 6.3 and figure 1).

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6.3 Part or identification number (PIN). The PIN to be used for plugs acquired by this CID is created as follows:



6.4 Cross reference. Plugs conforming to this CID are interchangeable/substitutable with plugs conforming to MS35648A (see figure 1).

6.5 Metric product. Products manufactured to metric dimensions will be considered on an equal basis with those manufactured using inch-pound units, provided they fall within specified tolerances using conversion tables contained in the latest revision of IEEE/ASTM SI10, and all other requirements of this CID are met. If a product is manufactured to metric dimensions and those dimensions exceed the tolerances specified in the inch/pound units, a request should be made to the contracting officer to determine if the product is acceptable. The contracting officer has the option of accepting or rejecting the product.

Custodians:

Army - AT
Navy - AS
Air Force - 99

Preparing Activity:

Army - AT

(Project 5340-2009-024)

Review activities:

Army - AR, AV, CR4
Navy - MC
Air Force - 71
DLA - IS

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