



3. SALIENT CHARACTERISTICS.

3.1 Interface and physical dimensions. Waterproof spark plug lead and conduit assembly (other than aircraft) supplied to this CID shall be as specified herein (see figure 1).

3.2 Assemblies. This CID covers 2 types of assemblies. This CID uses a classification system which includes the PIN as shown in table I.

3.3 Length. The nominal length A shown on figure 1, shall be as specified in table I.

TABLE I. Dash numbers. 1/

AA55538 CID dash number	Type	CID dash numbers length A, (See figure 1)	
		Inches	Millimeters
No.			
002	I	$10 \pm 1/8$	$254 \pm 3$
004		$12 \pm 1/8$	$305 \pm 3$
006		$17 \pm 1/4$	$431 \pm 6$
008		$20 \pm 1/4$	$508 \pm 6$
011		$26 \pm 1/4$	$660 \pm 6$
012		$29 \pm 1/2$	$737 \pm 13$
001	II	$8 \pm 1/8$	$203 \pm 3$
003		$10 \pm 1/8$	$254 \pm 3$
005		$14 \pm 1/4$	$356 \pm 6$
007		$17 \pm 1/4$	$431 \pm 6$
009		$20 \pm 1/4$	$508 \pm 6$
010		$23 \pm 1/4$	$584 \pm 6$
013		$32 \pm 1/2$	$813 \pm 13$
014		$40 \pm 1/2$	$1016 \pm 13$
015		$45 \pm 1/2$	$1143 \pm 13$
016		$50 \pm 1/2$	$1270 \pm 13$
017	$55 \pm 1/2$	$1397 \pm 13$	

1/ NOTES:

- 1 Type I Connector is straight (inline)
- 2 Type II - Connector has a 90° elbow soldered to the conduit
- 3 Length A - Nominal length is defined as the distance between connecting nuts (for Type I connectors), or the distance between the inside of the soldered joint at the elbow and the connecting nut at the opposite end (for Type II connectors). See figure I for details.
- 4 CID dash numbers came from basic CID to provide cross reference.

3.4 Connector configuration. The lead and conduit assemblies described in this CID include both straight (inline) connectors or connectors that contain a 90° elbow as specified in table I and shown on figure 1.

3.5 Marking. Waterproof spark plug lead and conduit assembly (other than aircraft) 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.)

3.6 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.

3.7 Workmanship. Waterproof spark plug lead and conduit assembly (other than aircraft) 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 marketplace. The Government reserves the right to require proof of such conformance.

5.2 Market acceptance. The following market acceptance criteria are necessary to document the quality of the product to be provided under this CID:

- a. The company producing the item must have been producing a product meeting the requirements of this CID for at least 2 years.
- b. The company producing the item must have sold 1,000 units meeting this CID in the commercial marketplace over the past 2 years.

5.3 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 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 waterproof spark plug lead and conduit assembly (other than aircraft) to DLA Land and Maritime under the Military Parts Control Advisory Group (MPCAG) evaluation program, CAGE code 58536 should be used.

7.4 Source of documents.

COMMERCIAL ITEM DESCRIPTIONS

- A-A-52440 – Conduit, Metal, Flexible: Electrical Shielded
- A-A-59588 – Rubber, Silicone

DEPARTMENT OF DEFENSE SPECIFICATIONS

- MIL-W-21425 – Wire, Steel, High Carbon, Square, Uncoated, For Mechanical Springs (General Purpose)

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

FEDERAL REGULATIONS

- FAR – Federal Acquisition Regulations (FAR)

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

OTHER PUBLICATIONS

ASTM INTERNATIONAL

- ASTM A313/A313M – Standard Specification for Stainless Steel Spring Wire
- ASTM A575 – Standard Specification for Steel Bars, Carbon, Merchant Quality, M-Grades
- ASTM A580/A580M – Standard Specification for Stainless Steel Wire
- ASTM A663/A663M – Standard Specification for Steel Bars, Carbon, Merchant Quality, Mechanical Properties
- ASTM B16/B16M – Standard Specification for Free-Cutting Brass Rod, Bar and Shapes for Use in Screw Machines
- ASTM B121/B121M – Standard Specification for Leaded Brass Plate, Sheet, Strip, and Rolled Bar
- ASTM B124/B124M – Standard Specification for Copper and Copper Alloy Forging Rod, Bar, and Shapes
- ASTM B36/B36M – Standard Specification for Brass Plate, Sheet, Strip, And Rolled Bar

ASTM B700 – Standard Specification for Electrodeposited Coatings of Silver for Engineering Use

(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.)

SAE INTERNATIONAL

SAE-AMS-QQ-P-416 – Plating, Cadmium (Electrodeposited)

(Copies of these documents are available on line at [www.sae.org](http://www.sae.org) from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, and Tel: 877-606-7323 [inside USA and Canada] or 724-776-4970 [outside USA], email at [CustomerService@sae.org](mailto:CustomerService@sae.org).)

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>
00642	Heale Manufacturing co inc 1231 The Strand Waukesha, WI 53186-3861 <a href="http://www.healemfg.com">http://www.healemfg.com</a> (262) 542-4496 Elliott Erickson John Livingston <a href="mailto:govt@healemfg.com">govt@healemfg.com</a>
4F040	Pitt Auto Electris Company 4085 Alpha Dr. Allison Park, Pa 15101-2961 (412) 487-5075 Bill Anker <a href="mailto:bill@pittauto.com">bill@pittauto.com</a> Dick Eiseman <a href="mailto:dick@pittauto.com">dick@pittauto.com</a>

7.7 Government users. To acquire information on obtaining these waterproof spark plug lead and conduit assembly (other than aircraft) 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 MS51010 and MS51011 for all federal agencies (MS51010 is canceled as of 10 October 1990 and MS51011 is canceled as of 3 November 1966 copies of these documents are available online at <http://quicksearch.dla.mil> or from the DLA Document Services Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111–5094).

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

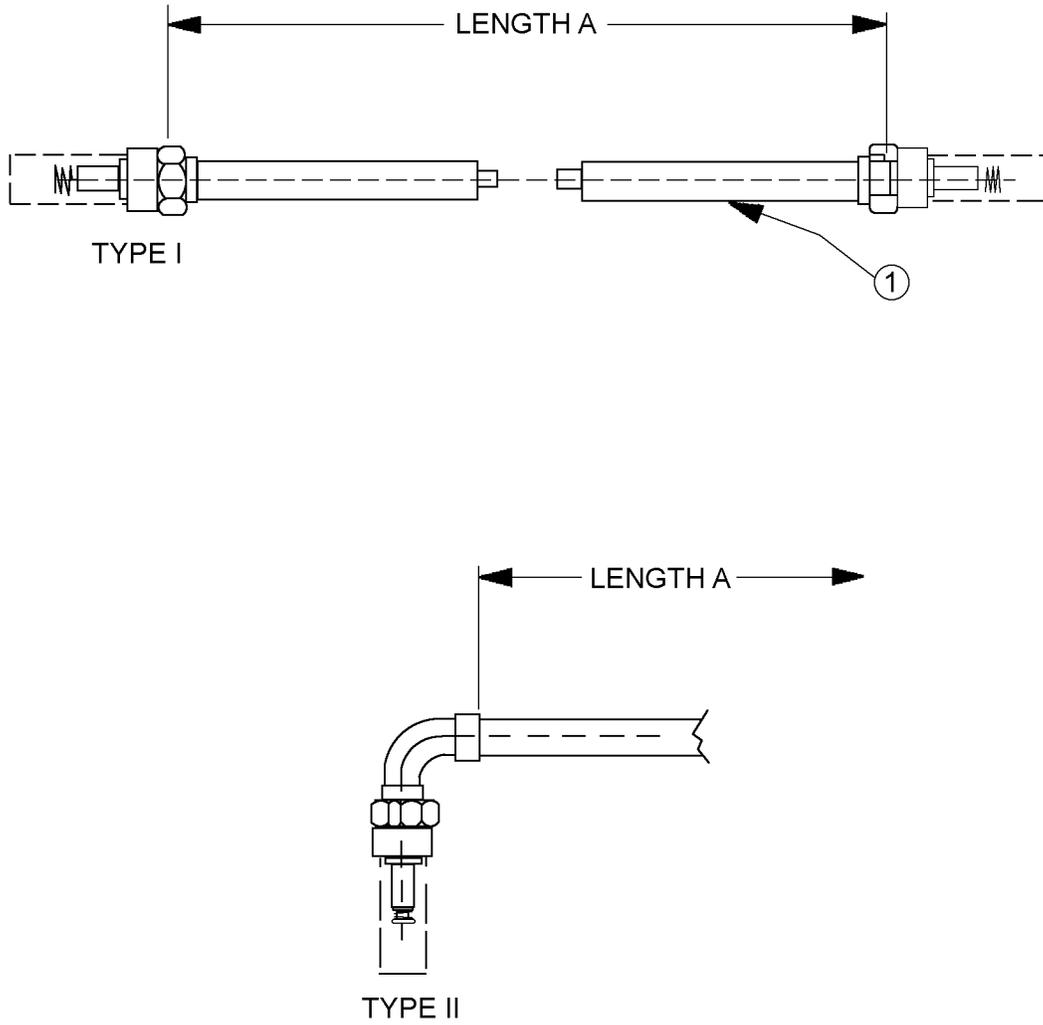


FIGURE 1. Waterproof spark plug lead and conduit assembly.

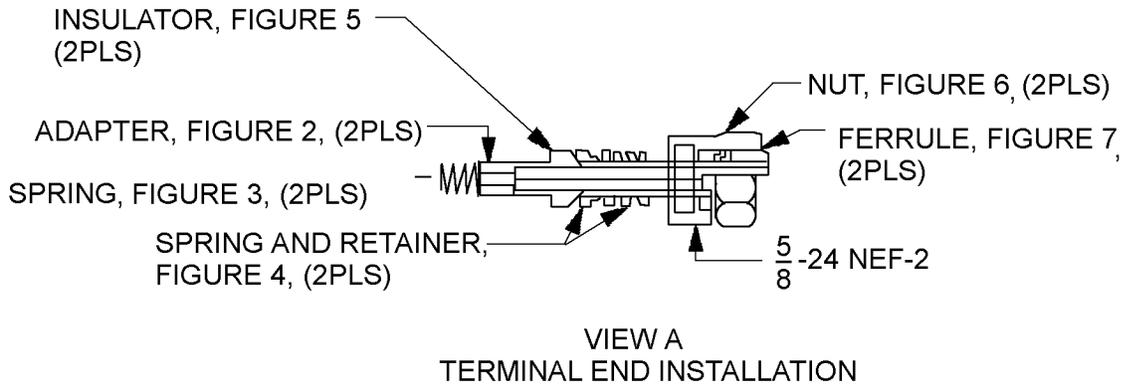
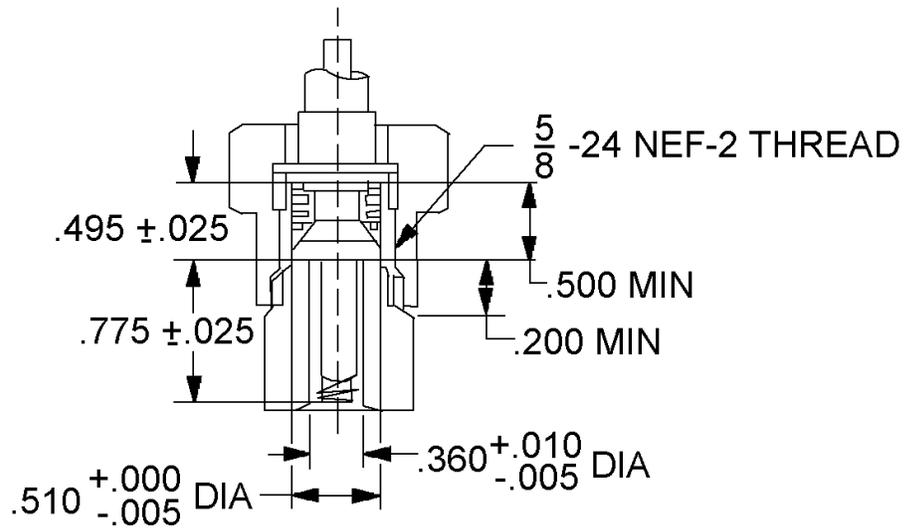


FIGURE 1. Waterproof spark plug lead and conduit assembly-continuous.

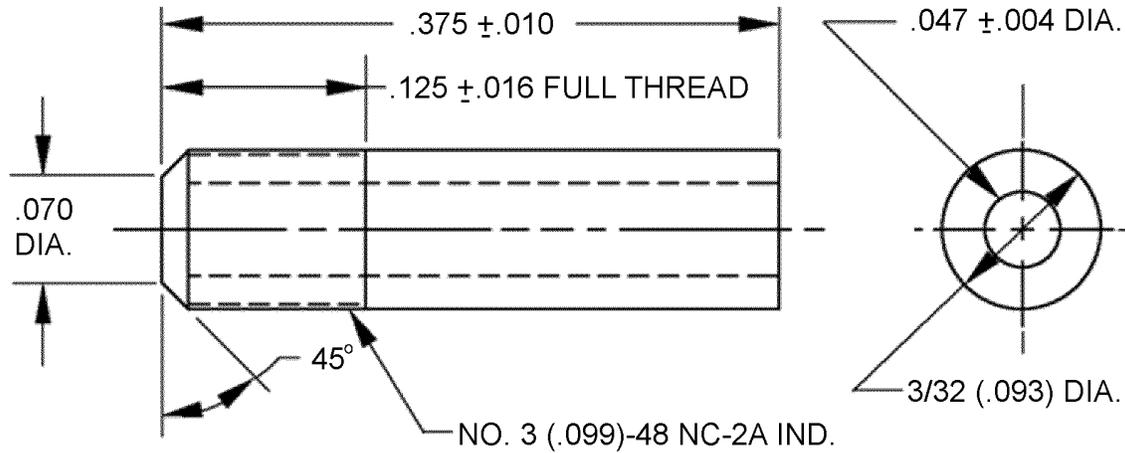
A-A-55538A

Inchs	mm	Inchs	mm
.005	.13	.430	10.92
.010	.25	.495	12.57
.015	.381	.500	12.70
.025	.64	.510	12.95
.200	5.08	.775	19.69
.281	7.16		
.306	9.92		

NOTES:

1. Conduit: OD.,  $.430 \pm .010$ . ID.,  $.281 \pm .015$ , A-A-52440, type I, grade B, with single layer, two-over-two weave, braid.
2. Metrics are information only.

FIGURE 1. Waterproof spark plug lead and conduit assembly – continuous.

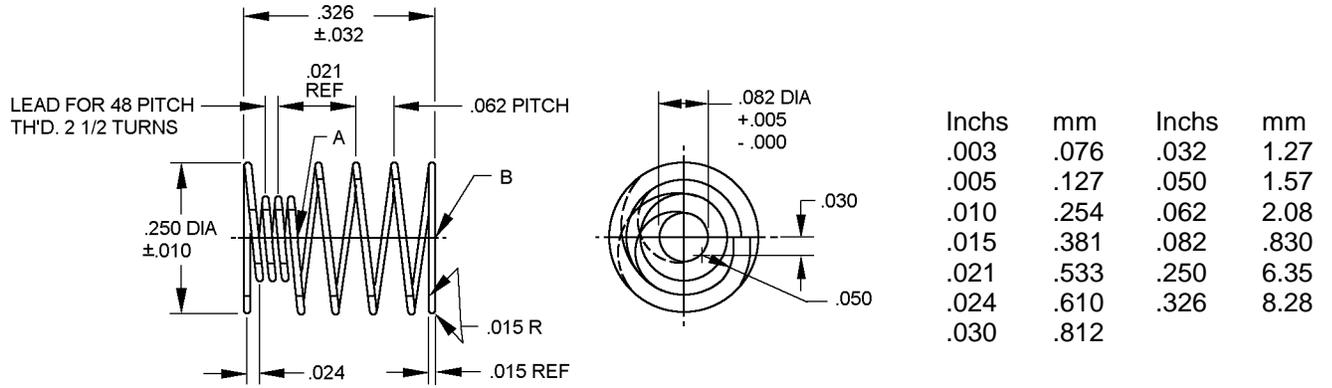


Inchs	mm
.004	.102
.010	.254
.016	.406
.070	1.78
.047	1.19
.093	2.36
.125	3.18
.375	9.53

NOTES:

1. Material: Brass as specified in ASTM B16/B16M, ASTM B36/B36M, ASTM B121/B121M and ASTM B124/B124M.
2. Finish: Silver as specified in ASTM B700.
3. Tolerance: +/- .005, +/- 1/64, +/- , 2°. Unless otherwise specified.
4. Dimensions are in inches. Metric equivalents are for information only.

FIGURE 2. Adapter Lead, to terminal: Spark Plug cable (other than aircraft).

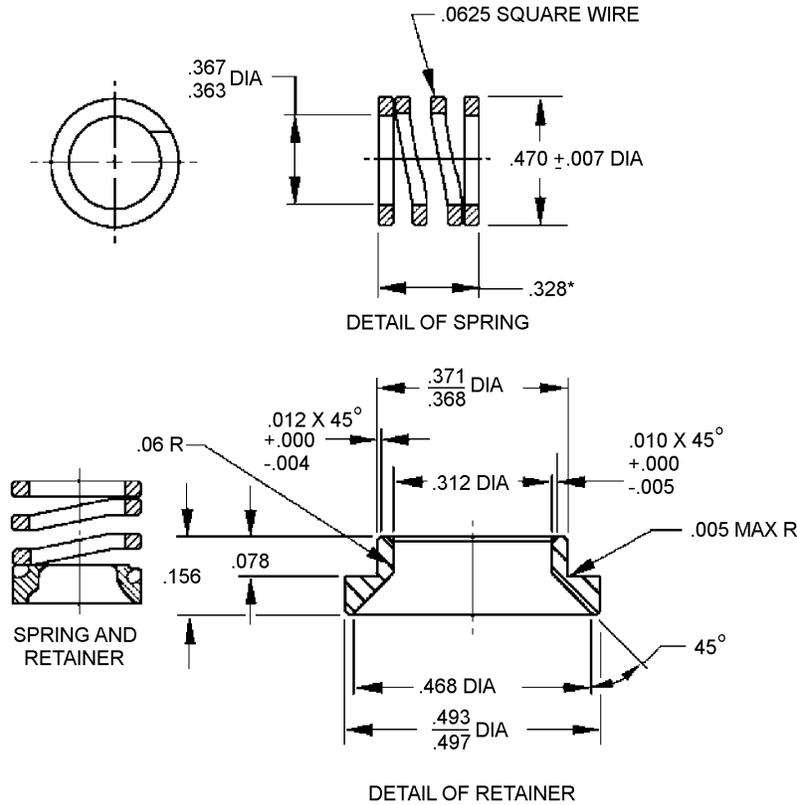


**NOTES:**

1. Material: Steel as specified in: ASTM A313/A313M and ASTM A580/A580M, spring temper.
2. Finish: Passivation.
3. Tolerance: +/- .005, +/- 1/64, +/- 2°, Unless otherwise specified.
4. Wire cross section shall be: .015 +/- .003.
5. Spring turn shall be: 8.5 turns, both ends shall be 3/4 turn squared.
6. Lengths: Between points A and B is compressible solid under a 1 pound load.
7. Dimensions are in inches. Metric equivalents are for information only.

FIGURE 3. Spring, helical, compression spark plug cable terminal (other than aircraft).

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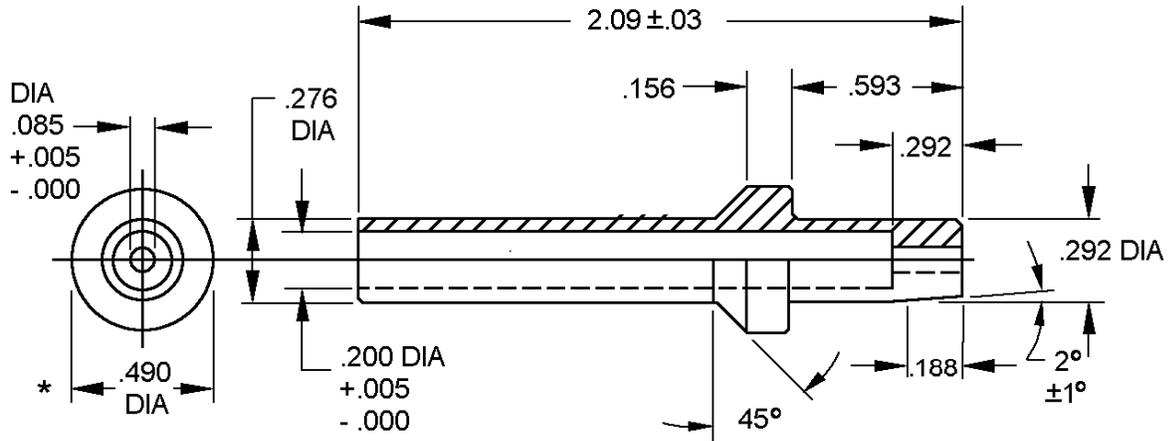


Inchs	mm	Inchs	mm	Inchs	mm
.004	.102	.078	19.51	.367	9.32
.005	.127	.012	3.05	.368	9.35
.006	.152	.0625	1.59	.469	11.89
.010	.254	.156	3.96	.493	12.52
.030	.762	.312	7.92	.495	12.57
.060	1.52	.328	8.33	12.57	319.3
.070	19.30	.363	9.22		

**NOTES:**

1. Material: Spring steel wire .0625 square, as specified in MIL-W-21425, type I.
2. Material Retainer: Carbon Steel; ASTM A575 and ASTM A663/A663M.
3. Finish: Cadmium plating as specified in SAE-AMS-QQ-P-416, class 3.
4. within 1 hour after plating spring and retainer be baked for 2 hours at 375° F +/-15°.
5. Spring ends: Closed and ground square: 2-1/2 effective coils, compressible to 1/4 inch overall length. under 15 +/-3 pound load.
6. Tolerance: +/- .005, +/- 1/64, +/- , 2°. Unless otherwise specified.
7. Dimensions are in inches. Metric equivalents are for information only

FIGURE4. Spring and retainer, electrical terminal: spark plug cable (other than aircraft).

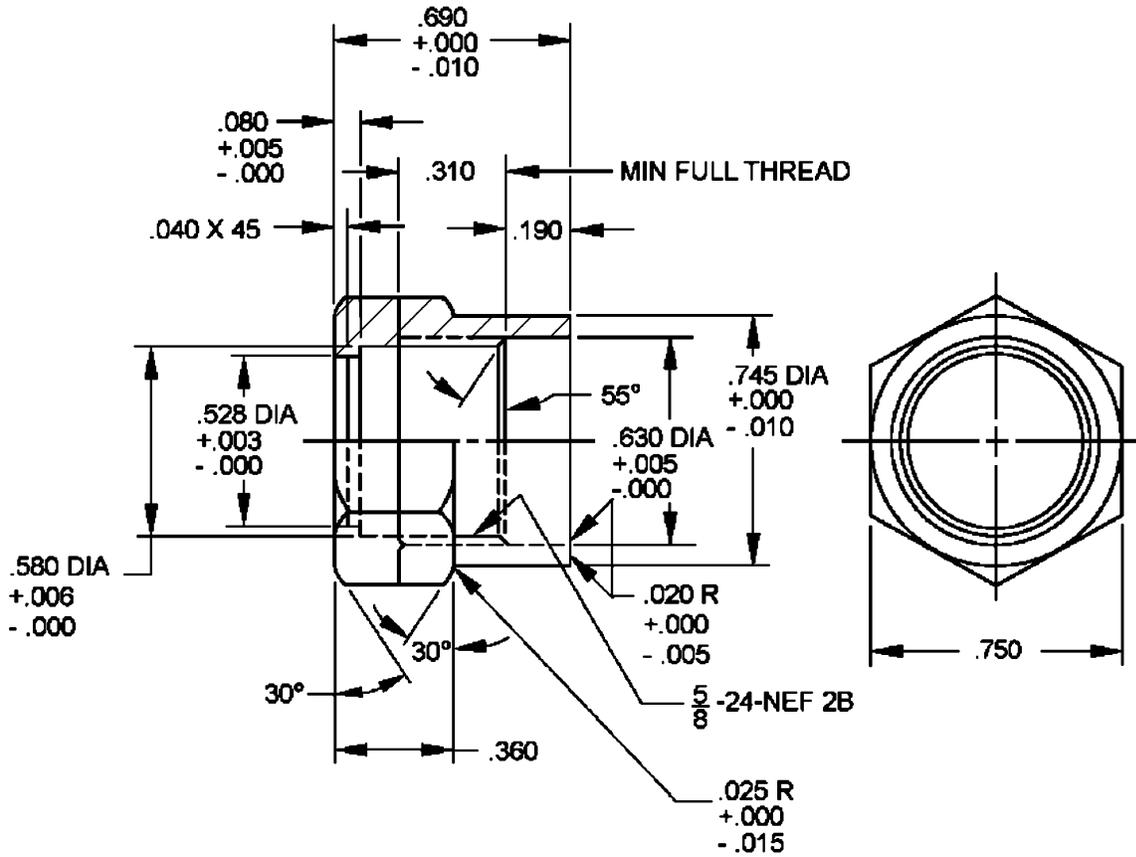


Inchs	mm	Inchs	mm
.005	.127	.276	7.01
.030	.762	.292	7.42
.085	2.16	.490	12.45
.156	3.96	.593	15.06
.188	4.78	2.09	53.09
.200	5.08		

**NOTES:**

1. Material. Silicone rubber as specified in A-A-59588, class 2B, grade 80.
2. Finish. Part must free of mold release compound.
3. Fillet radii. All fillet radii .030 maximum. Unless otherwise specified.
6. Tolerance: +/- .005, +/- 1/64, +/- 2°. Unless otherwise specified.
7. Dimensions are in inches. Metric equivalents are for information only

FIGURE 5. Insulator, bushing: spark plug cable terminal (other than aircraft).

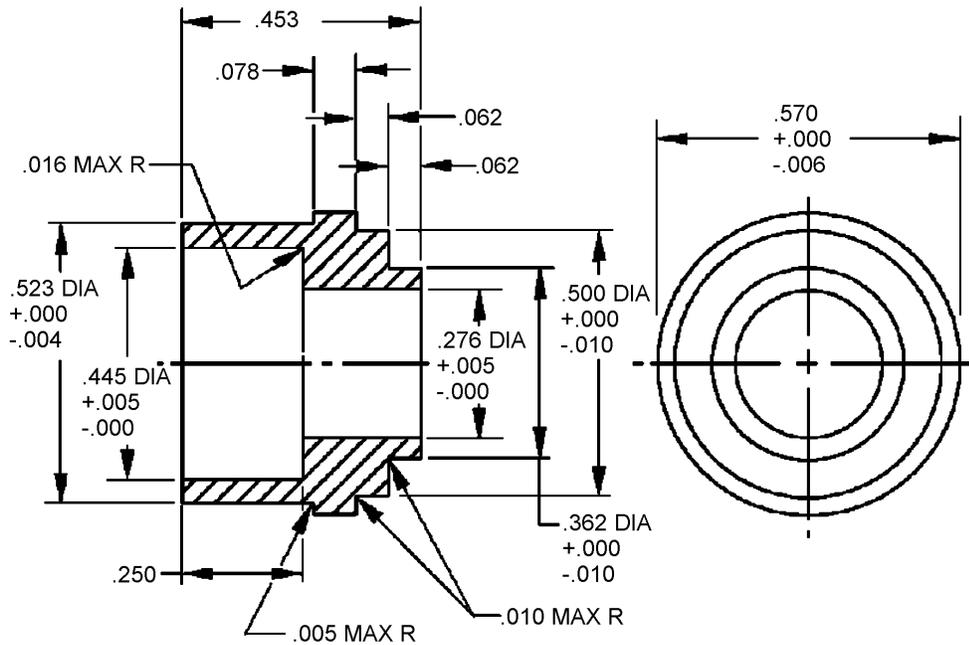


Inchs	mm	Inchs	mm
.003	.076	.360	9.14
.005	.127	.528	13.41
.006	.152	.580	14.73
.010	.254	.630	16.00
.015	.381	.690	17.53
.020	.508	.745	18.92
.025	.635	.750	19.05
.040	1.02		
.080	2.03		
.190	4.83		
.310	7.87		

**NOTES:**

1. Material. Steel, carbon, C-1015, to C1025 as specified in ASTM A575 and ASTM A663/A663M.
2. Finish. Cadmium plating as specified in SAE-AMS-QQ-P-416, type II, class2.
3. Tolerance. +/- .005, +/- 1/64, +/- 2°. Unless otherwise specified.
4. Dimensions are in inches. Metric equivalents are for information only.

FIGURE 6. Nut, coupling, electrical conduit spark plug cable (other than aircraft).



Inchs	mm	Inchs	mm
.005	.152	.276	7.01
.006	.127	.362	9.19
.010	.254	.445	11.30
.016	.406	.453	11.51
.062	1.57	.500	12.7
.078	2.00	.523	13.28
.250	6.35	.570	14.48

**NOTES:**

1. Material. 1. Material: Brass as specified in ASTM B16/B16M, ASTM B36/B36M, ASTM B121/B121M, and ASTM B124/B124M.
2. Finish. Cadmium plating as specified in SAE-AMS-QQ-P-416, type II, class 2.
3. Tolerance. +/- .005, +/- 1/64, +/- 2°. Unless otherwise specified.
4. Dimensions are in inches. Metric equivalents are for information only

FIGURE 7. Ferrule, electrical conduit spark plug cable (other than aircraft).

MILITARY INTERESTS

Custodians:

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

Review activities:

Army-CR, GL  
Navy – MC, SA  
Air Force – 70,71

CIVIL AGENCY COORDINATING ACTIVITY:

GSA - FAS

Preparing activity:

DLA - CC

Project 2920-2012-003

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>.