

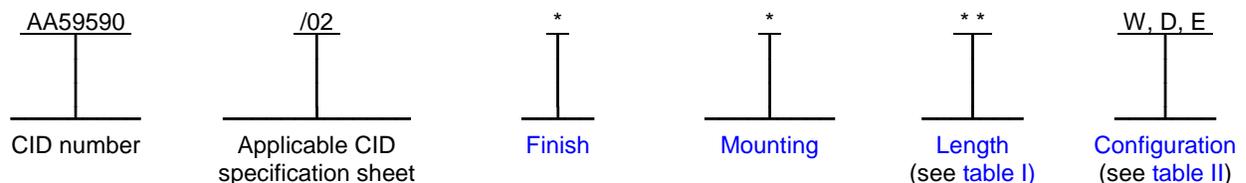
COMMERCIAL ITEM DESCRIPTION  
SPECIFICATION SHEET

HOLDER, ELECTRICAL CARD, WEDGE RETAINERS, 3 PIECE, SCREW ACTUATED DRIVE,  
.225 X .260 INCH BODY SIZE, WITH EJECTION ACTION

The General Services Administration has authorized the use of this  
commercial item description for all federal agencies.

The complete requirements for procuring electrical card holders described herein shall consist of this document and  
the latest issue in effect of [A-A-59590](#).

CLASSIFICATION/PART IDENTIFICATION NUMBER (PIN). This commercial item description (CID) specification  
sheet uses a classification system which is included in the Part Identification Number (PIN) as shown in the following  
example (see [notes](#)).



Example: AA59590/02BG28D is the PIN for a black anodized, 2.8 inches (71 mm) long card holder with a flat  
washer, lockwasher, and screw self-locking element. The card holder also features two tapped mounting holes for  
use with metric M2.5 x 0.45 fasteners.

SALIENT CHARACTERISTICS.

**Performance.** Card holders shall hold the circuit card assembly firmly in its installed position and provide high  
resistance to loosening due to shock and vibration. Card holders shall also provide maximum thermal transfer from  
the circuit card assembly to the cold plate or heat sink surfaces.

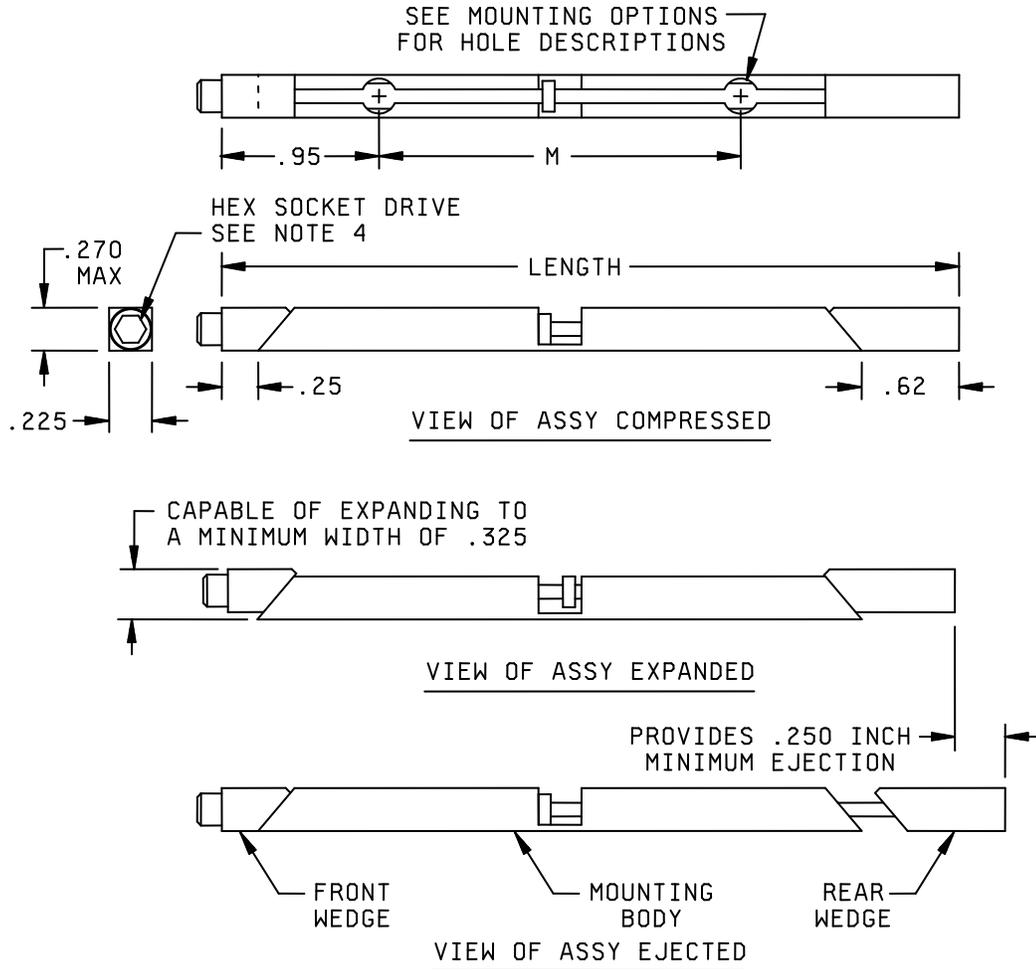
**Material.** Unless otherwise specified herein, the card holder materials shall be as specified in [A-A-59590](#).

**Interface and physical dimensions.** The card holders supplied to this CID specification sheet shall be as specified  
herein (see [figures 1, 2, 3, 4](#), and [table I](#)) and meet the general requirements of CID [A-A-59590](#). Card holders shall  
have an ejection action feature that forces the circuit card assembly to disengage from its installed position.

**Actuating screw hex drive socket.** The across flats dimension for the hex drive socket shall be as follows: .094 inch  
(2.38 mm) for mounting options "J", "K", "N", "T", "R", "V", and "S" and 2.5 mm (0.098 inch) for mounting options "G"  
and "M".

**Cold plate slot width dimensions.** The recommend cold plate slot width to accommodate the circuit card assembly  
with attached card holder is .300 inch (7.62 mm) plus the thickness of the printed board of the circuit card assembly  
(see [A-A-59590](#)).

**Nominal installation torque.** When card holders are used in cold plate applications, the nominal installation torque of  
each card holder shall be as follows: 6 inch-pounds (0.68 N-m) for assemblies using no options or option "W" and 8  
inch-pounds (0.9 N-m) for assemblies using options "D" or "E".



Inches	mm	Inches	mm	Inches	mm	Inches	mm
.225	5.72	.25	6.4	.270	6.86	.62	15.7
		.250	6.35	.325	8.26	.95	24.1

NOTES:

1. Dimensions are in inches. Millimeters are given for general information only.
2. Unless otherwise specified, tolerances are  $\pm 0.02$  inch (0.51 mm) for two place decimals and  $\pm 0.010$  inch (0.25 mm) for three place decimals.
3. The tolerance for the mounting hole spacing is  $\pm 0.005$  inches (0.13 mm).
4. The across flats dimension for hex drive socket shall be .094 inch (2.39 mm) for mounting options "J", "N", "T", and "V". The across flats dimension for hex drive socket shall be a metric dimension of 2.5 mm (.098 inch) across flats for mounting option "G".

FIGURE 1. Relaxed and expanded dimensions.

Ejection action (see figure 2). The ejection action shall allow for the initial ejection of the circuit card assembly from its installed position without damaging circuits, components, or the mating connector(s). The minimal amount of ejection distance shall be .25 inch (6.4 mm).

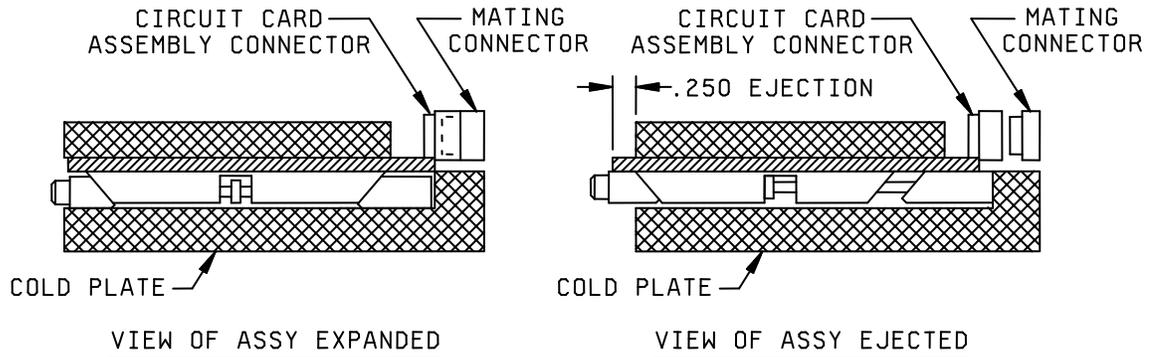


FIGURE 2. View of assembly installed and ejected.

Finish. The finish designator shall be as specified in A-A-59590. The finishes available for this CID specification sheet are as follows: "B" (black anodize), "C" (gold chemical film), "E" (electroless nickel), or "H" (hard black anodize).

Mounting. The mounting designators shall be as specified in A-A-59590. Except when using mounting option "N", two mounting holes are required on the card holders. The mounting options available for this CID specification sheet are as follows: "J" (rivet mounting holes), "N" (no mounting holes), "T" (tapped 0-80 UNF 2B holes), "V" (tapped 2-56 UNC 2B holes), or "G" (tapped M2.5 x.45 metric holes). See figure 1 and table I for mounting hole spacing requirements. Card holders using mounting option "J" may be shipped unassembled.

Counterbore holes (for rivet mounting). The holes used for rivet mounting shall be .066/.073 inch (1.68/1.85 mm) diameter, countersunk 100 degrees by .140 inch (3.56 mm) diameter through holes with an access/clearance counterbore of .156 inch (3.96 mm) diameter by .200 inch (5.08 mm) deep.

Rivets. This card holder uses rivet style B as specified in A-A-59590 when rivet mounting is used.

Length, expanded, and relaxed dimensions. The length, expanded, and relaxed dimensions shall be as specified on figure 1. The length designator shall be as specified in A-A-59590 and the lengths available for this CID specification sheet are listed in table I.

TABLE I. Assembly dimensions (see [figure 1](#)). 1/

PIN length designator	Dimension "LENGTH" ±.02 (0.5 mm)	Dimension "M" ±.005 (0.13 mm)
28	2.8 (71 mm)	.530 (13.5 mm)
35	3.5 (89 mm)	1.23 (31.2 mm)
38	3.8 (97 mm)	1.53 (38.9 mm)
40	4.0 (102 mm)	1.73 (43.9 mm)
48	4.8 (122 mm)	2.53 (64.3 mm)
58	5.8 (147 mm)	3.53 (89.7 mm)
64	6.4 (163 mm)	4.13 (104.9 mm)

1/ Dimensions are in inches. Millimeters, in parenthesis, are given for information only.

**Configuration.** The configuration of a card holder shall be as specified in [table II](#). The details of a particular configuration consist of those on figures [1](#), [3](#), and [4](#). Card holders not requiring the options described by table II shall leave the configuration position in the PIN blank.

TABLE II. Configurations.

Configuration	Applicable figures	Hardware options
---	<a href="#">1</a>	No added options
W	<a href="#">1</a> and <a href="#">3</a>	Lockwasher and flat washer
E	<a href="#">1</a> and <a href="#">4</a>	Screw self-locking element
D	<a href="#">1</a> , <a href="#">3</a> , and <a href="#">4</a>	Lockwasher, flat washer and screw self-locking element

**Lockwasher and flat washer (see [figure 3](#)).** A lockwasher and flat washer located under the screw head will provide for additional resistance to loosening from shock and vibration. Card holders requiring a lockwasher and flat washer shall include a configuration suffix "W" in the PIN (see [classification](#) and [notes](#)).

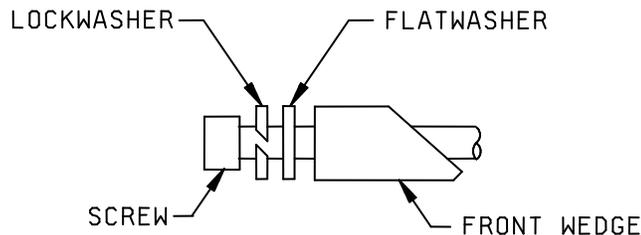


FIGURE 3. Lockwasher and flat washer details.

Screw self-locking element (see figure 4). The use of a screw self-locking element will provide prevailing torque for resistance to loosening from shock and vibration. Card holders requiring a screw self-locking element shall include a configuration suffix "E" in the PIN (see [classification](#) and [notes](#)).

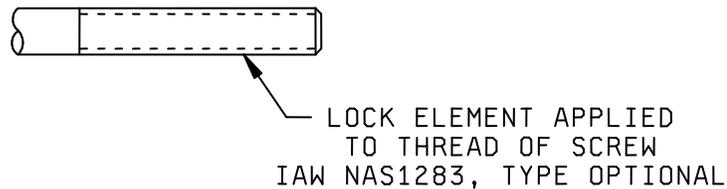


FIGURE 4. Screw self-locking element details.

Lockwasher, flat washer, and screw self-locking element. Card holders requiring a lockwasher, flat washer, and screw self-locking element shall include a configuration suffix "D" in the PIN (see [classification](#) and [notes](#)).

NOTES.

PIN. The PIN should be used for Government purposes to buy commercial products to this CID specification sheet. See the classification section for PIN format example.

Source of documents.

Commercial Item Description.

[A-A-59590](#) – Holder, Electrical Card, Wedge Retainers, 3 Piece, Screw Actuated Drive, General Requirements For.

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

Other Publications.

AEROSPACE INDUSTRIES ASSOCIATION (AIA)

AIA/NAS 1283 – Fasteners, Male Threaded, Self-locking.

(Application for copies should be addressed to the Aerospace Industries Association, 1250 Eye Street, NW, Suite 1200, Washington, DC 20005-3924 or at URL: <http://www.aia-aerospace.org>.)

Ordering data. Ordering data is as specified in [A-A-59590](#).

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

<u>Manufacturer CAGE</u>	<u>Manufacturer name and address</u>	<u>Manufacturer contact information</u>
18915	Birtcher – A Division of Pentair Electronic Packaging 7328 Trade Street San Diego, CA 92121-3410	Telephone: (858) 740-2400 Toll Free: (800) 854-7086 Facsimile: (858) 740-2430 (URL): <a href="http://www.birtcherproducts.com">www.birtcherproducts.com</a>
61081	Calmark – A Division of Pentair Electronic Packaging 7328 Trade Street San Diego, CA 92121-3410	Telephone: (858) 740-2400 Toll Free: (800) 854-7086 Facsimile: (858) 740-2430 Electronic mail: <a href="mailto:sales@calmark.com">sales@calmark.com</a> URL: <a href="http://www.calmark.com">www.calmark.com</a>
5BG68	Card Locks Unlimited, Inc. 2310 E. Orangethorpe Avenue Anaheim, CA 92806-1231	Telephone: (714) 738-6194 Facsimile: (714) 446-0119 E-mail: <a href="mailto:sales@clumfg.com">sales@clumfg.com</a> URL: <a href="http://www.clumfg.com">www.clumfg.com</a>

Part number supersession data. This CID specification sheet PINs supersedes the following manufacturer's part numbers as shown in [table III](#). The CID PINs listed in [table III](#) are only for length designator "28". See [table IV](#) for CID PIN construction using other available lengths for this specification sheet. This information is being provided to assist in reducing proliferation in the Government inventory system.

TABLE III. Commercial part number supersession data.

PIN designator AA59590/02	Vendor similar designator or type part number <u>1/</u> CAGE 18915	Vendor similar designator or type part number <u>1/</u> CAGE 61081	Vendor similar designator or type part number <u>1/</u> CAGE 5BG68
BJ28	45-5071-2.80-B	EA225-2.80H	3225EBA-2.80H
BN28	45-5071-2.80-BA	EA225-2.80	3225EBA-2.80
BT28	45-5071-2.80-BT	EA225-2.80T0	3225EBA-2.80T0
BV28	45-5071-2.80-BS	EA225-2.80T2	3225EBA-2.80T2
BG28	45-5071-2.80-BM	MEA225-2.80TM2.5	3225EMBA-2.80TM2.5
BJ28E	45-5071-2.80-BL	EA225-2.80HL	3225EBA-2.80HL
BN28E	45-5071-2.80BAL	EA225-2.80L	3225EBA-2.80L
BT28E	45-5071-2.80BTL	EA225-2.80T0L	3225EBA-2.80T0L
BV28E	45-5071-2.80BSL	EA225-2.80T2L	3225EBA-2.80T2L
BG28E	45-5071-2.80BML	MEA225-2.80TM2.5L	3225EMBA-2.80TM2.5L
BJ28W	45-5072-2.80-B	WEA225-2.80H	3225EWBA-2.80H
BN28W	45-5072-2.80-BA	WEA225-2.80	3225EWBA-2.80
BT28W	45-5072-2.80-BT	WEA225-2.80T0	3225EWBA-2.80T0
BV28W	45-5072-2.80-BS	WEA225-2.80T2	3225EWBA-2.80T2
BG28W	45-5072-2.80-BM	MWEA225-2.80TM2.5	3225EWMBA-2.80TM2.5

See footnote at end of table.

TABLE III. Commercial part number supersession data – Continued.

PIN designator AA59590/02	Vendor similar designator or type part number <u>1</u> / CAGE 18915	Vendor similar designator or type part number <u>1</u> / CAGE 61081	Vendor similar designator or type part number <u>1</u> / CAGE 5BG68
BJ28D	45-5072-2.80-BL	WEA225-2.80HL	3225EWBA-2.80HL
BN28D	45-5072-2.80BAL	WEA225-2.80L	3225EWBA-2.80L
BT28D	45-5072-2.80BTL	WEA225-2.80T0L	3225EWBA-2.80T0L
BV28D	45-5072-2.80BSL	WEA225-2.80T2L	3225EWBA-2.80T2L
BG28D	45-5072-2.80BML	MWEA225-2.80TM2.5L	3225EWMBA-2.80TM2.5L
CJ28	45-5071-2.80	E225-2.80H	3225ECG-2.80H
CN28	45-5071-2.80-A	E225-2.80	3225ECG-2.80
CT28	45-5071-2.80-T	E225-2.80T0	3225ECG-2.80T0
CV28	45-5071-2.80-S	E225-2.80T2	3225ECG-2.80T2
CG28	45-5071-2.80-M	ME225-2.80TM2.5	3225EMCG-2.80TM2.5
CJ28E	45-5071-2.80-L	E225-2.80HL	3225ECG-2.80HL
CN28E	45-5071-2.80-AL	E225-2.80L	3225ECG-2.80L
CT28E	45-5071-2.80-TL	E225-2.80T0L	3225ECG-2.80T0L
CV28E	45-5071-2.80-SL	E225-2.80T2L	3225ECG-2.80T2L
CG28E	45-5071-2.80-ML	ME225-2.80TM2.5L	3225EMCG-2.80TM2.5L
CJ28W	45-5072-2.80	WE225-2.80H	3225EWCG-2.80H
CN28W	45-5072-2.80-A	WE225-2.80	3225EWCG-2.80
CT28W	45-5072-2.80-T	WE225-2.80T0	3225EWCG-2.80T0
CV28W	45-5072-2.80-S	WE225-2.80T2	3225EWCG-2.80T2
CG28W	45-5072-2.80-M	MWE225-2.80TM2.5	3225EMWCG-2.80TM2.5
CJ28D	45-5072-2.80-L	WE225-2.80HL	3225EWCG-2.80HL
CN28D	45-5072-2.08-AL	WE225-2.80L	3225EWCG-2.80L
CT28D	45-5072-2.80-TL	WE225-2.80T0L	3225EWCG-2.80T0L
CV28D	45-5072-2.80-SL	WE225-2.80T2L	3225EWCG-2.80T2L
CG28D	45-5072-2.80-ML	MWE225-2.80TM2.5L	3225EMWCG-2.80TM2.5L
EJ28	45-5071-2.80-EN	EEN225-2.80H	3225EEN-2.80H
EN28	45-5071-2.80ENA	EEN225-2.80	3225EEN-2.80
ET28	45-5071-2.80ENT	EEN225-2.80T0	3225EEN-2.80T0
EV28	45-5071-2.80ENS	EEN225-2.80T2	3225EEN-2.80T2
EG28	45-5071-2.80ENM	MEEN225-2.80TM2.5	3225EMEN-2.80TM2.5

See footnote at end of table.

TABLE III. Commercial part number supersession data – Continued.

PIN designator AA59590/02	Vendor similar designator or type part number 1/ CAGE 18915	Vendor similar designator or type part number 1/ CAGE 61081	Vendor similar designator or type part number 1/ CAGE 5BG68
EJ28E	45-5071-2.80ENL	EEN225-2.80HL	3225EEN-2.80HL
EN28E	45-5071-280ENAL	EEN225-2.80L	3225EEN-2.80L
ET28E	45-5071-280ENTL	EEN225-2.80T0L	3225EEN-2.80T0L
EV28E	45-5071-280ENSL	EEN225-2.80T2L	3225EEN-2.80T2L
EG28E	45-5071-280ENML	MEEN225-2.80TM2.5L	3225EMEN-2.80TM2.5L
EJ28W	45-5072-2.80EN	WEEN225-2.80H	3225EWEN-2.80H
EN28W	45-5072-2.80ENA	WEEN225-2.80	3225EWEN-2.80
ET28W	45-5072-2.80ENT	WEEN225-2.80T0	3225EWEN-2.80T0
EV28W	45-5072-2.80ENS	WEEN225-2.80T2	3225EWEN-2.80T2
EG28W	45-5072-2.80ENM	MWEEN225-2.80TM2.5	3225EWMEN-2.80TM2.5
EJ28D	45-5072-2.80ENL	WEEN225-2.80HL	3225EWEN-2.80HL
EN28D	45-5072-280ENAL	WEEN225-2.80L	3225EWEN-2.80L
ET28D	45-5072-280ENTL	WEEN225-2.80T0L	3225EWEN-2.80T0L
EV28D	45-5072-280ENSL	WEEN225-2.80T2L	3225EWEN-2.80T2L
EG28D	45-5072-280ENML	MWEEN225-2.80TM2.5L	3225EWMEN-2.80TM2.5L
HJ28	45-5071-2.80-B3	EHA225-2.80H	3225EBH-2.80H
HN28	45-5071-2.80B3A	EHA225-2.80	3225EBH-2.80
HT28	45-5071-2.80B3T	EHA225-2.80T0	3225EBH-2.80T0
HV28	45-5071-2.80B3S	EHA225-2.80T2	3225EBH-2.80T2
HG28	45-5071-2.80B3M	MEHA225-2.80TM2.5	3225EMBH-2.80TM2.5
HJ28E	45-5071-2.80B3L	EHA225-2.80HL	3225EBH-2.80HL
HN28E	45-5071-280B3AL	EHA225-2.80L	3225EBH-2.80L
HT28E	45-5071-280B3TL	EHA225-2.80T0L	3225EBH-2.80T0L
HV28E	45-5071-280B3SL	EHA225-2.80T2L	3225EBH-2.80T2L
HG28E	45-5071-280B3ML	MEHA225-2.80TM2.5L	3225EMBH-2.80TM2.5L
HJ28W	45-5072-2.80-B3	WEHA225-2.80H	3225EWBH-2.80H
HN28W	45-5072-2.80B3A	WEHA225-2.80	3225EWBH-2.80
HT28W	45-5072-2.80B3T	WEHA225-2.80T0	3225EWBH-2.80T0
HV28W	45-5072-2.80B3S	WEHA225-2.80T2	3225EWBH-2.80T2
HG28W	45-5072-2.80B3M	MWEHA225-2.80TM2.5	3225EMWBH-2.80TM2.5

See footnote at end of table.

TABLE III. Commercial part number supersession data – Continued.

PIN designator AA59590/02	Vendor similar designator or type part number <u>1/</u> CAGE 18915	Vendor similar designator or type part number <u>1/</u> CAGE 61081	Vendor similar designator or type part number <u>1/</u> CAGE 5BG68
HJ28D	45-5072-2.80B3L	WEHA225-2.80HL	3225EWBH-2.80HL
HN28D	45-5072-280B3AL	WEHA225-2.80L	3225EWBH-2.80L
HT28D	45-5072-280B3TL	WEHA225-2.80T0L	3225EWBH-2.80T0L
HV28D	45-5072-280B3SL	WEHA225-2.80T2L	3225EWBH-2.80T2L
HG28D	45-5072-280B3ML	MWEHA225-2.80TM2.5L	3225EMWBH-2.80TM2.5L

1/ The manufacturer's part number shall not be used for procurement to the requirements of this CID specification sheet. At the time of preparation of this CID specification sheet, the aforementioned commercial products were reviewed and could be replaced by the CID PIN shown. For actual part marking requirements, see the marking paragraph in [A-A-59590](#).

TABLE IV. Example of PIN with available length designators.

PIN designator AA59590/02	Vendor similar designator or type part number <u>1/</u> <u>2/</u> CAGE 18915	Vendor similar designator or type part number <u>1/</u> <u>2/</u> CAGE 61081	Vendor similar designator or type part number <u>1/</u> <u>2/</u> CAGE 5BG68
BG28D	45-5072-2.80-BML	MWVEA225-2.80TM2.5L	3225EWMBA-2.80HR
BG35D	45-5072-3.50-BML	MWVEA225-3.50TM2.5L	3225EWMBA-3.30HR
BG38D	45-5072-3.80-BML	MWVEA225-3.80TM2.5L	3225EWMBA-3.80HR
BG40D	45-5072-4.00-BML	MWVEA225-4.00TM2.5L	3225EWMBA-4.30HR
BG48D	45-5072-4.80-BML	MWVEA225-4.80TM2.5L	3225EWMBA-4.80HR
BG58D	45-5072-5.80-BML	MWVEA225-5.80TM2.5L	3225EWMBA-5.30EHR
BG64D	45-5072-6.40-BML	MWVEA225-6.40TM2.5L	3225EWMBA-5.80EHR

1/ The manufacturer's part number shall not be used for procurement to the requirements of this CID specification sheet. At the time of preparation of this CID specification sheet, the aforementioned commercial products were reviewed and could be replaced by the CID PIN shown. For actual part marking requirements, see the marking paragraph in [A-A-59590](#).

2/ Other lengths are available on request.

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.

MILITARY INTERESTS:

Custodians:  
Army – CR  
Navy – EC  
Air Force – 85  
DLA – CC

Review Activity:  
Air Force – 99

CIVIL AGENCY COORDINATING ACTIVITY:

GSA – FAS  
Preparing Activity:  
DLA – CC  
Project 5998-2010-032

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.daps.dla.mil/>.