

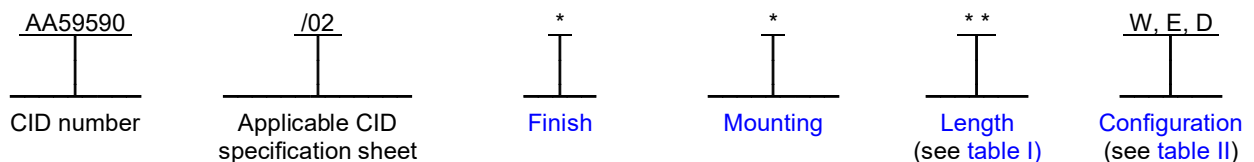
COMMERCIAL ITEM DESCRIPTION
SPECIFICATION SHEET

HOLDER, ELECTRICAL CARD, WEDGE RETAINERS, 3 PIECE, SCREW ACTUATED DRIVE,
.225 X .260 INCH BODY SIZE, WEDGE MOUNTING BODY, 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](#) herein).



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](#).

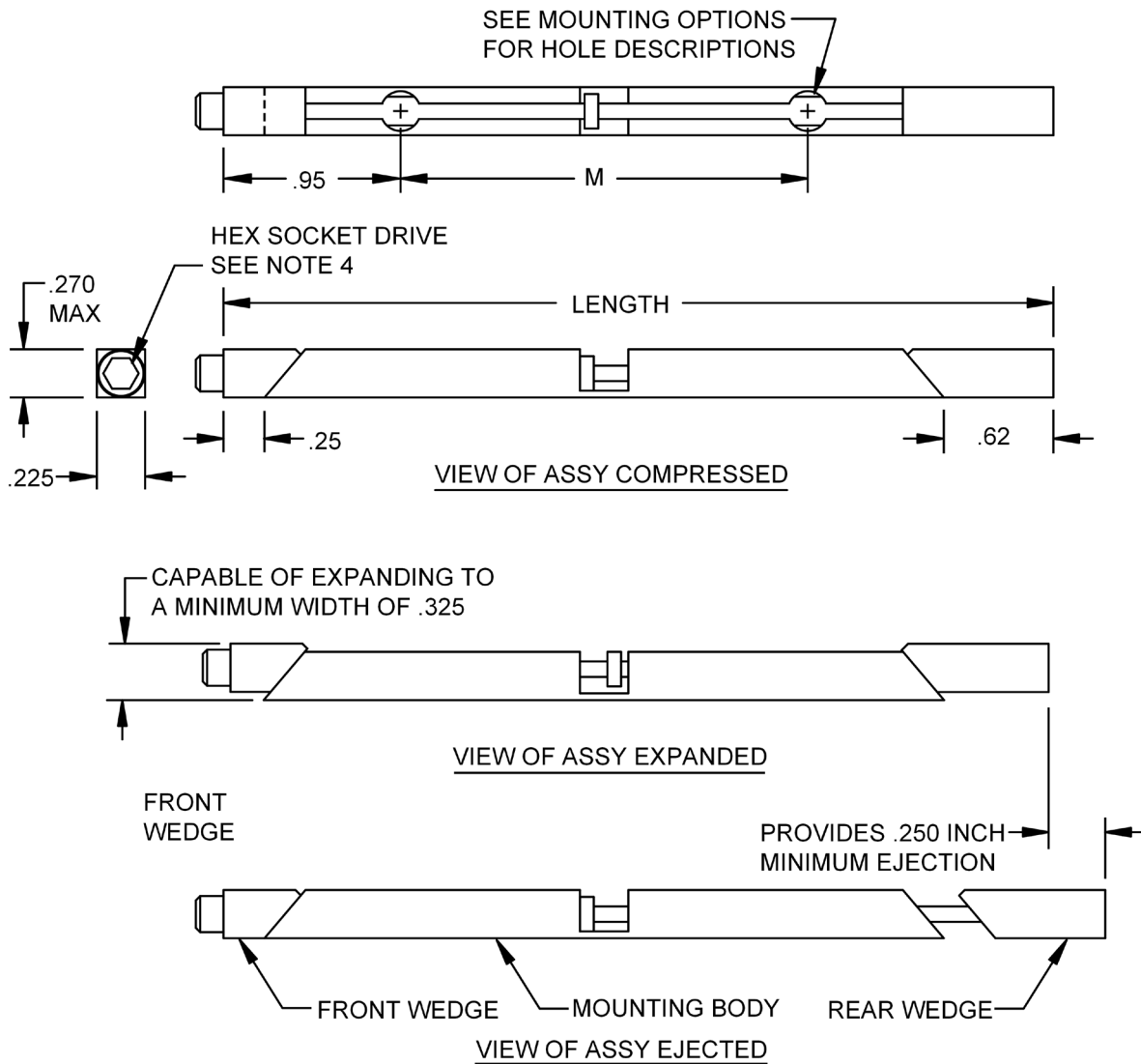
Interface and physical dimensions. The card holders supplied to this CID specification sheet shall be as specified
herein (see [figures 1, 2, 3, 4](#), and [table I](#)) and meet the general requirements of CID [A-A-59590](#). Card holders shall
have an ejection action feature that forces the circuit 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", "N", "T", and "V", and 2.5 mm (0.098 inch) for mounting option "G".

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 recommended nominal
installation torque of each card holder is as follows: 6 inch-pounds (0.68 N-m) for assemblies using no options or
configuration "W" and 8 inch-pounds (0.9 N-m) for assemblies using configurations "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 ± 0.02 inch (0.51 mm) for two place decimals and ± 0.010 inch (0.25 mm) for three place decimals.
3. The tolerance for the mounting hole spacing is ± 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).

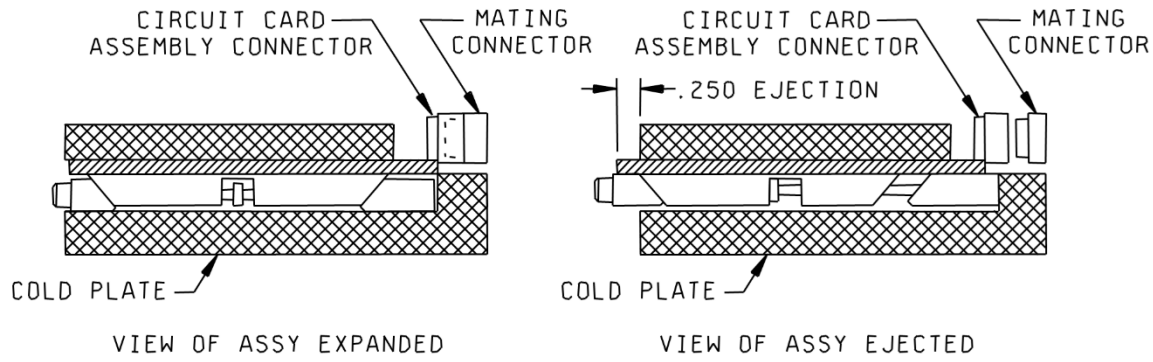


FIGURE 2. View of assembly installed and ejected.

Finish. The finish designator shall be as specified in A-A-59590. The wedge body 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 to .073 inch (1.68 to 1.85 mm) diameter, countersunk 100 degrees by .140 inch (3.56 mm) diameter through holes with an access/clearance counterbore hole of .156 inch (3.96 mm) diameter by .200 inch (5.08 mm) deep.

Rivets. This card holder uses rivet style A 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)

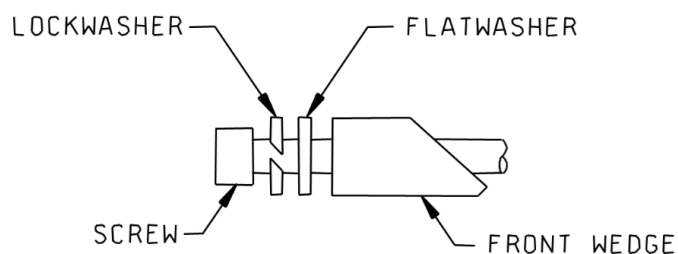
1/ Dimensions are in inches. Millimeters, in parenthesis, are given for information only.

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 hardware options described by [table II](#) shall leave the configuration position in the PIN blank.

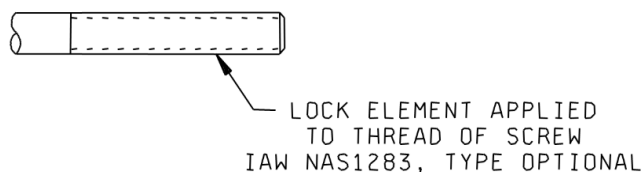
TABLE II. Configurations.

Configuration	Applicable figures	Hardware options
---	1	No added options
W	1 and 3	Lockwasher and flat washer
E	1 and 4	Screw self-locking element
D	1, 3, and 4	Lockwasher, flat washer and screw self-locking element

Lockwasher and flat washer (see [figure 3](#)). The use of a lockwasher and flat washer located under the screw head will provide additional resistance to loosening of the card holder assembly 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 of the card holder assembly from shock and vibration. The screw self-locking element shall be as specified in [A-A-59590](#). 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, for Cold Plate Applications, General Requirements For.

(Copies of these documents are available online at <https://quicksearch.dla.mil>.)

Other Publications.

AEROSPACE INDUSTRIES ASSOCIATION (AIA)

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

(Copies of these documents are available online at <https://www.aia-aerospace.org>.)

Ordering data. Ordering data shall be 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>
61081 (1)	Schroff, Inc. 7328 Trade Street San Diego, CA 92121-3410	Telephone: (858) 740-2400 Facsimile: (858) 740-2430 E-mail: askschroff@nVent.com URL: https://schroff.nvent.com
61081 (2)	Schroff, Inc. 7328 Trade Street San Diego, CA 92121-3410	Telephone: (858) 740-2400 Facsimile: (858) 740-2430 E-mail: askschroff@nVent.com URL: https://schroff.nvent.com
5BG68	American Circuit Card Retainers, Inc. 2310 E. Orangethorpe Avenue Anaheim, CA 92806-1231	Telephone: (714) 738-6194 Facsimile: (714) 446-0119 E-mail: sales@accrmfg.com URL: https://www.accrmfg.com
3E7U8	Wakefield Thermal 120 Northwest Blvd. Nashua, NH 03063-7529	Telephone: (603) 635-2800 Facsimile: (603) 635-1900 E-mail: communications@wakefieldthermal.com URL: https://wakefieldthermal.com



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.

CID PIN AA59590/02	Vendor similar designator or type part number 1/			
	CAGE 61081 2/	CAGE 61081 3/	CAGE 5BG68	CAGE 3E7U8
BJ28	45-5071-2.80-B	EA225-2.80H	3225EBA-2.80H	426BE-280RSB
BN28	45-5071-2.80-BA	EA225-2.80	3225EBA-2.80	426BE-280ASB
BT28	45-5071-2.80-BT	EA225-2.80T0	3225EBA-2.80T0	426BE-280TSB
BV28	45-5071-2.80-BS	EA225-2.80T2	3225EBA-2.80T2	426BE-280SSB
BG28	45-5071-2.80-BM	MEA225-2.80TM2.5	3225EMBA-2.80TM2.5	426BE-280MMB
BJ28W	45-5072-2.80-B	WEA225-2.80H	3225EWBA-2.80H	426BE-280RSB-W
BN28W	45-5072-2.80-BA	WEA225-2.80	3225EWBA-2.80	426BE-280ASB-W
BT28W	45-5072-2.80-BT	WEA225-2.80T0	3225EWBA-2.80T0	426BE-280TSB-W
BV28W	45-5072-2.80-BS	WEA225-2.80T2	3225EWBA-2.80T2	426BE-280SSB-W
BG28W	45-5072-2.80-BM	MWEA225-2.80TM2.5	3225EWMBA-2.80TM2.5	426BE-280MMB-W
BJ28E	45-5071-2.80-BL	EA225-2.80HL	3225EBA-2.80HL	426BE-280RSB-P
BN28E	45-5071-2.80BAL	EA225-2.80L	3225EBA-2.80L	426BE-280ASB-P
BT28E	45-5071-2.80BTL	EA225-2.80T0L	3225EBA-2.80T0L	426BE-280TSB-P
BV28E	45-5071-2.80BSL	EA225-2.80T2L	3225EBA-2.80T2L	426BE-280SSB-P
BG28E	45-5071-2.80BML	MEA225-2.80TM2.5L	3225EMBA-2.80TM2.5L	426BE-280MMB-P
BJ28D	45-5072-2.80-BL	WEA225-2.80HL	3225EWBA-2.80HL	426BE-280RSB-WP
BN28D	45-5072-2.80BAL	WEA225-2.80L	3225EWBA-2.80L	426BE-280ASB-WP
BT28D	45-5072-2.80BTL	WEA225-2.80T0L	3225EWBA-2.80T0L	426BE-280TSB-WP
BV28D	45-5072-2.80BSL	WEA225-2.80T2L	3225EWBA-2.80T2L	426BE-280SSB-WP
BG28D	45-5072-2.80BML	MWEA225-2.80TM2.5L	3225EWMBA-2.80TM2.5L	426BE-280MMB-WP
CJ28	45-5071-2.80	E225-2.80H	3225ECG-2.80H	426BE-280RSG
CN28	45-5071-2.80-A	E225-2.80	3225ECG-2.80	426BE-280ASG
CT28	45-5071-2.80-T	E225-2.80T0	3225ECG-2.80T0	426BE-280TSG
CV28	45-5071-2.80-S	E225-2.80T2	3225ECG-2.80T2	426BE-280SSG
CG28	45-5071-2.80-M	ME225-2.80TM2.5	3225EMCG-2.80TM2.5	426BE-280MMG
CJ28W	45-5072-2.80	WE225-2.80H	3225EWCG-2.80H	426BE-280RSG-W
CN28W	45-5072-2.80-A	WE225-2.80	3225EWCG-2.80	426BE-280ASG-W
CT28W	45-5072-2.80-T	WE225-2.80T0	3225EWCG-2.80T0	426BE-280TSG-W
CV28W	45-5072-2.80-S	WE225-2.80T2	3225EWCG-2.80T2	426BE-280SSG-W
CG28W	45-5072-2.80-M	MWE225-2.80TM2.5	3225EMWCG-2.80TM2.5	426BE-280MMG-W

See footnotes at end of table.

TABLE III. Commercial part number supersession data – Continued.

CID PIN AA59590/02	Vendor similar designator or type part number 1/			
	CAGE 61081 2/	CAGE 61081 3/	CAGE 5BG68	CAGE 3E7U8
CJ28E	45-5071-2.80-L	E225-2.80HL	3225ECG-2.80HL	426BE-280RSG-P
CN28E	45-5071-2.80-AL	E225-2.80L	3225ECG-2.80L	426BE-280ASG-P
CT28E	45-5071-2.80-TL	E225-2.80T0L	3225ECG-2.80T0L	426BE-280TSG-P
CV28E	45-5071-2.80-SL	E225-2.80T2L	3225ECG-2.80T2L	426BE-280SSG-P
CG28E	45-5071-2.80-ML	ME225-2.80TM2.5L	3225EMCG-2.80TM2.5L	426BE-280MMG-P
CJ28D	45-5072-2.80-L	WE225-2.80HL	3225EWCG-2.80HL	426BE-280RSG-WP
CN28D	45-5072-2.08-AL	WE225-2.80L	3225EWCG-2.80L	426BE-280ASG-WP
CT28D	45-5072-2.80-TL	WE225-2.80T0L	3225EWCG-2.80T0L	426BE-280TSG-WP
CV28D	45-5072-2.80-SL	WE225-2.80T2L	3225EWCG-2.80T2L	426BE-280SSG-WP
CG28D	45-5072-2.80-ML	MWE225-2.80TM2.5L	3225EMWCG-2.80TM2.5L	426BE-280MMG-WP
EJ28	45-5071-2.80-EN	EEN225-2.80H	3225EEN-2.80H	426BE-280RSE
EN28	45-5071-2.80ENA	EEN225-2.80	3225EEN-2.80	426BE-280ASE
ET28	45-5071-2.80ENT	EEN225-2.80T0	3225EEN-2.80T0	426BE-280TSE
EV28	45-5071-2.80ENS	EEN225-2.80T2	3225EEN-2.80T2	426BE-280SSE
EG28	45-5071-2.80ENM	MEEN225-2.80TM2.5	3225EMEN-2.80TM2.5	426BE-280MME
EJ28W	45-5072-2.80EN	WEEN225-2.80H	3225EWEN-2.80H	426BE-280RSE-W
EN28W	45-5072-2.80ENA	WEEN225-2.80	3225EWEN-2.80	426BE-280ASE-W
ET28W	45-5072-2.80ENT	WEEN225-2.80T0	3225EWEN-2.80T0	426BE-280TSE-W
EV28W	45-5072-2.80ENS	WEEN225-2.80T2	3225EWEN-2.80T2	426BE-280SSE-W
EG28W	45-5072-2.80ENM	MWEEN225-2.80TM2.5	3225EWMEN-2.80TM2.5	426BE-280MME-W
EJ28E	45-5071-2.80ENL	EEN225-2.80HL	3225EEN-2.80HL	426BE-280RSE-P
EN28E	45-5071-280ENAL	EEN225-2.80L	3225EEN-2.80L	426BE-280ASE-P
ET28E	45-5071-280ENTL	EEN225-2.80T0L	3225EEN-2.80T0L	426BE-280TSE-P
EV28E	45-5071-280ENSL	EEN225-2.80T2L	3225EEN-2.80T2L	426BE-280SSE-P
EG28E	45-5071-280ENML	MEEN225-2.80TM2.5L	3225EMEN-2.80TM2.5L	426BE-280MME-P
EJ28D	45-5072-2.80ENL	WEEN225-2.80HL	3225EWEN-2.80HL	426BE-280RSE-WP
EN28D	45-5072-280ENAL	WEEN225-2.80L	3225EWEN-2.80L	426BE-280ASE-WP
ET28D	45-5072-280ENTL	WEEN225-2.80T0L	3225EWEN-2.80T0L	426BE-280TSE-WP
EV28D	45-5072-280ENSL	WEEN225-2.80T2L	3225EWEN-2.80T2L	426BE-280SSE-WP
EG28D	45-5072-280ENML	MWEEN225-2.80TM2.5L	3225EWMEN-2.80TM2.5L	426BE-280MME-WP

See footnotes at end of table.

TABLE III. Commercial part number supersession data – Continued.

CID PIN AA59590/02	Vendor similar designator or type part number <u>1/</u>			
	CAGE 61081 <u>2/</u>	CAGE 61081 <u>3/</u>	CAGE 5BG68	CAGE 3E7U8
HJ28	45-5071-2.80-B3	EHA225-2.80H	3225EBH-2.80H	426BE-280RMH
HN28	45-5071-2.80B3A	EHA225-2.80	3225EBH-2.80	426BE-280AMH
HT28	45-5071-2.80B3T	EHA225-2.80T0	3225EBH-2.80T0	426BE-280TMH
HV28	45-5071-2.80B3S	EHA225-2.80T2	3225EBH-2.80T2	426BE-280SMH
HG28	45-5071-2.80B3M	MEHA225-2.80TM2.5	3225EMBH-2.80TM2.5	426BE-280MMH
HJ28W	45-5072-2.80-B3	WEHA225-2.80H	3225EWBH-2.80H	426BE-280RMH-W
HN28W	45-5072-2.80B3A	WEHA225-2.80	3225EWBH-2.80	426BE-280AMH-W
HT28W	45-5072-2.80B3T	WEHA225-2.80T0	3225EWBH-2.80T0	426BE-280TMH-W
HV28W	45-5072-2.80B3S	WEHA225-2.80T2	3225EWBH-2.80T2	426BE-280SMH-W
HG28W	45-5072-2.80B3M	MWEHA225-2.80TM2.5	3225EMWBH-2.80TM2.5	426BE-280MMH-W
HJ28E	45-5071-2.80B3L	EHA225-2.80HL	3225EBH-2.80HL	426BE-280RMH-P
HN28E	45-5071-280B3AL	EHA225-2.80L	3225EBH-2.80L	426BE-280AMH-P
HT28E	45-5071-280B3TL	EHA225-2.80T0L	3225EBH-2.80T0L	426BE-280TMH-P
HV28E	45-5071-280B3SL	EHA225-2.80T2L	3225EBH-2.80T2L	426BE-280SMH-P
HG28E	45-5071-280B3ML	MEHA225-2.80TM2.5L	3225EMBH-2.80TM2.5L	426BE-280MMH-P
HJ28D	45-5072-2.80B3L	WEHA225-2.80HL	3225EWBH-2.80HL	426BE-280RMH-WP
HN28D	45-5072-280B3AL	WEHA225-2.80L	3225EWBH-2.80L	426BE-280AMH-WP
HT28D	45-5072-280B3TL	WEHA225-2.80T0L	3225EWBH-2.80T0L	426BE-280TMH-WP
HV28D	45-5072-280B3SL	WEHA225-2.80T2L	3225EWBH-2.80T2L	426BE-280SMH-WP
HG28D	45-5072-280B3ML	MWEHA225-2.80TM2.5L	3225EMWBH-2.80TM2.5L	426BE-280MMH-WP

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/ PINs listed are for CAGE 61081 (1).

3/ PINs listed are for CAGE 61081 (2).

PIN length examples. The CID PINs listed in table IV are for all available standard card holder lengths for this specification sheet. However, only one specific finish, mounting and configuration are listed (see PIN example for a break-down of the codes).

TABLE IV. Example of PIN with available length designators.

CID PIN AA59590/02	Vendor similar designator or type part number <u>1/</u> <u>2/</u>			
	CAGE 61081 <u>3/</u>	CAGE 61081 <u>4/</u>	CAGE 5BG68	CAGE 3E7U8
BG28D	45-5072-2.80BML	MWVEA225-2.80TM2.5L	3225EWMBA-2.80TM2.5L	426BE-280MMB-WP
BG35D	45-5072-3.50BML	MWVEA225-3.50TM2.5L	3225EWMBA-3.30 TM2.5L	426BE-350MMB-WP
BG38D	45-5072-3.80BML	MWVEA225-3.80TM2.5L	3225EWMBA-3.80 TM2.5L	426BE-380MMB-WP
BG40D	45-5072-4.00BML	MWVEA225-4.00TM2.5L	3225EWMBA-4.30 TM2.5L	426BE-400MMB-WP
BG48D	45-5072-4.80BML	MWVEA225-4.80TM2.5L	3225EWMBA-4.80 TM2.5L	426BE-480MMB-WP
BG58D	45-5072-5.80BML	MWVEA225-5.80TM2.5L	3225EWMBA-5.30 TM2.5L	426BE-580MMB-WP
BG64D	45-5072-6.40BML	MWVEA225-6.40TM2.5L	3225EWMBA-5.80 TM2.5L	426BE-640MMB-WP

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.

3/ PINs listed are for CAGE 61081 (1).

4/ PINs listed are for CAGE 61081 (2).

National stock number (NSN). The following is a list of identified NSNs assigned that correspond to this CID. This list may not be indicative of all possible NSNs associated with this CID (see table V).

TABLE V. NSN to CID PIN cross-reference.

NSN	CID PIN
5998-01-408-2897	AA59590/02CJ28
5998-01-463-5134	AA59590/02CJ35
5998-01-450-6417	AA59590/02CJ38
5998-01-463-3878	AA59590/02CJ40
5998-01-421-7634	AA59590/02CJ48
5998-01-421-7634	AA59590/02CJ58
5998-01-350-5663	AA59590/02CV28
5998-01-350-5663	AA59590/02CV64

Subject term (key word) listing.

Actuating screw
Cold plate
Counterbore holes
Expanded dimension
Installation torque
Mounting holes
Relaxed dimension
Screw self locking element

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue

MILITARY INTERESTS:

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

CIVIL AGENCY COORDINATING ACTIVITY:

GSA – FAS
Preparing Activity:
DLA – CC
Project 5998-2025-018

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>.