

[INCH-POUND]
A-A-59590/1A
5 July 2003
SUPERSEDING
A-A-59590/1
27 November 2000

COMMERCIAL ITEM DESCRIPTION
SPECIFICATION SHEET

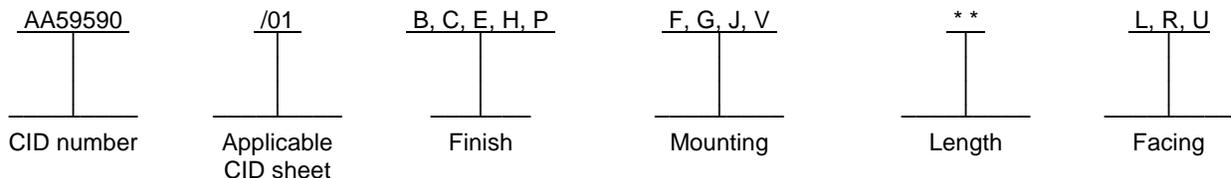
HOLDERS, ELECTRICAL CARD, WEDGE RETAINERS, 3 PIECE, SCREW ACTUATED DRIVE,
.225 X .260 INCH BODY SIZE, WITH LEVER ACTION LOCKING

The General Services Administration has authorized the use of this
commercial item description (CID) 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.

SCOPE. This CID specification sheet covers 3 piece card holders that use a lever, with a locking feature, to actuate
wedges to hold circuit card assemblies into their installed positions in heat sinking devices (cold plates, heat
exchanger) or other applications. Card holders covered by this CID specification sheet are intended to provide
60g/6ms resistance to shock, withstand 25 G-rms of vibration and provide 2 to 4 degrees Ce/Watts/inch thermal
resistance between the circuit card assemblies and the heat sink surfaces. Items covered by this CID specification
sheet are intended for commercial/industrial applications.

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



SALIENT CHARACTERISTICS.

Performance. Card holders shall hold the circuit card firmly in place providing high resistance to shock and vibration
while providing maximum thermal transfer. Direct clamping force of configuration A card holders is approximately
120 pounds (534 Newtons) when adjusted in accordance with the recommended procedure.

Interface and physical dimensions. The card holders supplied to this CID specification sheet shall be as specified
herein and the general CID.

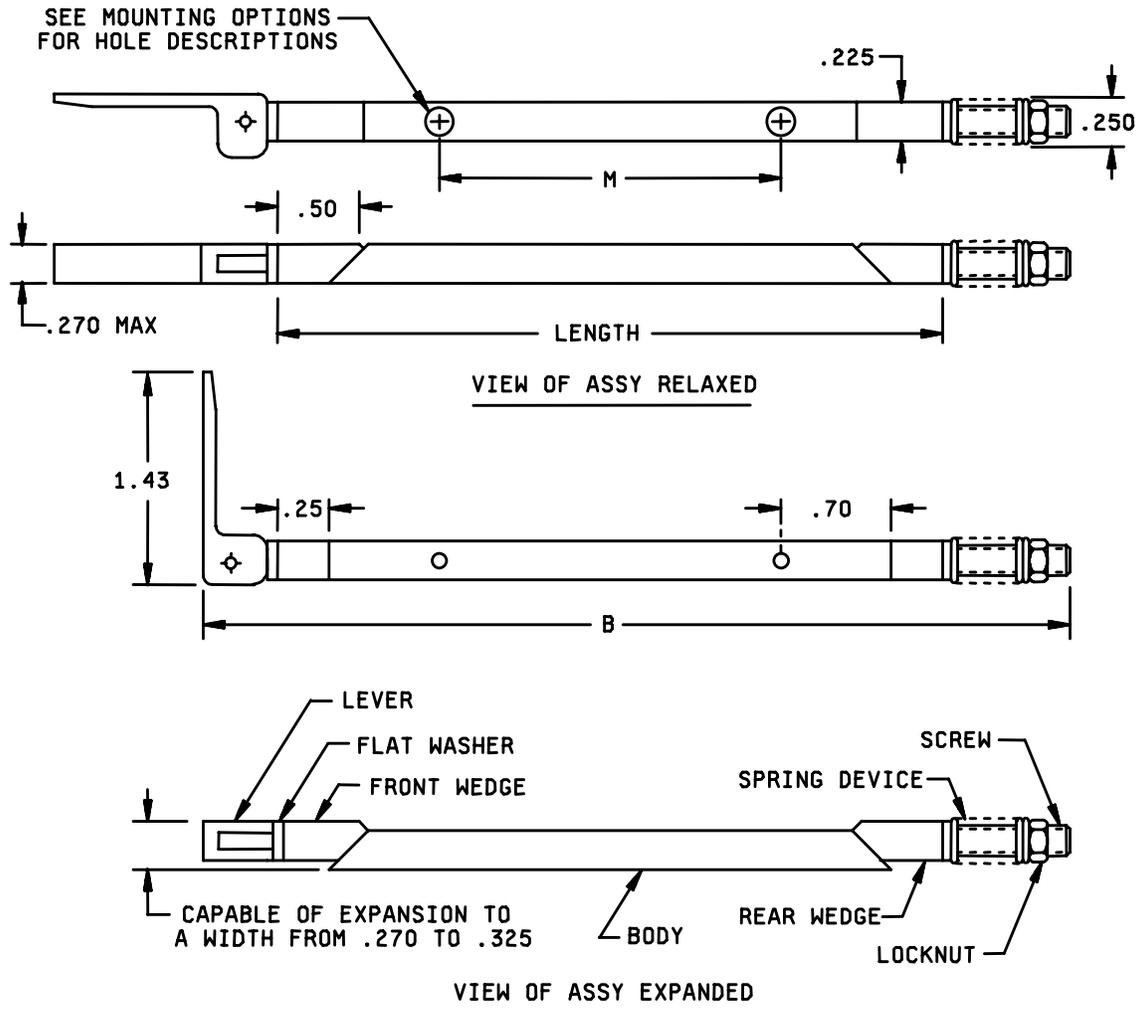
Finish options. The finish options B, C, E, H, or P shall be as specified in A-A-59590.

Mounting options. Mounting options F, G, J, and V shall be as specified in A-A-59590. See table I and figure 1 for
mounting hole spacing requirements.

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 available lengths are listed in table I.

Facing. This card holder is available for mounting in either the left hand, right hand, or universal position. The
universal card holder is depicted by configuration A on figure 1. Left and right facing card holders are depicted by
configuration B on figure 1 and figure 2. Universal card holders shall include a suffix "U" in the PIN. Left facing card
holders shall include a suffix "L" in the PIN. Right facing card holders shall include a suffix "R" in the PIN.

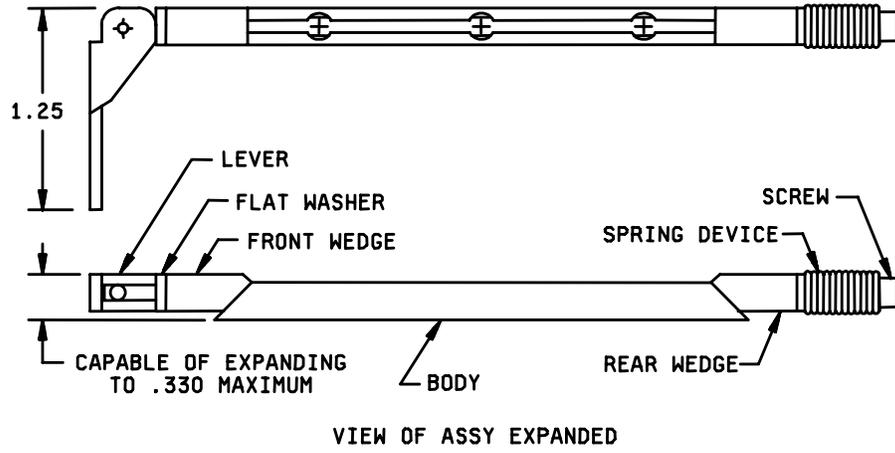
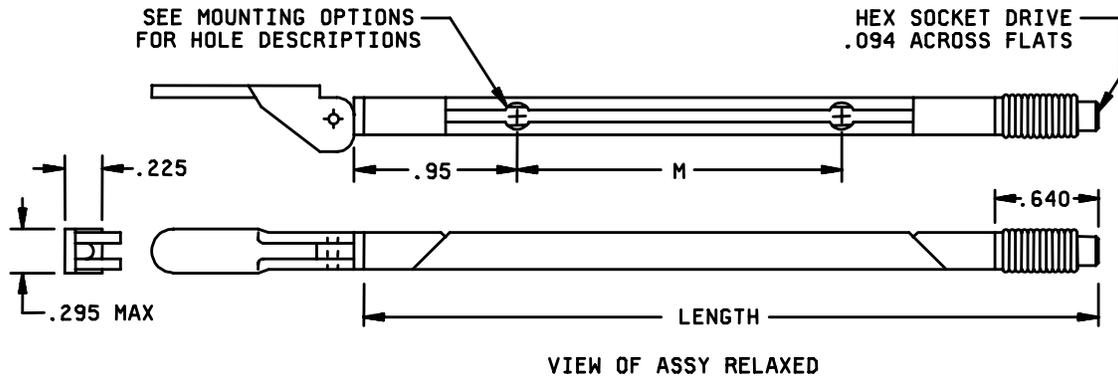
Lever. A lever-action device shall be used to expand the card holder to secure the attached circuit card assembly in its installed position. When in the relaxed state, the card holders shall allow the circuit card assembly to be placed into or removed from its installed position with zero insertion force to a slight extraction drag. To secure the circuit card assembly in place, the lever shall be actuated, to become perpendicular with the card holder, and parallel with and towards the circuit card.



Configuration A

Inches	mm	Inches	mm	Inches	mm	Inches	mm
.225	5.72	.25	6.4	.325	8.26	.70	17.8
.250	6.35	.270	6.86	.50	12.7	1.43	36.3

FIGURE 1. Relaxed and expanded dimensions.



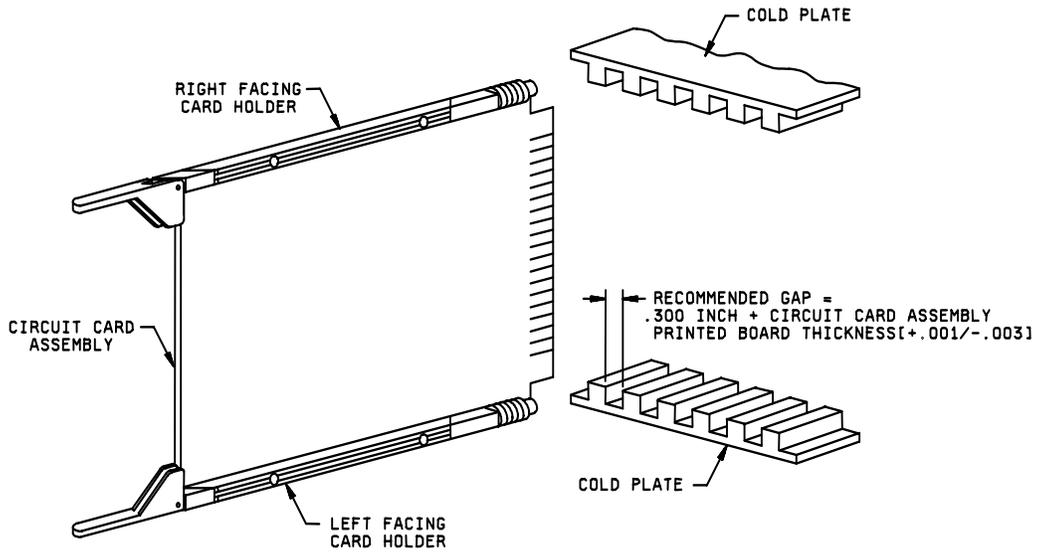
Configuration B (Right hand facing shown)

Inches	mm	Inches	mm	Inches	Mm	Inches	mm
.094	2.39	.295	7.49	.640	16.26	1.25	31.8
.225	5.72	.330	8.38	.95	24.1		

NOTES:

1. Dimensions are in inches. Metric equivalents are given for information only.
2. Unless otherwise specified, tolerances are for $\pm .02$ inch (0.5 mm) for two place decimals and $\pm .010$ (0.25 mm) for three place decimals.
3. Lever design may vary between configurations.

FIGURE 1. Relaxed and expanded dimensions – Continued.



Inches	mm	Inches	mm	Inches	mm
.001	0.03	.003	0.08	.300	7.62

NOTES:

1. Left hand and right hand facings applicable to configuration B only.
2. Universal facing card holders can be used in either left hand or right hand applications.

FIGURE 2. Facing options for configuration B.

TABLE I. Additional assembly dimensions (see figure 1).

PIN length designator	Configuration	Dimension "LENGTH" ± .02 (± 0.5 mm)	Dimension "B" ± .03 (± 0.8 mm)	Dimension "M" ± .005 (± 0.13 mm)
28	A	2.80 (71.1)	3.70 (93.9)	.90 (22.9)
30	B	3.00 (76.2)		.46 (11.7)
38	A	3.80 (96.5)	4.70 (119.4)	1.90 (48.3)
40	B	4.00 (101.6)		1.46 (37.1)
48	A	4.80 (121.9)	5.70 (194.8)	2.90 (73.7)
50	B	5.00 (127.0)		2.46 (62.5)
58	A	5.80 (147.3)	6.70 (170.2)	3.90 (99.1)
60	B	6.00 (152.5)		3.46 (87.9)
68	A	6.80 (172.7)	7.70 (195.6)	4.90 (124.5)
70	B	7.00 (177.8)		4.46 (113.3)
78	A	7.80 (198.1)	8.70 (220.9)	5.90 (149.9)
80	B	8.00 (203.2)		5.46 (138.7)
88	A	8.80 (223.5)	9.70 (246.4)	6.90 (175.3)
90	B	9.00 (228.6)		6.46 (164.1)

Application data for card holders. Configuration A card holders can be used in either left or right facing applications. Configuration A card holders are supplied assembled but are not adjusted from the manufacturer. Configuration B card holders are supplied assembled and pre-adjusted from the manufacturer.

Clamping force adjustment procedure for configuration A (universal) card holder. The universal card holder is supplied assembled but not adjusted for use. In order to apply the proper clamping force the card holder needs to be adjusted in accordance with the following procedure:

- (1) Fasten card holder to circuit card assembly.
- (2) Insert circuit card assembly with card holders attached into cold plate.
- (3) Actuate lever to locked/closed position.
- (4) Tighten locknut on end of screw until wedges initially contact wall of cold plate slot, or slight insertion/extraction drag is felt.
- (5) Additionally tighten locknut two full turns.
- (6) Card holder is now adjusted and ready for use.

Clamping force data for configuration A (universal) card holders. Direct force of card holder is approximately 120 pound force (533.8 N) when adjusted in accordance with the recommended procedure herein. Direct force of card holder is affected as follows:

- (1) 6 pound force (26.7 N) for each .0010 inch (0.025 mm) variation of cold plate slot width, or
- (2) 72 pound force (320.3 N) for each full turn of locknut.

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.

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	APW Electronic Solutions 14100 Danielson Street Poway, CA 92064-6898	Tel: (858) 679-4550 Toll Free: (800) 854-7086 Fax: (858) 679-4555 E-mail: sales.electronicsolutions@apw.com Uniform Resource Locator (URL): www.apw.com
52094	Calmark Corporation 4915 Walnut Grove Avenue San Gabriel, CA 91776-2099	Tel: (626) 287-0451 Fax: (626) 287-7350 E-mail: sales@calmark.com URL: www.calmark.com
71286	Fairchild Fasteners 3000 West Lomita Blvd. Torrance, CA 90505-5103	Tel: (805) 527-3600 Fax: (805) 527-0900 URL: www.fairchildfasteners.com

Part number supersession data. This CID specification sheet part numbers supersedes the following manufacturer's part numbers as shown in table II. This information is being provided to assist in reducing proliferation in the Government inventory system.

TABLE II. Commercial P/N supersession data. 1/

PIN designator AA59590/01 2/	Vendor similar designator or type part number 3/ CAGE 18915	Vendor similar designator or type part number 3/ CAGE 52094
CF30L	146CR-M2-6-C-L	
CF30R	146CR-M2-6-C-R	
CG30L	146CR-M-6-C-L	
CG30R	146CR-M-6-C-R	
CJ30L	146CR-R-6-C-L	
CJ30R	146CR-R-6-C-R	
CV30L	146CR-S-6-C-L	
CV30R	146CR-S-6-C-R	
BF28U		L225CR2.80TM2
BF30L	146CR-M-6-B-L	
BF30R	146CR-M-6-B-R	
BG28U		L225CR2.80TM2.5
BG30L	146CR-M2-6-B-L	
BG30R	146CR-M2-6-B-R	

See footnotes at end of table.

TABLE II. Commercial P/N supersession data - Continued. 1/

PIN designator AA59590/01 <u>2/</u>	Vendor similar designator or type part number <u>3/</u> CAGE 18915	Vendor similar designator or type part number <u>3/</u> CAGE 52094
BJ28U		L225CR2.80H
BJ30L	146CR-R-6-B-L	
BJ30R	146CR-R-6-B-R	
BV28U		L225CR2.80T0
BV30L	146CR-S-6-B-L	
BV30R	146CR-S-6-B-R	
HF28U		LHA225CR2.80TM2
HF30L	146CR-M2-6-B3-L	
HF30R	146CR-M2-6-B3-R	
HG28U		LHA225CR2.80TM2.5
HG30L	146CR-M-6-B3-L	
HG30R	146CR-M-6-B3-R	
HJ28U		LHA225CR2.80H
HJ30L	146CR-R-6-B3-L	
HJ30R	146CR-R-6-B3-R	
HBV28U		LHA225CR2.80T0
HV30L	146CR-S-6-B3-L	
HV30R	146CR-S-6-B3-R	
EF28U		LEN225CR2.80TM2
PF30L	146CR-M2-6-N-L	
PF30R	146CR-M2-6-N-R	
EG28U		LEN225CR2.80TM2.5
PG30L	146CR-M-6-N-L	
PG30R	146CR-M-6-N-R	
PJ30L	146CR-R-6-N-L	
PJ30R	146CR-R-6-N-R	
EBV28U		LEN225CR2.80T0
PV30L	146CR-S-6-N-L	
PV30R	146CR-S-6-N-R	

- 1/ CID PINs listed only with length designator "28" for configuration A and "30" for configuration B. See table III for CID PIN construction using other available lengths.
- 2/ Card holder using mounting option "J" must be disassembled during the mounting onto the circuit card assembly and require readjustment upon reassembly.
- 3/ 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 of the basic CID.

TABLE III. Example of PIN with available length designators.

PIN designator AA59590/01	Vendor similar designator or type part number <u>1/ 2/</u> CAGE 18915	PIN designator AA59590/01	Vendor similar designator or type part number <u>2/ 3/</u> CAGE 52094
CV30*	146CR-S-6-C-*	BV28U	L225CR2.80
CV40*	146CR-S-8-C-*	BV38U	L225CR3.80
CV50*	146CR-S-10-C-*	BV48U	L225CR4.80
CV60*	146CR-S-12-C-*	BV58U	L225CR5.80
CV70*	146CR-S-14-C-*	BV68U	L225CR6.80
CV80*	146CR-S-16-C-*	BV78U	L225CR7.80
CV90*	146CR-S-18-C-*	BV88U	L225CR8.80

- 1/ Asterisk “*” in PIN denotes card holder facing (either L or R). Card holder is available using left or right facing (see configuration B on figure 1).
- 2/ 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 of the basic CID.
- 3/ Card holder is available using universal facing (see configuration A on figure 1).

MILITARY INTERESTS:

Custodians:
 Army – CR
 Navy – EC
 Air Force – 11
 DLA – CC

CIVIL AGENCY COORDINATING ACTIVITY:

GSA – 7FXE
 Preparing Activity:
 DLA – CC
 Project 5998–0132