

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
H	Corrected several dimensions on figure 1. Changed quality assurance provisions in section 4. Added dash numbers -22 and -23. Editorial changes throughout.	2 MAR 1990	Randy Larson
J	Added dash numbers -24 through -28. Editorial changes throughout.	11 SEP 2001	Thomas Hess

PREVIOUS CAGE CODE 14933 SUPERSEDED BY 037Z3.

THE ORIGINAL FIRST PAGE OF THIS DRAWING HAS BEEN REPLACED.

Prepared in accordance with MIL-STD-100

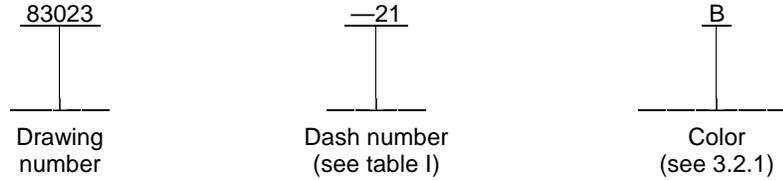
Selected item drawing

REV																					
PAGE																					
REV	J	J																			
PAGE	18	19																			
REV STATUS OF PAGES	REV	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	J	
	PAGES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17			
PMIC N/A	PREPARED BY Dan McGrath							DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OH													
Original date of drawing 22 March 1984	CHECKED BY Randy Larson							TITLE RETAINER-EJECTOR, ELECTRICAL CARD, PLASTIC													
	APPROVED BY Ivan R. Jones																				
	SIZE A	CODE IDENT. NO. 14933							DWG NO. 83023												
	REV J							PAGE 1 OF 19													

1. SCOPE

1.1 Scope. This drawing describes the requirements for a family of plastic retainer—ejectors intended for use with printed circuit boards and circuit card assemblies in moderate shock and vibration environments.

1.2 Part or Identifying Number (PIN). The complete PIN shall be as follows:



2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation (see 6.2).

STANDARDS

DEPARTMENT OF DEFENSE

MIL—STD—1285 — Marking of Electrical and Electronic Parts.

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Document Automation and Production Service (DAPS), Building 4D (DPM-DODSSP), 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS are the issues of the documents cited in the solicitation (see 6.2).

AEROSPACE INDUSTRIES ASSOCIATION (AIA)

NASM51923 — Pin, Sprint-Tubular, Coiled, Standard Duty.
 NASM171401 thru 171900 — Pin – Spring, Corrosion Resistant Steel.

(Application for copies should be addressed to the Aerospace Industries Association, 1250 Eye Street, NW, Washington, DC 20005.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D4066 — Standard Classification System for Nylon Injection and Extrusion Materials (PA).

(Application for copies should be addressed to the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

UNDERWRITERS LABORATORIES, INC. (UL)

UL 94 — UL Standard for Safety Test for Flammability of Plastic Materials for Parts in Devices and Appliances.

(Application for copies should be addressed to Underwriters Laboratories, Incorporated, 12 Laboratory Drive, Research Triangle Park, NC 27709-3995.)

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(Non-Government Standards and other publications are normally available from the organizations which prepare or which distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Interface and physical dimensions. See table I and figures 1 and 2.

3.2 Materials.

3.2.1 Nylon. In accordance with ASTM D4066, flame retardant in accordance with UL 94-V2.

3.2.2 Glass filled nylon. Shall be 30 percent glass filled nylon, type 6/6 or type 6 in accordance with ASTM D4066, flame retardant in accordance with UL 94-V2.

3.2.3 Glass filled polycarbonate. Shall be 10 percent glass filled polycarbonate, flame retardant in accordance with UL 94-V0 (Lexan 500 or equivalent).

3.2.4 Roll pin. All parts shall provided with one steel roll pin used for mounting (except for —15 and —16 which require two). The roll pin may be either rolled spring (NASM171401 through NASM171900) or spiral (NASM51923) type. Diameter and length of the roll pin shall be compatible with the applicable ejector dash number.

3.3 Color. The color of extractor shall be specified in the PIN according to the following designations: B – black, W – white (cream or natural nylon), R – red, Y – yellow, G – green, U – blue. Yellow extractors will be marked with the sensitive electronic device (SED) symbol. NOTE: SED marked extractors may require special ordering.

3.4 Certificate of compliance. A certificate of compliance shall be required from manufacturers requesting to be a suggested source of supply.

3.5 Marking. Marking of the card guide is not required; however, each unit package shall be marked in accordance with MIL-STD-1285 and include the PIN as specified herein (see 1.2), the manufacturer's name or Commercial and Government Entity (CAGE) code, and date lot codes.

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. Extractors shall be free of flash, pits, voids, cracks, and excessive mold marks. A visible parting line is acceptable.

4. VERIFICATION

4.1 Sampling and inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, the contractor may use their own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in this drawing where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

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TABLE I. Dash numbers and dimensions.

DSCC Drawing PIN 83023	Configuration	Material ^{1/}	Dimension A	Dimension B	Dimension C
-01	A	N	.075		
-02	B	N	.075		
-03	C	N	.075		
-04	D	N	.075		
-05	A	N	.105		
-06	B	N	.105		
-07	C	N	.105		
-08	D	N	.100		
-09	E1	GFN	.075	.290	2.00
-10	E1	GFN	.140	.350	2.00
-11	E2	GFN	.075	.290	1.50
-12	F1	GFN	.075		
-13	G	N	.070		
-14	F1	L	.075		
-15	H	N	.070		
-16	H	N	.100		
-17	F2	L	.140		
-18	I	N	.070		
-19	J	N	.075		
-20	J	N	.100		
-21	J	N	.140		
-22	K	N	.075		
-23	L	N	.075		
-24	E1	GFN	.075	.350	2.0
-25	E1	GFN	.100	.350	2.0
-26	E2	GFN	.074	.350	1.50
-27	E2	GFN	.100	.350	1.50
-28	E2	GFN	.140	.350	1.50

^{1/} Material designators are as follows: N is nylon, GFN is glass filled nylon, and L is glass filled polycarbonate.

4.2 Conformance inspections.

4.2.1 Inspection of product for delivery. Inspection of product for delivery shall consist of visual and mechanical inspections of interface and physical dimensions (see 3.1), materials (see 3.2), and workmanship (see 3.7). Criteria for defects are listed in 4.2.5.

4.2.2 Optional statement of compliance. The acquiring activity, at its discretion, may accept a statement of compliance in lieu of the manufacturer performing the inspection of product for delivery (see 6.2.b).

4.2.3 Sampling plan. A sample of parts shall be randomly selected in accordance with table II, normal sampling. If one or more defects are found, the lot shall be rejected. Criteria for defects are listed in 4.2.5.

4.2.4 Rejected lots. If an inspection lot is rejected after normal sampling inspection, the manufacturer may rework it to correct the defects, or screen out the defective parts and resubmit for inspection. Resubmitted lots shall be inspected by selecting a random sample of parts in accordance with table II, tightened sampling. If one or more defects are found in this sample, the lot shall be rejected and shall not be supplied to this specification. Resubmitted lots which are acceptable shall be clearly identified as reinspected lots.

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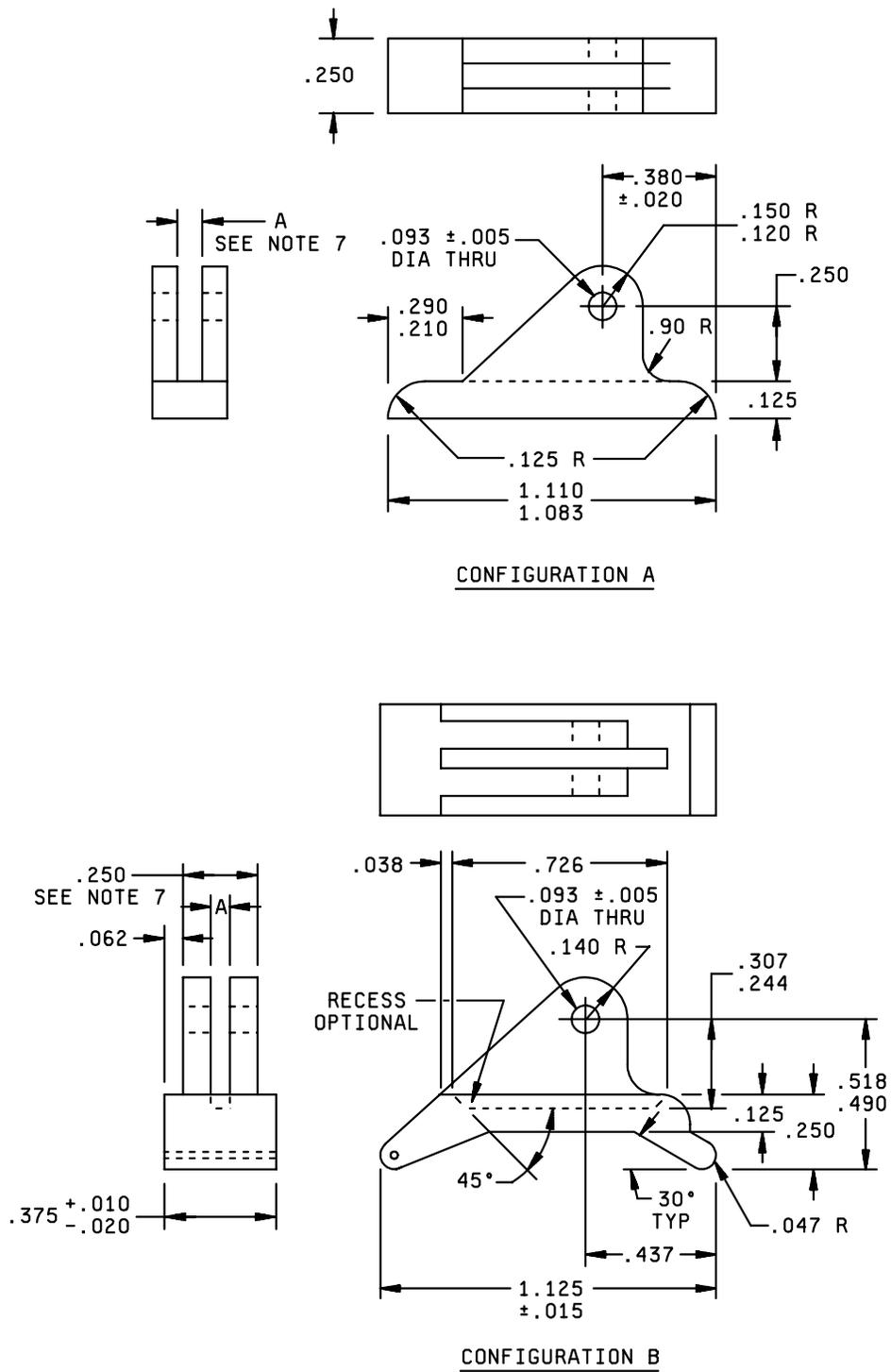
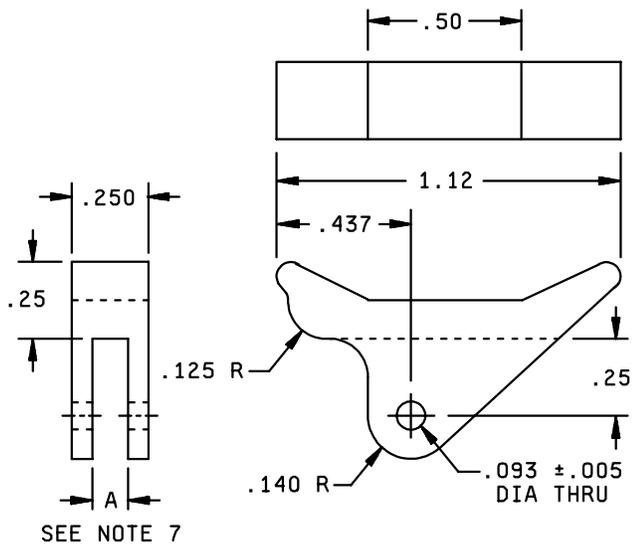
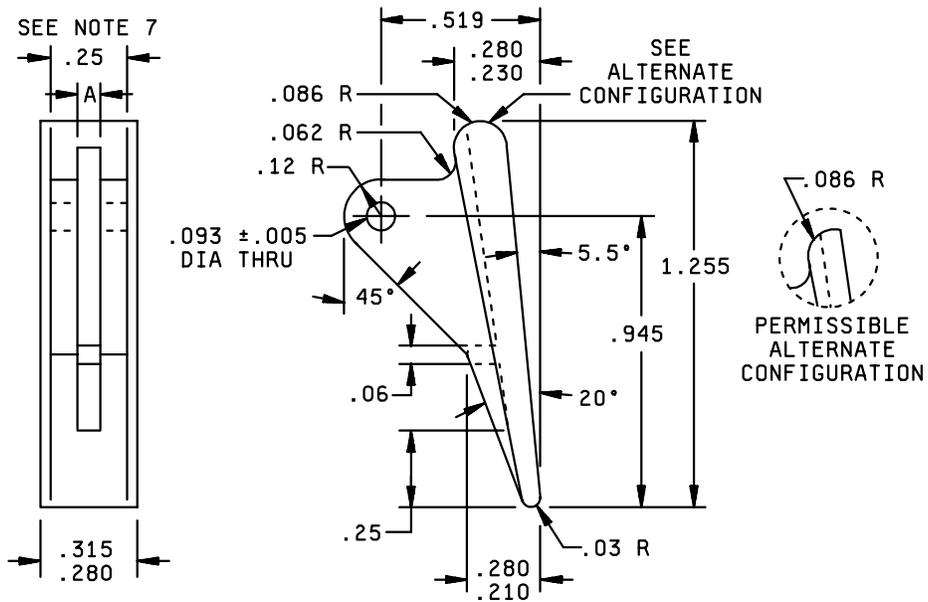


FIGURE 1. Design and dimensions.

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CONFIGURATION C



CONFIGURATION D

FIGURE 1. Design and dimensions – Continued.

<p>DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO</p>	<p>SIZE A</p>	<p>CODE IDENT NO. 14933</p>	<p>DWG NO. 83023</p>
		<p>REV J</p>	<p>PAGE 6</p>

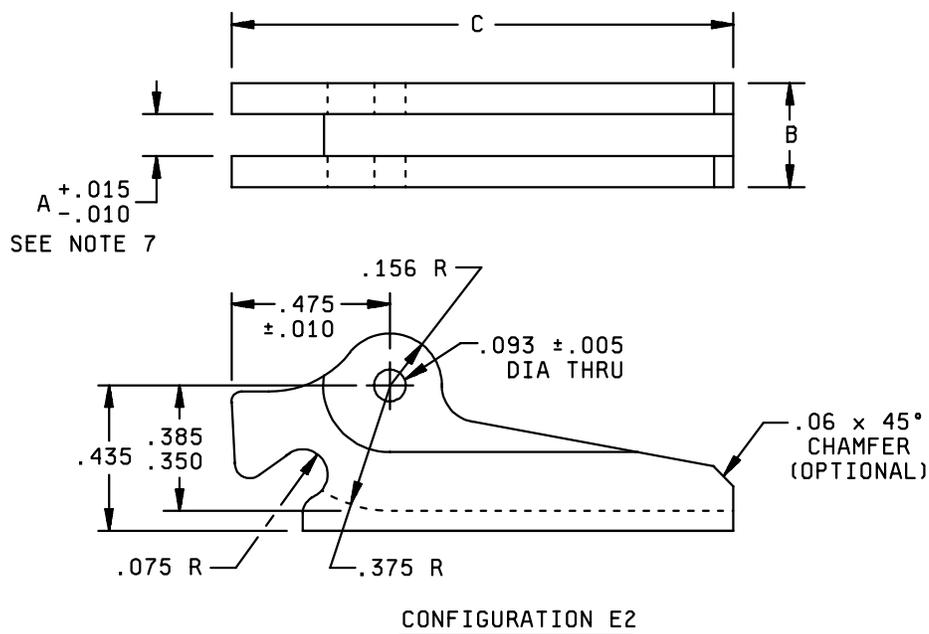
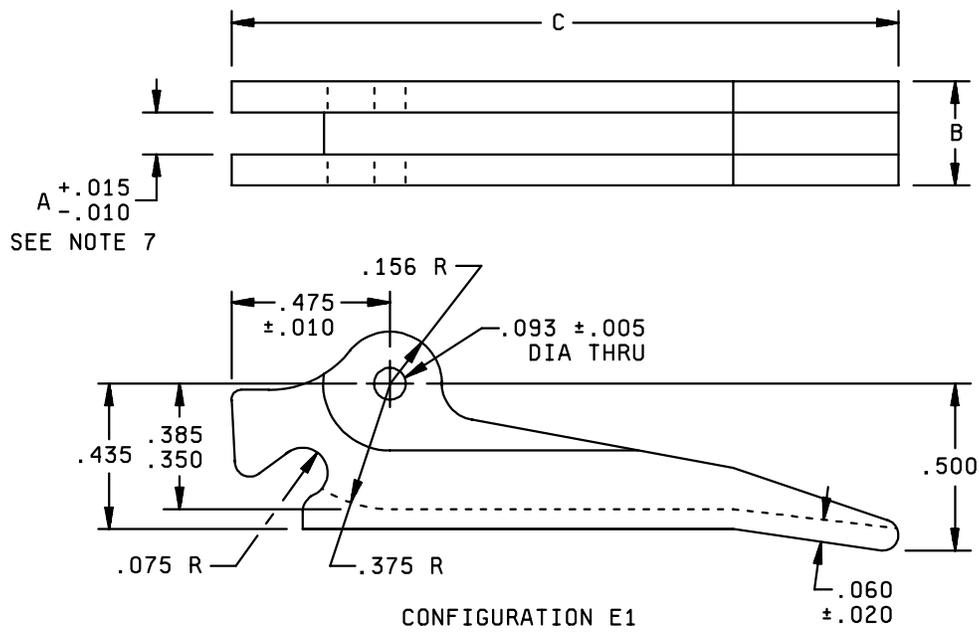


FIGURE 1. Design and dimensions – Continued.

DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO	SIZE A	CODE IDENT NO. 14933	DWG NO. 83023
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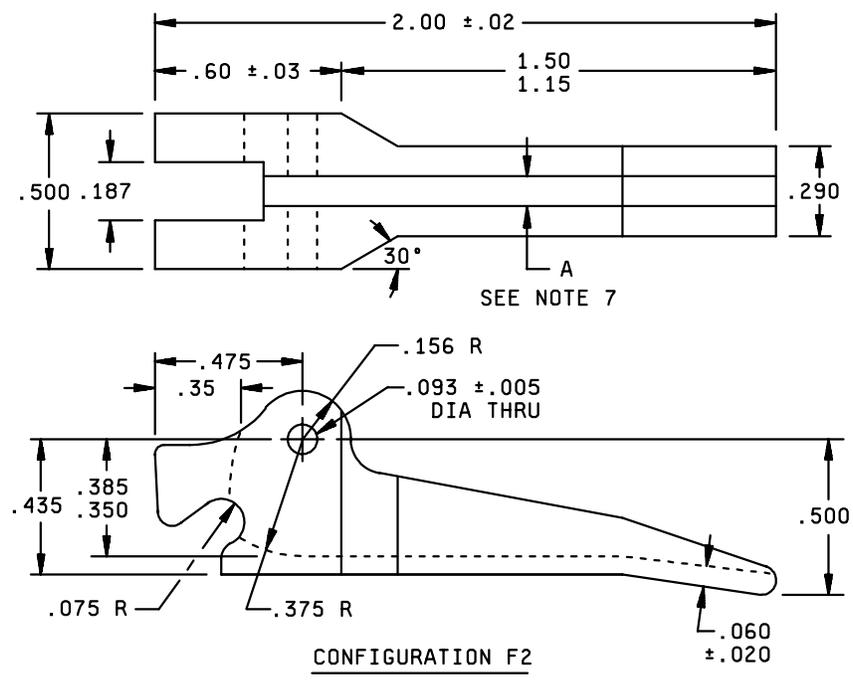
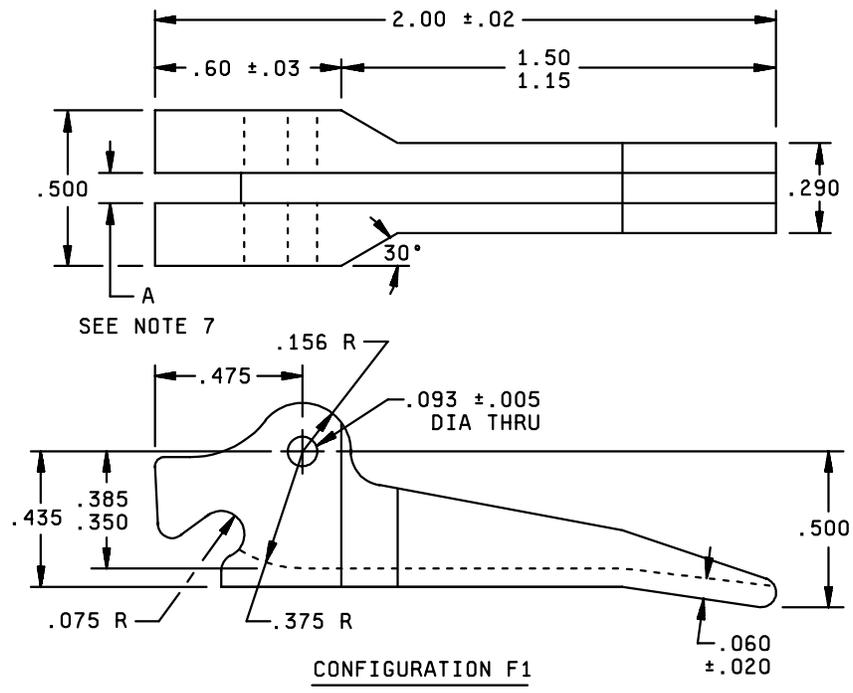
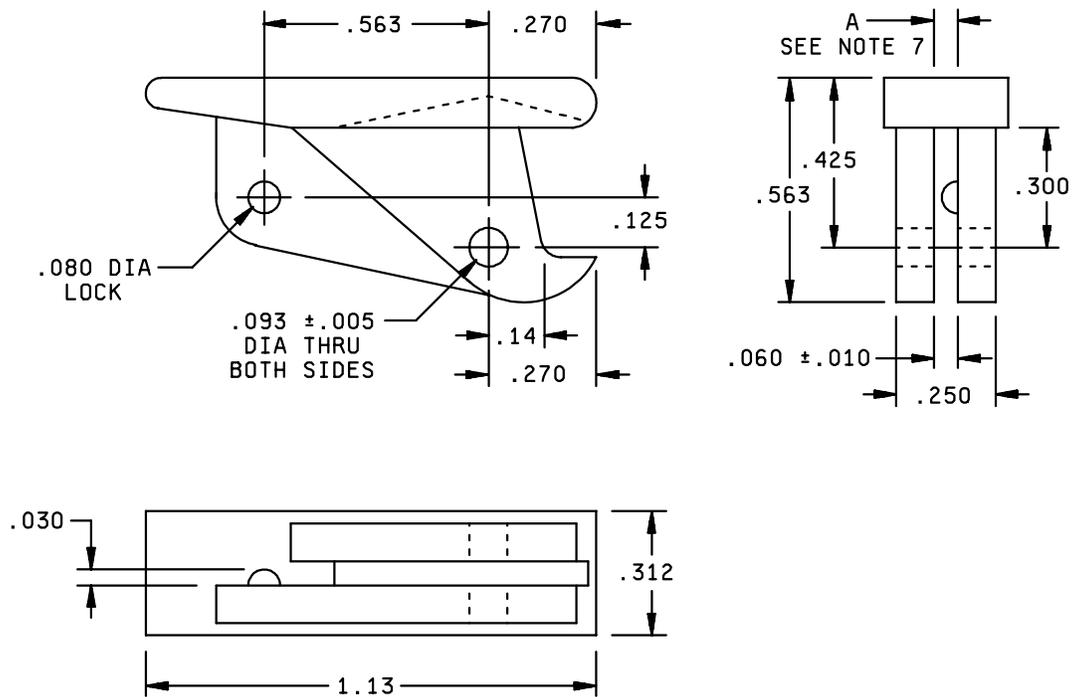


FIGURE 1. Design and dimensions – Continued.

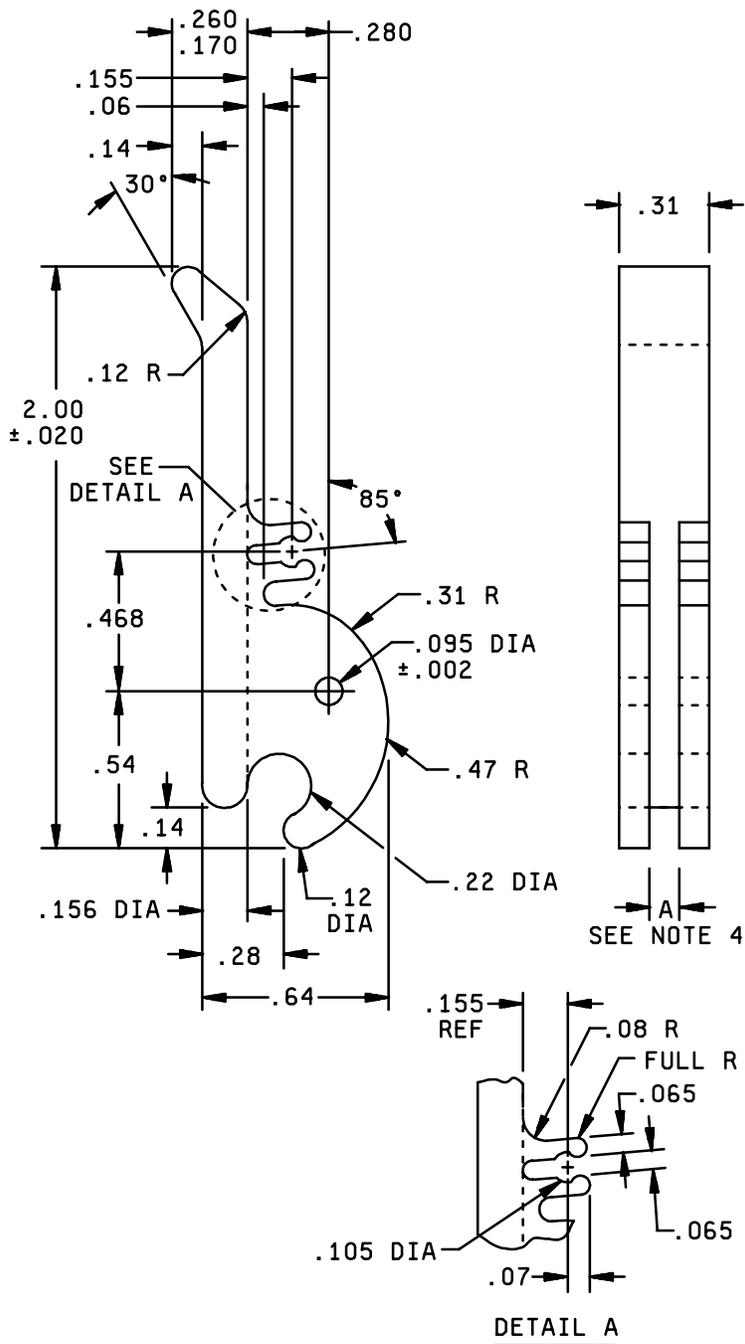
<p>DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO</p>	<p>SIZE A</p>	<p>CODE IDENT NO. 14933</p>	<p>DWG NO. 83023</p>
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CONFIGURATION G
SEE NOTE 6

FIGURE 1. Design and dimensions – Continued.

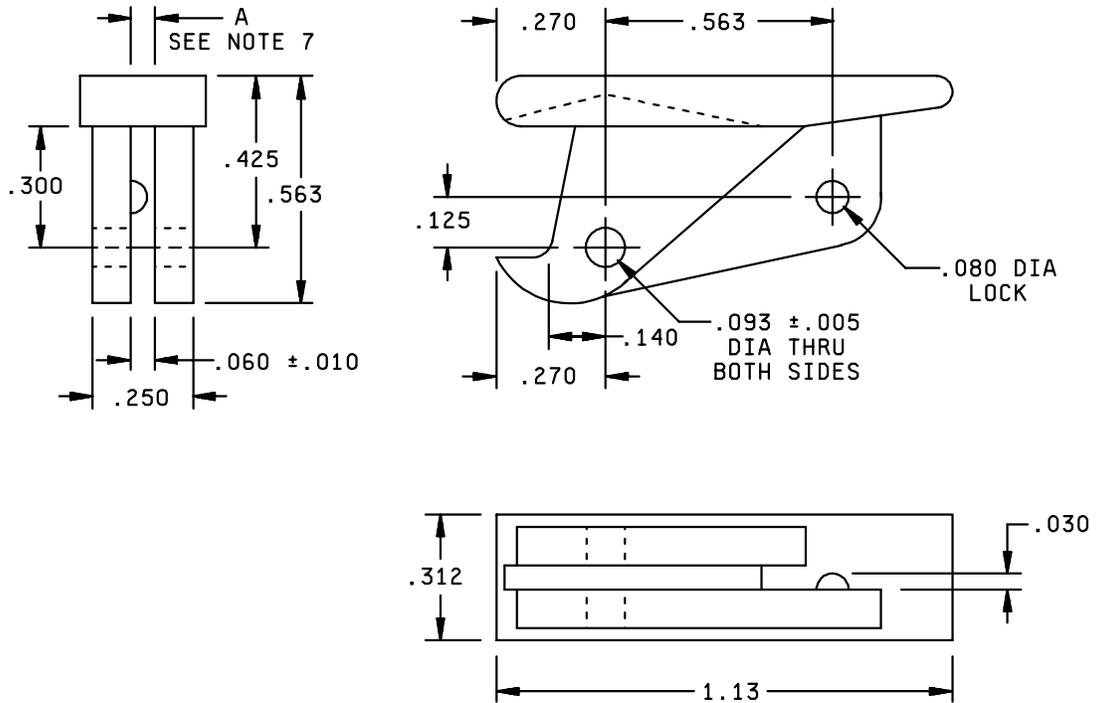
<p>DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO</p>	<p>SIZE A</p>	<p>CODE IDENT NO. 14933</p>	<p>DWG NO. 83023</p>
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CONFIGURATION H

FIGURE 1. Design and dimensions – Continued.

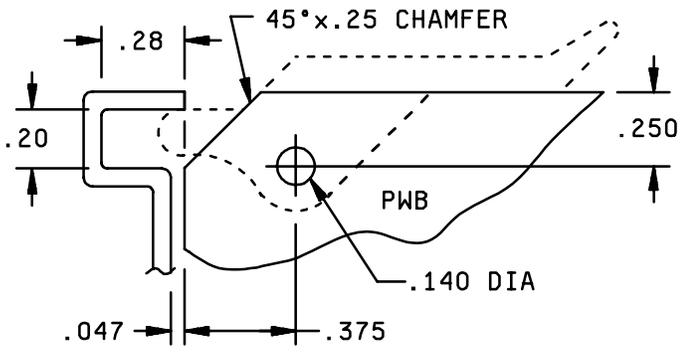
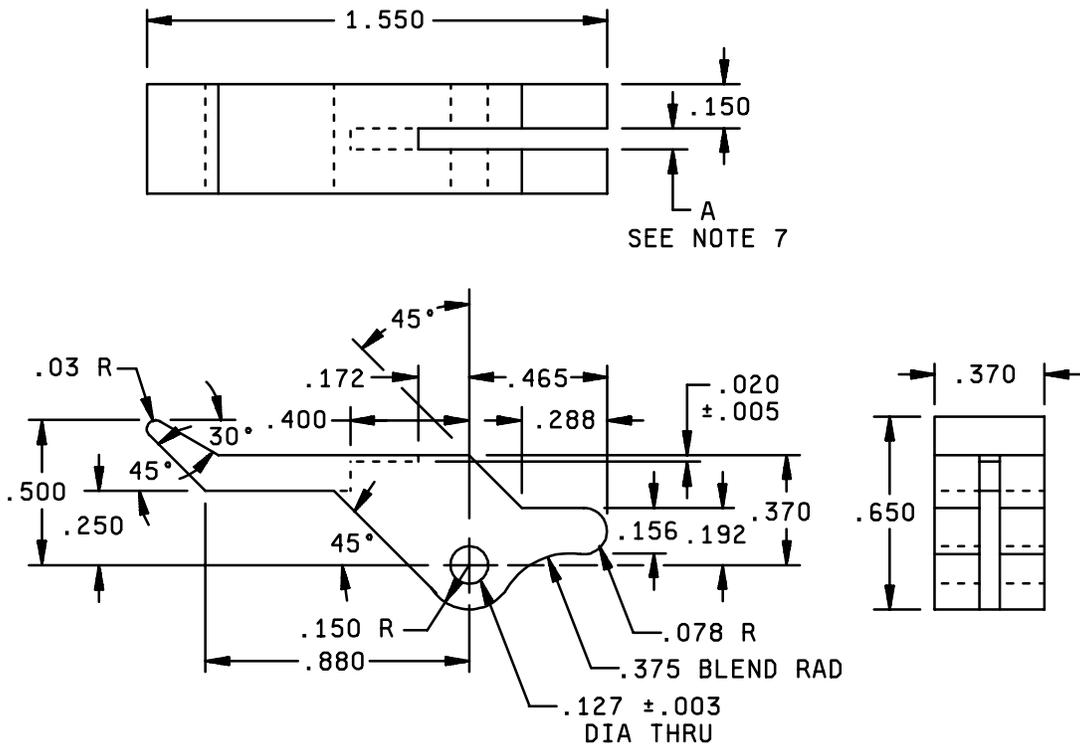
<p>DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO</p>	<p>SIZE A</p>	<p>CODE IDENT NO. 14933</p>	<p>DWG NO. 83023</p>
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CONFIGURATION I
SEE NOTE 6

FIGURE 1. Design and dimensions – Continued.

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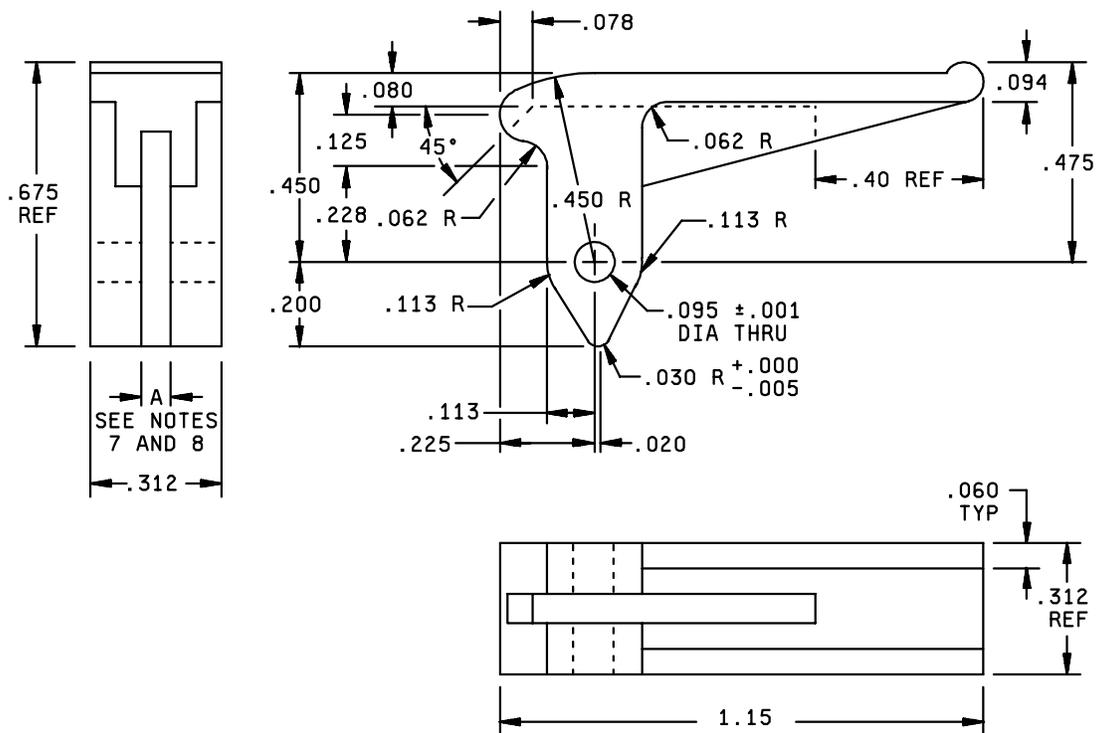


TYPICAL APPLICATION
 SHOWN WITH SHEET METAL
 CAGE CONFIGURATION

CONFIGURATION J

FIGURE 1. Design and dimensions – Continued.

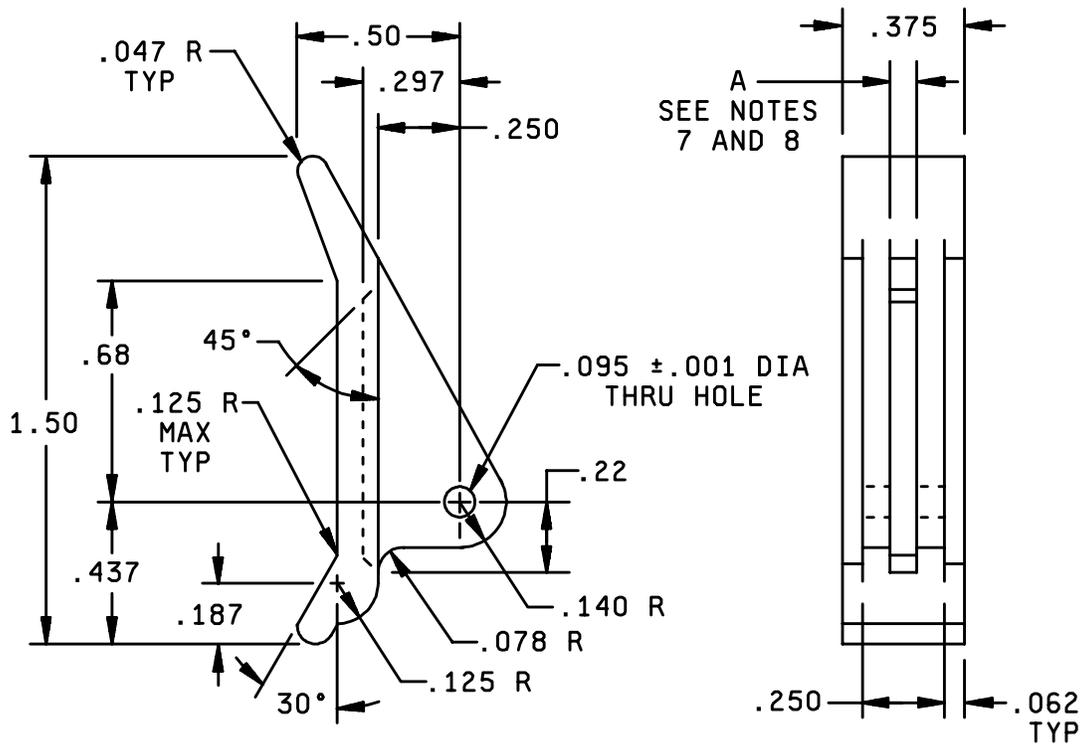
<p>DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO</p>	<p>SIZE A</p>	<p>CODE IDENT NO. 14933</p>	<p>DWG NO. 83023</p>
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CONFIGURATION K

FIGURE 1. Design and dimensions – Continued.

<p>DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO</p>	<p>SIZE A</p>	<p>CODE IDENT NO. 14933</p>	<p>DWG NO. 83023</p>
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CONFIGURATION L

FIGURE 1. Design and dimensions – Continued.

<p>DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO</p>	<p>SIZE A</p>	<p>CODE IDENT NO. 14933</p>	<p>DWG NO. 83023</p>
		<p>REV J</p>	<p>PAGE 14</p>

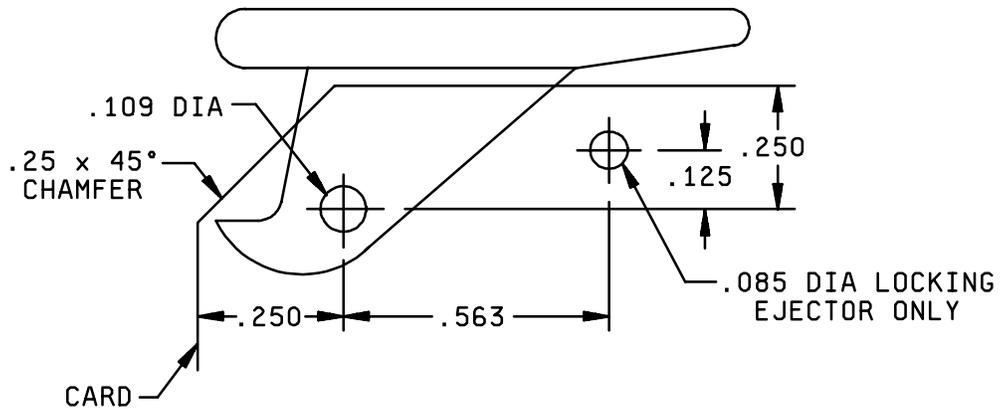
Inches	mm	Inches	mm	Inches	mm	Inches	mm
.001	0.025	.113	2.87	.297	7.54	.500	12.70
.003	0.076	.120	3.05	.300	7.62	.518	13.16
.005	0.13	.125	3.18	.307	7.80	.519	13.18
.010	0.25	.127	3.23	.31	7.9	.540	13.72
.015	0.38	.140	3.56	.312	7.92	.563	14.30
.020	0.51	.150	3.81	.315	8.00	.64	16.3
.03	0.8	.155	3.94	.350	8.89	.650	16.51
.038	0.970	.156	3.96	.370	9.40	.675	17.51
.047	1.19	.170	4.32	.375	9.53	.68	17.3
.060	1.52	.187	4.75	.380	9.65	.726	18.44
.062	1.57	.192	4.88	.385	9.78	.945	24.00
.065	1.65	.210	5.33	.400	10.16	1.083	27.51
.07	1.8	.220	5.59	.425	10.80	1.110	28.19
.075	1.91	.225	5.72	.435	11.05	1.12	28.4
.078	1.98	.230	5.84	.437	11.10	1.125	28.57
.080	2.03	.244	6.20	.450	11.43	1.13	28.7
.086	2.18	.250	6.35	.465	11.81	1.15	29.2
.09	2.3	.260	6.60	.468	11.89	1.255	31.87
.093	2.36	.270	6.86	.47	11.9	1.50	38.1
.094	2.39	.280	7.11	.475	12.07	1.55	39.4
.095	2.41	.290	7.37	.490	12.45	2.00	50.8
.105	2.67						

NOTES:

1. Dimensions are in inches. Metric equivalents are given for general information only.
2. Unless otherwise specified, tolerance is $\pm .02$ inch (0.51 mm) for two place decimals and $\pm .010$ (0.25 mm) for three place decimals.
3. Slotting or elongating of second mounting hole is recommended to allow for length variations in molding and to facilitate assembly.
4. Tolerance for slot base is $+.010$ (0.25 mm), $-.000$ (0.00 mm); tolerance for slot opening is $+.000$ (0.00 mm), $-.020$ (0.51 mm)(applies to configuration H).
5. See table I for applicable dimensions.
6. Configurations G and I are mirror images.
7. Flanges may converge slightly, provided function of part is not impaired.
8. "A" dimension to be centered $\pm .010$ within width dimension (configuration K and L).

FIGURE 1. Design and dimensions – Continued.

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Inches	mm
.085	2.16
.109	2.77
.125	3.18
.250	6.35
.25	6.4
.563	14.30

NOTES:

1. Dimensions are in inches. Metric equivalents are given for general information only.
2. Unless otherwise specified, tolerance for two place decimals is ± 0.02 inch (0.51 mm), for three place decimals is ± 0.010 (0.25 mm), and for angles ± 1 degree.

FIGURE 2. Card mounting dimensions.

DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO	SIZE A	CODE IDENT NO. 14933	DWG NO. 83023
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TABLE II. Sampling plan.

Lot size	Normal	Tightened
2 to 25	3	5
26 to 50	5	6
51 to 90	6	7
91 to 150	7	11
151 to 280	10	13
281 to 500	11	16
501 to 1,200	15	19
1,201 to 3,200	18	23
3,201 to 10,000	22	29
10,001 to 35,001	29	35
35,001 and over	29	40

4.2.5 Defective characteristics and properties. Dimensional characteristics are considered defective when out of tolerance. Physical and functional properties are considered defective when outside the specified minimum, maximum, or range as applicable. Workmanship characteristics are considered defective when they would be detrimental to the intended use, performance requirements, or environmental survival of the part.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

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

6.1 Intended use. Retainer—ejectors conforming to this drawing are intended for use when performance specifications do not exist and qualified military devices that will perform the required function are not available for OEM application.

6.2 Ordering data. The contract or purchase order should specify the following:

- a. Complete PIN (see 1.2).
- b. Requirements for delivery of one copy of the conformance inspection data or certificate of compliance that parts have passed conformance inspection with each shipment of parts by the manufacturer.
- c. Requirements for packaging and packing.

6.3 Users of record. Coordination of this document for future revisions are coordinated only with the suggested sources of supply and the users of record of this document. Requests to be added as a recorded user of this drawing should be in writing to: Defense Supply Center, Columbus, ATTN: DSCC-VAC, Post Office Box 3990, Columbus, OH 43216-5000 or by electronic mail at "5998.Document@dsc.dla.mil" or by facsimile (614) 692-6939 or DSN 850-6939.

6.4 Replaceability. Extractors covered herein replace similar commercial devices covered by contractor-prepared specifications or drawings.

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6.5 Application information. Figure 2 depicts the correct mounting procedure for mounting locking ejectors 83023-13 and 83023-18. This ejector mates with electrical card holders covered by DESC drawing 84006.

6.6 Suggested sources of supply. Suggested sources of supply are listed herein. Additional sources will be added as they become available. For assistance in the use of this drawing, contact Defense Supply Center, Columbus, ATTN: DSCC-VAC, Post Office Box 3990, Columbus, OH 43216-5000 or by electronic mail at "5998.Document@dsc.dla.mil" or by facsimile (614) 692-6939 or DSN 850-6939.

DSCC drawing PIN 83023 (1)	Vendor similar designation or type number	Vendor CAGE	Vendor name and address
—01 —02 —03 —04 —05 —06 —07	S—203 S—200 S—202 S—212 S—203—100 S—200—100 S—202—100	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 URL: www.apw.com
—09 —15 —16 —18 —19 —22 —23	S—214 87—2 87—3 91—2 S—209 S—211 S—213		

(1) Parts must be purchased to this DSCC PIN to assure that all performance requirements and tests are met.

DSCC drawing PIN 83023 (1)	Vendor similar designation or type number	DSCC drawing PIN 83023	Vendor similar Designation or type Number (1)	Vendor CAGE	Vendor name and address
—01 —02 —03 —04 —05 —06 —07 —08 —09 —10	CP—36 CP—06 CP—26 CP—66 CP—39 CP—09 CP—29 CP—69 1107—062 11073—125	—11 —13 —19 —20 —21 —24 —25 —26 —27 —28	110710—062 LP—36 1209—062 1209—093 1209—125 11073—062 11073—093 1107310—062 1107310—093 1107310—125	32559	Bivar, Incorporated 4 Thomas Street Irvine, CA 92718—2512 Tel: (949) 951-8808 Fax: (949) 951-3974 E-mail: info@bivar.com URL: www.bivar.com

(1) Parts must be purchased to this DSCC PIN to assure that all performance requirements and tests are met.

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DSCC drawing PIN 83023 (1)	Vendor similar designation or type number	DSCC drawing PIN 83023	Vendor similar designation or type number (1)	Vendor CAGE	Vendor name and address
—01 —02 —04 —05 —06 —08 —09 —10	104 103 105 104—3 103—3 105—3 107 107—3	—11 —12 —14 —17 —28	107—10 107—40 107—1073 107—1047 107—10—3	52094	Calmark Corporation 4915 Walnut Grove Ave San Gabriel, CA 91776-2099 Tel: (626) 287-0451 Fax: (626) 287-7350 E-mail: sales@calmark.com URL: www.calmark.com

(1) Parts must be purchased to this DSCC PIN to assure that all performance requirements and tests are met.

DSCC drawing PIN 83023 (1)	Vendor similar designation or type number	DSCC drawing PIN 83023	Vendor similar Designation or type number (1)	Vendor CAGE	Vendor name and address
—01 —02 —03 —04 —05 —06 —07	R—1004—A R—1003—A R—1002—A R—1009—A R—1004—B R—1003—B R—1002—B	—09 —10 —13 —15 —16 —19	R—1010—A R—1010—B R—1015—A R—1012—A R—1012—B R—1013—A	53507	Robleyco, Incorporated P.O Box 850 203 Industrial Court Wylie, TX 75098-3309 Tel: (972) 442-3573 Fax: (972) 442-4109 E-mail: srslo@earthlink.net URL: www.robleyco.com

(1) Parts must be purchased to this DSCC PIN to assure that all performance requirements and tests are met.

DSCC drawing PIN 83023 (1)	Vendor similar designation or type number	Vendor CAGE	Vendor name and address
—01 —02 —03 —04 —05	9762 9562 9662 9962 9732	24227	Teknational Industries, Inc. 391 Gregory Street Rochester, NY 14620-1327 Tel: (716) 473-6310 Fax: (716) 473-6324 E-mail: sales@teknational.com URL: www.teknational.com
—06 —07 —08 —18 —19	9532 9632 9932 9162 9209		

(1) Parts must be purchased to this DSCC PIN to assure that all performance requirements and tests are met.

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