

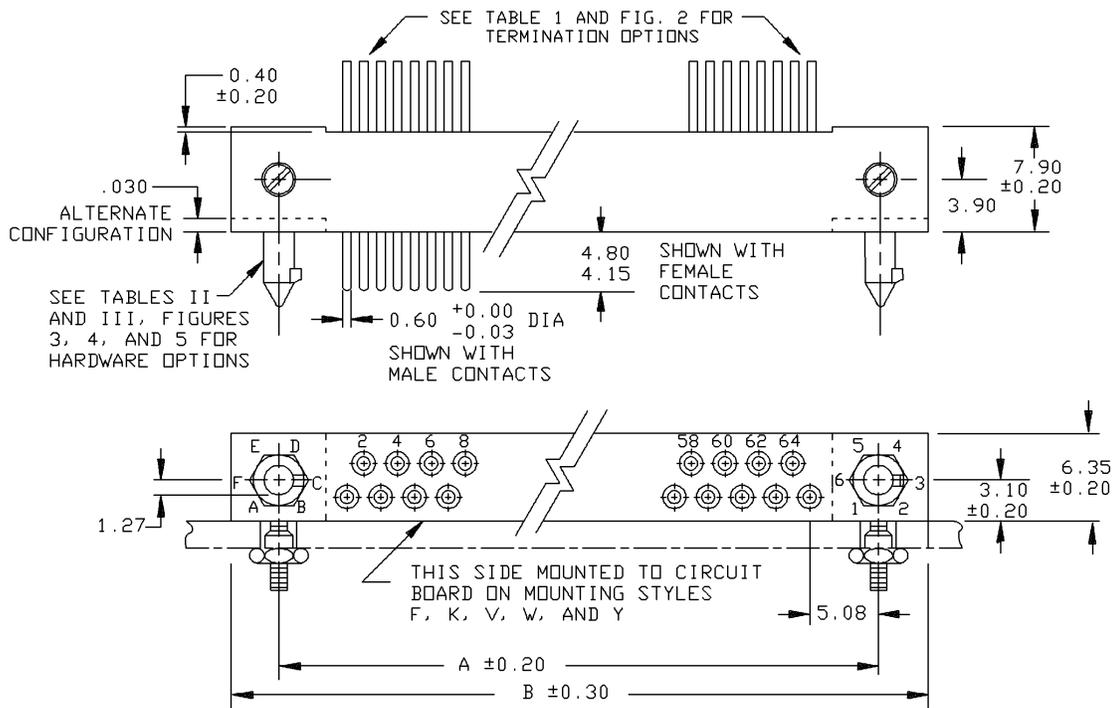
METRIC
MIL-DTL-55302/162D
8 July 2004
SUPERSEDING
MIL-C-55302/162C(CR)
17 March 1995

DETAIL SPECIFICATION SHEET

CONNECTORS, PRINTED CIRCUIT SUBASSEMBLY AND ACCESSORIES,
PLUG, 17, 29, 33, 41, 53, AND 65 CONTACT POSITIONS, FOR
PRINTED WIRING BOARDS, 2.54 MM X 1.27 MM OFFSET GRID, METRIC

This specification is approved for used by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-DTL-55302.



NOTE: Dimensions are in millimeters.

FIGURE 1. Connector receptacle.

MIL-DTL-55302/162D

PLUG

TERMINAL STYLES

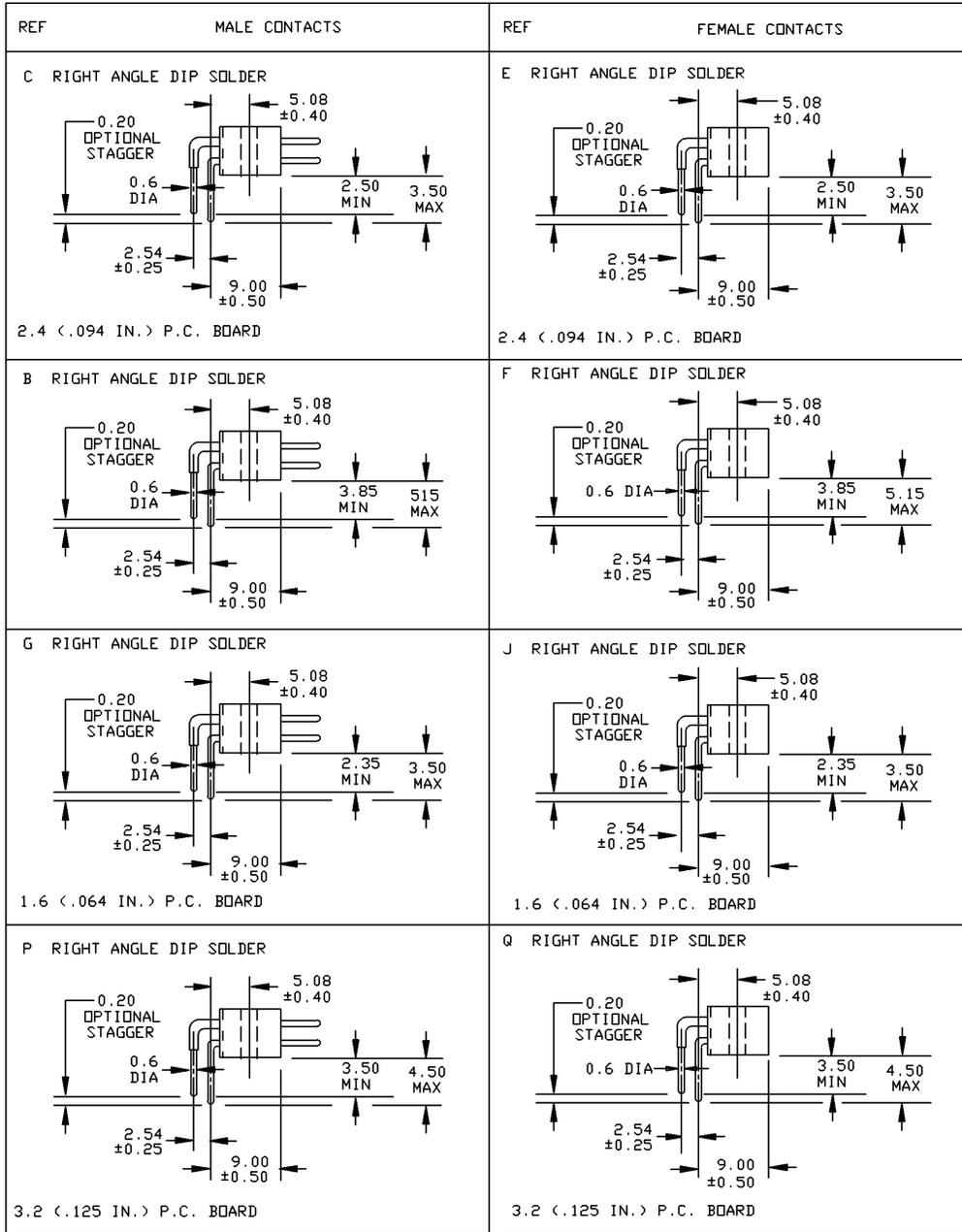


FIGURE 2. Connector termination styles.

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PLUG

TERMINAL STYLES

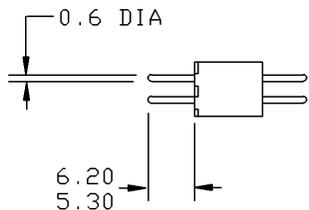
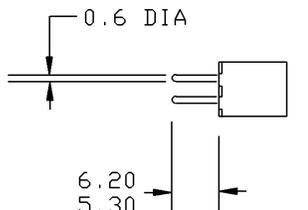
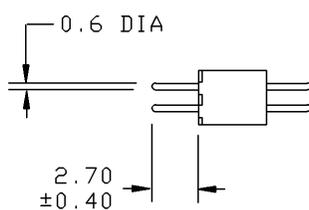
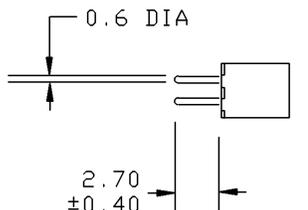
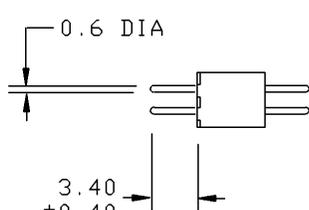
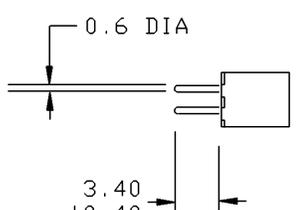
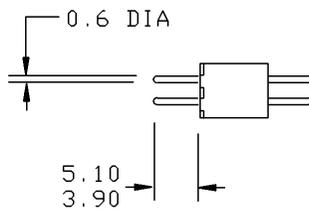
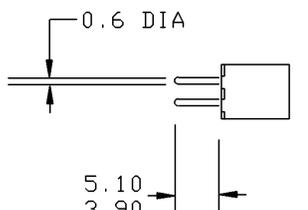
REF	MALE CONTACTS	REF	FEMALE CONTACTS
A	<p>STRAIGHT DIP SOLDER</p>  <p>0.6 DIA 6.20 5.30</p>	D	<p>STRAIGHT DIP SOLDER</p>  <p>0.6 DIA 6.20 5.30</p>
T	<p>STRAIGHT DIP SOLDER</p>  <p>0.6 DIA 2.70 ±0.40 1.6 (.064 IN.) P.C. BOARD</p>	U	<p>STRAIGHT DIP SOLDER</p>  <p>0.6 DIA 2.70 ±0.40 1.6 (.064 IN.) P.C. BOARD</p>
N	<p>STRAIGHT DIP SOLDER</p>  <p>0.6 DIA 3.40 ±0.40 2.4 (.094 IN.) P.C. BOARD</p>	Z	<p>STRAIGHT DIP SOLDER</p>  <p>0.6 DIA 3.40 ±0.40 2.4 (.094 IN.) P.C. BOARD</p>
V	<p>STRAIGHT DIP SOLDER</p>  <p>0.6 DIA 5.10 3.90 3.2 (.125 IN.) P.C. BOARD</p>	W	<p>STRAIGHT DIP SOLDER</p>  <p>0.6 DIA 5.10 3.90 3.2 (.125 IN.) P.C. BOARD</p>

FIGURE 2. Connector termination styles – Continued.

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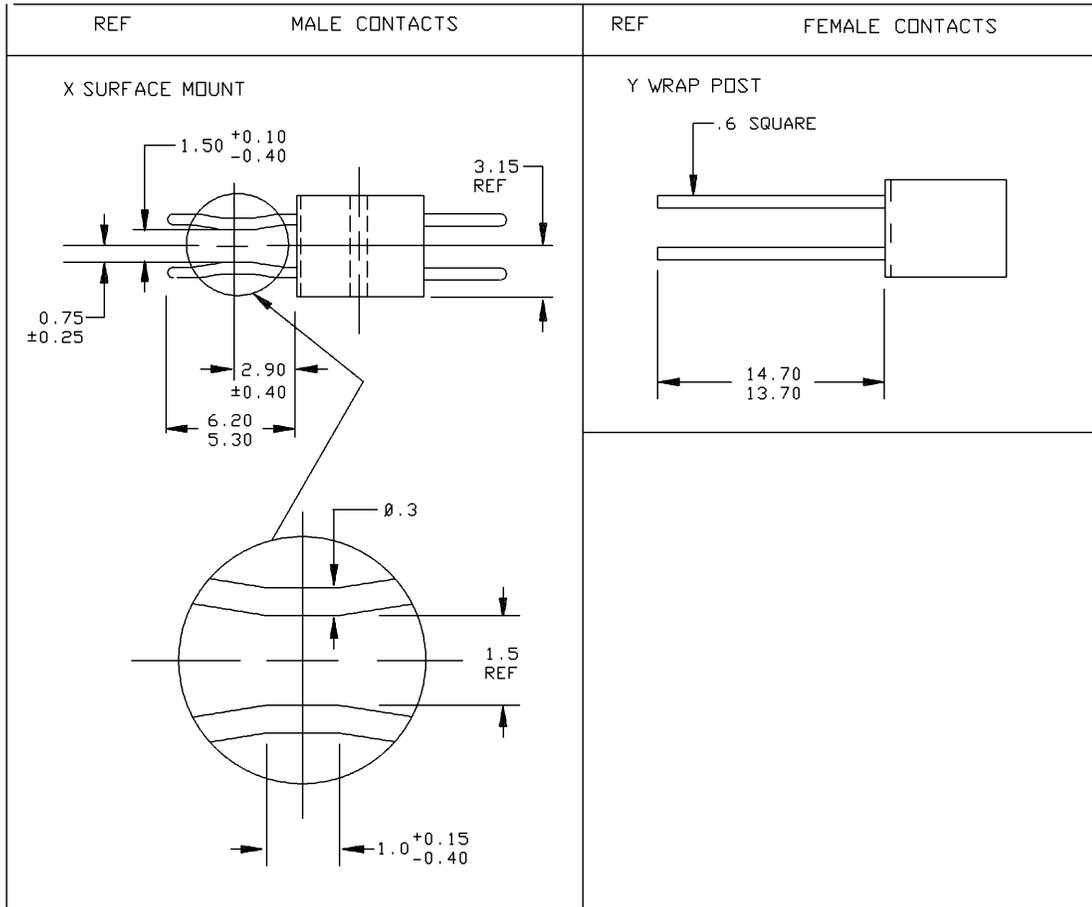
PLUG

TERMINAL STYLES

REF	MALE CONTACTS	REF	FEMALE CONTACTS
R CRIMP	<p>0.9 DIA HOLE</p> <p>1.3 DIA</p> <p>5.10 3.90</p> <p>FOR 22, 24 AND 26 AWG.</p>	K CRIMP	<p>0.9 DIA HOLE</p> <p>1.3 DIA</p> <p>5.10 3.90</p> <p>FOR 22, 24 AND 26 AWG.</p>
M DOUBLE CRIMP	<p>0.9 DIA HOLE</p> <p>1.8 DIA</p> <p>1.3 DIA</p> <p>1.5 DIA HOLE</p> <p>7.20 6.00</p> <p>FOR 22, 24 AND 26 AWG.</p>	H DOUBLE CRIMP	<p>0.9 DIA HOLE</p> <p>1.8 DIA</p> <p>1.3 DIA</p> <p>1.5 DIA HOLE</p> <p>7.20 6.00</p> <p>FOR 22, 24 AND 26 AWG.</p>
S SOLDER CUP	<p>1.0 DIA HOLE</p> <p>1.45 DIA</p> <p>6.10 5.00</p> <p>FOR UP TO 22 AWG.</p>	L SOLDER CUP	<p>1.0 DIA HOLE</p> <p>1.45 DIA</p> <p>5.60 4.65</p> <p>FOR UP TO 22 AWG.</p>

FIGURE 2. Connector termination styles – Continued.

TERMINAL STYLES



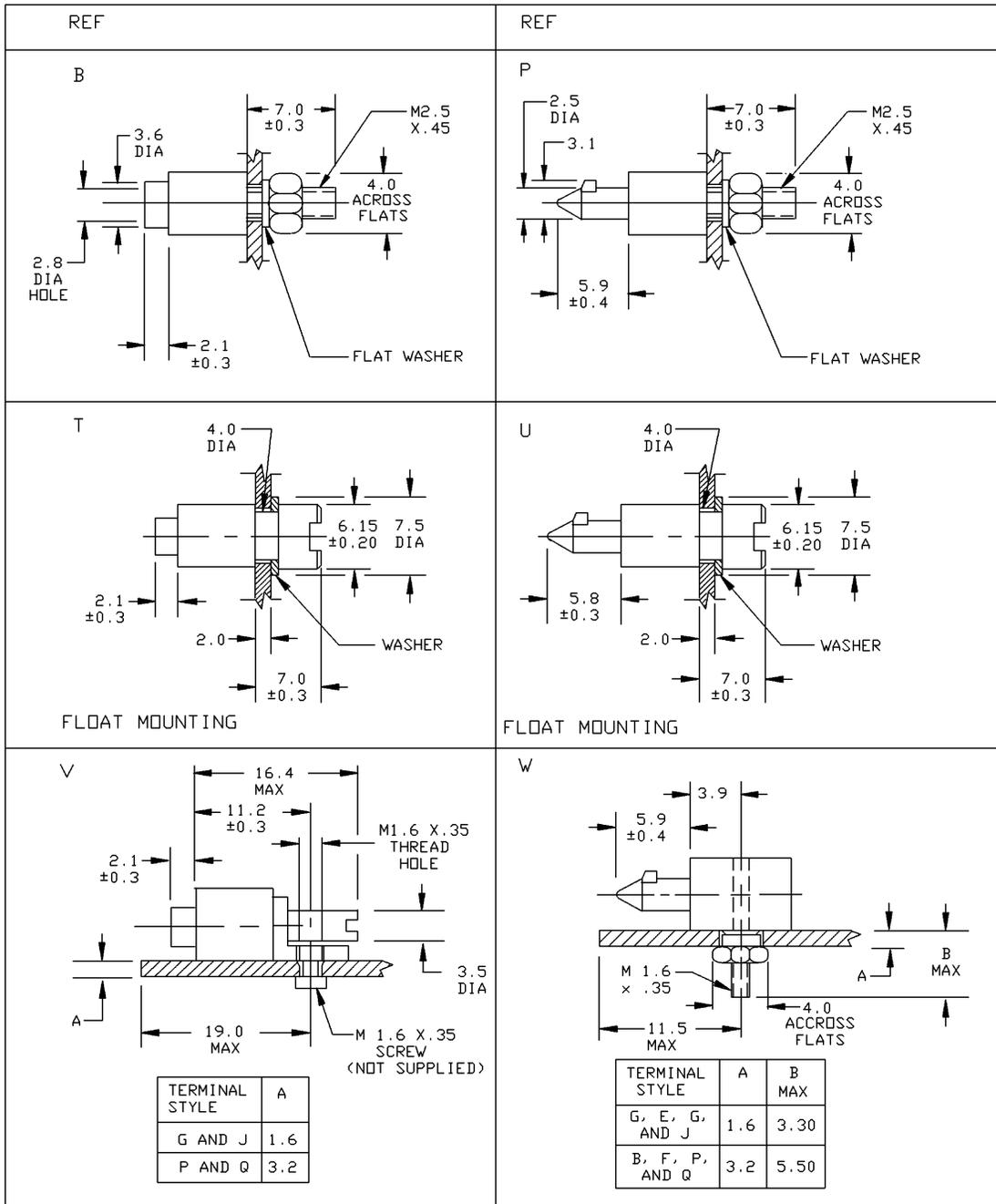
NOTE: Dimensions are in millimeters.

FIGURE 2. Connector termination styles – Continued.

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PLUG

MOUNTING STYLES



NOTE: Dimensions are in millimeters.

FIGURE 3. Mounting styles.

MIL-DTL-55302/162D

PLUG LOCKING HARDWARE

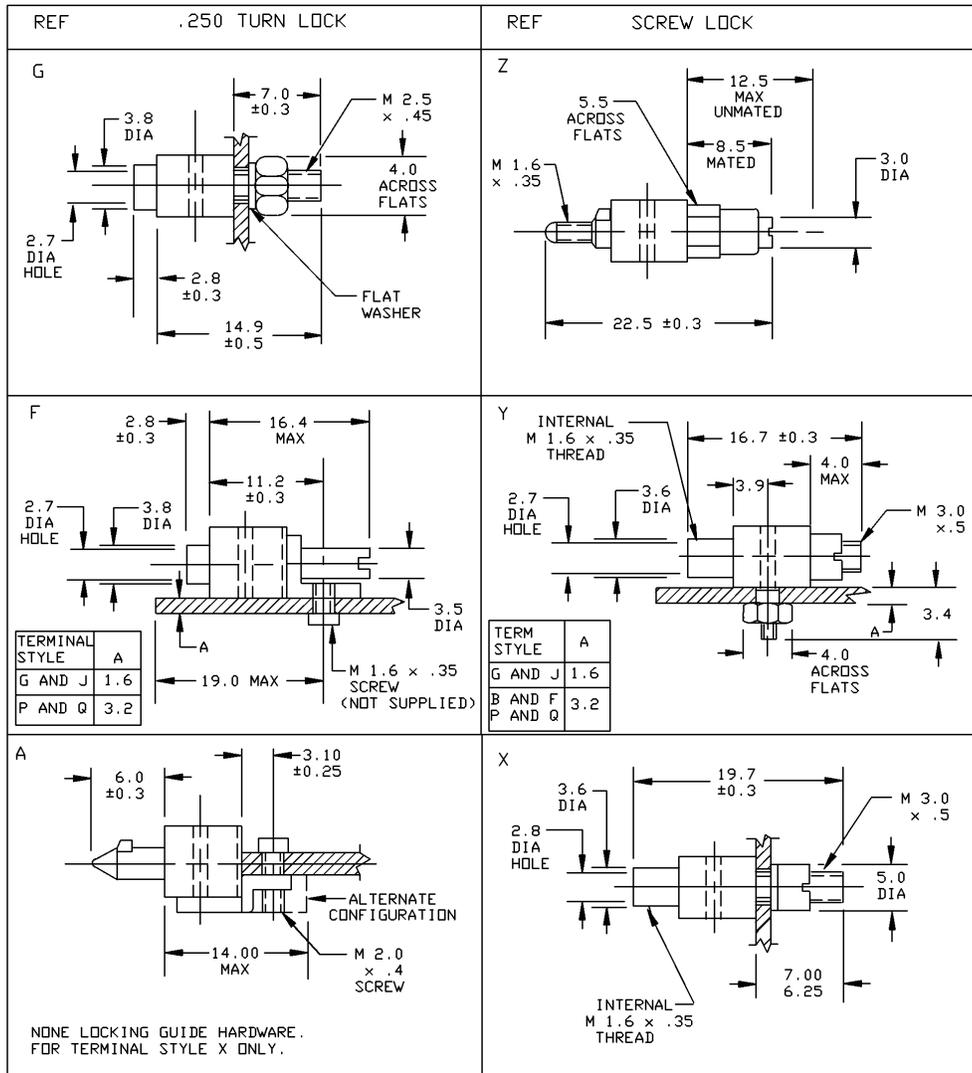
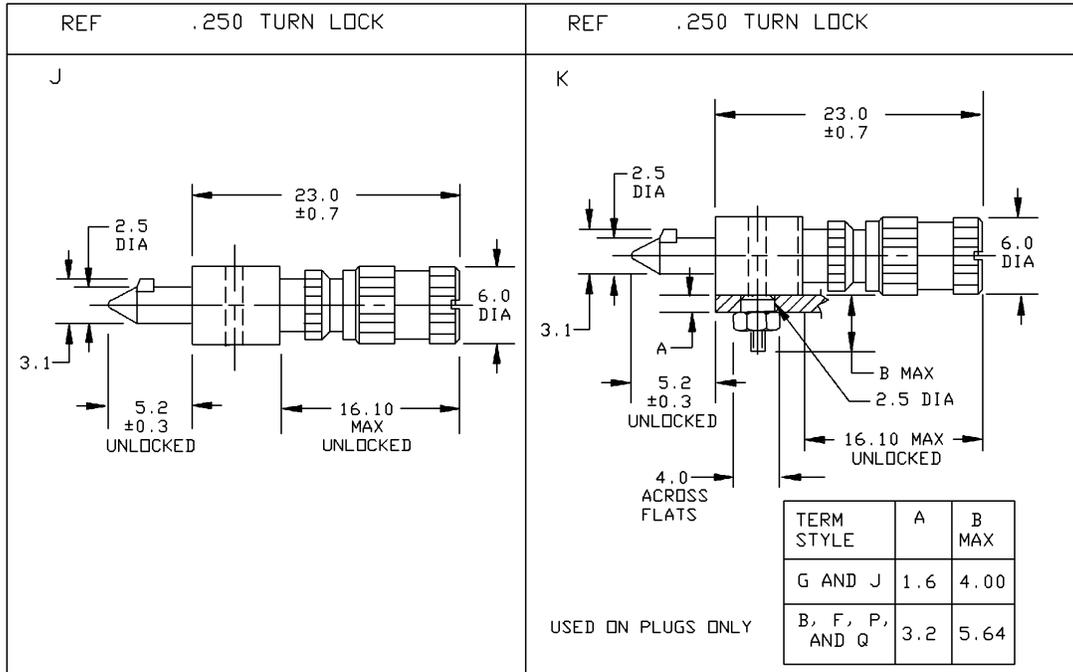


FIGURE 4. Locking hardware.

MIL-DTL-55302/162D

LOCKING HARDWARE



NOTES:

1. Dimensions are in millimeters.
2. This is a metric design.
3. Unless otherwise specified, tolerance is ± 0.10 millimeter.
4. These connectors mate with MIL-DTL-55302/159.
5. See table II for mating.
6. Contact identification may be located adjacent to cavity on face or side and may be rotated 180° .
7. Crimp contacts are shipped not inserted into insulator.
8. Use crimp tool M22520/2-01 for R and K terminal styles with Daniels manufacturing positioner K547.
9. Use crimp tool M22520/2-01 for M and H terminal styles with Daniels manufacturing positioner K547 and K640.

FIGURE 4. Locking hardware – Continued.

MIL-DTL-55302/162D

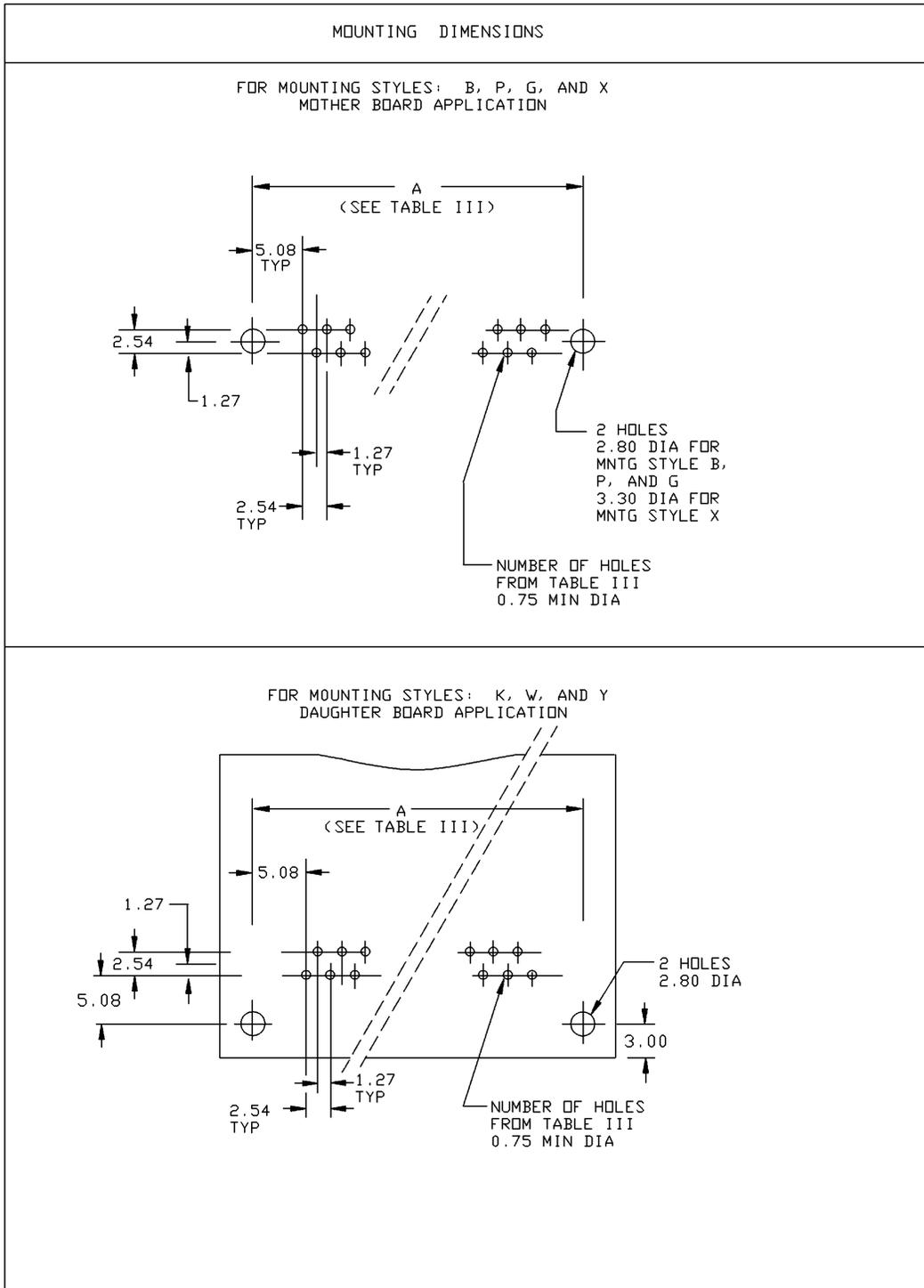


FIGURE 5. Mounting dimensions.

MIL-DTL-55302/162D

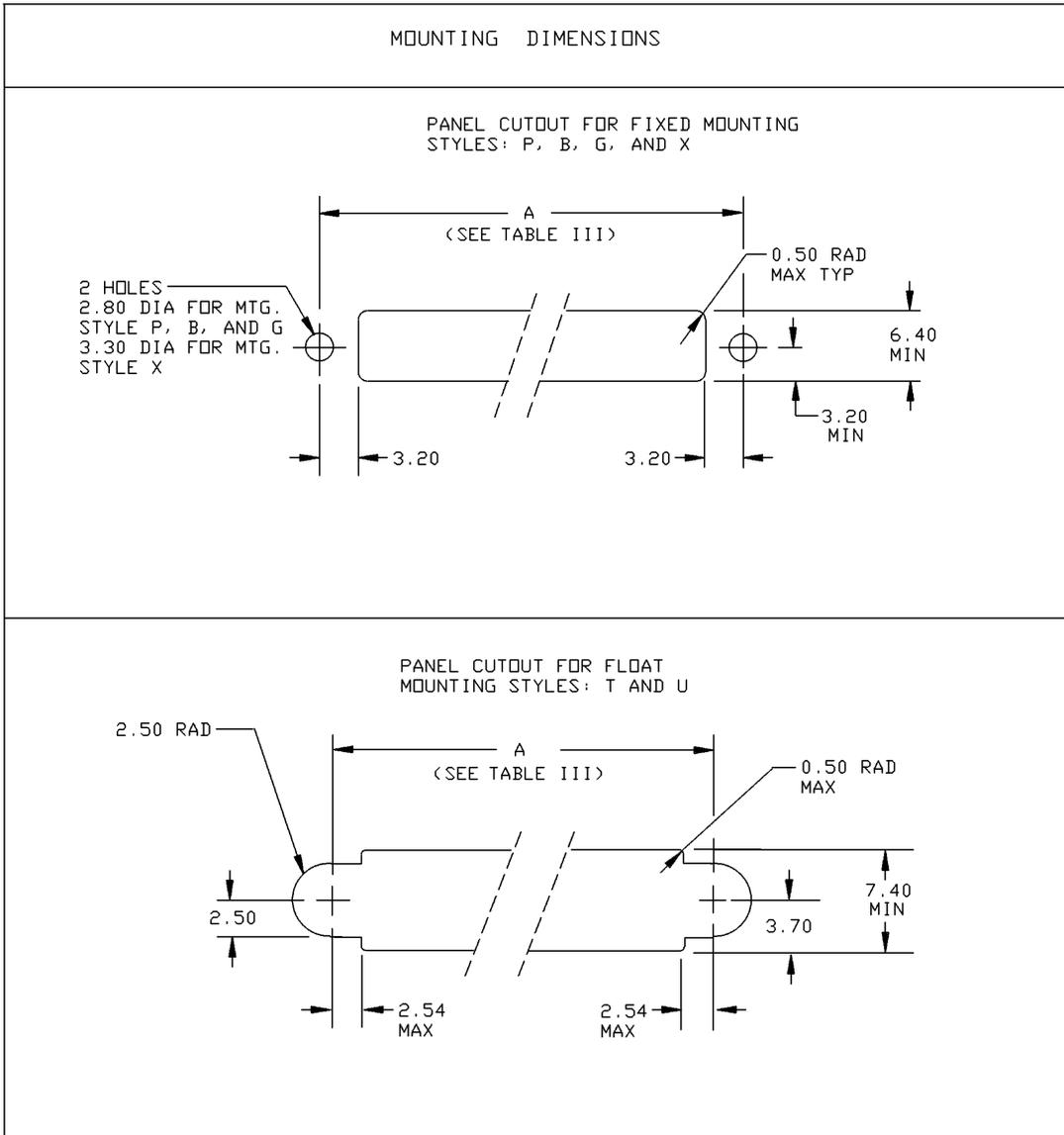


FIGURE 5. Mounting dimensions – Continued.

MIL-DTL-55302/162D

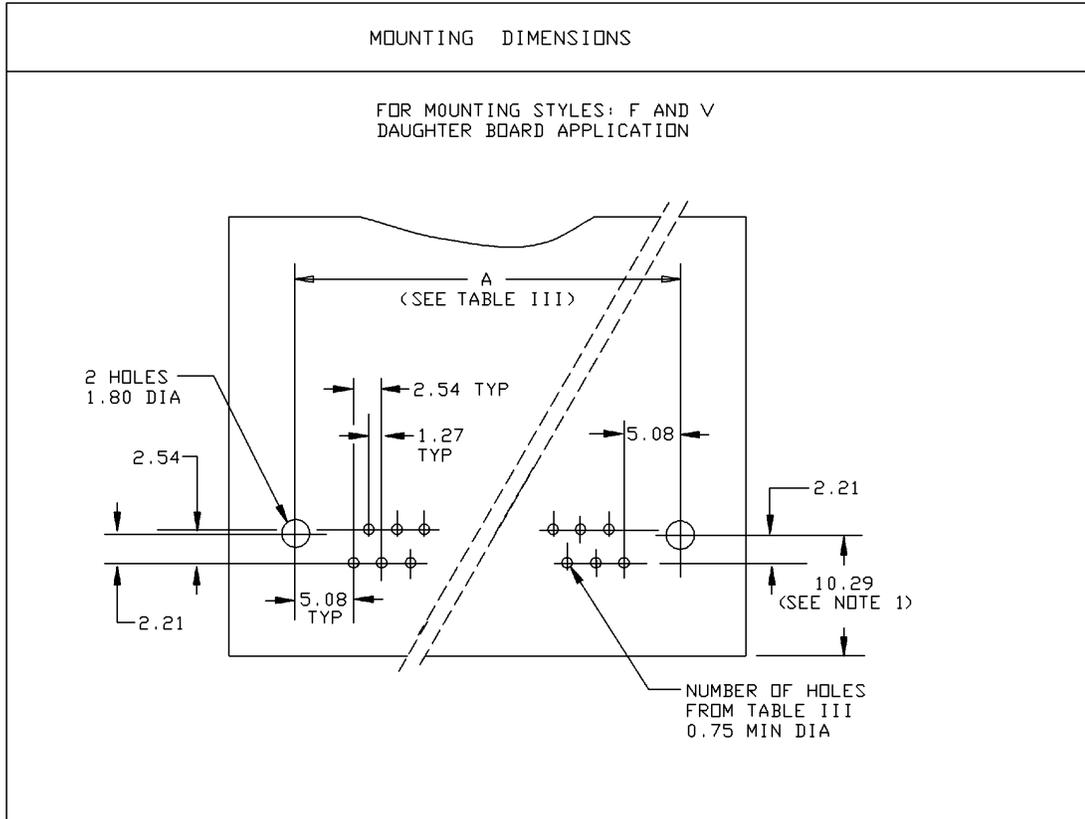
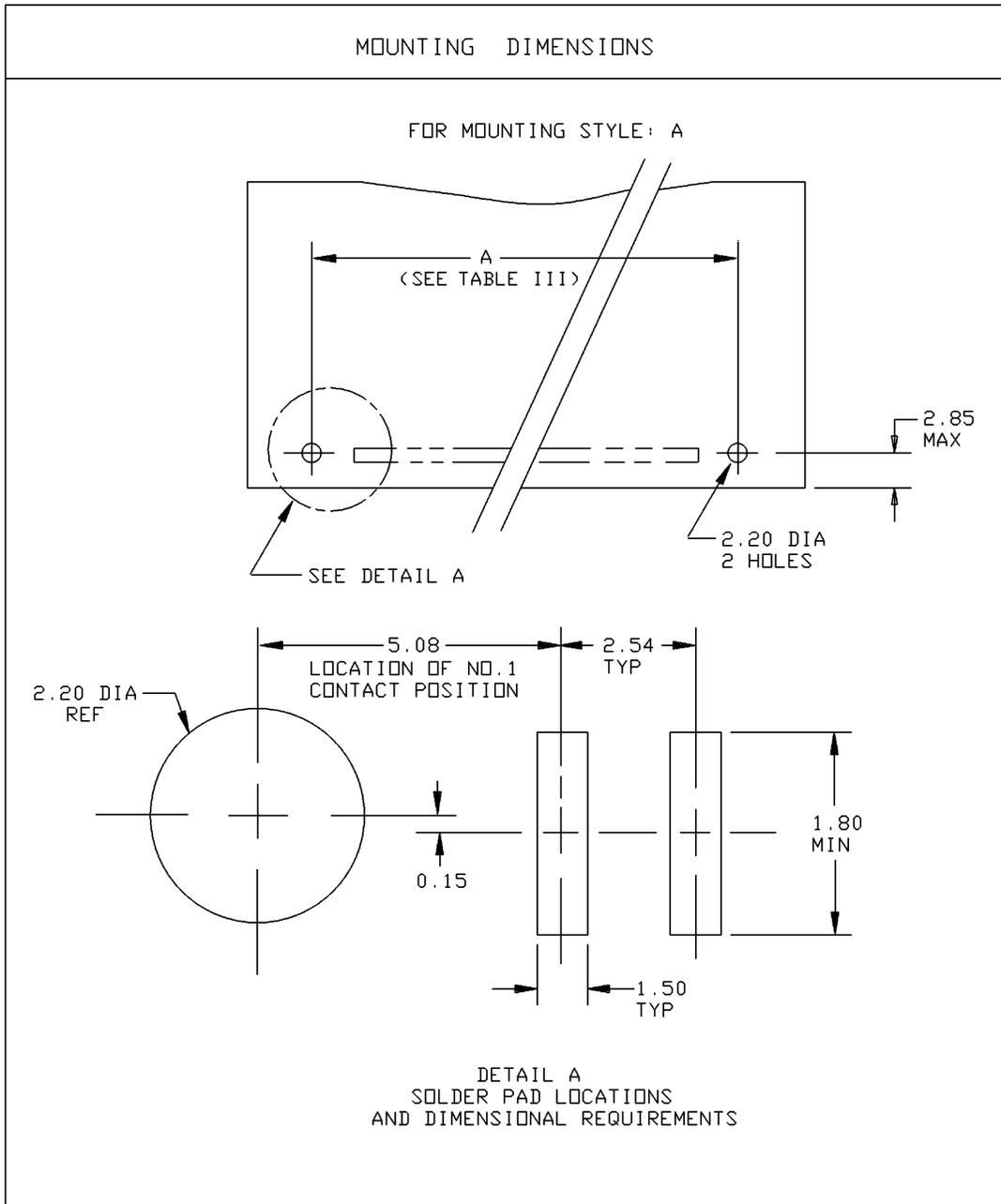


FIGURE 5. Mounting dimensions – Continued.



NOTES:

1. For plugs only. The p.c. may be extended to 11.5 max from the center of the mounting.
2. Tolerances are noncumulative.
3. Dimensions are in millimeters.

FIGURE 5. Mounting dimensions – Continued.

MIL-DTL-55302/162D

TABLE I. Number of contacts.

Number of contacts	Dimension (in millimeters)	
	A	B
17	30.50	38.50
29	45.70	53.70
33	50.80	58.80
41	60.90	68.90
53	76.20	84.20
65	91.40	99.50

TABLE II. Mating references.

Type	Will only mate with (see note)	Locking method
B	P, U, W	None
F	J, K	Push 1/4 turn
G	J, K	Push 1/4 turn
J	F, G	Push 1/4 turn
P	B, T, V	None
T	P, U, W	None
U	B, T, V	None
V	P, U, W	None
W	B, T, V	None
X	Z	Screw
Z	X, Y	Screw

NOTE: These connectors mate with MIL-DTL-55302/159.

TABLE III. Mounting references.

Number of contacts	A
17	30.50
29	45.70
33	50.80
41	60.90
53	76.20
65	91.40

REQUIREMENTS

Design and construction:

Dimensions and configurations: See figures 1 through 5 and tables I, II, and III.

Material:

Insulators: Diallyl phthalate in accordance with ASTM D5948.

Guides and hardware: Brass in accordance with ASTM B36, B16, B124, B453, or B455; nickel plated in accordance with SAE-AMS-QQ-N-290 or AISI 300 series stainless steel or equivalent in accordance with ASTM A582, passivated in accordance with SAE-AMS-QQ-P-35.

Plating: Plating in accordance with MIL-DTL-55302 or as noted.

Mating surface (pin and wire): Gold in accordance with ASTM B488, class 1.27, type II, code C over nickel in accordance with SAE-AMS-QQ-N-290, 30-150 microinches.

Terminations: Solderable areas (including crimp barrels and wire wrap terminations) shall be gold in accordance with ASTM B488, type III, code A, class 0.254 minimum thickness or gold in accordance with ASTM B488, type II, code C, class 0.51 over nickel in accordance with SAE-AMS-QQ-N-290, 30 to 150 microinches thick. Solderable areas must meet the requirements of MIL-STD-202, method 208.

All other surfaces: Gold in accordance with ASTM B488, type II, code C, class 0.127 minimum over nickel in accordance with SAE-AMS-QQ-N-290, 30-150 microinches.

Contact identification: See figure 1 and table I.

Contact separation forces:

Minimum force: 0.14 newton (0.50 ounce) with a 0.5800 millimeter (.0228 inch) +0.005, -0.000 diameter pin after being cycled 3 times.

Note: Steel pin test surface roughness to be 0.025 – 0.25 micron rms.

Unmating: The maximum force of a connector assembly shall not exceed 0.53 newton (1.90 ounces) multiplied by the number of contact positions.

Mating: The maximum force of a connector assembly shall not exceed 0.70 newton (2.5 ounces) multiplied by the number of contact positions.

Contact retention minimum: Functional value 22.2 newtons (5 pounds); destructive test 35.3 newtons (8 pounds) maximum design and qualification value.

Contact rating: 5 amperes per line.

Durability: 2,000 cycles minimum.

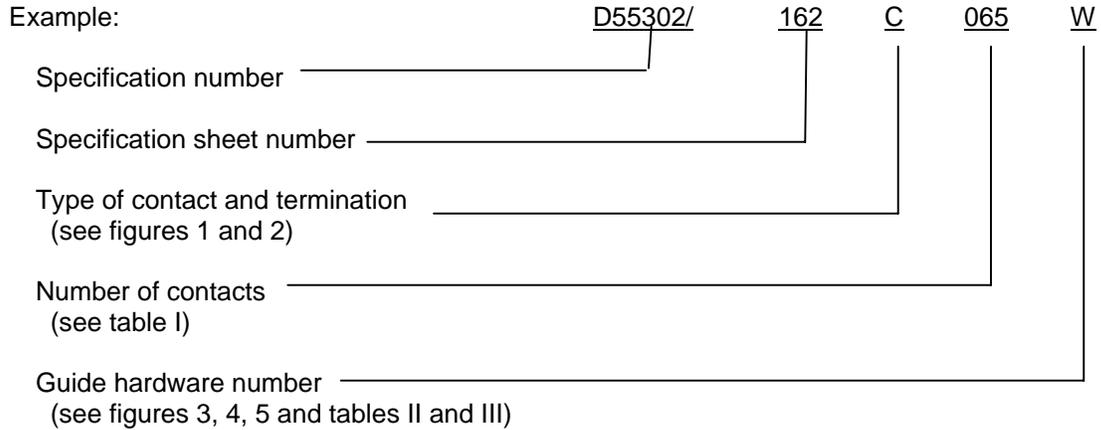
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Dielectric withstanding voltage:

Sea level: 1,400 V ac rms test.
High altitude: 300 V ac rms test.

Keying: Rotation of guides, 6 positions each, 36 possible combinations.

Connector Part or Identifying Number (PIN):



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

Referenced documents. In addition to MIL-DTL-55302, this document references the following:

MIL-DTL-55302/159	ASTM B36	ASTM B488
MIL-STD-202	ASTM B124	ASTM D5948
ASTM A582	ASTM B453	SAE-AMS-QQ-N-290
ASTM B16	ASTM B455	SAE-AMS-QQ-P-35

CONCLUDING MATERIAL

Custodians:
Army - CR
DLA - CC

Preparing activity:
DLA - CC

(Project 5935-4451-000)

Review activities:
Army - AR, AT, AV, CR4, MI

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsible can change, you should verify the currency of the information above using the ASSIST Online database at <http://www.dodssp.daps.mil>.