

INCH-POUND

MIL-DTL-55302/113F
w/AMENDMENT 2
9 July 2020
SUPERSEDING
w/AMENDMENT 1
MIL-DTL-55302/113F
18 July 2017

DETAIL SPECIFICATION SHEET

CONNECTORS, PRINTED CIRCUIT SUBASSEMBLY AND ACCESSORIES: PLUG, STRAIGHT-THRU, 30 thru 110 CONTACT POSITIONS, CRIMP REMOVABLE CONTACTS (.100 SQ. GRID)

This specification is approved for use 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.

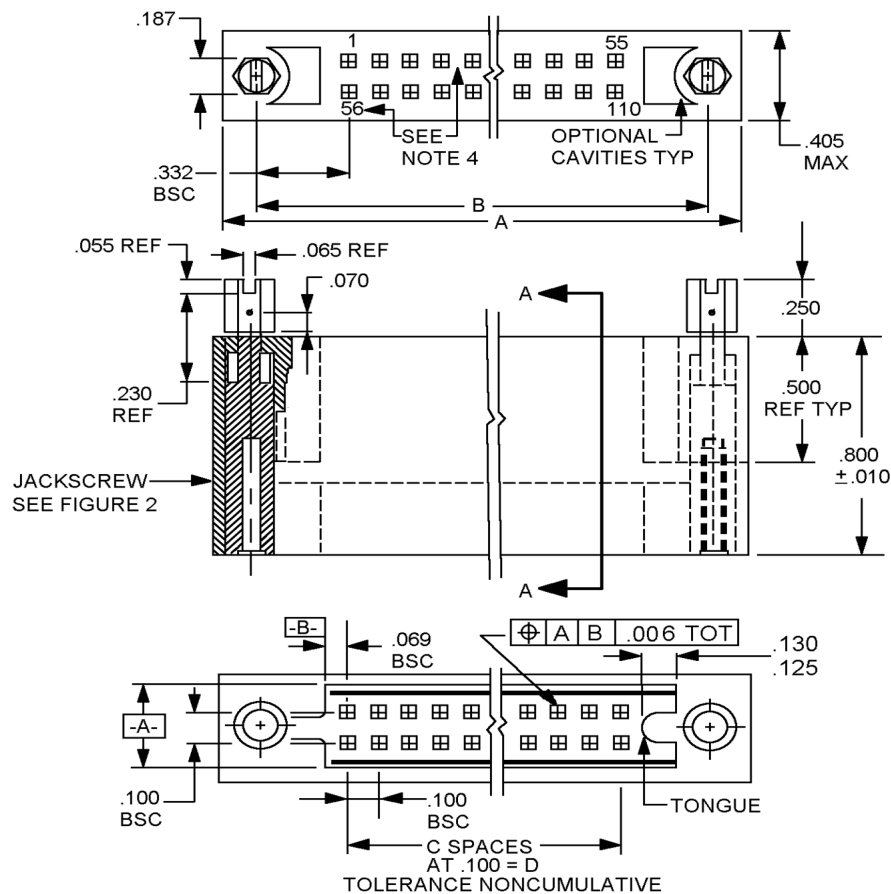


FIGURE 1. Connectors, housing, plug, .100 (2.54 mm) square grid.

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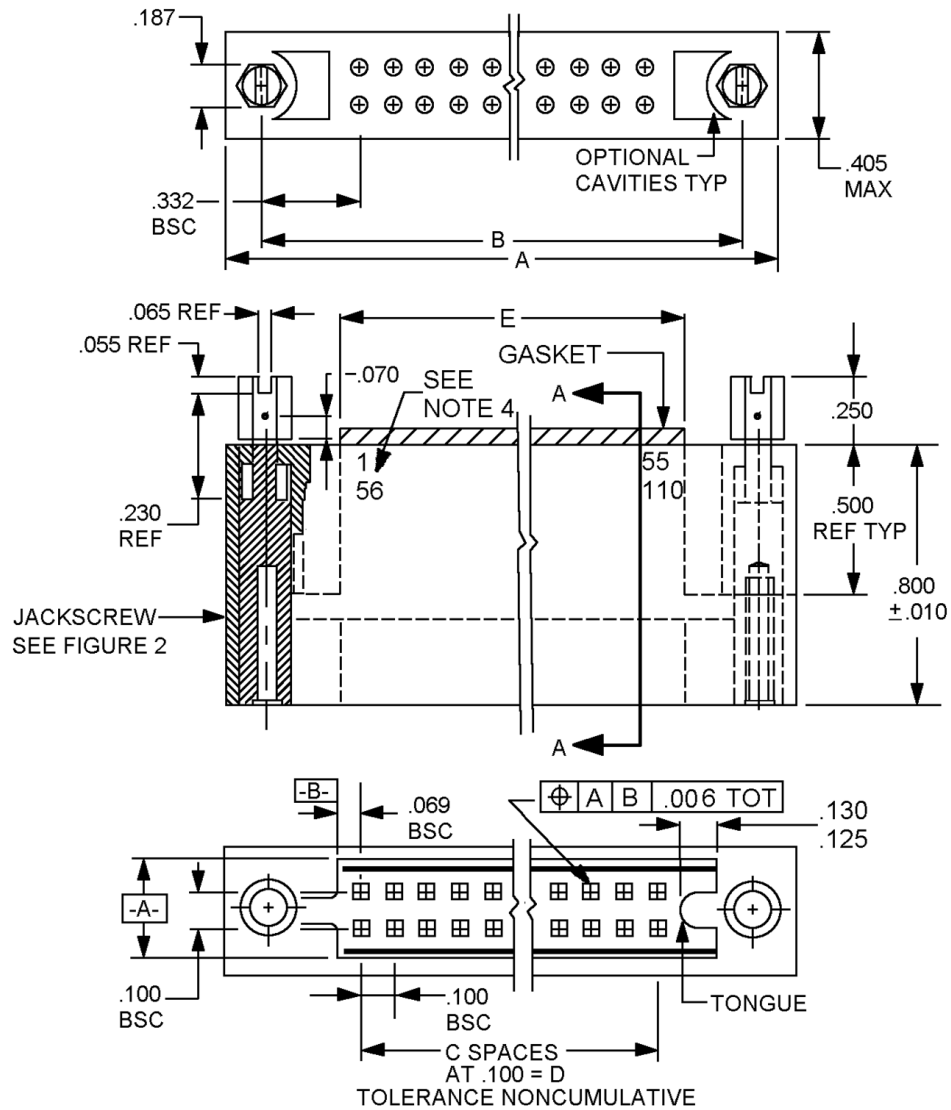
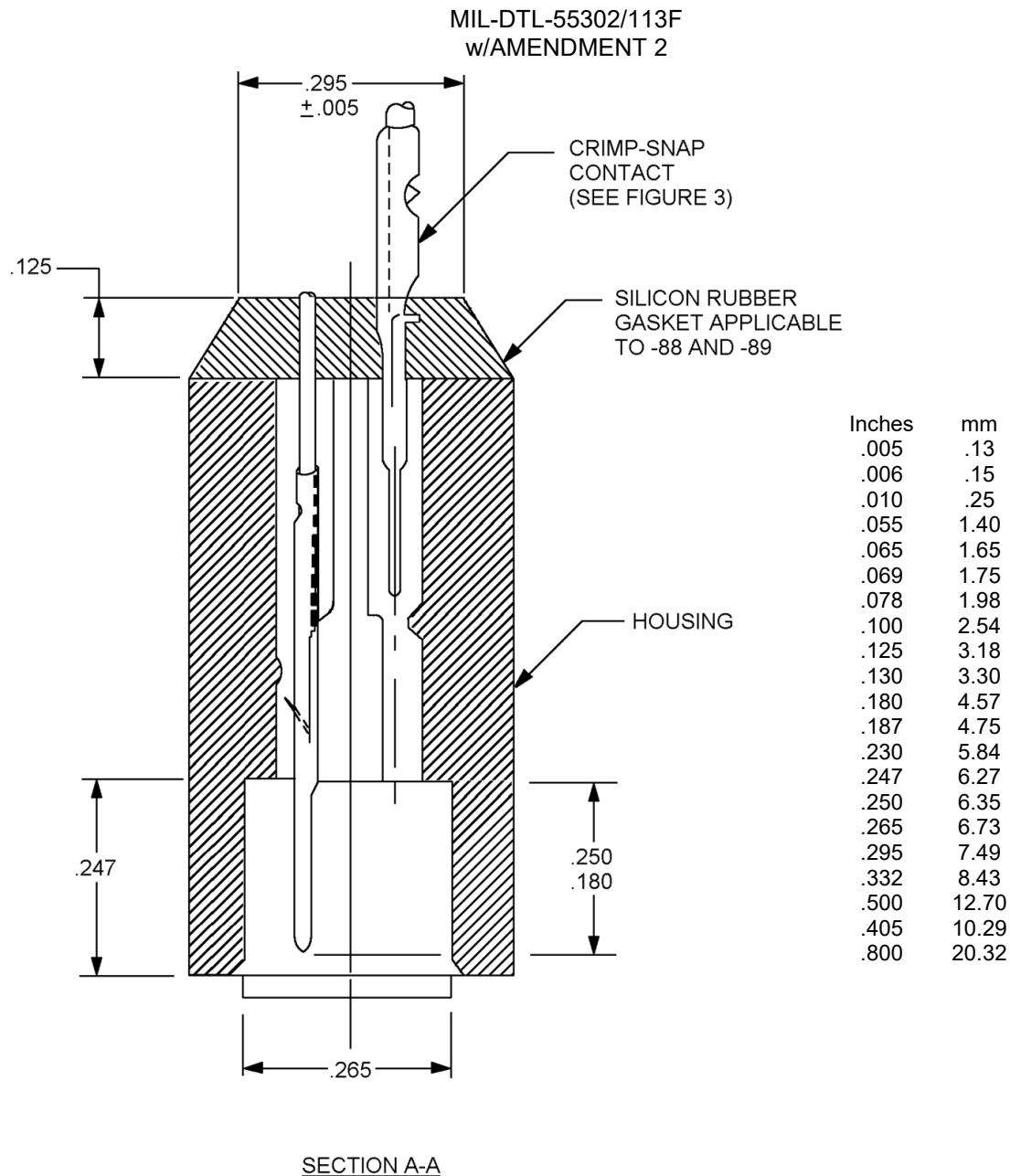


FIGURE 1. Connectors, housing, plug, .100 (2.54 mm) square grid - Continued.

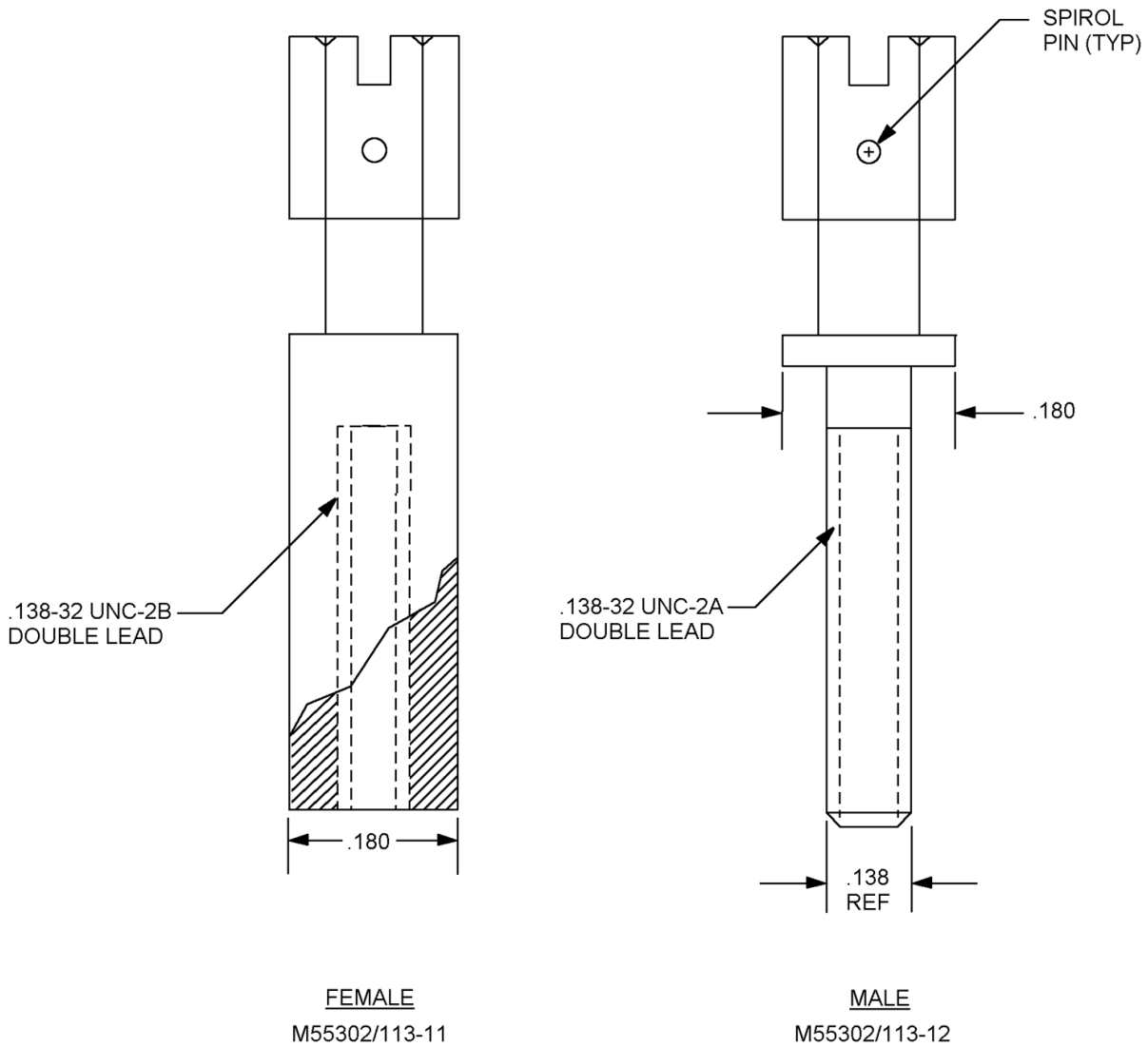


NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are $\pm .005$ (0.13 mm) on three place decimals.
4. These connectors mate with connectors specified in MIL-DTL-55302/27.
5. Numbers indicating end cavities and lines indicating every fifth cavity are stamped on housing.

FIGURE 1. Connectors, housing, plug, .100 (2.54 mm) square grid - Continued.

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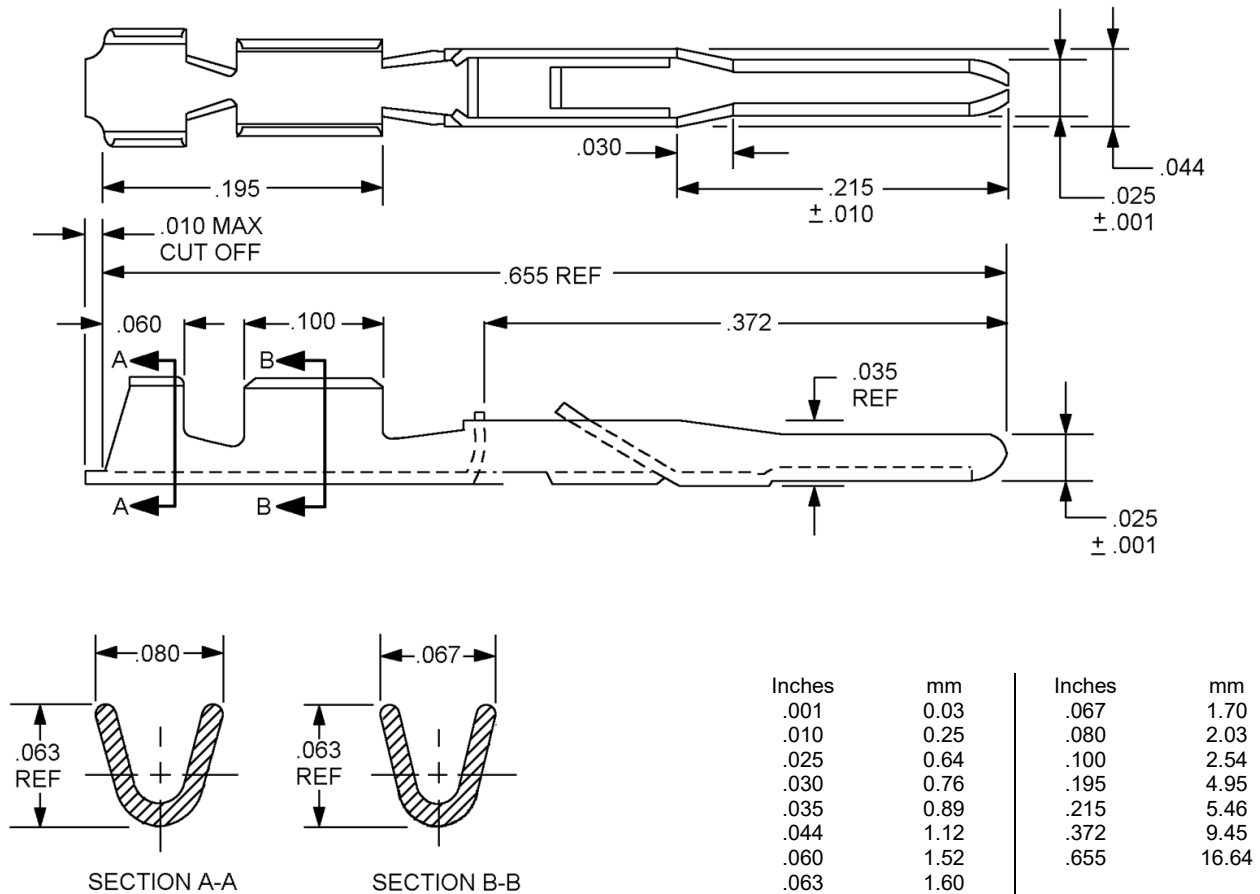
Inches	mm
.138	3.51
.180	4.57

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are $\pm .005$ (0.13 mm) on three place decimals.

FIGURE 2. Turnable jackscrews.

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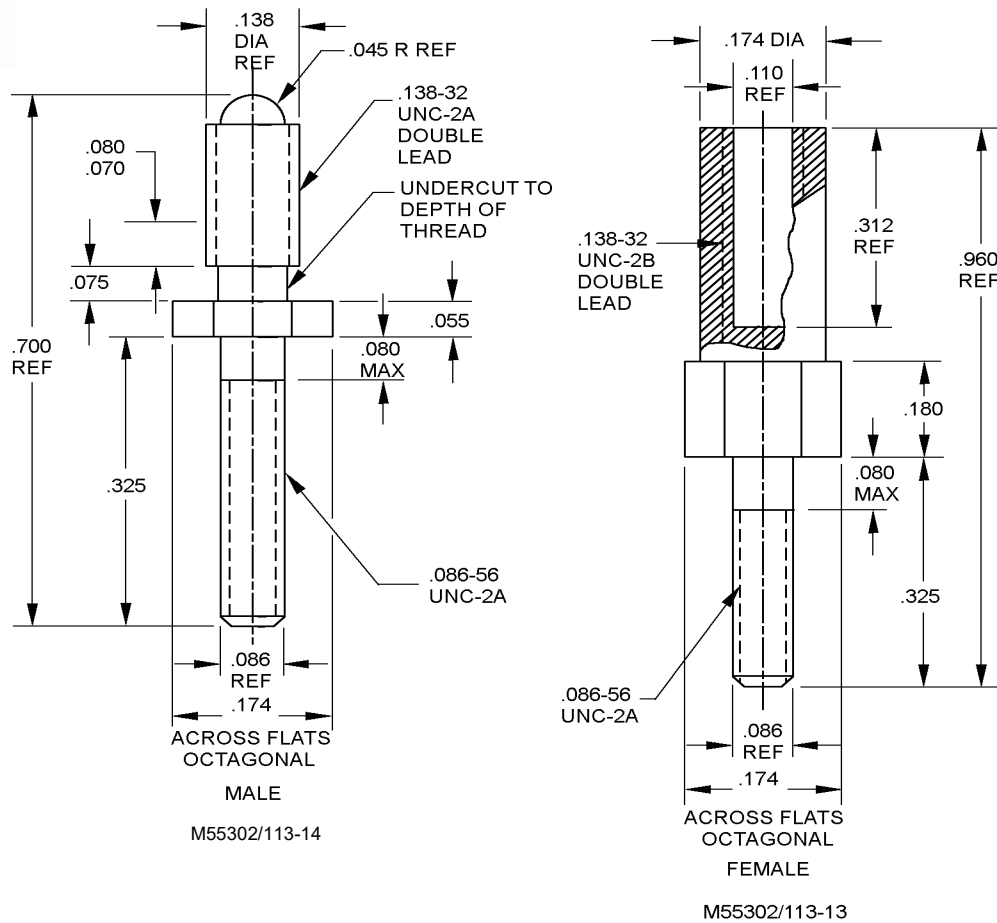


NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are $\pm .005$ (0.13 mm) on decimals.
4. Contact crimp for use with (AWG) wire range no. 22 to no. 26, insulation range .036 (0.91 mm) to .054 (1.37 mm).
5. Contact supplied loose piece, unless otherwise specified, PIN M55302/113-05. Contacts may be supplied on reel for PIN M55302/113-06.

FIGURE 3. Pin, contact, crimp-snap.

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Inches	mm	Inches	mm
.045	1.14	.138	3.51
.055	1.40	.174	4.42
.070	1.78	.180	4.57
.075	1.91	.312	7.92
.080	2.03	.325	8.26
.086	2.18	.700	17.78
.110	2.79	.960	24.38

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are ± 0.005 (0.13 mm) on decimals.
4. This connector mates with the external key type connectors specified in MIL-DTL-55302/27 and is equipped with mounting hardware, male or female (see table III).

FIGURE 4. Mounting hardware.

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REQUIREMENTS:

Design and construction:

Dimensions and configuration: See figures 1 through 4 and tables I, II and III.

Material:

Insulator body: Insulator material shall be in accordance with MIL-DTL-55302 or type GLCP-30F in accordance with ASTM D5138 or MIL-M-24519.

Gasket: Silicon rubber.

Jackscrews and mounting hardware: Stainless steel in accordance with MIL-DTL-55302, passivated in accordance with SAE-AMS2700.

Contact material: Contact material shall be in accordance with MIL-DTL-55302 or beryllium copper alloy C17400 in accordance with ASTM B768.

Plating: Contact and their terminations, shall be gold in accordance with MIL-DTL-55302 over nickel in accordance with MIL-DTL-55302

Keying: See table II.

Crimp tool:

Amp hand tool PIN 90346-1, or approved equivalent. For use with M55302/113-05 contacts.

Amp hand tool PIN 466625-3, or approved equivalent. For use with M55302/113-06 contacts.

Contact identification: See figure 1.

Mating and unmating: The maximum mating force in pounds shall not exceed a value equal to 0.25 times the number of contacts, and the withdrawal force, in pounds, shall be a minimum of 0.025 times the number of contacts and shall not exceed the measured insertion force, when the housing is loaded with contacts and mate with connector specified in MIL-DTL-55302/27.

Current rating:

3.0 amperes maximum per contact.

2.25 amperes continuous per contact at 75° F.

Keying: See MIL-DTL-55302/31.

Contact resistance: No individual contact pair shall have a resistance exceeding .020 ohm.

Contact retention: 3 pounds minimum.

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Dielectric withstanding voltage:

Sea level: 900 volts rms.

High altitude: 200 volts rms.

Part or Identifying Number (PIN): M55302/113-(dash number from table I, II, and III).

TABLE I. Housing dash numbers (without hardware), contact positions and dimensions.

Dash numbers	Number of contacts	Contact identification numbers	Dimensions				
			A	B	C	D	E
15	30	1 - 15 16 - 30	2.355 (59.82)	2.065 (52.45)	14	1.400 (35.56)	N/A
16	40	1 - 20 21 - 40	2.855 (72.52)	2.565 (65.15)	19	1.900 (48.26)	N/A
17	50	1 - 25 26 - 50	3.355 (85.22)	3.065 (77.85)	24	2.400 (60.96)	N/A
18	60	1 - 30 31 - 60	3.855 (97.92)	3.565 (90.55)	29	2.900 (73.66)	N/A
19	70	1 - 35 36 - 70	4.355 (110.62)	4.065 (103.25)	34	3.400 (86.36)	N/A
20	80	1 - 40 41 - 80	4.355 (110.62)	4.565 (115.95)	39	3.900 (99.06)	N/A
21	90	1 - 45 46 - 90	5.355 (136.02)	5.065 (128.65)	44	4.400 (111.76)	N/A
22	100	1 - 50 51 - 100	5.855 (148.72)	5.565 (141.35)	49	4.900 (124.46)	N/A
23	110	1 - 55 56 - 110	6.355 (161.42)	6.065 (154.05)	54	5.400 (137.16)	N/A
88	70	1 - 35 36 - 70	4.355 (110.62)	4.065 (103.25)	34	3.400 (86.36)	3.600 REF (91.44)
89	110	1 - 55 56 - 110	6.355 (161.42)	6.065 (154.05)	54	5.400 (137.16)	5.600 REF (142.24)

1/ Dimensions are inches.

2/ Metric equivalents in parentheses are given for information only.

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TABLE II. Dash numbers for pin header housing assembly. ^{1/}

Assembly dash number	Housing PIN	Keying jackscrews	
		Groove end	Torque end
-07	19	-11	-11
-08		-11	-11
-09		-12	-12
-10		-12	-12
-28	15	-11	-11
-29		-11	-11
-30		-12	-12
-31		-12	-12
-36	16	-11	-11
-37		-11	-11
-38		-12	-12
-39		-12	-12
-44	17	-11	-11
-45		-11	-11
-46		-12	-12
-47		-12	-12
-52	18	-11	-11
-53		-11	-11
-54		-12	-12
-55		-12	-12
-60	20	-11	-11
-61		-11	-11
-62		-12	-12
-63		-12	-12
-68	21	-11	-11
-69		-11	-11
-70		-12	-12
-71		-12	-12
-76	22	-11	-11
-77		-11	-11
-78		-12	-12
-79		-12	-12
-84	23	-11	-11
-85		-11	-11
-86		-12	-12
-87		-12	-12
-90	88	-11	-11
-91		-11	-11
-92		-12	-12
-93		-12	-12
-94	89	-11	-11
-95		-11	-11
-96		-12	-12
-97		-12	-12

^{1/} Pin header housing assembly consists of housing with jackscrews installed.

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TABLE III. Dash number for connector kits and component parts. ^{1/}

Kit dash number	Assembly pin header housing (see table II)	Hardware, receptacle mounting (see figure 4)			Contacts (loose piece) ^{2/}
		-14	-13	2-56 nut	
-01	-07	2	0	2	70
-02	-08	1	1		
-03	-09	1	1		
-04	-10	0	2		
-24	-28	2	0	2	30
-25	-29	1	1		
-26	-30	1	1		
-27	-31	0	2		
-32	-36	2	0	2	40
-33	-37	1	1		
-34	-38	1	1		
-35	-39	0	2		
-40	-44	2	0	2	50
-41	-45	1	1		
-42	-46	1	1		
-43	-47	0	2		
-48	-52	2	0	2	60
-49	-53	1	1		
-50	-54	1	1		
-51	-55	0	2		
-56	-60	2	0	2	80
-57	-61	1	1		
-58	-62	1	1		
-59	-63	0	2		
-64	-68	2	0	2	90
-65	-69	1	1		
-66	-70	1	1		
-67	-71	0	2		
-72	-76	2	0	2	100
-73	-77	1	1		
-74	-78	1	1		
-75	-79	0	2		
-80	-84	2	0	2	110
-81	-85	1	1		
-82	-86	1	1		
-83	-87	0	2		
-98	-90	2	0	2	70
-99	-91	1	1		
-100	-92	1	1		
-101	-93	0	2		
-102	-94	2	0	2	110
-103	-95	1	1		
-104	-96	1	1		
-105	-97	0	2		

^{1/} Component parts may be ordered separately.

^{2/} 06 contacts are supplied in reel form.

^{3/} Contacts shipped loose in a plastic bag, unless otherwise specified.

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Amendment notations. The margins of this specification are marked with vertical lines to indicate where modifications from this amendment 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.

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

MIL-DTL-55302/27
MIL-DTL-55302/31
MIL-M-24519
ASTM B768
ASTM D5138
SAE-AMS2700

CONCLUDING MATERIAL

Custodians:
Air Force - 85
DLA - CC

Preparing activity:
DLA - CC

(Project 5935-2020-096)

Review activities:
Air Force - 19

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>.