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IN REPLY

REFER TO DSCC -VAI (Mr. Antonelli/ (DSN 850) 614-692-0576/ra)

May 10, 2004

SUBJECT: Initial Drafts of MIL-DTL-55302/102E, /110H, /111B, /113F, Connectors, Printed Circuit Subassembly and Accessories, Plug and Receptacle, Various, for Printed Wiring Boards (.100 inch spacing), Project number 5935-4504-000, -4447-000, -4448-000 and -4449-000

Military/Industry Distribution

The initial drafts for the subject documents, which are being revised for conversion to detail status in accordance with acquisition reform and to replace obsolete references, have been placed on the DSCC-VAI website for you to review and comment. The website address is;
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If you do not have access to the world wide web or you have problems downloading this document, please notify Mr. Ralph Antonelli at either the above e-mail address or fax number or by telephone at (614) 692-0576.

Sincerely,

/ signed /

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Chief
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AF -11 (Jim Arnold - 88 OSS/OSE)

INCH-POUND

MIL-DTL-55302/113F
 DRAFT
 SUPERSEDING
 MIL-C-55302/113E
 6 May 1993

DETAIL SPECIFICATION SHEET

CONNECTORS, PRINTED CIRCUIT SUBASSEMBLY AND ACCESSORIES:
 PLUG, STRAIGHT-THRU, 30 thru 140 CONTACT POSITIONS,
 CRIMP REMOVABLE CONTACTS (.100 SQ. GRID)

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 and MIL-DTL-55302.

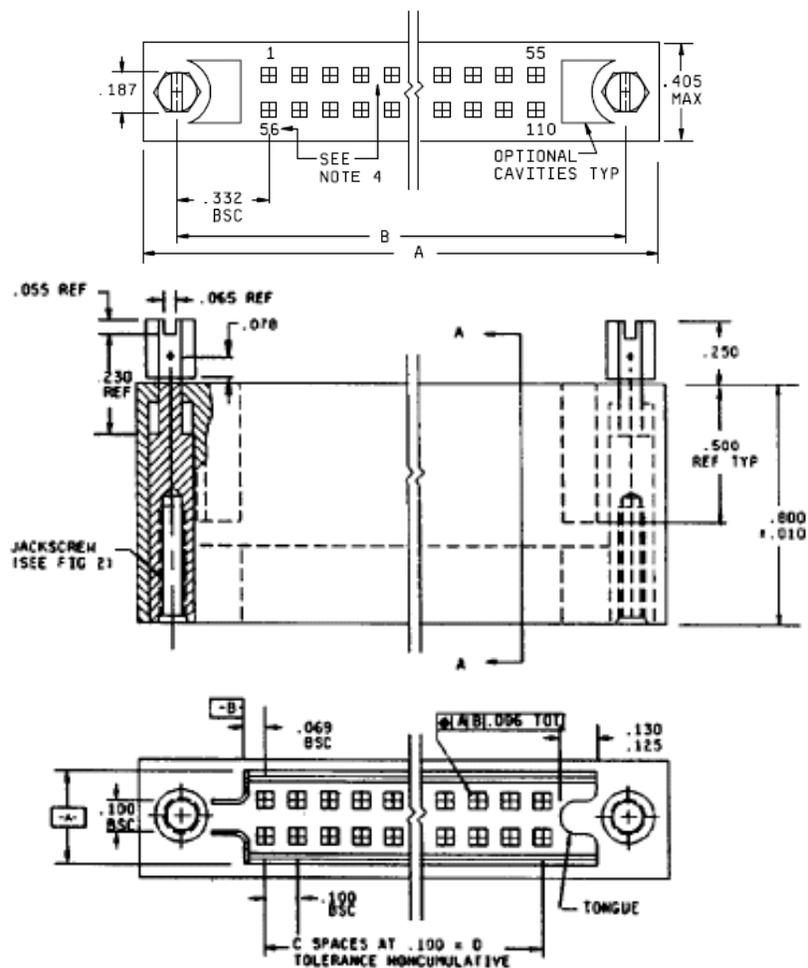


FIGURE 1. Connectors, housing, plug, .100 (2.54 mm) square grid.

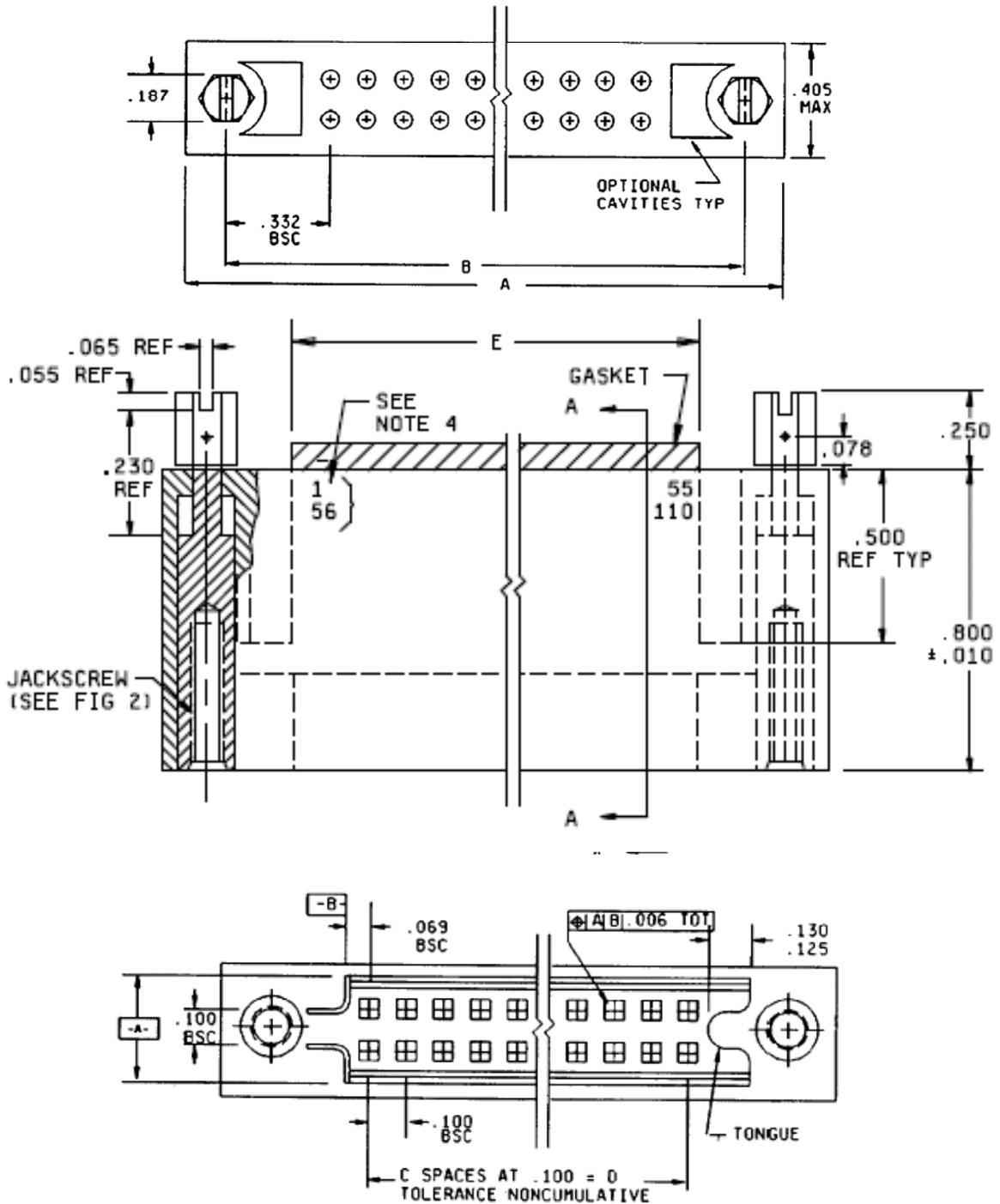
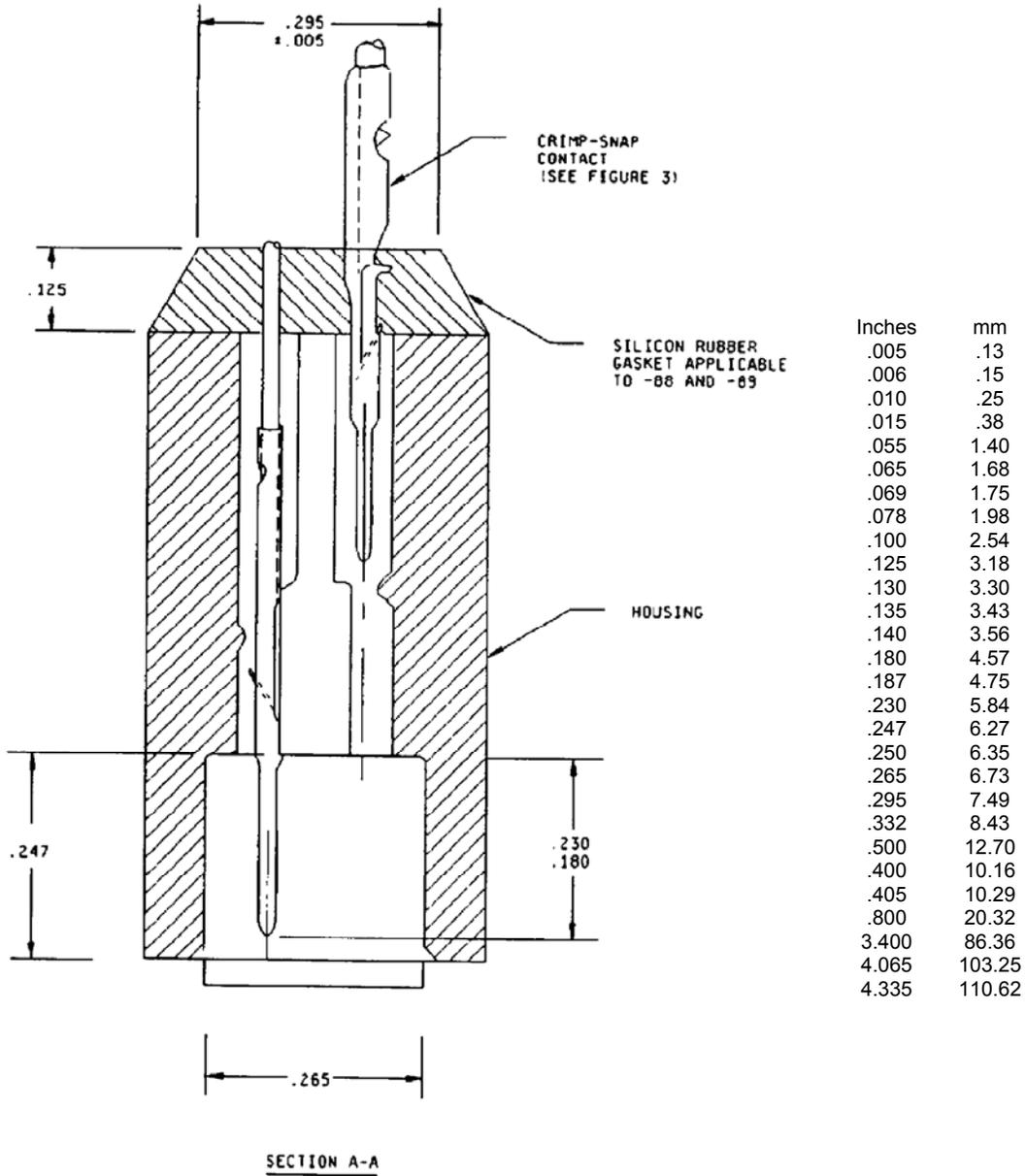


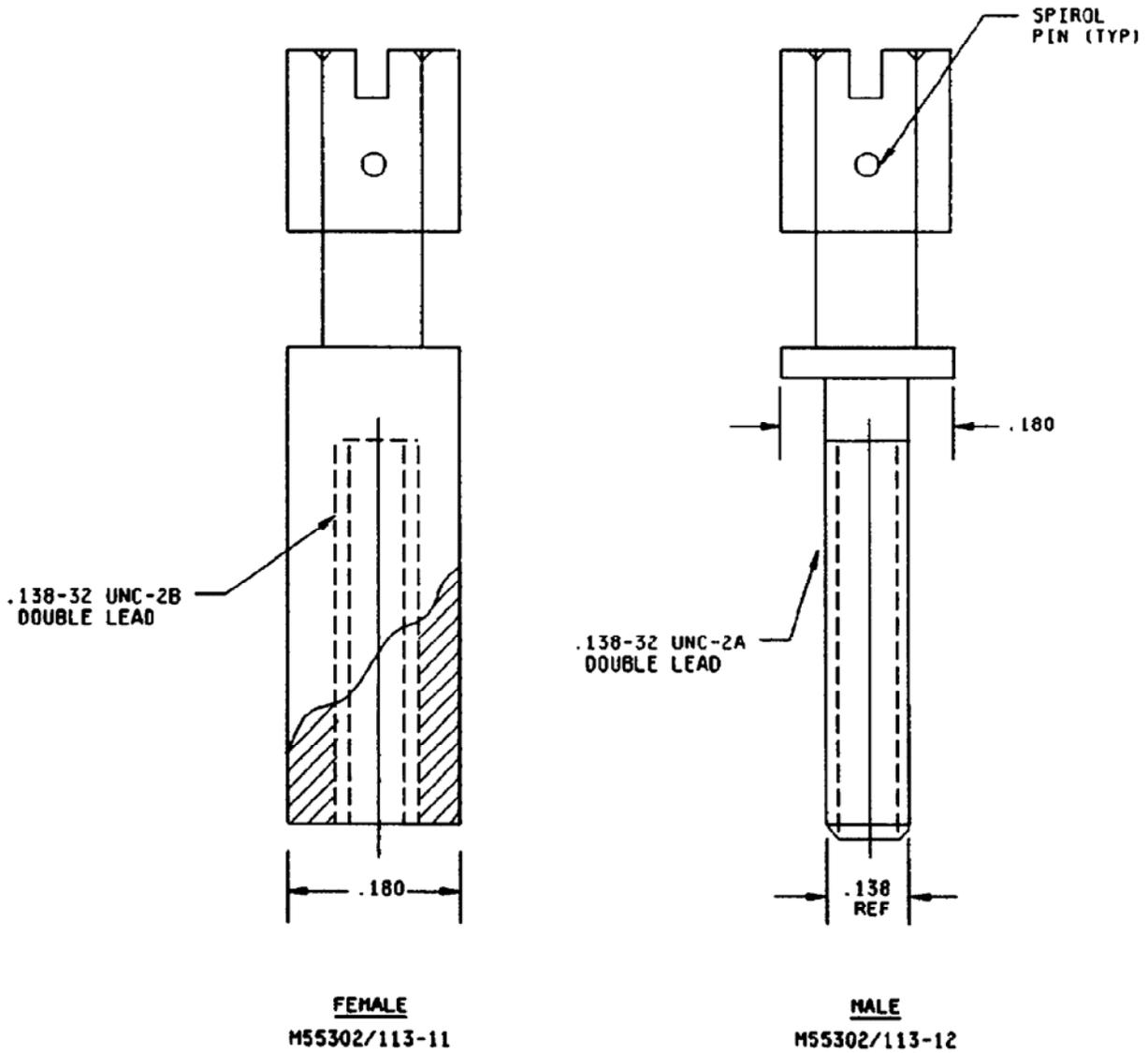
FIGURE 1. Connectors, housing, plug, $.100$ (2.54 mm) square grid - Continued.



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are ± 0.005 (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.



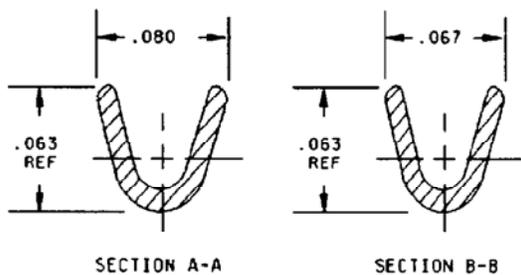
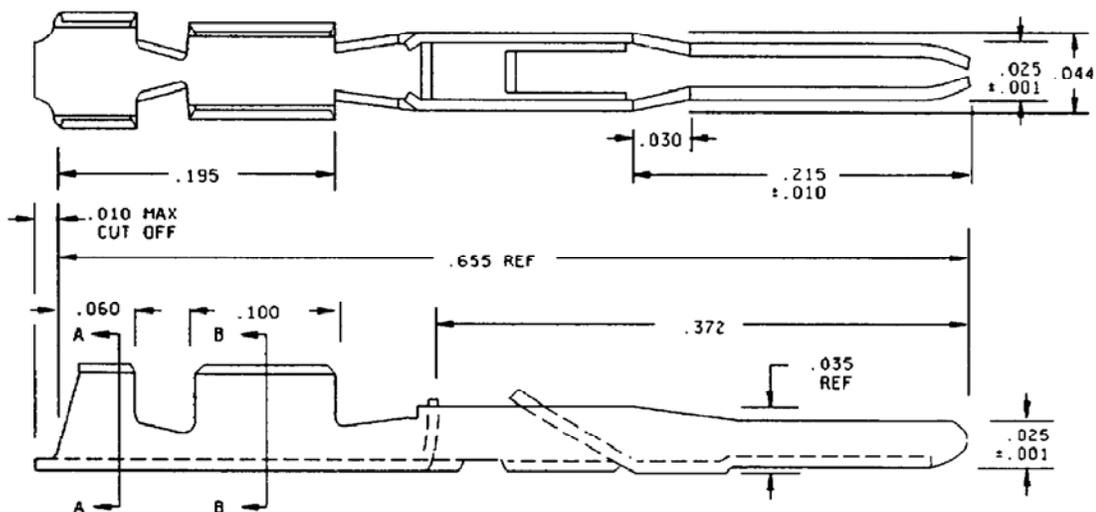
| Inches | mm |
|--------|------|
| .138 | 3.51 |
| .180 | 4.57 |

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are ± 0.005 (0.13 mm) on three place decimals.

FIGURE 2. Turnable jackscrews.

MIL-DTL-55302/113F

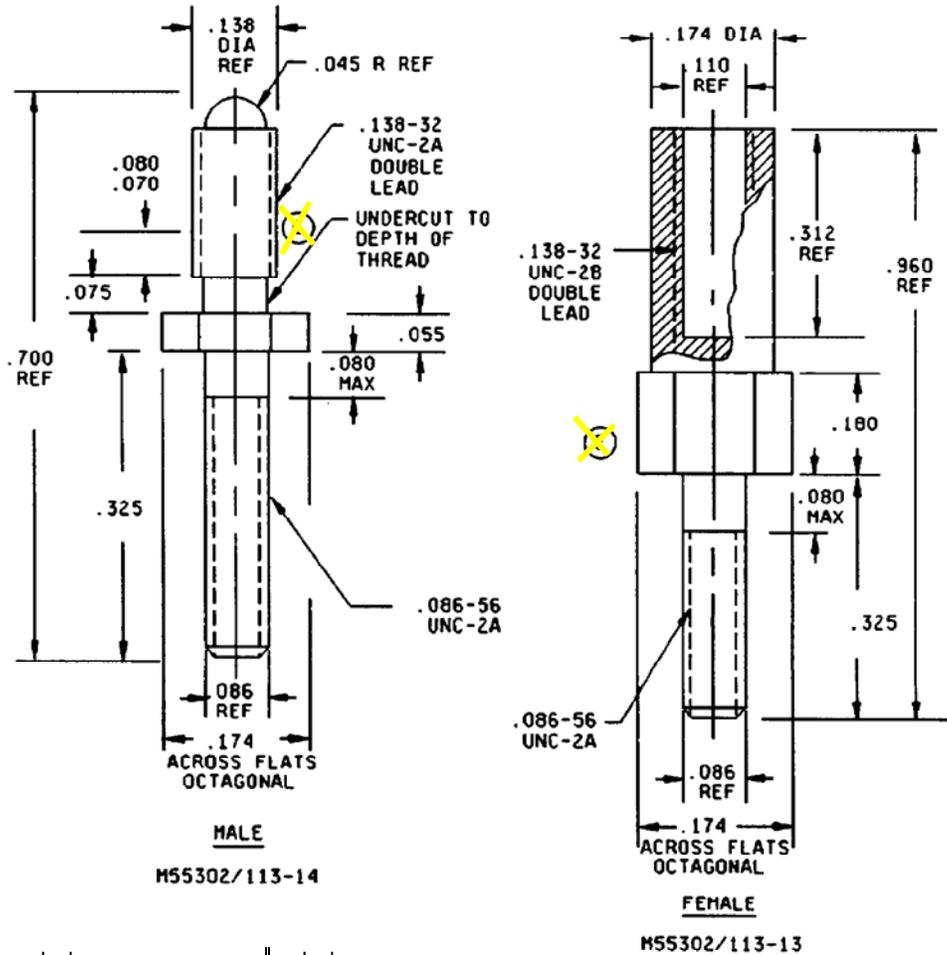


| Inches | mm | Inches | mm |
|--------|------|--------|-------|
| .001 | 0.03 | .067 | 1.70 |
| .010 | 0.25 | .080 | 2.03 |
| .025 | 0.64 | .100 | 2.54 |
| .030 | 0.76 | .195 | 4.95 |
| .035 | 0.89 | .215 | 5.46 |
| .044 | 1.12 | .372 | 9.45 |
| .060 | 1.52 | .655 | 16.61 |
| .063 | 1.60 | | |

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 fore PIN M55302/113-06.

FIGURE 3. Pin, contact, crimp-snap.



| 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 | .375 | 9.52 |
| .110 | 2.79 | .700 | 17.78 |
| .135 | 3.43 | .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 II).

FIGURE 4. Mounting hardware for MIL-DTL-55302/27.

MIL-DTL-55302/113F

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-AMS-QQ-P-35.

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 mated 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.

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).

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

| Dash 1/ number s | 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) |

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.

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) <u>2/</u> |
|-----------------|--|--|-----|----------|----------------------------------|
| | | 14 | -13 | 2-56 nut | -05 <u>3/</u> |
| -01 | -7 | 2 | 0 | 2 | 70 |
| -02 | -8 | 1 | 1 | | |
| -03 | -9 | 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.

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 specification sheet references the following documents.

MIL-DTL-55302/27
MIL-DTL-55302/31
MIL-M-24519
ASTM B768
ASTM D5138
SAE-AMS-QQ-P-35

CONCLUDING MATERIAL

Custodians:
Air Force - 11
DLA - CC

Preparing activity:
DLA - CC
(Project 5935-4449-000)

Review activities:
Air Force - 19, 99

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 www.dodssp.daps.mil.

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