

INCH-POUND

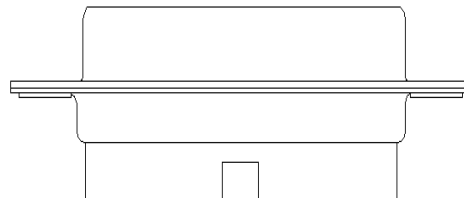
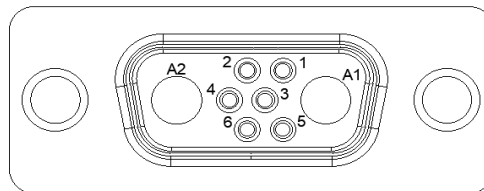
MIL-DTL-24308/42  
12 January 2021

## DETAIL SPECIFICATION SHEET

CONNECTORS, ELECTRIC, RECTANGULAR, MINIATURE,  
COMBINATION INSERT ARRANGEMENT, RECEPTACLE, SOCKET CONTACTS, SHELL SIZE 1, 2, 4,  
SIZE 22 SIGNAL CONTACTS, SIZE 8 AND 16 POWER AND SHIELDED,  
CLASS G, M, N AND D, CRIMP TYPE

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-24308.



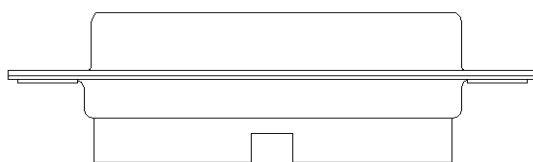
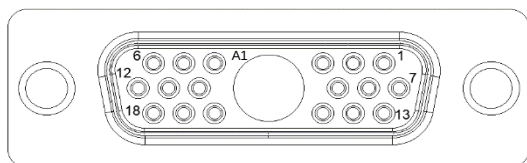
8W2  
Shell size 1

FIGURE 1. Shell size 1, 2, 4

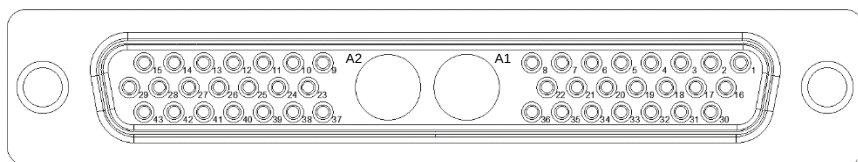
AMSC N/A

FSC 5935



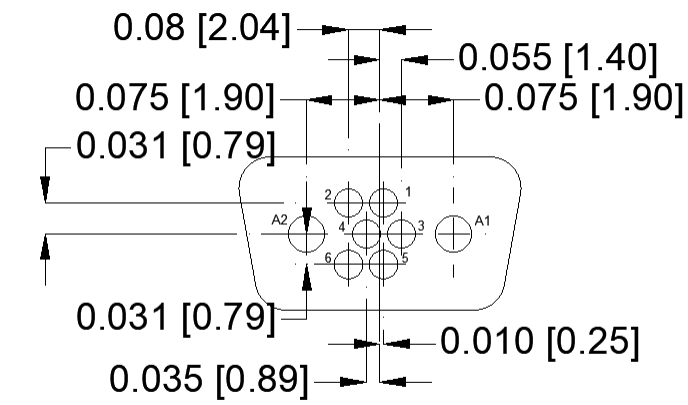


19W2  
Shell size 2

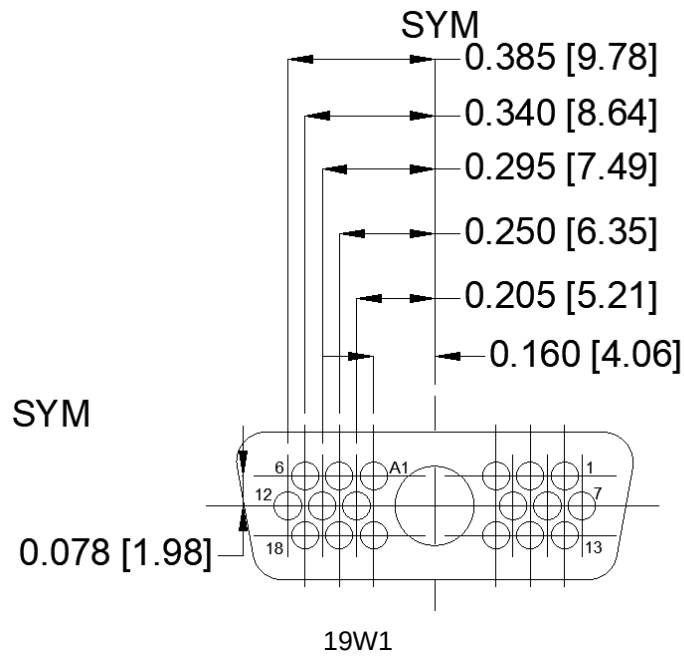


45W2  
Shell size 4

FIGURE 1. Shell size 1, 2, 4 – Continued.

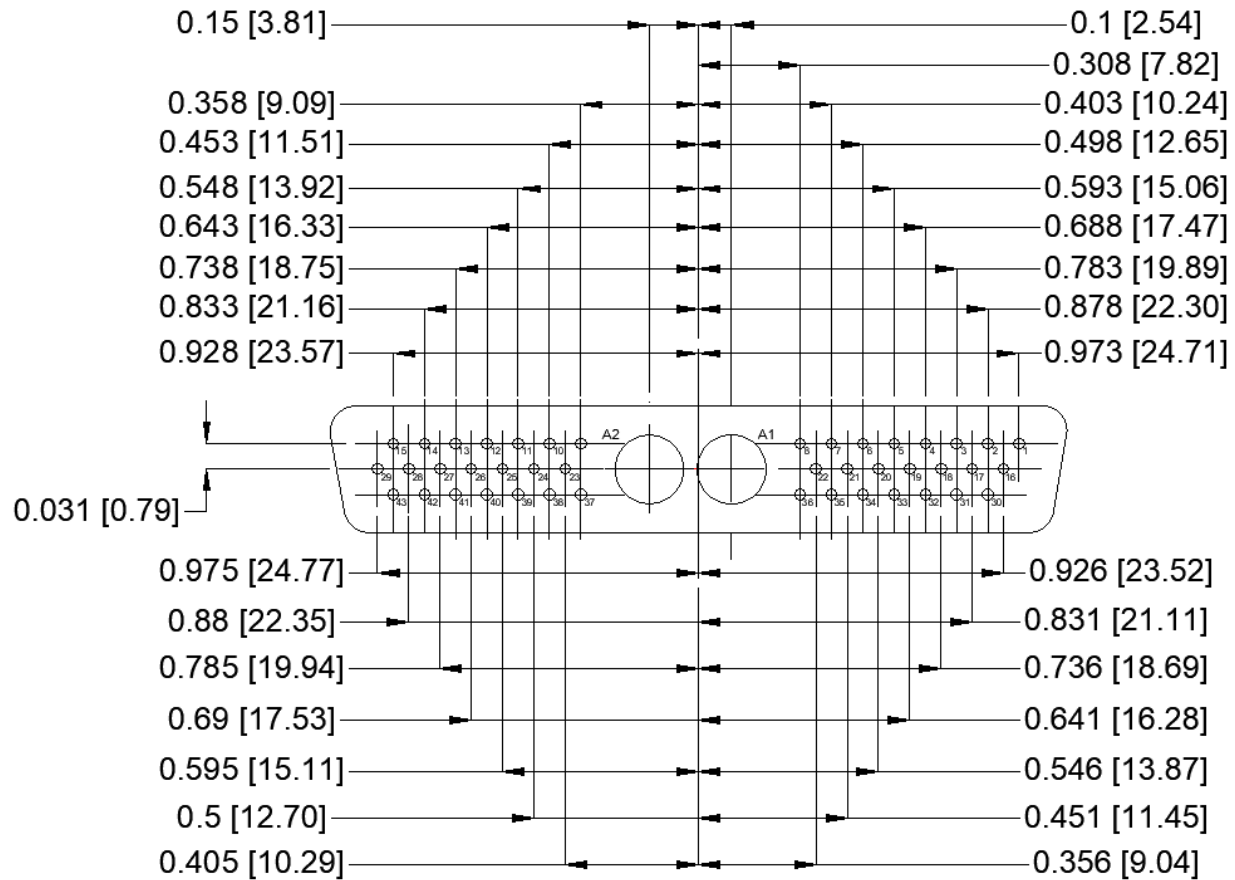


8W2



19W1

FIGURE 2. Insert arrangements, shell size 1, 2, 4 socket contacts.



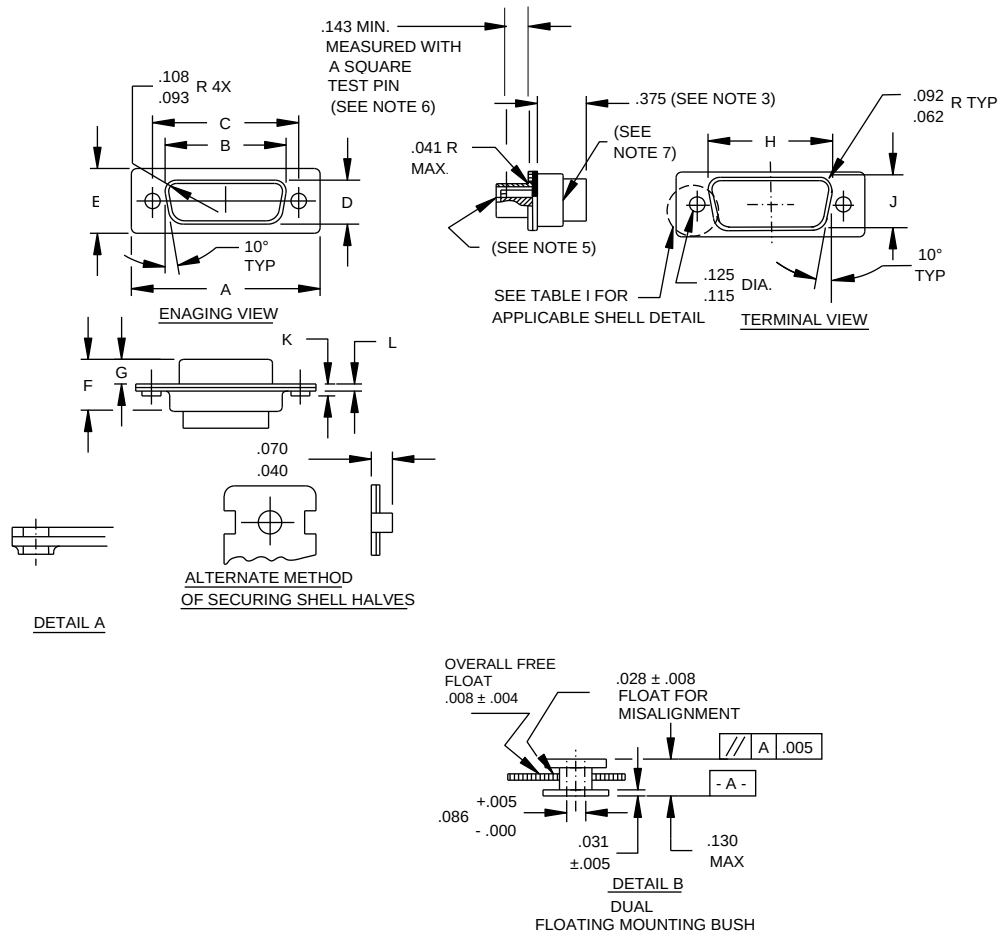
45W2

## NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerance for three place decimals is  $\pm 0.005$  inch (0.13 mm).

FIGURE 2. Insert arrangements, shell size 1, 2, 4 socket contacts – Continued.

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| Inches | mm   | Inches | mm   | Inches | mm   |
|--------|------|--------|------|--------|------|
| .004   | 0.10 | .041   | 1.04 | .120   | 3.05 |
| .005   | 0.13 | .062   | 1.57 | .125   | 3.18 |
| .008   | 0.20 | .070   | 1.78 | .129   | 3.28 |
| .010   | 0.25 | .086   | 2.18 | .143   | 3.63 |
| .030   | 0.76 | .092   | 2.34 | .375   | 9.53 |
| .031   | 0.79 | .103   | 2.62 |        |      |
| .040   | 1.02 | .115   | 2.92 |        |      |

FIGURE 3. Shell, receptacle, crimp type.

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| Detail<br>(See figure 3) | Shell<br>size | Dimensions                                                         |         |         |         |         |         |        |         |         |        |        |
|--------------------------|---------------|--------------------------------------------------------------------|---------|---------|---------|---------|---------|--------|---------|---------|--------|--------|
|                          |               | A                                                                  | B       | C       | D       | E       | F       | G      | H       | J       | K      | L      |
| A                        | 1             | 1.228                                                              | .648    | .989    | .316    | .509    | .439    | .248   | .769    | .432    | .060   | .040   |
|                          |               | (31.19)                                                            | (16.46) | (25.12) | ( 8.03) | (12.93) | (11.15) | (6.30) | (19.53) | (10.97) | (1.52) | (1.02) |
|                          |               | 1.198                                                              | .638    | .979    | .306    | .479    | .419    | .238   | .749    | .412    | .035   | .020   |
|                          |               | (30.43)                                                            | (16.21) | (24.87) | ( 7.77) | (12.17) | (10.64) | (6.05) | (19.02) | (10.46) | (.89)  | (.51)  |
|                          | 2             | 1.556                                                              | .976    | 1.317   | .316    | .509    | .439    | .248   | 1.093   | .432    | .060   | .040   |
|                          |               | (39.52)                                                            | (24.79) | (33.45) | ( 8.03) | (12.93) | (11.15) | (6.30) | (27.76) | (10.97) | (1.52) | (1.02) |
|                          |               | 1.526                                                              | .966    | 1.307   | .306    | .479    | .419    | .238   | 1.073   | .412    | .035   | .020   |
|                          |               | (38.76)                                                            | (24.54) | (33.20) | ( 7.77) | (12.17) | (10.64) | (6.05) | (27.25) | (10.46) | (.89)  | (.51)  |
|                          | 4             | 2.744                                                              | 2.164   | 2.505   | .316    | .509    | .439    | .248   | 2.282   | .432    | .060   | .049   |
|                          |               | (69.70)                                                            | (54.97) | (63.63) | ( 8.03) | (12.93) | (11.15) | (6.30) | (57.96) | (10.97) | (1.52) | (1.24) |
|                          |               | 2.714                                                              | 2.154   | 2.495   | .306    | .479    | .419    | .238   | 2.262   | .412    | .035   | .029   |
|                          |               | (68.94)                                                            | (54.71) | (63.37) | ( 7.77) | (12.17) | (10.64) | (6.05) | (57.45) | (10.46) | (.89)  | (.74)  |
| B                        | 1             | Same as detail A, shell size 1 except in accordance with detail B. |         |         |         |         |         |        |         |         |        |        |
|                          | 2             | Same as detail A, shell size 2 except in accordance with detail B. |         |         |         |         |         |        |         |         |        |        |
|                          | 4             | Same as detail A, shell size 4 except in accordance with detail B. |         |         |         |         |         |        |         |         |        |        |

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Insulator may project .375 (9.53mm) maximum.
4. Wire insulation .054 (1.37mm) maximum.
5. Pin diameter. Use .030 (.76mm) diameter.
6. Pin diameter. Use .0305/.0295 (.77/.75mm) diameter.
7. Indentation on the ends of the termination side of the shell, for the purpose of securing the insulator in the shell, is permitted. This may result in the "F" dimension being undersized in these areas. However, the "F" dimension shall be maintained for the remainder of the connector.

FIGURE 3. Shell, receptacle, crimp type – Continued.

REQUIREMENTS:

Dimensions and configurations:

Insert arrangements shall be in accordance with figure 2.

Shell configuration shall be in accordance with figure 3.

Materials and finishes:

Finish in accordance with MIL-DTL-24308.

Electrical:

Contacts shall meet the requirements of MIL-DTL-24308 and SAE AS39029 requirements.

Size 22 signal contacts: SAE AS39029/57

Size 8 power contacts: DLA Land and Maritime drawing 89059

Size 16 power contacts: the manufacture shall provide dimension and tooling requirements.

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TABLE I. PIN and dash numbers. 1/

| Part Identifying Number PIN | Insert arrangement (See figure 2) | Shell detail (see figure 3) |
|-----------------------------|-----------------------------------|-----------------------------|
| M24308/42-01                | 8W2                               | A                           |
| M24308/42-02                |                                   | B                           |
| M24308/42-05                | 19W1                              | A                           |
| M24308/42-06                |                                   | B                           |
| M24308/42-13                | 45W2                              | A                           |
| M24308/42-14                |                                   | B                           |

1/ The connector mates with MIL-DTL-24308/41.

TABLE II. Contacts supplied.

| Part Identifying Number PIN | Insert arrangement (See figure 2) | Signal Contact Size | Power Contact Size |
|-----------------------------|-----------------------------------|---------------------|--------------------|
| 1                           | 8W2                               | 22                  | 16                 |
| 2                           |                                   | 22                  | -                  |
| 3                           |                                   | -                   | 16                 |
| 4                           | 19W1                              | 22                  | 8                  |
| 5                           |                                   | 22                  | -                  |
| 6                           |                                   | -                   | 8                  |
| 7                           | 45W2                              | 22                  | 8                  |
| 8                           |                                   | 22                  | -                  |
| 9                           |                                   | -                   | 8                  |

Table III. Contacts - Tools

| Contact PIN                              | Contact Size <u>1/</u> | Hand Crimp Tool (Dies) <u>2/</u>                                                         | Positioner                 | Insertion Tool <u>3/</u> | Removal Tool <u>3/</u> |
|------------------------------------------|------------------------|------------------------------------------------------------------------------------------|----------------------------|--------------------------|------------------------|
| M39029/57-354<br>M39029/57-982           | 22                     | M22520/2-01<br>M22520/7-01                                                               | M22520/2-06<br>M22520/7-06 | M81969/14-01             | M81969/14-01           |
| 89059-A<br>89059-B<br>89059-C<br>89059-D | 8                      | M22520/5-03 (Hex B)<br>M22520/5-03 (Hex A)<br>M22520/5-05 (Hex B)<br>M22520/5-03 (Hex A) | NA                         | NA                       | M81969/14-06           |

Note:

1/ Size 16 size contact: the manufacture shall provide the require tooling information.

2/ Hand crimp tools: SAE AS22520/2, SAE AS22520/5, and SAE AS22520/7.

3/ Insertion and removal tools: SAE AS81969/14

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PIN: Consists of the letter M, the basic number of the specification sheet, and a dash number compiled from the code.

PIN example:                      M24308/42                      -01                      F                      G                      1

Specification sheet number: \_\_\_\_\_

Dash number from table I: \_\_\_\_\_

Finish: \_\_\_\_\_

A = Pure electrodeposited aluminum. 1/  
 F = Cadmium. 1/, 5/  
 K = Zinc nickel. 1/ 2/  
 P = Passivated stainless steel. 1/  
 T = Nickel Fluorocarbon Polymer. 1/ 2/  
 Z = zinc. 1/  
 - = nickel 3/ or gold 4/

Class: \_\_\_\_\_

G, N, D or M (See MIL-DTL-24308)

See Table II: \_\_\_\_\_

No contacts. Order separately. 6/

## NOTES:

- 1/ Finish for class G or N.
- 2/ Not for use with class N or M
- 3/ Finish for class D.
- 4/ Finish for class M.
- 5/ Cadmium finish may have a chromate conversion coating or chromic acid rinse which includes hexavalent chromium and are not recommended for Army ground systems.
- 6/ Enter 0 for no contacts.

Referenced documents. In addition to MIL-DTL-24308, this document references the following:

MIL-DTL-24308/41  
 89059 DLA Land and Maritime Drawing  
 SAE AS39029  
 SAE AS39029/57  
 SAE AS22520/2  
 SAE AS22520/5  
 SAE AS22520/7  
 SAE AS81969/14

CONCLUDING MATERIAL

Custodians:

Army - CR  
Navy - EC  
Air Force – 85  
NASA - NA  
DLA - CC

Preparing activity:

DLA - CC

(Project: 5935-2021-004)

Review activities:

Army - AT, CR4, MI  
Navy - AS, CG, MC, SH  
MISC - MDA

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/>.