

MIL-DTL-83413/6C  
w/AMENDMENT 4  
21 May 2024  
SUPERSEDING  
MIL-DTL-83413/6C  
w/AMENDMENT 3  
29 May 2019

# DETAIL SPECIFICATION SHEET

## CONNECTORS AND ASSEMBLIES, ELECTRICAL, AIRCRAFT GROUNDING: RECEPTACLES, TWO PIECE, WITH INSERTS AND HOUSINGS

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-83413.

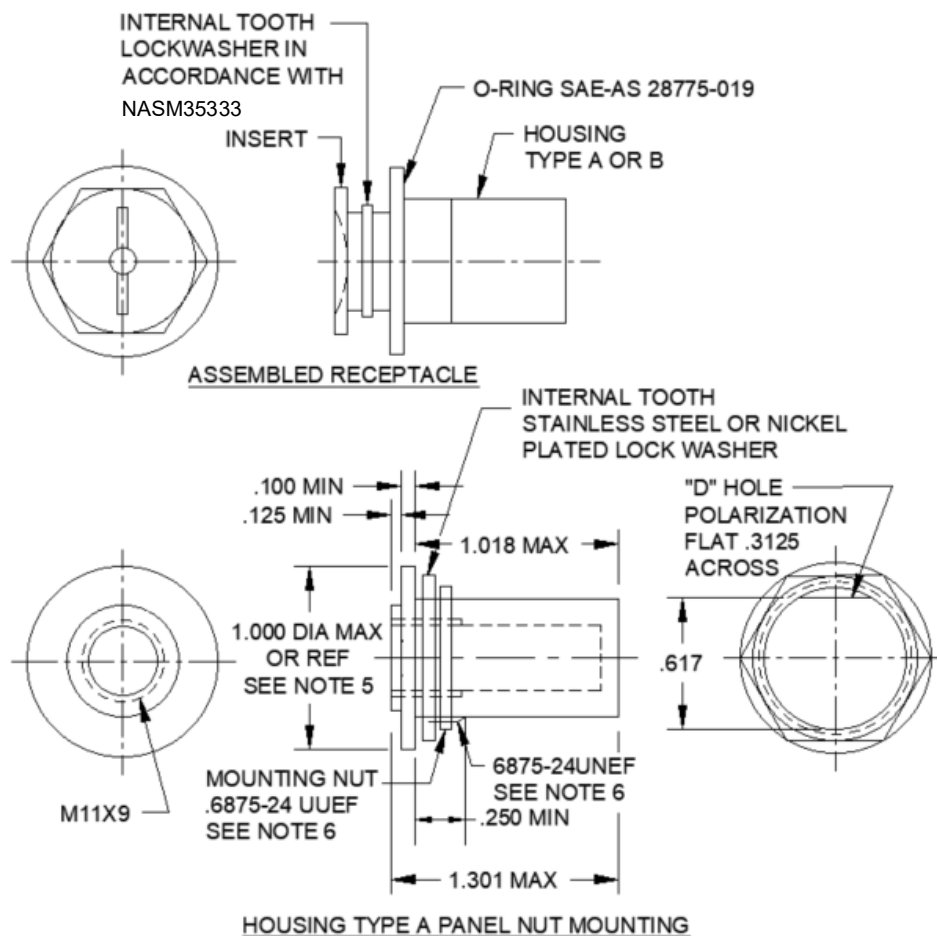
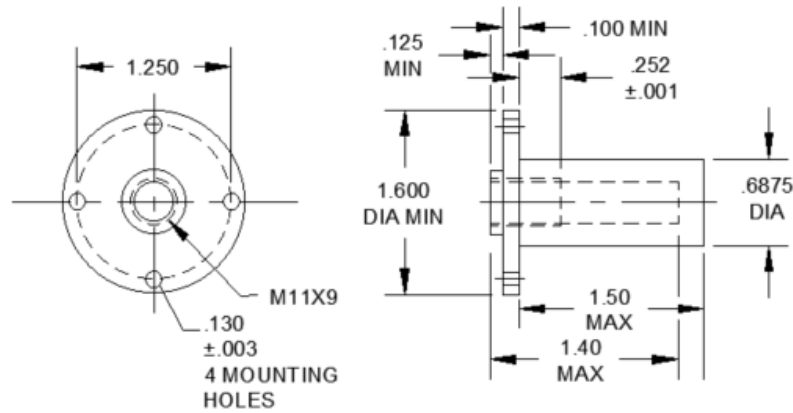
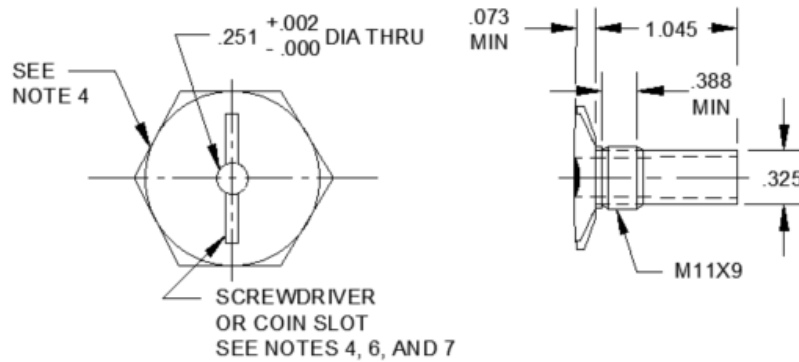


FIGURE 1. Grounding receptacle.



### HOUSING TYPE B RIVET MOUNTING



### INSERT DETENT

### HOUSING TYPE B COUPLING NUT MOUNTING

#### NOTES:

1. Unless otherwise specified, tolerance is  $\pm .005$  for three place decimals and  $\pm .0010$  for four places decimals.
2. When hex flanges are used on inserts, the hex shall be .752 for opposite flats and .651 inch across the flats. Circularly flanged inserts shall be turnable by a standard screwdriver or coin. Hex flanged inserts shall be turnable by means of a coin, wrench or screwdriver.
3. Housing flanges need not be circular, however, the surface area of the flange shall be at least of the minimum size shown.
4. .6875-24 UNEF-28 threads may be used as an option; mounting nut then shall be MS3186-106 or alternative 11/16-24 UNEF 7/8 x 1/8 Hex Panel Nut.
5. Changes in the bore dimensions will result in international interoperability problems.
6. Coins slot width .073 inch minimum.
7. .068 inch is minimum depth measure to theoretical intersection of the arc with the horizontal centerline.
8. Housing may be welded or brazed.
9. Insert/housing threads (unless otherwise specified) are metric.

FIGURE 1. Grounding receptacle - Continued.

#### REQUIREMENTS:

Material:

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Insert detents: Beryllium copper in accordance with ASTM-B196/ B196M, ASTM-B197/ B197M and ASTM-B194.

Housing: Stainless steel in accordance with SAE-AMS-S-7720, 300 series composition, condition A, passivated in accordance with ASTM-A967/A967M or SAE-AMS2700.

Detent action: Shall be provided for the mating plug.

Finish: Cadmium plate in accordance with SAE-AMS-QQ-P-416, type II, class 2, or nickel plate per ASTM B733.

Contact resistance: Shall not exceed 5.0 milliohms.

Durability: 3,000 cycles.

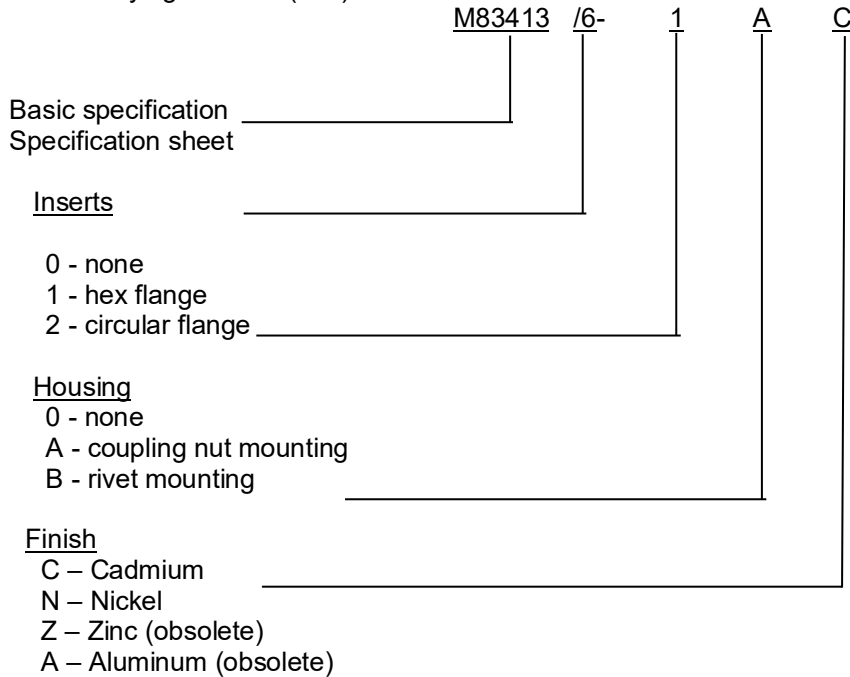
Mounting nut: Shall be supplied with housing type A.

Altitude-low temperature: Not applicable.

Fluid immersion: Not applicable.

Mating plug: In accordance with MIL-DTL-83413/4.

Part or Identifying Number (PIN):



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QUALIFICATION: Qualification is not required. First article inspection shall consist of a visual and mechanical inspection in accordance with MIL-DTL-83413 and the requirements stated in this specification sheet. First article inspection shall consist of the inspections specified in table I.

A QPL manufacturer that periodically performs group A and B inspections on Grounding receptacles in accordance with MIL-DTL-83413, is not required to perform group II and group III First Article inspections on Grounding receptacles. Group I inspections are still required.

Samples for first article inspection shall be representative of the products proposed to be furnished to this specification. Test samples shall consist of 100% testing, up to 12 grounding receptacles in accordance with Table I, Group I. Test samples shall be examined and tested in accordance with MIL-DTL-83413 and this specification. Test results shall be submitted to the acquiring activity.

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TABLE I. First article inspection.

| Inspection                               | Plug | Receptacle | Clamp connector | Jumper assembly | Requirement paragraph     | Test Paragraph |
|------------------------------------------|------|------------|-----------------|-----------------|---------------------------|----------------|
| <u>Group I</u>                           |      |            |                 |                 |                           |                |
| Visual and mechanical Inspection         |      | X          |                 |                 | 3.1, 3.3, 3.4<br>3.6, 3.8 | 4.7.1          |
| Detent action                            |      | X          |                 |                 | 3.5.1                     | 4.7.2          |
| Handgrip force                           |      |            |                 |                 | 3.5.2                     | 4.7.3          |
| Engagement                               |      | X          |                 |                 | 3.5.5                     | 4.7.6          |
| Contact resistance                       |      | X          |                 |                 | 3.5.6.1                   | 4.7.7.1        |
| Clamp connector resistance               |      |            |                 |                 | 3.5.6.2                   | 4.7.7.2        |
| Assembly resistance                      |      |            |                 |                 | 3.5.6.3                   | 4.7.7.3        |
| <u>Group II</u>                          |      |            |                 |                 |                           |                |
| Side loading                             |      | X          |                 |                 | 3.5.3                     | 4.7.4          |
| Torque                                   |      | X          |                 |                 | 3.5.4                     | 4.7.5          |
| Cable attachment                         |      |            |                 |                 | 3.5.7                     | 4.7.8          |
| Clamp release force (initial)            |      |            |                 |                 | 3.5.8.1                   | 4.7.9          |
| Clamp release force (after conditioning) |      |            |                 |                 | 3.5.8.2                   | 4.7.9          |
| Clamping life                            |      |            |                 |                 | 3.5.9                     | 4.7.10         |
| Vibration                                |      | X          |                 |                 | 3.5.10                    | 4.7.11         |
| Durability                               |      | X          |                 |                 | 3.5.11                    | 4.7.12         |
| Flexibility                              |      |            |                 |                 | 3.5.13                    | 4.7.14         |
| Tensile strength                         |      |            |                 |                 | 3.5.12                    | 4.7.13         |
| Crush                                    |      |            |                 |                 | 3.5.14                    | 4.7.15         |
| <u>Group III</u>                         |      |            |                 |                 |                           |                |
| Humidity                                 |      | X          |                 |                 | 3.5.15                    | 4.7.16         |
| Temperature cycling                      |      | X          |                 |                 | 3.5.16                    | 4.7.17         |
| Drop                                     |      |            |                 |                 | 3.5.17                    | 4.7.18         |
| Altitude – low temperature               |      | X          |                 |                 | 3.5.18                    | 4.7.19         |
| Dust                                     |      | X          |                 |                 | 3.5.19                    | 4.7.20         |
| Fluid immersion <u>2/</u>                |      | X          |                 |                 | 3.5.20                    | 4.7.21         |
| Salt spray                               |      | X          |                 |                 | 3.5.22                    | 4.7.23         |
| <u>Group IV</u>                          |      |            |                 |                 |                           |                |
| Lightning current                        |      |            |                 |                 | 3.5.23                    | 4.7.24         |

1/ - X indicates that a test is applicable.

2/ - Housing type A only.

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Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. 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-83413, this document references the following:

|                 |                  |
|-----------------|------------------|
| ASTM-A967/A967M | SAE-AMS-S-7720   |
| ASTM-B194       | SAE-AMS2700      |
| ASTM-B196/B196M | SAE-AMS-QQ-P-416 |
| ASTM-B197/B197M | SAE-AS28775      |
| ASTM B733       | MIL-DTL-83413/4  |
| NASM35333       |                  |

CONCLUDING MATERIAL

Custodians:

Army - AV  
Navy - AS  
Air Force - 85  
DLA - CC

Preparing activity:  
DLA - CC

(Project 5935-2024-135)

Review activities:

Army - AR, CR, CR4  
Navy - MC  
Air Force – 02, 11

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 above using the ASSIST Online database at <https://assist.dla.mil>.