

INCH-POUND

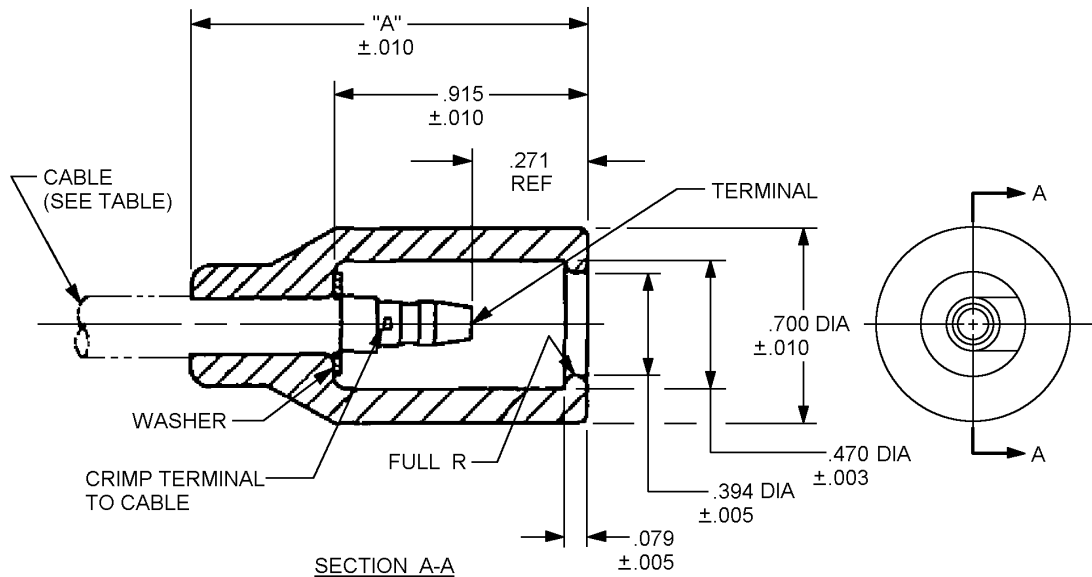
MS27142E
 1 March 2018
 SUPERSEDING
 MS27142D
 17 June 2003

DETAIL SPECIFICATION SHEET

CONNECTOR, PLUG, ELECTRICAL, PIN CONTACT,
 NO. 12, 14 AND 16 AWG, WATERPROOF

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.



| Inches | mm | Inches | mm | Inches | mm | Inches | mm |
|--------|-------|--------|------|--------|-------|--------|-------|
| .003 | 0.076 | .079 | 2.00 | .271 | 6.88 | .915 | 23.24 |
| .005 | 0.127 | .135 | 3.43 | .394 | 10.01 | 1.328 | 33.73 |
| .010 | 0.254 | .160 | 4.06 | .470 | 11.94 | 1.421 | 36.09 |
| .015 | 0.381 | .235 | 5.96 | .700 | 17.78 | | |

FIGURE 1. Configuration and dimensions.

Comments, suggestions, or questions on this document should be addressed to
 DLA Land and Maritime - VAI, P.O. Box 3990, Columbus OH 43218-3990 or emailed to
CircularConnector@dla.mil. Since contact information can change, you may want to verify the
 currency of this address information using the ASSIST Online database at <https://assist.dla.mil>.



MS27142E

| MS dash no. | Reference drawing no. (assembly) | Size | Shell number | Washer number | Terminal number PIN per A-A-52536 | A | Cable diameter | AWG size | Cable MIL-DTL-13486 PIN (see application note) |
|-------------|----------------------------------|------|--------------|---------------|-----------------------------------|-------|----------------|----------|--|
| -1 | 8338571 | 1 | 8338572 | 8338573 | AA52536-1 | 1.421 | .235 ± .010 | 12 | M13486/1-7 |
| -2 | 8338565 | 2 | 8338566 | 8338567 | AA52536-2 | 1.328 | .160 ± .010 | 14 | M13486/1-5 |
| -3 | None | 3 | 8724495 | 8724497 | AA52536-3 | 1.328 | .135 ± .015 | 16 | M13486/1-3 |

FIGURE 1. Configuration and dimensions - Continued.

REQUIREMENTS:

Material:

Washer: Brass alloy C24000, C26000 or C26800, temper H02, in accordance with ASTM-B36/B36M.

Shell: Rubber in accordance with ASTM-D2000, M3BC610A14C12EO34F19.

Mating connectors:

MS27142-1 (size 1) mates with connector PIN MS27143-1 in accordance with MS27143.

MS27142-2 (size 2) mates with connector PIN MS27144-1 in accordance with MS27144, style 1, size 1.

MS27142-3 (size 3) mates with connector PIN MS27144-2 in accordance with MS27144, style 1, size 2.

Electrical requirements:

Voltage rating: 30 volts DC.

Current rating: AWG size Current (AMPS)

16 13

14 17

12 23

Voltage drop: When connections are coupled, the voltage drop shall not exceed 20 millivolts and shall meet the requirements outlined in MIL-STD-202-307.

Dielectric strength: When connectors are coupled, the assembly shall meet the requirements of the dielectric strength test (1000 volts) outlined in MIL-STD-202-302.

Salt spray corrosion test: When connectors are coupled, the assembly shall meet the salt spray corrosion test outlined in MIL-STD-202-101 (5% saline solution, 200 hours duration).

Waterproof requirements: When connectors are coupled, the assembly shall be waterproof. Refer to MIL-HDBK-1184, or equivalent, for guidance on waterproof testing.

Pull test: The terminal crimped to the cable shall withstand a pull test of 90 pounds (40 kilograms) on size 1, 60 pounds (27 kilograms) on size 2, and 40 pounds (18 kilograms) on size 3.

Separation force: The force required to uncouple the connectors shall not exceed 50 percent of the values expressed in the pull test above at -55°C and at 85°C.

MS27142E

Part or Identifying Number (PIN): MS27142 - (dash number as shown on figure 1).

Referenced drawings may be obtained from the U.S. Army Tank Automotive Command, Warren, MI., 48090.

APPLICATION NOTES:

(These application notes contain information of a general or explanatory nature and are provided for information only.)

Waterproof seal, cable selection and assembly: Recommend that only MIL-DTL-13486/1 cable be used for military applications in order to obtain a waterproof assembly. Other types of cable with smaller outer diameters have been found to be too small to provide a waterproof seal. In addition, to aid in assembling the cable to the connector, the user may apply isopropyl alcohol as an assembly lubricant. Per Army pamphlet AMCP 706-360, a silicone compound in accordance with SAE-AS8660 may be applied as an alternative assembly lubricant.

Nomenclature: For this specification, connector nomenclature is based on the gender of the connector shell. Single wire connectors with pin contacts specified by this document are commonly referred to as "female connectors". The associated MS27143 and MS27144 mating connectors with socket contacts are commonly referred to as "male connectors".

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue 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 and relationship to the previous issue.

Referenced documents. This document references the following:

MIL-DTL-13486
MIL-DTL-13486/1
MS27143
MS27144
MIL-STD-202-101
MIL-STD-202-302
MIL-STD-202-307
MIL-HDBK-1184
ASTM-B36/B36M
ASTM-D2000
A-A-52536
SAE-AS8660
AMCP 706-360
TACOM DWG 8338565
TACOM DWG 8338571

MS27142E

CONCLUDING MATERIAL

Custodians:

Army - AT
Air Force – 85
Navy - MC
DLA – CC

Preparing activity:

DLA - CC

(Project 5935-2018-042)

Review activities:

Army - CR4
Air Force –99

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