INCH-POUND

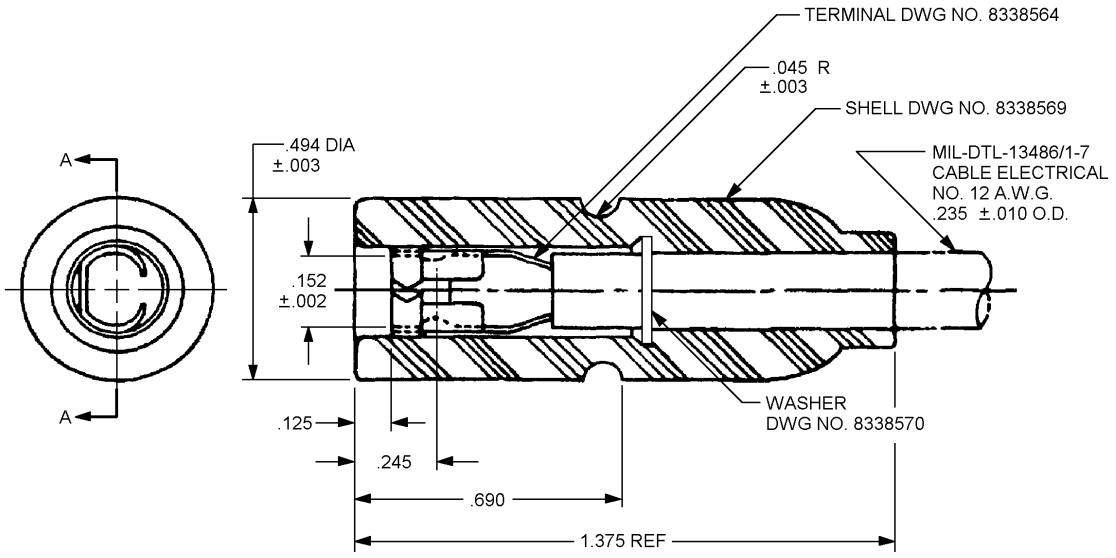
MS27143D
1 March 2018
SUPERSEDING
MS27143C
17 June 2003

DETAIL SPECIFICATION SHEET

CONNECTOR, PLUG, ELECTRICAL, SOCKET CONTACT, NO. 12 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.



SECTION A-A

Inches	mm	Inches	mm	Inches	mm
.002	0.05	.125	3.18	.494	12.55
.003	0.07	.152	3.86	.690	17.50
.010	0.30	.235	6.00	1.375	35.00
.045	1.10	.246	6.20		

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.

AMSC N/A

FSC 5935

REQUIREMENTS:

Material:

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

Terminal: Brass composition, temper half hard minimum in accordance with ASTM-B36/B36M, ASTM-121/B121M or ASTM-B124/B124M.

Washer: Steel, commercial quality, 1008 to 1020, HRP60 or CR, temper optional, in accordance with QQ-S-698.

Protective finish:

Terminal: Silver plate, grade D, class S, .0002 minimum thickness, in accordance with ASTM-B700.

Washer: Cadmium plate, type 1, class 2, in accordance with SAE-AMS-QQ-P-416.

Mating plug: See MS27142.

When connectors are coupled, the following requirements shall apply:

Voltage drop: The voltage drop shall not exceed 20 millivolts and shall meet the requirements outlined in MIL-STD-202-307.

Dielectric strength: The assembly shall withstand dielectric strength test of 1000 volts, and meet the requirements of MIL-STD-202-302.

Waterproof requirements: The assembly shall be waterproof. Refer to MIL-HDBK-1184, or equivalent, for guidance on waterproof testing.

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

Pull test: The terminal crimped to the cable shall withstand a pull test of 90 pounds (40 kilograms).

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.

Part or Identifying Number (PIN): MS27143-1.

Engineering parts list 8338568 for MS27143 may be obtained from the U.S. Army Tank Automotive Command, Warren, MI., 48397-5000.

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 socket contacts specified by this document are commonly referred to as “male connectors”. The associated MS27142 mating connectors with pin contacts are commonly referred to as “female 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-13486/1
MS27142
MIL-STD-202-101
MIL-STD-202-302
MIL-STD-202-307
QQ-S-698
MIL-HDBK-1184
ASTM-B36/B36M
ASTM-B121/B121M
ASTM-B124/B124M
ASTM-B700
ASTM-D2000
SAE-AMS-QQ-P-415
SAE-AS8660
AMCP 706-360
TACOM DWG 8338564
TACOM DWG 8338569
TACOM DWG 8338570
TACOM EPL 8338568

CONCLUDING MATERIAL

Custodians:
Army – AT
Air Force – 85
Navy – YD
DLA - CC

Preparing activity:
DLA - CC

(Project 5935-2018-043)

Review activities:
Army – CR, CR4
Navy – MC

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.