

NOTICE OF REVISION (NOR)		1. DATE (YYMMDD) 02-09-10	Form Approved OMB No. 0704-0188
This revision described below has been authorized for the document listed.			
Public reporting burden for this collection is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. PLEASE DO NOT RETURN YOUR COMPLETED FORM TO EITHER OF THESE ADDRESSED. RETURN COMPLETED FORM TO THE GOVERNMENT ISSUING CONTRACTING OFFICER FOR THE CONTRACT/ PROCURING ACTIVITY NUMBER LISTED IN ITEM 2 OF THIS FORM.			2. PROCURING ACTIVITY NO.
			3. DODAAC
4. ORIGINATOR	b. ADDRESS (Street, City, State, Zip Code) Defense Supply Center Columbus 3990 East Broad Street Columbus, Ohio 43216-5000	5. CAGE CODE 037Z3	6. NOR NO. 5935-R010-02
a. TYPED NAME (First, Middle Initial, Last) Ron Gary		7. CAGE CODE 037Z3	8. DOCUMENT NO. 89030
9. TITLE OF DOCUMENT Connector, Electrical, Plug, Coaxial, Radio Frequency, Series TNC, Pin Contact, Hex Nut, Corrosion Resistant Steel	10. REVISION LETTER		11. ECP NO. N/A
	a. CURRENT D	b. NEW E	
12. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES ALL			
13. DESCRIPTION OF REVISION Sheet 1: Revisions Ltr. Column; add "E" Revisions description column; add "Changes in accordance with NOR 5935-R010-02". Revisions date column; add "02-09-10" Revisions rev status of pages, block 1, add "E". Revisions rev status of sheet 1, add "E". Sheet 8: Vendor name and address, delete: "Connecting Devices Incorporated 2400 Grand Avenue Long Beach, CA 90815" and substitute: "Tensolite Company 2400 Grand Avenue Long Beach, CA 90815" Sheet 8: Revisions Ltr block, delete "D" and substitute "E"			
14. THIS SECTION FOR GOVERNMENT USE ONLY			
a. (X one)	X	(1) Existing document supplemented by the NOR may be used in manufacture.	
		(2) Revised document must be received before manufacturer may incorporate this change.	
		(3) Custodian of master document shall make above revision and furnish revised document.	
b. ACTIVITY AUTHORIZED TO APPROVE CHANGE FOR GOVERNMENT DSCC-VAI		c. TYPED NAME (First, Middle Initial, Last) ROBERT HEBER	
d. TITLE CHIEF, INTERCONNECTION DEVICES	e. SIGNATURE Robert M. Heber	f. DATE SIGNED (YYMMDD) 02-09-10	
15a. ACTIVITY ACCOMPLISHING REVISION DSCC-VAI	b. REVISION COMPLETED (Signature) Ron Gary	c. DATE SIGNED (YYMMDD) 02-09-10	

REVISIONS

LTR	DESCRIPTION	DATE	APPROVED
A	Add source 00795. Format changes.	27 Mar 1990	Cottongim
B	Delete source 30990. Editorial changes throughout.	14 Feb 1991	C. Koeller
C	Incorporate NOR.	2 Aug 1993	Randy Larson
D	Part number and source update. Editorial changes throughout.	14 June 2001	Robert Heber

Prepared in accordance with MIL-STD-100

REV																		
PAGE																		
REV STATUS	REV	D	D	D	D	D	D	D	D	D								
OF PAGES	PAGE	1	2	3	4	5	6	7	8									
PMIC N/A	PREPARED BY Ron Gary						DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OHIO 43216-5000											
Original date of drawing 12 July 1989	CHECKED BY C. W. Koeller						TITLE CONNECTOR, ELECTRICAL, PLUG, COAXIAL, RADIO REQUENCY, SERIES TNC, PIN CONTACT, HEX NUT, CORROSION RESISTANT STEEL											
	APPROVED BY C. W. Koeller																	
	SIZE A	CAGE CODE 037Z3						DWG. NO.			89030							
	REV D						PAGE 1			OF 8								

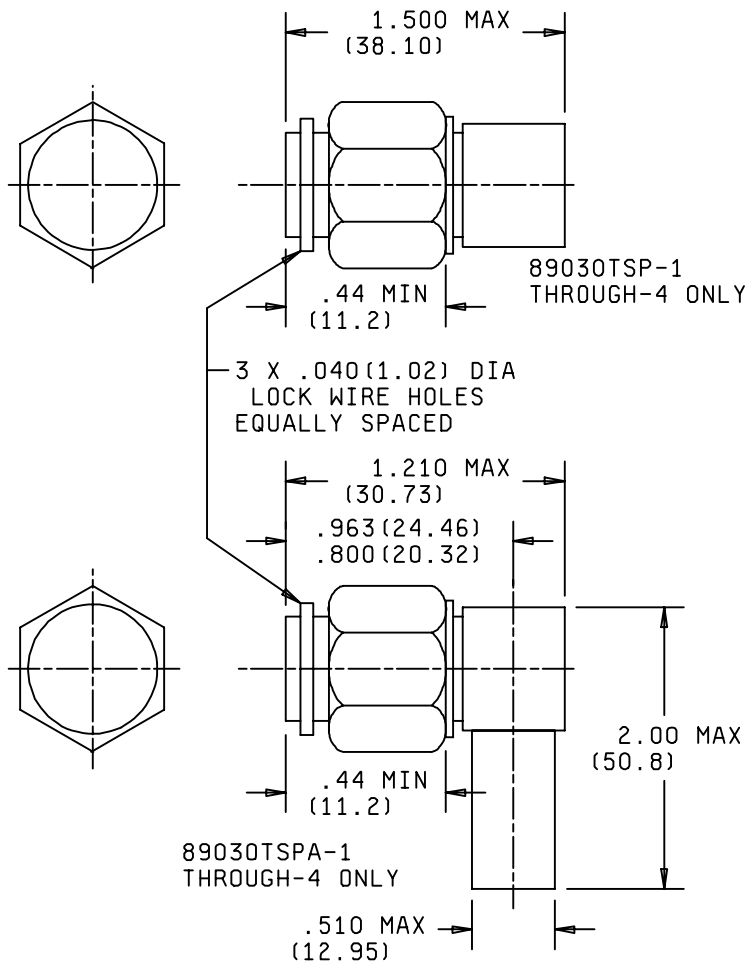


FIGURE 1. General configuration.

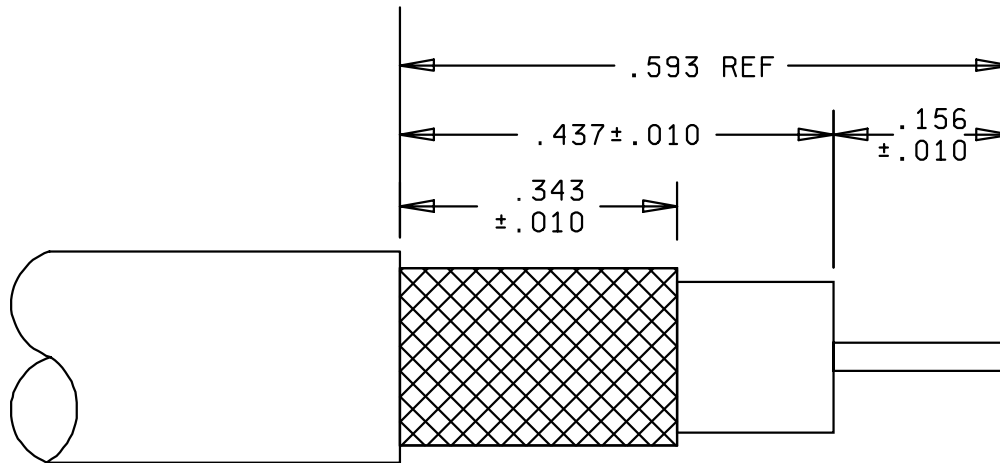
DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OH 43216-5000	SIZE A	CAGE CODE 037Z3	DWG NO. 89030
		REV D	PAGE 2

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Metric equivalents are in parentheses.
4. A polyolefin sleeve in accordance with MIL-I-23053/5 shall be supplied with each part.
5. Dimension .650 (16.51 mm) is the largest overall diameter of the connector.
6. Wrench flats to accommodate standard wrench opening in accordance with FED-STD-H28, appendix 10.
7. All undimensioned pictorial configurations are for reference purposes only.
8. Dimension 1.500 (38.10 mm) maximum defines the overall length of the connector when assembled to the cable.
9. No special tools shall be required for assembly to cables.
10. Assembly of these connectors shall be in accordance with MIL-PRF-39012, category C. The shield termination shall be accomplished using the M22520/5-01 basic crimp tool with die and hex dimensions in accordance with MIL-C-22520/5, see table I.
11. Connector coupling nuts and bodies shall be passivated in accordance with ASTM-A967 or SAE-AMS-QQ-P-35.
12. Series TNC pin contact in accordance with MIL-STD-348.
13. Gasket material shall be Viton A or equivalent (Viton A is a brand name of E.I. DuPont).

FIGURE 1. General configuration – Continued.

DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OH 43216-5000	SIZE A	CAGE CODE 037Z3	DWG NO. 89030
		REV D	PAGE 3



Inches	mm
.010	0.25
.156	3.96
.343	8.71
.437	11.10
.593	15.06

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.

FIGURE 2. Cable strip dimensions.

DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OH 43216-5000	SIZE A	CAGE CODE 037Z3	DWG NO. 89030
		REV D	PAGE 4

TABLE I. Cable accommodation.

Part or Identifying Number (PIN)	Cable M17/	Hex dimension (mm)	MIL-C-22520/5 dies
89030TSP-1 89030TSPA-1	111-RG303	.213 (5.41)	M22520/5-19, closure B* M22520/5-05, closure A
89030TSP-2 89030TSPA-2	60-RG142		M22520/5-11, closure A M22520/5-57, closure A
89030TSP-3 89030TSPA-3	29-RG59	.255 (6.47)	M22520/5-19, closure A* M22520/5-07, closure A M22520/5-13, closure A M22520/5-59, closure A
89030TSP-4 89030TSPA-4	113-RG316	.128 (3.25)	M22520/5-35, closure B M22520/5-03, closure A

*Preferred crimp die.

Cable retention force. The cable retention force shall be in accordance with MIL-PRF-39012 and meet the following values:

89030TSP-1 89030TSPA-1 89030TSP-4 89030TSPA-4	10 pounds minimum axial pull (44.5 N)
89030TSP-2 89030TSPA-2	20 pounds minimum axial pull (88.9 N)
89030TSP-3 89030TSPA-3	30 pounds minimum axial pull (133.4 N)

DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OH 43216-5000	SIZE	CAGE CODE	DWG NO.
	A	037Z3	89030
		REV D	PAGE 5

ENGINEERING DATA:

Nominal impedance: 50 ohms.

Frequency range: DC to 11 GHz.

Voltage rating: 500 volts rms maximum at sea level;
125 volts rms at 70,000 feet.

Operating temperature: -65°C to +165°C.

REQUIREMENTS: (The requirements of DSCC drawing 84148 are applicable.)

Dimensions and configurations: See figure 1 herein and MIL-STD-348.

Force to engage and disengage: 2 inch-pounds maximum torque (.225 Nm).

Coupling proof torque: 15 inch-pounds minimum (1.69 Nm).

Hermetic seal: Not applicable.

Leakage: Not applicable.

Center contact retention: 6 pounds minimum axial force (26.69 N).

Voltage standing wave ratio (VSWR): The VSWR, when measured in accordance with MIL-PRF-39012 over a frequency range of 500 MHz to 11 GHz, or approximately 80 percent of the cables upper cutoff frequency, whichever is lower, shall not exceed 1.30:1 when measured at 50 ohms.

Moisture resistance: Method 106 of MIL-STD-202, except no measurement at high humidity. Insulation resistance shall be at least 200 megohms within 5 minutes after removal from humidity chamber.

Insulation resistance: Methods 302, test condition B of MIL-STD-202, 5,000 megohms, minimum.

Connector durability: 500 cycles minimum, at 12 cycles per minute maximum. The connector shall meet the mating characteristics and force to engage and disengage requirements.

Dielectric withstanding voltage: 1,500 V rms, in accordance with method 301 of MIL-STD-202, minimum at sea level.

Random vibration: Method 2005, test condition V, test level F of MIL-STD-1344.

DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OH 43216-5000	SIZE	CAGE CODE	DWG NO.
	A	037Z3	89030
		REV D	PAGE 6

Contact resistance (in milliohms maximum):

	<u>Initial</u>	<u>After environmental</u>
Center contact:	1.5	2.0
Outer contact:	2.0	N/A
Outer cable braid to body:	5.0	N/A

Vibration, high frequency: Method 204, test condition B of MIL-STD-202, except the method of mounting shall be approved by the DSCC-VQ. No discontinuity shall be permitted.

Shock: MIL-STD-202, test condition I of method 213.

Thermal shock: MIL-STD-202, test condition B of method 107 except test high temperature shall be +200°C.

Corona level: 375 V rms, at 70,000 feet (21.336 km).

Altitude: The connector shall operate as specified herein at altitudes up to and including 70,000 feet (21.336 km).

Salt spray: Method 101, test condition B of MIL-STD-202.

RF high potential withstanding voltage: 1,000 V rms, minimum.

Frequency: 5 to 7.5 MHz.

Leakage current: Not applicable.

Coupling mechanism retention force: 100 pounds, minimum (444.8 N).

RF leakage: -60 dB, minimum tested between 2 and 3 GHz.

RF insertion loss:

89030TSP-1 through -4	0.18 dB maximum at 9 GHz
	$0.06 \sqrt{F(\text{GHz})}$ dB maximum from 3 to 6 GHz
89030TSPA-1 through -4	0.21 dB maximum at 9 GHz
	$0.07 \sqrt{F(\text{GHz})}$ dB maximum from 3 to 6 GHz

DEFENSE SUPPLY CENTER, COLUMBUS
COLUMBUS, OH 43216-5000

SIZE
A

CAGE CODE

037Z3

REV

D

DWG NO.

89030

PAGE

7

Approved sources of supply. Approved sources of supply are listed herein. Additional sources will be added as they become available. The vendors listed herein have agreed to this drawing and a certificate of compliance has been submitted to DSCC-VAI.

DSCC drawing PIN <u>1/</u>	Vendor CAGE Number	Vendor reference PIN
89030TSP-1	00795 30990 95077	1203051K00E-000 9023-135-1CCSF SF4008-6017
89030TSP-2	00795 95077	1203043K00E-000 SF4008-6018
89030TSP-3	00795 95077	1203020K00E-000 SF4008-6019
89030TSP-4	00795 95077	1203053K00E-000 SF4008-6020
89030TSPA-1	00795 95077	1207051K00E-000 SF4093-6018
89030TSPA-2	00795 95077	1207043K00E-000 SF4093-6019
89030TSPA-3	00795 95077	1207020K00E-000 SF4093-6020
89030TSPA-4	00795 95077	1207053K00E-000 SF4093-6021

1/ Parts must be purchased to this DSCC PIN to assure that all performance requirements and tests are met.

<u>Vender CAGE number</u>	<u>Vendor name and address</u>
00795	Delta Electronics 416 Cabot Street Beverly, MA 01915
30990	Connecting Devices, Incorporated 2400 Grand Avenue Long Beach, CA 90815
95077	Soliton/Vector Microwave Products 3301 Electronics Way West Palm Beach, FL 33407

DEFENSE SUPPLY CENTER, COLUMBUS COLUMBUS, OH 43216-5000	SIZE	CAGE CODE	DWG NO.
	A	037Z3	89030
		REV D	PAGE 8