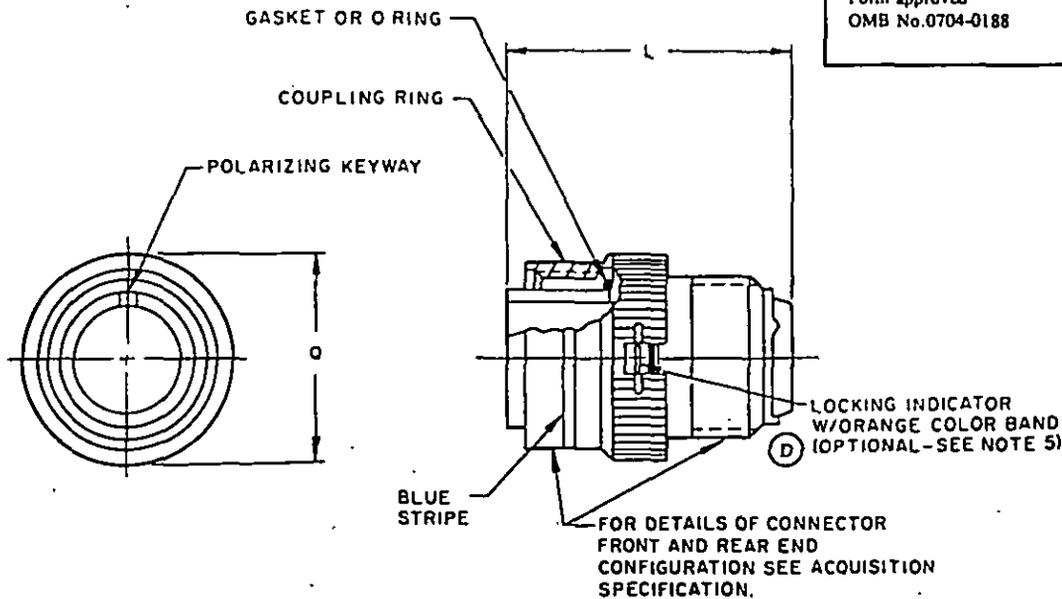


THE REQUIREMENTS FOR ACQUIRING THE PRODUCT(S) DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE DODISS SPECIFIED IN THE SOLICITATION: MIL-C-5015

THIS SPECIFICATION IS APPROVED FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE.

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OMB No. 0704-0188



CLASSES K, L, AND W ENVIRONMENT RESISTANT

ⓓ CLASS K CONNECTORS WITH ELECTROLESS NICKEL FINISH INACTIVE FOR NEW DESIGN AFTER 11 JUNE 1974. USE CLASS KT OR KS.

NOTES:

1. DIMENSIONS ARE IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES: DECIMALS ±0.16.
- ⓓ 2. DIMENSIONING AND TOLERANCING IN ACCORDANCE WITH ANSI-Y14.5M-82.
3. MIL-C-5015 CRIMP CONTACT FRONT AND REAR RELEASE CONNECTORS AND SOLDER CONTACT CONNECTORS ARE INTERMATEABLE.
4. UNLESS OTHERWISE SHOWN, CORRESPONDING FEATURES OF PIN AND SOCKET CONTACT CONNECTORS ARE IDENTICAL.
- ⓓ 5. A LOCKING INDICATOR IS PERMITTED AS AN OPTIONAL DESIGN FEATURE. AN EXPLANATION OF THE OPERATION AND FUNCTION OF THE LOCKING FEATURE SHALL BE PROVIDED BY THE MANUFACTURER.
- ⓓ 6. EXTRACTION TOOL M81969/14-03 SHALL BE USED TO REMOVE SIZE 16 CONTACTS THAT ARE CRIMPED TO MIL-W-25038 OR MIL-C-27500 FIRE ZONE WIRE.

ⓓ DENOTES CHANGE

PREPARING ACTIVITY: NAVY - AS CUSTODIANS: ARMY-CR NAVY-AS AIR FORCE-85 REVIEW: ARMY-CR, AV, ME, MI, MU NAVY-EC AIR FORCE-11, 17, 80, 85 PROJECT NUMBER 5935-3807	<u>MILITARY SPECIFICATION SHEET</u> TITLE: CONNECTOR, PLUG, ELECTRICAL, SELF-LOCKING, COUPLING NUT, REAR RELEASE, CRIMP CONTACT, AN TYPE	SPECIFICATION SHEET NUMBER	
		<b>MS3459</b>	4 NOV 94 REV D
		SUPERSEDING MS3459C (NAVY)	22 JAN 76
		AMSC- N/A	FSC 5935
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TABLE I. CLASSES K, L AND W CONNECTOR DIMENSIONS.

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SIZE	L MAX		Q MAX
	SIZE 16 & 12 CONTACTS	SIZE 8, 4 & 0 CONTACTS	
8S	2.031		.93
10S			1.088
10SL			1.088
12S			1.213
12	2.125		1.213
14S	2.031		1.358
14	2.125		1.358
16S	2.031		1.463
16	2.125	2.500	1.463
18			1.588
20			1.713
22			1.788
24			1.963
28			2.213
32			2.463
36			2.713
40			2.963

THIS SPECIFICATION IS APPROVED FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE.

PREPARING ACTIVITY: NAVY - AS CUSTODIANS: ARMY-CR NAVY-AS AIR FORCE-85 REVIEW: ARMY-CR,AV,ME,MI,MU NAVY-EC AIR FORCE-11,17,80,85 PROJECT NUMBER 5935-3807	<u>MILITARY SPECIFICATION SHEET</u> TITLE: CONNECTOR, PLUG, ELECTRICAL, SELF-LOCKING, COUPLING NUT, REAR RELEASE, CRIMP CONTACT, AN TYPE	SPECIFICATION SHEET NUMBER <b>MS3459</b>	4 NOV 94 REV D
		SUPERSEDING MS3459C (NAVY)	22 JAN 76
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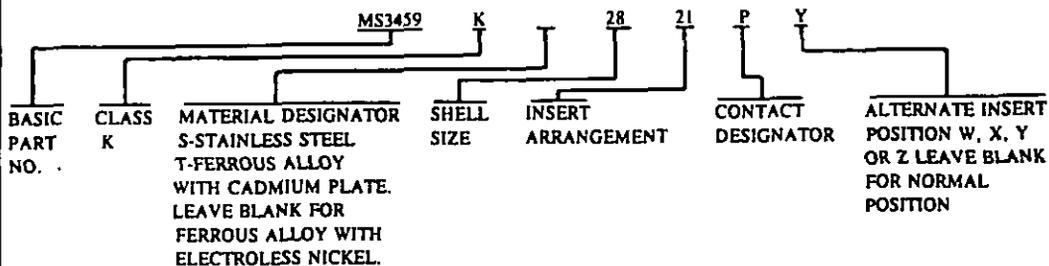
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7. FOR INSERT ARRANGEMENTS SEE MIL-STD-1651.
8. MANUFACTURERS MAY CONTINUE TO SUPPLY MS3459C CONNECTORS FOR SIX MONTHS FROM THE DATE OF THIS REVISION, OR UNTIL THEY EXHAUST THEIR INVENTORIES, WHICHEVER COMES FIRST.
9. FOR DESIGN PURPOSES, THIS DOCUMENT TAKES PRECEDENCE OVER THE SPECIFICATIONS AND STANDARDS REFERENCED HEREIN. REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATIONS FOR BID.

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EXAMPLE OF PART NO.



REQUIREMENTS:

- (D) 1. QUALIFICATION - TWO CONNECTORS EACH, CONSISTING OF A QUALIFIED CLASS K WALL MOUNTING RECEPTACLE WITH PIN CONTACTS, AND A SELF-LOCKING MATING PLUG CONFORMING TO THIS DOCUMENT COMPRISE THE TEST SAMPLE. THEY SHALL BE OF A MEDIUM SHELL SIZE (18 TO 28) WITH MAXIMUM CONTACT DENSITY, AND SHALL BE FULLY WIRED WITH WIRE CONFORMING TO MIL-W-25038/1. QUALIFICATION TESTING FOR THE SELF-LOCKING PLUG SHALL CONSIST OF THE FOLLOWING TESTS, PERFORMED IN THE SEQUENCE LISTED.
  - A. VISUAL AND MECHANICAL EXAMINATION OF PRODUCT
- (D) B. COUPLING FORCES - SELF-LOCKING TYPE CONNECTORS SHALL MEET THE COUPLING AND UNCOUPLING FORCE REQUIREMENTS SPECIFIED IN TABLE II, BEFORE AND AFTER ANY CONDITIONING TESTS.
- C. ICE RESISTANCE - THE TWO FULLY MATED SELF-LOCKING CONNECTORS SHALL BE IMMERSSED IN TAP WATER FOR ONE MINUTE AND THEN PLACED IN AN AMBIENT TEMPERATURE OF  $-55 \pm 5^{\circ}\text{C}$  ( $-67^{\circ}\text{F}$ ) FOR ONE HOUR. A MINIMUM OF 3 SUCH CYCLES SHALL BE PERFORMED UNTIL THE CONNECTOR SURFACES ARE COMPLETELY ICED OVER. IMMEDIATELY AFTER REMOVAL FROM THE LAST CYCLE AT THE LOW AMBIENT TEMPERATURE, THE FROZEN SELF-LOCKING CONNECTORS SHALL BE UNMATED USING CONNECTOR PLIERS OR STRAP WRENCH AND REMATED. THE SELF-LOCKING CONNECTORS SHALL BE CAPABLE OF FUNCTIONING DURING AND AFTER THIS TEST AND THE UNMATING PROCESS SHALL NOT CAUSE DAMAGE TO THE LOCKING MECHANISM. IN ADDITION, THE CONNECTORS SHALL MEET THE COUPLING AND UNCOUPLING FORCES OF TABLE II.

PREPARING ACTIVITY:  
NAVY - AS  
CUSTODIANS:  
ARMY-CR  
NAVY-AS  
AIR FORCE-85  
REVIEW:  
ARMY-CR,AV,ME,MI,MU  
NAVY-EC  
AIR FORCE-11,17,80,85  
PROJECT NUMBER 5935-3807

MILITARY SPECIFICATION SHEET  
TITLE: CONNECTOR, PLUG,  
ELECTRICAL, SELF-LOCKING,  
COUPLING NUT, REAR RELEASE,  
CRIMP CONTACT, AN TYPE

SPECIFICATION SHEET NUMBER  
**MS3459** 4 NOV 94  
REV D

SUPERSEDING  
MS3459C (NAVY) 22 JAN 76

AMSC- N/A FSC 5935

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TABLE II. COUPLING AND UNCOUPLING FORCES.

SHELL SIZE	TORQUE (INCH-POUNDS)		
	MAX COUPLING	MIN UNCOUPLING	MAX UNCOUPLING
8S	12	8	20
10S & 10SL	14	8	25
12 & 12S	16	10	28
14 & 14S	20	12	35
16 & 16S	24	16	40
18	30	22	45
20	40	28	52
22	46	36	65
24	55	40	75
28	66	50	90
32	78	60	105
36	93	65	115
40	106	70	125

- D. DURABILITY - THE TWO SAMPLE CONNECTORS SHALL SHOW NO EVIDENCE OF MECHANICAL OR ELECTRICAL DEFECTS DETRIMENTAL TO THE OPERATION OF THE CONNECTOR AFTER BEING MATED AND UNMATED 500 TIMES AT A MAXIMUM RATE OF 300 CYCLES PER HOUR, WITH THE COUPLING RINGS ATTACHED.

THIS SPECIFICATION IS APPROVED FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE.

PREPARING ACTIVITY:  
NAVY - AS  
CUSTODIANS:  
ARMY-CR  
NAVY-AS  
AIR FORCE-85  
REVIEW:  
ARMY-CR,AV,ME,MI,MU  
NAVY-EC  
AIR FORCE-11,17,80,85  
PROJECT NUMBER 5935-3807

MILITARY SPECIFICATION SHEET  
TITLE: CONNECTOR, PLUG,  
ELECTRICAL, SELF-LOCKING,  
COUPLING NUT, REAR RELEASE,  
CRIMP CONTACT, AN TYPE

SPECIFICATION SHEET NUMBER

**MS3459**4 NOV 94  
REV DSUPERSEDING  
MS3459C (NAVY)

22 JAN 76

AMSC- N/A

FSC 5935

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E. VIBRATION

(1) MOUNTING THE RECEPTACLE PORTION OF THE TWO SAMPLE CONNECTORS SHALL BE MOUNTED ON A FIXTURE, WHICH IN TURN, SHALL BE MOUNTED TO A VIBRATION TABLE. A SENSOR SHALL MONITOR THE VIBRATION OF THE RECEPTACLE ON OR NEAR THE RECEPTACLE. THE SELF-LOCKING PLUGS SHALL BE ENGAGED WITH THE RECEPTACLE AND HELD BY MEANS OF THE SELF-LOCKING COUPLING NUT. THE WIRE BUNDLES SHALL BE CLAMPED TO NON-VIBRATING POINTS AT LEAST 8 INCHES FROM THE REAR OF THE CONNECTOR TO AVOID RESONANCE OF THE WIRE BUNDLE.

(D)

(2) VIBRATION PROCEDURE - AFTER MOUNTING, THE MATED ASSEMBLY SHALL BE VIBRATED IN ACCORDANCE WITH METHOD 204, CONDITION B OF MIL-STD-202 AND ALSO IN ACCORDANCE WITH THE ENDURANCE TEST OF MIL-STD-167-1 (SHIPS). TWENTY FIVE PERCENT OF THE TEST DURATION SHALL BE PERFORMED AT  $175 \pm 5^\circ\text{C}$  ( $347 \pm 9^\circ\text{F}$ ) AND TWENTY FIVE PERCENT AT  $-55 \pm 5^\circ\text{C}$  ( $-67 \pm 9^\circ\text{F}$ ). ALL CONTACTS SHALL BE WIRED IN SERIES AND A CURRENT OF  $100 \pm 10$  MILLIAMPERES SHALL FLOW THROUGH THE SERIES CIRCUIT DURING THE TEST. AN INSTRUMENT SHALL BE EMPLOYED TO MONITOR CURRENT FLOW AND TO INDICATE DISCONTINUITY OF CONTACT OR INTERRUPTION OF CURRENT FLOW. THERE SHALL BE NO EVIDENCE OF DAMAGE OR LOOSENING OF PARTS DUE TO VIBRATION, NOR SHALL THERE BE ANY INTERRUPTION OF ELECTRICAL CONTINUITY LONGER THAN ONE MICROSECOND. IN ADDITION, THE CONNECTOR ASSEMBLY SHALL MEET THE COUPLING AND UNCOUPLING FORCES OF TABLE II.

(D)

F. SAND AND DUST - THE SAND AND DUST TEST SHALL BE PERFORMED ON THE TWO FULLY MATED CONNECTORS IN ACCORDANCE WITH METHOD 110 OF MIL-STD-202. AFTER EXPOSURE, THE DUST SHALL NOT BE REMOVED BEFORE EXPOSURE TO CORROSION. AFTER EXPOSURE TO THIS TEST, THE CONNECTOR PAIR SHALL MEET THE REQUIREMENTS OF SUBSEQUENT TESTING.

G. CORROSION - THE TWO FULLY MATED CONNECTORS SHALL BE SUBJECTED TO A SALT SPRAY TEST IN ACCORDANCE WITH METHOD 101, CONDITION B OF MIL-STD-202. THE SALT CONCENTRATION SHALL BE FIVE PERCENT. THE CONNECTORS SHALL THEN BE DRIED IN A CIRCULATING AIR OVEN AT A TEMPERATURE OF  $38^\circ\text{C} \pm 3^\circ\text{C}$  ( $100^\circ\text{F} \pm 5^\circ\text{F}$ ) FOR A PERIOD OF NOT LESS THAN 12 HOURS, AFTER WHICH THEY SHALL BE REMOVED AND VISUALLY AND MECHANICALLY INSPECTED. THERE SHALL BE NO EXPOSURE OF BASE METAL DUE TO CORROSION, WHICH WILL AFFECT PERFORMANCE. PRIOR TO ANY SUBSEQUENT TESTS, CORROSION TESTED CONNECTORS SHALL BE DISENGAGED AND ENGAGED FOR ONE CYCLE TO REMOVE FREE SALT DEPOSITS. IN ADDITION, THE CONNECTOR ASSEMBLY SHALL MEET THE COUPLING AND UNCOUPLING REQUIREMENTS OF TABLE II.

H. POST-EXAMINATION OF PRODUCT

2. QUALITY CONFORMANCE INSPECTION - IN ACCORDANCE WITH ACQUISITION SPECIFICATION FOR GROUPS A AND B INSPECTION.

PREPARING ACTIVITY: NAVY - AS CUSTODIANS: ARMY-CR NAVY-AS AIR FORCE-85 REVIEW: ARMY-CR,AV,ME,MI,MU NAVY-EC AIR FORCE-11,17,80,85 PROJECT NUMBER 5935-3807	<u>MILITARY SPECIFICATION SHEET</u> TITLE: CONNECTOR, PLUG, ELECTRICAL, SELF-LOCKING, COUPLING NUT, REAR RELEASE, CRIMP CONTACT, AN TYPE	SPECIFICATION SHEET NUMBER	
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