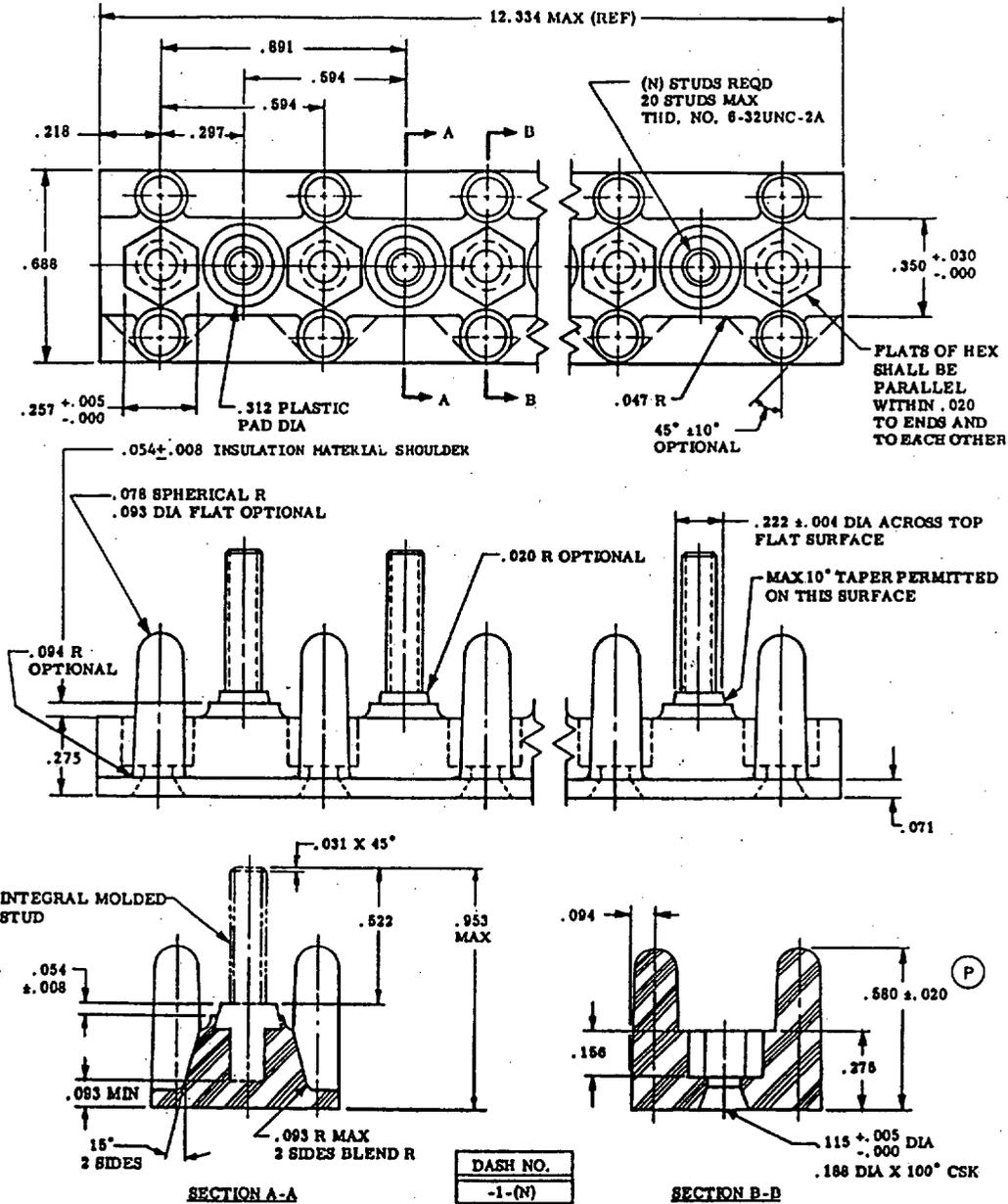


THE REQUIREMENTS FOR ACQUIRING THE PRODUCT(S) DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE DODISS SPECIFIED IN THE SOLICITATION: NONE



FOR MATERIAL, IDENTIFICATION, MARKING, TOLERANCES, AND TEST REQUIREMENTS, SEE SHEET 5. THE GOVERNMENT SHALL PROCURE AND STOCK ONLY PART NO. MS27212-1-20. (N) INDICATES THE NUMBER OF STUDS IN AN ASSEMBLY. EXAMPLE OF PART NUMBER: MS27212-1-20-A TERMINAL BOARD ASSEMBLY HAVING 20 NO. 6-32 STUDS.

DASH NO.  
-1-(N)

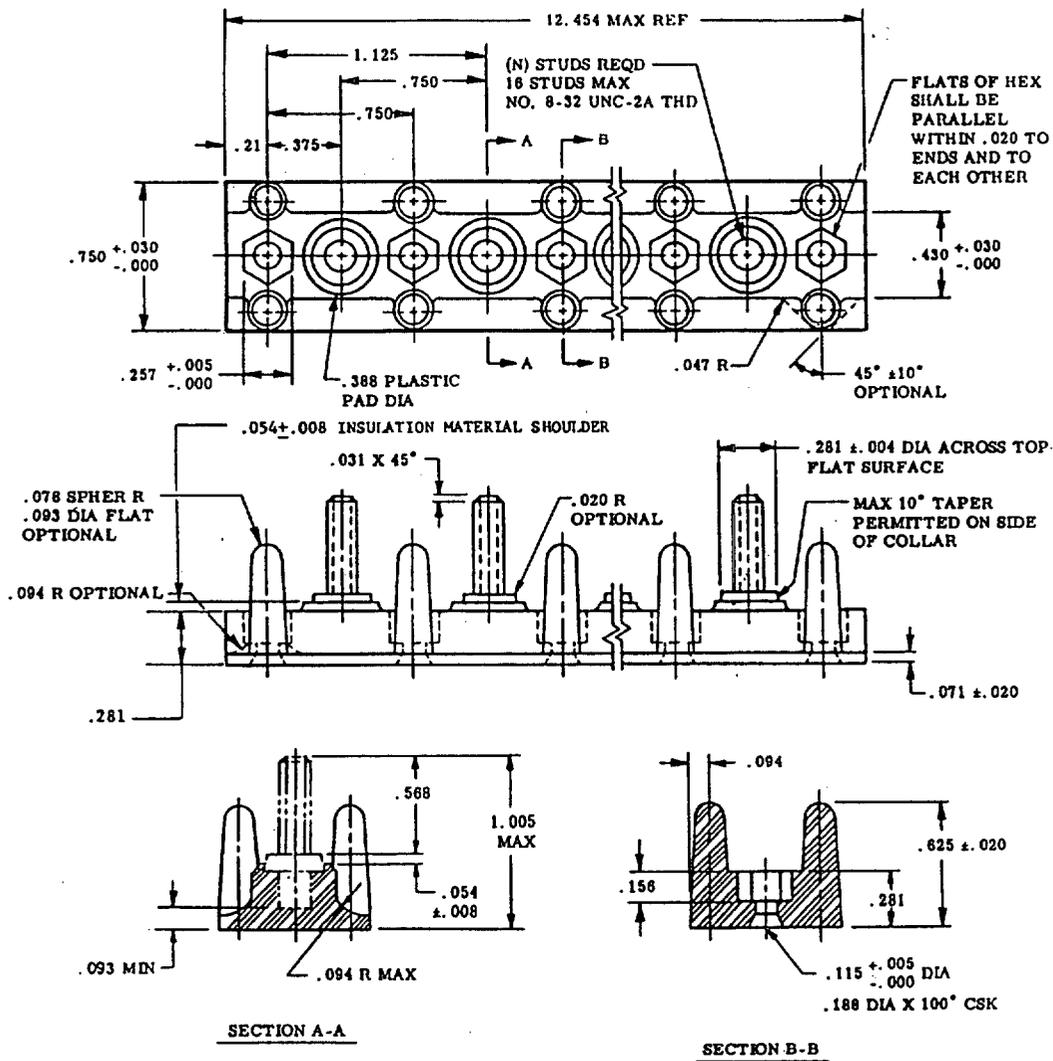
(P) DENOTES CHANGE

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

PREPARING ACTIVITY: NAVY - AS CUSTODIANS: ARMY - ER    NAVY - AS AIR FORCE - 85    DLA - GS REVIEW: USAF - 99    ARMY - MI NAVY - MC PROJECT NUMBER: 5940-1155	MILITARY SPECIFICATION SHEET TITLE: TERMINAL BOARD ASSEMBLY, MOLDDED-IN-STUD, ELECTRIC	SPECIFICATION SHEET NUMBER MS 27212    15 SEP 94 REV P SUPERSEDING MS 27212N    15 SEP 1989 AMSC - N/A                    FSC 5940
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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: NONE



DASH NO.
-6-(N)

FOR MATERIAL, IDENTIFICATION, MARKING, TOLERANCES, AND TEST REQUIREMENTS, SEE SHEET 5.  
THE GOVERNMENT SHALL PROCURE AND STOCK ONLY PART NO. MS27212-6-16.  
(N) INDICATES THE NUMBER OF STUDS IN AN ASSEMBLY.  
EXAMPLE OF PART NUMBER: MS27212-6-16-A TERMINAL BOARD ASSEMBLY HAVING 16 NO. 8-32 STUDS.

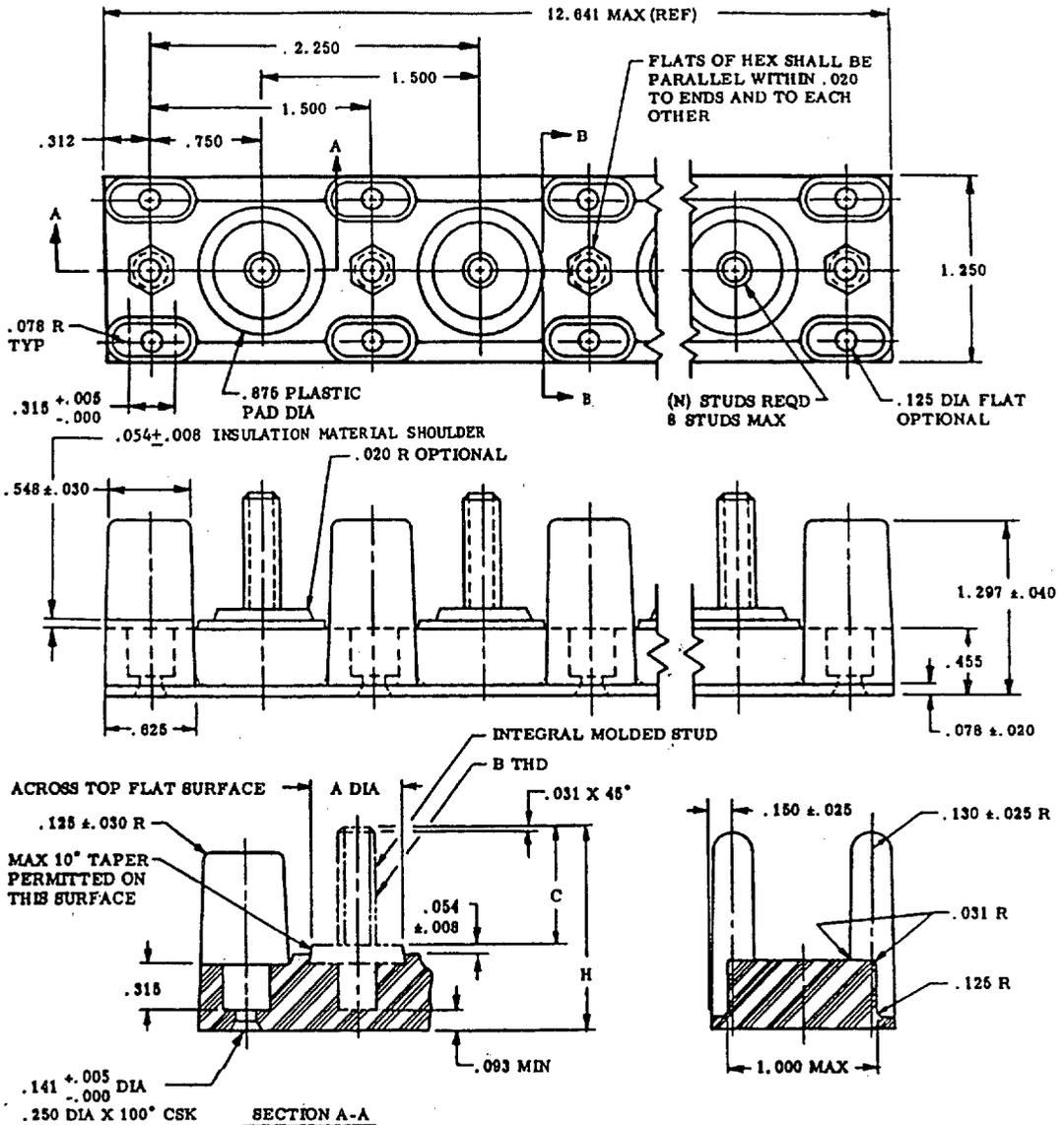
THIS SPECIFICATION IS APPROVED FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE.

PREPARING ACTIVITY: NAVY - AS	MILITARY SPECIFICATION SHEET	SPECIFICATION SHEET NUMBER
CUSTODIANS: ARMY - ER NAVY - AS	TITLE	MS 27212 15 SEP 94
AIR FORCE - 85 DLA - GS	TERMINAL BOARD ASSEMBLY, MOLDED-IN-STUD, ELECTRIC	REV P
REVIEW: USAF - 99 ARMY - MI		SUPERSEDING
NAVY - MC		MS 27212N 15 SEP 1989
PROJECT NUMBER: 5940-1155		AMSC- N/A FSC 5940

DISTRIBUTION STATEMENT A Approved for public release; distribution is unlimited. Page 2 of 6



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: NONE



DASH NO.	A $\pm$ .005 DIA	B THREAD	C	H MAX
-3-(N)	.625	1/4-28UNF-2A	.710	1.321
-4-(N)	.750	5/16-24UNF-2A	.781	1.392
-5-(N)	.750	3/8-24UNF-2A	.908	1.517

FOR MATERIAL, IDENTIFICATION, MARKING, TOLERANCES, AND TEST REQUIREMENTS, SEE SHEET 5. THE GOVERNMENT SHALL PROCURE AND STOCK ONLY PART NUMBER MS27212-3-8, MS27212-4-8, AND MS27212-5-8.

(N) INDICATES THE NUMBER OF STUDS IN AN ASSEMBLY. EXAMPLE OF PART NUMBER: MS27212-4-8 - A TERMINAL BOARD ASSEMBLY HAVING EIGHT 5/16 STUDS.

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

PREPARING ACTIVITY: NAVY-AS  
CUSTODIANS: ARMY-ER NAVY-AS  
AIR FORCE-85 DLA-GS  
REVIEW: USAF-99 ARMY-MI  
NAVY-MC  
PROJECT NUMBER: 5940-1155

MILITARY SPECIFICATION SHEET  
TITLE: TERMINAL BOARD ASSEMBLY,  
MOLDED-IN-STUD, ELECTRIC

SPECIFICATION SHEET NUMBER  
MS 27212 15 SEP 94  
REV P  
SUPERSEDING  
MS 27212N 15 SEP 1989  
AMSC- N/A FSC 5940

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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: NONE

ADDITIONAL REQUIREMENTS:

1. MATERIAL: INSULATION MATERIAL, DIALYLISOPHTHALATE GDI-30F, MIL-M-14, 155 $\pm$ 3 $^{\circ}$ C TOTAL CONTINUOUS RATING. STUDS: CORROSION-RESISTANT STAINLESS STEEL IN ACCORDANCE WITH ONE OF THE FOLLOWING TYPES:
  - a) MIL-S-7720, COMPOSITION 302, CONDITION A, PASSIVATED IN ACCORDANCE WITH QQ-P-35;
  - b) ASTM-A582, TYPE 303, CONDITION A, CLEANED IN ACCORDANCE WITH MIL-S-5002, WITHOUT PASSIVATION;
  - c) ASTM-A493, TYPE XM-7 (UNS DESIGNATION S30430), PASSIVATED IN ACCORDANCE WITH QQ-P-35;
  - d) SAE-AMS5686, TYPE 305, PASSIVATED IN ACCORDANCE WITH QQ-P-35; OR
  - e) SAE-AMS7472, TYPE 305 (MODIFIED), PASSIVATED IN ACCORDANCE WITH QQ-P-35.
2. IDENTIFICATION MARKING: EACH TERMINAL BOARD SHALL BE PERMANENTLY MARKED WITH THE MS NO. AND THE DASH NO. WITHOUT N. MARKING MAY BE INKED, HOT STAMPED, OR MOLDED. RAISED MARKINGS SHALL BE .003 INCH OR LESS IN HEIGHT.
3. DIMENSIONS ARE IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES: DECIMALS  $\pm$ .016, ANGLES  $\pm$ 2 $^{\circ}$ .
4. THE CUMULATIVE TOLERANCE BETWEEN THE TWO END MOUNTING HOLES SHALL BE A MAXIMUM OF .003 INCH PER INCH OF LENGTH.
5. THREADS SHALL BE IN ACCORDANCE WITH SPECIFICATION MIL-S-7742. STUDS MAY HAVE A MAXIMUM OF TWO IMPERFECT THREADS AT THE WASHER FACE END.
6. INTEGRALLY MOLDED PARTS; PRIOR TO MOLDING, METAL PARTS SHALL BE THOROUGHLY CLEANED TO REMOVE METAL CHIPS AND DUST AND STUDS SHALL BE ROUNDED. METAL PARTS (STUDS, THREADED INSERTS, TERMINAL PLATES EXCEPT FEED-THROUGH TYPE WHICH IS AN ASSEMBLED PART, AND TERMINAL STRIPS) SHALL BE MOLDED INTEGRALLY WITH THE TERMINAL-BOARD BASE. FOLLOWING MOLDING, ALL MOLDING MATERIALS SHALL BE REMOVED FROM CONTACT SURFACES AND THREADED PORTIONS. STUD SHOULDERS SHALL BE SPOT FACED TO ASSURE CLEAN, FLAT CONTACT SURFACES.

TEST REQUIREMENTS:

MINIMUM TORQUE VALUES: NO. 6 STUD, 22 POUND INCHES  
 NO. 8 STUD, 32 POUND INCHES  
 NO. 10 STUD, 40 POUND INCHES  
 1/4 STUD, 150 POUND INCHES  
 5/16 AND 3/8 STUDS, 170 POUND INCHES

THE MOLDED INTEGRAL STUD SHALL NOT BREAK, DISTORT OR PULL OUT OF THE TERMINAL BOARD BEFORE THE MINIMUM TORQUE VALUE IS REACHED.

POROSITY AND SURFACE DEFECTS: THE FINISHED TERMINAL BOARD SHALL COMPLY WITH THE GENERAL REQUIREMENTS OF MIL-M-14 PARAGRAPHS COVERING "SURFACE DEFECTS" AND "POROSITY".

DIELECTRIC STRENGTH TEST: THE TERMINAL BOARD SHALL BE CAPABLE OF WITHSTANDING 2500 VOLTS RMS FOR ONE MINUTE WHEN APPLIED BETWEEN ADJACENT STUDS AND BETWEEN STUD AND GROUND WITHOUT BREAKDOWN OR FLASHOVER.

THERMAL SHOCK: THE TERMINAL BOARDS SHALL BE SUBJECTED TO THE TORQUE TEST BEFORE THERMAL SHOCK. THE TERMINAL BOARDS SHALL THEN BE MOUNTED BY NORMAL MOUNTING MEANS TO A STEEL GROUND PLATE AND TESTED ACCORDING TO METHOD 107 OF MIL-STD-202, TEST CONDITION A, EXCEPT STEP 3 SHALL BE 180 $\pm$ 3 $^{\circ}$ C. EXAMINATIONS AFTER CYCLING - TERMINAL BOARDS SHALL SHOW NO EVIDENCE OF CRACKING, CRAZING, CHIPPING, STRETCHING, SHRINKAGE, FLOWING, WARPING, OTHER DISTORTION OF THE PLASTIC MATERIAL, LOOSENING, MOVEMENT, OR DISTORTION OF PARTS. THE TERMINAL BOARD SHALL THEN BE RETESTED FOR ABILITY TO MEET THE TORQUE REQUIREMENT.

NOTES:

1. FOR BUSES TO CONNECT TERMINAL STUDS, USE MS25226.
2. FOR STRIPS TO INSULATE MOUNTING SCREWS, USE MS3373.
3. FOR COVER ASSEMBLIES, USE MS18029.
4. THE GOVERNMENT WILL ONLY PROCURE AND STOCK FULL LENGTH BOARDS. BOARDS REQUIRING A LESSER NUMBER OF STUDS THAN A MAXIMUM FULL LENGTH BOARD MAY BE MADE BY CUTTING THE FULL LENGTH BOARD INTO SMALLER LENGTHS. ALLOWANCE MUST BE MADE FOR THE LOSS OF ONE STUD FOR EACH CUT. EXAMPLE: ONLY 5 BOARDS OF 3 STUD LENGTH EACH CAN BE OBTAINED FROM A 20 STUD BOARD. CUTTING BOARDS TO THE DESIRED SIZE SHALL BE PERFORMED AT POINT OF INSTALLATION. THE INSTALLING ACTIVITY SHALL FURNISH FOR EACH TERMINAL STUD THE FOLLOWING RECOMMENDED HARDWARE:

PREPARING ACTIVITY: NAVY - AS	MILITARY SPECIFICATION SHEET	SPECIFICATION SHEET NUMBER
CUSTODIANS: ARMY - ER      NAVY - AS	TITLE    TERMINAL BOARD ASSEMBLY,	MS 27212      15 SEP 94
AIR FORCE - 85      DIA - GS	MOLDED-IN-STUD, ELECTRIC	REV P
REVIEW: USAF - 99      ARMY - MI		SUPERSEDING
NAVY - MC		MS 27212N      15 SEP 1989
PROJECT NUMBER: 5940-1155		AMSC -    N/A      FSC 5940

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

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: NONE

THIS SPECIFICATION IS APPROVED FOR USE BY THE NAVAL AIR SYSTEMS COMMAND, DEPARTMENT OF THE NAVY, AND IS AVAILABLE FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE.

(P) TABLE I. ATTACHING HARDWARE.

DASH NO.	ATTACHING HARDWARE		NUT	
	FLAT WASHER	LOCKWASHER 1/	PLAIN (HEXAGON)	OR SELF-LOCKING
-1-(N)	AN960-C6	MS35338-136 OR -155	MS35649-264	MS21042-06 OR MS21042L06
-2-(N)	AN960-C10	MS35338-138 OR -157	MS35650-304	MS21042-3 OR MS21042L3
-3-(N) 2/	AN960-C416	MS35338-139 OR -158	MS35650-3254	MS21042-4 OR MS21042L4
-4-(N) 2/	AN960-C516	MS35338-140 OR -159	MS35650-3314	MS21042-5 OR MS21042L5
-5-(N) 2/	AN960-C616	MS35338-141 OR -160	MS35650-3384	MS21042-6 OR MS21042L6
-6-(N)	AN960-C8	MS35338-137 OR -156	MS35649-284	MS21042-08 OR MS21042L08

- 1/ LOCKWASHER IS NOT REQUIRED WHEN SELF-LOCKING TYPE NUT IS USED.
- 2/ TERMINAL LUGS SPECIFIED ON MS25036 AS DASH NUMBERS 135 THROUGH 141 ARE NOT TO BE ATTACHED TO THESE ASSEMBLIES.

FOR DESIGN FEATURE PURPOSES, THIS STANDARD TAKES PRECEDENCE OVER PROCUREMENT DOCUMENTS REFERENCED HEREIN. REFERENCED DOCUMENTS SHALL BE OF THE ISSUE IN EFFECT ON DATE OF INVITATIONS FOR BID.

(P) Table II. METRIC CONVERSION.

INCH	MM	INCH	MM	INCH	MM	INCH	MM
.004	.102	.141	3.581	.430	10.922	.891	22.631
.005	.127	.150	3.810	.437	11.099	.906	23.012
.008	.203	.156	3.962	.455	11.557	.938	23.825
.020	.508	.188	4.775	.522	13.259	.953	24.206
.025	.635	.210	5.334	.548	13.919	1.000	25.400
.030	.762	.218	5.537	.565	14.351	1.005	25.527
.031	.787	.222	5.639	.568	14.427	1.079	27.406
.040	1.016	.250	6.350	.580	14.732	1.125	28.575
.047	1.194	.257	6.528	.594	15.088	1.250	31.750
.050	1.270	.275	6.985	.595	15.113	1.297	32.944
.054	1.372	.281	7.137	.625	15.875	1.321	33.553
.071	1.803	.297	7.544	.688	17.475	1.392	35.357
.078	1.981	.312	7.925	.710	18.034	1.500	38.100
.093	2.362	.315	8.001	.750	19.050	1.517	38.532
.094	2.388	.328	8.331	.781	19.837	2.250	57.150
.115	2.921	.350	8.890	.789	20.041	12.334	313.284
.125	3.175	.375	9.525	.875	22.225	12.454	316.332
.130	3.302	.388	8.585	-	-	-	-

PREPARING ACTIVITY: NAVY-AS CUSTODIANS: ARMY-ER NAVY-AS AIR FORCE-85 DLA-GS REVIEW: USAF-99 ARMY-MI USER: NAVY-MC PROJECT NUMBER: 5940-1155	MILITARY SPECIFICATION SHEET TITLE: TERMINAL BOARD ASSEMBLY, MOLDED-IN-STUD, ELECTRIC	SPECIFICATION SHEET NUMBER <b>MS 27212</b> 15 SEP 94 REV P SUPERSEDING MS 27212N 15 SEP 1989 AMSC- N/A FSC 5940
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