MIL-C-13777/4B
15 September 1969
SUPERSEDING
MIL-C-13777/4A
1 September 1966

MILITARY SPECIFICATION SHEET

CABLE, SPECIAL PURPOSE, ELECTRICAL
21, 22, 24, 26, 27, 28, AND 32 CONDUCTORS

The complete requirements for procuring the cable described herein shall consist of this document and the latest issue of Specification MIL-C-13777.

This specification is mandatory for use by all Departments and Agencies of the Department of Defense.

REQUIREMENTS:

Dimensions and configuration: See applicable figure and design data for the following cable types:

211055	S221385	241215	280805
211115S	240966	261065S	321355
211345	241215S	271100S	

In any conflict between the design data and the applicable figure, the design data shall govern.

DESIGN DATA

Type Designation	211055			211115S	
Figure No.	1			2	
Total Wires	21			21	
No. of Conductors & AWG #	15/#18	6/#12	5/#18S	10/#18	6/#12
Insulation					
Min average thickness	0.015"	0.020"		0.015"	0.020"
Spark Test Voltage	3000	4000		3000	4000
Inspection Test Voltage	1500	2000		1500	2000
Cabling					
Layer No. 1	Filler			Filler	
Layer No. 2					
(a) Number of wires	6			6	
(b) AWG #	#12			#12	
(c) Maximum Lay	4.00"			4.00"	
Layer No. 3					
(a) Number of wires	15			5	10
(b) AWG #	#18			#18S	#18
(c) Maximum Lay	7.00"			7.00"	
Sheath					
No. of Layers	2			2	
Total thickness Min	0.120"			0.120"	
Minimum OD Cable	1.040"			1.100"	
Maximum OD Cable	1.070"			1.130"	

DESIGN DATA

Type Designation	211345			S221385	
Figure No.----------	1			3	
Total Wires----------	21			22	
No. of Conductors & AWG #	15/#18	6/#9	3/#8	4/#12	15/#16
Insulation					
Min average thickness----	0.015"	0.030"	0.060"	0.020"	0.015"
Spark Test Voltage-------	3000	4000	7500	4000	3000
Inspection Test Voltage--	1500	2000	5000	2000	1500
Cabling					
Layer No. 1----------	Filler			Filler	
Layer No. 2----------					
(a) Number of wires----	6			6	
(b) AWG #----------	#9		3/#8		3/#16
(c) Maximum Lay--------	6.00"				
Layer No. 3----------					
(a) Number of wires----	15			16	
(b) AWG #----------	#18		4/#12		12/#16
(c) Maximum Lay--------	9.00"			6.00"	
Sheath					
No. of Layers----------	2			2	
Total thickness Min------	0.156"			0.156"	
Minimum OD Cable---------	1.330"			1.360"	
Maximum OD Cable---------	1.360"				

DESIGN DATA

Type Designation	240966	241215S	
Figure No.----------	4	5	
Total Wires----------	24	24	
No. of Conductors & AWG #	24/#18	12/#18S (1)	12/#18S (2)
Insulation			
Min average thickness----	0.015"	0.015"	
Spark Test Voltage-------	3000	3000	
Inspection Test Voltage--	1500	1500	
Cabling			
Layer No. 1----------			
(a) Number of wires----	2	4	
(b) AWG #----------	#18	#18S (3)	
(c) Maximum Lay--------		3.50"	
Layer No. 2----------			
(a) Number of wires----	8	8	12
(b) AWG #----------	#18	#18S (4)	#18S (5)
(c) Maximum Lay--------		7.00"	
Layer No. 3----------			
(a) Number of wires----	14		
(b) AWG #----------	#18		
(c) Maximum Lay--------	4.5"		
Sheath			
No. of Layers----------	2	2	
Total thickness Min------	0.125"	0.100"	
Minimum OD Cable---------	0.951"	1.200"	
Maximum OD Cable---------	0.981"	1.230"	

Notes:
(1) Shielded pairs
(2) Shielded triplets
(3) 2 Shielded pairs
(4) 4 Shielded pairs
(5) 4 Shielded triplets

DESIGN DATA

Type Designation		241215			261065S	
Figure No. ----------		6			7	
Total Wires----------		24			26	
No. of Conductors & AWG #	5/#18	19/#12	5/#18S	6/#18	12/#13	3/#12
Insulation						
Min average thickness-----	0.015"	0.020"		0.015"	0.018"	
Spark Test Voltage--------	3000	4000		3000	4000	
Inspection Test Voltage---	1500	2000		1500	1800	
Cabling						
Layer No. 1----------		Filler				
(a) Number of wires-----					2	
(b) AWG #----------					#18S*	
(c) Maximum Lay---------						
Layer No. 2----------						
(a) Number of wires-----		5	3			6
(b) AWG #----------		#18	#18S			#13
(c) Maximum Lay---------					5.00"	
Layer No. 3----------						
(a) Number of wires-----		7	6		6	3
(b) AWG #----------		#12	#18		#13	#12
(c) Maximum Lay---------					6.00"	
Layer no. 4----------						
(a) Number of wires-----		12				
(b) AWG #----------		#12				
(c) Maximum Lay---------						
Sheath						
No. of Layers----------		2			1	
Total thickness Min-------		0.098"			0.080"	
Minimum OD Cable---------		1.190"			1.050"	
Maximum OD Cable----------		1.240"			1.080"	

Note: *Shielded Pairs AWG #18 with 3" Max Lay Twist

	DESIGN DATA	
Type Designation	271100S	280805
Figure No.----------	8	9
Total Wires----------	27	28
No. of Conductors & AWG #	27/#18	#20
Insulation		
Min average thickness----	0.012"	0.015"
Spark Test Voltage-------	3000	3000
Inspection Test Voltage--	1500	1500
Cabling		
Layer No. 1----------		
(a) Number of wires----	3	4
(b) AWG #----------	#18	#20
(c) Maximum Lay--------		
Layer No. 2----------		
(a) Number of wires----	9	9
(b) AWG #----------	#18	#20
(c) Maximum Lay--------	5.00"	
Layer No. 3----------		
(a) Number of wires----	15	15
(b) AWG #----------	#18S	#20
(c) Maximum Lay--------		
Sheath		
No. of Layers----------	2	1
Total thickness Min------	0.109"	0.080"
Minimum OD Cable---------	1.085"	0.780"
Maximum OD Cable---------	1.115"	0.830"

DESIGN DATA

Type Designation	321355
Figure No.----------	10
Total Wires----------	48
No. of Conductors & AWG #	(1)
Insulation	
Min average thickness----	0.015"
Spark Test Voltage-------	3000
Inspection Test Voltage--	1500
Cabling	
Layer No. 1----------	Filler
Layer No. 2----------	
(a) Number of wires----	5
(b) AWG #----------	#16 #20
(c) Maximum Lay--------	2.0"
Layer No. 3----------	
(a) Number of wires----	11
(b) AWG #----------	#16 #20
(c) Maximum Lay--------	6.5"
Sheath	
No. of Layers----------	2
Total thickness Min------	0.100"
Minimum OD Cable---------	1.325"
Maximum OD Cable---------	1.385"

Note: (1) 32 #16 Shielded Pairs w/16 #20 Bare

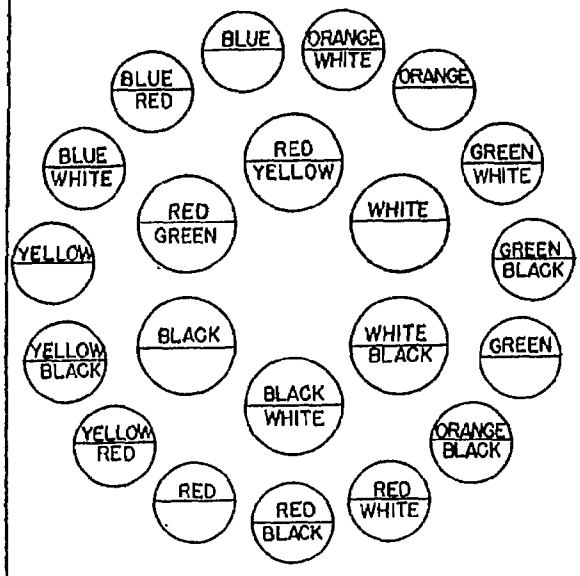
Custodians:
Army - MU
Navy - SH
Air Force - 17

Preparing activity:
Army - MU

(Project 6145-0473)

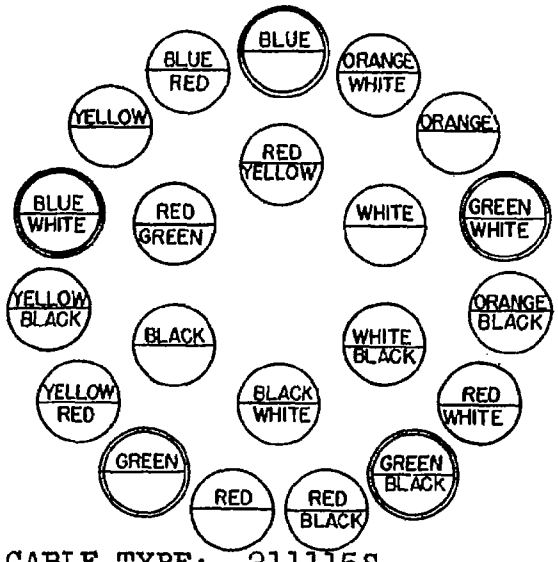
Reviewer:
Army - MI, EL, WC
Navy - SH
Air Force - 85

Users:
Army - ME, AT
Navy - MC, AS, EC
Air Force - 11



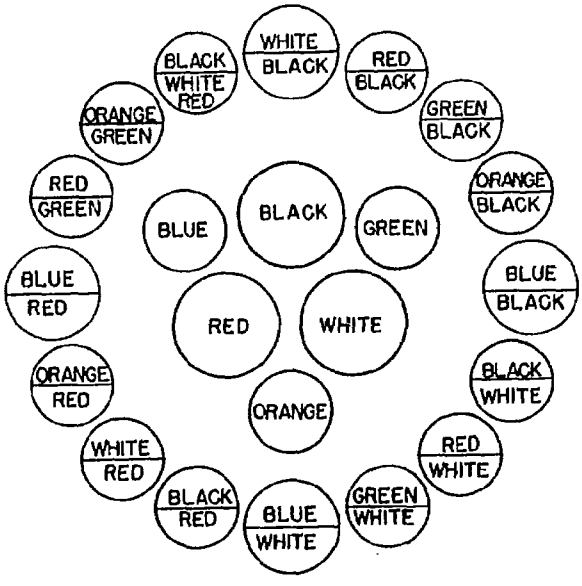
CABLE TYPES: 211055 211345

FIGURE 1



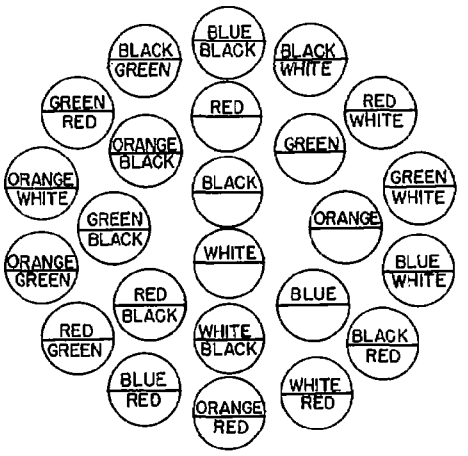
CABLE TYPE: 211115S
NOTE: DOUBLE CIRCLE INDICATES SHIELDED CONDUCTORS

FIGURE 2



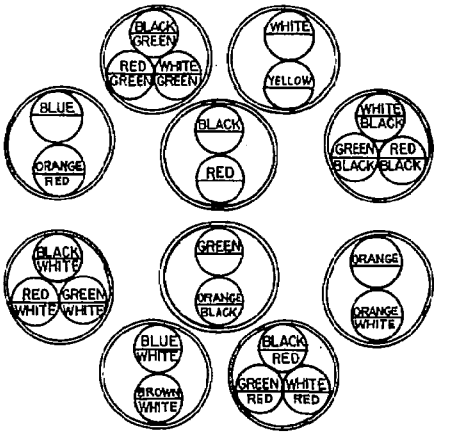
CABLE TYPE: S221385

FIGURE 3



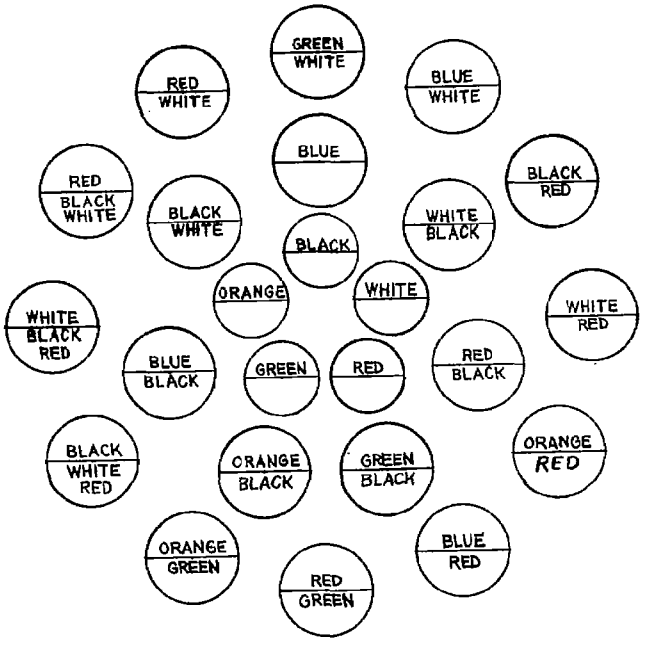
CABLE TYPE: 240966

FIGURE 4



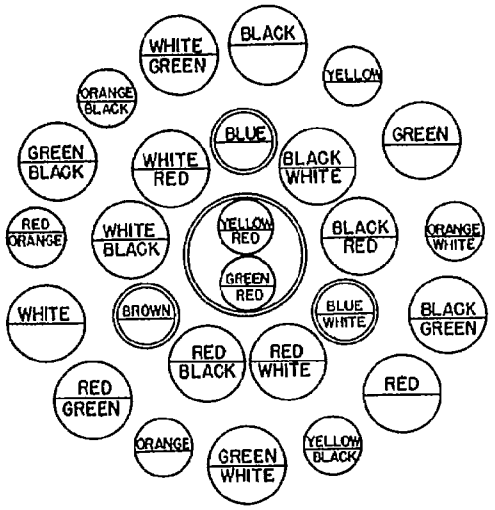
CABLE TYPE: 241215S
NOTE: DOUBLE SHIELD
INDICATES SHIELDED
CONDUCTORS

FIGURE 5



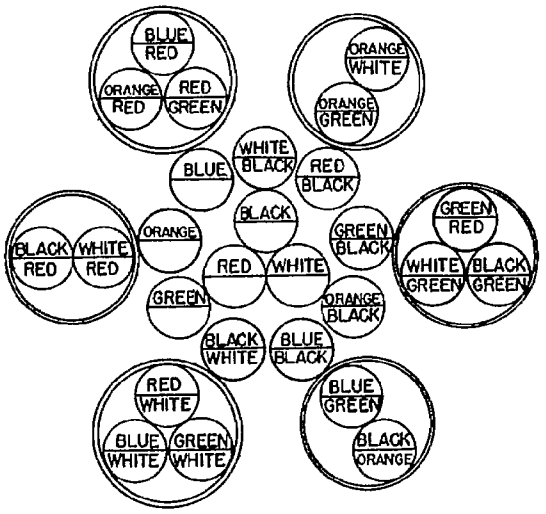
CABLE TYPE: 241215

FIGURE 6



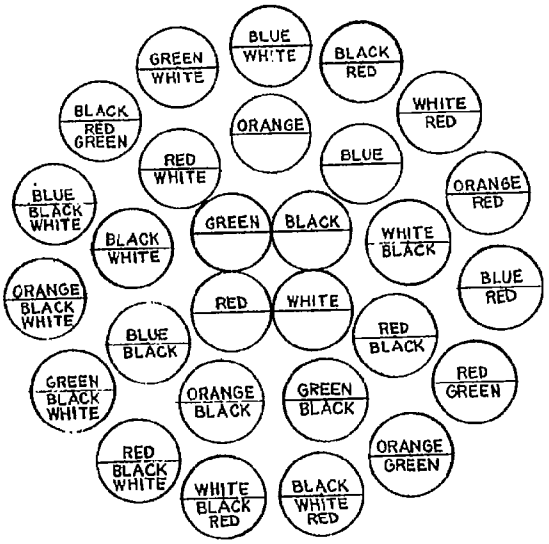
CABLE TYPE: 261065S
NOTE: DOUBLE CIRCLE INDICATES SHIELDED CONDUCTORS

FIGURE 7



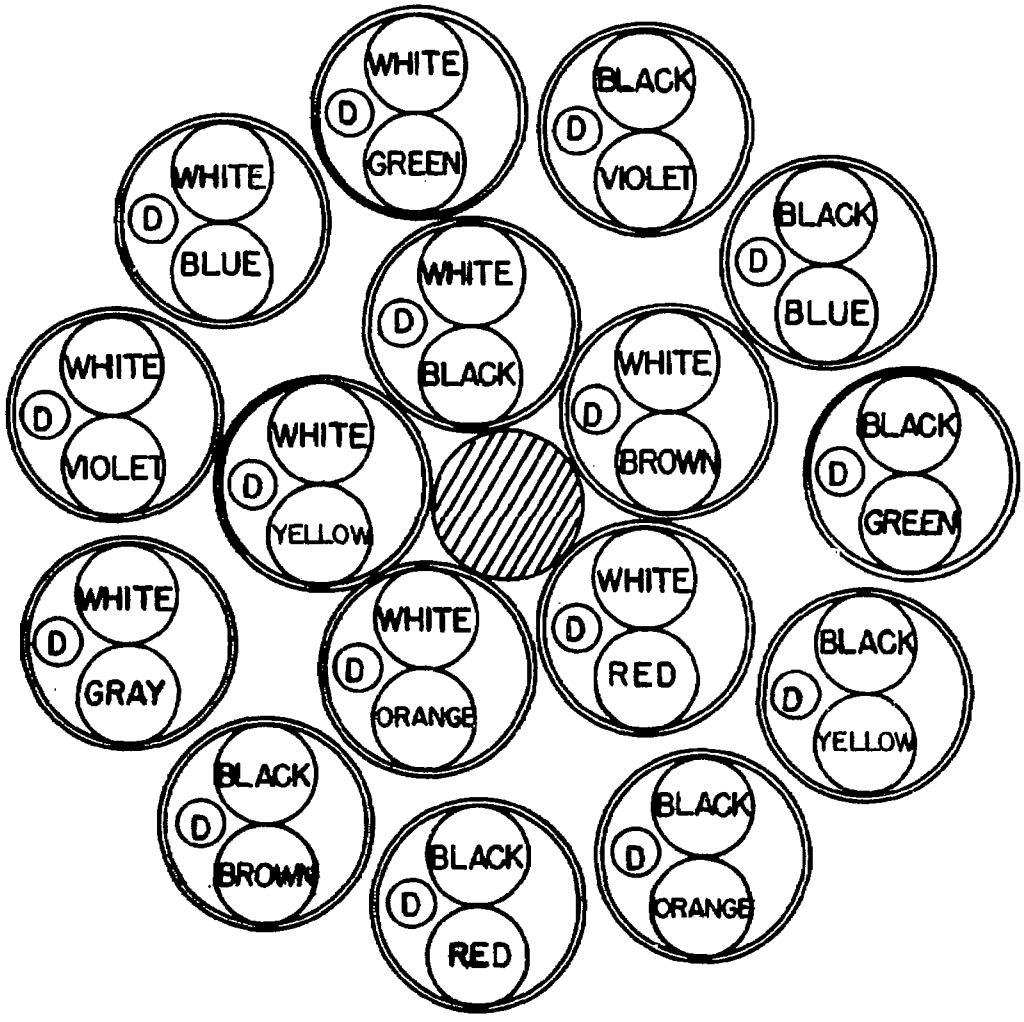
CABLE TYPE: 271100S
NOTE: DOUBLE CIRCLE INDICATES SHIELDED CONDUCTORS

FIGURE 8



CABLE TYPE: 280805

FIGURE 9



CABLE TYPE: 321355

FIGURE 10