

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.

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	DESIGN DATA		211115S		
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-----	Filler		Filler		
(a) Number of wires----	6		6		
(b) AWG #-----	#12		#12		
(c) Maximum Lay-----	4.00"		4.00"		
Layer No. 3-----	Filler		Filler		
(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"				

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	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

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		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

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	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

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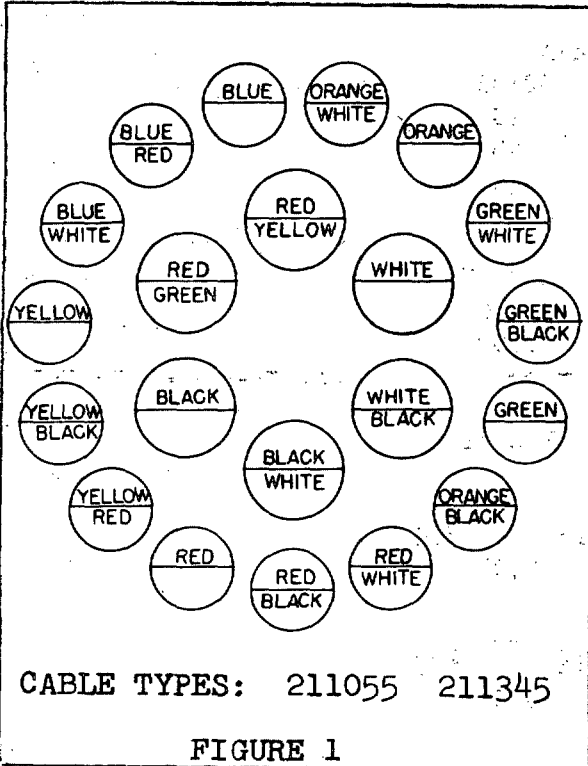


FIGURE 1

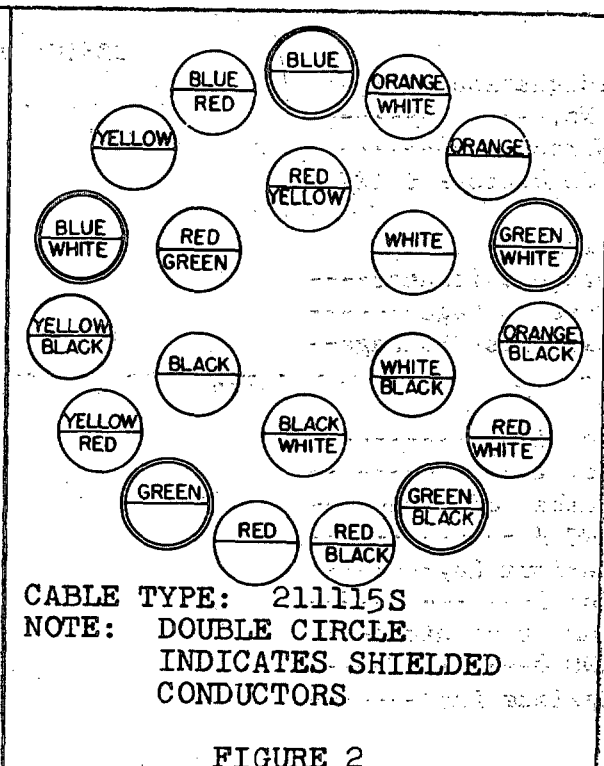


FIGURE 2

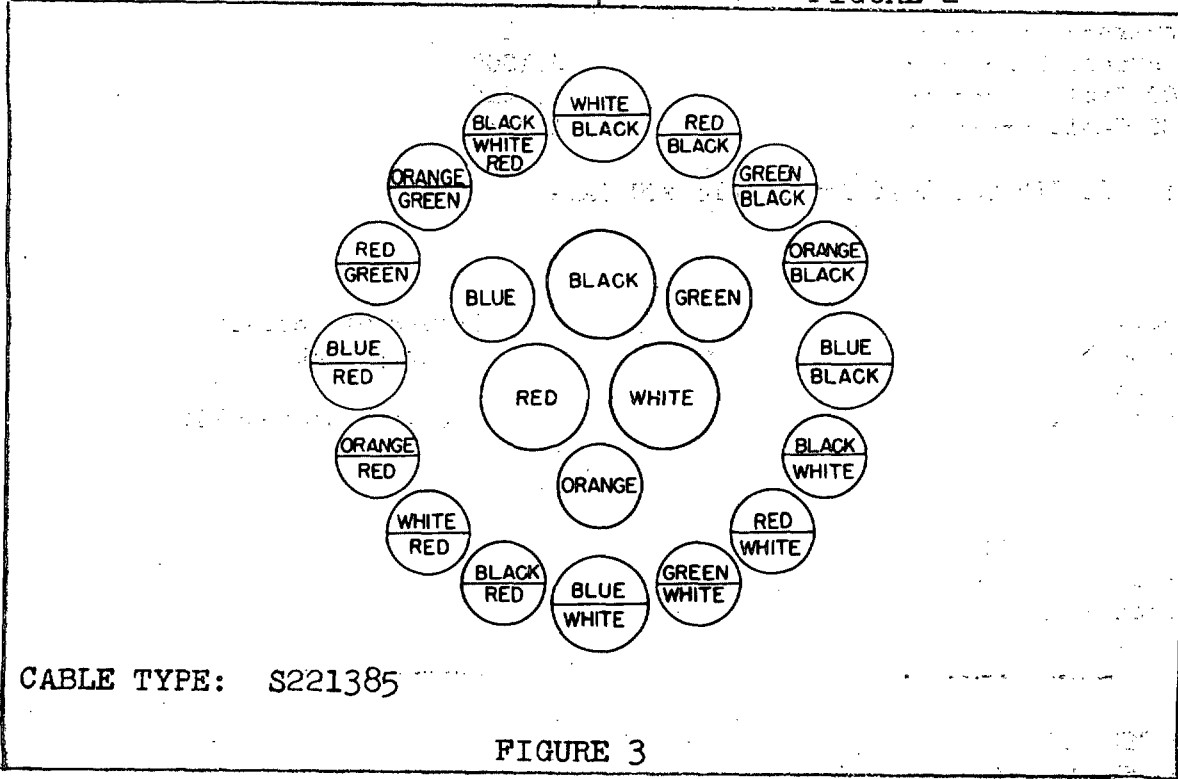
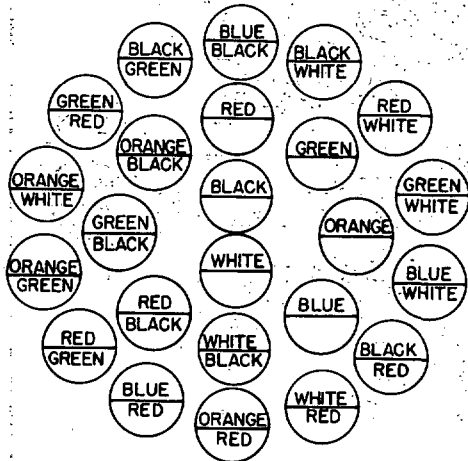
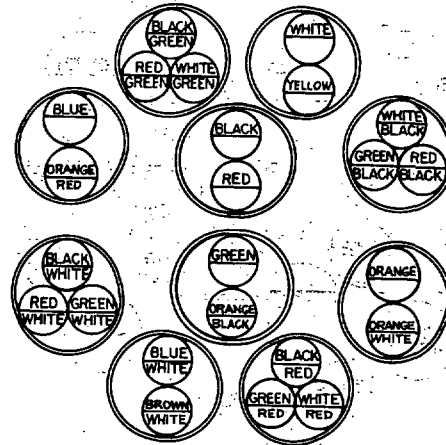


FIGURE 3



CABLE TYPE: 240966

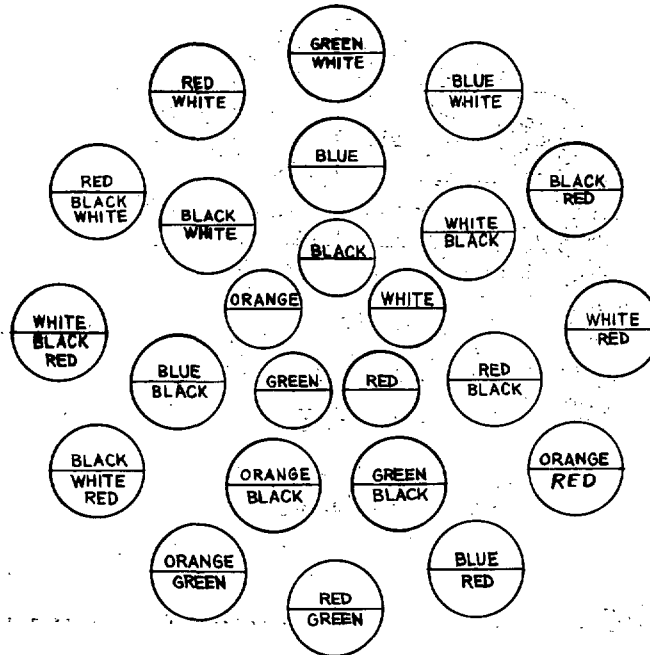
FIGURE 4



CABLE TYPE: 241215S

NOTE: DOUBLE SHIELD
INDICATES SHIELDED
CONDUCTORS

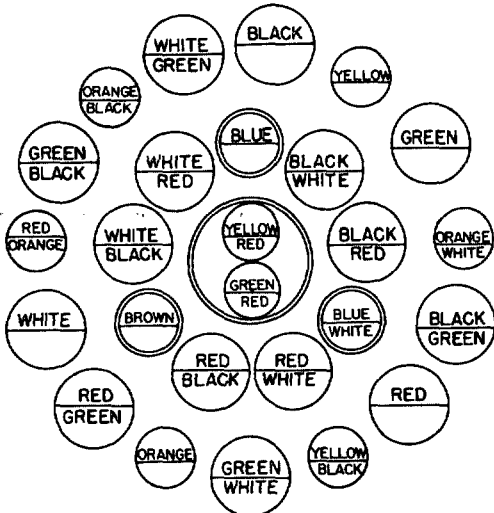
FIGURE 5



CABLE TYPE: 241215

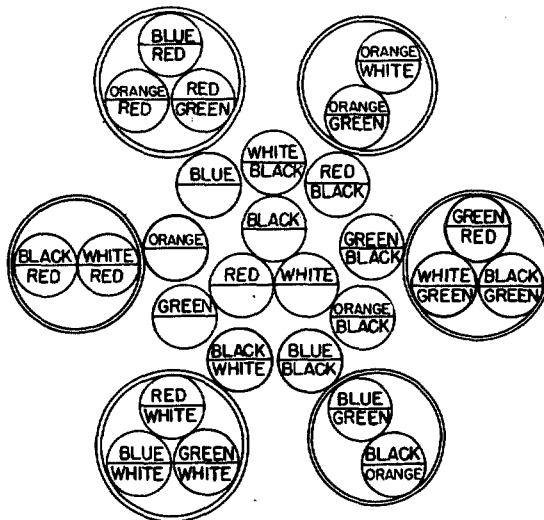
FIGURE 6

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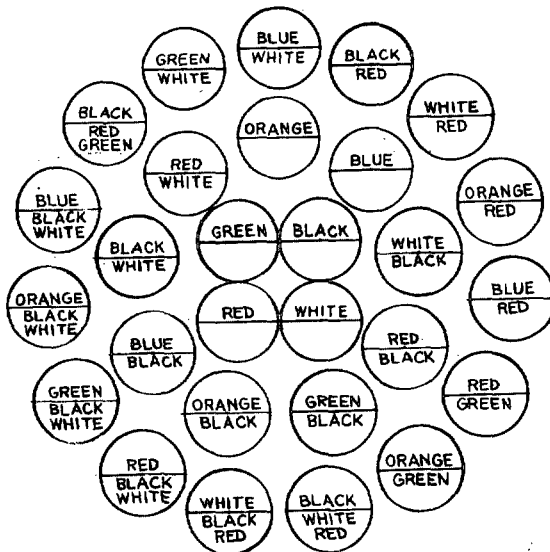
CABLE TYPE: 261065S
 NOTE: DOUBLE CIRCLE
 INDICATES SHIELDED
 CONDUCTORS

FIGURE 7



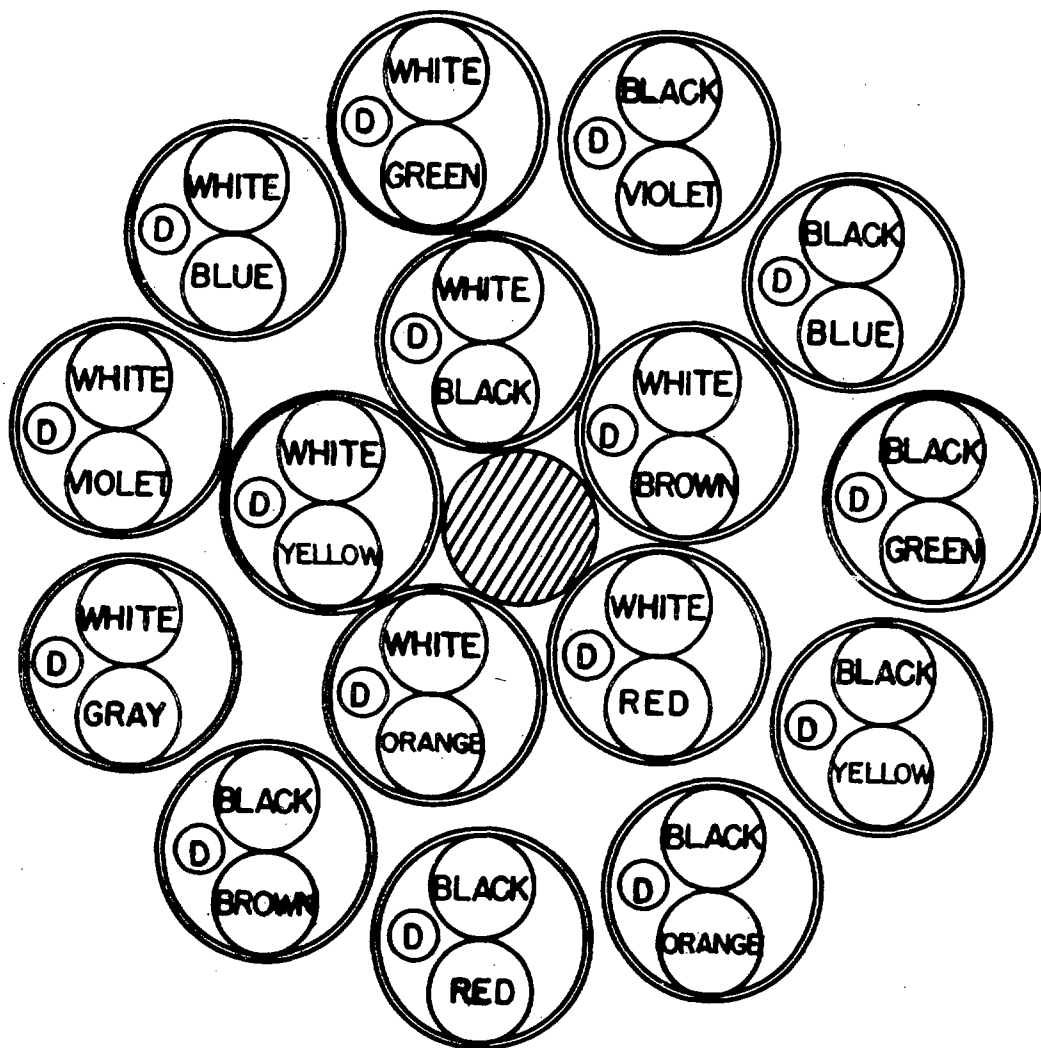
CABLE TYPE: 271100S
 NOTE: DOUBLE CIRCLE
 INDICATES SHIELDED
 CONDUCTORS

FIGURE 8



CABLE TYPE: 280805

FIGURE 9



CABLE TYPE: 321355

FIGURE 10