INCH-POUND

MIL-DTL-13777/3B
11 May 2011
SUPERSEDING
MIL-C-13777/3A
1 September 1966

DETAIL SPECIFICATION SHEET

CABLE, SPECIAL PURPOSE, ELECTRICAL 16, 17, 18, 19, AND 20 CONDUCTORS

Inactive for new design after 1 July 2002.

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

The requirements for acquiring the product described herein shall consist of this specification sheet and MIL-DTL-13777.

REQUIREMENTS:

Dimensions and configurations: See applicable figure and design data for the following cable types. The cable types are specified in table I. Design data information is specified in table II.

TABLE I. Cable types.

160636	S161375S	180675	S190965S	200935
S160878S	170752	180848	191110S	
161065S	170874	S190875	191140	

AMSC N/A

FSC 6145

TABLE II. Design data.[1/]

	Design data				
Type designation	160636		S160878S		161065S
Figure number	1		2		3
Total wires	16		16		16
Number of conductors & AWG #	16/#20	8/#18	8/#18S	12/#18	4/#18
Insulation					
Min average thickness	0.012”		0.015”		0.015”
Spark test voltage	3000		3000		3000
Inspection test voltage	1500		1500		1500
Coaxial jacket insulation					
(a) Minimum average thickness					
Cabling					
Layer 1	Filler		Filler		Filler
Layer 2					
(a) Number of wires	5		6		4
(b) AWG #	#20		#18		#18S
(c) Maximum lay	2.0”		2.50”		3.75”
Layer 3					
(a) Number of wires	11	2		8	12
(b) AWG #	#20	#18		#18S	#18
(c) Maximum lay	4.5”		5.00”		6.00”
Sheath					
Number of layers	2		1		2
Total thickness min.	0.109”		0.080”		0.100”
Minimum OD cable	0.616”		0.863”		1.050”
Maximum OD cable	0.656”		0.893”		1.080”
Maximum weight (lbs./1000ft.)			538		

See notes at end of table.

TABLE II. Design data – Continued.[1/]

	Design data				
Type designation	S161375S			170752[2/]	170874[3/]
Figure number		4		5	5
Total wires		16		17	17
Number of conductors & AWG #	2/#18S	10/#18S	4/#6	17/#18	17/#16
Insulation					
Minimum average thickness		0.015”	0.060”	0.015”	0.015”
Spark test voltage		3000	7500	3000	3000
Inspection test voltage		1500	2500	1500	1500
Cabling					
Layer 1				Filler	Filler
(a) Number of wires		2			
(b) AWG #		#18[4/]			
(c) Maximum lay		3.00”			
Layer 2					
(a) Number of wires	5	5	4	6	6
(b) AWG #	#18[5/]	#18S	#6	#18	#16
(c) Maximum lay		8.00”			
Layer 3					
(a) Number of wires					
(b) AWG #				#18	#16
(c) Maximum lay				5.00”	6.00”
Sheath					
Number of layers		2		2	2
Total thickness minimum		0.100”		0.110”	0.109”
Minimum OD cable		1.360”		0.737”	0.849”
Maximum OD cable		1.390”		0.767”	0.899”

See notes at end of table.

TABLE II. Design data – Continued.[1/]

	Design data			
Type designation	180675		180848	S190875 [6/]
Figure number	6		7	8
Total wires	18		18	19
Number of conductors & AWG #	18/#20	14/#18	4/#16	19/#18
Insulation				
Minimum average thickness	0.015”		0.015”	0.015”
Spark test voltage	3000		3000	3000
Inspection test voltage	1500		1500	1500
Cabling				
Layer 1	Filler		Filler	Filler
Layer 2				
(a) Number of wires	6	2	4	7
(b) AWG #	#20	#18	#16	#18
(c) Maximum lay				
Layer 3				
(a) Number of wires	12		12	
(b) AWG #	#20		#18	#18
(c) Maximum lay				5.00”
Sheath				
Number of layers	1		2	1
Total thickness minimum	0.080”		0.098”	0.094”
Minimum OD cable	0.650”		0.823”	0.850”
Maximum OD cable	0.700”		0.873”	0.900”

See notes at end of table.

TABLE II. Design data – Continued.[1/]

	Design data					
Type designation	S190965S				191110S	
Figure number		9			8	
Total wires		19			19	
Number of conductors & AWG #	8/#18S		11/#18	7/#20		12/#20S
Insulation						
Minimum average thickness		0.015”			0.012”	
Spark test voltage		3000			3000	
Inspection test voltage		1500			1500	
Cabling						
Layer 1		Filler			Filler	
Layer 2						
(a) Number of wires		8			7	
(b) AWG #		#18			#20	
(c) Maximum lay		2.50”			4.0”	
Layer 3						
(a) Number of wires	8		3		12	
(b) AWG #	#18S		#18		#20S	
(c) Maximum lay		5.00”			8.0”	
Sheath						
Number of layers		1			2	
Total thickness min		0.080”			0.140”	
Minimum OD cable		0.950”			1.080”	
Maximum OD cable		0.980”			1.140”	

See notes at end of table.

TABLE II. Design data – Continued.[1/]

	Design data			
Type designation	191140		200935	
Figure number.	8		10	
Total wires	19		20	
Number of conductors & AWG #	19/#12	13/#18		7/#15
Insulation				
Minimum average thickness	0.020”		0.015”	
Spark test voltage	4000		3000	
Inspection test voltage	2000		1500	
Cabling				
Layer 1	Filler		Filler	
Layer 2				
(a) Number of wires	7		7	
(b) AWG #	#12		#15	
(c) Maximum lay			3.25”	
Layer 3				
(a) Number of wires	12		13	
(b) AWG #	#12		#18	
(c) Maximum lay			4.25”	
Sheath				
Number of layers	2		2	
Total thickness minimum	0.098”		0.125”	
Minimum OD cable	1.115”		0.920”	
Maximum OD cable	1.165”		0.950”	
Maximum weight (lbs/1000ft.)			540	

1/ Jacketed coaxial wires
2/ 11 & 1 filler
3/ 11 W/fillers
4/ Shield applied over twisted pair of AWG #18 – Maximum twist lay 3.00”
5/ Assembly with max lay of 3.00”
6/ 12 W/filler

Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issues due to the extensiveness of the changes.

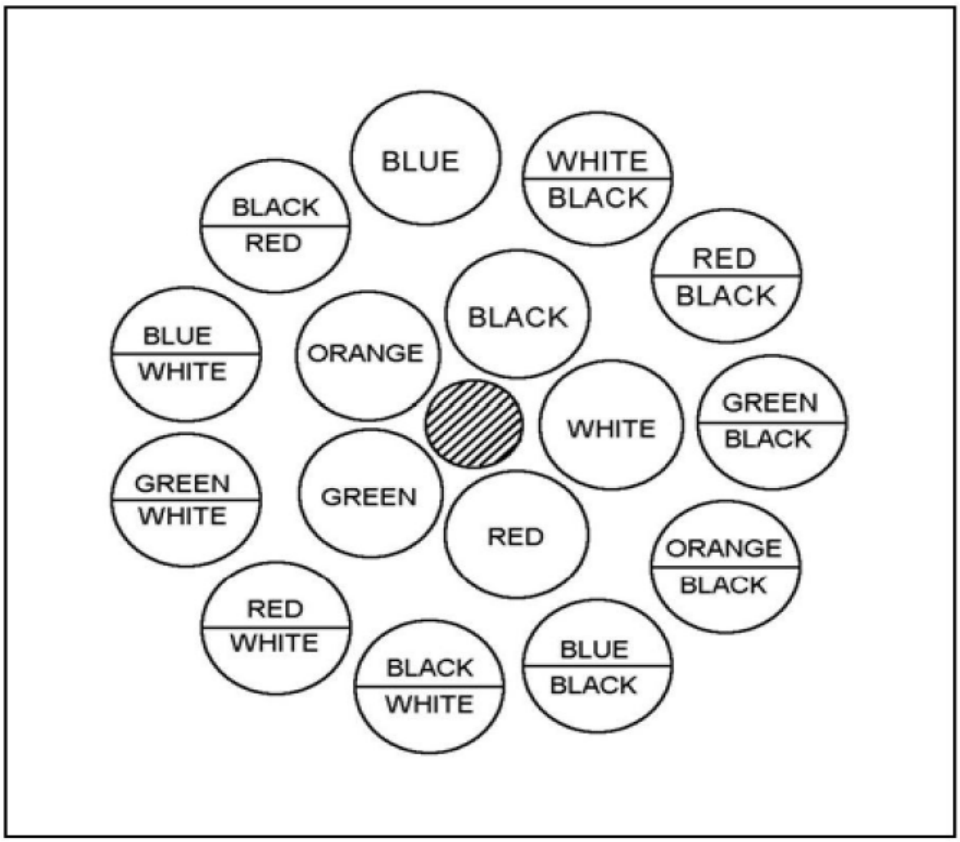


FIGURE 1. Cable type (160636).

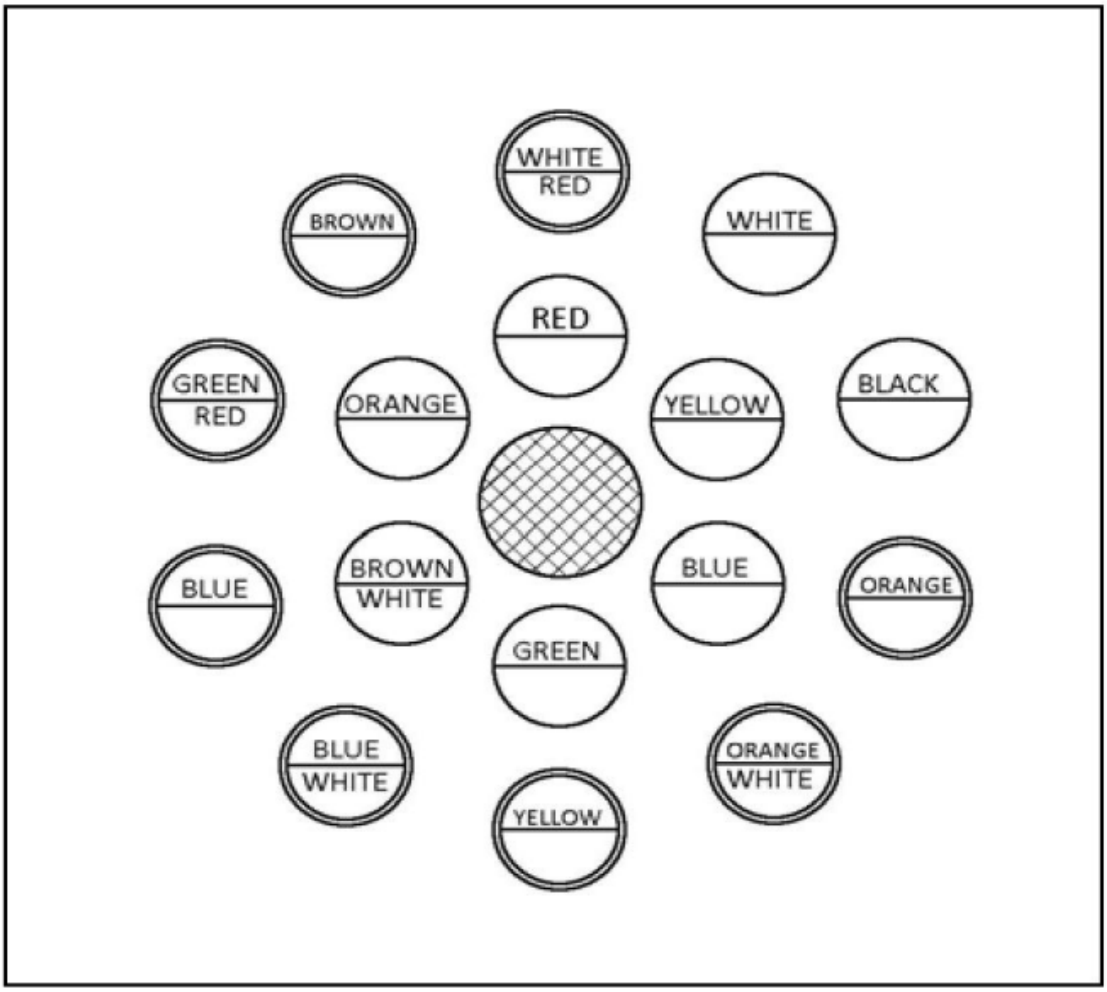


FIGURE 2. Cable type (S160878S).

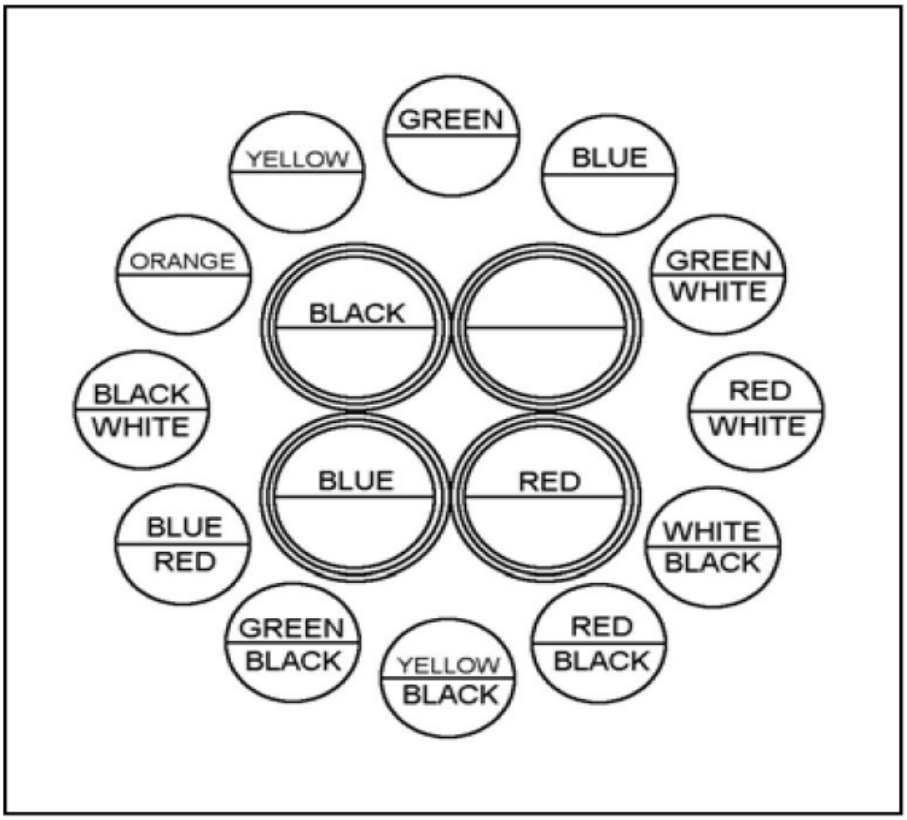


FIGURE 3. Cable type (161065S).

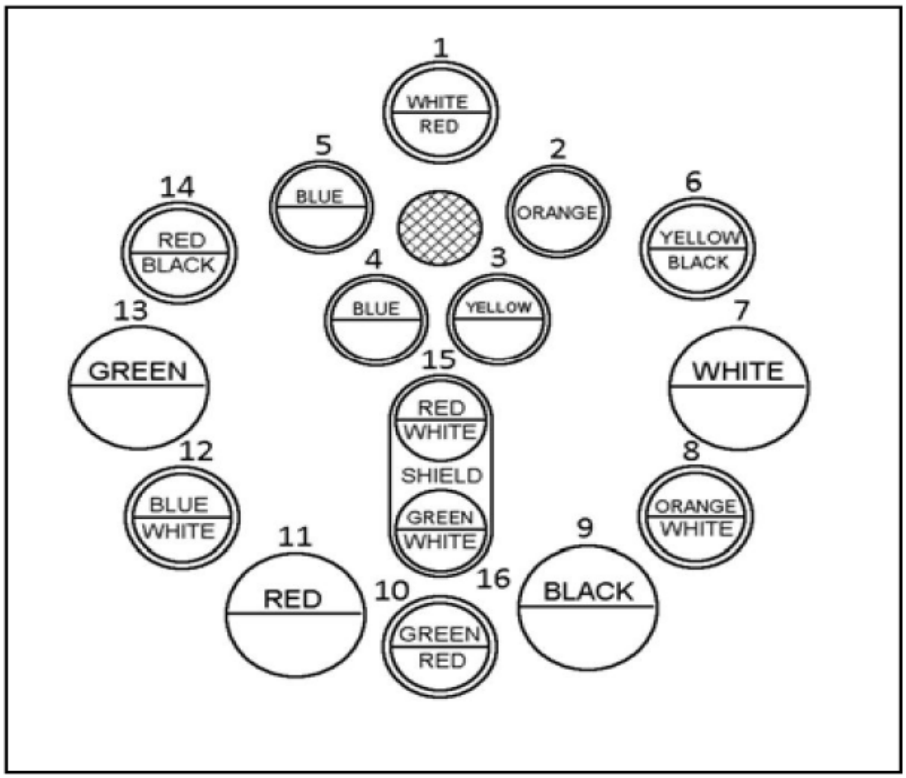


FIGURE 4. Cable type (S161375S).

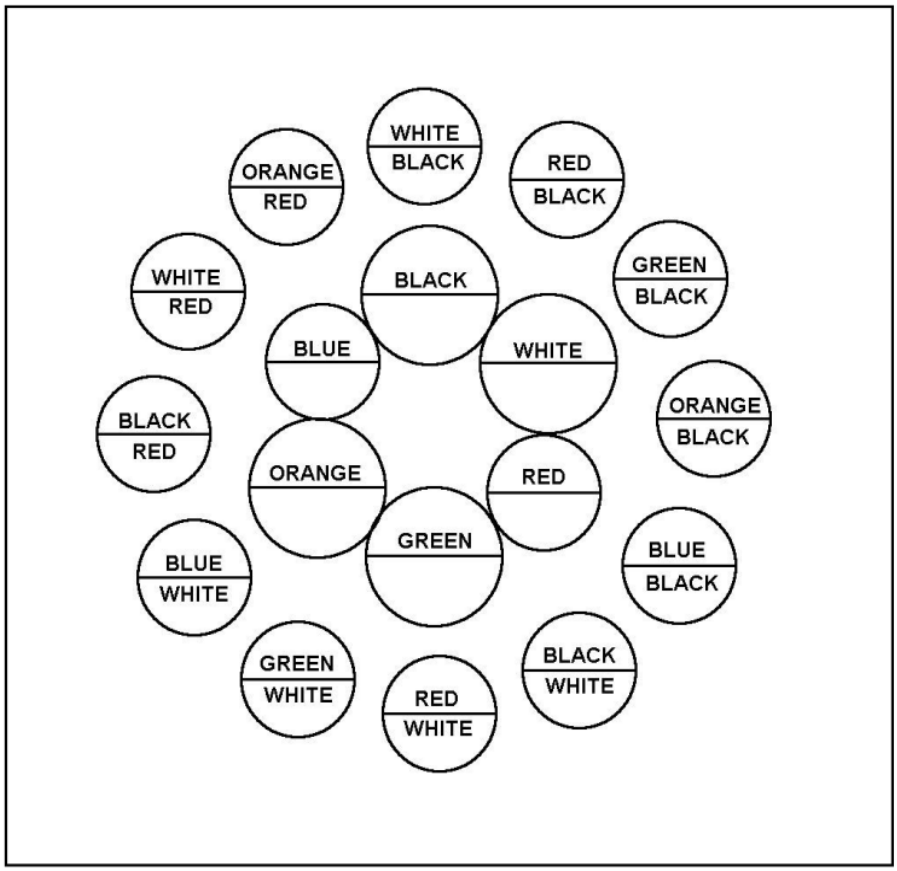


FIGURE 5. Cable types (170752, 170874).

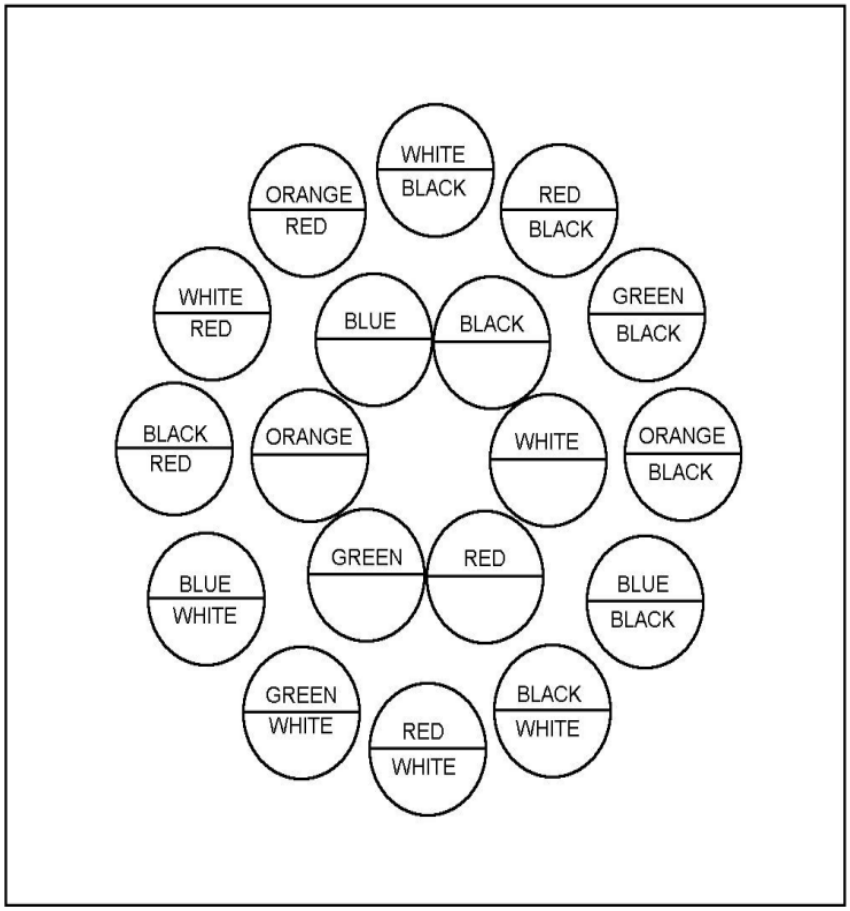


FIGURE 6. Cable type (180675).

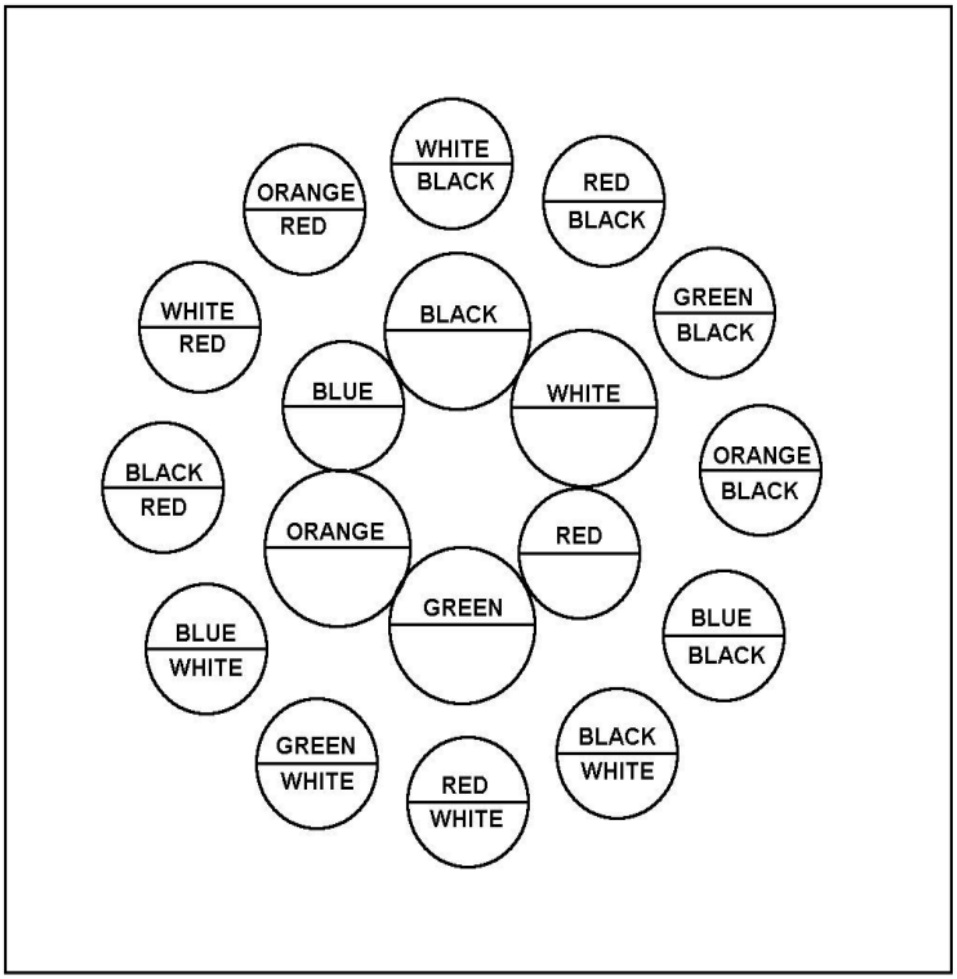
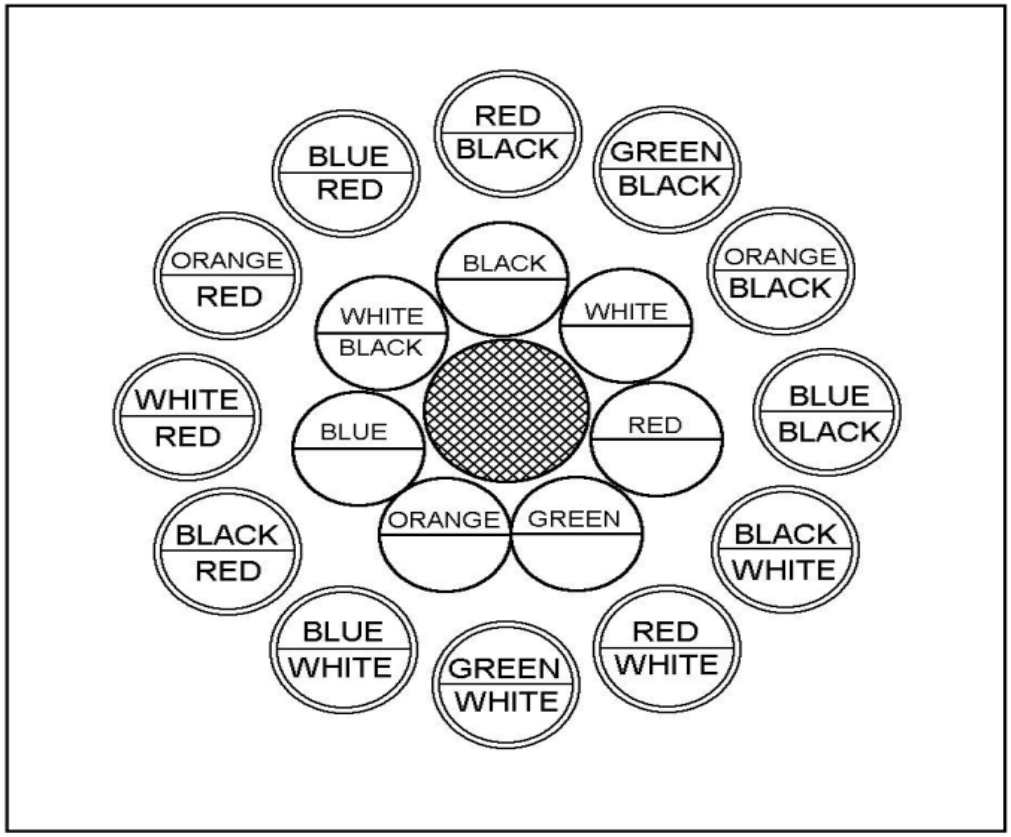
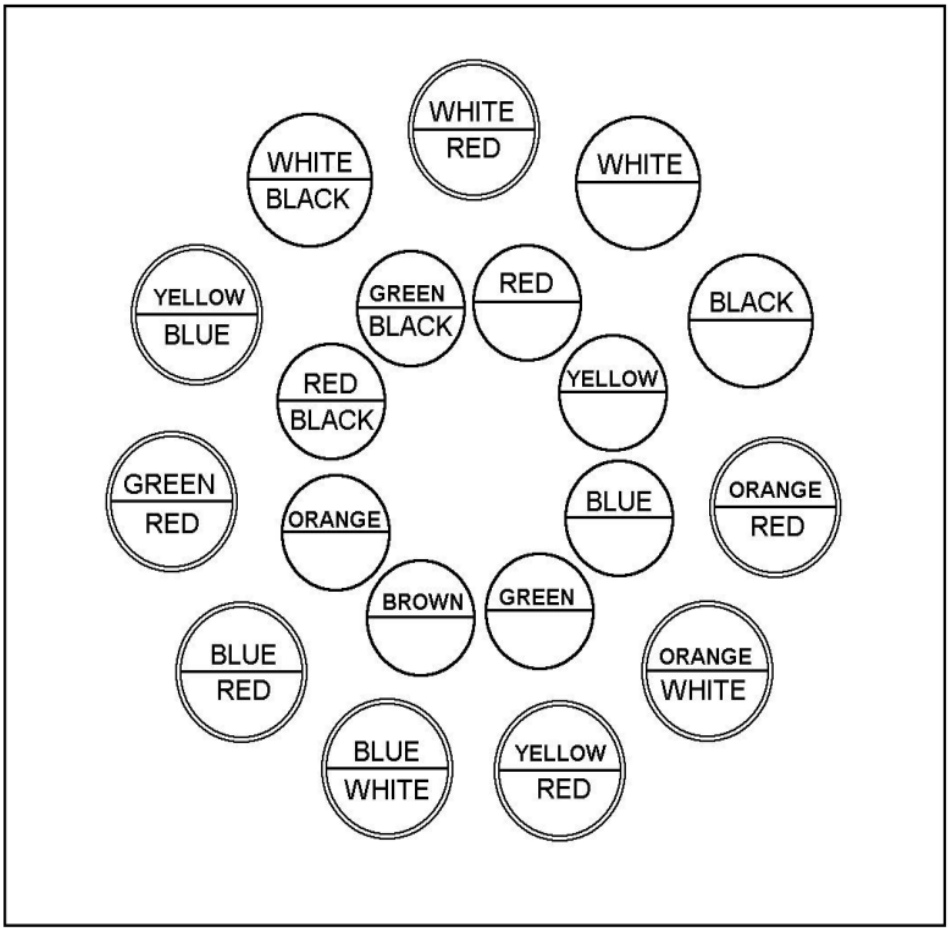


FIGURE 7. Cable type (180848).



NOTE: *Double circle indicates shielded conductors.

FIGURE 8. Cable types (S190875, 19110S*, 191140).



NOTE: Double circle indicates shielded conductors.

FIGURE 9. Cable type (S190965S).

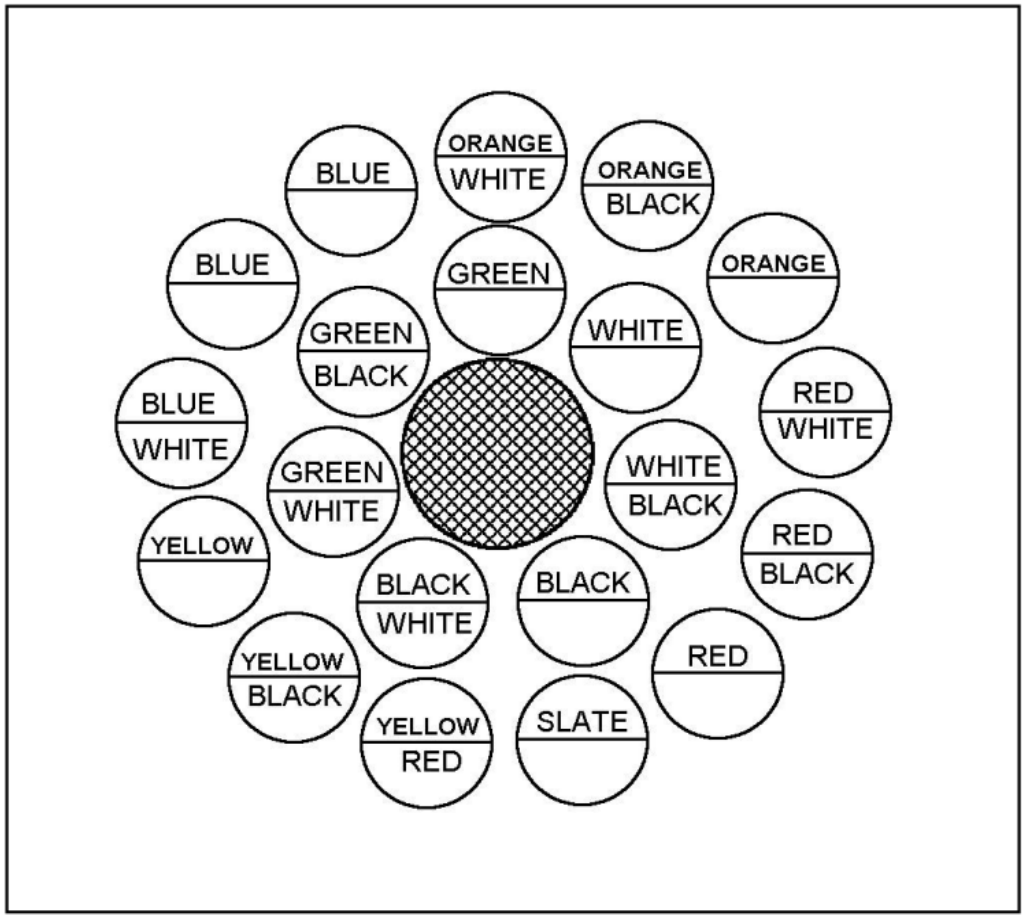


FIGURE 10. Cable type (200935).

CONCLUDING MATERIAL

Custodians:
Army – AR
Navy – SH
Air Force – 85
DLA CC

Review activities:
Army – CE, CR, MI
Navy – MC
Air Force – 19

Preparing activity:
DLA – CC

(Project 6145-2011-005)

Note: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information using the Assist Online database at https://assist.daps.dla.mil.