HANDLING WIRE AND CABLE

1.00 INTRODUCTION

1.01 This section covers the general factors to be considered when handling wire and cable and terminating and identifying conductors, and the disposition of wire and cable when service is disconnected.

1.02 Due to extensive changes marginal arrows have been omitted.

2.00 REMOVING WIRE OR CABLE FROM A COIL

2.01 To remove jacketed wire from the carton:

1. Punch out perforated hole from carton.
2. Place carton on floor and feed wire from center of coil (Fig. 1).

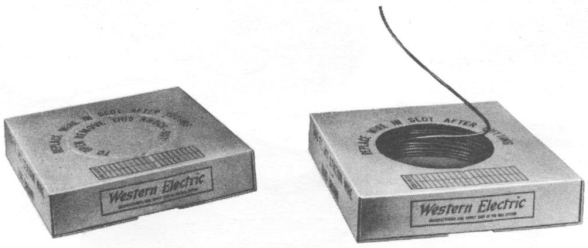


Fig. 1 — Removing Jacketed Wire

2.02 To remove twisted wire from a coil:

1. Place coil flat on floor so that inner end will feed from coil in a counterclockwise direction.
2. Feed from center of coil (Fig. 2).

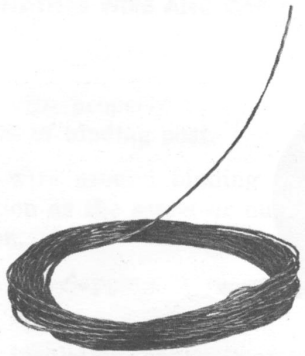


Fig. 2 — Removing Twisted Wire

2.03 To pay out cable, remove cable from coil by paying it off from outside of coil (Fig. 3).

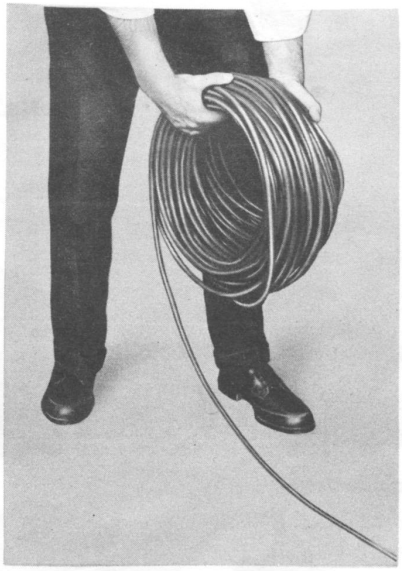


Fig. 3 — Paying Out Cable

3.00 STRIPPING CABLE

3.01 To strip braid or plastic-covered inside wiring cable:

1. Support cable between stripper and last attachment.
2. Angle tool to cable and insert point just under outer covering.
3. Pull stripper toward free end of cable (Fig. 4).

3.02 To strip lead-covered cable:

1. Score a groove around cable at butt marks with a chipping knife.
2. Cut deep enough so sheath will break when bent.
3. Slide section of sheath off free end of cable.
4. When a long length of sheathing is to be removed, score in 4-inch lengths and remove each section.

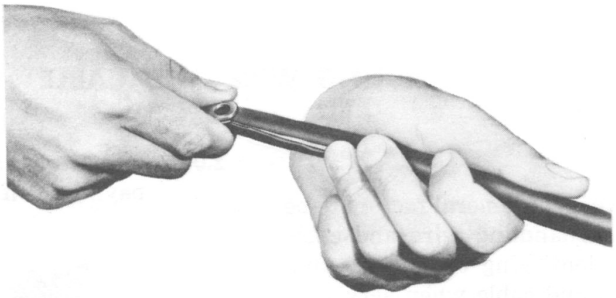


Fig. 4 — Using Cable Stripper

4.00 SKINNING CONDUCTORS (STATION WIRE, BLOCK WIRE, AND CABLE), FIG. 5, 6, 7, 8, AND 9

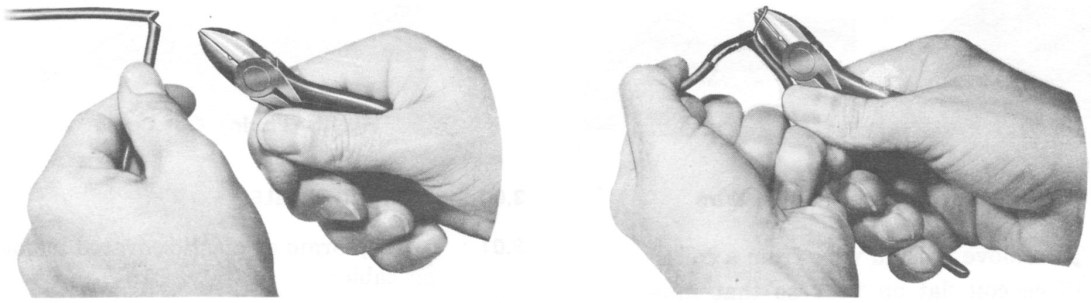


Fig. 5 — Skinning Jacketed Wire

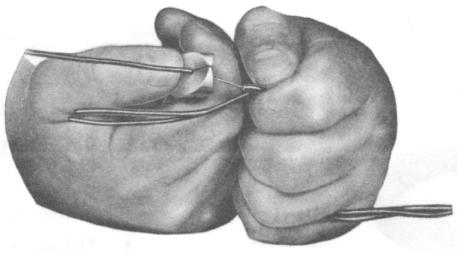


Fig. 6 — Skinning Twisted Wire

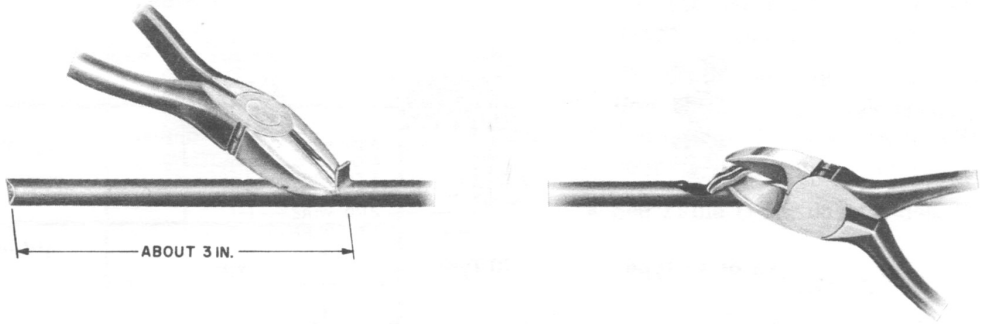


Fig. 7 — Skinning Flat Rubber Cordage

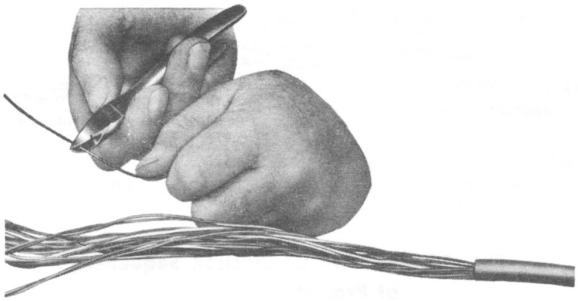


Fig. 8 — Skinning Conductors of Inside Wiring Cable

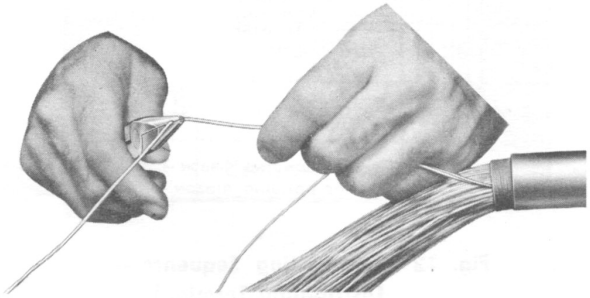


Fig. 9 — Skinning Conductors of Lead-covered Cable

5.00 TERMINATING WIRE AND CABLE CONDUCTORS, FIG. 10, 11, 12, 13, AND 14

- Hold wire properly to avoid catching in threads of binding post.
- Turn wire around binding post in same direction as the screw or nut is turned to tighten.
- Avoid overlapping wire around binding post.
- Keep insulation approximately 1/8 inch from the washer.

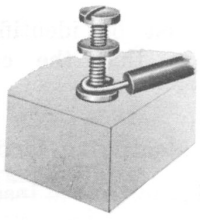
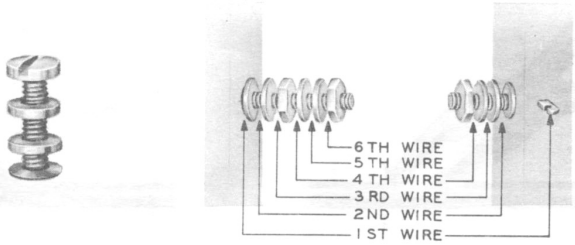


Fig. 10 — Terminating on Screw Terminal



42 or 44 Type 30 Type 31 Type

Fig. 11 — Terminating Sequence — Connecting Blocks

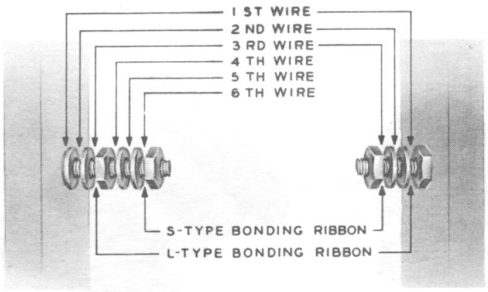


Fig. 12 — Terminating Sequence — Distributing Terminal

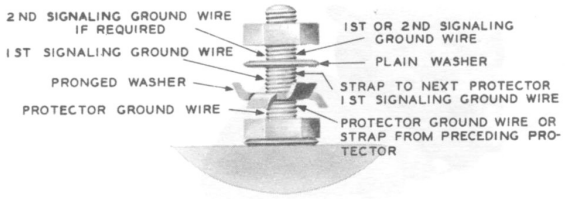


Fig. 13 — Ground Connection Sequence at Protector

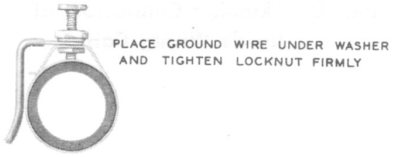


Fig. 14 — Terminating Sequence — Ground Clamp

6.00 IDENTIFICATION AND USE OF TRACER

6.01 Tracers must be identified and spliced together so that the circuits will be continuous.

6.02 Means of identifying conductors are:

- Colored threads in the insulation.
- Colored insulation.
- Tracer ridges in the insulation.

TABLE A

Solid-colored Insulation

Color of Tracer	Number of Conductors		
	Pair	Triple	Quad
Red	•	•	•
Green	•	•	•
Yellow		•	•
Black			•

TABLE B

Ridged Conductors

Tracer Ridge	Number of Conductors	
	Pair	Triple
Double		•
Single	•	•
Plain	•	•

7.00 INSIDE WIRING CABLE COLOR CODES

- D inside wiring cable is available in beige only, in the following pair sizes: 6, 12, 16, 25, 50, 75, and 100.
- The 6 to 25 pair sizes are layer construction. That is, one or more pairs are used for the core and the other pairs are wrapped around to form the cable.
- The 50 to 100 pair sizes are unit construction. That is, each cable is composed of 2 to 4 units of 25 pairs each with each unit bound with a binder color.
- See Table D for color codes.

TABLE C

Binder Colors

Unit No.	Binder Color	Pair No.
1	Blue-White	1-25
2	Orange-White	26-50
3	Green-White	51-75
4	Brown-White	76-100

TABLE D

Conductor Color Codes

D Inside Wiring Cable (Beige)			
Pair No.	Ring Wire	Tip Wire	Binder Color for 50, 75, and 100 Pairs
1	Blue	White	Blue-White
2	Orange		
3	Green		
4	Brown		
5	Slate		
6-10	Repeat First 5 Colors	Red	
11-15		Black	
16-20		Yellow	
21-25		Violet	
26-50	Repeat First 25 Colors		Orange-White
51-75			Green-White
76-100			Brown-White

TABLE D (Contd)

Conductor Color Codes

D Cable (Brown or Ivory)			Standard C Cable		
Pair No.	Ring Wire	Tip Wire	Pair No.	Ring Wire	Tip Wire
1	Blue	White	1	Blue	White
2	Orange		2	Orange	
3	Green		3	Green	
4	Brown		4	Brown	
5	Slate		5	Slate	
6-10	Repeat First 5 Colors	Red	6	Blue-White	White
11-15		Black	7	Blue-Orange	
16-20		Yellow	8	Blue-Green	
21-25		Violet	9	Blue-Brown	
26	Blue-White	White	10	Blue-Slate	
27	Orange-White		11	Orange-White	White
28	Green-White		12	Orange-Green	
29	Brown-White		13	Orange-Brown	
30	Slate-White		14	Orange-Slate	
31-35	Repeat Colors 26-30	Red	15	Green-White	White
36-40		Black	16	Green-Brown	
41-45		Yellow	17	Green-Slate	
46-50		Violet	18	Brown-White	White
51	Blue-Red	White	19	Brown-Slate	
52	Orange-Red		20	Slate-White	White
53	Green-Red		21-40	Repeat First 20 Colors	Red
54	Brown-Red		41-60		Black
55	Slate-Red		61-75	Repeat First 15 Colors	Red-White
56-60	Repeat Colors 51-55	Red			
61-65		Black			
66-70		Yellow			
71-75		Violet			
76*	Red	White	76*	Red	White

Note: D inside wiring cable of 101-pair size is constructed with a red-white pair (pair 101) in the center of four units. Each unit is color coded the same as the first 25 pairs in the 26-pair, D inside wiring cable, as shown in the table above. Each complete unit of 25 pairs is bound with a different colored cotton binder.

* Substituted for last pair in each cable.

8.00 DISPOSITION OF DISCONNECTED WIRE AND CABLE

8.01 General

- Station wires or cables in good condition should not be removed unless specifically requested by customer or building owner, or as stated on the order or local instructions.
- Remove wiring on temporary structures, on temporary installations, and where it obviously will not be re-used or where it is improperly run or in poor condition.
- When requested to remove good wire runs, do so carefully and remove only specified amounts.
- When removing wire and cable, cut off bare ends; remove fasteners; coil and tie in usable lengths according to color, type, and size; and tag coils to show size and type.
- The disposition of drop wire in connection with discontinuance of service is covered in the G series of Bell System Practices covering outside plant construction and maintenance.
- When wires or cable conductors are disconnected from terminal screws or locknuts, finger-tighten the unused screws or locknuts.

8.02 Disposition at the Point Where Equipment Is Connected

- When wires are terminated directly on equipment, disconnect at screw terminals, fasten slack, and terminate on a connecting block.
- In large buildings, note location of disconnected pairs on a tag at protector, distributing terminal, or service entrance.
- Where wire is run in a wire distribution system such as raceways, conduits, ducts, etc, turn wires back into outlets and tag location at terminal. Always cut off bare ends of wire before turning it back.
- If wire is run directly from an underfloor duct system, arrange with building people to cap hole after proper disposition of wire or cable.
- Where cable is terminated, it should be removed and properly recovered unless there is reasonable indication that it will be re-used.
- When cable is to be re-used, turn back the unsheathed end (remove lacing if necessary), tape with two layers of friction tape half lapped and reversed, and fasten to supporting surface. In a damp location, tape with two layers of rubber tape before using friction tape.

8.03 Disposition of Wiring at Connecting Blocks

- Leave wires connected to connecting block at point of entrance.
- When a partial disconnect is made, such as a bedroom station bridged to the main station at a connecting block, the wires to the disconnected station should be removed at the bridging connecting block and fastened down securely.

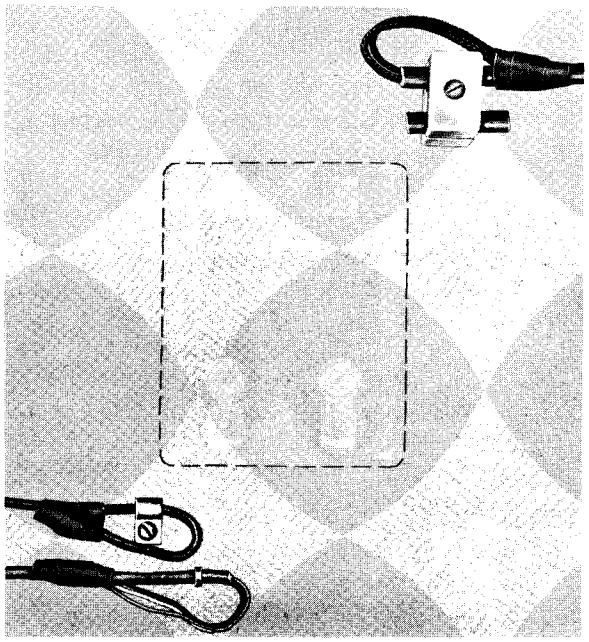


Fig. 15 — Disposition of Wiring When Removing Protector

- Concealed wiring and connecting blocks in a desk or other movable object should be left securely fastened unless removal is requested.
- When wiring and connecting blocks are exposed on a desk or other movable object, they should be removed.

8.04 Disposition of Wiring at Protectors

- When it appears that the station protector will be re-used, leave it in place with all wires attached and check to be sure protector is properly grounded.
- Remove protector if it will not be re-used or if its removal is requested.
- When removing protector, turn back and securely fasten inside and ground wires, and remove line wire (see Fig. 15).
- Where service cable or buried wire is used and protector is to be removed, turn back and tape line wires.
- To avoid breaking, do not straighten out ends of line wires.
- When protector ground wire is not continuous after removal of one of a series of protectors, place a new strap or use a 2A bridging connector (see Fig. 16).

8.05 Disposition of Wires at Inside Cross-connecting Box or Distributing Cable Terminal

- Remove cross connections at inside cross-connecting box or distributing cable terminal.
- Leave fuses in place and remove protector blocks.
- Turn free end of station wire back on itself beyond first distributing ring, tape in place, and tag to show location of other end.
- Where station wire is premanently terminated and then cross-connected, remove cross connections but do not lift station wires off their respective terminals.

8.06 Disposition of Wires Between Points of Termination

- Remove wire if specifically requested to do so by customer.
- When wire is to be left in, remove slack and fasten securely to supporting surface.
- Where wire is in rubber floor molding or metal raceway:
  1. Remove wire between desks and baseboard.
  2. Remove molding and fittings unless they will be re-used immediately.
  3. Terminate ends of wire on connecting block attached to baseboard or other surface.

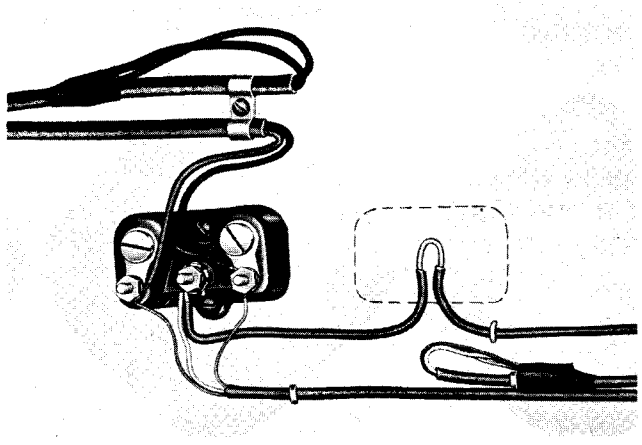


Fig. 16 — Series of Protectors