DROP & BLOCK WIRING

DROP AND BLOCK WIRE AT AERIAL TERMINALS

1. GENERAL

1.01 This practice describes the methods and procedues to be used in the wiring of terminals on aerial and block wire.

1.02 When terminating drop or block wires, not more than two pair of wires should be bridged on one binding post.

1.03 When working in a terminal, perform the following:

a. Remove foreign matter with a terminal brush.

b. Report broken or missing terminal covers to your supervisor.

c. Trim frayed wires to prevent leakage between conductors or binding posts.

d. Turn down finger tight all nuts of unused binding posts to keep contact surfaces as clean as possible.

e. Pull any excess slack out of wires in ring run.

f. Rearrange any disconnected wires in accordance with existing practices covering disposition of wires.

g. Pull drop wires tight enough to provide a neat appearance but not so tight that sharp bends will be placed on the wires at the rings.

h. Use plastic insulated twisted pair station wire or main frame jumper wire for cross-connecting within outside terminals.

i. Use only the approved terminal wrench to tighten lugs.

j. Be sure terminal cover is on properly before leaving terminal.

2. SELECTION OF RINGS

2.01 Drive rings should be used for ring runs on poles and arms. Bridle rings should be used for building terminal ring runs where the use of drive rings creates a safety hazard.

2.02 Tables A and B should be used as a guide to ring capacities and correct usage of rings.

2.03 See Figure 14 for an illustration showing typical drive ring pole attachments.

TABLE A

Ring Type	Drop Wire	Bridle Wire
7/8" Drive Ring	8	12
Type C (1/4") Bridle Ring	12	16
*Type A (1-5/8") Bridle Ring	26	26

*Use Type A ring for wire runs serving terminals larger than 26 pair.

TABLE B

Ring Type	Use With
7/8" or 1-1/4" Drive Ring	Guard Arms
1-1/4" Toggle Bridle Ring	Cable Arms

3. CABLE TERMINALS

3.01 After cutting the drop wire to the proper length, cut the insulation between the conductors with a drop wire slitting tool for a distance of approximately 3". Use diagonal pliers to remove sufficient insulation (approximately 1") from each conductor to permit proper terminating. Be careful not to nick the conductors with the diagonal pliers.

3.02 Nuts and washers found to be dirty or corroded should be cleaned with emery cloth. If corrosion is severe, nuts and washers should be replaced.

3.03 Terminate the plain conductor on the lefthand binding post or fuse, and the tracer conductor on the righthand binding post or fuse. If fuses or binding posts are on a vertical plane, terminate the plain conductor on the top fuse or binding post of the pair, and the tracer conductor on the bottom fuse or binding post of the pair. Figure 1 shows termination twisted pair wire and parallel wire.

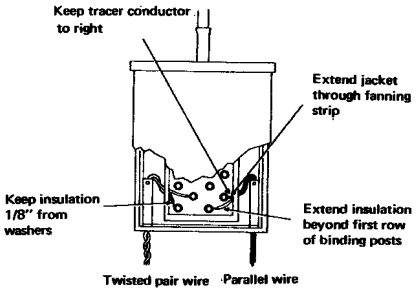


FIGURE 1. Terminating Twisted Pair and Parallel Wire

3.04 The nuts on fuses and binding posts should be turned down with a terminal wrench to obtain firm contact and the conductors arranged so that they will be separated from adjacent binding posts.

3.05 When two conductors are terminated on the same binding post, place first conductor under the lower washer and the second conductor between the washers (see Figure 2).

3.06 When necessary to terminate a third drop wire, use a drop wire terminal to bridge the additional wire outside the cable terminal. Remove one drop wire from the terminal binding post and place it and the third wire in the drop terminal (see Figure 3).

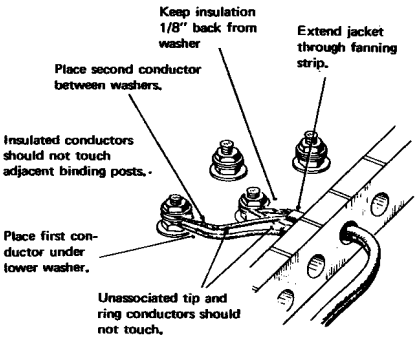


FIGURE 2. Two Conductors Terminated on One Building Post

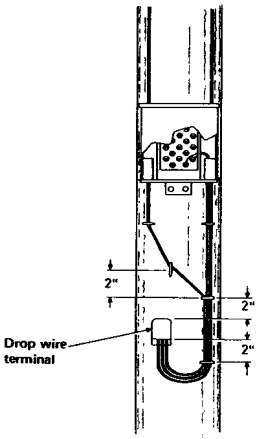


FIGURE 3. Termination of Additional Wire

4. POLE AND BUILDING MOUNTED TERMINALS

4.01 Use 7/8" drive rings at 11 pair terminals to provide wiring facilities (see Table A).

4.02 Do not force drop wire through rings. If the capacity of the 7/8" drive ring is exceeded, the terminal should be checked by your supervisor.

4.03 Separation of rings on poles shall not exceed 24". If existing rings are spaced more than 24" apart, an additional ring should be centered between the two rings.

4.04 Run the drop wires down the side of the terminal (opposite the side on which wires are to be terminated) and through the three rings below the terminal. When slack is required to transfer a drop wire to another cable pair, remove the wire from the lower ring and run it through the two top rings beneath the terminal.

4.05 When the necessary slack cannot be obtained by routing the drop wires as described in paragraph 4.04, splice out the drop wire in the vertical run above the terminal and run the wire through all three rings below the terminal (see Figure 4).

4.06 For terminals having a wiring channel in the center of the terminal, place wiring facilities on poles as shown in Figure 5.

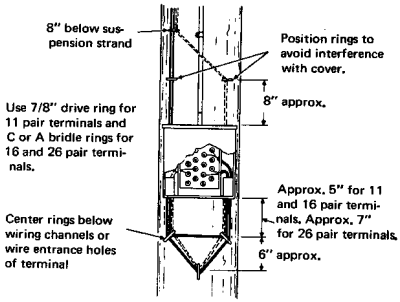


FIGURE 4. Rerouting Drop Wire Below Terminal

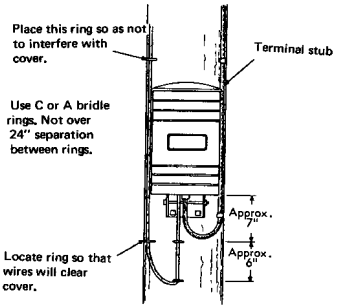


FIGURE 5. Terminals with Center Wiring Channels

4.07 Place wiring facilities for cable terminals mounted on buildings according to Figures 6 and 7.

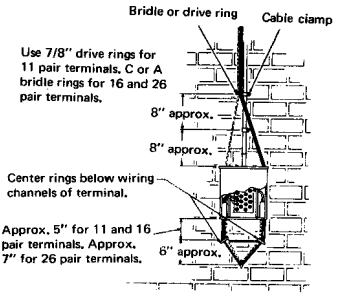


FIGURE 6. Building Mounted Cable Terminal (Top Entrance)

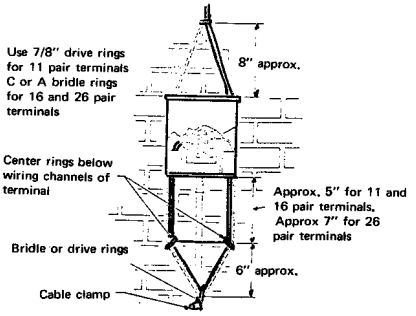


FIGURE 7. Building Mounted Cable Terminal (Bottom Entrance)

5. TYPE B AND TYPE BB TERMINALS

5.01 Run drop wire through the two rings at the end of the fuse chamber or binding post chamber on which the wire is to be terminated. Provide slack by cutting off the wire at the opposite fanning strips after pulling the drop wire taut through the fanning strip hole.

5.02 For cross-connections, use plastic insulated twisted pair station wire or main frame wire. Terminate the plain conductor on the left-hand binding post and the tracer conductor on the right-hand binding post.

5.03 Terminate wires according to procedure described in paragraph 3.01.

5.04 Run cross-connect wires through rings (see Figure 8) and provide slack by cutting the shortest conductor at the binding post of the pair furthest from the fanning strip.

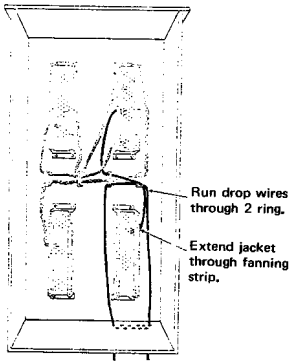


FIGURE 8. Cross-Connecting Wires

5.05 If two or more distribution cable pairs are required to form a party line, connect the pairs to the feeder cable pair. Run cross-connect wires in type B terminals through rings located at the top of the terminal.

6. TYPE BD, BE, BF AND BG TERMINALS

6.01 Wires should be terminated according to the procedure described in paragraph 3.01.

6.02 Follow the procedure described in paragraph 5.05 for connecting distribution cable pairs.

6.03 Provide wiring facilities on poles in accordance with Figures 9 and 10.

6.04 Run the drop wire through one of the wire entrance holes in the bottom of the terminal and as near the back of the terminal as practicable. The drop wire should be run upward on the side of the chamber opposite the binding post on which it is to be terminated, through the two rings at the top of the terminal and downward to the proper wiring hole for the assigned cable pair.

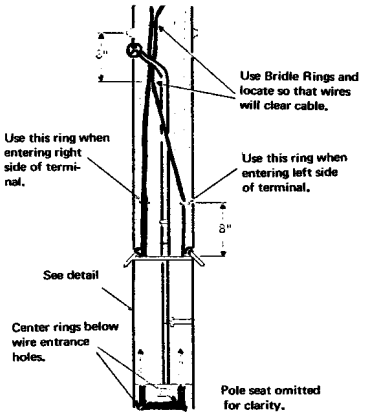


FIGURE 9. Pole Wiring Facilities

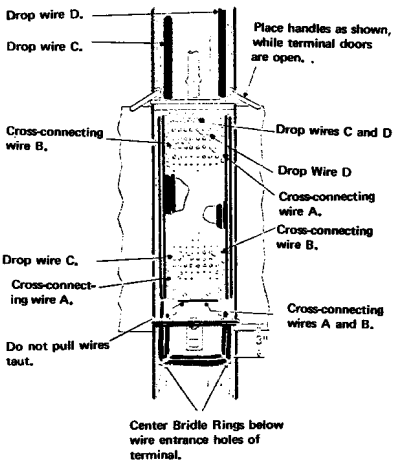


FIGURE 10. Cross-Connecting Terminal Wiring

6.05 When slack is required to transfer a drop wire, remove the wire from one or both rings at the top of the terminal. If additional slack wire is needed for subsequent changes, splice out the drop wire inside the terminal between the bottom and the first ring at the top of the terminal. Run the wire through these two rings as described in paragraph 6.04.

7. CROSS-CONNECT TERMINALS

7.01 Run cross-connecting wires through the holes immediately above the binding posts to the right of the wiring holes, and use the holes immediately below the binding posts to the left of the wiring holes (see Figure 10).

7.02 For Type BD 304 and Type BD 404 terminals with binding posts to the right of the wiring holes use the lower two wiring holes for the nearest two pairs of binding posts. Use the higher hole for the furthest two pairs of binding posts. When the binding posts are to the left of the wiring holes, reverse the procedure.

7.03 When cross-connecting cable pairs are in an adjacent half of the chamber, run cross-connecting wires in the channel at the rear of the face plate extension, passing in the rear of the guards at the bottom of the chamber. Do not run cross-connecting wires in the rings provided for drop wires at the top of the terminal.

7.04 Terminate wires according to the procedure outlined in paragraph 3.01.

7.05 Dispose of cross-connecting wires and drop wires in accordance with existing practices.

8. SHEATH MOUNTED TERMINALS

8.01 Run drop wires to the terminal from the adjacent pole except where wires are distributed from a span clamp located between the terminal splice and the pole, or from cable extension arms.

8.02 Run wires through all rings at the rear of the terminal, around the ring at the far end, and then below the terminal to the proper wire entrance holes of the assigned binding posts. Do not pull wire tightly around the last ring. If slack is required for reconnections and changes, remove the wire from one or two terminal rings in order to reach the binding posts. Splice out the drop wire behind or near the terminal and run the wire through the ring at the far end as for an initial installation.

8.03 Drop wire runs to sheath mounted terminals are shown in Figure 11. The same method applies to terminals installed on ring supported cable. Run wires through rubber grommets in wire entrance holes. Place two drop wires through a wire entrance hole when required.

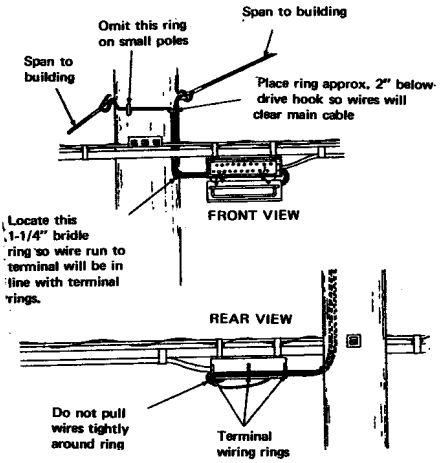


FIGURE 11. Drop Wire Run to Sheath Mounted Terminal

8.04 Two wires may be bridged on a pair of binding posts of the sheath-mounted terminals. Wires terminated on the same binding post should enter the same wire entrance hole. Where three or four wires are to be bridged, use drop wire terminals in the normal manner to tap the drops between the pole and the last wiring ring on the back of the terminal.

8.05 Run wires from terminal to guard arm as illustrated in Figure 12.

8.06 Terminate drop wires in sheath mounted terminals by cutting the wire to the proper lengths (see Figure 13).

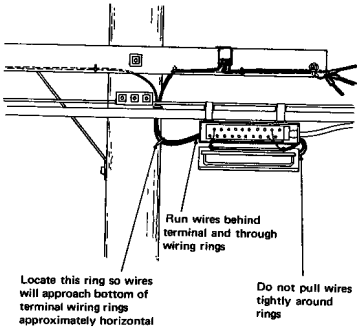


FIGURE 12. Wire Run from Terminal to Guard Arm

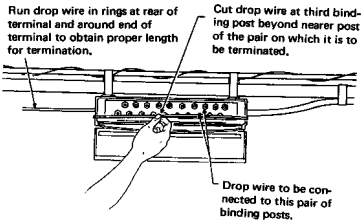


FIGURE 13. Drop Wire Termination

8.07 Pair numbers of the terminal progress from left to right, regardless of whether the stub is brought out of the right or left side of the terminal.

8.08 Terminate the plain conductor on the left-hand binding post and the tracer conductor on the right-hand post of each pair.

8.09 Replace lost or damaged grommets. For installation at the wire entrance, cut through the rim of the grommet at a point in line with the scored portion. Place the grommet around the wire so that the groove is completely engaged with the edge of the wire entrance hole.

9. READY ACCESS TYPE TERMINALS

9.01 Ready access terminals are for use on plastic insulated conductor cable and will accomodate cables up to two and two-tenths inches outside diameter.

9.02 Drop wires are inserted through the proper grommet hole in the base so that they match the binding posts on the terminal block. The grommets should be pierced with a screwdriver or similar tool. The wire is then threaded through the drop wire retainer rings which are attached to the base (see Figure 14). Enough slack should be allowed for future rearrangements.

9.03 It is not necessary to remove the cover to work in the installed unit. Remove the semicircular cover clamps, free the clips holding the cover to the base and lift one side of the neoprene cover for working space.

9.04 The ready access terminal enclosure provides for splicing with or without the No. 105 terminal blocks. The unit can be mounted anywhere along the cable.

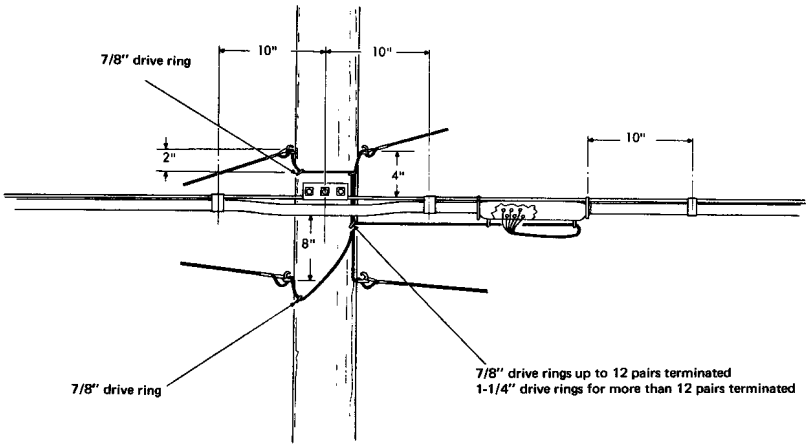
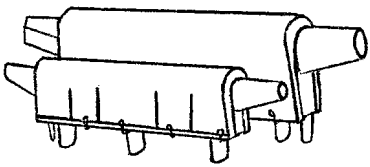


FIGURE 14. Ready Access Terminal



Ready Access Closure