

## 40-TYPE CABINET INSTALLATION OF 108-TYPE TERMINAL BLOCK

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6. INSTALLATION OF TERMINAL BLOCKS EQUIPPED WITH 20-FOOT STUB (CODED SA, SB, SP) . . . . .	12	1. GENERAL	
		1.01 This section covers the procedures for equipping the 40-type cabinets with 108-type terminal blocks for use as shown in Table A.	

TABLE A

40-TYPE CABINETS EQUIPPED WITH 108-TYPE TERMINAL BLOCKS

APPLICATION	CABINETS							
	40A		40B		40C		40D	
	PAIRS	PANELS (NO.)	PAIRS	PANELS (NO.)	PAIRS	PANELS (NO.)	PAIRS	PANELS (NO.)
Cross-Connect	600	1	—	—	—	—	—	—
Rural Area Interface (RAI)	600	1	600	1	—	—	—	—
Serving Area Interface (SAI)	—	—	—	—	1200	3	2700	3
					1800	3		

**NOTICE**

Not for use or disclosure outside the  
Bell System except under written agreement

## SECTION 631-600-231

**1.02** When this section is reissued, the reasons for reissue will be listed in this paragraph.

**1.03** The description and installation of the 40-type cabinets are covered in Section 631-600-228.

**1.04** The 40-type cabinets are coded for identification. A master code covers the line of bare cabinets, separately ordered terminal blocks, and fully equipped cabinets. These codes are covered in Section 626-500-125.

### 2. 108-TYPE TERMINAL BLOCKS

**2.01** The 108-type terminal blocks are available with the following options:

- (a) Kit of loose connector parts (KT) for field termination
- (b) Prewired terminal blocks with the following options:
  - (1) Raw ended color-coded wiring harness (HA)
  - (2) Wiring harness equipped with 710 capless female connectors (CF)
  - (3) Wiring harness equipped with 710 capped female connectors (F)
  - (4) Wiring harness equipped with 710 male connector (CM)
  - (5) Filled stub cable (SA) available in 20- to 100-foot lengths in 10-foot increments
  - (6) Air core stub cable (SB) available in 20- to 100-foot lengths in 10-foot increments
  - (7) Air core stub cable with moisture plug (SP) available in 20- to 100-foot lengths in 10-foot increments.

### 3. TRANSPORTATION AND STORAGE

**3.01** The prewired terminal blocks listed in paragraph 2.01(b), (1) through (4), can be ordered as part of the cabinet or they can be ordered separately for field installation in the cabinet, one panel at a time. If ordered as part of the cabinet, they may be factory installed and shipped as one item.

**3.02** Terminal blocks equipped with a stub cable as listed in paragraphs 2.01(b), (5) through (7), are packaged separately for field installation (Part 6) in the cabinet, one panel at a time.

**3.03** Unpacking should be done only at the installation site to avoid damage to the cabinet or panels during transportation.

### 4. INSTALLATION OF CABINET

**4.01** Remove the cabinet from the shipping carton. If the cabinet is fully equipped, remove the terminal block frame from cabinet (Step 1) and store in a safe area.

**4.02** Place cabinet as outlined in Section 631-600-228.

### 5. CABLE SHEATH PREPARATION

**DANGER:** In an area where joint buried plant is utilized, it is important that cable sheath be tested for voltage as outlined in Section 081-705-102 (Fig. 1). If the shield is energized, **do not proceed** with the cable preparation. Notify your supervisor immediately.

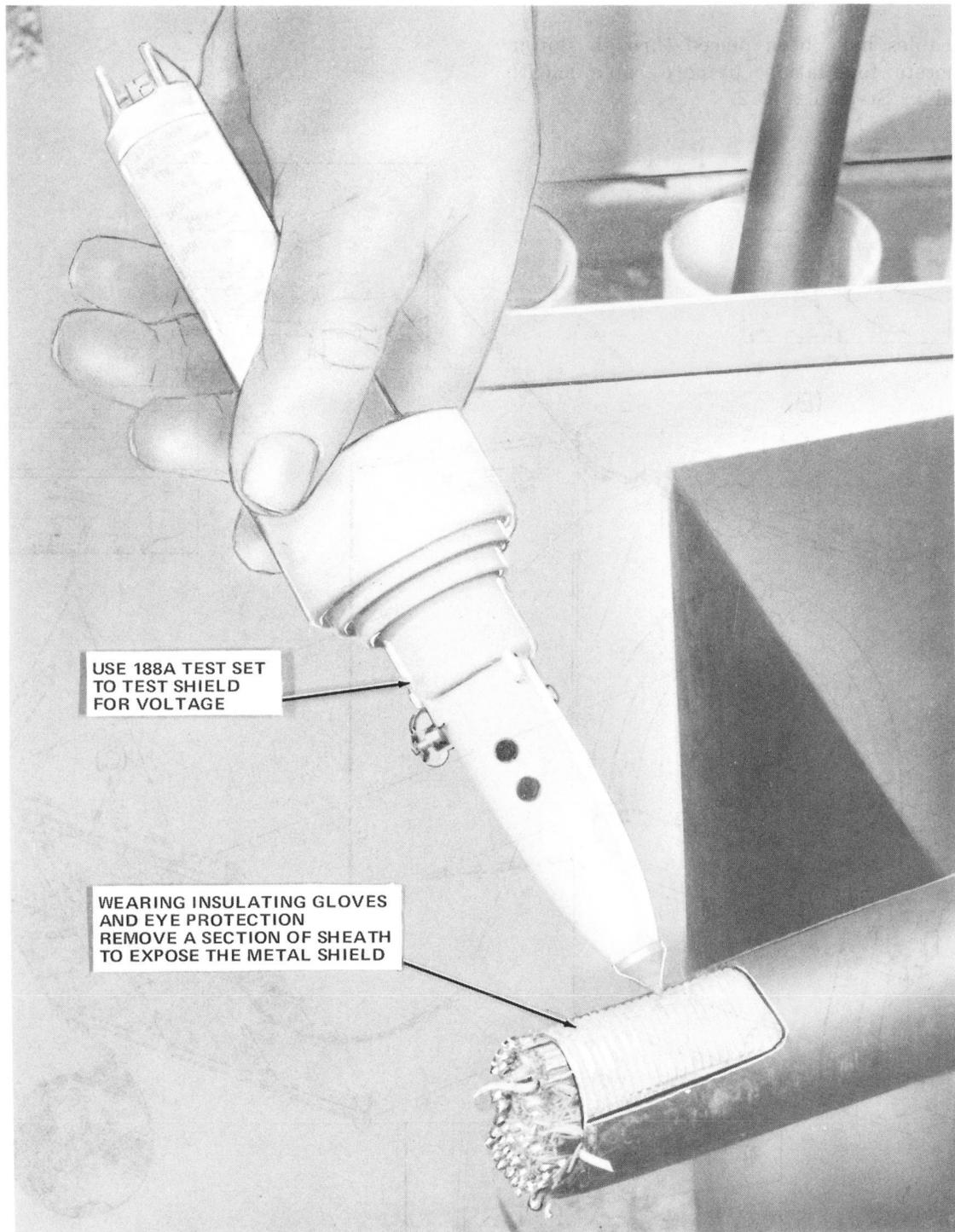
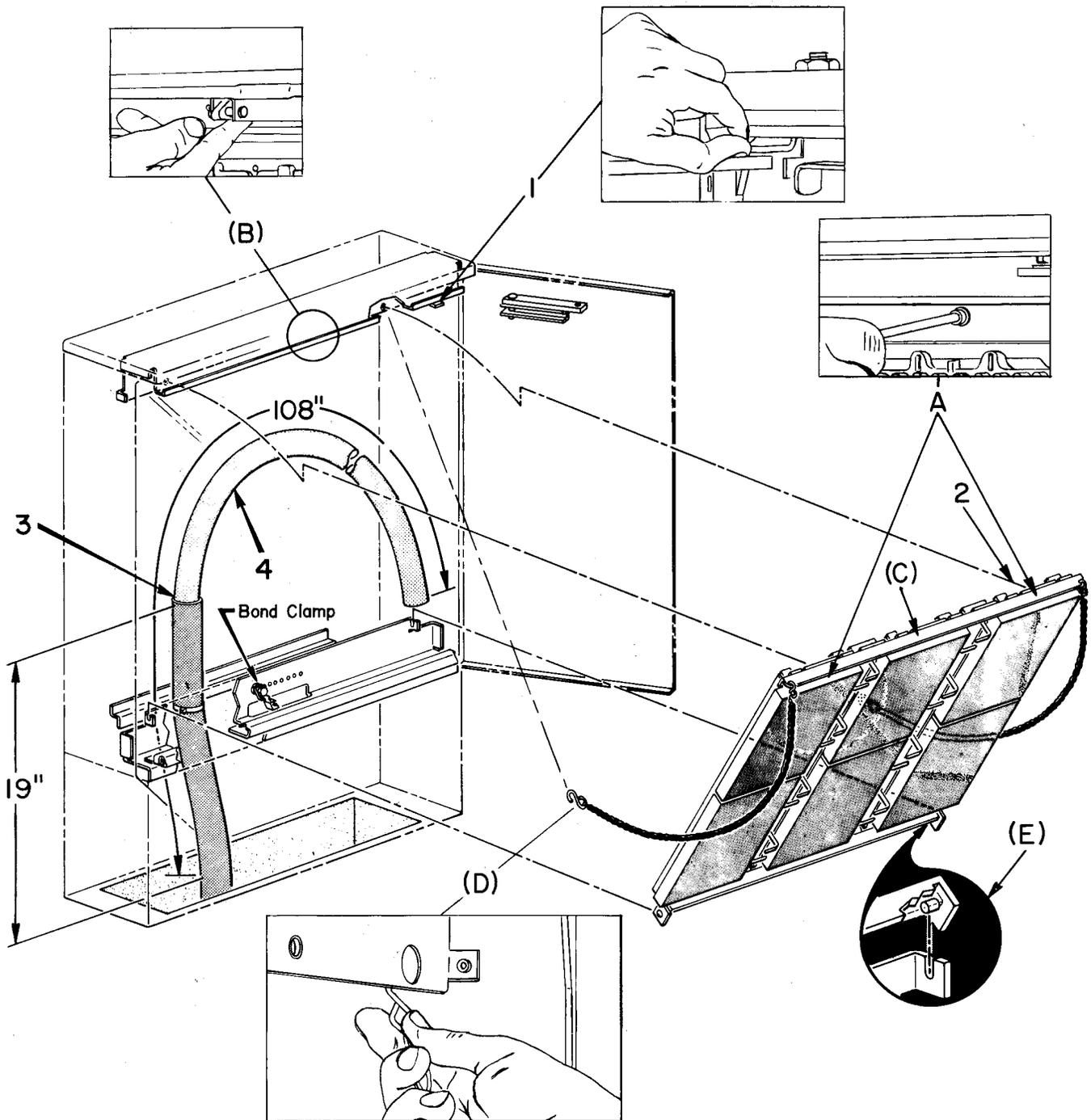


Fig. 1—Testing Cable Sheath for Voltage

PEDESTAL INSTALLATION

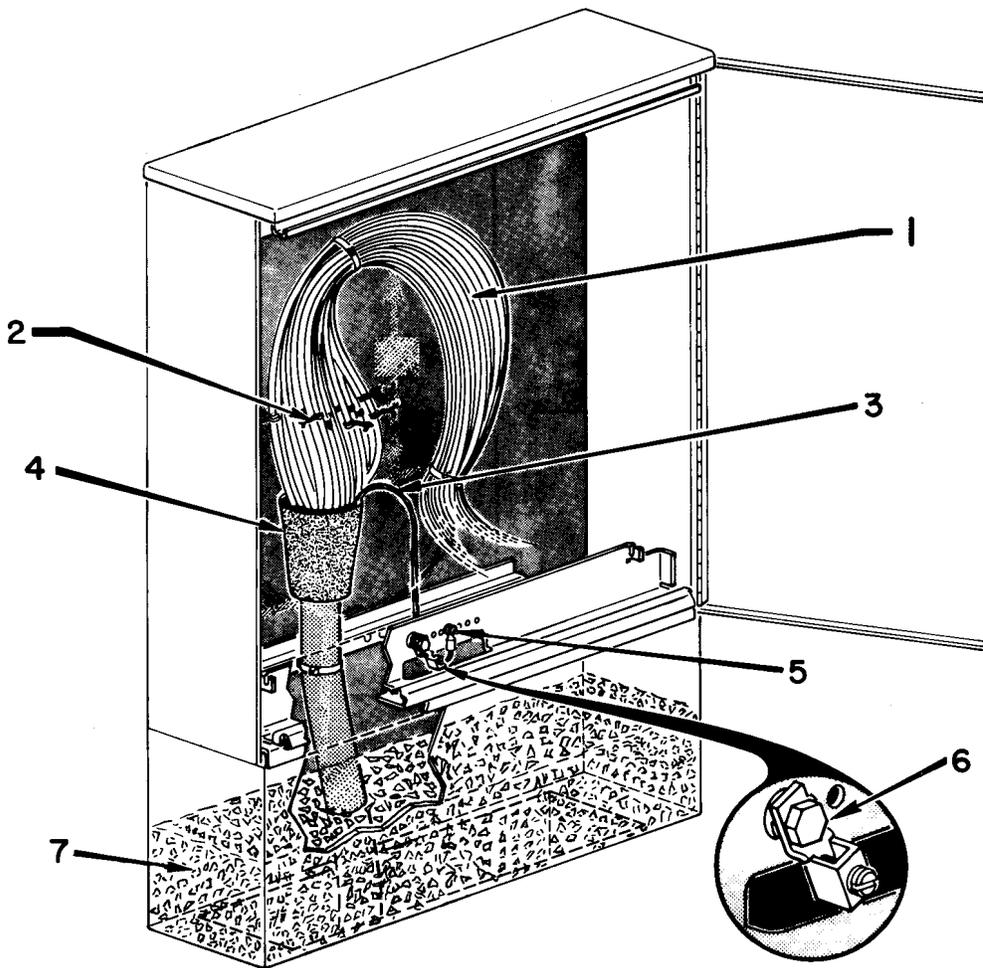
5.01 If cables have been placed through slot in concrete foundation, prepare cable sheath as outlined in Steps 1 and 2.



Step 1—Installed Cabinet

**Step 1—Installed Cabinet**

- 1—Remove pin stay to permit wider door opening. Secure doors in wide open position.
- 2—If terminal block frame was not removed prior to cabinet installation, remove as follows:
  - (a) Release allen head captive bolts securing frame to cabinet
  - (b) Release safety latch
  - (c) Pivot frame down
  - (d) Unhook “S” hook
  - (e) Lift out frame.
- 3—Mark cable sheaths 19 inches above foundation.
- 4—Remove outer polyethylene jacket and underlying metallic shield from mark to end of cable.



**Step 2—Cable Sheath Preparation (Buried Installation)**

- 1—Remove core wrap from cable.
  - 2—Install binder group identification ties, then remove binder units.
  - 3—Install D bond clamp and bond strap or D bonding assembly as shown in Step 3. Refer to Section 081-852-118 for installation of D bond clamp on DEPIC cable and cables less than 0.09 inch diameter.
  - 4—Form moisture plug in bottom entering air core cables as shown in Step 3.
  - 5—Attach D bond clamp and bond strap assembly to cabinet bonding surface. Note sheath identification and bond strap location on door decal.
- Note:** It is important that cable be bonded to the cabinet as soon as it is prepared.
- 6—Attach No.6 or B ground wire to bond clamp to ground cabinet, if required.
  - 7—Fill base with approximately 6 inches of pea gravel or equivalent.

## METHOD OF INSTALLING D BOND CLAMP

Slide Inner Plate Of Bond Clamp  
Between Shield & Core Wrap.

Install Outer Plate  
& Ground Strap

Vinyl Tape  
Collar

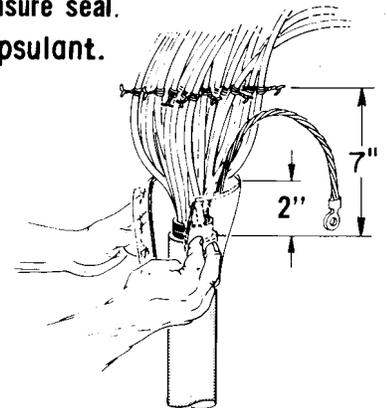
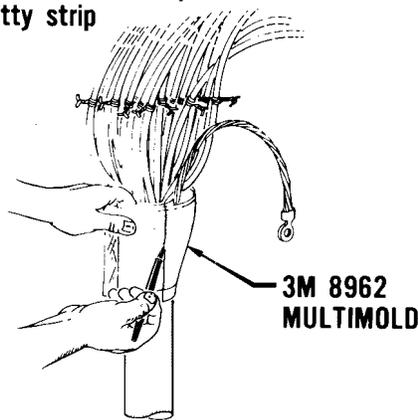
No. 6 Stranded  
Copper Wire

Slide A Collar Of Vinyl Tape, Sticky Side Out,  
Covered By A Single Wrap Sticky Side  
In Between Core Wrap & Metal Shield.

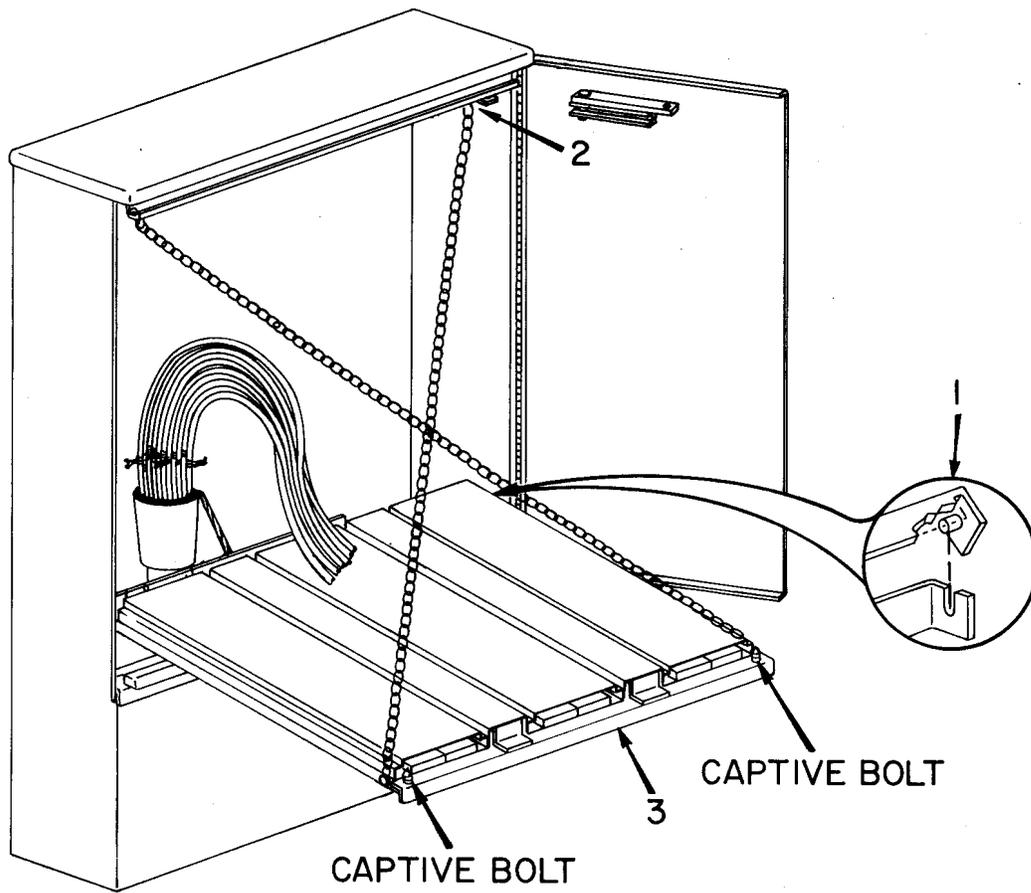
## FORM MOISTURE PLUG IN BOTTOM-ENTERING AIR CORE CABLES AS SHOWN

- Mark required length of MULTIMOLD
- Cut webbing perpendicular to putty strip so each cut piece will have one adhesive tab
- Remove liners from overlap tab and putty strip

- Position MULTIMOLD against cable, putty strip down, with top edge 2" above end of sheath.
- Wrap snugly. Press tab firmly to assure good bond. Squeeze putty at base of MULTIMOLD to form seal.
- Tape this area to ensure seal.
- Fill with B Encapsulant.



Step 3—Installation of Bond Clamp and Moisture Plug



**Step 4—Installation of Mounting Frame**

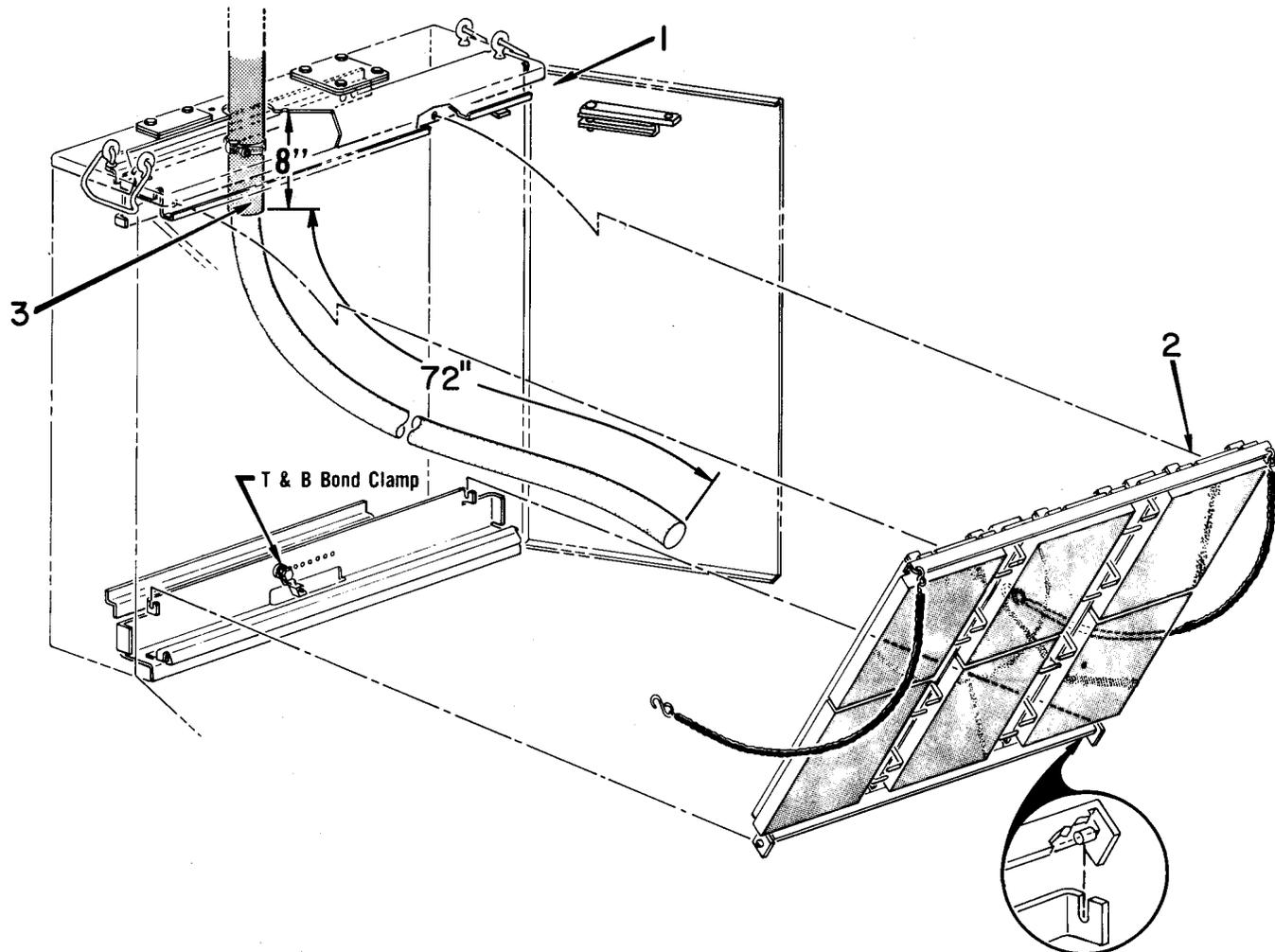
1—Position pivot point of frame into slots of cabinet.

2—Hook “S” hook.

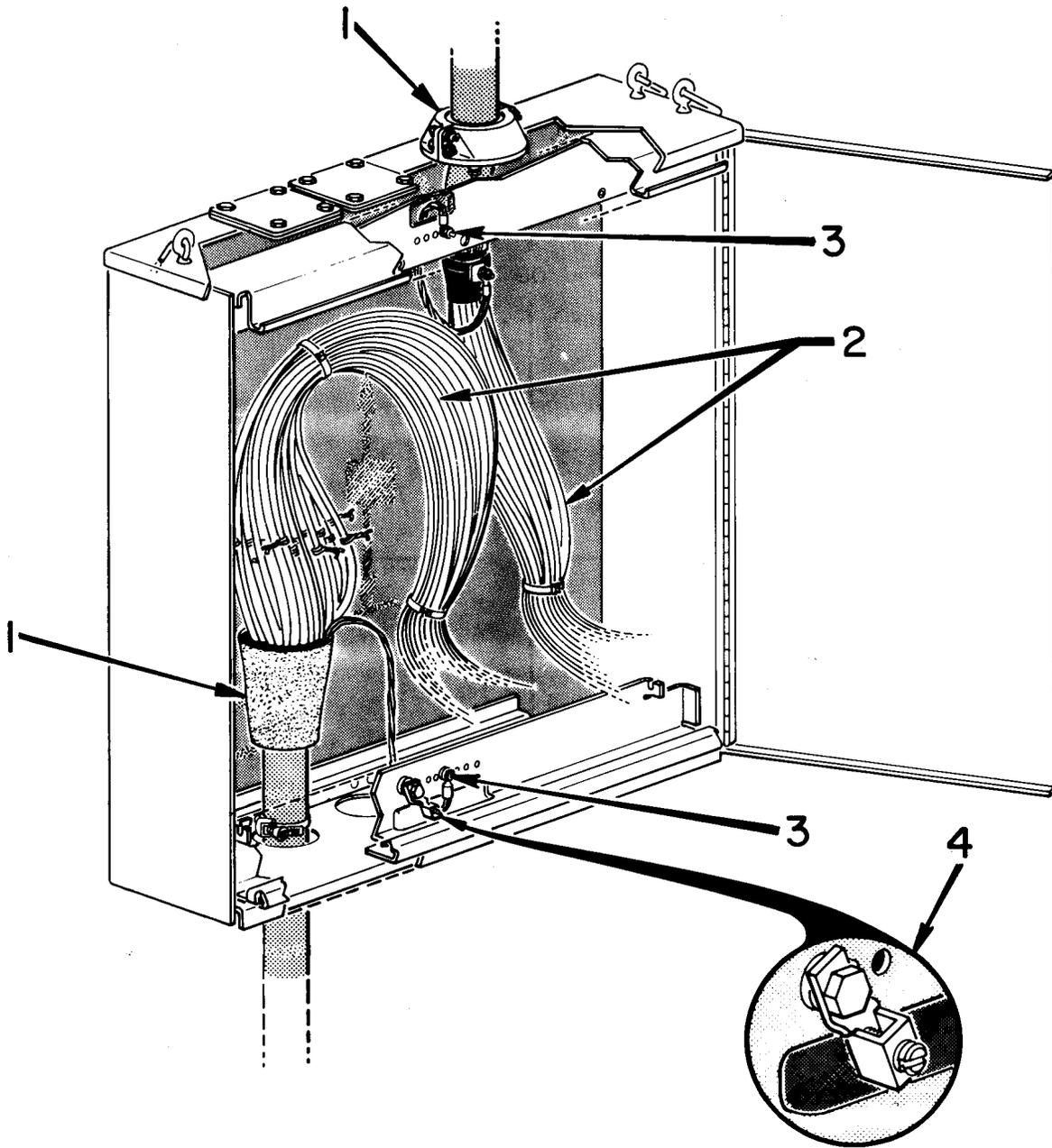
3—Raise frame to vertical position and secure by tightening allen head captive bolts.

**AERIAL INSTALLATIONS (LOW POLE MOUNT)**

5.02 Prepare cable sheath and install sealing glands at aerial installation as outlined in Steps 5 and 7.

**Step 5—Installed Cabinet (Aerial Installation)**

- 1—Remove stay pin (Step 1) to permit wider door opening for cable sheath preparation. Block doors in open position.
- 2—If terminal block frame was not removed prior to cabinet installation, remove as outlined in Step 1.
- 3—Mark cable sheath 8 inches from top of cabinet and remove outer polyethylene jacket and underlying metallic shield.

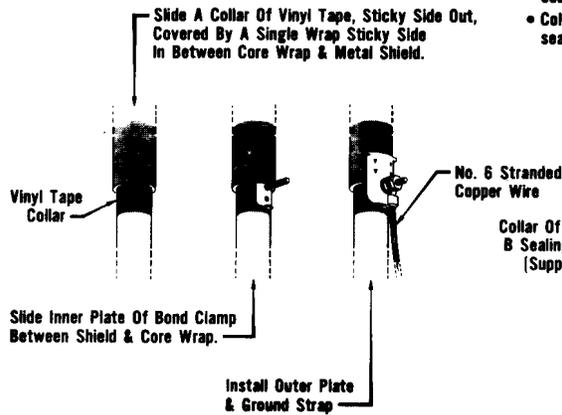


**Step 6—Cable Sheath Preparation (Low Pole Mount)**

- 1—Install sealing glands and bond cable sheath as shown in Steps 7 and 8. On bottom entrance air core cables, install a moisture plug as outlined in Step 3.
- 2—Remove core wrap and install binder group identification ties, then remove unit binders.
- 3—Attach bond strap from cable sheath to cabinet bonding surface. Note sheath identification and bond clamp location on door decal.
- 4—Attach No. 6 or B ground wire to bond clamp to ground cabinet, if required.
- 5—Install and secure terminal block mounting frame as shown in Step 4.

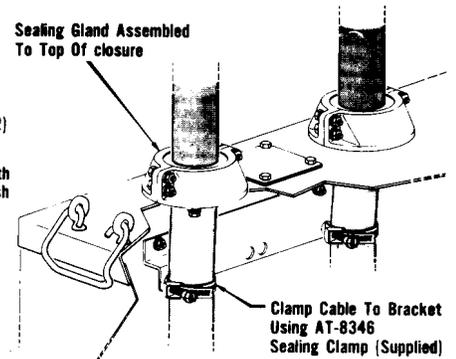
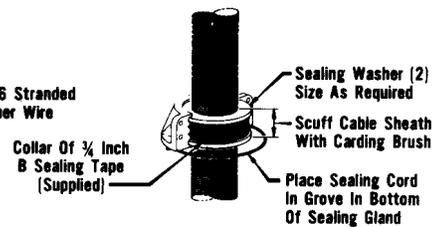
# TOP-ENTERING CABLES

## METHOD OF INSTALLING D BOND CLAMP



## METHOD OF INSTALLING SEALING GLANDS

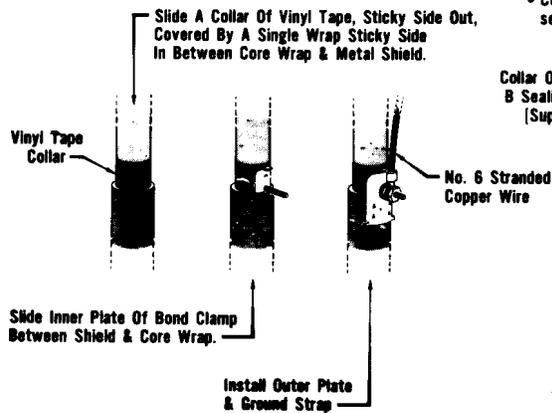
- Assemble sealing gland to cable using AT-8583 sealing washers, sealing tape, and sealing cord.
- Collar formed with sealing tape should exceed sealing washer diameter by 1/2 turn.



Step 7—Installation of Bond Assemblies and Sealing Gland for Top Entrance Cables

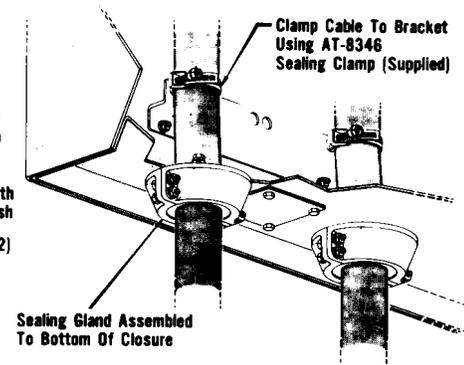
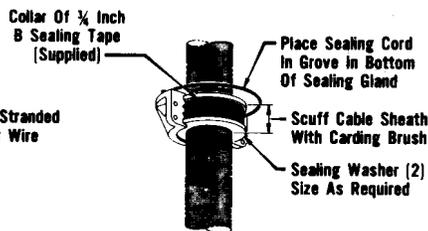
# BOTTOM-ENTERING CABLES

## METHOD OF INSTALLING D BOND CLAMP



## METHOD OF INSTALLING SEALING GLANDS

- Assemble sealing gland to cable using AT-8583 sealing washers, sealing tape, and sealing cord.
- Collar formed with sealing tape should exceed sealing washer diameter by 1/2 turn.



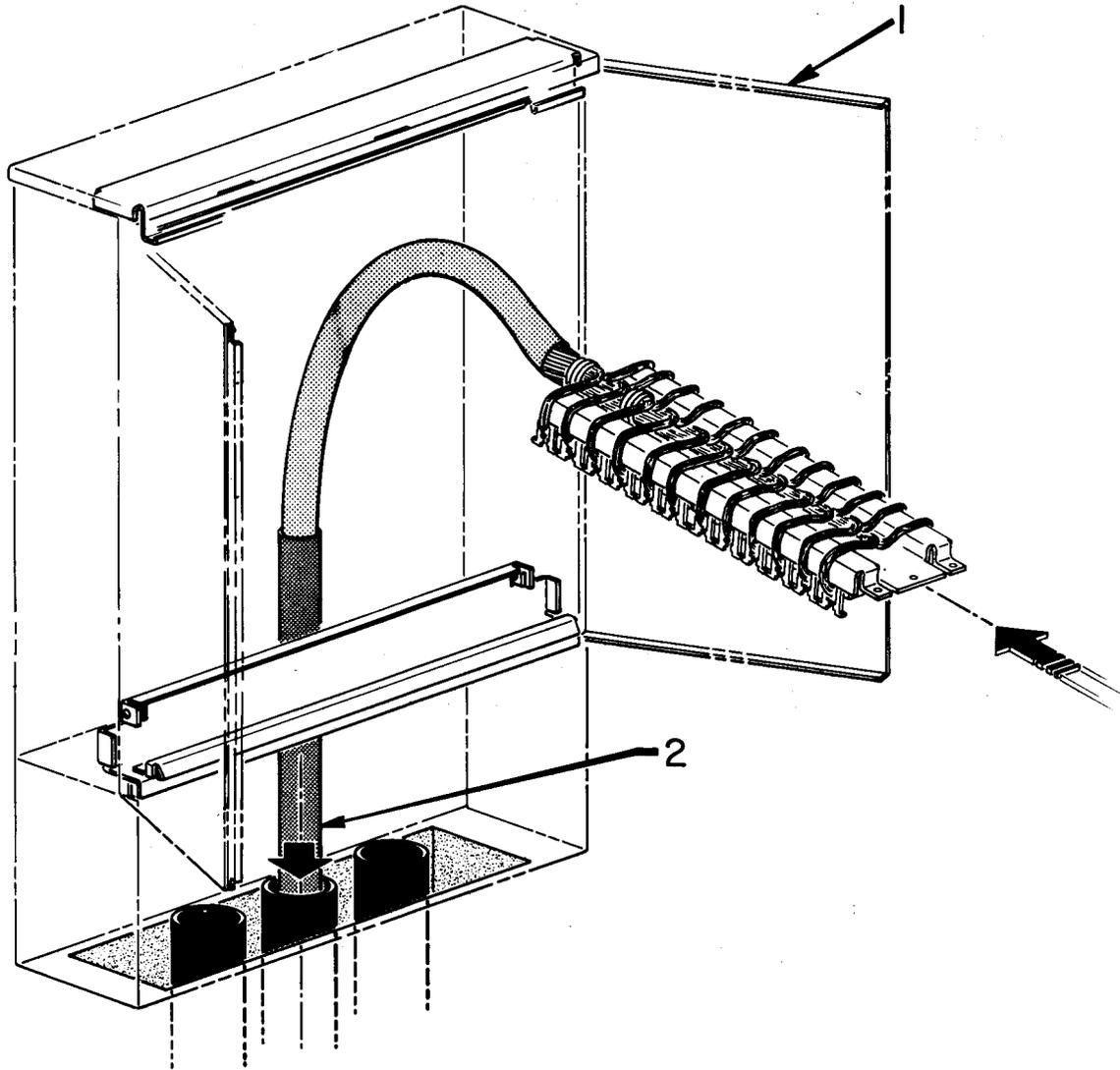
STEP 8

Step 8—Installation of Bond Assemblies and Sealing Gland for Bottom Entrance Cables

6. INSTALLATION OF TERMINAL BLOCKS EQUIPPED WITH 20-FOOT STUB (CODED SA, SB, SP)

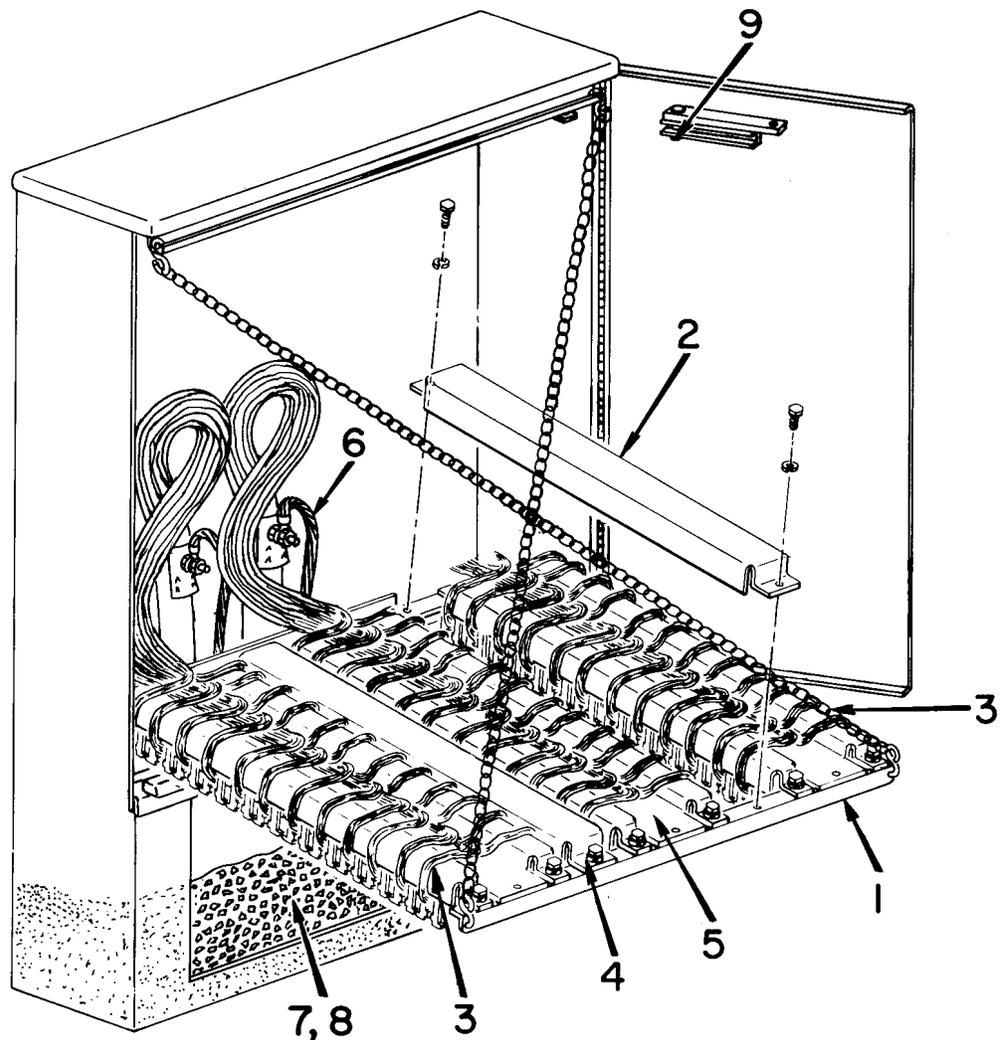
BURIED OR UNDERGROUND PLANT

6.01 Place and secure terminal block in pedestal mounted 40-type cabinet as outlined in Steps 9 and 10.



**Step 9—Installing Terminal Block in Cabinet**

- 1—Open cabinet doors and remove stay pin to permit wider door opening for placing terminal blocks. Block doors in wide open position, then remove terminal block frame as covered in Step 1.
- 2—Feed the stub cable of terminal block through the conduit to splice location. Temporarily support panels to back of cabinet.



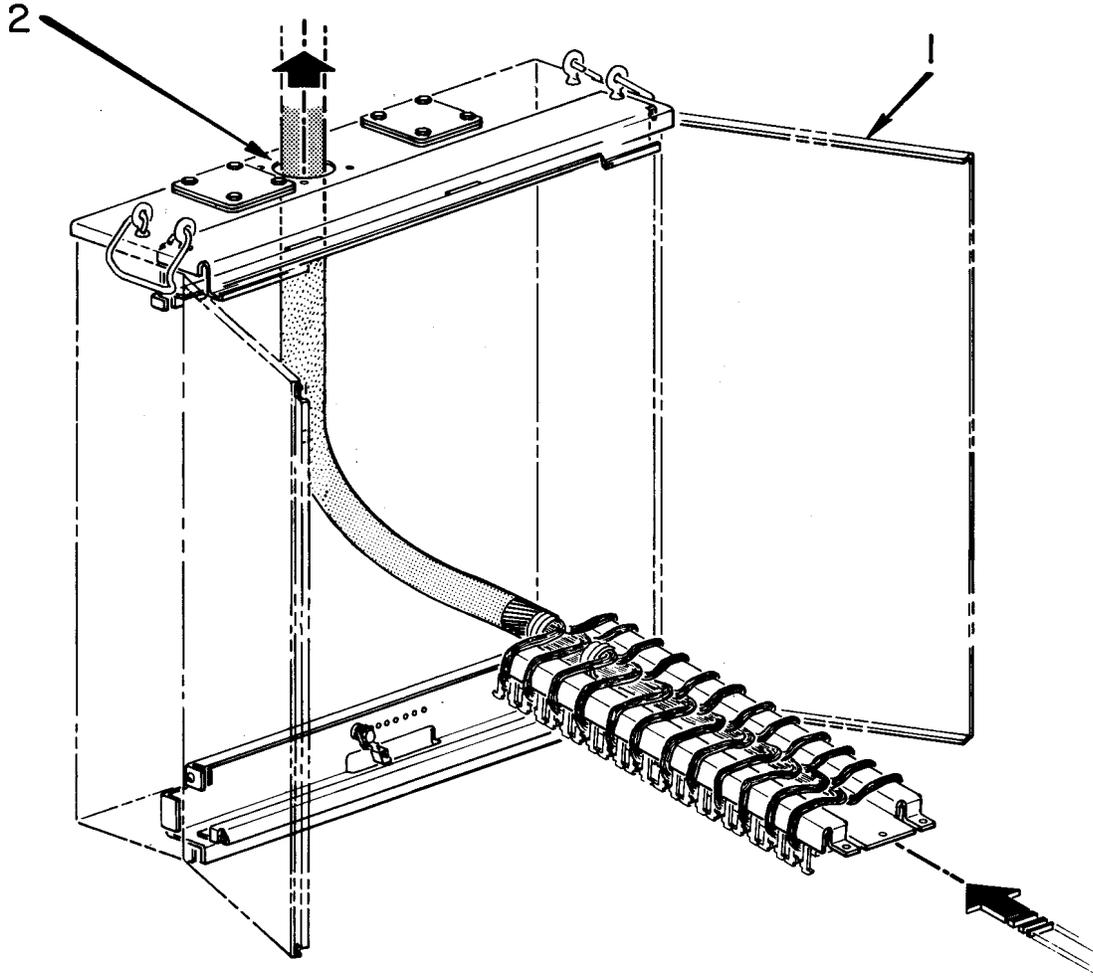
#### Step 10—Securing Prewired Terminal Block to Frame

- 1—Install mounting frame in cabinet as outlined in Step 2.
- 2—Remove wiring troughs from frame.
- 3—Align two outside terminal block mounting holes with holes in frame and secure with hardware supplied.
- 4—Replace and secure one wiring trough.
- 5—Secure the center terminal block and other wiring trough to mounting frame using hardware supplied.
- 6 Attach bond strap from cable sheath bond clamp on ground bracket as shown in Step 2. Note sheath identification and bond clamp location on door decal.
- 7—Using AT-7774 B duct sealer or conduit plug, seal all ducts to reduce condensation inside cabinet.
- 8—Fill base with pea gravel (6 inch minimum). Return frame to vertical position and secure with captive bolts.
- 9—Replace stay pin and close doors.

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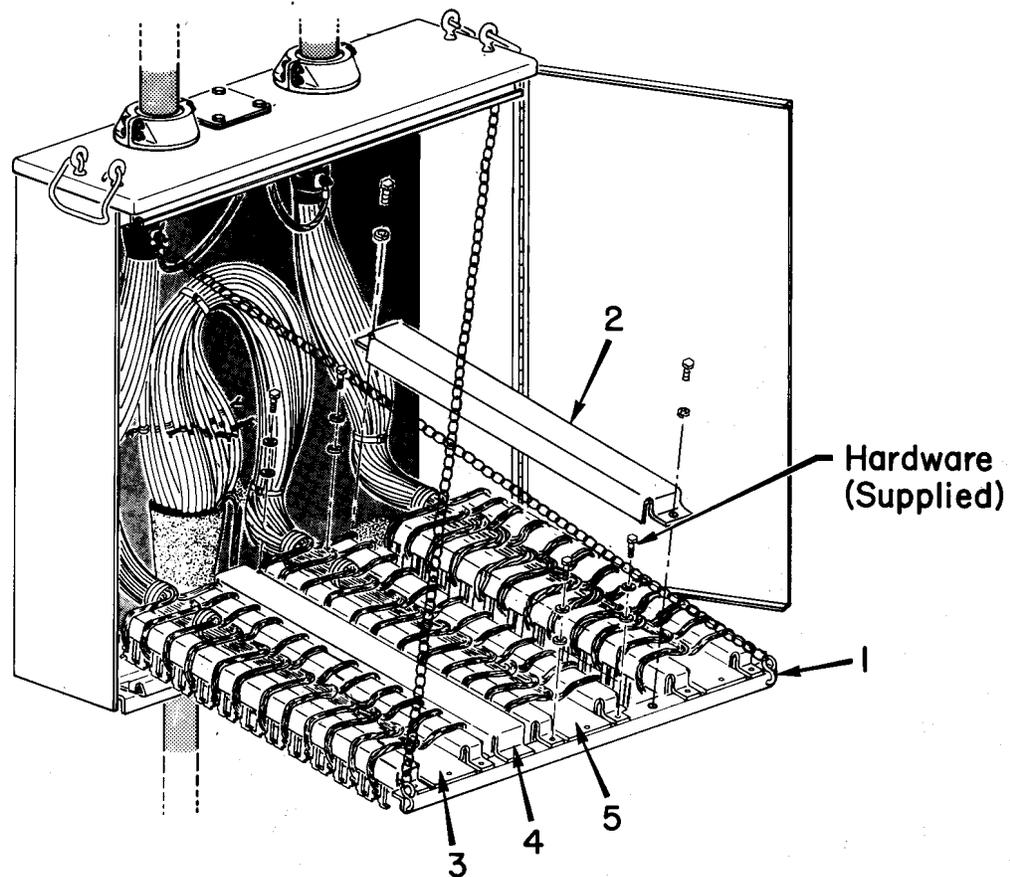
**AERIAL PLANT**

**6.02** Place and secure terminal block in pole or wall mounted 40-type cabinet as outlined in Steps 11 and 12.



**Step 11—Installing Terminal Block in Pole or Wall Mounted Cabinet**

- 1—Open cabinet door and remove stay pin to permit wider door opening for placing terminal block. Secure door in open position, then remove terminal block frame as outlined in Step 1.
- 2—Feed stub cables of the terminal block through the top or bottom entrance port as required to splice location. Temporarily support panels.



**Step 12—Securing Prewired Terminal Block to Frame (Aerial Installation)**

- 1—Install mounting frame in cabinet as outlined in Step 4.
- 2—Remove wiring troughs from frame.
- 3—Align two outside terminal block mounting holes with holes in frame and secure with hardware supplied.
- 4—Replace and secure one wiring trough.
- 5—Secure the center terminal block and other wiring trough to mounting frame using hardware supplied.
- 6—Install a D bond clamp/bond strap assembly and sealing glands as outlined in Step 7 or 8. Note sheath identification and bond clamp location on door decal.
- 7—Return frame and attached terminal block to vertical position and secure with captive bolts.
- 8—Replace door stay pin on door.

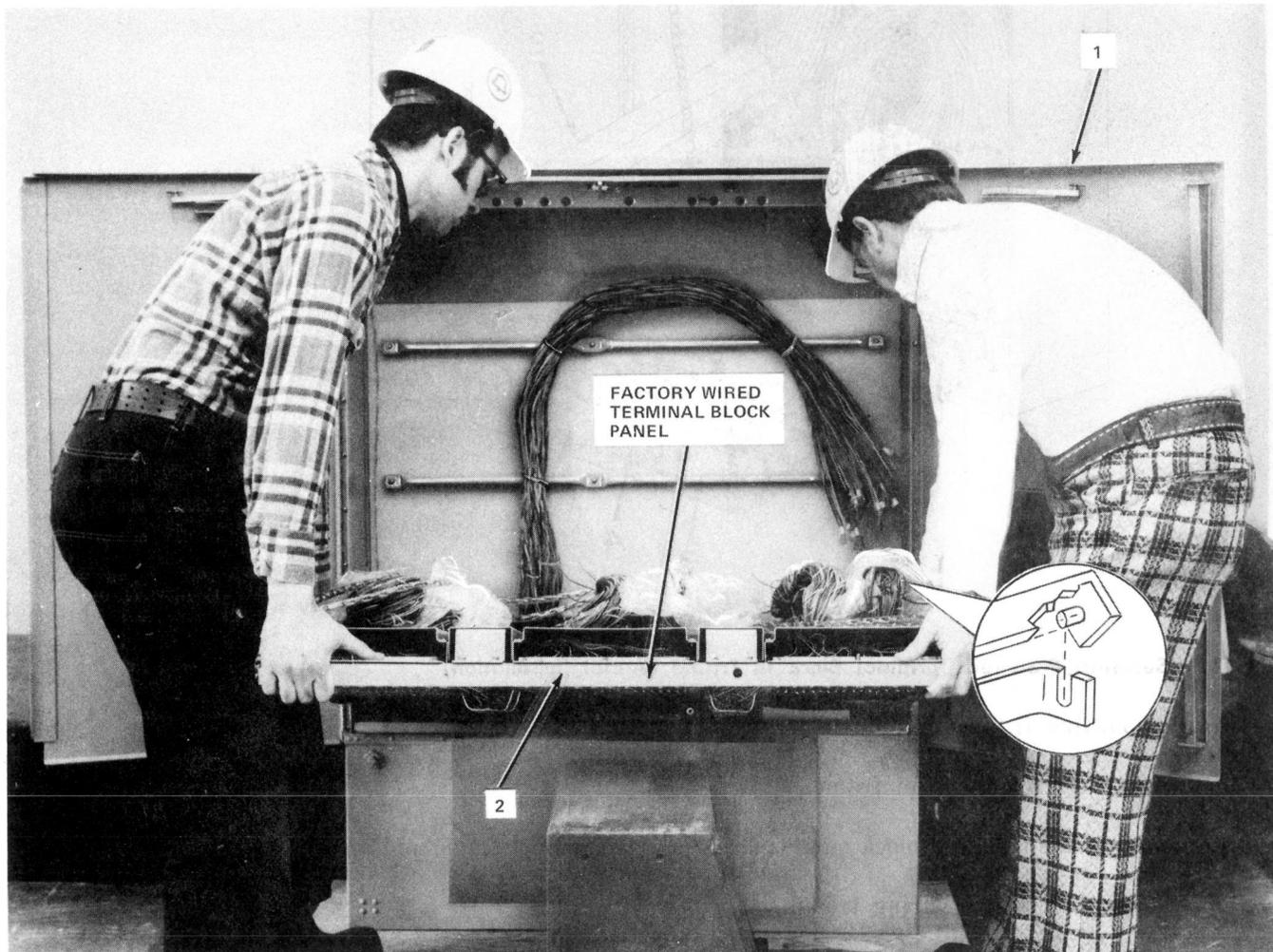
**SECTION 631-600-231**

**7. INSTALLATION OF SEPARATELY ORDERED TERMINAL BLOCKS (CODED HA, CF, CM)**

**7.01** Installation of separately ordered terminal blocks in cabinet is identical to the procedures outlined in Steps 9 and 10 for buried plant and Steps 11 and 12 for aerial plant, except there is no stub cable to be routed through conduit or sealing glands to splice location.

**8. INSTALLATION OF CABINET FRAME EQUIPPED WITH TERMINAL BLOCKS ATTACHED**

**8.01** Install cabinet frame equipped with terminal block as outlined in Step 13.



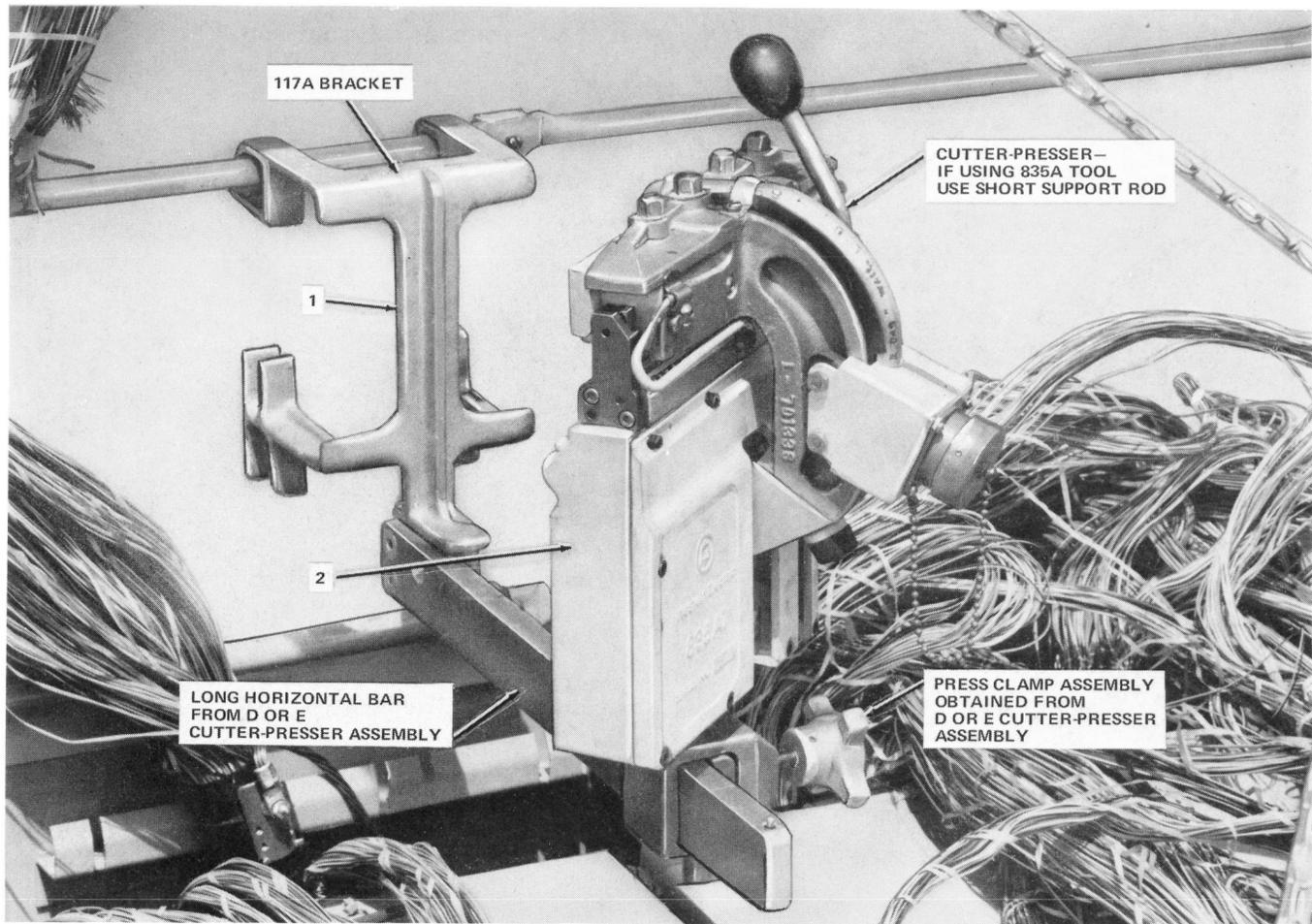
**Step 13—Installation of Frame Equipped With Terminal Block**

1—Open doors of cabinet and release door stay pin to permit wider door opening. Tie doors in open position.

2—Install and secure frame as outlined in Step 4.

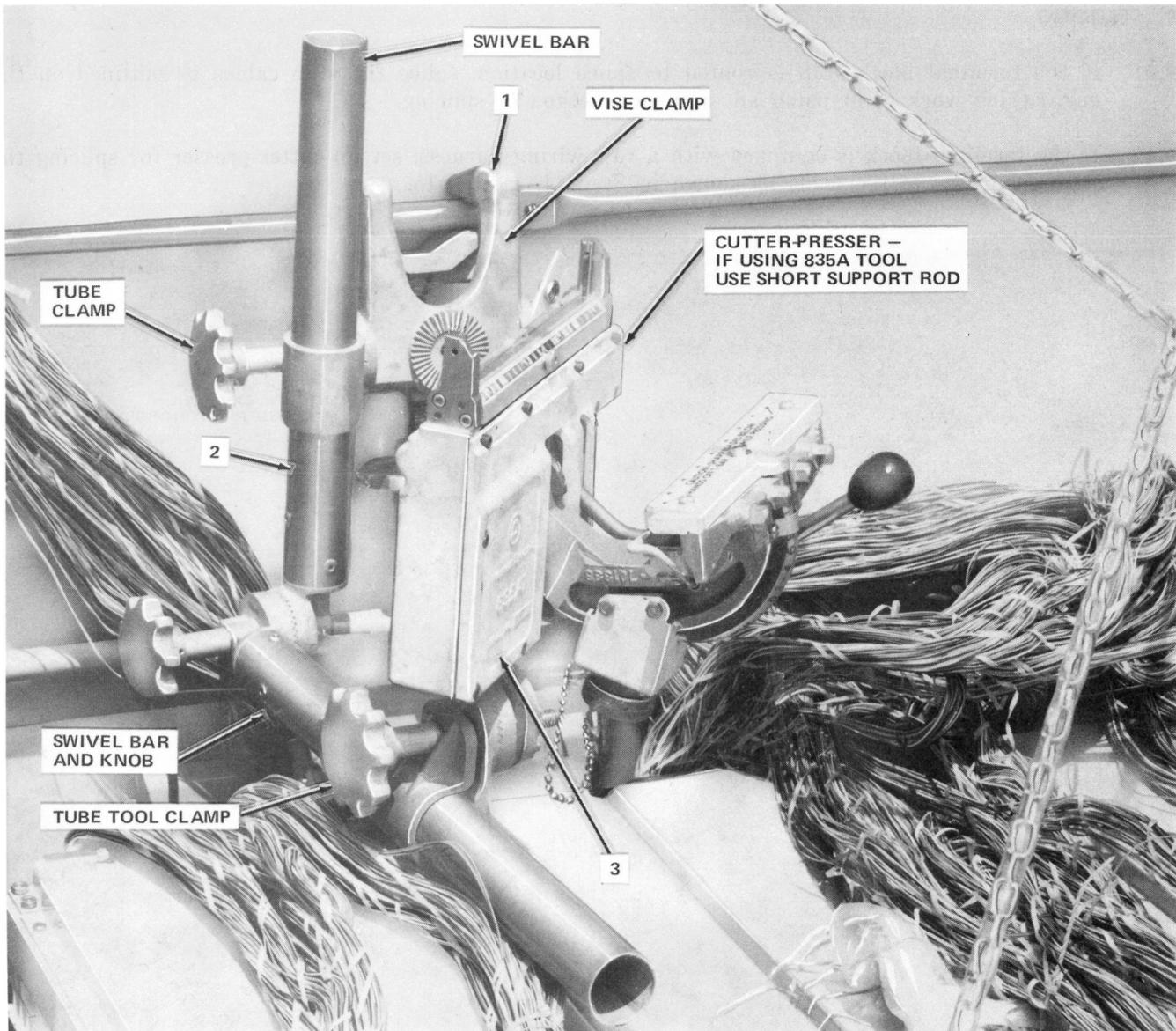
## 9. SPLICING

- 9.01 If the terminal block stub is routed to splice location, splice the stub cables as outlined on the engineering work print using an approved method of splicing.
- 9.02 If the terminal block is equipped with a raw wiring harness, set up cutter-presser for splicing the wiring harness to the cable as shown in Step 14 or Step 15.



### Step 14—Set Up Cutter-Presser on 117A Bracket for Splicing

- 1—Attach the long horizontal bar to the 117A bracket and hang the assembled unit on the top horizontal support bar in a two-bar cabinet or on the center bar in a three-bar cabinet.
- 2—Place press clamp on horizontal bar, and then place cutter-presser into press clamp and tighten.
- 3—Splice the raw ended wiring harness to the cable pairs as outlined in Section 632-205-220. Leave enough slack so frame can be raised and lowered without putting stress on the conductors.



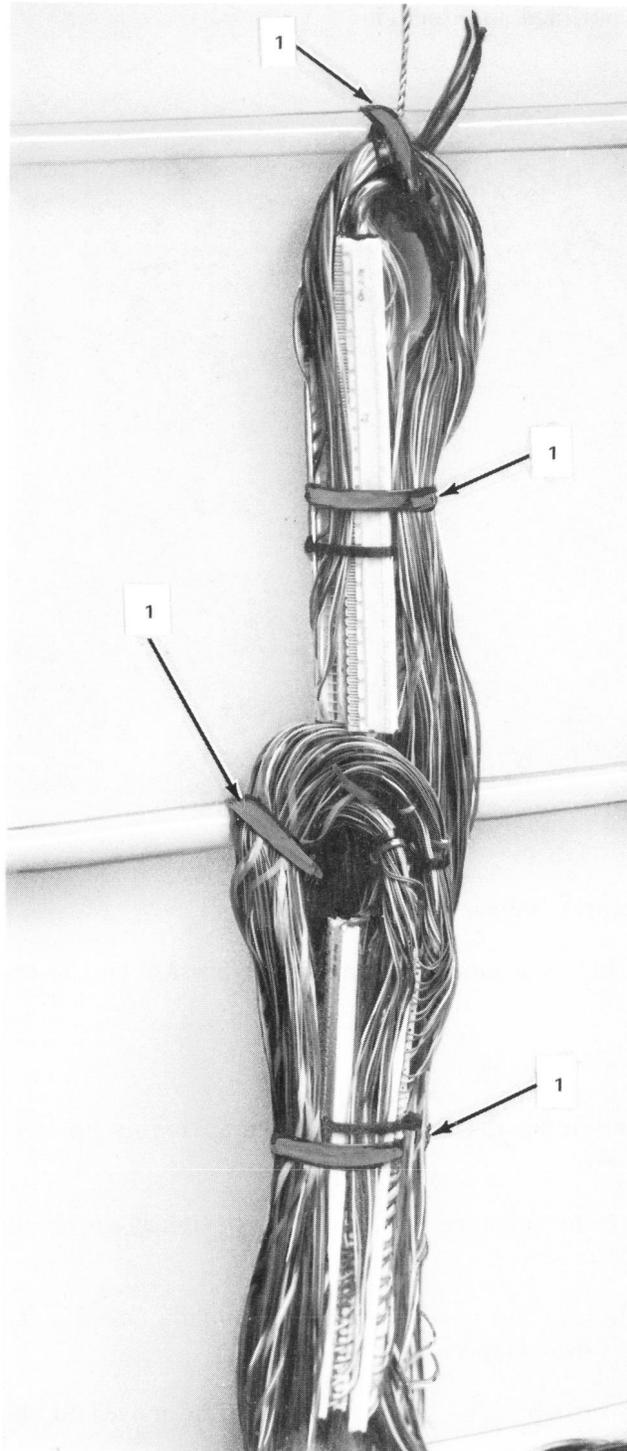
**Step 15—Set Up Cutter-Presser on 710A Tool for Splicing**

1—Attach vise clamp to top horizontal support bar so that locking handle is in the down position.

2—Assemble 710A tool as shown.

3—Place cutter-presser into tube/tool clamp and tighten.

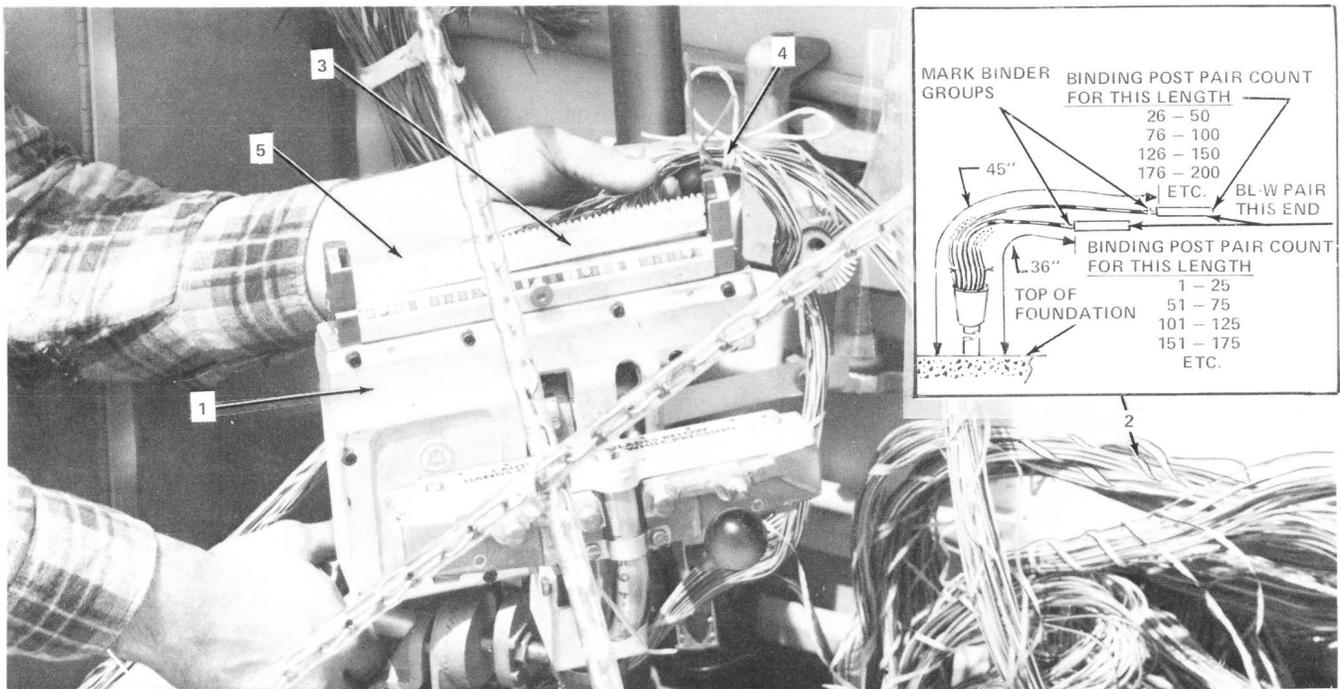
4—Splice the raw ended wiring harness to the cable pairs as outlined in Section 632-205-220. Leave enough slack so frame can be raised and lowered without putting stress on the conductor.



**Step 16—Spliced Groups Secured to Splicing Support**

1—Dress the spliced units to the rear of the cabinet in three groups and secure to support with cable tie.

9.03 If the terminal block wiring harness is equipped with a 710 capless female connector (CF), terminate the entrance cables as outlined in Step 17.



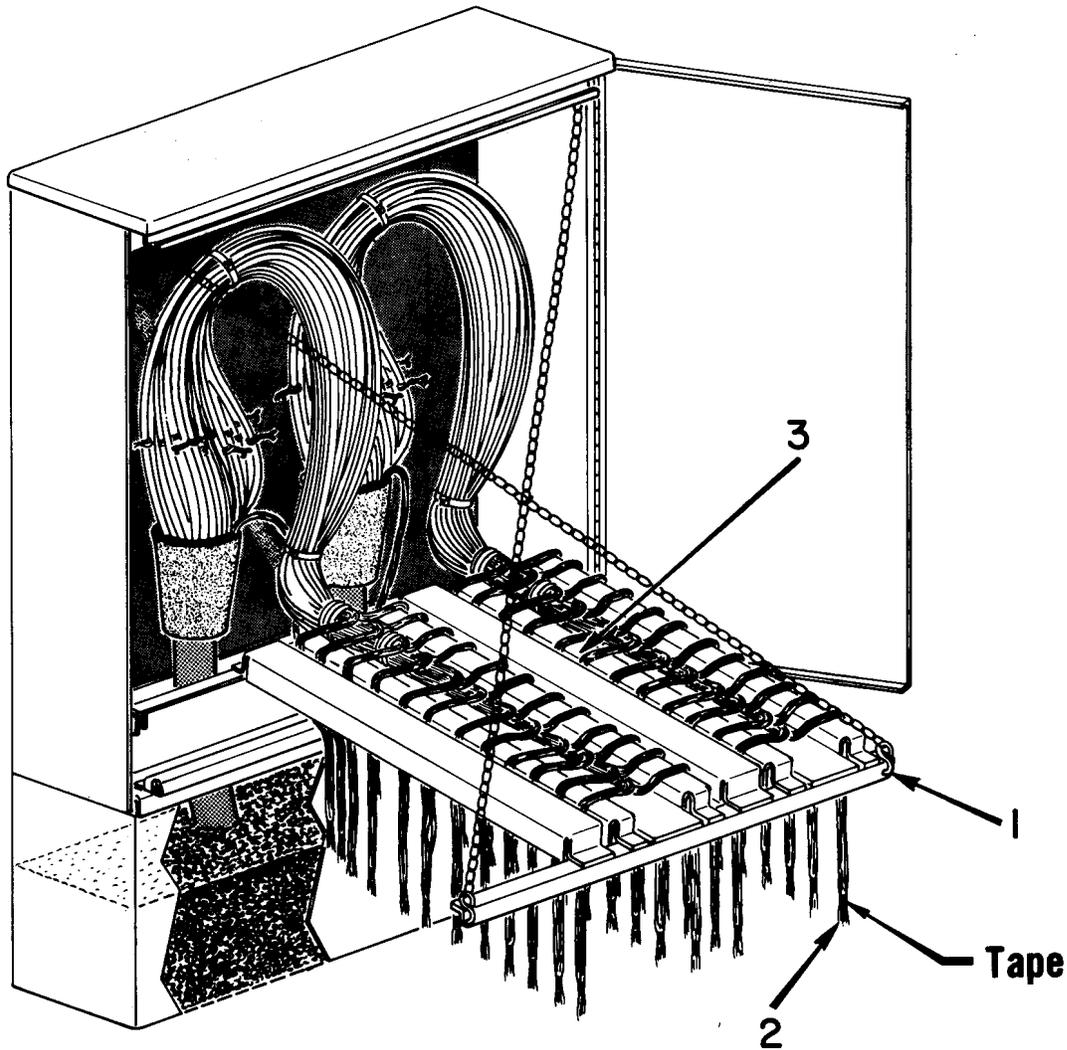
**Step 17—Terminating Using Capless Female Connector**

- 1—Install a 117A bracket or 710A tool mounting and cutter-presser on the cabinet as outlined in Step 14 and 15.
- 2—Identify cable pairs and mark groups.
- 3—Select the 710 connector containing the first 25-pair count from group of connectors on terminal block and place into cutter-presser.
- 4—Find corresponding group from entrance cable and tie it tightly to the group already in the tool so that color ties are together.
- 5—Place conductors from cable into top part of connector module. Seat, cut, and install cap as outlined in Section 632-205-220. Remove temporary tie.
- 6—Repeat 3, 4, and 5 for each group. The tool will have to be moved to the opposite side of the panel to complete all terminations.
- 7—Tie the groups to the support as shown in Step 16.

- 9.04** If the terminal blocks are equipped with a 710 male connector (CM), terminate the entrance cable as outlined in Step 17, except:
- Place an index strip in head of cutter-presser.
  - Place the conductors of the assigned cable unit into the index strip. Seat and cut conductors as outlined in Section 632-205-220.
  - Place the assigned male 710 connector from the terminal block on the index strip and seat the connector module using the cutter-presser as outlined in Section 632-205-220.
  - Dress the spliced units to the rear of the cabinet in three groups and secure to support with cable tie (Step 15).

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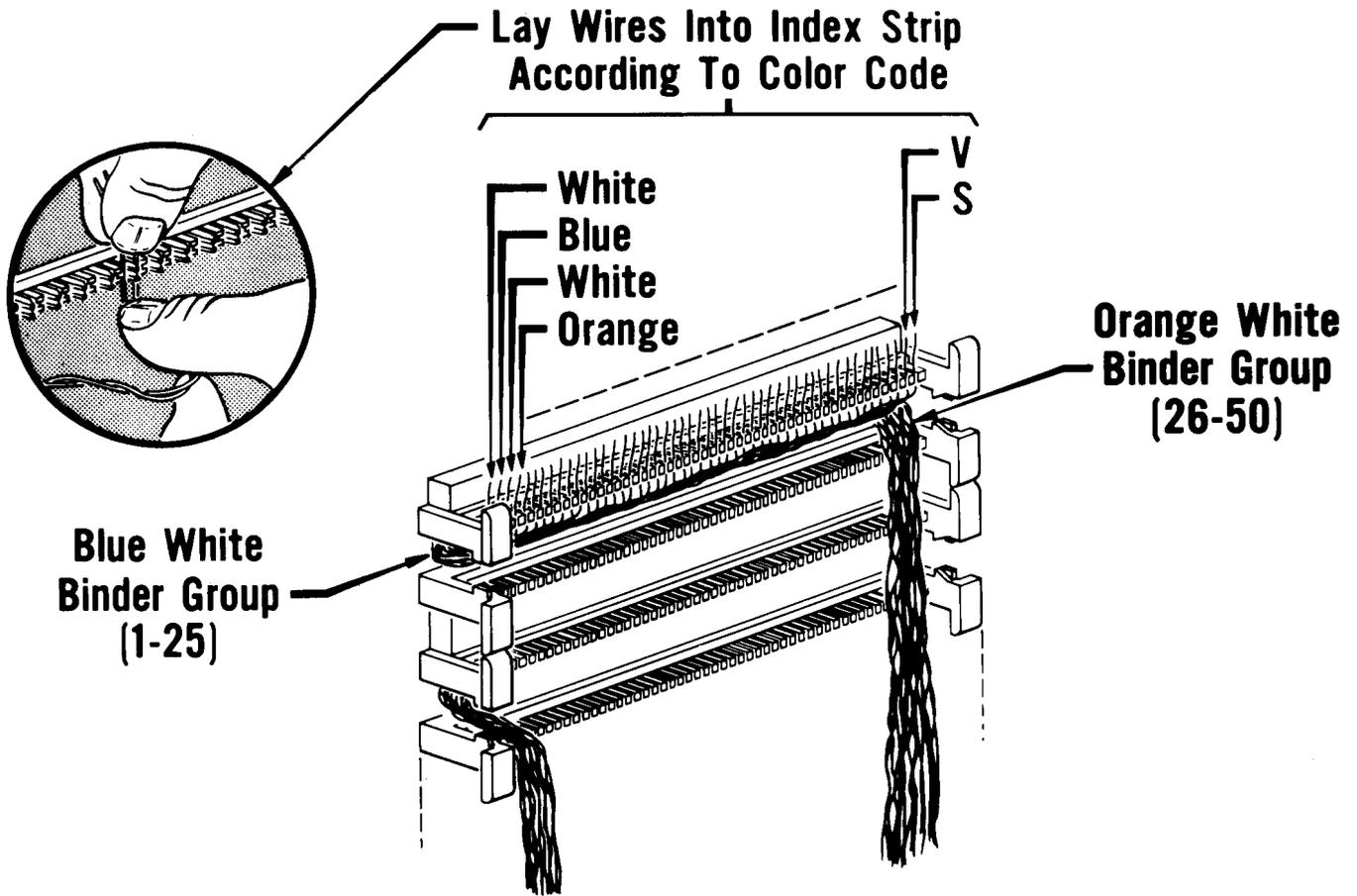
**9.05** Procedures for field terminating the entrance cable pairs directly on the wiring blocks using kit of loose parts (KT) are outlined in Steps 18 through 23.



**Step 18—Placing Binder Groups Through Wiring Slots**

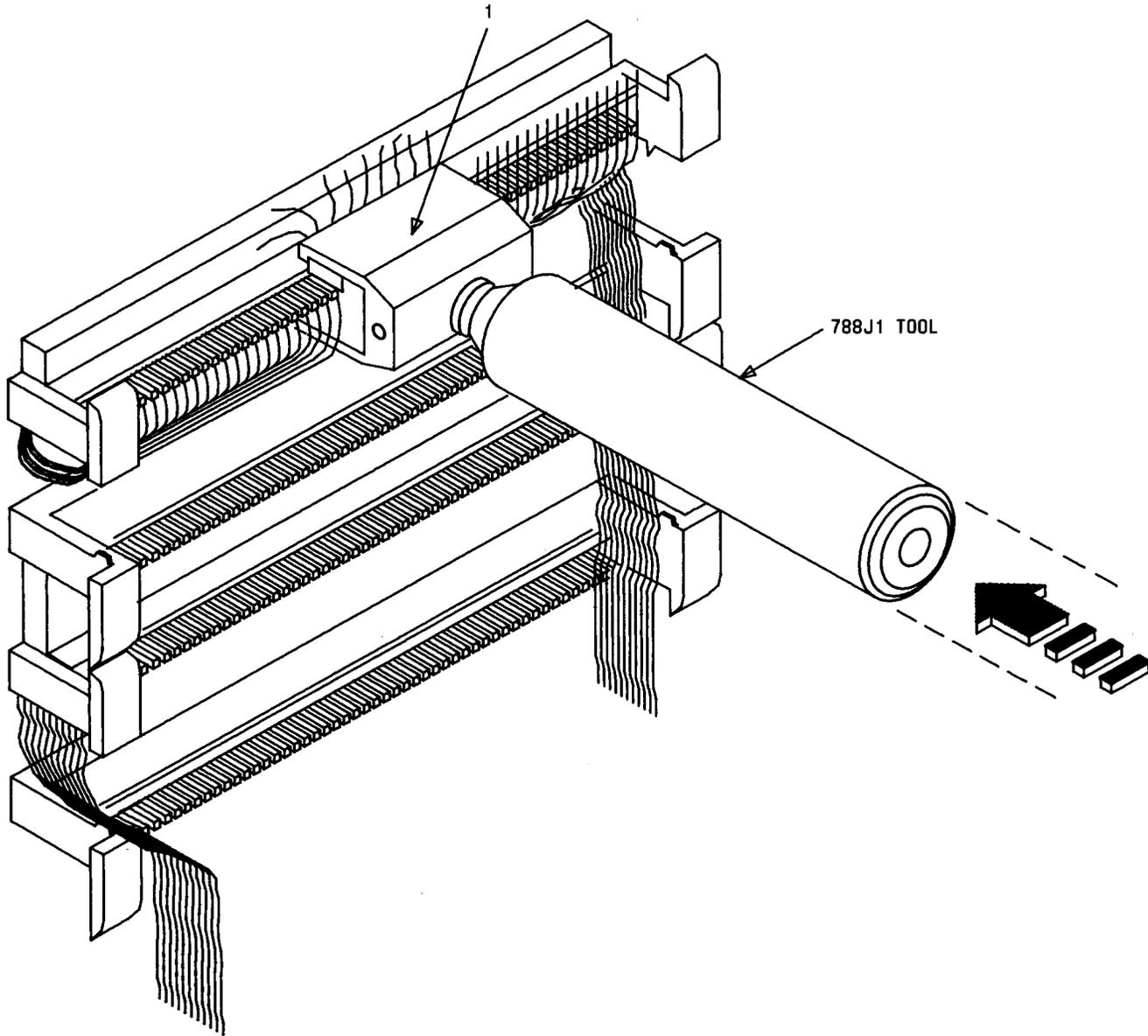
- 1—Lower frame by loosening captive bolts and safety latch at top of frame.
- 2—Consult work print for binder group locations. Establish which groups are FEEDER and which groups are DISTRIBUTION and tag them.
- 3—Build cable tree by feeding the binder groups into the cable slots on the wiring blocks starting at the bottom of the block and working toward the top. The last two groups should be the blue-white on the left and orange-white on the right (Step 19).
- 4—Raise frame to upright position and secure in place.

FIELD TERMINATION OF KT UNITS



**Step 19—Placing Conductors Into Index Strip**

1—Lay wire into index strip per color code, tip to left, ring to right. Light finger pressure is all that is required to hold wire in place.

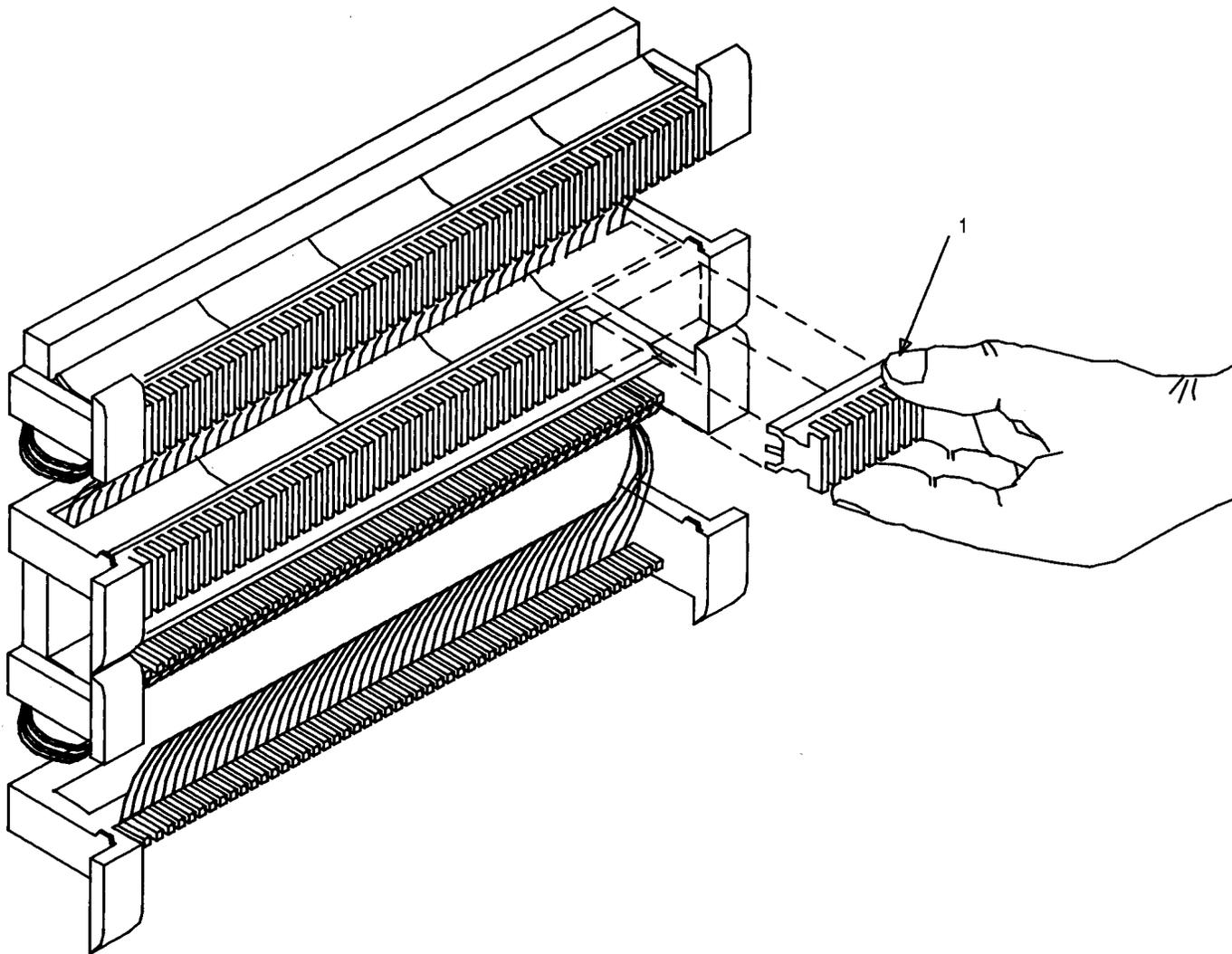


**Step 20—Seating and Trimming Conductors**

- 1—Using the 788J1 impact tool, seat and cut the conductors at the edge of the index strip. **Exercise care to prevent cutting wrong side. Remove cut conductors and check the index strip to assure that no short pieces of the cut conductor are wedged in the wiring slots preventing a solid connection when the connecting blocks are seated.**

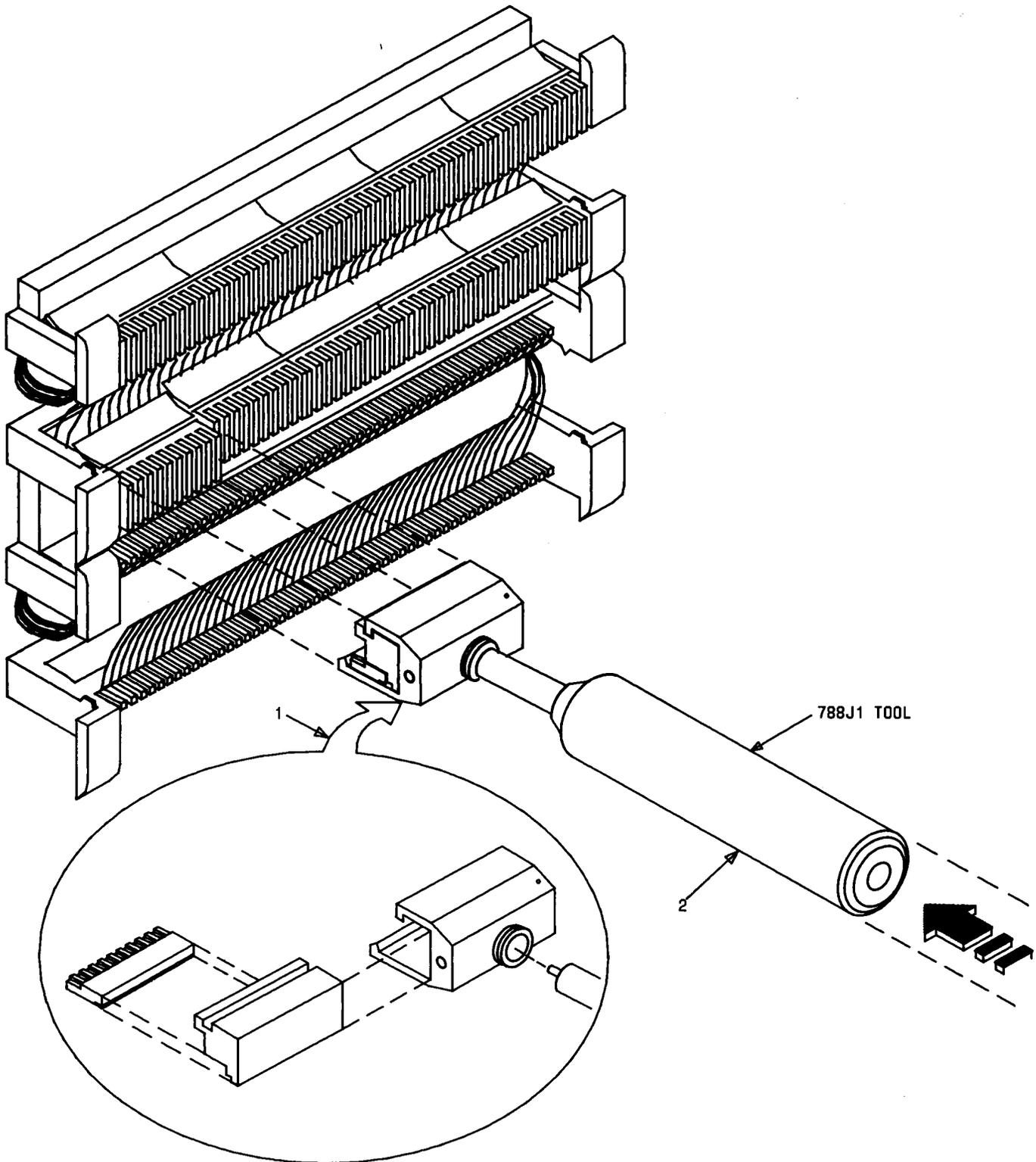


**Avoid movement of cables after the conductors have been seated and cut to prevent the conductors from being pulled out of the index strip prior to placing the connecting blocks.**



**Step 21—Placing 108 Connecting Block Into Index Strip**

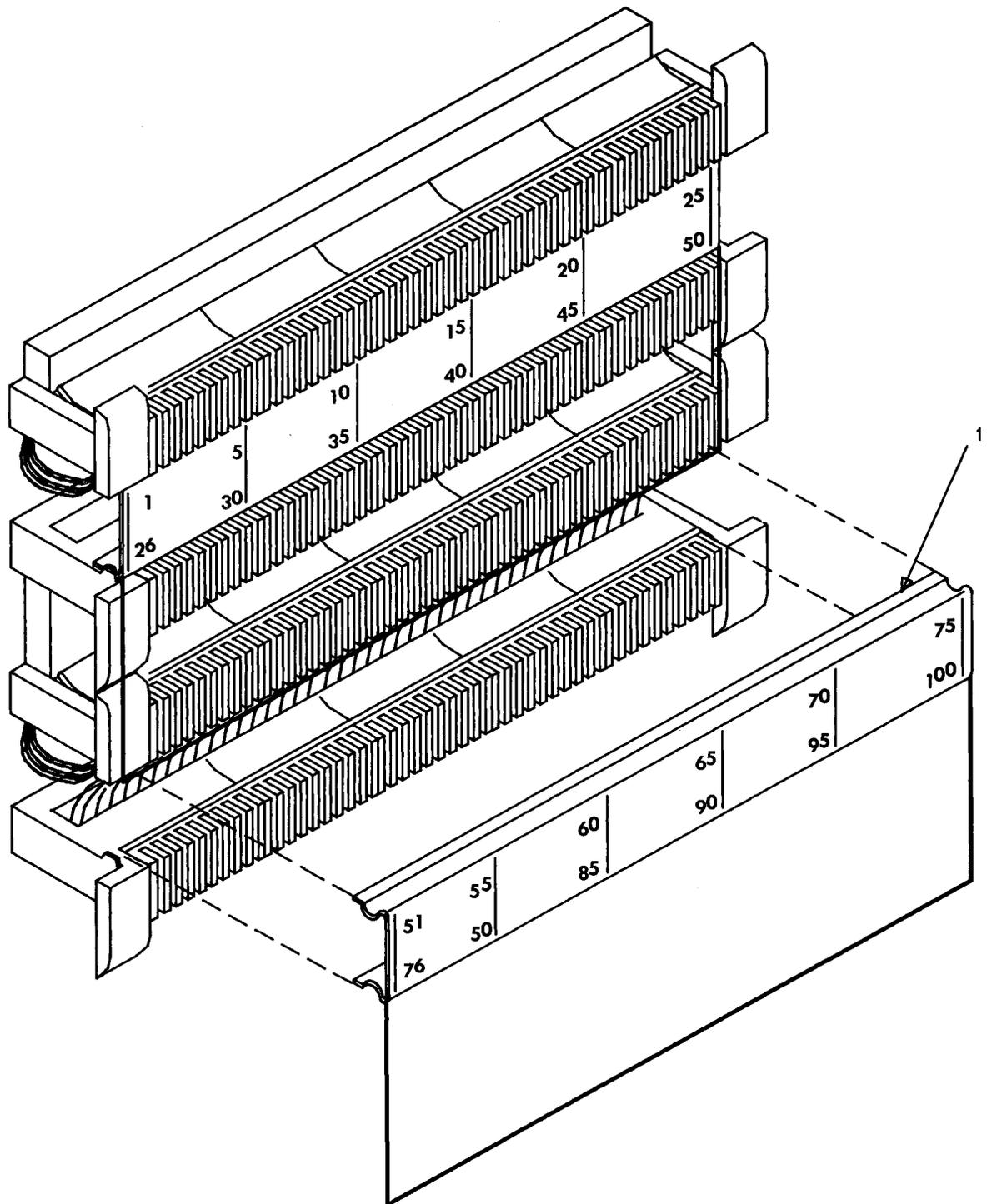
- 1—Place 108 connecting blocks into the index strip by hand so that long skirt of block covers cut wire ends and gray surface of block faces incoming conductors.



**Step 22—Seating Connecting Block**

1—Remove the head of the 788J1 impact tool and reverse cutoff head for seating 108 connecting block.

2—Seat connecting block with 788J1 impact tool



**Step 23—Installation of Designation Strip**

1—Install designation strip as follows:

- (a) Green on feeder field
- (b) Blue on distribution field.

2—Repeat Steps 20, 21, 22, and 23 for each 25-pair unit.