

## DROP AND BLOCK WIRING

### POLE AND GUARD ARM ATTACHMENTS

#### 1. GENERAL

**1.01** This section covers methods of installing the drive hook, guard arm, and guard arm hook, and of running drop wires from guard arms.

**1.02** This section is reissued to revise Fig. 1.

#### 2. LOCATING DRIVE HOOK

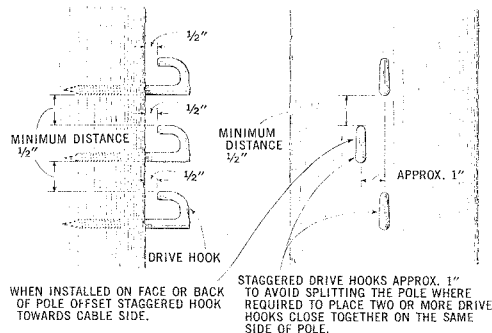
**2.01** Locate drive hook on pole preferably below the strand where drop wires can be placed with proper clearances above ground and from foreign wires and trees. This applies particularly to runs from span clamps and pole-to-pole runs in order to avoid whipping of the drop wire against strand and cable.

**2.02** Locate drive hook above the strand where necessary to provide proper clearances. The distance from the strand to the drive hook may be varied to meet the conditions encountered, observing joint use clearances.

**2.03** Drive hooks may be located both above and below the strand on the same pole where necessary to meet the conditions involved. They may also be located on the cable side as well as on the face or back of the same pole, provided unobstructed climbing space is maintained on jointly used poles.

#### 3. INSTALLING DRIVE HOOK

**3.01** Hold the drive hook with one hand until it is driven well into the pole in order to prevent it from being dislodged when struck with the hammer. When placing more than one drive hook on the same side of the pole stagger the hooks as shown in Fig. 1. Try to obtain greater than the minimum vertical separation between hooks, particularly for paralleling drops.



**Fig. 1 — Drive Hooks Installed in Pole**

**3.02** If the diameter of the pole is less than 5 inches, a 5/16-inch lead hole, approximately 3 inches deep, shall be provided for the drive hook to avoid splitting the pole, particularly if the hook is installed near the top of the pole. On such poles, a vertical separation of about 3 inches shall be provided between drive hooks installed on opposite sides of the pole. A lead hole shall also be provided where difficulty is experienced in driving the hook into hard poles. Drill the lead hole with a 5/16-inch by 7-1/2 inch installer drill in a bit brace or with a 5/16-inch masonry drill in a drill holder.

#### 4. CAPACITY OF DRIVE HOOK

##### General

**4.01** The maximum number of drop wires that may be attached to one drive hook varies according to the directions of the spans and the available space on the hook.

**Note:** If a drop wire spans in two directions from a drive hook placed in the face or back of the pole, the number of attachments that may be made to one drive hook is expressed as the number of spans instead of the number of wires.

**Drive Hook Installed in Face or Back of Pole**

**4.02** Where the drive hook is installed in the face or back of the pole the maximum number of spans (not wires) that may be attached to the same drive hook is shown in Table A.

**TABLE A**

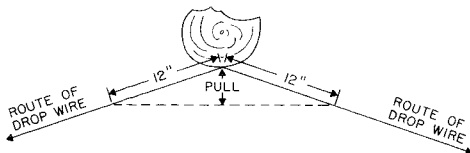
MAXIMUM ALLOWABLE NUMBER OF SPANS (NOT WIRES) FROM A SINGLE DRIVE HOOK INSTALLED IN FACE OR BACK OF POLE				
DIRECTIONS OF SPANS	Paralleling Pole Line	Crossing Highway	Not Crossing Highway	Total Allowable
MAXIMUM NUMBER OF SPANS	0	3	4	7
	1	2	3	6
	2	1	2	5
	3	0	0	3

**Example:** By reading across the table, a maximum of two spans paralleling the pole line, one span crossing the highway, and two spans not crossing the highway may be attached to the same drive hook.

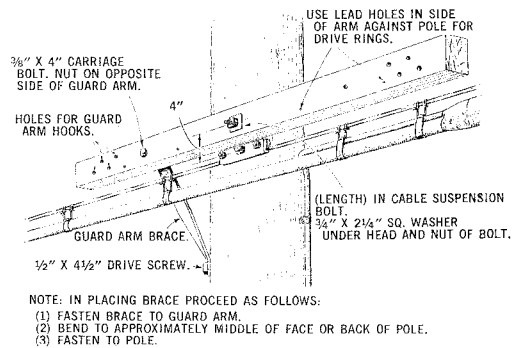
**Drive Hook Installed in Cable Side of Pole**

**4.03** In runs along the lead, the maximum number of wires (not spans) that may be attached to a drive hook installed in the cable side of the pole is four in cases where there is no pull on the pole, where the pull is against the pole, or where the pull away from the pole is 4 inches or less as defined in Fig. 2. Where the pull away from the pole is more than four inches, the maximum number is three drop wires.

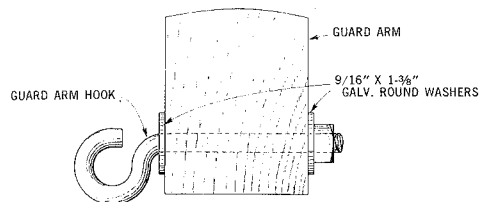
**4.04** A maximum of four drop wires from span clamps may be attached to a drive hook installed in cable side of a terminal pole.

**Fig. 2 — Showing Pull on Pole****5. INSTALLING GUARD ARM**

**5.01** Install guard arm as shown in Fig. 3.

**Fig. 3 — Guard Arm Installed****6. INSTALLING GUARD ARM HOOK**

**6.01** The guard arm hook is used in connection with attaching drop wires to guard arms and to crossarms other than the DE type. At a guard arm, install hook in one of the holes provided at the ends of the arm, following the order covered in Para. 8.01. At a crossarm, it is necessary to bore a 9/16- or 5/8-inch hole for each hook. Locate the hole as covered in Section 462-240-200CA. (See Fig. 4.)

**Fig. 4 — Guard Arm Hook Installed**

**6.02** Use the drop wire hook instead of the guard arm hook on the DE crossarm. The drop wire hook should also be used instead of the guard arm hook on crossarms other than the DE type, except where more than two drop wires must be attached to the same hook or where a clearance hole is provided in the crossarm for a guard arm hook. Install drop wire hook on crossarm as covered in Section 462-240-200CA.

## 7. CAPACITY OF GUARD ARM HOOK

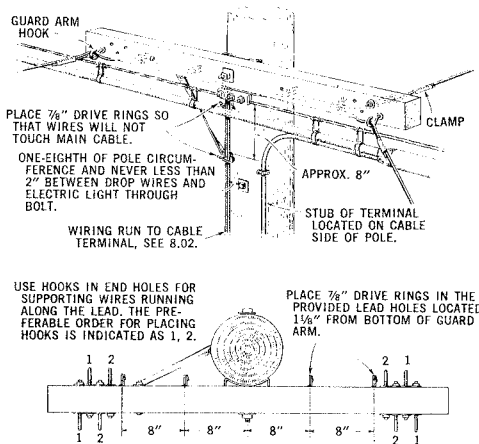
**7.01** A total of five drop wires, in any direction, may be attached to one guard arm hook.

## 8. RUNS FROM GUARD ARM

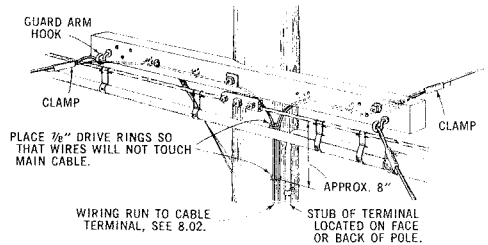
### Distributing from Guard Arm to Building

**8.01** Distribute drop wires from a guard arm as shown in Fig. 5 and 6.

**8.02** Attach drop wire clamp to guard arm hook by passing wire tail of clamp over hook. Pass drop wires through the hook unless the hook is congested. Run wires on guard arm and pole in a neat manner with sufficient slack so that there will be no strain or sharp bends at rings, hooks, and clamps.



**Fig. 5 — Cable Terminal Mounted on Cable Side of Pole**



**Fig. 6 — Cable Terminal Mounted on Face or Back of Pole**

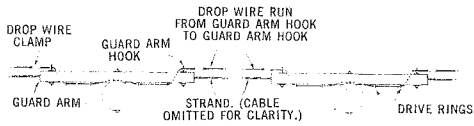
**8.03** Where brackets and knobs previously installed on guard arm are in a servicable condition, drop wires may be distributed from vacant grooves of the knobs. Not more than one drop shall be attached to an S Knob.

### Balancing Load on Guard Arm

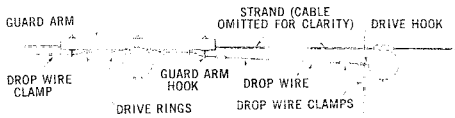
**8.04** When installing or rearranging drop wires, it may be necessary to place and distribute from a new guard arm hook at the opposite end of the guard arm instead of using an existing hook, in order to balance the load.

**8.05** When removing dead drops, the arrangement of the remaining drops may cause excessive strain on one end of the guard arm. Rearrange the drops in so far as practicable to equalize the strain, such as by moving drops from one guard hook arm to another.

**8.06** When a number of drops are attached to the same building, it may be desirable to distribute from both ends of the guard arm in order to equalize the strain, provided that the required climbing space will not be obstructed.



**Fig. 7 — Drop Wire Run Along Lead from Guard Arm to Guard Arm**

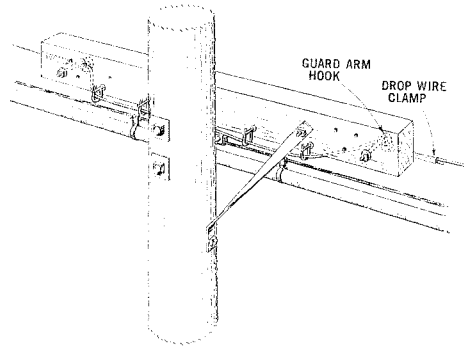


**Fig. 8 — Drop Wire Run Along Lead from Guard Arm to Pole**

#### Guard Arm-to-Guard Arm Run

**8.07** When it is necessary to run along the lead from guard arm to guard arm or from

guard arm to pole, dead-end both ways using drop wire clamps as illustrated in Fig. 7, 8, and 9.



**Fig. 9 — Wiring at Intermediate Guard Arm for Run along the Lead**