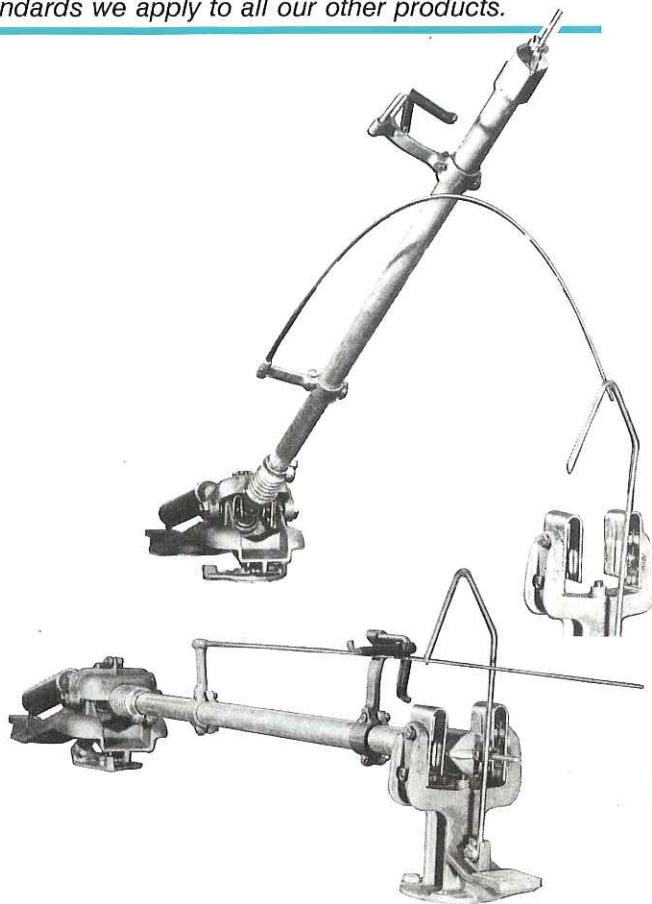


## Catalog Section 1400

Bulletin No. 1400-A April, 1995  
Supersedes Bulletin No. 1400 dated August, 1963

*Either included as components of group operated switches at the time of purchase, or purchased separately, Southern States accessory equipment is engineered and manufactured to the same exacting standards we apply to all our other products.*



**Quick Break Arcing Horns** through 161 kV for interrupting transformer magnetizing and line charging currents can be applied on vertical break, center break and double side break switches in both standard and Vee mountings.

Magnetizing Current Interrupting Capability (Vertical Break)	
Voltage - kV	Transformer - MVA*
7.5 - 46	35
69	70
115	120
138	140
161	160

\*Based on 1% excitation current.

# SWITCH ACCESSORIES

Quick Break Arcing Horns  
Auxiliary Switches  
Mechanical Interlocks  
Electrical Interlocks  
Worm Gear Operators  
Spill Gaps  
Outriggers  
Position Indicators  
Pipe Insulation  
Threaded Pipe Clevises  
Grounding Switches  
Grounding Devices  
Mounting Structures

Line Charging Current Interrupting Capability  
(Vertical Break)

Voltage - kV	Amperes
7.5 - 69	15
115	12
138	8
161	6

HIGH VOLTAGE  
SWITCHMAKERS



Southern States, Inc.



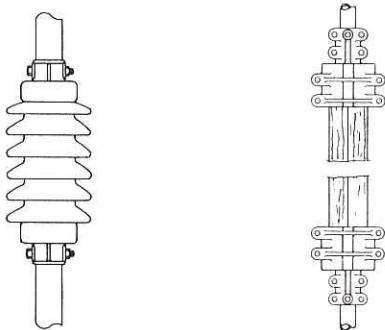
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## SWITCH ACCESSORIES

Page 2

The **Type AVS-1 and AV-1** auxiliary switches can be employed for many purposes, but are used principally for remote indication of line and/or grounding switch positions and to control electrical interlocks. They feature simple, linear circuitry, and easy adjustment. For adjustment, the entire housing is removed, providing excellent access. Available in sizes from two poles up to eighteen, linkage or gear driven.

FIGURE 3



**Vertical Pipe Insulation:** If required, the vertical operating pipe can be supplied with porcelain or wood inserts. Wood inserts are treated to industry specifications and are 3.75" square, 8' standard length.

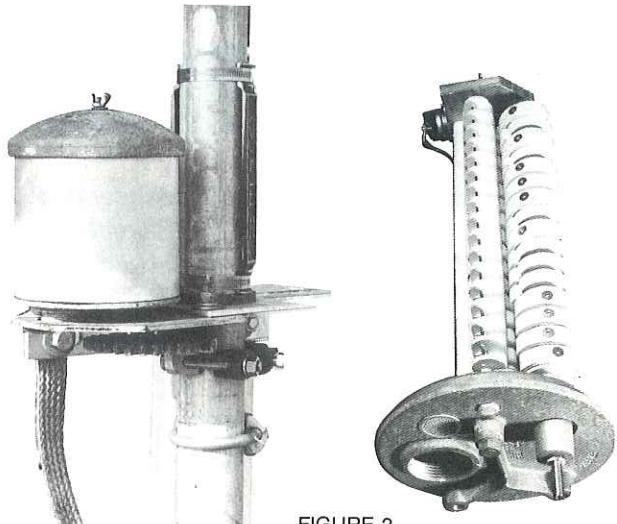


FIGURE 2

(Right) Sixteen pole auxiliary switch, less cover, wiring and drive mechanism. Logical, straight-through circuitry and accessible cam lobes make adjustment easy and precise.

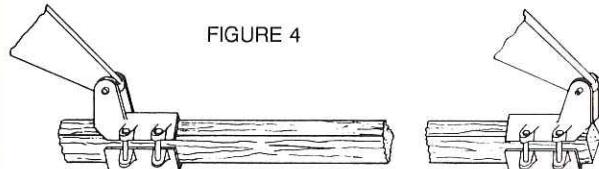


FIGURE 4

**Wood Interphase Rods** are also available with square sections of either 2" or 3.75".

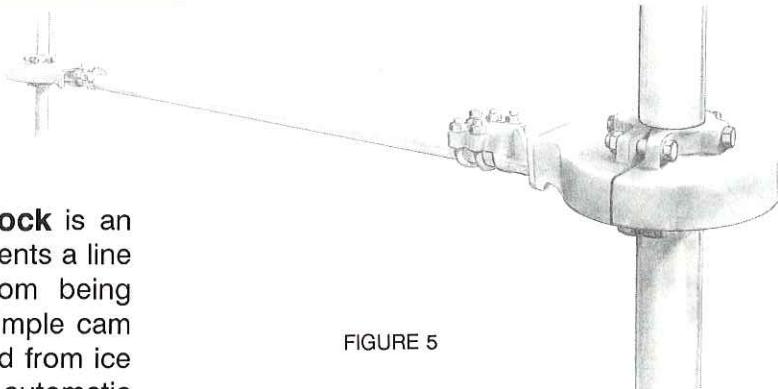
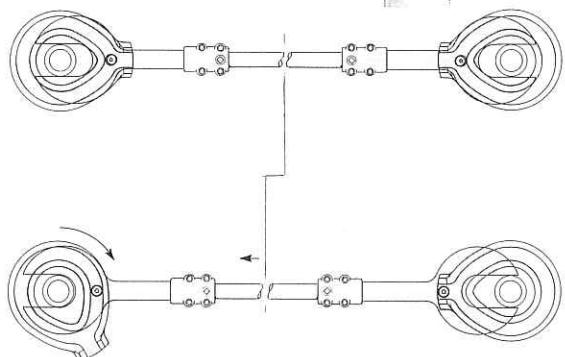


FIGURE 5



The heavy duty **Mechanical Interlock** is an easily installed safety device that prevents a line switch and its grounding switch from being closed at the same time. It uses a simple cam mechanism that is completely shielded from ice formation to ensure smooth, safe, automatic operation regardless of environmental conditions. An important feature is easy installation after the vertical operating pipe is in place, facilitating later equipment upgrades.

**Electrical and Key Interlocks** are also available (Refer to the factory).

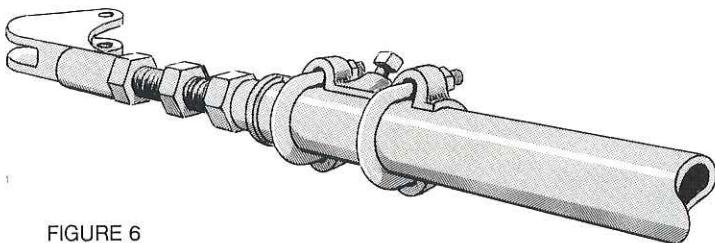


FIGURE 6

**Threaded Pipe Clevises** are optional in lieu of the standard U-bolted clevises to facilitate incremental switch adjustment. Cast nodular iron, galvanized.



FIGURE 8



FIGURE 9

Standard on switches of higher ratings, the **Type HOGO Worm Gear Manual Operator** can be specified in lieu of swing handles for lower ratings if desired, or retrofitted to existing equipment. Smooth, easy operating and lightweight, it is quickly installed and can be padlocked with the switch either open or closed. (30:1 gear ratio; available with handles up to 18").

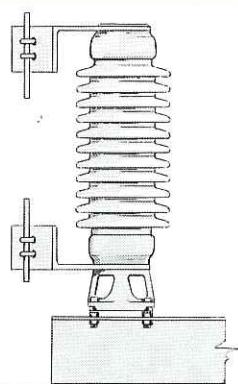


FIGURE 10

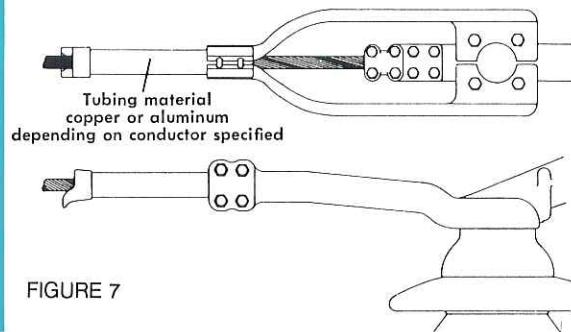


FIGURE 7

**Outriggers** control the position of cable conductors to overcome clearance problems. These cast aluminum components are bolted between the insulators and the switch live parts. Standard lengths are 2'-6" through 6'-0". A light duty type is also available that mounts directly to the switch terminal pad.

Cast aluminum **Switch Position Indicators** are red (closed) and green (open), and are mounted to the vertical operating pipe with hose clamps. Also available with a window type housing.

**Grounding Switches:** A complete line of grounding switches is available in copper and aluminum through 230 kV, and in aluminum through 765 kV; momentary ratings up to 120 kA.

**High Speed Grounding Switches** are described in detail in catalog bulletins 401, 402 and 403.

**Spill Gaps** protect against lightning surges, or adjust flashover to ground. The **Adjustable Rod Type Spill Gaps** are mounted to the switch base and under the switch live parts, and are quickly and easily adjustable to precise dimensions.



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## SWITCH ACCESSORIES

Page 4

**Standard Steel Crossarms and Frames:** For switches through 69 kV and 1200 Amp. Conductor pull load maximum 1000 lb. per conductor. Easy mounting.

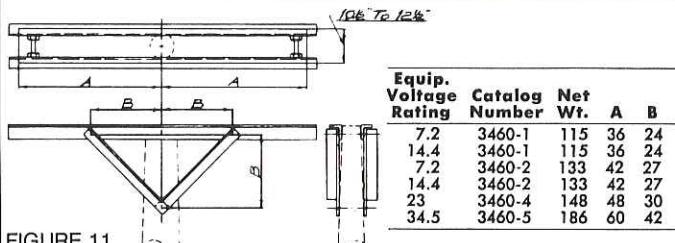


FIGURE 11

### STANDARD STEEL CROSSARM

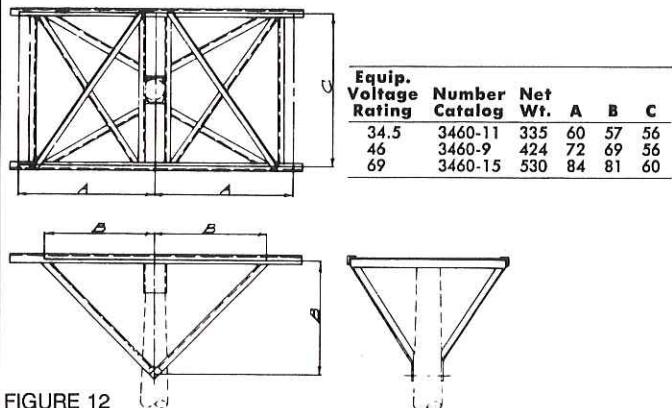


FIGURE 12

### STANDARD STEEL FRAME

Equip. Voltage Rating	Catalog Number	Net Wt.	A	B	C	D
34.5	3460-16	416	60	23	96	48
46	3460-17	509	72	24	96	54
69	3460-13	600	84	30	120	66

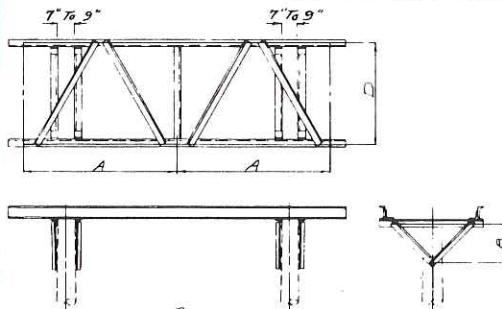


FIGURE 13  
STANDARD TWO POLE STEEL FRAME

Equip. Voltage Rating	Catalog Number	Net Wt.	A	B	C	D
7.2	3460-8	213	36	40	14	30
14.4	3460-8	213	36	40	14	30
23	3460-12	254	48	52	14	30

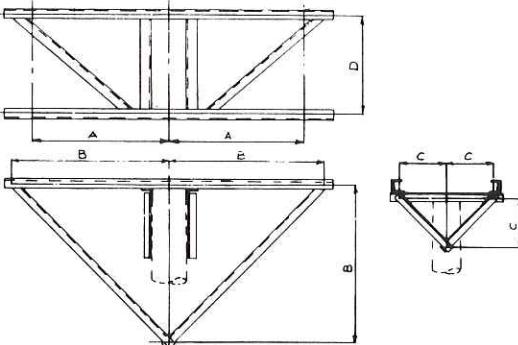


FIGURE 14  
STANDARD ONE POLE STEEL FRAME

Other accessories available include Grounding Studs, Braidless and Multi-revolution Grounding Devices, and Electrical and Mechanical Interlock Adapters.

In addition, Southern States can supply customized equipment mounting frames in both aluminum and steel. Please contact the factory for details.



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