

Appalachian Power Company Policy / Procedure No. 13:
Gang Operated Air Break Switch Operation

1) Statement of policy:

Care must be used in operating Gang Operated Air Break (GOAB) Switches to insure first that the operator is not exposed to hazardous voltages during the operation of the switch and second that the operation moves the switch to the desired position.

2) Discussion:

During switching, class 2 or 3 rubber gloves and overshoes must be worn and the handle must be kept away from the body. Switches without an insulator in the operating rod shall not be operated while energized.

Before beginning any switching involving a GOAB, inspect the following:

- An insulator is installed in the operating rod and it is intact
- The ground grid and handle grounding is intact and no parts of the ground grid are visible above ground
- The switch appears to be in good operating order, it is either fully open or fully closed and arc suppressors appear to be in good condition

The following steps shall be followed to properly operate a GOAB switch:

Step 1: After receiving and verifying switching instructions from the dispatcher look over the switch you will be operating before executing the instructions. Verify that the switch is in the position that the dispatchers' records indicate. ie: If your instructions are to close it verify that it is open. If you are going to open it verify that it is closed. If everything is in order continue to the next step. **If there are any discrepancies notify the dispatcher and do not continue with the switching until issues are resolved.**

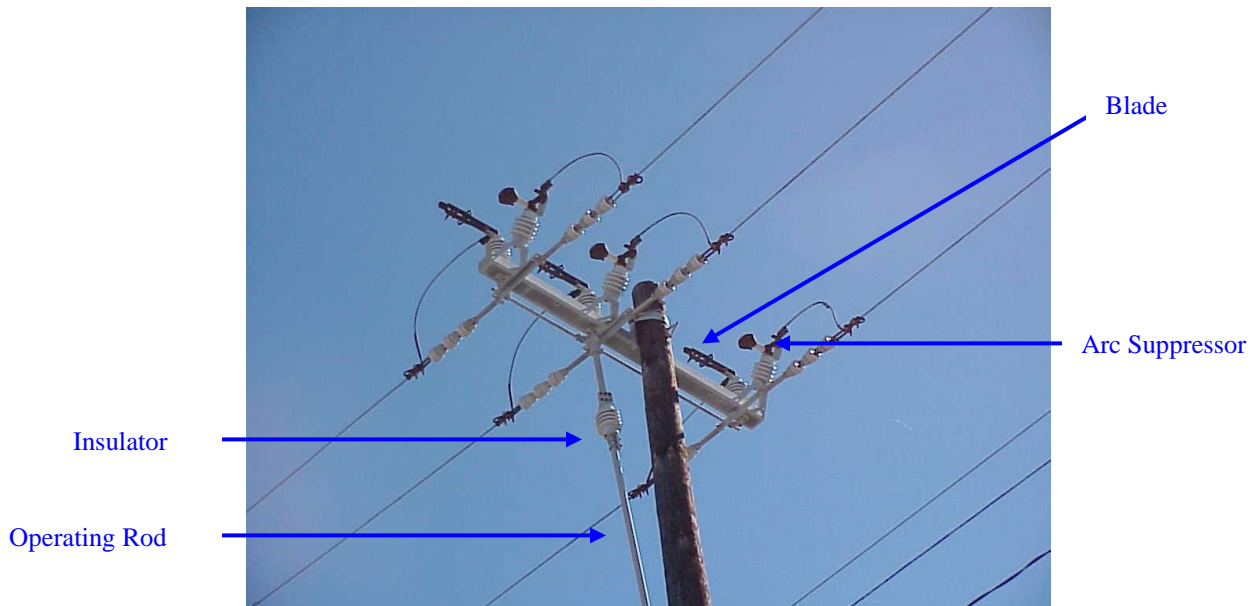


Figure 1
Opened Horizontal GOAB

Step 2: Wearing all required IPE and PIPE including overshoes, unlock the switch handle.

Step 3: Using a continuous deliberate motion move the switch to the desired position. As the switch handle is being moved horizontally, it twists the operating rod. This moves the switch assembly to the opened or closed position. When operating the handle it must be moved swiftly with enough strength to assure that the blades are completely open or closed; however, do not jerk the handle as that may damage the switch.



Figure 2
Operating the switch

Step 4: Lower the handle to the vertical position.

Step 5: Step away from the pole and visually inspect the blades to assure that all are in the open position with proper clearance or completely closed. If all appears okay, move to Step 5. **If there are any concerns about the switch not being open or closed properly notify the dispatcher immediately so a decision can be made as to whether the switching should be executed again or change the switch back to its original position and halt all switching until adjustments or repairs can be made.**

Step 6: Lock the handle.

Step 7: Report to the dispatcher that you have completed his instructions.

3) Definitions:

Gang Operated Air Break Switch (GOAB) - A manually operated switch which, when operated all three blades move in sequence. All of the newer GOAB switches have an interrupter on each phase, which, when opening the switch under load, allows the load to be broken within a cylinder to alleviate flashovers.

4) Attachments:

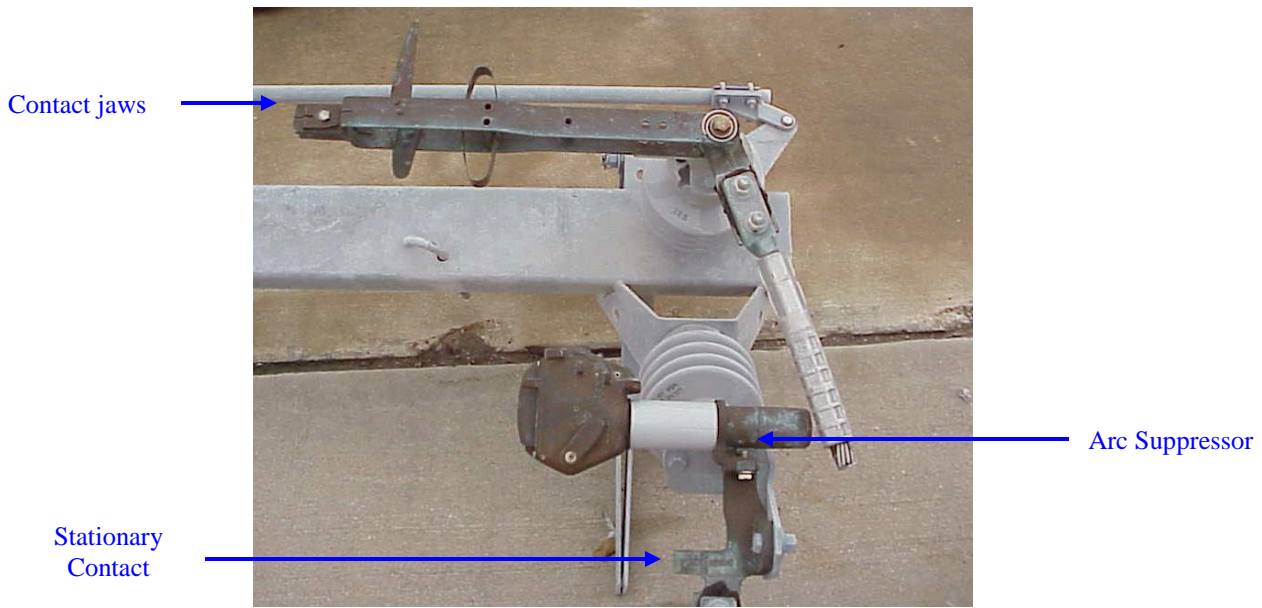


Figure 3
Opened GOAB close up



Figure 4
Partially closed switch. Note that the contact bayonet and the contact jaws are only partially engaged.

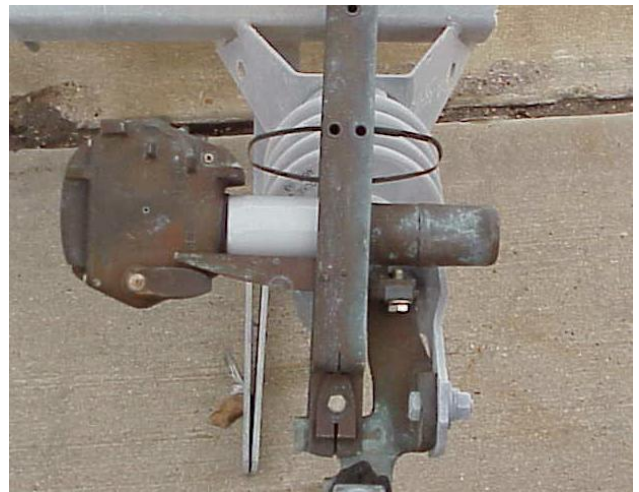


Figure 5
Properly closed

5) OSHA / Safety Manual References

Safety Manual E2.06:

All workers who are using the operating handles on air break switches and disconnects on energized lines and equipment shall use appropriate Personal Protective Equipment (PPE), FR clothing and Class 2 insulating gloves. Before operating, the switch and grounding arrangement shall be visually checked. Workers shall keep the non-insulated parts of their body clear of the switch handle, operating rod and structures.

6) Date Adopted: May 2, 2006