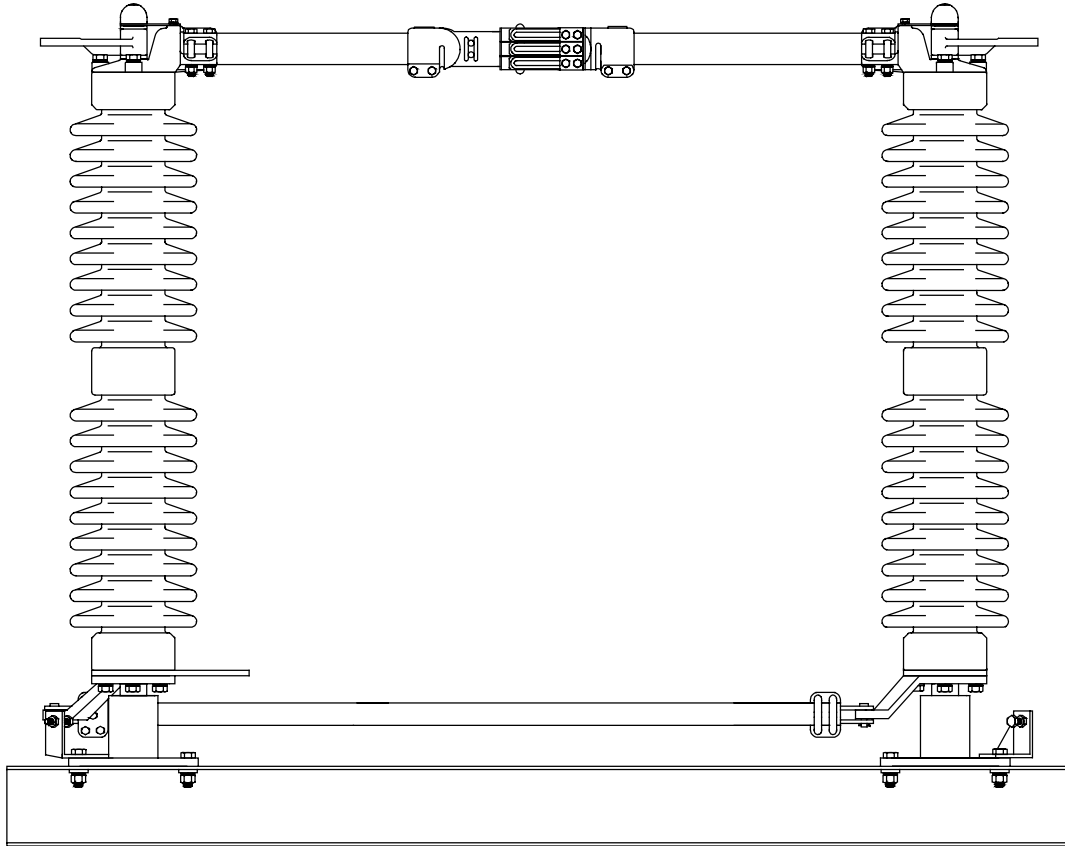


TYPE CB CENTER BREAK SWITCH

Bulletin No. 41-0109

3-PHASE, GROUP OPERATED (SUBSTATION AND TRANSMISSION APPLICATIONS)



- HORIZONTAL UPRIGHT, VERTICAL, OR UNDERHUNG MOUNTING
- 34kV THROUGH 230kV
- 1200A THROUGH 3000A
- MANUAL OR MOTOR OPERATED CONTROL MECHANISM

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FEATURES OF TYPE CB SWITCH

- Tubular or truss type blade
- Silver contact surfaces
- Assembled and adjusted at the factory
- Switch controls available for manual (swing handle or gear), or motor driven operation
- Available with various current interrupting devices
- Ratings from 34kV to 230kV --- 1200A and 2500A
- Leveling nuts for uneven mounting surfaces on larger sizes

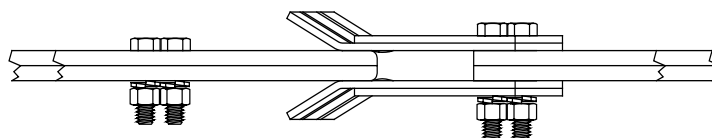
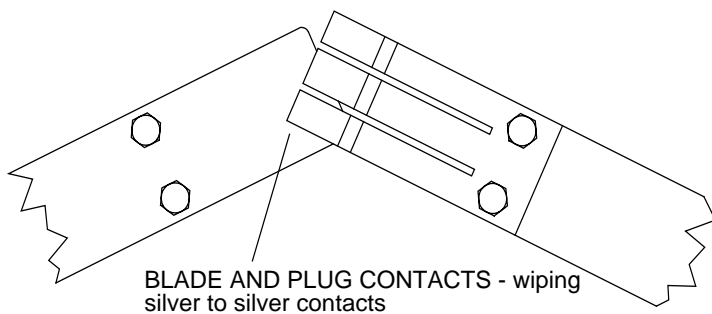
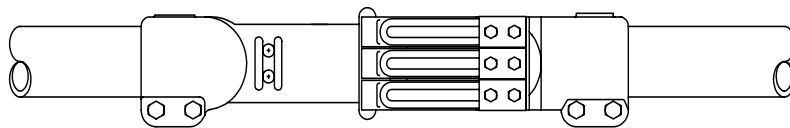
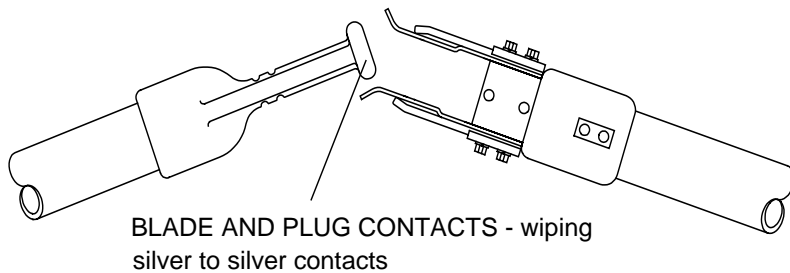


Fig. 2 - Truss blade contacts

A 3-phase, group operated, center break, air break switch for substations and transmission lines.

Since 1961, components of this design have proven their adaptability to system requirements and the validity of the philosophy "simplicity means reliability."

Positive Contact Assembly

Current transfer points are independent contact shoes with silver to silver contact surfaces (heavy plating, inserts or flame spray metallizing as the application requires). Individual stainless steel backup springs on each shoe assures high pressure contact wiping on the tubular blade switch (Fig. 1). Phosphor bronze backup springs perform the same function on the truss blade switch (Fig.2).

Maintenance Free Bearing Design and Positive Linkage Tie

Each insulator stack is supported by double ball bearings permanently lubricated and sealed for the life of the switch. The two rotating insulators are locked together through a maintenance-free tie rod which assures proper alignment at the switch contacts. The base assembly has open position and close position stops for a 90° full throw of the switch.

Base Channel Assembly

Double channel, welded galvanized steel bases.

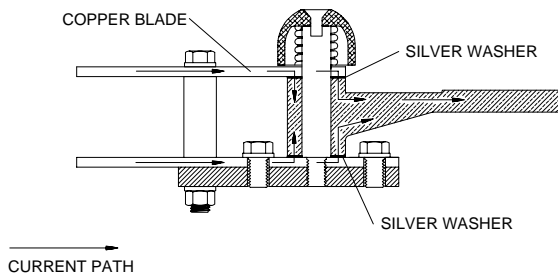


Fig. 3 - 1200A truss blade hinge contact

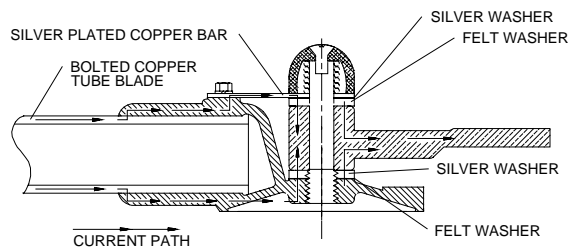
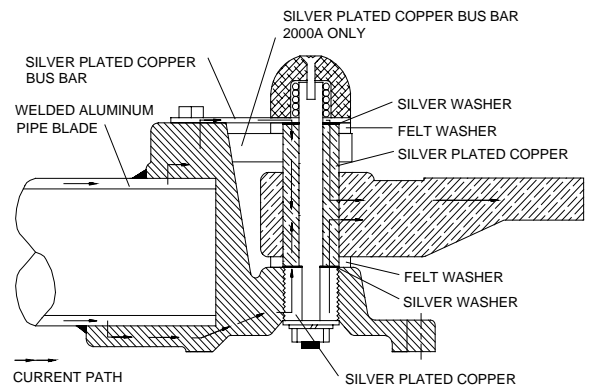


Fig. 4 - 1200A copper tubular blade hinge

Positive Hinge Contact

The hinge swivels on a stainless steel bearing rod. A high pressure stainless steel spring, outside the current path, applies pressure to the silver to silver current transfer points.



**Fig. 5 - Aluminum 2000A tubular blade hinge
Aluminum 1200A tubular blade hinge similar**

OPERATING CONTROL MECHANISM

The standard control mechanism is the torsional type using galvanized steel pipe. This control includes a toggle arrangement to assure mechanical locking of the switch poles in the open and closed positions. This arrangement gives the CB switch maximum mechanical capability for ease of operation under normal and icing conditions. The manual swing handle or optional gear operator can be padlocked in either the open or closed position. The torsional control can be converted to power operation.

CURRENT INTERRUPTING DEVICES

Arcing Horns

Arcing horns are designed to prevent arcing at the main switch contacts. They have no interrupting rating, however, they are commonly used to interrupt small values of current such as transformer magnetizing current, or the charging current of a short length of line.

Quick-Break

The quick-break circuit interrupter is capable of interrupting a limited amount of line charging or transformer magnetizing current. It provides high speed contact separation by the means of a spring loaded whip.

RVI38 Vacuum Interrupter

The vacuum interrupter will permit currents up to 2000 amperes to be interrupted and loop splitting or parallel switching up to 161kV, if peak recovery voltage does not exceed 30kV. It is in the power circuit for only a few seconds during the opening operation, and is not in the circuit while the switch is closed or closing. Continuous, momentary and impulse ratings of the switch are unaffected.

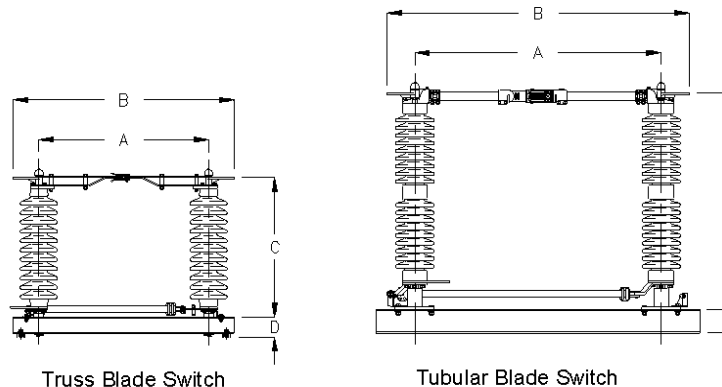
TYPE CB SWITCH SPECIFICATIONS

kV Nominal (kV Maximum)	Amps Continuous (kAmps Momentary)	Insulator T.R. No.	B.I.L. Rating	Catalog Number	A	B	C	D	Approx Ship Weight (Lbs.)
COPPER TRUSS BLADE SWITCHES									
34.5 (38)	1200 (61)	210	200	CCBF3412	24	36 3/4	23 1/2	5	915
46 (48.3)	1200 (61)	214	250	CCBF4612	30	42 3/4	27 1/2	5	1017
69 (72.5)	1200 (61)	216	350	CCBF6912	42	54 3/4	35 1/2	5	1227
COPPER TUBULAR BLADE SWITCHES									
34.5 (38)	1200 (61)	210	200	CCB3412	24	36 5/8	27 3/4	5	960
46 (48.3)	1200 (61)	214	250	CCB4612	30	42 5/8	31 3/4	5	1062
69 (72.5)	1200 (61)	216	350	CCB6912	42	54 5/8	39 3/4	5	1287
115 (121)	1200 (61)	286	550	CCB11512	60	72 5/8	54 3/4	6	2780
138 (145)	1200 (61)	288	650	CCB13812	72	84 5/8	63 3/4	6	3400
161 (169)	1200 (61)	291	750	CCB16112	84	96 5/8	71 3/4	6	3600
ALUMINUM BLADE SWITCHES									
34.5 (38)	1200 (61) 2000 (100) 2500 (100)	210	200	ACB3412 ACB3420 ACB3425	24	36 5/8	32 3/4	5	1370 1391 1391
46 (48.3)	1200 (61) 2000 (100) 2500 (100)	214	250	ACB4612 ACB4620 ACB4625	30	42 5/8	36 3/4	5	1474 1494 1494
69 (72.5)	1200 (61) 2000 (100) 2500 (100)	216	350	ACB6912 ACB6920 ACB6925	42	54 5/8	42 3/4	5	1684 1704 1704
115 (121)	1200 (61) 2000 (100) 2500 (100)	286	550	ACB11512 ACB11520 ACB11525	60	72 5/8	57 3/4	6	2230 2250 2250
138 (145)	1200 (61) 2000 (100) 2500 (100)	288	650	ACB13812 ACB13820 ACB13825	72	84 5/8	66 3/4	6	2815 2835 2835
161 (169)	1200 (61) 2000 (100) 2500 (100)	291	750	ACB16112 ACB16120 ACB16125	84	96 5/8	74 3/4	6	3100 3120 3120
230 (242)	1200 (61) 2000 (100) 2500 (100)	304	900	ACB23012 ACB23020 ACB23025	96	110 5/8	89 3/4	6	3808 3828 3828

Insulators meet ANSI standards for electrical and mechanical characteristics for their class.

NOTES

1. Dimensions are for NEMA standard station post insulators.
2. All dimensions are in inches.
3. Non-standard insulators are available upon request.



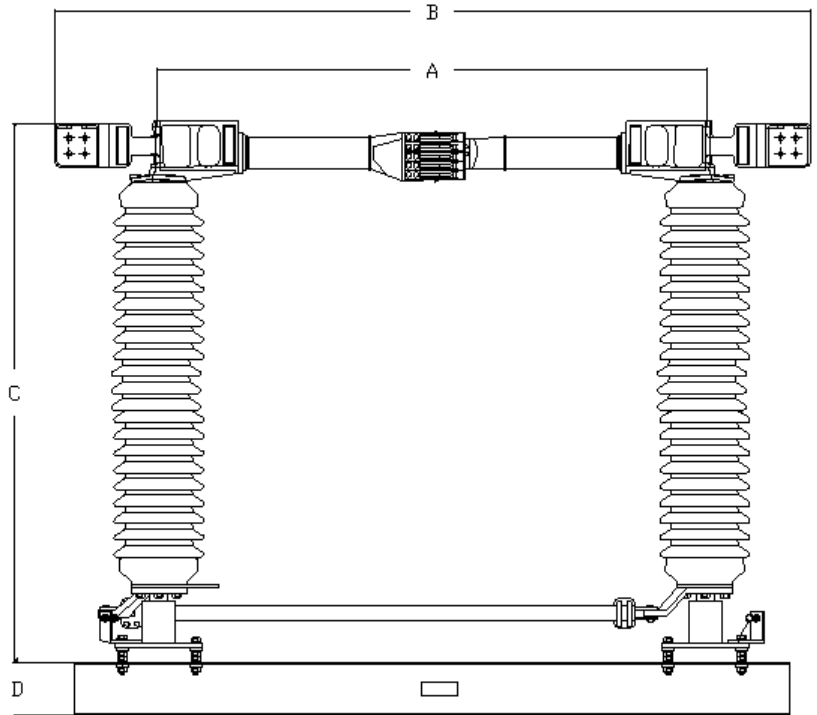
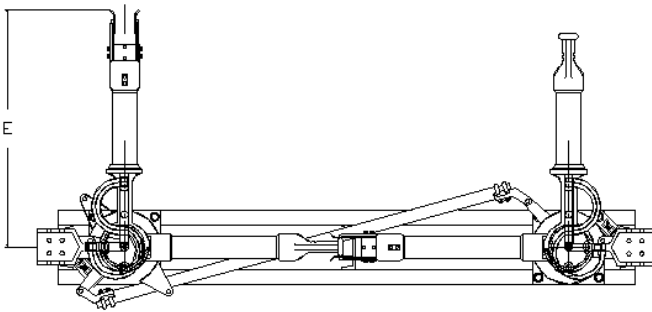
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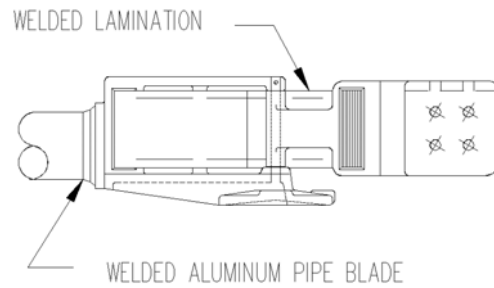
TYPE CB CENTER BREAK SWITCH

3-PHASE, GROUP OPERATED (SUBSTATION AND TRANSMISSION APPLICATIONS)

- Horizontal Upright, Vertical or Underhung
- Manual or Motor Operated Control Mechanism
- 69kV through 230kV



- Terminals are three sided with NEMA Standard four hole drilling
- Hinge utilizes a welded lamination design to carry the current



kV Nom. (kV Max.)	Amps Cont. (kAmps Mom.)	Insulator T.R. No.	B.I.L.	Catalog Number	A	B	C	D	E	Approx. Ship Weight (Lbs.)
ALUMINUM TUBULAR BLADE SWITCHES										
69 (72.5)	3000 (100)	216	350	ACB6930	35 1/2	63 3/4	42 3/4	5	21 7/8	1950
115 (121)	3000 (100)	286	550	ACB11530	52 3/16	81 3/4	57 3/4	6	30 7/8	2925
138 (145)	3000 (100)	288	650	ACB13830	59 3/16	93 3/4	66 3/4	6	36 7/8	3560
161 (169)	3000 (100)	291	750	ACB16130	66 1/4	105 3/4	74 3/4	6	42 7/8	3700
230 (242)	3000 (100)	304	900	ACB23030	82 7/8	119 3/4	89 3/4	6	45 7/8	3675

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