

Line Circuit Breakers, Open and Closed, 26 kV

1. Scope

This standard covers the information necessary to install line circuit breakers on the 26 kV primary distribution system. Requirements for jumper size and hardware, and installation instructions to connect the jumpers between conductors, are included.

2. Application

This standard provides direction to Seattle City Light (SCL) engineers, crews, and contractors for the installation of circuit breakers on 26 kV distribution primary (#4 AWG copper, 397.5 kcmil ACSR, and 954 kcmil ACSR) conductors.

Circuit breakers provide a means to physically open and isolate a circuit, typically for system reconfiguration.

3.

4. Requirements

Circuit breakers shall be installed along a span.

Closed-circuit breakers shall be constructed as shown in figures 3a or 3b.

Open circuit breakers shall be constructed the same way as closed-circuit breakers minus the jumper and connector as shown in figures 3c or 3d.

Figure 3a. Closed 26 kV Circuit Breaker for 397.5 & 954 ACSR

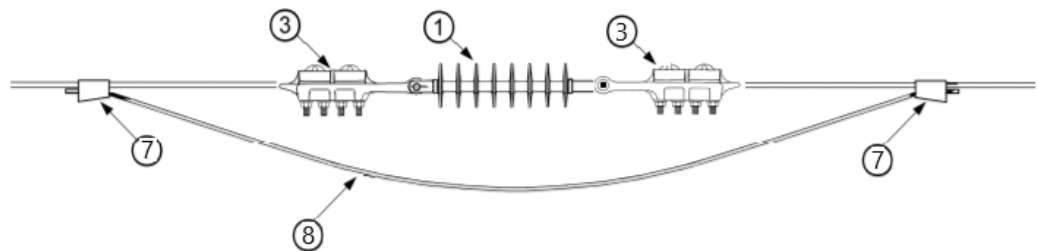


Figure 3b. Closed 26 kV Circuit Breaker for #4 Copper

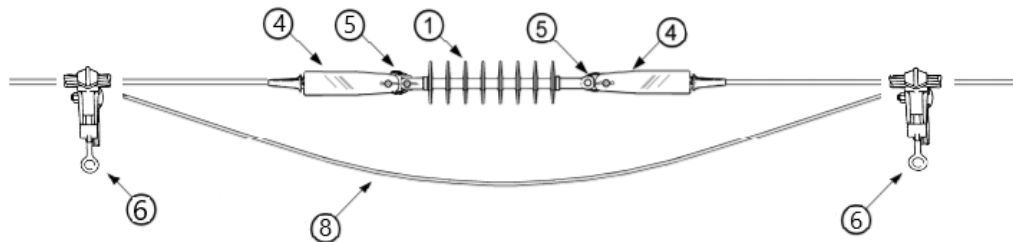


Figure 3c. Open 26 kV Circuit Breaker for 397.5 and 954 ACSR

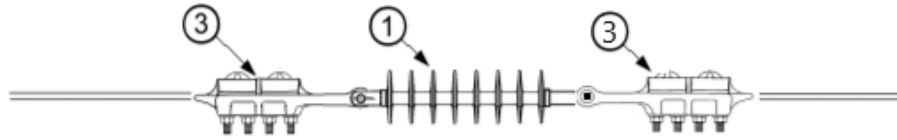
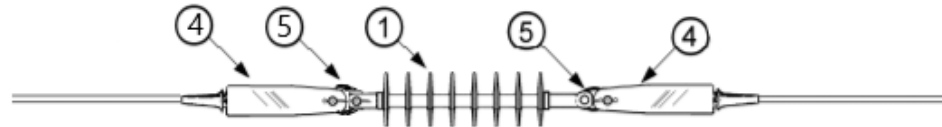


Figure 3d. Open 26 kV Circuit Breaker for #4 AWG Copper



5. Material Lists

Table 4a. Materials for Closed Circuit Breakers

Fig	Compatible Unit	ID	Quantity				
3a, 3b	Single-phase #4 closed inline circuit breaker	CB-INLINE1#4CL					
3a, 3b	Two-phase #4 closed inline circuit breaker	CB-INLINE2#4CL					
3a, 3b	Three-phase #4 closed inline circuit breaker	CB-INLINE3#4CL					
3a, 3b	Three-phase 397.5 closed inline circuit breaker	CB-INLINE397CL					
3a, 3b	Three-phase 954 closed inline circuit breaker	CB-INLINE954CL					
#	Material Description	ID	1	1	3	2	1
1	Insulator, Suspension, Polymer	690233	1	1	3	2	1
3	Clamp, Deadend, Strt. Line, Al, 3/0-397 ACSR	694292	-	2	-	-	-
3	Clamp, Deadend, Strt. Line, Al, 336.4-954 ACSR	694294	2	-	-	-	-
4	Deadend, Automatic Feed Through, Cu, #4 Solid	581332	-	-	6	4	2
5	Link, Chain, 5/8 in., 3-1/4 L. X 1 W	696195	-	-	6	4	2
6	Clamp, Hot Line Tap - 2/0 - #8	580725	-	-	6	4	2
7	Connector, Compr., Al., C-type Tap, 954 - 954	013624	2	-	-	-	-
7	Connector, Compr., Al., C-type Tap, 397.5-397.5	651101	-	2	-	-	-
8	Wire, Solid Bare Copper, Soft, Jumper, #4 AWG	610208	-	-	15	10	5
8	Pri OH Wire/Cbl, AAC, 397.5 kcmil	600113	-	5	-	-	-
8	Pri OH Wire/Cbl, AAC, 954 kcmil	600126	5	-	-	-	-

Table 4b. Materials for Open Circuit Breakers

Fig	Compatible Unit	ID	Quantity				
3a, 3b	Single-phase #4 open inline circuit breaker	CB-INLINE1#4OP					
3a, 3b	Two-phase #4 open inline circuit breaker	CB-INLINE2#4OP					
3a, 3b	Three-phase #4 open inline circuit breaker	CB-INLINE3#4OP					
3a, 3b	Three-phase 397.5 open inline circuit breaker	CB-INLINE397OP					
3a, 3b	Three-phase 954 open inline circuit breaker	CB-INLINE954OP					
#	Material Description	ID	1	1	3	2	1
1	Insulator, Suspension, Polymer	690233	1	1	3	2	1
3	Clamp, Deadend, Strt. Line, Al, 3/0-397 ACSR	694292	-	2	-	-	-
3	Clamp, Deadend, Strt. Line, Al, 336.4-954 ACSR	694294	2	-	-	-	-
4	Deadend, Automatic Feed Through, Cu, #4 Solid	581332	-	-	6	4	2
5	Link, Chain, 5/8 in., 3-1/4 L. X 1 W	696195	-	-	6	4	2

6. Sources

- Lu, Curtis**; SCL Standards Engineer, originator, and subject matter expert for 0100.41
- Nyhus, Erik**; EC&M Supervisor, South URD and Subject Matter Expert for 0100.41
- SCL Construction Standard D8-26**; “26 kV Circuit Breaker” (canceled)