



Spectra Series™ Power Panelboards

Bolt-On Circuit Breaker Kits

Catalog Numbers AMCB6EB, AMCB4SE, AMCB4EB

Application

For use with circuit breaker types TEB, TED, THED, SED, SEH, SEL, SEP.

For Use with Circuit Breaker Cover Kit Catalog Numbers AFP3SED, AFP4SED, AFP2TED, AFP3TED.

Installation



WARNING: Danger of electrical shock or injury. Turn OFF power ahead of the panelboard or switchboard before working inside the equipment or removing any component. Equipment is to be installed and maintained by properly trained and qualified personnel only.

In the following instructions and figures, numbers in brackets refer to the items in Table 1.

For Spectra APNB bolt-on-style interiors, locate the side of the panel interior for which the dimension from the nearest vertical bus face to the inner face of the bus support rail is 2.75 inches, as indicated in Figure 2. The circuit breaker straps will be mounted on this side of the bus.

- 1. Install Circuit Breaker Straps.** Install the straps beginning with the outermost (A and C) poles, as shown in Figure 1. Align the straps [1, 2] back to back, as shown. Slide the square hole in the antiturn clip [12] over the corresponding square shank of the carriage bolt [3], then insert the pin section of the clip through the circular hole in the strap assembly, with the carriage bolt extending through the square hole immediately below. Fasten the complete strap assembly loosely to the vertical bus, using a Belleville washer [4] and nut [5]. Repeat the procedure for the opposite pole, leaving 1.38 inches (1X) of space for the center pole (see Table 2 for one- and two-pole connection combinations). Align the center-pole straps [6] as shown and fasten them loosely to the vertical bus using the same clip, bolt, washer, and nut assembly.
- 2. Install Circuit Breaker Mounting Straps and Cover Supports.** Fasten the circuit breaker mounting brackets [7] to the panel side rails using the thread-forming screws [8] provided, as shown in Figure 1. Tighten the thread-forming screws to 25 inch-pounds. Using the uppermost slot on each cover support body, slide the cover supports (included in the circuit breaker cover kit), with their mounting tabs oriented inward, onto each bracket until they snap into place. The cover supports can be easily removed by inserting a screwdriver into the mounting slot on the underside of the mounting bracket assembly and gently prying downward while pushing off the cover support.

- 3. Install Circuit Breakers.** Position the circuit breakers such that the line- or ON-side terminals rest on the straps and the opposite sides are supported by the mounting brackets. Align the holes in each circuit breaker body with the corresponding holes in the mounting bracket. Fasten the breakers to the brackets with the sheet-metal screws [10] and cup washers [11] and tighten to 20 inch-pounds. Join the line-side circuit breaker terminals to the threaded holes in the straps using the screws [9] provided. Tighten the line-side screws to 32 inch-pounds. Note that the straps may require minor adjustments for proper hole alignment.
- 4. Tighten Bolted Connections.** Tighten the bolted strap connections at the vertical bus to 65 inch-pounds. It may be necessary to remove the adjacent circuit breakers to allow access to the bolted connections at the vertical bus.

Item	Description	Qty.
1	A & C pole outer straps	2
2	A & C pole inner straps	2
3	1/4-20 x 1.50" carriage bolts	3
4	1/4" Belleville washers	3
5	1/4-20 hex nuts	3
6	B-pole straps	2
7	Breaker mounting brackets *	2
8	Thread-forming screws	4
9	Screws with lockwashers	6
10	8-32 x 2 ³ / ₄ " screws	4
11	#8 cup washers	4
12	Antiturn clips	3

* Kit AMCB4EB uses an alternate 2X mounting bracket.

Table 1. Bolt-on circuit breaker assembly parts, replacement hardware kit catalog number AHKBE1.

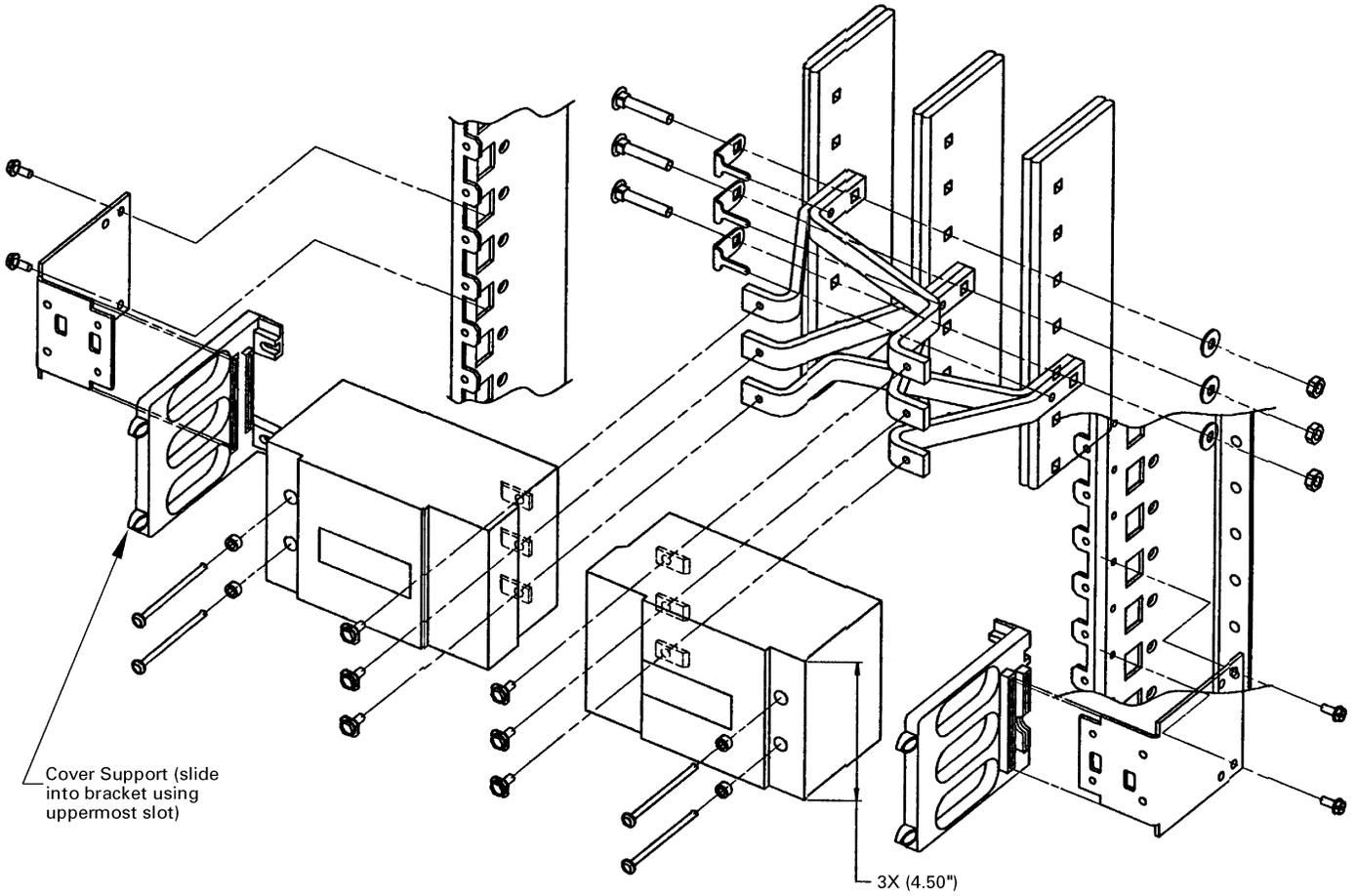


Figure 1. Bolt-on circuit breaker assembly exploded view.

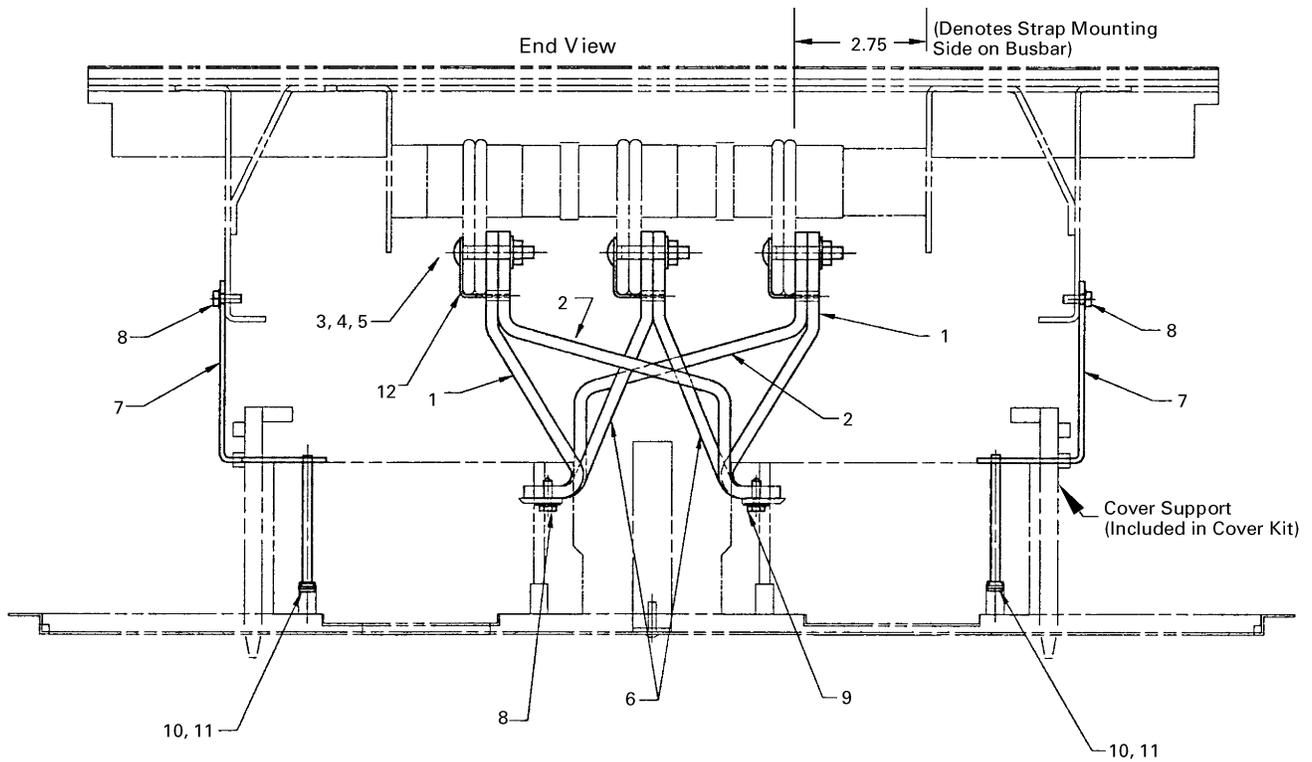


Figure 2. Bolt-on circuit breaker assembly end view.

Single- and Two-Pole Configurations

For phase-balancing purposes, single-phase panels, and dc applications, Table 2 contains the single- and two-phase breaker mounting configurations available with each strap kit.

Catalog Number	A-Phase Location	B-Phase Location	C-Phase Location
AMCB4SE	X X	X X	X X
AMCB4EB (Single-Pole)	X	X	X
AMCB4EB (Two-Pole)	X X*	X X	X* X

* Use for single-phase panels and dc applications.

Table 2. Possible pole connection combinations with available strap kits.

When installing the strap configurations in Table 2, be sure to use standard phase rotation, as required. For example, when connecting the first option in Table 2, connect pole A, followed by pole B moving down the vertical bus. When installing a two-pole and a three-pole breaker in the double-branch assembly, arrange the straps in the typical three-pole configuration as indicated in Figure 1. The AMCB4EB strap kit contains an alternate circuit breaker mounting bracket for installing type TEB or TED breakers in a four-pole, 2X (2 X 1.38 inches), double-branch assembly. Secure both breakers in each branch to the center hole in each mounting bracket and connect two of the three strap assemblies as desired, as in Table 2.

Apply multiple wrappings of insulation to unused strap contact surfaces, as shown in Figure 2. A UL Recognized 105° C thermoplastic tape (OANZ2) is required. Overlap greater than one-half of preceding turns, as shown, to achieve a minimum tape thickness of 0.013 inch.

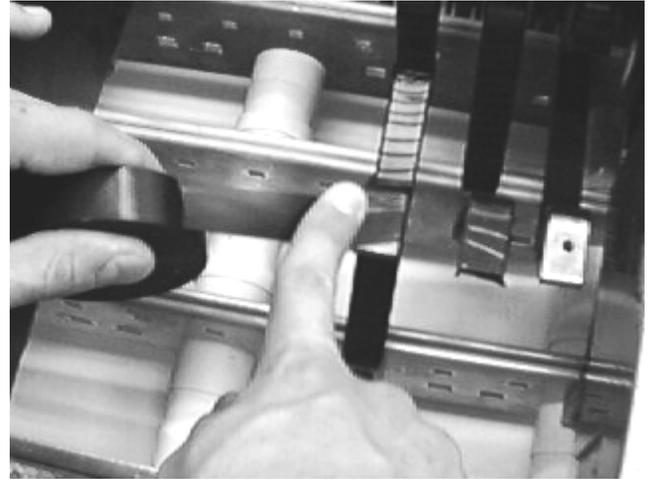


Figure 2. Insulating unused strap contact surfaces.

These instructions do not cover all details or variations in equipment nor do they provide for every possible contingency that may be met in connection with installation, operation, or maintenance. Should further information be desired or should particular problems arise that are not covered sufficiently for the purchaser's purposes, the matter should be referred to the GE Company.



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