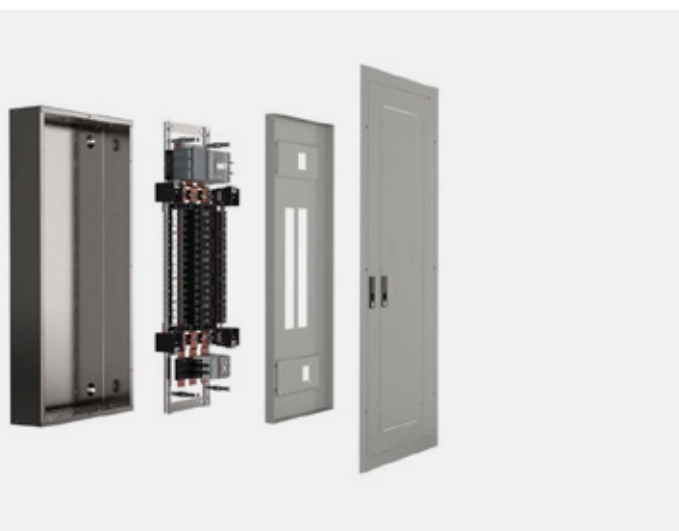


# ReliaGear® Merchandised lighting panelboards

## ReliaGear® Merchandised A2 circuit breaker kits, 240 V AC



These instructions describe the installation of a 240 V AC type A2 two- or three-phase circuit breaker kit into a ReliaGear lighting panelboard. The catalog number for the single-phase, two-pole kit is MBA12 (Table 1). The catalog number for the three-phase, three-pole kit is MBA13 (Table 2). The catalog number for the three-phase, six-pole kit is MBA16 (Table 3).

**Table 1. Parts list for 240 V AC A2 single-phase, two-pole breaker installation kit, catalog number MBA12.**

Item #	Description	Part #	Qty.
1	Shield insert	139C5504P187	1
2	Thread rolling screw and washer	315A7034P3	2
3	Screw, #10–32 x 3/8	N722EP16006B6	4
4	Nut and washer 1/8–18	N269P23B6	2
5	Screw, #10–32 x 3/8	N722EP16006B6	2
7	Circuit breaker base	—	1
19	A2 breaker subassembly	30015700940G16	1
10	Label, main	315A7337P1	1

**Table 2. Parts list for 240 V AC A2 three-phase, three-pole breaker installation kit, catalog number MBA13.**

Item #	Description	Part #	Qty.
1	Shield insert	139C5504P188	1
2	Thread rolling screw and washer	315A7034P3	3
3	Screw, #10–32 x 3/8	N722EP16006B6	4
4	Nut and washer 1/8–18	N269P23B6	3
5	Screw, #10–32 x 3/8	N722EP16006B6	2
7	Circuit breaker base	—	1
19	A2 breaker subassembly	30015700940G14	1
10	Label, main	315A7337P1	1

**Table 3. Parts list for 240 V AC A2 three-phase, six-pole breaker installation kit, catalog number MBA16.**

Item #	Description	Part #	Qty.
1	Shield insert	139C5504P189	1
2	Thread rolling screw and washer	315A7034P3	6
3	Screw, #10–32 x 3/8	N722EP16006B6	10
4	Nut and washer 1/8–18	N269P23B6	3
5	Screw, #10–32 x 3/8	N722EP16006B6	4
6	PB 80 mm 2 pcs A2	1SDA066192R1	1
7	Circuit breaker base	—	1
19	A2 breaker subassembly	30015700940G14	2
10	Label, main	315A7337P1	1

**Table 4. Parts list for 240 VAC A2 three-pole subassembly circuit breaker installation kit.**

Item #	Description	Part #	Qty.
8	A2 3-pole breaker	—	1
9	Metric hex socket head cap scr, M4X55	L15P12055B70	2
11	AM mtg bracket A2 2/3P	30014876551P19	1
12	AC Z-strap 225 A A2 silver	30014873564P10	3
13	Metric hex socket button head cap scr, M8X25	L16P17025B70	3
14	Metric STL helical SPR lock washer, M8	L401P27B70	3
15	M8 narrow flat washer	L400P10B33	3
16	Al phase barrier A2 80 mm kit	1SDA066192R1	1
17	Al insul mtg bkt A2 3P	30014877432P20	1
18	LTC A2 3P terminal covers low	1SDA066183R1	1

**Table 5. Parts list for 240 V AC A2 two-pole subassembly circuit breaker installation kit.**

Item #	Description	Part #	Qty.
8	A2 2-pole breaker	—	1
9	Metric hex socket head cap scr, M4XS5	L15P12055B70	1
11	AM mtg bracket A2 2/3P	30014876551P19	1
12	AC Z-strap 225 A A2	30014873564P10	2
13	Metric hex socket button head cap scr, M8X25	L16P17025B70	2
14	Metric STL helical SPR lock washer, M8	L401P27B70	2
15	M8 narrow flat washer	L400P10B33	2
16	Al phase barrier A2 80 mm kit	1SDA066192R1	1
17	Al insul mtg bkt A2 2P	30014877432P19	1
18	LTC A2 2P terminal covers low	1SDA114297R1	1

### Installation

Use the following procedure to install an A2 circuit breaker kit into a ReliaGear® lighting panelboard. Call-out numbers in the illustrations and numbers in brackets in the text refer to the item numbers in tables 1, 2, and 3. Subassembly of a two-pole breaker is illustrated in figure 3. Subassembly of a three-pole breaker is illustrated in figure 4. Installation of a single-phase, two-pole kit is illustrated in figure 5. Installation of a three-phase, three-pole kit is illustrated in figure 6. Installation of a three-phase, six-pole kit is illustrated in figure 7.

#### WARNING

Danger of electrical shock or injury. Turn OFF power ahead of the panelboard before working inside the equipment or removing any component. Do not remove circuit protective devices or any other component until the power is turned OFF.

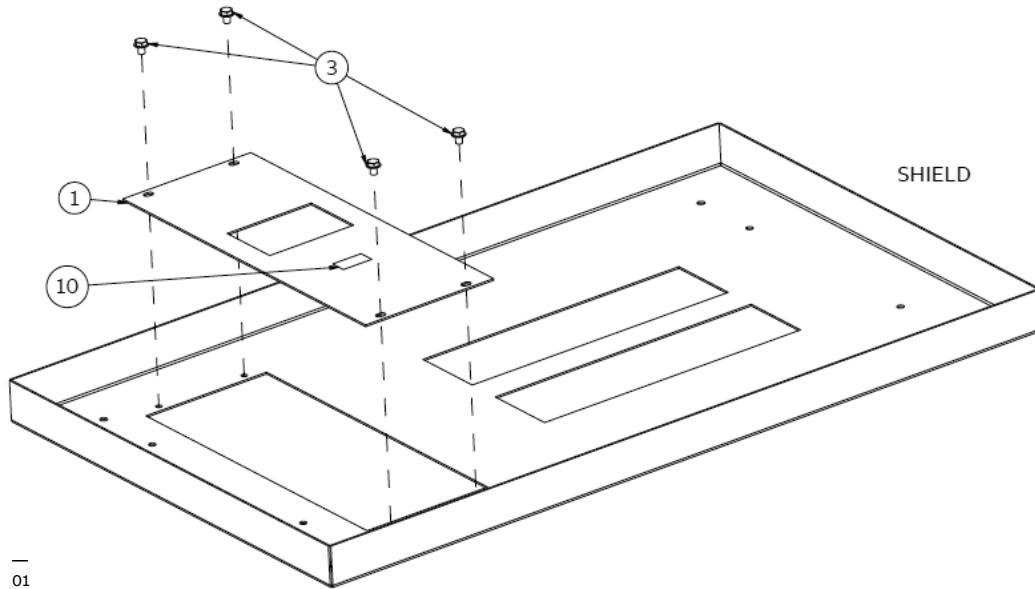
- Remove the interior assembly from its packaging and verify that all parts are present, as listed on the packing list.
- Remove the four screws (225 A panels) or eight screws (400 A and 600 A panels) securing the shield to the panelboard interior. Lift off the shield and set it and the screws aside.
- Remove the circuit breaker kit from its packaging and verify that all parts are present, as listed on the packing list.
- Subassembly circuit breaker:
  - Wrap mounting bracket insulation [17] around the mounting bracket [11].
  - Align breaker mounting holes with the mounting bracket and insulation assembly.
  - Fasten the breaker to the mounting bracket using the two hex socket head cap screws, M4XS5 [9].
  - Fasten the Z-strap [12] to the breaker using M8 narrow flat washers [15], M8 lock washers [14], and M8X25 screws [13].
  - Place the phase barriers 80 mm [16]. (See figures 3 and 4 for reference)
- Mount the circuit breaker base assembly (7) on the interior by aligning the holes in the bus bars (two for single-phase, three for three-phase) protruding from the circuit breaker base over the two or three bolts in the bus bars of the interior assembly. Secure with two or three  $\frac{3}{16}$ -18 nuts [4] tightened to 100–120 lb-in.
- Drop the breaker subassembly (19). Align the Z-strap on the breaker assembly over the strap inside the plastic base. Hand tighten self-rolling screw [2] to locate the breaker assembly. On the other side, align the mounting bracket on the breaker assembly over the interior rail holes. Once aligned, tighten the two #10–32 screws [5] to 27–36 lb-in. Tighten the self-rolling screw [2] to 42 lb-in. Z-strap.
  - For 6-pole kit, place phase barrier [6] between breakers
- Install low terminal cover [18] on lug side (one for 2- and 3-pole, two for 6-pole).
- Install the shield insert according to the type of breaker installation as follows:
  - If this is a main breaker installation (kit MBA12 or MBA13), place the shield insert [1] over the shield so that the four same-size holes line up with the threaded holes in the shield, as illustrated in figure 2. Fasten the shield insert to the shield with four #10–32 x  $\frac{3}{16}$  screws [3] tightened to 27–36 lb-in. Attach the MAIN label [10] to the front of the shield insert, as shown in figure 2.
  - If this is a subfeed breaker installation (kit MBA12 or MBA13) into a 225 A panel, remove the remaining blank insert from the shield. Place the new shield insert [1] supplied with the kit over the shield so that the four same-size holes line up with the threaded holes in the shield, as illustrated in figure 2.
  - If this is a two- or three-pole subfeed breaker installation (kit MBA12 or MBA13) into a 400 A or 600 A panel, remove the two blank inserts from the shield, as illustrated in figure 3. Install the new shield insert [1] supplied with the kit over the shield so that the four same-size holes line up with the threaded holes in the shield. Fasten the shield insert to the shield with four #10–32 x  $\frac{3}{16}$  screws [3], tightened to 27–36 lb-in. Reinstall the bent insert removed earlier over the top of the new insert, securing it with the screws removed with the insert, tightened to 27–36 lb-in.

— 01 Attaching the shield insert to the shield for a main breaker installation in all panels or a subfeed breaker in 225 A panels.

— 02 Removing the shield inserts from the shield for a subfeed breaker installation in 400 A or 600 A panels.

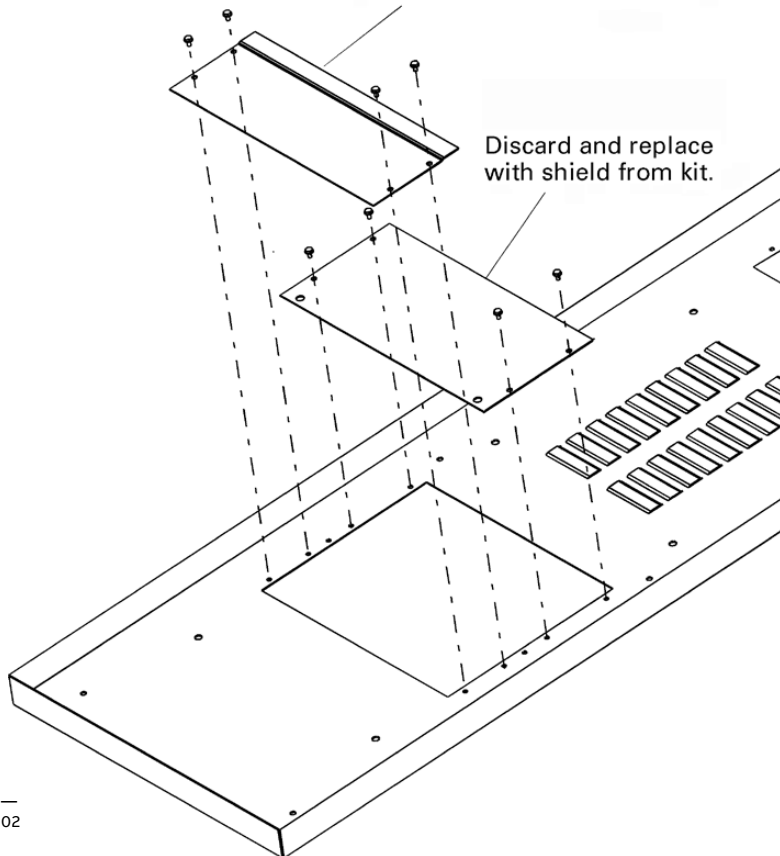
- d) Fasten the shield inserts to the shield with six #10-32 x 3/8 screws [3], tightened to 27-36 lb-in.
- e) If this is a six-pole subfeed breaker installation (kit MBA16) into a 400 A or 600 A panel, remove the two blank inserts from the shield. Install the new shield inserts [1] supplied with the kit over the shield so that the six same-size holes line up with the threaded holes in the shield. Install the flat shield insert first, then the bent insert.

- 9. Reattach the shield to the interior with the four or eight screws removed in Step 2. Tighten the screws to 27-36 lb-in.



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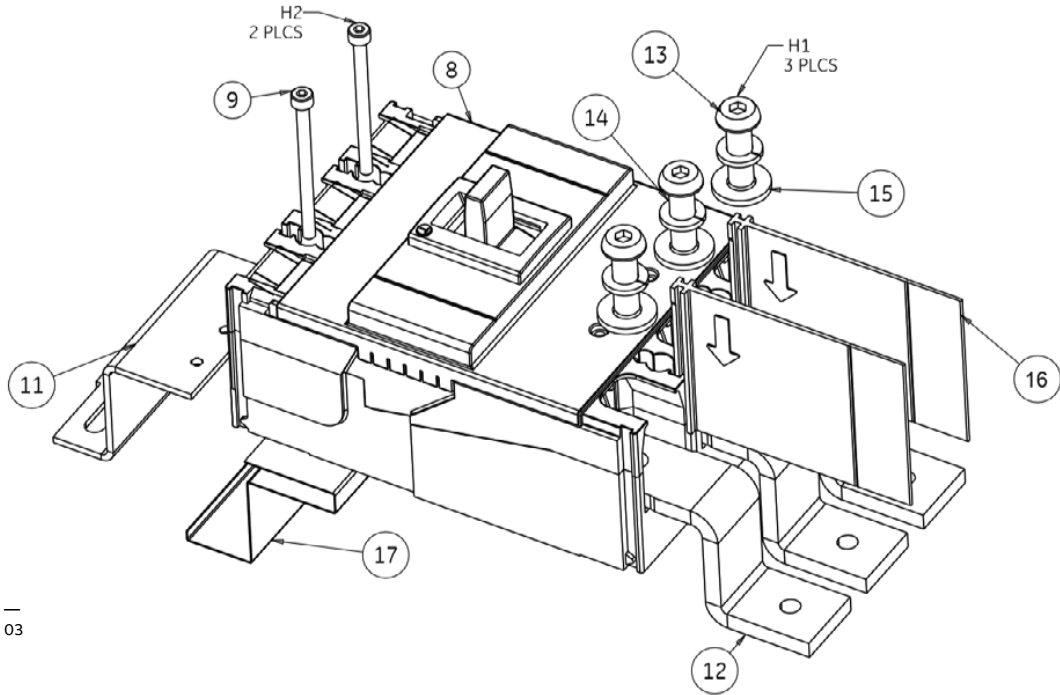
Replace over new shield from 3-pole kit, discard for 6-pole kit.



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 03 Typical installation  
 of a subassembly  
 breaker kit, catalog  
 number MBA13 and MBA16.

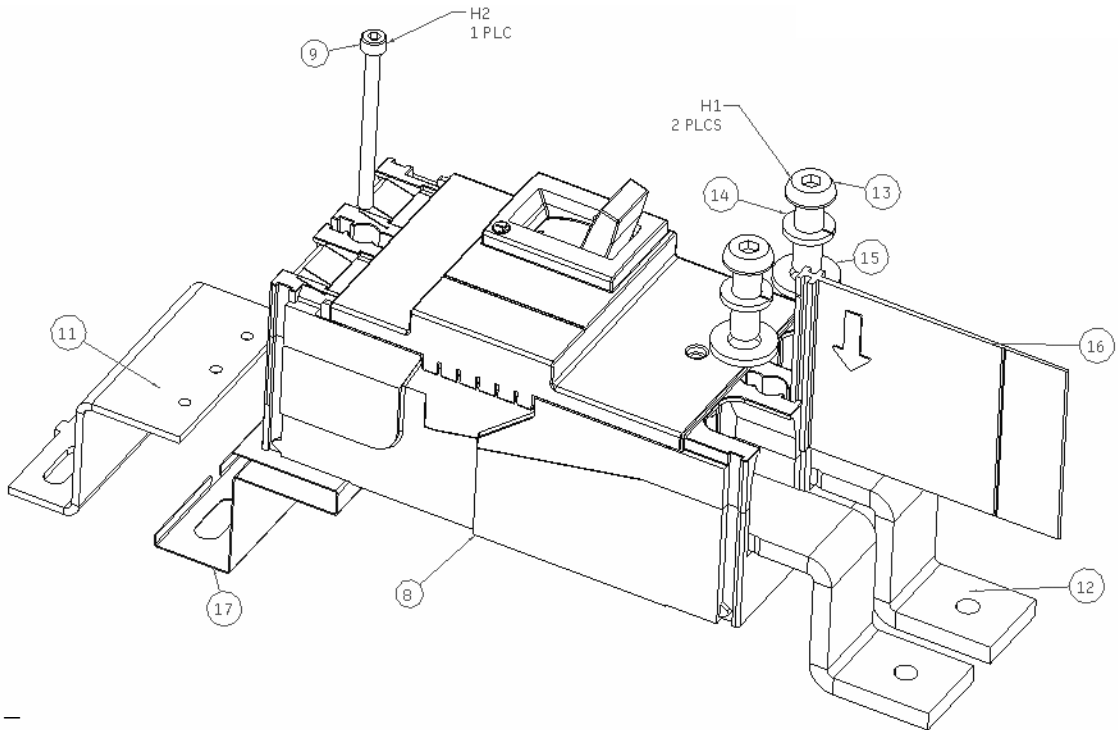
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 04 Typical installation  
 of a subassembly breaker  
 kit, catalog number MBA12.



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**Tightening torques for figures 3 and 4**

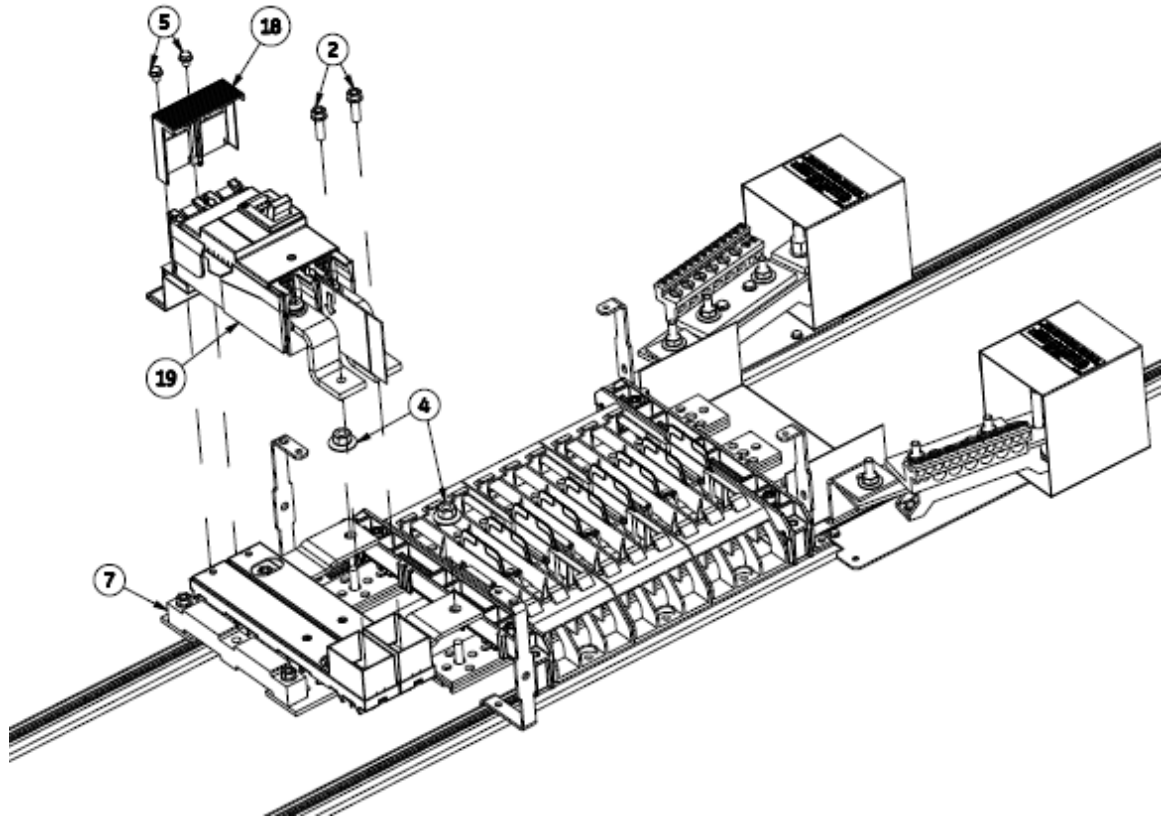
Fastener ID	Torque value lb-in
H1	64-78
H2	9-11



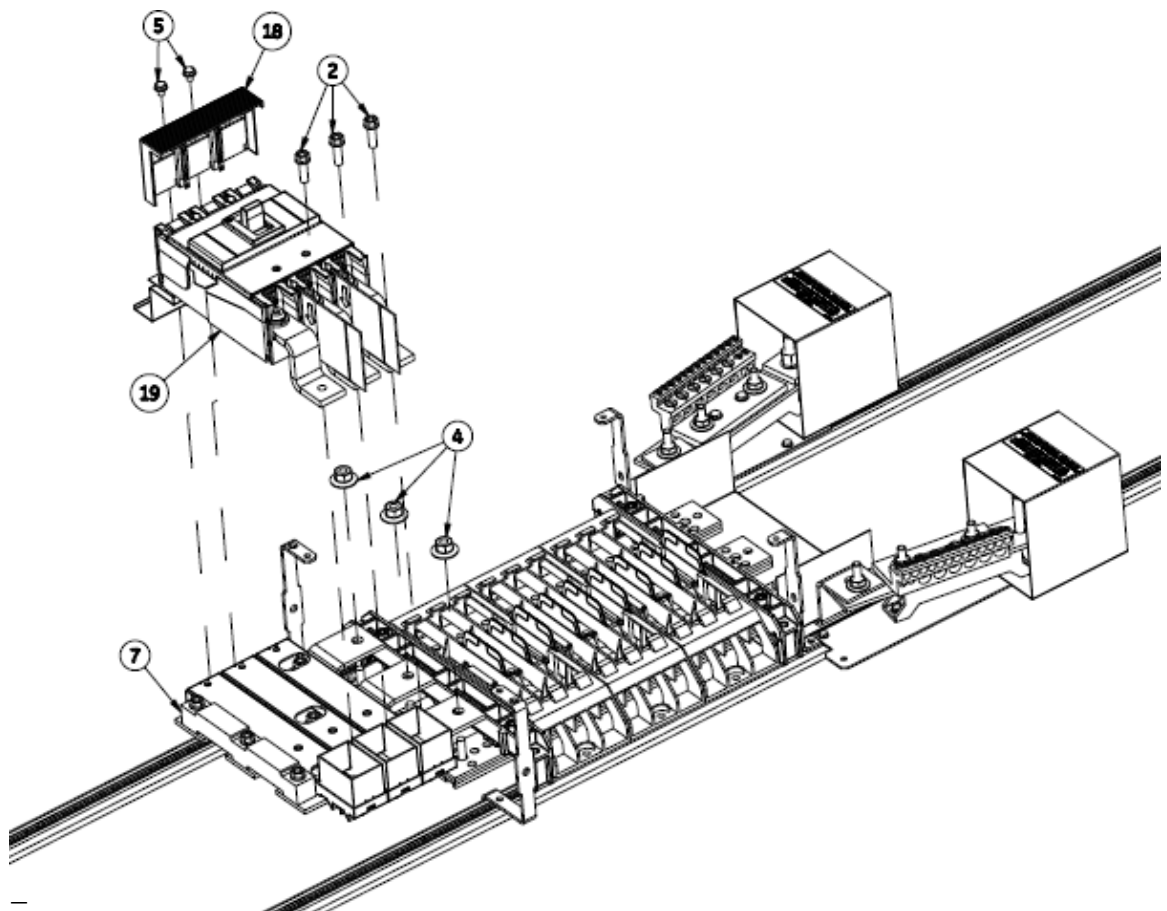
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 04

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 05 Installation of an A2 single-phase, two-pole circuit breaker kit, catalog number MBA12, into a ReliaGear® 400 A or 600 A lighting panelboard.

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 06 Installation of an A2 three-phase, three-pole circuit breaker kit, catalog number MBA13, into a ReliaGear 400 A or 600 A lighting panelboard.

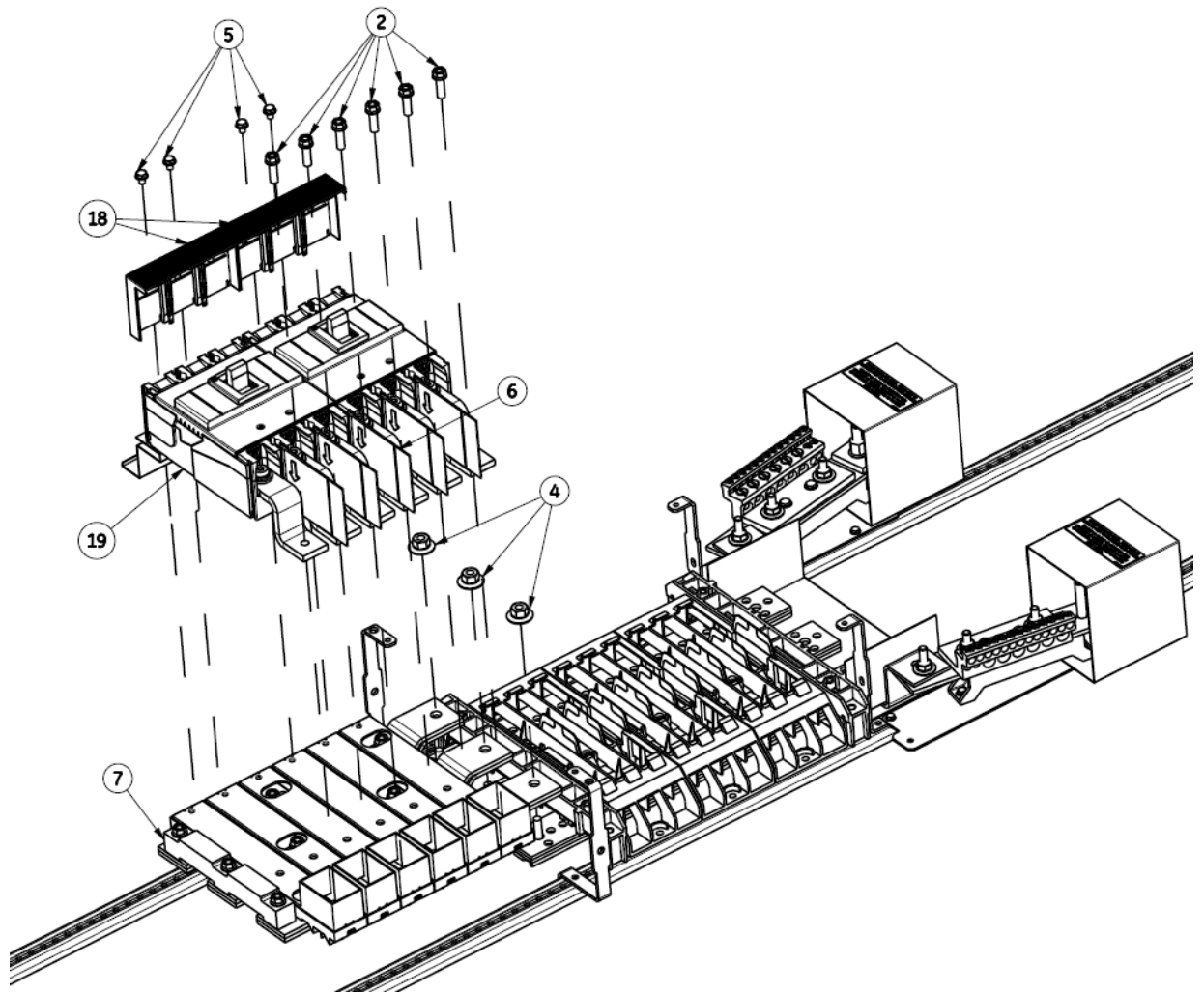


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07 Installation of an A2 three-phase, six-pole circuit breaker kit, catalog number MBA16, into a ReliaGear® 400 A or 600 A lighting panelboard.



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