

Instruction Bulletin

Dual Sub-Feed Circuit Breaker and Adapter Kit Installation onto an NQ Panelboard Class 1640

Retain for future use.

Introduction

This bulletin contains instructions for installing single or dual Square D® brand Q-, H-, and J-frame sub-feed circuit breakers (225 A maximum) and adapter kits onto a Square D brand NQ panelboard manufactured by Schneider Electric.

Safety Precautions

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E.
- This equipment must only be installed and serviced by qualified electrical personnel.
- Turn off all power supplying this equipment before working on or inside equipment.
- Always use a properly rated voltage sensing device to confirm power is off.
- Replace all devices, doors and covers before turning on power to this equipment.

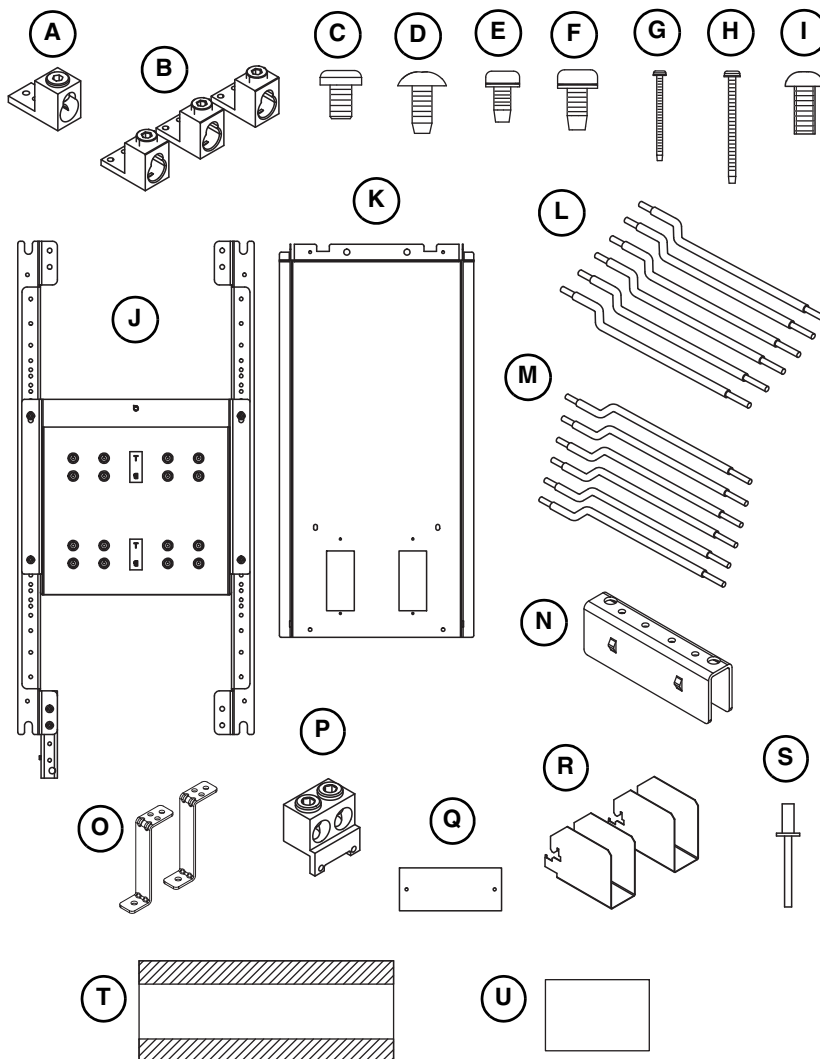
Failure to follow these instructions will result in death or serious injury.

Kit Contents

Q-Frame (NQSFB4Q) or H- and J-Frame (NQSFB4HJ) Sub-Feed Breakers

- A. Neutral lug (1)
- B. Load lugs (3)
- C. 10-32 x 5/16-inch tapping screws (8)
- D. 10-32 x 7/16-inch tapping screws (4)
- E. 1/4-20 x 11/16-inch tapping screw (2)
- F. 1/4-20 x 7/8-inch tapping screws (6)
- G. **NQSFB4Q kit only**—8-32 x 2 1/4-inch tapping screws (4)
- H. 8-32 x 3 1/4-inch tapping screws (4)
- I. 12-24 x 1/2-inch machine screws (2)
- J. Sub-feed circuit breaker mounting pan assembly (1)
- K. Sub-feed circuit breaker deadfront cover (1)
- L. Main lug wires (6)
- M. **NQSFB4HJ kit only**—Main lug wires (6)
- N. Rail splice (1)
- O. Deadfront support brackets (2)
- P. Branch neutral lug (1)
- Q. Closing plate (1)
- R. Lug barriers (2)
- S. Rivet (2)
- T. Branch neutral lug insulator (1)
- U. Torque and general information label (1)

NOTE: Kit contents not shown to scale.



Tools Needed

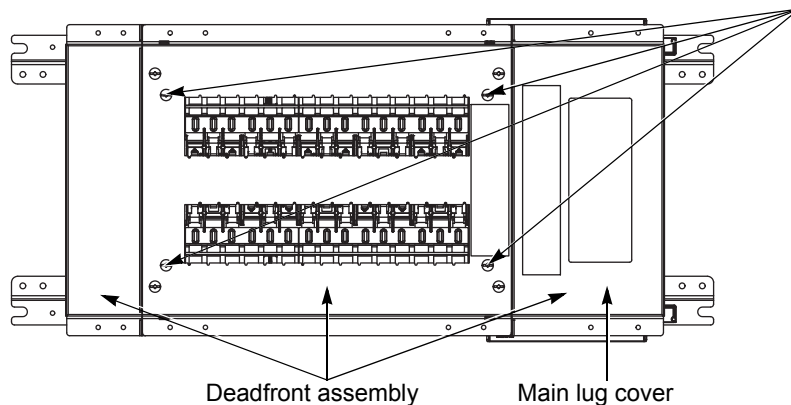


- Retractable pin riveter
- Flat blade screw driver
- #2 Square-head Robertson driver
- Torque wrench with 3/8-inch Allen driver
- Torque wrench with 5/16-inch Allen driver



Turn off all power supplying this equipment before working inside the panelboard; follow all lockout/tagout procedures.

Installing the Dual Sub-Feed Circuit Breaker Adapter Kit



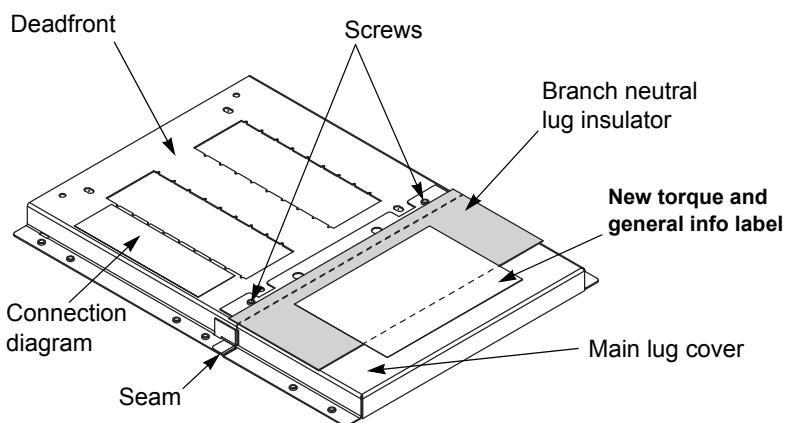
- 1** Remove the deadfront assembly. Retain the four screws for reuse. Separate the cover extension opposite the mains end. Retain all of the screws and the cover extension.

For main lug interiors, complete step 2A and then proceed to step 3.

For main circuit breaker interiors, complete step 2B and then proceed to step 3.

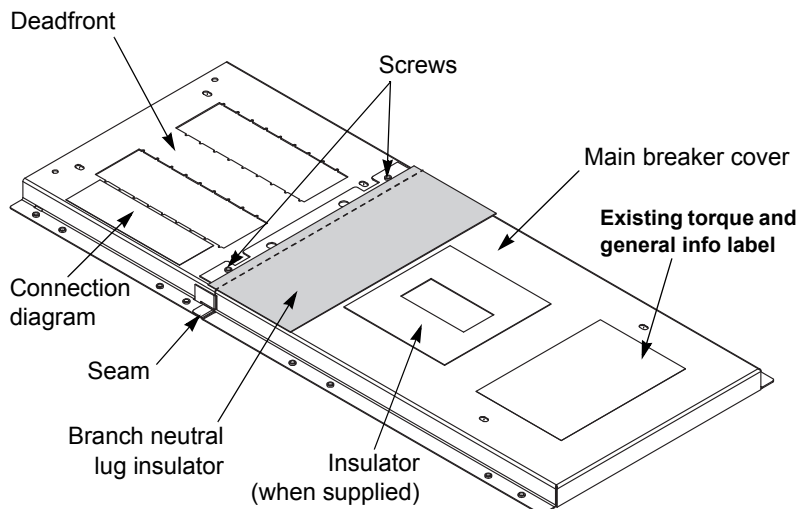
- 2A** Remove the adhesive backing and install the branch neutral lug insulator supplied in the kit as shown. Then, apply the torque and general information label over the branch neutral lug insulator.

NOTE: Ensure the branch neutral lug insulator is placed against the two screws and over the seam where the deadfront and main lug cover are joined.

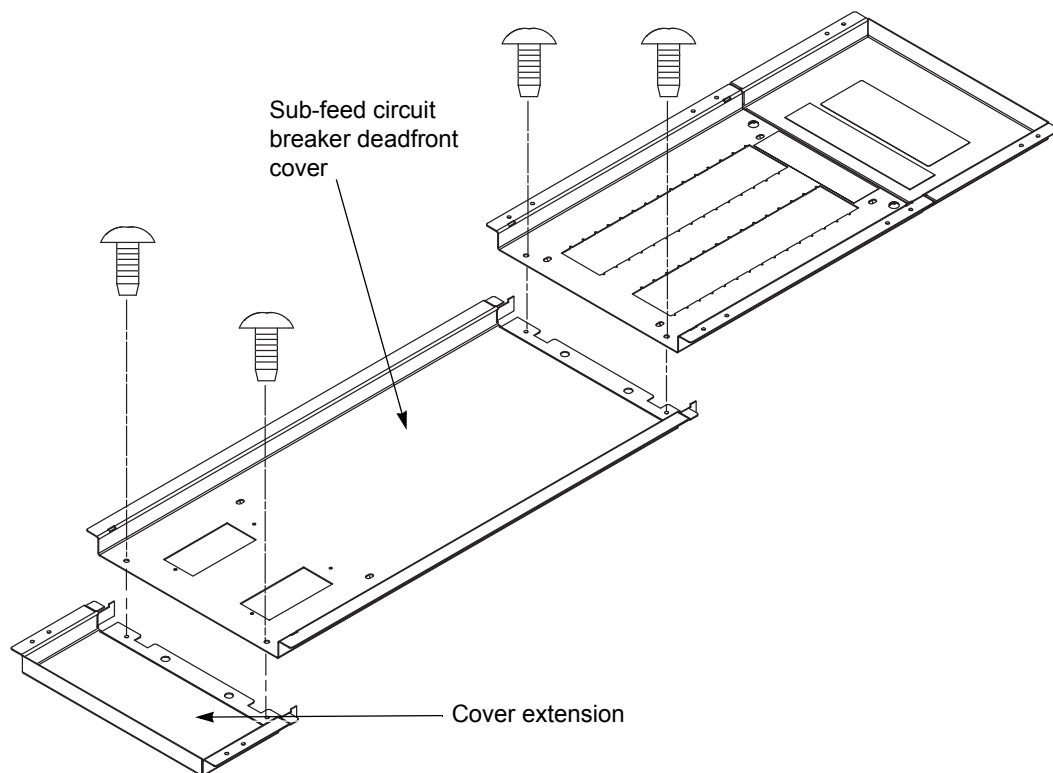


- 2B** Remove the adhesive backing and install the branch neutral lug insulator supplied in the kit as shown.

NOTE: Ensure the branch neutral lug insulator is placed against the two screws and over the seam where the deadfront and main breaker cover are joined.

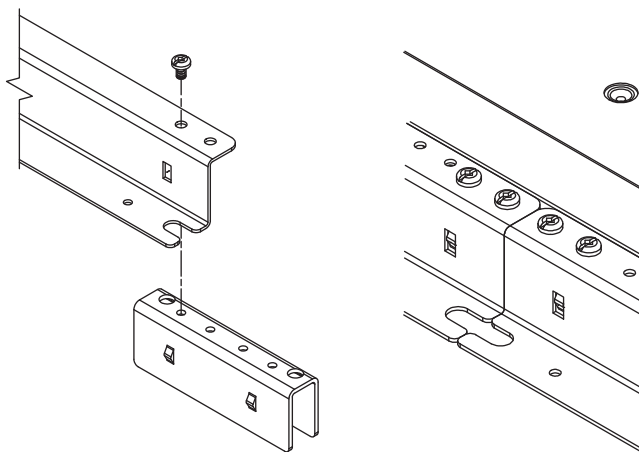


- 3** Attach the sub-feed circuit breaker deadfront cover, included in the kit, to the panelboard deadfront section using the two 10-32 x 7/16-inch tapping screws included in the kit.



- 4** Attach the cover extension from step 1 to the sub-feed circuit breaker deadfront cover using the two 10-32 x 7/16-inch screws from step 1.

- 5** Install the rail splice underneath the right rail of the panelboard (opposite the mains end) with one 10-32 x 5/16-inch tapping screw included in the kit. Tighten the screw slightly.



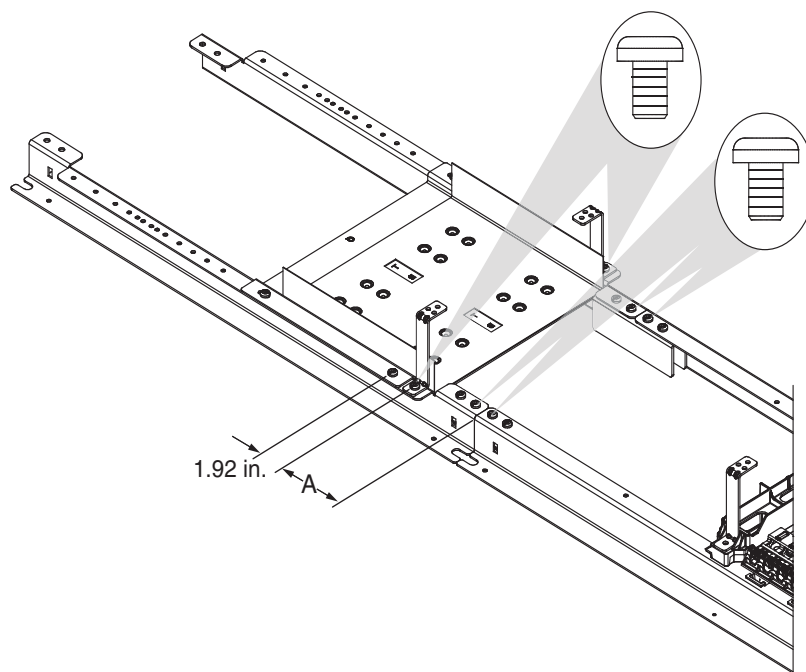
- 6** Place the mounting pan assembly (which includes two rail extensions and one rail splice) onto the panelboard and slide it until the end rail extension mates with the existing rail. Ensure that the splice alignment nubs match with the slots of the rails and attach it using five 10-32 x 5/16-inch tapping screws included in the kit. Tighten all the screws, including the screw from step 5.

NOTE: The mounting pan assembly is pre-assembled in the 42-circuit position, which is 8.50 in. (215.90 mm) for Dimension A in the graphic below. For positions other than 42 circuit, see the graphic in step 7 and Table 1 below.

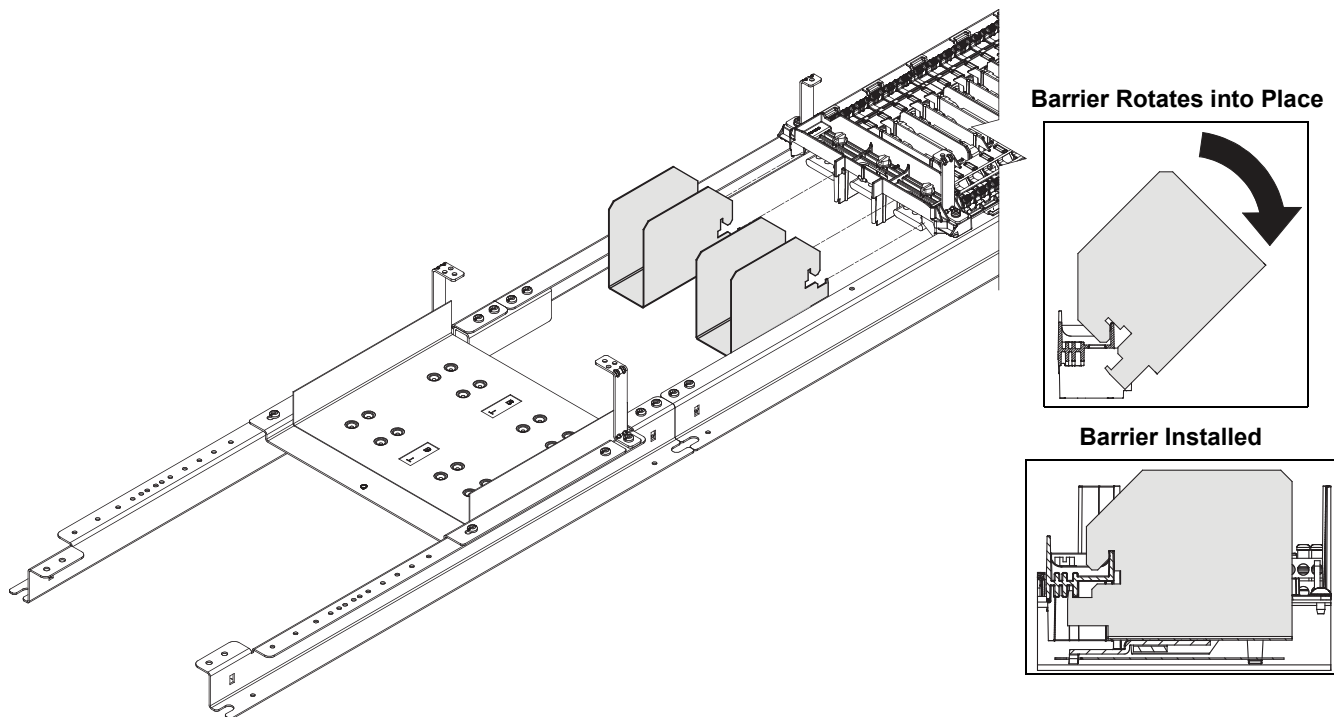
Table 1: Mounting Pan Position on Extension Rails

Circuits	Dimension A
30	4.00 inches (101.60 mm)
54	7.00 inches (177.80 mm)
72	7.75 inches (196.85 mm)
84	6.25 inches (158.75 mm)

- 7** Attach the two deadfront support brackets (with the top of the brackets pointing to each other) using two 10-32 x 5/16-inch tapping screws included in the kit.

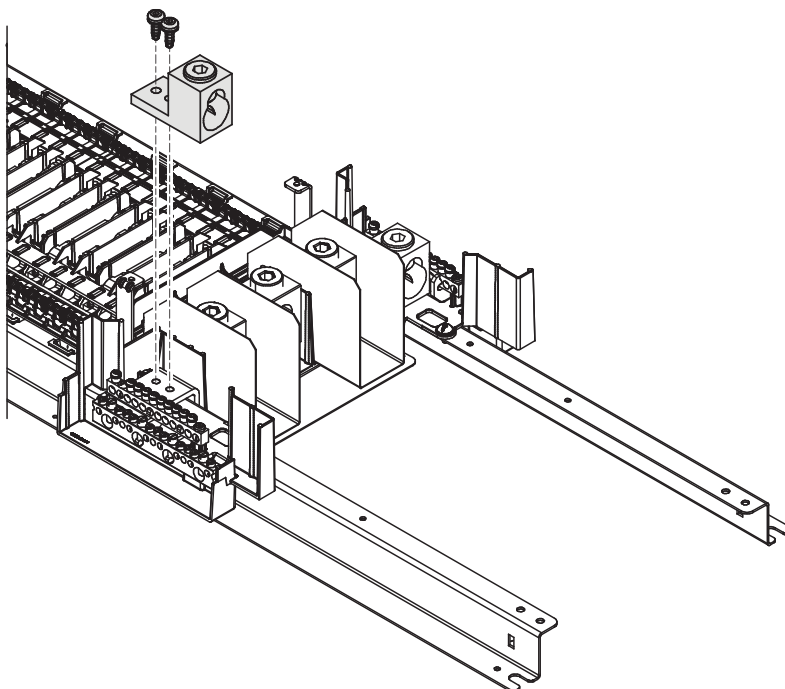


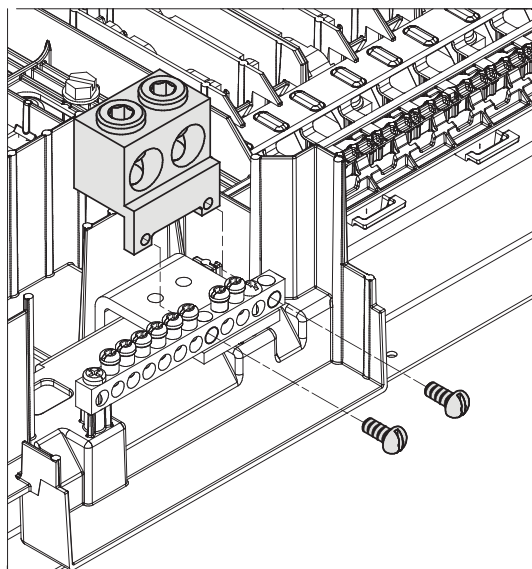
- 8** Assemble the lug barriers included in the kit onto the end support, with one on “A” phase and one on “C” phase.



NOTE: For step 9 through step 11, do not overtighten the screws.

- 9** Install the neutral lug included in the kit onto the neutral bar using two 1/4-20 x 11/16-inch screws included in the kit. Tighten to 60–65 lb-in (6.8–7.3 N•m).





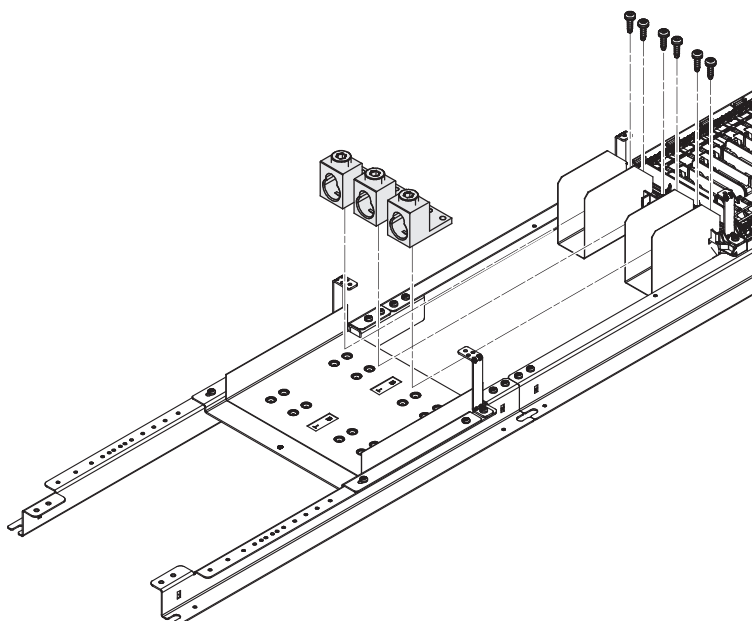
- 10** Remove the two neutral bar wire binding screws from the locations shown in this graphic and discard the screws.

Install the branch neutral lug included in the kit onto the branch neutral bar using the two 12-24 x 1/2-inch screws included in the kit. Tighten to 40–45 lb-in (4.5–5.1 N•m).

Connecting the Sub-Feed Circuit Breakers to the Panelboard Bus Structure

- 11** Using the 1/4-20 x 7/8-inch screws included in the kit, install the load lugs included in the kit onto the ends of the panel bus bars, opposite the mains end, in the center holes. Tighten to 60–65 lb-in (6.8–7.3 N•m).

NOTE: Example shown is for bottom-feed applications.



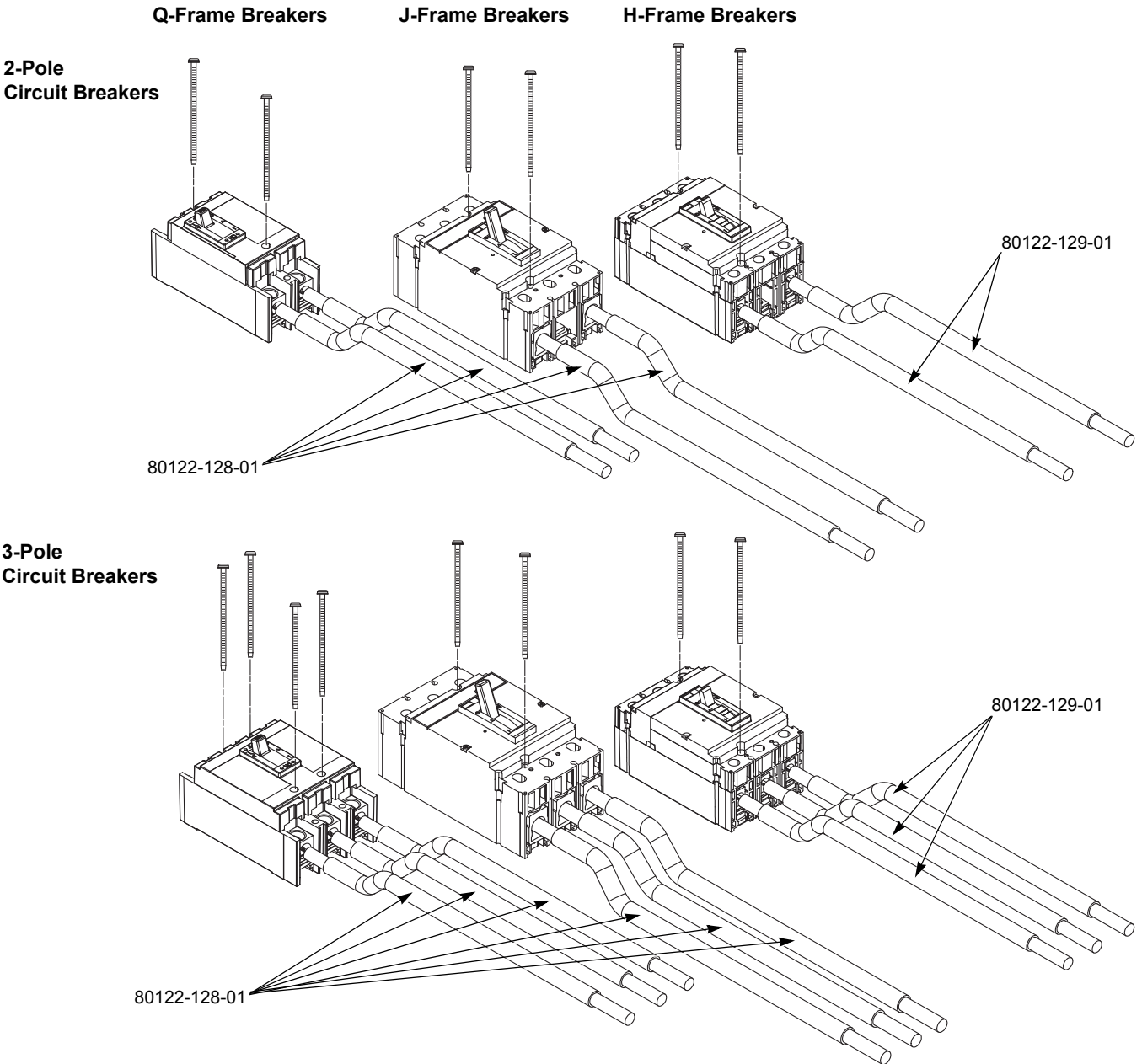
12 Insert the wires loosely into the circuit breaker lugs according to the sub-feed breaker frame as shown in Table 2.

NOTE: For **NQSFB4Q bottom-feed applications only**, mount the main circuit breaker on the holes marked with “B” on the mounting pan. For **top-feed applications**, mount the main circuit breaker on the holes marked with “T” on the mounting pan. The circuit breaker should be installed so that the “ON” end will always be positioned toward the top of the panelboard.

Table 2: Lug Wires

Breaker Frame ¹	Phase	Wire Size	Wire
Q and J	Single	4/0	2 formed wires (80122-128-01)
	Three	4/0	3 formed wires (80122-128-01)
H	Single	1/0	2 formed wires (80122-129-01)
	Three	1/0	3 formed wires (80122-129-01)

¹ Appears as the first letter of the catalog number.



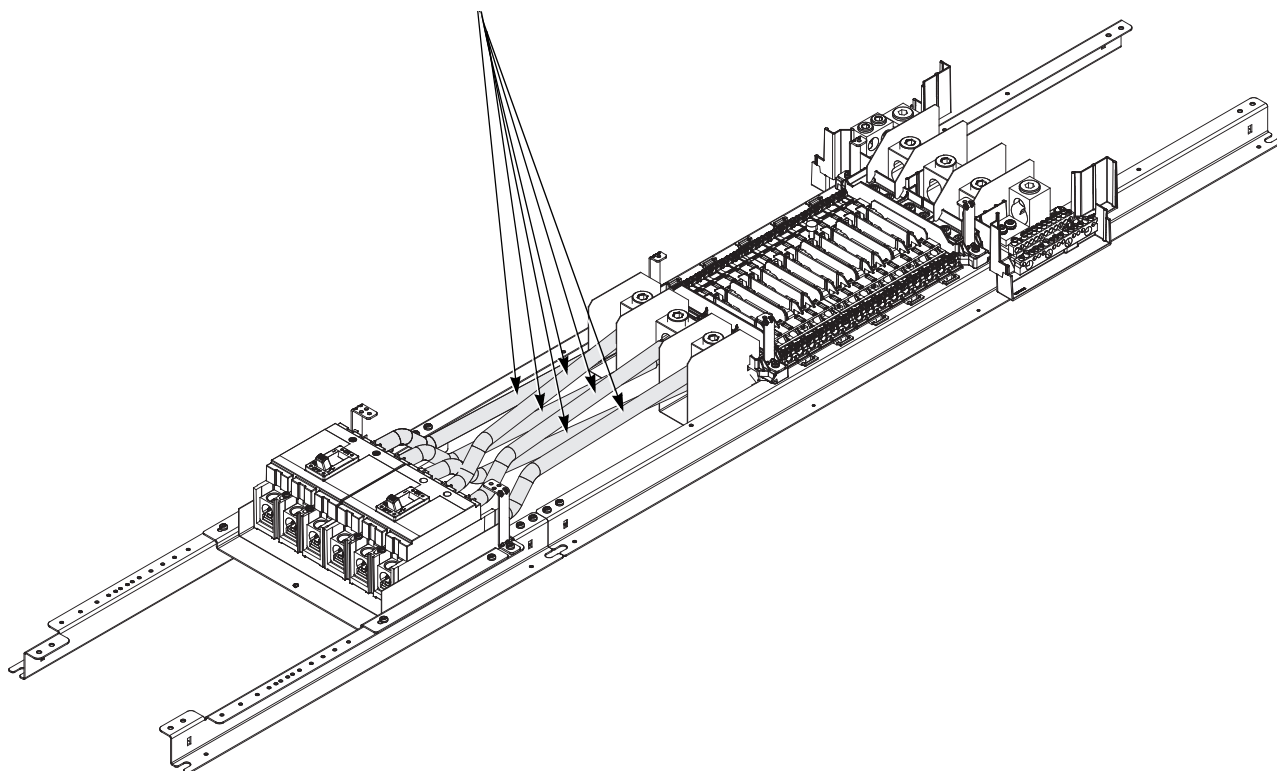
13 Discard the unused wires.

14 **NOTE: Discard the screws supplied with the breaker(s).**

Install the circuit breaker(s) on the mounting pan using the screws included in the kit as follows:

- Q-frame: two 8-32 x 3 1/4-inch and two 8-32 x 2 1/4-inch tapping screws per circuit breaker
- H- or J-frame: two 8-32 x 3 1/4-inch tapping screws per circuit breaker

15 Verify that the wire connectors are properly inserted into the lugs on the panelboard and the circuit breaker lugs.

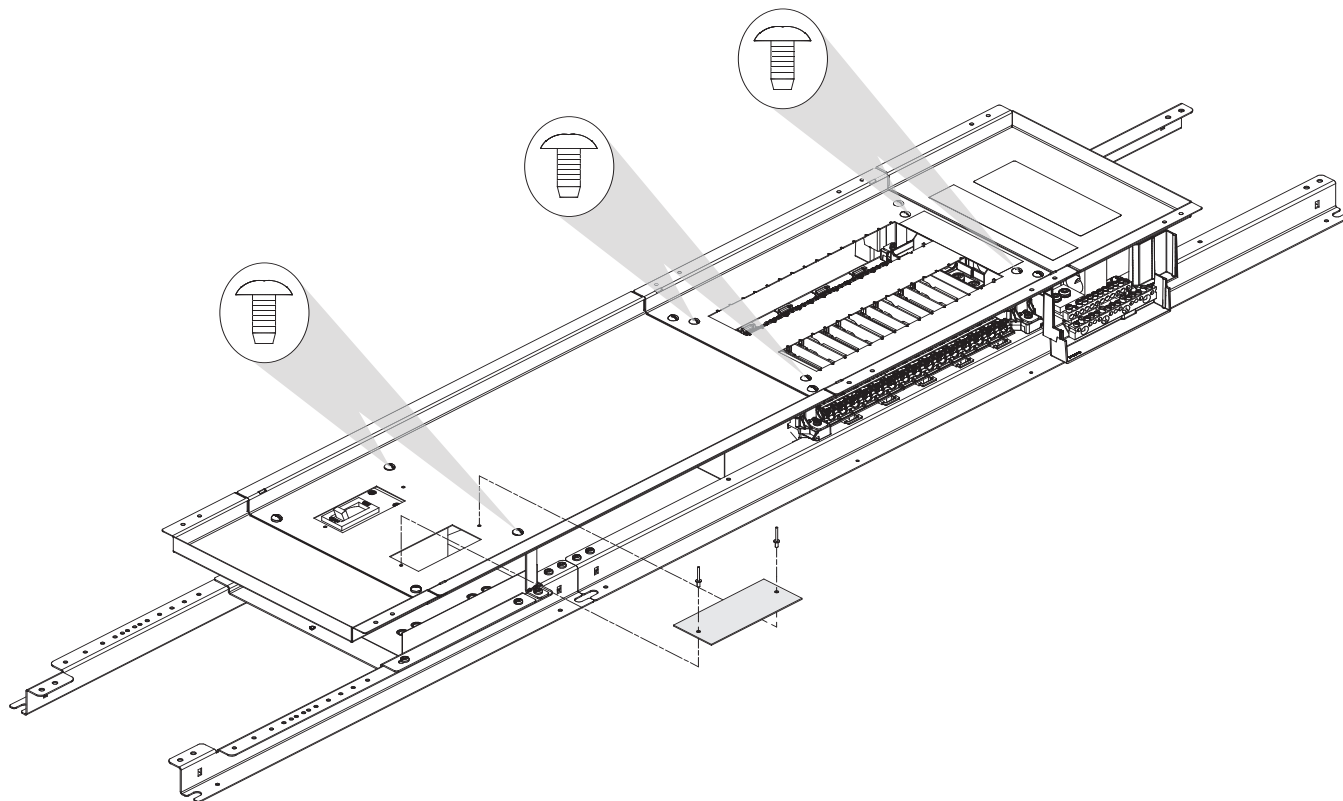


16 Tighten the panel lug wire binding screws to 275 lb-in (31 N•m).

17 Refer to the circuit breaker label for the appropriate lug torque value.

- 18** Remount the deadfront assembly using the screws retained from step 1 and two additional 10-32 x 7/16-inch screws included in the kit.

NOTE: If only one sub-feed circuit breaker is used, install the closing plate included in the kit over the unused opening on the sub-feed circuit breaker deadfront cover. Fasten the closing plate by using the two rivets included in the kit and a pin riveter.



For technical support on the installation of this kit, contact the Square D/Schneider Electric Customer Information Center at 1-888-SquareD (1-888-778-2733).

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