WavePro™ Power Circuit Breaker Accessories

Shunt Trip for 800–2000 A Frames

Introduction

The Shunt Trip accessory allows the breaker to be tripped electrically from a remote location. The kit consists of the Shunt Trip module, mounting plate, trip paddle, and hardware, as illustrated in Figure 1. The catalog numbers for the Shunt Trip for various voltage applications are listed in Table 1.

NOTE: Newer model shunt trips have no side arm, as indicated in Figure 1, and have a stronger armature return spring to eliminate vibration-induced nuisance tripping.

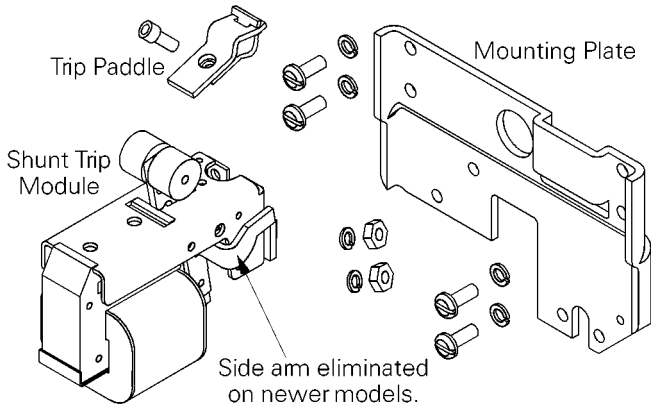

Figure 1. Shunt Trip accessory kit.

Catalog Number	Voltage Rating	Inrush Current, A	Sealed Current, A
WPS1SF60070	70 Vac, 60 Hz	—	—
WPS1SF60120	120 Vac, 60 Hz	12.3	10.8
WPS1SF60208	208 Vac, 60 Hz	3.2	2.6
WPS1SF60240	240 Vac, 60 Hz	3.9	3.4
WPS1SF50120	120 Vac, 50 Hz	7.6	6.7
WPS1SF50208	208 Vac, 50 Hz	3.8	3.1
WPS1SF50240	240 Vac, 50 Hz	4.7	4.1
WPS1SFDC012	12 Vdc	—	—
WPS1SFDC024	24 Vdc	8.3	8.3
WPS1SFDC048	48 Vdc	4.5	4.5
WPS1SFDC125	125 Vdc	2.0	2.0
WPS1SFDC250	250 Vdc	1.0	1.0

Table 1. Catalog numbers and electrical ratings for the Shunt Trip accessory.

Operation

The Shunt Trip causes the circuit breaker to trip when its coil is energized. An "A" auxiliary switch, which is closed when the breaker is closed, is in series with the Shunt Trip coil, as illustrated in Figure 2. The external tripping source is connected to positions A5 and A7 on the secondary disconnect.

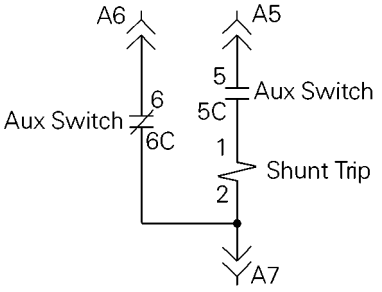

Figure 2. Shunt Trip connections to the Auxiliary Switch and secondary disconnect.

Installation

WARNING: Before installing any accessories, turn the breaker OFF, disconnect it from all voltage sources, and discharge the closing springs.

AVERTISSEMENT: Tourner le disjoncteur à la position OFF, le débrancher de toute source de tension et décharger les ressorts de fermeture avant l'installation de tout accessoire.

1. Open the breaker and remove it from the cubicle or substructure. (See DEH-134 or DEH-136 for detailed instructions.)
2. Carefully place the breaker on a suitable working surface, resting on the primary disconnects, so that the bottom of the breaker is accessible.

WavePro™ Low Voltage Power Circuit Breakers

3. If the breaker is equipped with an Undervoltage Trip Device, the mounting bracket supplied with the Shunt Trip kit is not used. Instead, remove the four screws holding the Undervoltage Trip Device and mounting bracket onto the bottom frame of the breaker and continue with step 4.
4. Slide the two studs on the mounting surface of the Shunt Trip module through the two holes in the mounting bracket, as illustrated in Figure 3. Secure with the lock washers and nuts supplied.
5. Assemble the two pieces of the trip paddle over the breaker's trip shaft, as shown in Figure 4 and Figure 5. Secure the trip paddle in position with the socket-head screw supplied.
6. Line up the screw holes in the accessory mounting bracket with the four tapped holes in the breaker bottom frame, as illustrated in Figure 5. Insert and tighten the four screws and lock washers supplied to secure the Shunt Trip in position.
7. If the breaker does not trip in this test, verify that the mounting fasteners are tight. If they are, bend the trip paddle on the trip shaft to slightly reduce the distance between the trip arm of the Shunt Trip and the trip paddle and recheck for positive trip. Verify that there is a 0.070–0.090-inch gap between the trip arm and the trip paddle with the breaker closed.
8. Route the wires from the Shunt Trip as shown in Figure 2 and Figure 6. Where the wires emerge from the underside of the breaker, run one to the Auxiliary Switch and connect it to terminal 5C. Run the other wire to the Auxiliary Switch terminal 6C. Cut all wires to the appropriate length and crimp on the terminals provided (the right-angle flag to the Auxiliary Switch, the spade terminal to the secondary disconnect). Figure 7 shows the secondary disconnect numbering scheme, as seen from the front of the breaker, with the Shunt Trip terminal in bold.
9. Reinstall the breaker into its cubicle or substructure.

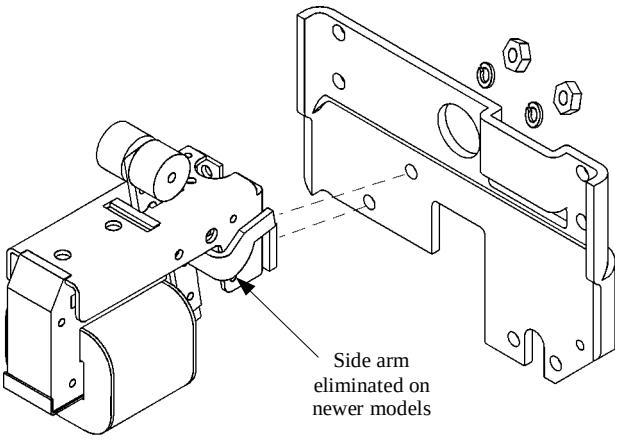

Figure 3. Mounting the Shunt Trip on its bracket.

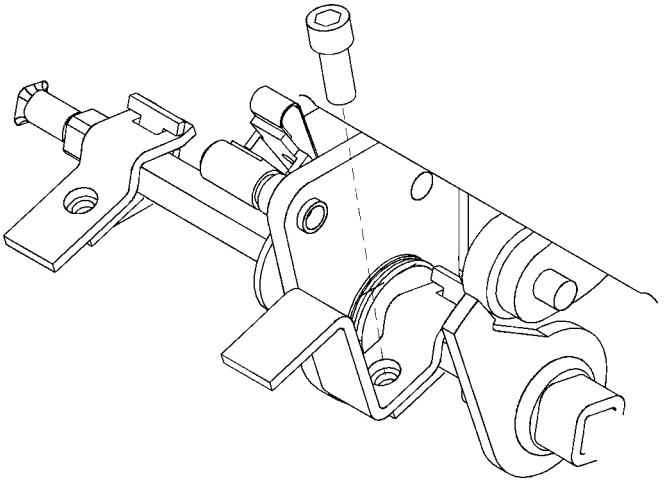

Figure 4. Mounting the trip paddle on the breaker's trip shaft.

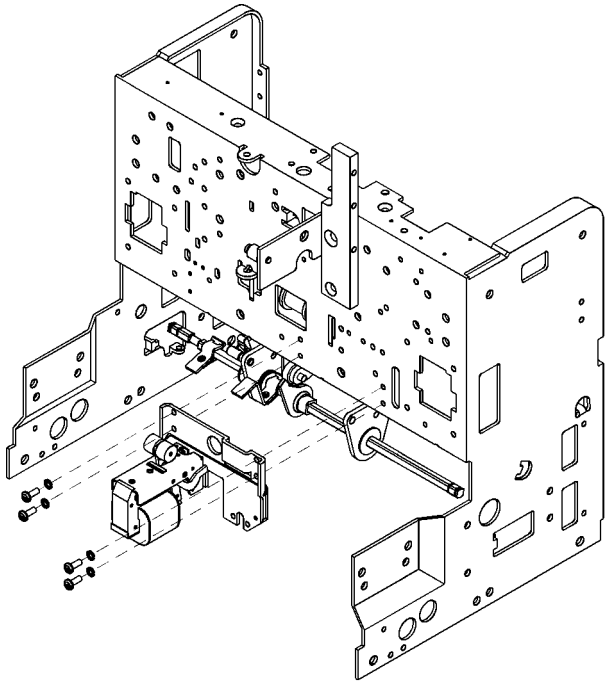

Figure 5. Mounting the Shunt Trip onto the breaker's bottom frame.

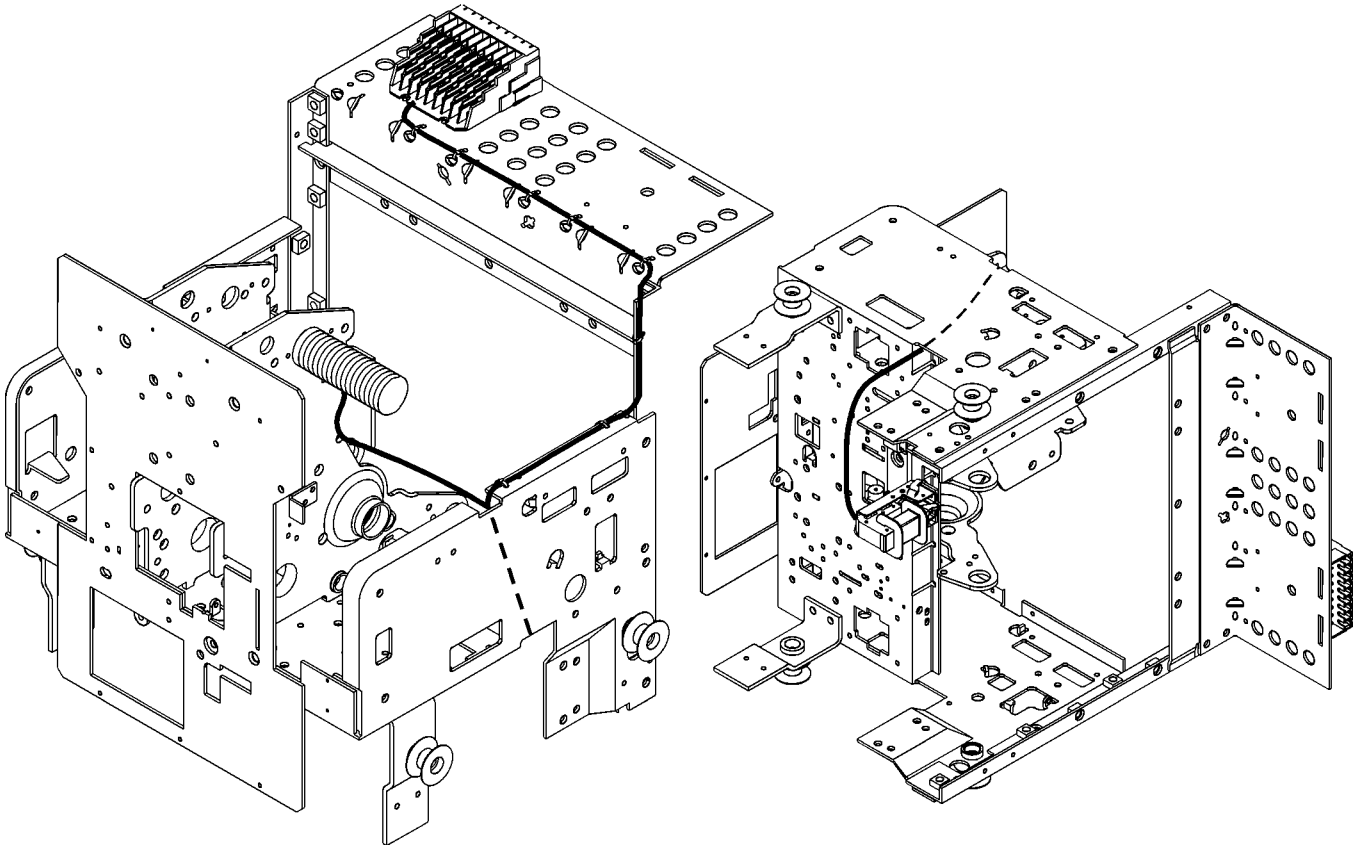

Figure 6. Path for routing wires from the Shunt Trip to the secondary disconnect and auxiliary switch.

9	8	**7**	6	5	4	3	2	1
18	17	16	15	14	13	12	11	10
27	26	25	24	23	22	21	20	19
36	35	34	33	32	31	30	29	28

Figure 7. Terminal numbering scheme of the secondary disconnect, as seen from the front of the breaker.

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