

INSTALLATION INSTRUCTIONS

Original Issue Date: 6/18
Model: Service-Entrance Rated Model RXT Automatic Transfer Switches
Market: ATS
Subject: Auxiliary Circuit Breaker Kits GM104558-KP1, KP2, KP3, KP4, KP5, KP6

Introduction

The auxiliary circuit breaker kit provides a circuit breaker for installation on service-entrance rated model RXT automatic transfer switches. See Figure 1. The circuit breaker is typically used for the circuit that provides AC power for generator set engine starting battery charging or other accessories. Kits are available with 15 Amp or 20 Amp circuit breakers.

The auxiliary circuit breaker kit can be installed on service-entrance rated Model RXT transfer switches built on or after May 29, 2018. Service entrance models built after this date are equipped with mounting studs in the enclosure or mounting holes in the contactor mounting plate for the auxiliary circuit breaker mounting bracket.

Kit Application

See Figure 2 for the applicable kit numbers based on the service entrance transfer switch size (in Amps) or material number (for 300- 400 Amp models). The material number is shown on the transfer switch nameplate.

IMPORTANT: If the transfer switch is already installed and connected to power, performing this installation will require that the power be removed from the transfer switch. Follow all applicable codes and standards. Before performing this service it may be necessary for you to have the utility company remove power from the utility service. A licensed electrician may be required. We recommend contacting the customer ahead of time to inform them of the need to interrupt power during this procedure.

Tools or Equipment Required

The following items are necessary:

- Voltmeter
- 7/16" and 7/64" wrenches or sockets
- Torque wrench
- #14- #12 AWG leads for customer connection

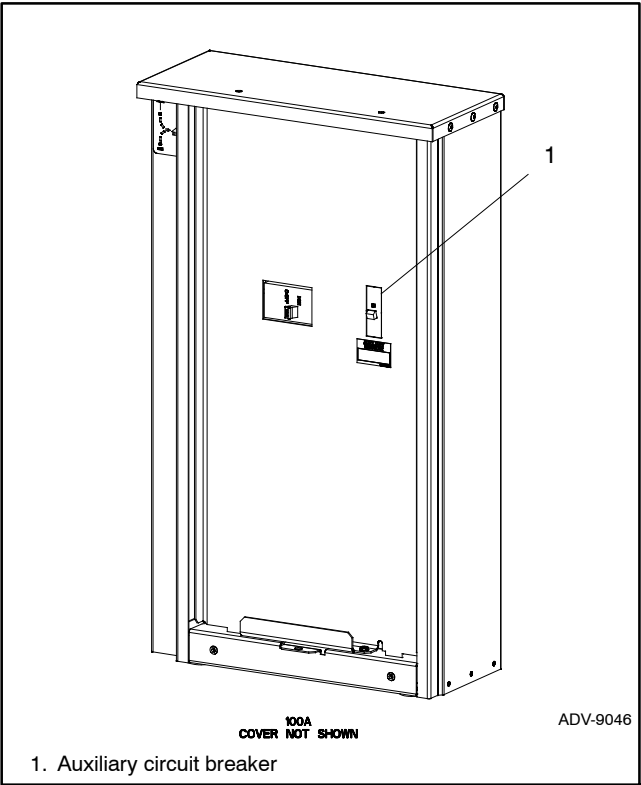


Figure 1 Auxiliary Circuit Breaker (location varies)

Service Entrance ATS	Applicable Kit, GM104558-	
	15 Amp	20 Amp
100- 200 Amp ASE and CSE	KP1	KP4
RXT-JFNC-300ASEQS3	KP2	KP5
RXT-JFNC-400ASEQS3		
RXT-JFNC-300ASEQS4 *		
RXT-JFNC-300CSEMV01*		
RXT-JFNC-400ASEQS4 *		
RXT-JFNC-400CSEQS *	KP3	KP6
* Or higher		

Figure 2 Kit Identification

Safety Precautions

Observe the following safety precautions while performing this procedure.

⚠ WARNING

Accidental starting. Can cause severe injury or death.
Disconnect the battery cables before working on the generator set. Remove the negative (-) lead first when disconnecting the battery. Reconnect the negative (-) lead last when reconnecting the battery.

Disabling the generator set. Accidental starting can cause severe injury or death. Before working on the generator set or equipment connected to the set, disable the generator set as follows: (1) Press the generator set off/reset button to shut down the generator set. (2) Disconnect the power to the battery charger, if equipped. (3) Remove the battery cables, negative (-) lead first. Reconnect the negative (-) lead last when reconnecting the battery. Follow these precautions to prevent the starting of the generator set by the remote start/stop switch.

⚠ DANGER

Hazardous voltage. Will cause severe injury or death.
This equipment must be installed and serviced by qualified electrical personnel.

⚠ DANGER

Hazardous voltage. Will cause severe injury or death.
Disconnect all power sources before opening the enclosure.

Servicing the transfer switch. Hazardous voltage will cause severe injury or death. Deenergize all power sources before servicing. Turn off the main circuit breakers of all transfer switch power sources and disable all generator sets as follows: (1) Press the generator set off/reset button to shut down the generator set. (2) Disconnect power to all battery chargers. (3) Disconnect all battery cables, negative (-) leads first. Reconnect negative (-) leads last when reconnecting the battery cables after servicing. Follow these precautions to prevent the starting of generator sets by an automatic transfer switch, remote start/stop switch, or engine start command from a remote computer. Before servicing any components inside the enclosure: (1) Remove all jewelry. (2) Stand on a dry, approved electrically insulated mat. (3) Test circuits with a voltmeter to verify that they are deenergized.

Installation Procedure

Note: Read and follow all safety precautions at the beginning of this document when performing this procedure.

Before working inside the transfer switch enclosure, use the following procedure to disconnect the utility source on service entrance model transfer switches.

Disconnect Power

1. Prevent the emergency generator set from starting:
 - a. Press the OFF button on the generator set controller.
 - b. Disconnect power to the generator set battery charger.
 - c. Disconnect the generator set engine starting battery, negative (-) lead first.
2. Disconnect Normal utility power to the transfer switch. This may require disconnecting power at the meter or at the utility source to the building. Follow all applicable codes and standards.
3. On the transfer switch, open the outer enclosure door only.
4. Move the Normal utility source circuit breaker to the OFF position.
5. Open or remove the inner door or panel and use a voltmeter to verify that all power is off before proceeding.

Procedure to Install the Auxiliary Circuit Breaker

- The inner panel has a knockout for the auxiliary circuit breaker. See Figure 3 for sample knockout locations. Remove the knockout.
- Attach the breaker mounting bracket to the enclosure or the contactor mounting plate for your model as described in the following procedures.

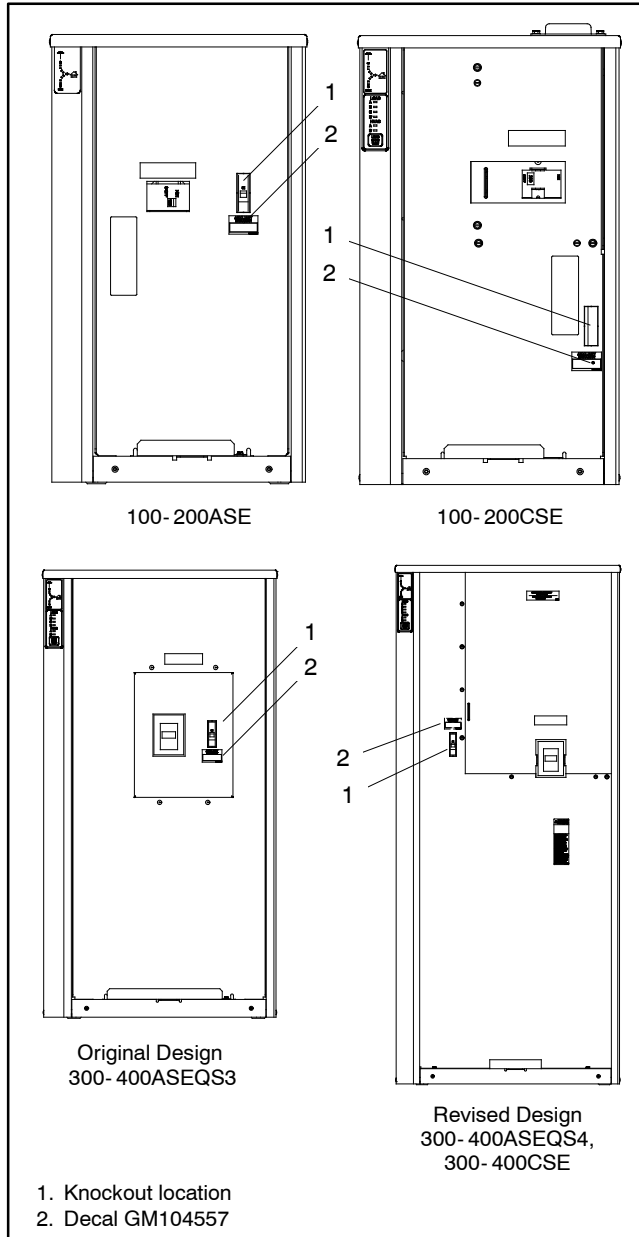


Figure 3 Knockout and Decal Locations in the Inner Door or Panel, typical

100-200 Amp Models

See Figure 6 for circuit breaker locations for 100-200 amp ASE and CSE models.

100-200 amp models have studs in the enclosure for mounting. Mounting bracket GM104064 has two sets of mounting holes to allow correct positioning of the bracket.

Note: 100-200 Amp **ASE** models: In order to line up with the opening in the enclosure panel or door, the center of the circuit breaker must be approximately 3.9 in. (98 mm) away from the enclosure's side wall.

- 100-200 Amp **ASE** models: Measure the distance from the side wall, and position the bracket so that the circuit breaker is located approximately 3.9 in. (98 mm) from the side wall. Rotate the bracket 180° if necessary, and use either set of mounting bracket holes to position the breaker correctly. See Figure 4 and Figure 5.
- 100-200 Amp **CSE** models: Use the mounting holes that line up with the circuit breaker to secure the mounting bracket. See Figure 4.
- Use two X-6210-2 nuts to secure the mounting bracket to the enclosure. Tighten the nuts to 4.4 Nm (39 in. lbs.).

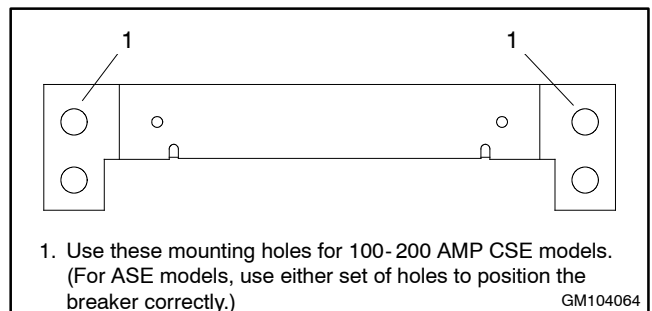


Figure 4 Bracket GM104064 Mounting Holes for 100-200 Amp CSE Models

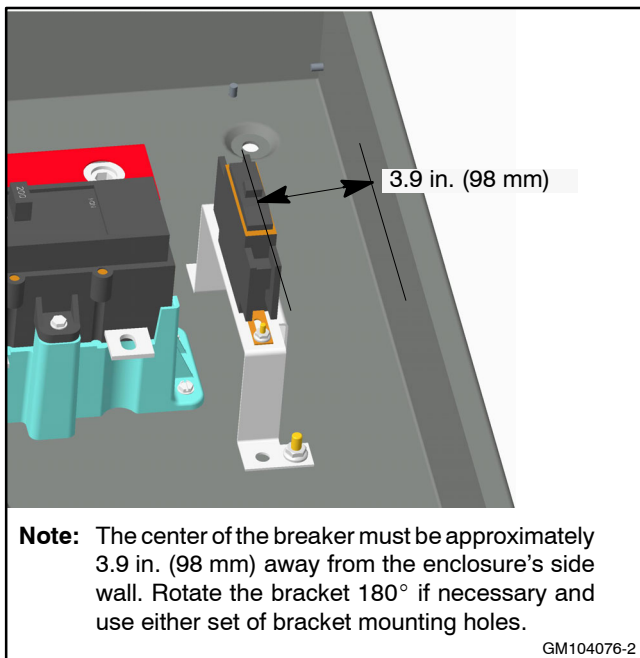


Figure 5 Breaker Distance from Enclosure Wall, 100-200 Amp ASE Models

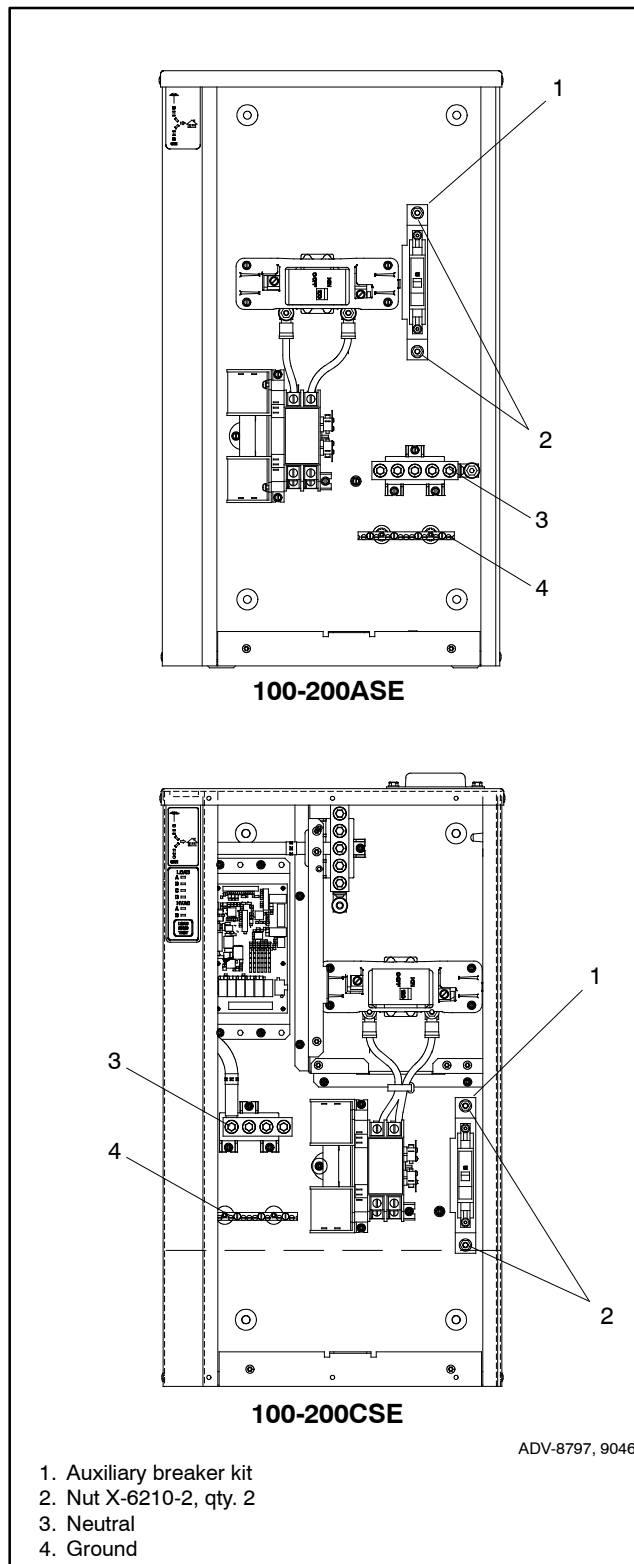


Figure 6 Auxiliary Breaker Kit Mounting Locations, 100-200 Amp SE Models

300-400 Amp ASE and CSE Models

See Figure 7 for the original 300-400 amp design (300-400ASEQS3). The breaker assembly mounts onto the contactor mounting plate.

1. Use two X-67-115 thread-forming screws to secure mounting bracket GM104808 to the contactor mounting plate.
2. Tighten the screws to approximately 3 Nm (30 in. lbs.).

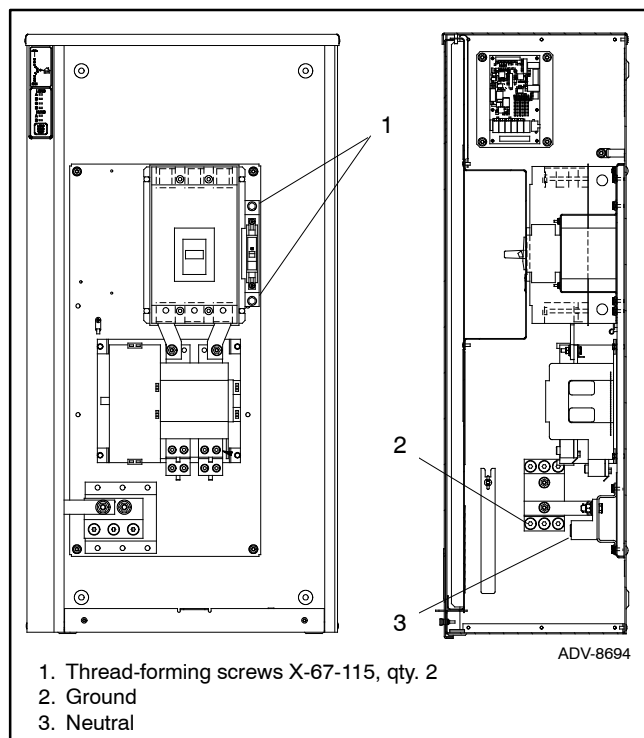


Figure 7 Aux. Breaker Installation, 300-400 Amp ASEQS3 Models, Original Design

On revised 300-400ASEQS4 (or higher) and 300-400CSE models, the breaker assembly mounts on the left side of the breaker compartment. See Figure 8.

1. Insert the tab on mounting bracket GM116590 into the slot in the breaker compartment wall and pivot down.
2. Use two X-67-133 thread-forming screws to secure the mounting bracket to the contactor mounting plate. Tighten the screws to approximately 3 Nm (30 in. lbs.).

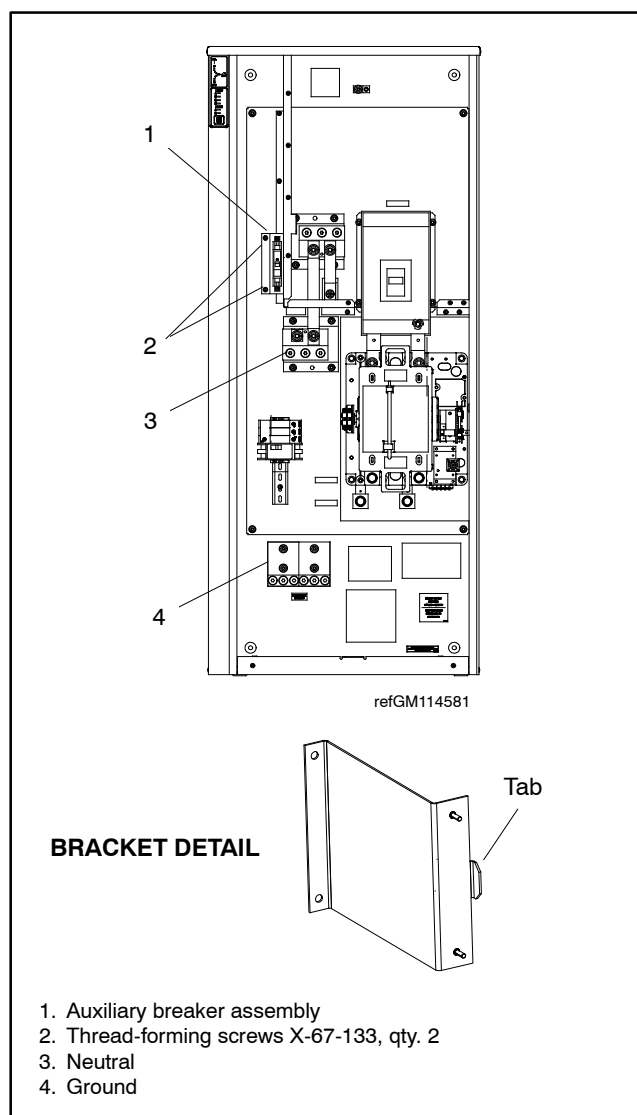


Figure 8 Aux. Breaker Installation, Revised Design Models 300-400ASEQS4 (and higher) and 300-400CSE

All Models

1. Slide two breaker mounting tabs GM84021 onto circuit breaker GM33906 (15 amps) or GM39586 (20 amps). The mounting tabs should be flush with the back of the breaker. See Figure 9.
2. Use two nuts X-6210-3 to attach the circuit breaker to mounting bracket GM104064 (for 100- 200 amp models) or bracket GM104808 or GM116590 (for 300- 400 amp models). See Figure 9. Tighten the nuts to 1.4 Nm (12 in. lbs.).

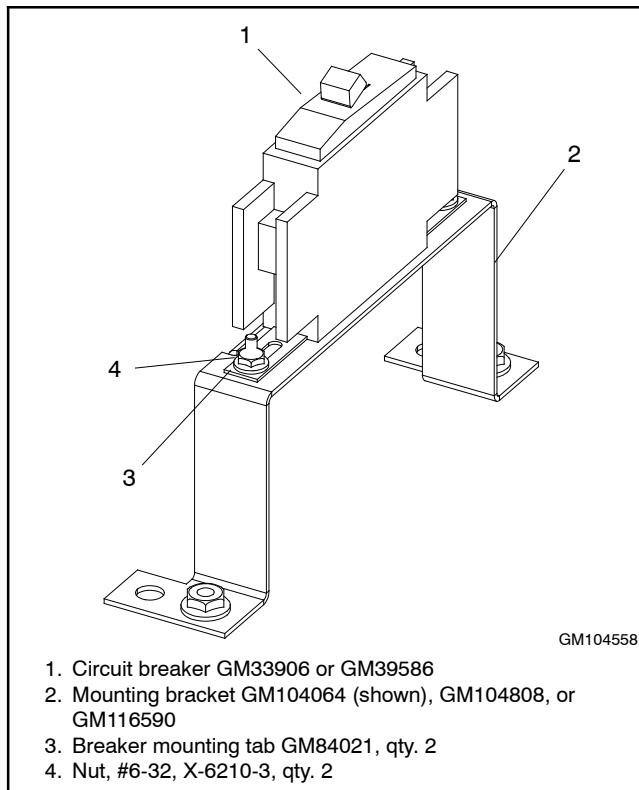


Figure 9 Auxiliary Breaker with Mounting Bracket

Connections

Use the lead provided in the kit to connect the breaker to the load lug on the contactor. Compare the lead provided in your kit to Figure 10 and Figure 11, if necessary.

Lead GM104559 or GM116677 (100- 200 A and 300- 400ASEQS3 Models)

1. Disconnect lead LL2 from the contactor voltage sensing connection. Connect lead LL2 to the AUX1 lead of the harness. See Figure 12.
2. Connect lead AUX2 to the voltage sensing spade terminal on LL2 of the contactor.
3. Connect lead AUX to the auxiliary circuit breaker. Tighten to 4 Nm (35 in. lbs.).

Lead GM116678 or GM116679 (300- 400ASEQS4 and 300- 400CSE models)

4. Use screw X- 67- 59 to connect the ring terminal to the load bus. See Figure 13. Tighten the connection to 2.25 Nm (20 in. lbs.)
5. Connect lead AUX to the auxiliary circuit breaker. Tighten to 4 Nm (35 in. lbs.).

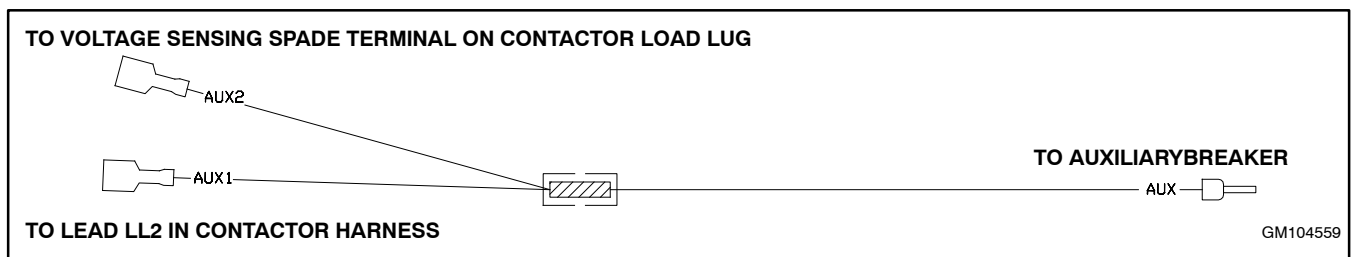


Figure 10 Auxiliary Breaker Lead GM104559 or GM116677 (100- 200 A and 300- 400ASEQS3 Models)

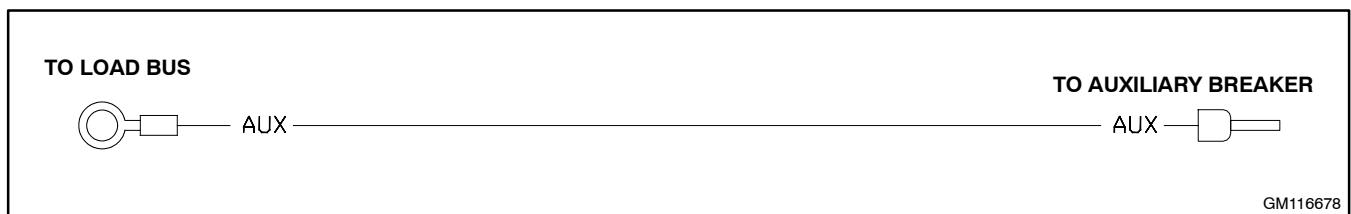


Figure 11 Auxiliary Breaker Lead GM116678 or GM116679 (300- 400ASEQS4 and 300- 400CSE models)

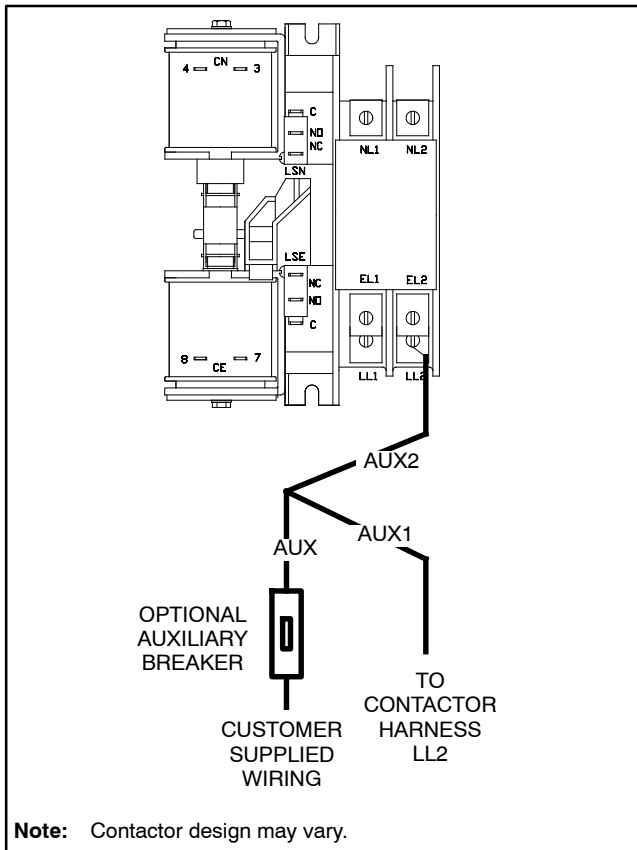


Figure 12 Auxiliary Breaker Connection, Harness GM104559 or GM116677 (100- 200 A and 300- 400ASEQS3 Models)

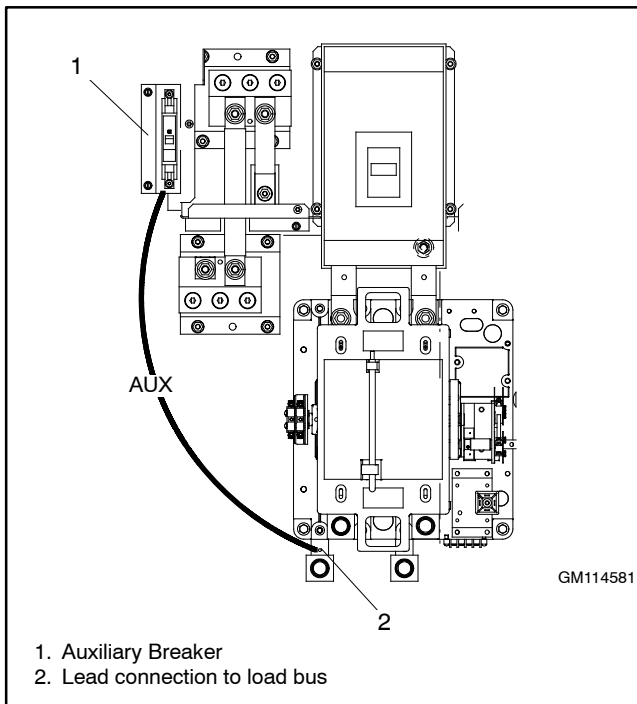


Figure 13 Auxiliary Breaker Connection, Harness GM116678 or GM116679 (300- 400ASEQS4 and 300- 400CSE)

Connect Auxiliary Circuit Breaker

6. Use customer-supplied #14-#12 AWG wiring to connect the auxiliary breaker to the generator set utility power HOT screw terminal connection or other accessory circuit. Use customer-supplied #14-#12 AWG wiring to connect neutral and ground to the generator set utility power terminals so the circuit complies with NEC and applicable local codes. See Figure 6 through Figure 8 for available neutral and ground connections inside the RXT enclosure.
7. Install or close the inner door, making sure that the auxiliary circuit breaker lines up with the opening.
8. Label the auxiliary circuit by writing in the box on decal GM104557, provided with the kit. See Figure 14.
9. Affix the decal to the inner panel above or below the auxiliary circuit breaker. See Figure 3 for recommended decal locations.

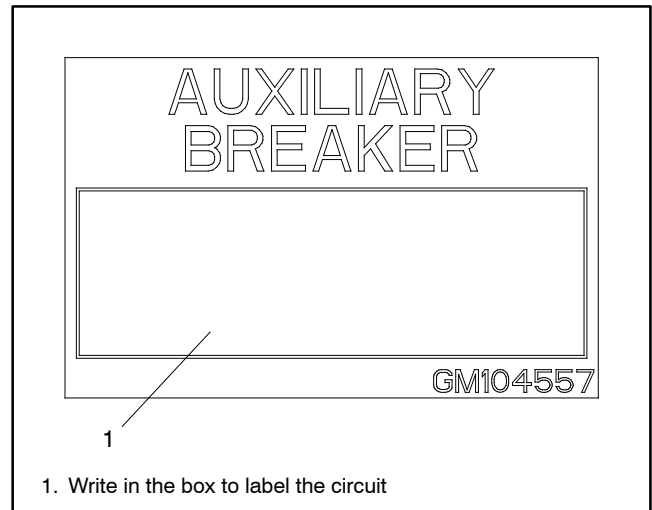


Figure 14 Decal GM104557

Return to Service

10. Verify that the inner door has been secured before reconnecting Normal utility power.
11. Reconnect Normal utility power to the transfer switch at the meter or at the utility source to the building.

Note: Use caution. Power is now present at the Normal utility circuit breaker inside the transfer switch enclosure.

12. Move the Normal utility source circuit breaker to the ON position.

13. Close and lock the outer enclosure door on the transfer switch.
14. Reconnect the generator set engine starting battery, negative (-) lead last.
15. Press the AUTO button on the generator set controller.

Parts Lists

Note: See Figure 2 on page 1 for kit application information.

Aux Circuit Breaker, 15 Amps, 100-200 Amp SE

Kit: GM104558-KP1		
Qty.	Description	Part Number
1	Bracket, Breaker Mtg	GM104064
1	Decal, Auxiliary Breaker	GM104557
1	Lead, Aux Breaker	GM104559
1	Breaker, Circuit 15A	GM33906
2	Tab, Breaker Mounting	GM84021
2	Nut, Flange Spiralock, 1/4-20	X-6210-2
2	Nut, Flange Whiz, 6-32	X-6210-3
1	Installation Instructions	TT-1758

Aux Circuit Breaker, 15 Amps, 400 Amp SE

Kit: GM104558-KP2		
Qty.	Description	Part Number
1	Bracket, Breaker Mtg	GM104808
1	Decal, Auxiliary Breaker	GM104557
1	Lead, Aux Breaker	GM104559
1	Breaker, Circuit 15A	GM33906
2	Tab, Breaker Mounting	GM84021
2	Nut, Flange Whiz, 6-32	X-6210-3
2	Screw, Hex Washer, Thread-forming	X-67-115
1	Installation Instructions	TT-1758

Aux Circuit Breaker, 15 Amps, 300-400 Amp SE

Kit: GM104558-KP3		
Qty.	Description	Part Number
1	Bracket, Breaker Mtg	GM116590
1	Decal, Auxiliary Breaker	GM104557
1	Lead, Aux Breaker	GM116678
1	Breaker, Circuit 15A	GM33906
2	Tab, Breaker Mounting	GM84021
2	Nut, Flange Whiz, 6-32	X-6210-3
2	Screw, Hex Washer, Thread-forming	X-67-133
1	Screw, Hex Washer, Thread-forming	X-67-59
1	Installation Instructions	TT-1758

Aux Circuit Breaker, 20 Amps, 100-200 Amp SE

Kit: GM104558-KP4		
Qty.	Description	Part Number
1	Bracket, Breaker Mtg	GM104064
1	Decal, Auxiliary Breaker	GM104557
1	Lead, Aux Breaker	GM116677
1	Breaker, Circuit 20A	GM39586
2	Tab, Breaker Mounting	GM84021
2	Nut, Flange Spiralock, 1/4-20	X-6210-2
2	Nut, Flange Whiz, 6-32	X-6210-3
1	Installation Instructions	TT-1758

Aux Circuit Breaker, 20 Amps, 400 Amp SE

Kit: GM104558-KP5		
Qty.	Description	Part Number
1	Bracket, Breaker Mtg	GM104808
1	Decal, Auxiliary Breaker	GM104557
1	Lead, Aux Breaker	GM116677
1	Breaker, Circuit 20A	GM39586
2	Tab, Breaker Mounting	GM84021
2	Nut, Flange Whiz, 6-32	X-6210-3
2	Screw, Hex Washer, Thread-forming	X-67-115
1	Installation Instructions	TT-1758

Aux Circuit Breaker, 20 Amps, 300-400 Amp SE

Kit: GM104558-KP6		
Qty.	Description	Part Number
1	Bracket, Breaker Mtg	GM116590
1	Decal, Auxiliary Breaker	GM104557
1	Lead, Aux Breaker	GM116679
1	Breaker, Circuit 20A	GM39586
2	Tab, Breaker Mounting	GM84021
2	Nut, Flange Whiz, 6-32	X-6210-3
2	Screw, Hex Washer, Thread-forming	X-67-133
1	Screw, Hex Washer, Thread-forming	X-67-59
1	Installation Instructions	TT-1758

Availability is subject to change without notice. Kohler Co. reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. Contact your local Kohler® generator set distributor for availability.