
INSTALLATION INSTRUCTIONS

Original Issue Date: 1/96

Model: 35-65COZ/30-50CFOZ

Market: Marine

Subject: **Safeguard Circuit Breaker Kits PA-344352, PA-344353, PA-344354, PA-344355, PA-344356**

The safeguard circuit breaker kit protects the generator set from a short circuit. The safeguard circuit breaker matches the generator set characteristics, differentiating it from conventional circuit breakers. The safeguard circuit breaker opens the battery supply voltage to the voltage regulator when a short circuit occurs. If the generator set is equipped with a meterless controller a current transformer kit must be ordered. Contact an authorized distributor/dealer for correct kit selection.



Accidental starting.

Can cause severe injury or death.

Disconnect battery cables before working on generator set (disconnect negative lead first and reconnect it last).

Disabling generator set. Accidental starting can cause severe injury or death. Turn generator set master switch to OFF position, disconnect power to battery charger, and remove battery cables (remove negative lead first and reconnect it last) to disable generator set before working on the generator set or connected equipment. The generator set can be started by an automatic transfer switch or remote start/stop switch unless these precautions are followed.

⚠ WARNING	
 Hazardous voltage.	 Moving rotor.
Can cause severe injury or death.	
Operate generator set only with all guards and electrical enclosures in place.	

Disconnecting electrical load. Hazardous voltage can cause severe injury or death. Disconnect generator set from load by opening line circuit breaker or by disconnecting generator set output leads from transfer switch and heavily taping ends of leads. High voltage transferred to load during test may cause personal injury and equipment damage. Do not use the safeguard circuit breaker in place of the line circuit breaker.

Short circuits. Hazardous voltage can cause severe injury or death. Short circuits can cause bodily injury and/or equipment damage. Do not contact electrical connections with tools or jewelry while adjustments are made. Remove wristwatch, rings, and jewelry before servicing equipment.

Installation

1. Place the generator set master switch in the OFF position.
2. Disconnect the generator set engine starting battery, negative (–) lead first.
3. Remove six screws on right side junction box panel and remove panel.
4. To remove safeguard circuit breaker knockout, place a wood block behind the plate and strike the block of wood with a hammer.
5. Mount safeguard circuit breaker to junction box with four screws (X-49-2) and flat washers (X-25-9). Position ON/OFF marking right side up. See Figure 1 for location.

NOTE

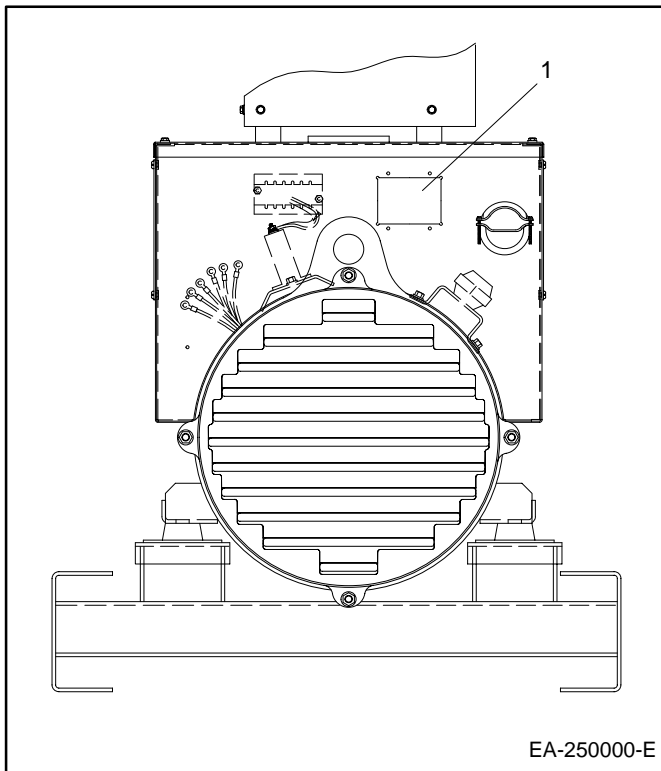
Follow the instructions below for installation of the safeguard circuit breaker on generator sets equipped with current transformers (controllers with meters). Follow the installation instructions included with the current transformer kit when installing the current transformers as a separate accessory.

6. Loosen upper screws on safeguard terminal strip with leads marked C0, C1, C2, C3, and 70 located inside controller.
7. Place corresponding wiring harness leads C1, C2, C3, and 70 under screws and tighten.
8. Connect safeguard circuit breaker as follows: See Figure 2 for wiring diagram.
 - a. Connect black leads of current transformers to C0 on the safeguard terminal strip. Tighten screw.

NOTE

Because of screw length, it may be necessary to place one CT lead on the upper screw of the safeguard terminal strip.

- b. Disconnect white lead of CT1 from terminal strip and connect to lower relay on first pole of breaker.
- c. Connect jumper lead from upper relay terminal on first pole of breaker to C1 on safeguard terminal strip.
- d. Disconnect white lead of CT2 from terminal strip and connect to lower relay terminal of second pole of breaker. Connect jumper lead from upper relay terminal on second pole of breaker to C2 on safeguard terminal strip.
- e. Disconnect white lead of CT3 from terminal strip and connect to lower relay terminal on third pole of breaker.
- f. Connect jumper lead from upper terminal on third pole of breaker to C3 on safeguard terminal strip.
- g. Disconnect lead 1B from terminal strip and connect to load terminal on third pole of breaker. Connect jumper lead from line terminal on third pole of breaker to terminal 70 on safeguard terminal strip.
9. Reinstall junction box right side panel using six screws.
10. Check that the controller master switch is in the OFF position.
11. Reconnect generator set engine starting battery, negative (–) leads last.



1. Safeguard circuit breaker knockout

Figure 1. Safeguard Circuit Breaker Location—Alternator End View

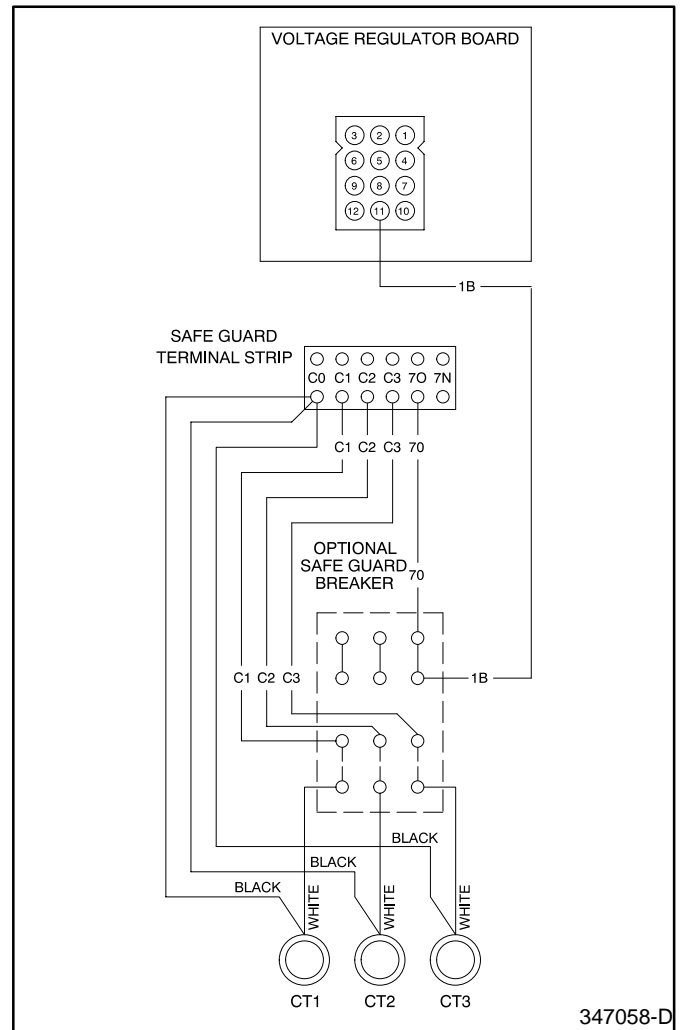


Figure 2. Safeguard Circuit Breaker Wiring Diagram

Safeguard Circuit Breaker Kit

Parts List					
Kits: PA-344352, PA-344353, PA-344354			Unique Parts		
Qty.	Description	Common Parts	PA-344352	PA-344353	PA-344354
4	Washer, plain	X-25-9			
4	Screw, r.h.m. 6-32 x 3/8	X-49-2			
1	Breaker, circuit		X-796-1	X-796-4	X-796-6
1	Decal, safeguard breaker	293667			
1	Harness, breaker	344351			

Safeguard Circuit Breaker Kit

Parts List				
Kits: PA-344355, PA-344356			Unique Parts	
Qty.	Description	Common Parts	PA-344355	PA-344356
4	Washer, plain	X-25-9		
4	Screw, r.h.m. 6-32 x 3/8	X-49-2		
1	Breaker, circuit		X-796-2	X-796-3
1	Decal, safeguard breaker	293667		
1	Harness, breaker	344351		