Instruction Booklet **IB 70-8704**

Effective January 2009
Supplement to IB 70-8447

CH10GEN5030SN
CH10GEN5030RSN
CH10GEN5050SN
CH10GEN5050RSN

# Eaton Corporation's Family of Manual Transfer Switches for Residential and Light Commercial Applications

## Instruction and Operation Manual for Eaton Emergency Generator Panel Model Numbers:

- CH10GEN5030SN
- CH10GEN5030RSN
- CH10GEN5050SN
- CH10GEN5050RSN

### Introduction

The Eaton 10 Circuit Manual Transfer Switch is intended to be used with Eaton generators but may be used with any generators. These Manual Transfer Switches are rated for 50 amp utility input and 30 amp or 50 amp generator input respectively at 240 Vac. These devices come equipped to power nine emergency circuits. There are eight single-pole emergency circuit breakers and one 2- pole emergency circuit breaker included.

These devices are intended for use with generators that are wired as either Separately Derived systems (neutral and ground bonded together at the generator – typically protected by a GFCI, ground fault circuit interrupter, on the generator) or Non-Separately Derived systems (neutral and ground are NOT bonded at the generator). Refer to the NFPA 70, National Electrical Code, for proper connection and further definition.

Contact the generator manufacturer if you are unsure how the generator is configured (Separately Derived or Non-Separately Derived). It is extremely important that you know this information prior to connecting the generator to this or any other transfer switch.

EATON
*Powering Business Worldwide*

**Figure 1. Manual Transfer Switch with Door Open.**

These Manual Transfer Switches utilize 3-pole switching devices to determine which power source, utility or generator, are powering the nine emergency circuits. The 3-pole switching devices are interlocked via a manual slide type interlock. The intent of the interlock is to ensure that only ONE source is powering the emergency circuits and to prevent back feeding of the utility with the generator or inadvertent paralleling of the utility and generator sources.

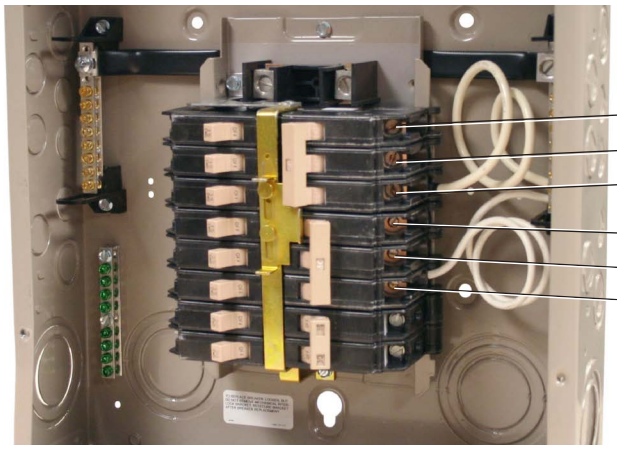


**Figure 2. Connection Locations for a Separately Derived System.**

## Connection for a Separately Derived System:

1. For generators that are configured as a **Separately Derived** system. These units typically contain GFCI protection on the generator.
   a. Connect the two hot wires from the utility to the utility breaker poles #1 and #2. Connect the utility neutral to the utility breaker pole #3. See Figure 2 for clarification.
   b. Connect the two hot wires from the generator to the generator breaker poles #1 and #2. Connect the generator neutral to the generator breaker pole #3. See Figure 2 for clarification.

### ⚠ CAUTION

**FOR A SEPARATELY DERIVED SYSTEM FAILURE TO CONNECT AS DESCRIBED IN THESE INSTRUCTIONS WILL RESULT IN NUISANCE TRIPPING OF THE GENERATOR GFCI CIRCUIT BREAKER.**

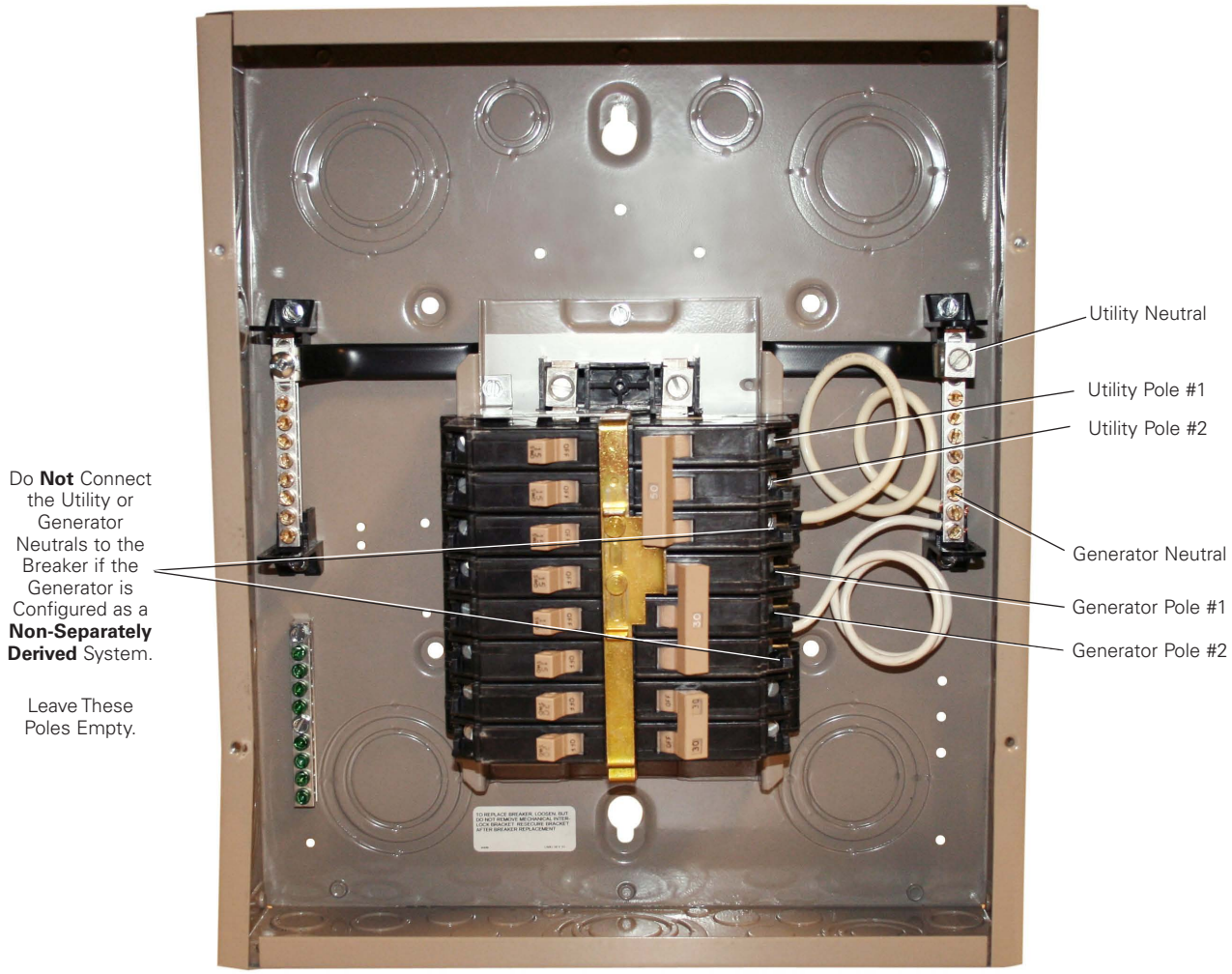


**Figure 3. Connection Locations for a Separately Derived System.**

Connection for a Non-Separately Derived System:

2. For portable generators that are configured as a **Non- Separately Derived** system.
   a. Connect the two hot wires from the utility to the utility breaker poles #1 and #2. Connect the utility neutral to the utility neutral lug. See Figure 3 for clarification.
   b. Connect the two hot wires from the generator to the generator breaker poles #1 and #2. Connect the generator neutral to the neutral bar. See Figure 3 for clarification.

## ⚠ DANGER

**FOR A NON-SEPARATELY DERIVED SYSTEM DO NOT CONNECT THE UTILITY OR GENERATOR NEUTRALS TO THE UTILITY BREAKER OR GENERATOR BREAKER NEUTRAL POLE. THESE NEUTRALS MUST BE TIED TOGETHER AT THE NEUTRAL BAR. FAILURE TO DO SO WILL LEAD TO EQUIPMENT FAILURE, FIRE, OR POSSIBLE DEATH DUE TO A FLOATING NEUTRAL CONDITION.**

The instructions for installation, testing, maintenance, or repair herein are provided for the use of the product in general commercial applications and may not be appropriate for use in nuclear applications. Additional instructions may be available upon specific request to replace, amend, or supplement these instructions to qualify them for use with the product in safety-related applications in a nuclear facility.

The information, recommendations, descriptions, and safety notations in this document are based on Eaton's experience and judgment with respect to Retrofitting of Power Breakers. This instructional literature is published solely for information purposes and should not be considered all-inclusive. If further information is required, you should consult an authorized Eaton sales representative.

The sale of the product shown in this literature is subject to the terms and conditions outlined in appropriate Eaton selling policies or other contractual agreement between the parties. This literature is not intended to and does not enlarge or add to any such contract. The sole source governing the rights and remedies of any purchaser of this equipment is the contract between the purchaser and Eaton.

**NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, OR WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE, ARE MADE REGARDING THE INFORMATION, RECOMMENDATIONS, AND DESCRIPTIONS CONTAINED HEREIN.** In no event will Eaton be responsible to the purchaser or user in contract, in tort (including negligence), strict liability or otherwise for any special, indirect, incidental or consequential damage or loss whatsoever, including but not limited to damage or loss of use of equipment, plant or power system, cost of capital, loss of power, additional expenses in the use of existing power facilities, or claims against the purchaser or user by its customers resulting from the use of the information, recommendations and description contained herein.

**Eaton Corporation**
Electrical Group
1000 Cherrington Parkway
Moon Township, PA 15108
United States
877-ETN-CARE (877-386-2273)
Eaton.com

© 2009 Eaton Corporation
All Rights Reserved
Printed in USA
Publication No. IB 70-8704 / TBG228
January 2009

Powering Business Worldwide

PowerChain Management®

PowerChain Management is a registered trademark of Eaton Corporation.

All other trademarks are property of their respective owners.