



1200. SCOPE.

This chapter applies to Customer-owned **portable (temporary)** or permanently mounted standby generators that are not to be operated in parallel with Alliant Energy's electric distribution system. (*NEC 702*)

Consult Alliant Energy for any other installations.

1201. SAFETY

- A. The Customer shall consult Alliant Energy before connecting any generating equipment to any Customer circuit that is or can be supplied from Alliant Energy's electric distribution system.
- B. Transfer switches may only be located before the main service disconnects where the available fault current is less than 10,000 amps.
- C. The Customer's transfer device shall be constructed and connected as to positively prevent any possibility of power from the Customer's emergency source feeding back into Alliant Energy's distribution system

1202. TRANSFER SYSTEM REQUIREMENTS

- A. The Customer may supply all or a portion of his electrical load from his standby generator.
- B. The Customer shall install a transfer switch or contactor to transfer all ungrounded conductors load to either the generator or normal supply.
- C. Alliant Energy shall approve automatic transfer systems.
- D. All transfer devices shall:
 - a. Prevent connecting the generator to the load until after the load is disconnected from Alliant Energy's system.
Exception: Closed transition type transfer switches that interconnect the emergency generators and the normal supply for a maximum of 500 milliseconds (1/2 second).
 - b. Positively prevent accidental connection of the generator to Alliant Energy's system at any time.
 - c. Closed transition type transfer switches shall have a lockable, visually open break in the circuit between the normal supply and the transfer switch.



1203. TRANSFER SWITCH OPTIONS.

A. Permitted:

1. Manual or automatic double throw switches
2. Double throw relays
3. Mechanically interlocked switches
4. Mechanically interlocked fuse block

B. Permitted in dry corrosion free dust free environments:

1. Breakers with factory designed mechanical interlocks

C. Not permitted:

1. Key interlocked switches
2. Key interlocked breakers



1204. CONNECTION AND NEUTRAL SWITCHING REQUIREMENTS.

Figure	TRANSFER SWITCH LOCATION	SEPERATELY DERIVED SYSTEM STANDBY GENERATORS * (includes portable generators)	NON-SEPERATELY DERIVED SYSTEM STANDBY GENERATORS
		The generator's neutral is bonded to the generator's equipment grounding conductor at the generator and a grounding electrode system is required at the generator.	The generator's neutral is NOT bonded to the generator's equipment grounding conductor at the generator and a grounding electrode system is NOT required at the generator.
1	Transfer Switch is installed on a feeder with separate equipment grounding and neutral conductors or on a branch circuit.	<ol style="list-style-type: none"> 1. Connect the generator's equipment grounding conductor to the feeder's/branch circuit's equipment grounding conductor and the generator's neutral conductor to the feeder's/branch circuit's neutral conductor. 2. Neutral must be switched. 	<ol style="list-style-type: none"> 1. Connect the generator's equipment grounding conductor to the feeder's/branch circuit's equipment grounding conductor and the generators neutral conductor to the feeder's/branch circuit's neutral conductor. 2. Do not switch the neutral.
2	Transfer Switch on the source side of a single family residential service entrance rated 200 amps or less (available fault current of 10,000 amps or less). <i>NEC 547 – Agricultural Building pole top site-isolating device (transfer switch)</i>	<ol style="list-style-type: none"> 1. Connect the generator's equipment grounding conductor and neutral conductor to systems grounded neutral conductor. 2. Do not switch the neutral. 	
3	Service entrance rated transfer switch.	<ol style="list-style-type: none"> 1. Connect the generator's equipment grounding conductor and neutral conductor to the service entrance's grounded neutral bus. 2. Do not switch the neutral. 	
4	Transfer Switch is located on a feeder with a grounded neutral (Allowed prior to 2008 <i>NEC</i>).	<ol style="list-style-type: none"> 1. Connect the generator's equipment grounding conductor and neutral conductor to systems grounded neutral conductor. 2. Do not switch the neutral. 	

*A separately derived generator is a generator that can be operated without being interconnected to a service entrance panel by a transfer switch. A typical application is to provide power to portable equipment. A non-separately derived generator can NOT provide power directly to portable equipment. Switching criteria: Do not switch the equipment grounding conductor or the grounded neutral conductor. Do not re-ground the neutral after the grounded neutral conductor has been separated into a neutral conductor and an equipment grounding conductor.

**TRANSFER SWITCH IS INSTALLED ON A FEEDER WITH SEPARATE EQUIPMENT
GROUNDING AND NEUTRAL CONDUCTORS OR ON A BRANCH CIRCUIT**

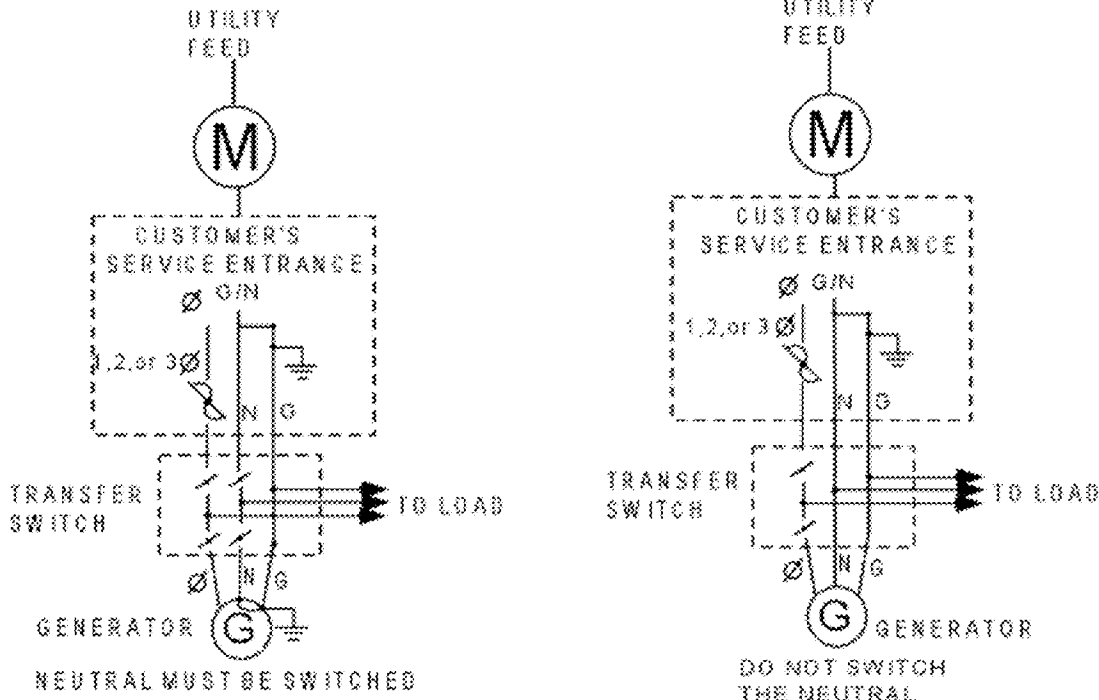
SEPARATELY DERIVED SYSTEM
NON-SEPARATELY DERIVED SYSTEM


Figure 1

**TRANSFER SWITCH ON THE SOURCE SIDE OF A SINGLE FAMILY RESIDENCE'S
SERVICE ENTRANCE**

OR

NEC 547 AGRICULTURAL BUILDING, POLE TOP SITE ISOLATED DEVICE

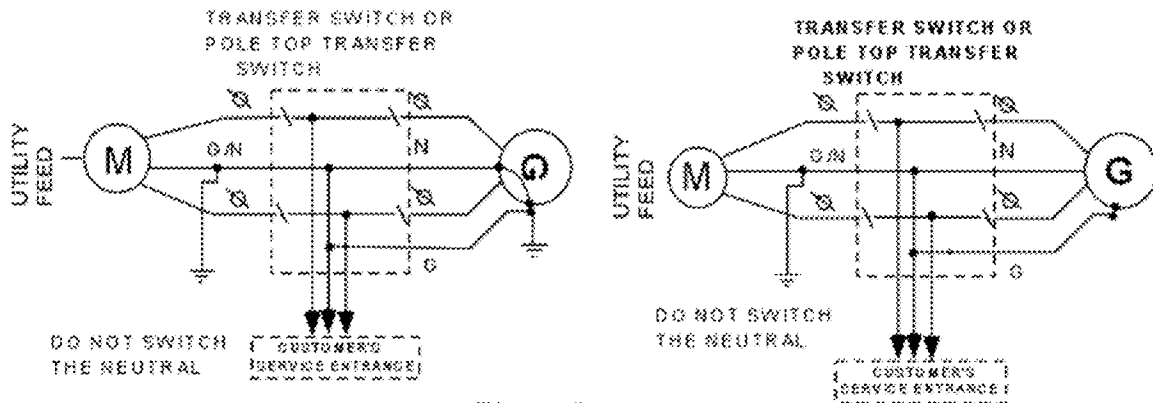
SEPARATELY DERIVED SYSTEM
NON-SEPARATELY DERIVED SYSTEM


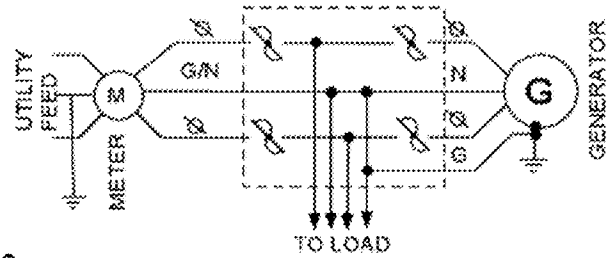
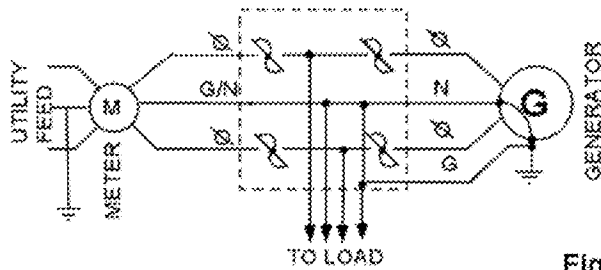
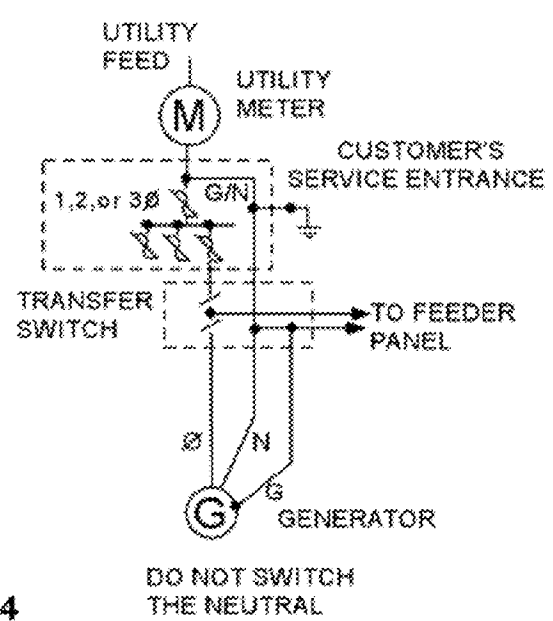
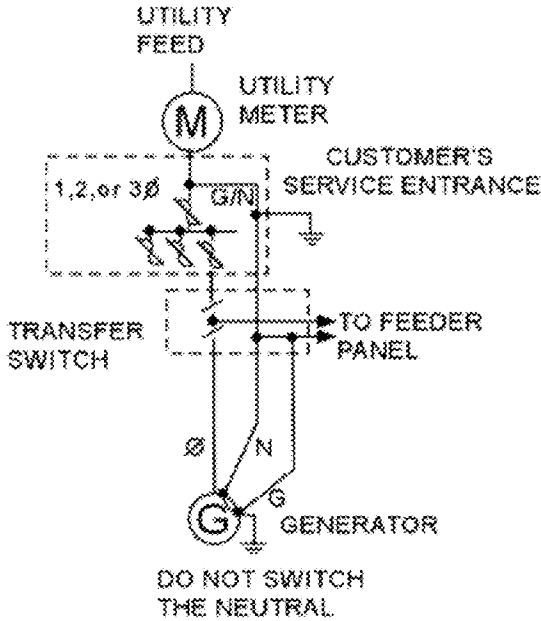
Figure 2

SERVICE ENTRANCE RATED TRANSFER SWITCH
SEPARATELY DERIVED SYSTEM
NON-SEPARATELY DERIVED SYSTEM

 DO NOT SWITCH
 THE NEUTRAL

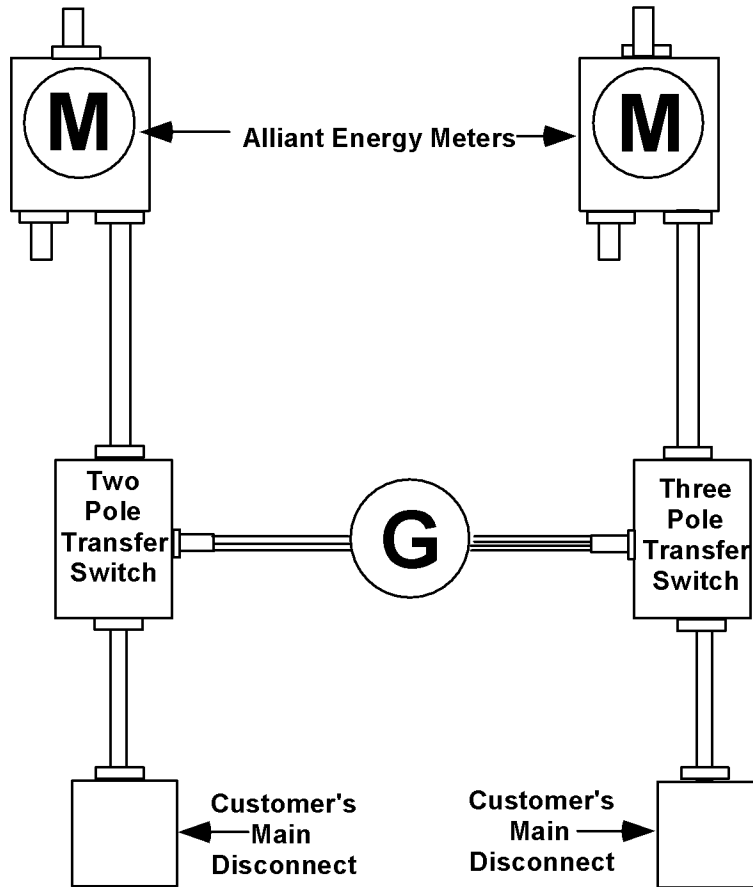
 SERVICE RATED
 TRANSFER SWITCH

 DO NOT SWITCH
 THE NEUTRAL

 SERVICE RATED
 TRANSFER SWITCH

Figure 3
TRANSFER SWITCH IS LOCATED ON A FEEDER WITH A GROUNDED NEUTRAL (PRIOR TO NEC 2008)
SEPARATELY DERIVED SYSTEM
NON-SEPARATELY DERIVED SYSTEM

Figure 4

1205. STAND BY GENERATOR INSTALLATION (GENERATOR SUPPLIES ALL OF CUSTOMER'S LOAD AT TWO DIFFERENT LOCATIONS) SINGLE-PHASE, 120/240 VOLTS, UP TO 300 AMPS.

The Customer shall install, own and maintain the entire installation except for Alliant Energy's meters.



NOTES:

- A. The generator service disconnect and overcurrent protection may be an integral part of the generator.
- B. Transfer switches shall be listed by an approved testing agency.
- C. Individual dwelling units shall have a single service disconnect and overcurrent protection on the load side of the transfer switch, except services rated 300 amperes or larger shall be permitted to have two such disconnecting means. Other occupancies may have 2 to 6 sets of service disconnects and overcurrent protection on the load side of the transfer switch.
- D. One of the transfer switches shall be a two-pole device. All other transfer switches shall be three-pole devices to open the neutral between the services.