

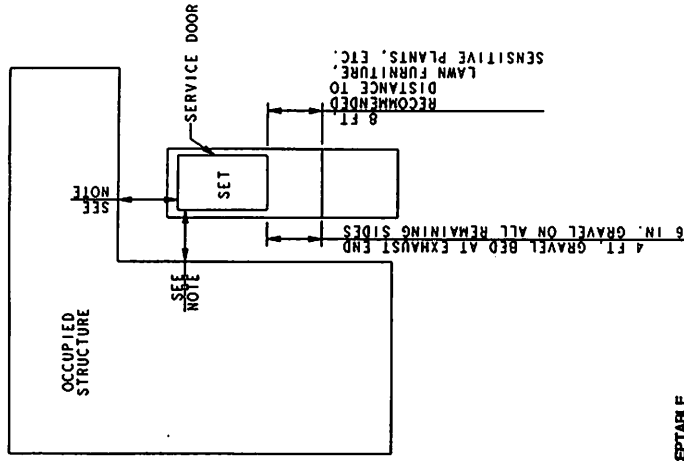
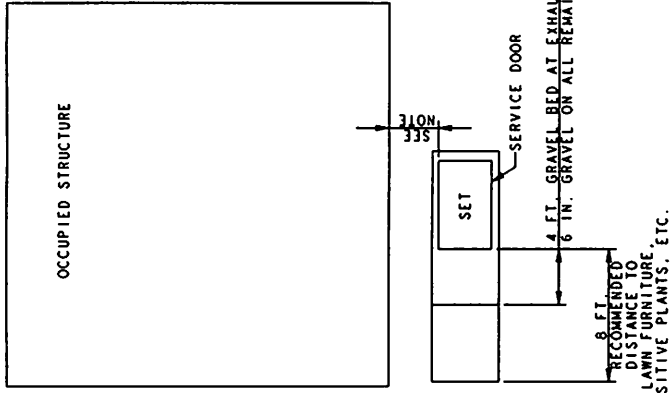
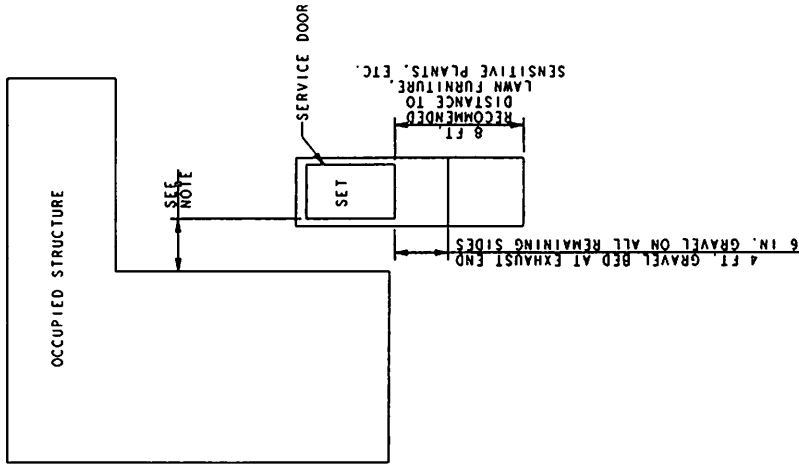
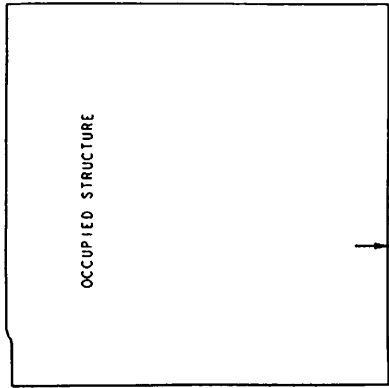


GENERATOR - Mechanical Permit checklist for building permit

- Site Plan for location of the generator
 - Is approval from Zoning or Planning Board required?
- Generator spec sheets indicate type, model and mounting instructions cement pad vs. crush stone, if propane is installation in ground or above and capacity.
- Fill out the application for building permit and check off mechanical box
 - Homeowner signature required
- Workers comp and State affidavit required

Fee is based on all utilities, site work, materials and labor, \$10/1000 rounded to nearest whole dollar

- Depending upon if natural gas/propane
 - Gas Permit
 - Electric Permit



PREFERRED

- 1) EXHAUST IS COMPLETELY AIMED AWAY FROM THE STRUCTURE.
- 2) EXHAUST IS NOT DIRECTED AT PLAY AREAS, PATIOS OR OTHER AREAS WHERE PEOPLE CONGREGATE.
- 3) THE NEAREST WINDOW, VENT, DOOR OR SIMILAR STRUCTURE OPENING IS AT LEAST 5 FEET FROM THE EXHAUST END OF THE SET.
- 4) SET HAS PROPER OFFSET FROM STRUCTURE.
- 5) WINDOWS & DOORS ON ADJACENT WALLS ARE CLOSED.
- 6) FURNACE AND OTHER SIMILAR INTAKES ARE AT LEAST 10 FEET FROM EXHAUST END OF SET.
- 7) WEED BARRIER AND 3 INCH THICK GRAVEL BASE LOCATED TO PREVENT GRASS & WEEDS FROM GROWING TOO CLOSE TO THE SET.
- 8) NO PLANTS, SHRUBS OR OTHER COMBUSTIBLES ALLOWED IN GRAVEL AREA.
- 9) SENSITIVE PLANTS, PATIO FURNITURE, ETC. ARE AT LEAST 8 FEET FROM EXHAUST END OF SET.
- 10) REFER TO OWNERS MANUAL FOR OTHER INSTALLATION CONSTRAINTS.

NOTE:
 THE RECOMMENDED DISTANCE FROM A STRUCTURE IS DEPENDENT ON STATE AND LOCAL CODES. NFPA 37, STANDARDS FOR THE INSTALLATION AND USE OF STATIONARY COMBUSTION ENGINES AND GAS TURBINES, STATES THIS DISTANCE SHOULD BE AT LEAST 5 FEET FROM A COMBUSTIBLE MATERIAL. FOR INSTALLATIONS NEAR NON-COMBUSTIBLE MATERIAL BE SURE TO LEAVE A MINIMUM DISTANCE OF 3 FEET TO ENSURE PROPER GENERATOR COOLING.

ACCEPTABLE

- 1) EXHAUST IS AIMED AWAY OR PARALLEL TO STRUCTURE.
- 2) EXHAUST IS NOT DIRECTED AT PLAY AREAS, PATIOS OR OTHER AREAS WHERE PEOPLE CONGREGATE.
- 3) THE NEAREST WINDOW, VENT, DOOR OR SIMILAR STRUCTURE OPENING IS AT LEAST 5 FEET FROM THE EXHAUST END OF THE SET.
- 4) SET HAS PROPER OFFSET FROM STRUCTURE.
- 5) WINDOWS & DOORS ON ADJACENT WALLS ARE CLOSED.
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Code Quandaries

By Mike Holt, NEC Consultant

Electrical Construction & Maintenance, Apr 1, 2000

Here are the latest short answers to Code questions posted on our Web site. In our discussion this month, we will cover topics from Secs. 110-3(b), 240-81, 250-6(a), 250-20(d) FPN No. 1, 250-30(a), and 380-3 of the National Electrical Code (NEC).

Three-part question. I am installing a permanent generator at my home for optional standby power. I'll be using a manual double-pole/double-throw switch with a solid neutral as my transfer switch. The feeder to the subpanel from the main and the generator is 4-wire (two hots, neutral, and ground). There is no neutral-to-ground connection in the subpanel.

Q1. Is my generator considered a separately derived system?

A1. No. The NEC requires a neutral-to-ground connection for a separately derived system, such as a generator, at the separately derived system or at the first disconnect after the separately derived system [Sec. 250-30(a)]. Fine Print Note (FPN) No. 1 to Sec. 250-20(d) warns the user that the NEC doesn't consider a separately derived system an alternate AC power source if the neutral from the generator solidly interconnects to a service system neutral.

Q2. Should I make a neutral-to-ground connection at the generator?

A2. No. Since the neutral is not opened in the transfer switch, the neutral from the generator solidly interconnects to a service system neutral. Under this condition, the NEC doesn't consider the generator a separately derived system. Therefore, you must not make a neutral-to-ground connection at the generator or at its disconnect.

If you make a neutral-to-ground connection at the generator, this creates a parallel path for neutral current to flow on the neutral conductor as well as objectionable (neutral) current to flow through the grounding path in violation of Sec. 250-6(a).

Q3. Must I ground the generator to the earth?

A3. No. Since the generator is not a separately derived system, the NEC doesn't require you to ground a generator to a grounding electrode (earth).

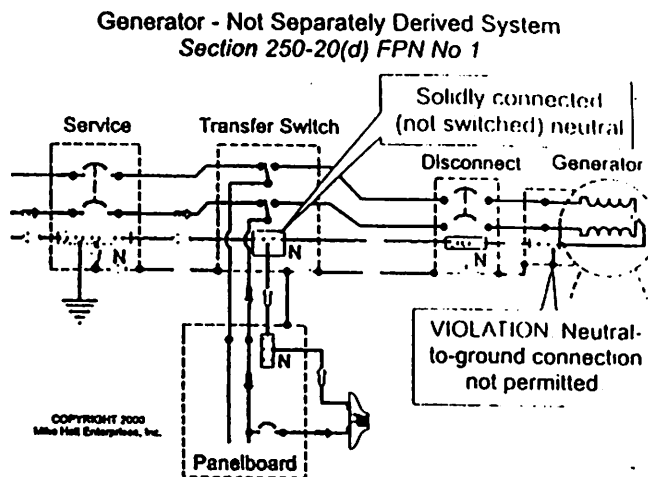
Q. Can I install a panelboard with the main breaker upside down, so the "up" position of the handle is the "off" position?

A. No. Secs. 240-81 and 380-3 require "circuit breakers that are operated vertically be installed with the 'up' position of the handle to be the 'on' position."

Q. Is it a Code violation to wrap a stranded No. 12 wire around the post of a wiring device screw?

A. No. The NEC doesn't directly cover this scenario, but Sec. 110-3(b) requires you to install all equipment in accordance with the manufacturer's instructions.

According to wiring device manufacturers, the screws on wiring devices are listed for the termination of either solid, or stranded No. 14 or No. 12 wire.



A neutral-to-ground connection at this generator is not permitted, and the generator is not required to be grounded to a grounding electrode (earth).