

Annual Electrical Inspection of Outdoor Inflatable Amusement Devices and Equipment

Notice: All inflatable amusement devices that use electrical power are subject to an annual electrical inspection. Most inflatable amusement devices obtain an annual electrical inspection as part of a fair, festival or other event or celebration, along with other units such as concession trailers, game trailers, food trucks, amusement rides, etc. However, inflatable amusement devices have largely replaced traditional amusement rides at many events and are often the only amusement devices.

The owner, operator or appointed representative of an inflatable amusement device is responsible for obtaining all required electrical inspections. The inspection fees must be calculated in accordance with Minnesota Statutes Section 326B.37. The minimum inspection fee is only \$35.

Special Notice for Operators of More Than Three (3) Inflatable Amusement Devices: When and where more than three (3) inflatable amusement devices will be set up at any event that is open to the public, a scheduled initial electrical inspection is required at or before the first appearance and operation of the year. Scheduled subsequent inspections as part of a seasonal itinerary are no longer required. Like amusement rides, concessions, games, food trucks and other outdoor attractions, inflatable amusement devices that have not already obtained the required annual electrical inspection will be inspected when they are discovered by the electrical inspector.

Each inflatable amusement device and its ancillary equipment must be inspected for electrical safety. The initial electrical inspection includes blower motors, electrical supply and distribution equipment, portable power distribution cords and cables, disconnecting means (disconnect switches), generators and other equipment or portable or temporary power distribution wiring associated with the operation of the inflatable amusement devices. The inspection must be completed prior to the inflatable amusement device(s) being energized or put into use. Electrical requirements for outdoor inflatable amusement devices include, but are not limited to, the following:

- The factory-installed supply cord to the On/Off switch at the blower motor must include one conductor dedicated as an insulated equipment grounding conductor. The size and type of the factory-installed blower motor supply cord is not regulated by the National Electrical Code. However, the electrical inspector reserves the right to reject any factory-installed blower motor supply cord that is damaged, spliced or otherwise unsafe to be used.
- All exposed metal parts of the inflatable amusement device blower motor and housing must be bonded to the equipment grounding conductor in the factory-installed supply cord. All cords must have a grounding conductor and grounding type attachment plug. Listed double-insulated inflatable amusement device blower motor equipment is permitted.
- The inflatable amusement device blower motor On/Off switch must simultaneously disconnect all ungrounded (hot) conductors.
- Portable power distribution cords that are part of a field-installed temporary portable power distribution system must be size #12 AWG or larger Type G, PPE, S, SC-family, SE-family, SO-family, ST-family, Type W or other types identified in the National Electrical Code (NEC) for extra-hard usage and must be of the grounding type. The cord type is printed or embossed on approved cords. Two-conductor cords are not allowed.

Portable cords and cables with a “J” in the type designation (such as Type SJT) are junior-hard-service rated and are not permitted to be used where subject to physical damage. When used outdoors, all cords must be listed for wet locations and be sunlight resistant, unless they are an integral part of listed portable equipment. All cords must be continuous and contain no splices. Temporary repair of a cord outer jacket must be made with listed and approved repair kits and is subject to approval from the electrical inspector. The electrical inspector reserves the right to reject the temporary repair of portable cords and cables if they are determined to be unsafe.

- Portable power distribution cords and cables laid on the ground must be approved for extra-hard usage, routed and arranged to minimize a tripping hazard and be protected from accidental and physical damage. Where passing through doorways or other pinch points, physical protection must be provided. Cords and cables may be covered with approved non-conductive mats. Mats must be self-weighted to minimize movement and drape over cords and cables and not constitute a greater tripping hazard than the uncovered cords or cables.
- Cord connectors must not be laid on the ground. Connectors and cable connections must not be placed in audience traffic paths or within areas accessible to the public unless guarded.
- NOTE: All 125-volt, 15- and 20-ampere receptacles, and all equipment supplied from 125-volt, 15- or 20-ampere circuits, must be GFCI protected (ground-fault circuit-interrupter). GFCI protection is readily available in the form of circuit breakers, receptacles, an integral part of the attachment plug or located in the power-supply cord within 12-inches of the attachment plug. GFCI cord sets must be UL listed or otherwise approved.
- Disconnecting Means: The general requirement of National Electrical Code Section 525.21 that a disconnecting means be located within 6-feet of the operator's station is not practical for, or applicable to, inflatable amusement devices. However, the disconnecting means must but be readily accessible to the operator and within sight of the inflatable amusement device. This allowance applies only to the inflatable amusement device and not to any perimeter auxiliary lighting or other electrical equipment located in the vicinity of the inflatable amusement device. The inflatable amusement device blower motor On/Off switch must not be used as the emergency disconnecting means. The inflatable amusement device blower motor On/Off switch is permitted to serve only as the normal On/Off switch for the blower motor.
- Examples of inflatable amusement devices include, but are not limited to, bounce houses, spacewalks, jolly jumpers, jumping castles, party jumpers, movie screens, arches, climbing attractions, slides and other similar inflatable amusement devices involving interactive play.
- In addition to the requirements in the National Electrical Code, the owner, operator or appointed representative must comply with the inflatable amusement device manufacturer’s installation and operational instructions. In the event of any conflict between the National Electrical Code and the manufacturer’s instructions, the most restrictive code, regulations or instructions will control.

IMPORTANT: Additional information regarding portable and temporary power is available at:

<http://www.dli.mn.gov/business/electrical-contractors/portable-and-temporary-power>

- Additional information about inflatable amusement device safety can be found at the U.S. Consumer Product Safety Commission website: www.cpsc.gov

Examples of temporary portable electrical distribution equipment

**NEC 525.23(D) GFCI Protection
for Receptacles Supplied by Portable Cords**

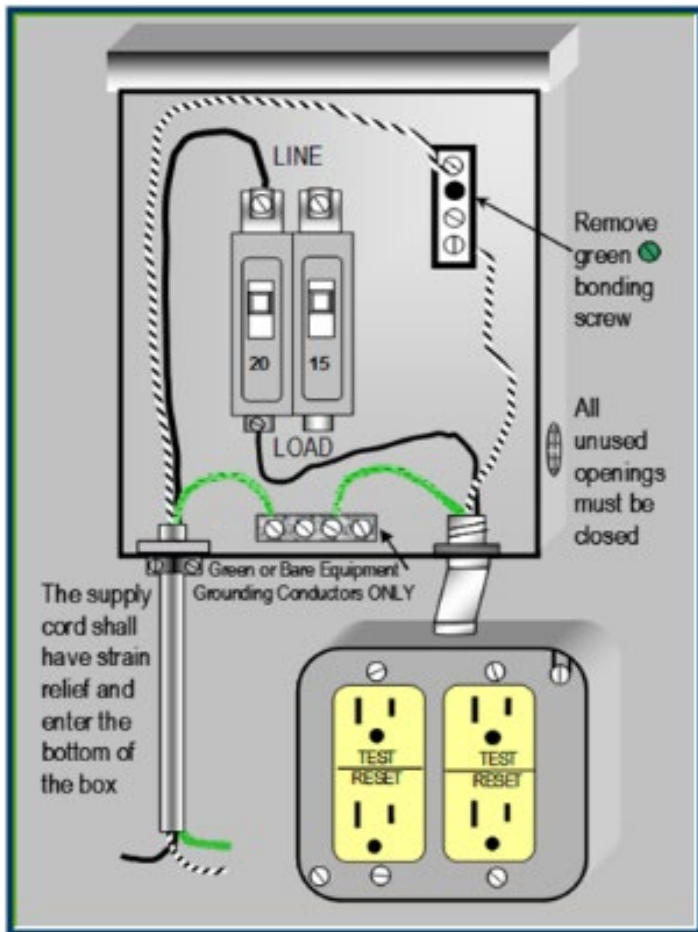
Is listed open neutral protection required?

The diagram shows several scenarios where listed open neutral protection is not required:

- Feeder Cord connected to a generator.
- Feeder Cord connected to a panel.
- Branch Circuit Cord connected to a panel.
- Feeder Cord connected to a permanent branch circuit wiring.

A red 'X' is placed over a GFCI receptacle in a do-it-yourself quad-box, with a note: "GFCI receptacles in do-it-yourself quad-box not allowed".

m DEPARTMENT OF LABOR AND INDUSTRY



National Electrical Code Article

Disconnecting Means

Every concession, game, or similar attraction or unit must have an enclosed fusible disconnect switch or circuit breaker in or adjacent to each exhibitor's space which will disconnect all power

March 26, 2005

Disconnecting Means

- Must be readily accessible, within sight of, and within 6 feet of the operator's station
- Fuse-holders with switches mounted on box covers and switch controlled multi-outlet strips are **NOT ACCEPTABLE**
- Enclosures for disconnects installed outdoors must be rainproof, unless otherwise protected from the weather

March 18, 2005