

November 19, 2024

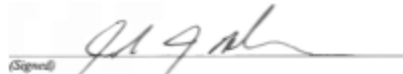
Reference: Addendum No. 3 Kingfisher County Courthouse Electrical Upgrade
PEC Project No. 230855-002

The following Addendum No. 3 is regarding the Installation guidelines for stationary standby industrial generators..

This information was not available at the time the electrical upgrade package went out.

Attached are installation instructions for the foundations and mounting of the generator.

Sincerely,



Joseph Mandrino

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cc: Taylor Day, PE – Electrical Engineering

Attachment: Section 3 – Foundations & Mounting

Section 3 *Foundations & Mounting*

3.1 — Generator Foundations

Install the generator set on a concrete pad or base slab able to support its weight and accessories. A proper foundation is needed to resist dynamic loading and reduce transmitted noise and vibration. The exact composition of the mounting pad must follow standard engineering practices for the required loading and application. **Securely fasten the generator set to the foundation using suitable grade, size and style fasteners.** Holes are provided in the steel frame rails for this purpose.

3.1.1— Concrete Pad

Seat the concrete pad or base slab on a prepared solid subsurface and use appropriate reinforcing bar or expanded wire mesh. A common specification calls for 2500 psi concrete reinforced with 8 gauge wire mesh or number 6 reinforcing bars on 12 inch centers.

3.1.2— Dimensions

Extend the concrete pad beyond the frame of the unit at least 18 inches and above the surrounding surface by 3-8 inches. This provides a mounting surface for fuel line support, as well as space for maintenance and repair.

The base pad must be:

- Capable of supporting 125% of the unit wet weight for single unit applications. Wet weight is the dry weight plus the weight of the fuel in the base tank.
- Flat and level to within 1/2 inch.
- Capable of withstanding severe torque reactions on those units that are part of a paralleling system.

3.1.3— Unit Clearance

Verify that the site provides easy access to the generator set for maintenance, repair, and firefighting purposes. Keep a minimum of five feet of clearance around each side of the generator set to facilitate the repair or replacement of major components.

3.1.4— Roof Installation and Protection

Consult a design engineer to ensure that the roof structure is capable of supporting the full weight of the generator and of handling any vibration or movement produced by the application of load. Install a layer of non-combustible insulation and a layer of sheet metal under the unit. Extend both the layer of insulation and sheet metal beyond the generator base at least 12 inches (30.5 cm) on all sides. See Figure 3-1.

A containment dike with specific capacities for fuel and/or oil spillage is also required.

3.1.5— Combustible Floor Protection

Install a layer of non-combustible insulation topped with a layer of sheet metal under the unit. Extend both the layer of insulation and sheet metal beyond the generator base at least 12 inches (30.5 cm) on all sides. See Figure 3-1.

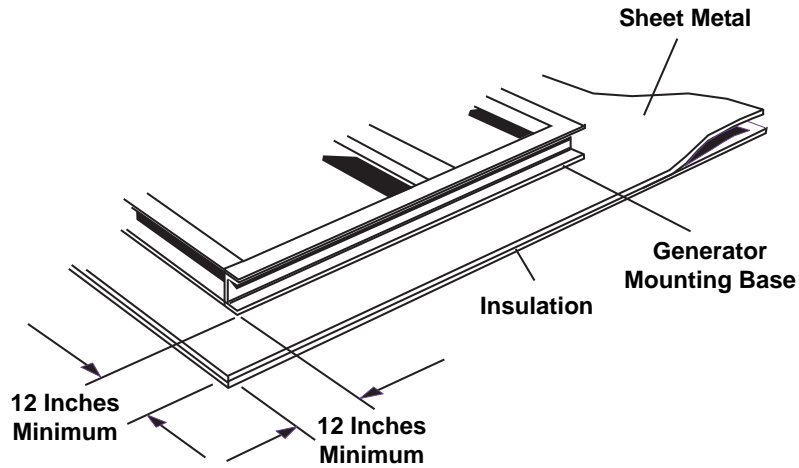


Figure 3-1. Combustible Floor and Roof Protection

3.1.6— Stub Up Area

For load conduit, auxiliary power conduit (high voltage), and control wiring conduit (low voltage), see the installation drawings for the location and dimensions of the stub up areas. See Figure 3-2.

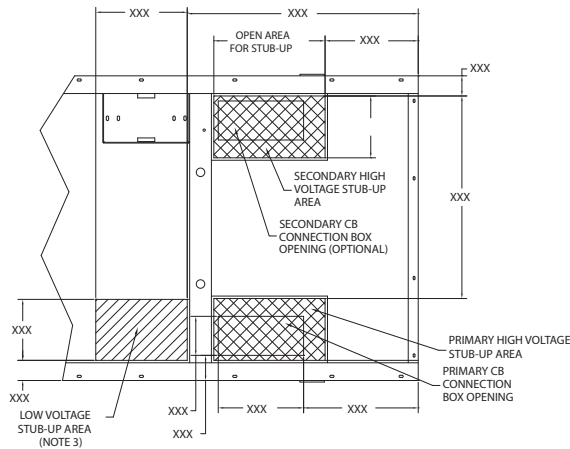


Figure 3-2. Typical Installation Drawing Stub Up Detail

3.2 — Mounting

3.2.1— Fixed Foundation

Use mounting holes in the base frame to fasten the unit to the foundation. Always use hardware of a suitable grade, size and style.

3.2.2— Spring Isolators

Always adjust spring isolators after installation following the manufacturer's instructions. The spring isolators are used to level a unit within a reasonable distance. Typically, the mounting pad must be flat and level to within 1/2 inch. Secure the spring isolator to both the generator base and foundation with appropriate grade, size and style fasteners. See Figure 3-3.

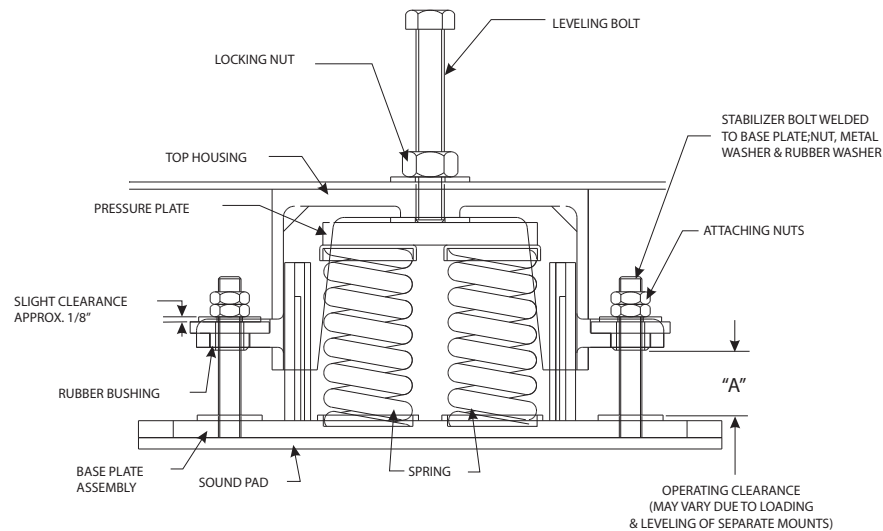


Figure 3-3. Typical Spring Isolator

3.2.3— Bottom Enclosure

For generator sets with open bottoms using spring mounts between the frame rails and the mounting surface, or mounted on an open bottom foundation (steel I-beams and/or grating surfaces, etc.), the bottom of the unit must be enclosed to prevent entry of foreign objects and to prevent recirculation of hot radiator exhaust air. It must be covered with a metal plate to keep out foreign objects (birds, rodents, insects, dirt and debris) and to protect internal components and wiring.

3.2.4— Connections

All fuel, coolant, exhaust, and electrical connections must have flexible sections where they connect to the unit to isolate vibration. Cracks, fractures, and leaks can develop without proper vibration isolation. Properly support and secure all piping before installing the flexible connection.

3.2.5— Tie Down Holes

To protect internal components and wiring, and to prevent entry of dirt, debris and other foreign objects, plugs are provided (as applicable) to cover tie-down holes in the frame rail. See Figure 3-4.

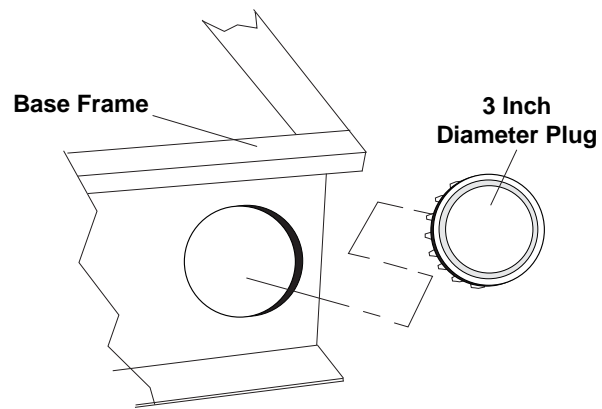


Figure 3-4. Frame Tie-Down Hole Plugs
