

To: VCO/80 Customers With Earthquake Zone Requirements
From: Summa Four
Date: January 20, 1998
Subject: Installation Of Earthquake Anchor Kits

Introduction

This technical bulletin describes how to install the VCO/80 System Anchor Kits for earthquake zones 0 through 4.

This installation involves four basic steps:

1. Installing the floor anchors and positioning the system
2. Disassembling the system to gain access to the system enclosure floor
3. Installing the anchor kits
4. Reassembling the system

CAUTION: Ensure that all power sources are disconnected from the system before beginning these steps.

These instructions assume that you have already unpacked and moved the system to the equipment room as described in the *Open Me First* package and *VCO/80 Installation Manual*. Also, if your configuration includes an expansion rack, the rack must be connected to the main VCO/80 System.

Tools And Materials

These instructions require the following tools and materials:

- VCO/80 System footprint template (included in the *Open Me First* package)
- Measuring tape and masking tape
- Adjustable wrench with at least a 1-3/8" capacity
- A bubble level
- Drill and 7/8 inch concrete drill bit
- Anchor kit(s)
- Phillips screwdriver
- Hammer

If you received an Earthquake Zone 2 Anchor Kit (for zones 0, 1, and 2), verify that this kit contains the following pieces of hardware:

- Four drop-in concrete floor anchors
- Four hex bolts
- Eight 1/8 inch thick shims
- Four hex nuts
- Eight shake proof lock washers
- One setting tool

If you received an Earthquake Zone 4 Anchor Kit (for zones 3 and 4), verify that this kit contains the following pieces of hardware:

- Four drop-in concrete floor anchors
- Four hex bolts
- Four 1 and 1/8 inch shims
- Sixteen 1/16 inch thick shims
- Four shake proof lock washers
- One setting tool

Installing The Drop-In Floor Anchors & Positioning The System

To install the floor anchors and position the VCO/80 System, complete the following steps:

1. Remove the footprint template from the *Open Me First* package. An example of the template is shown in Figure 1.

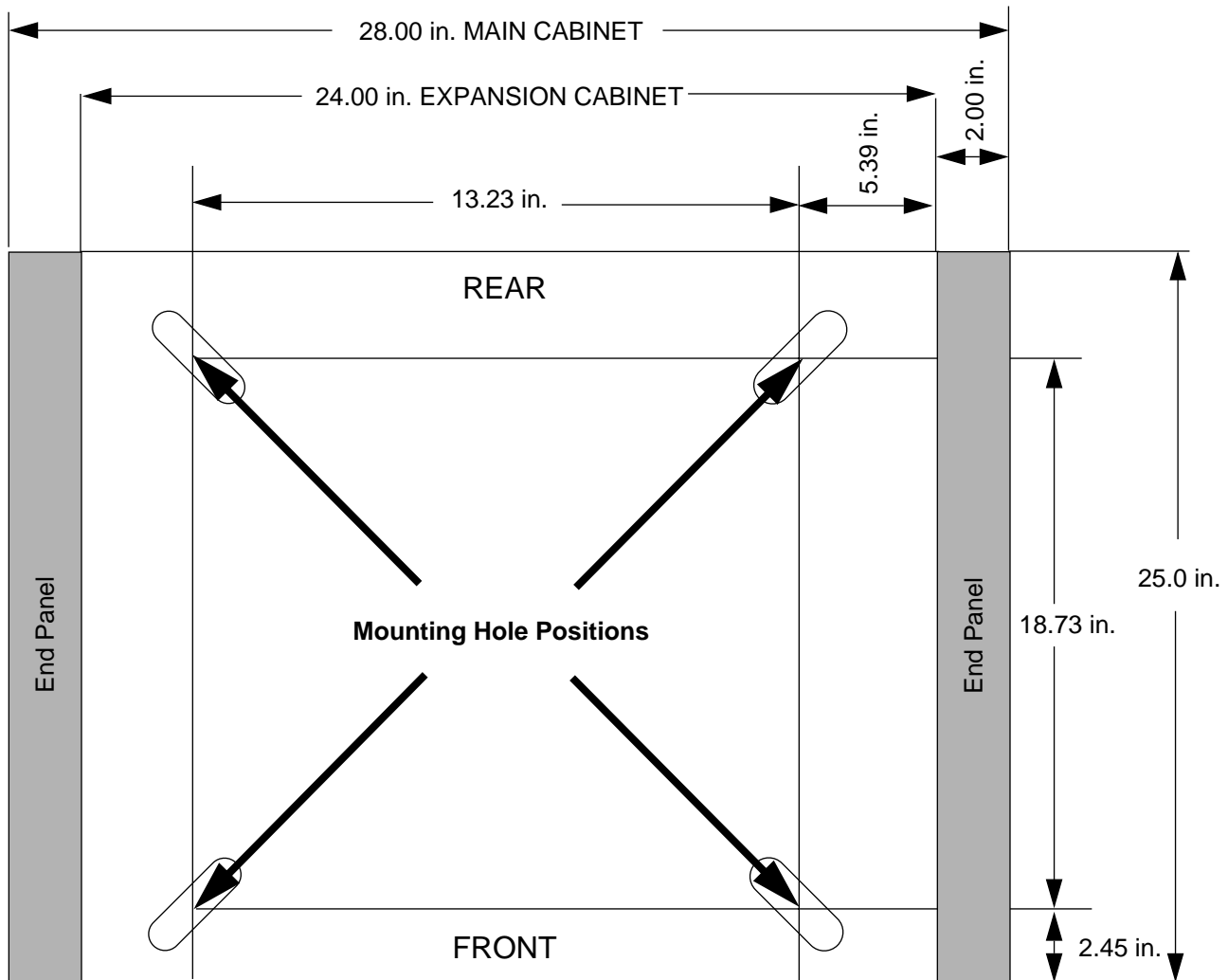
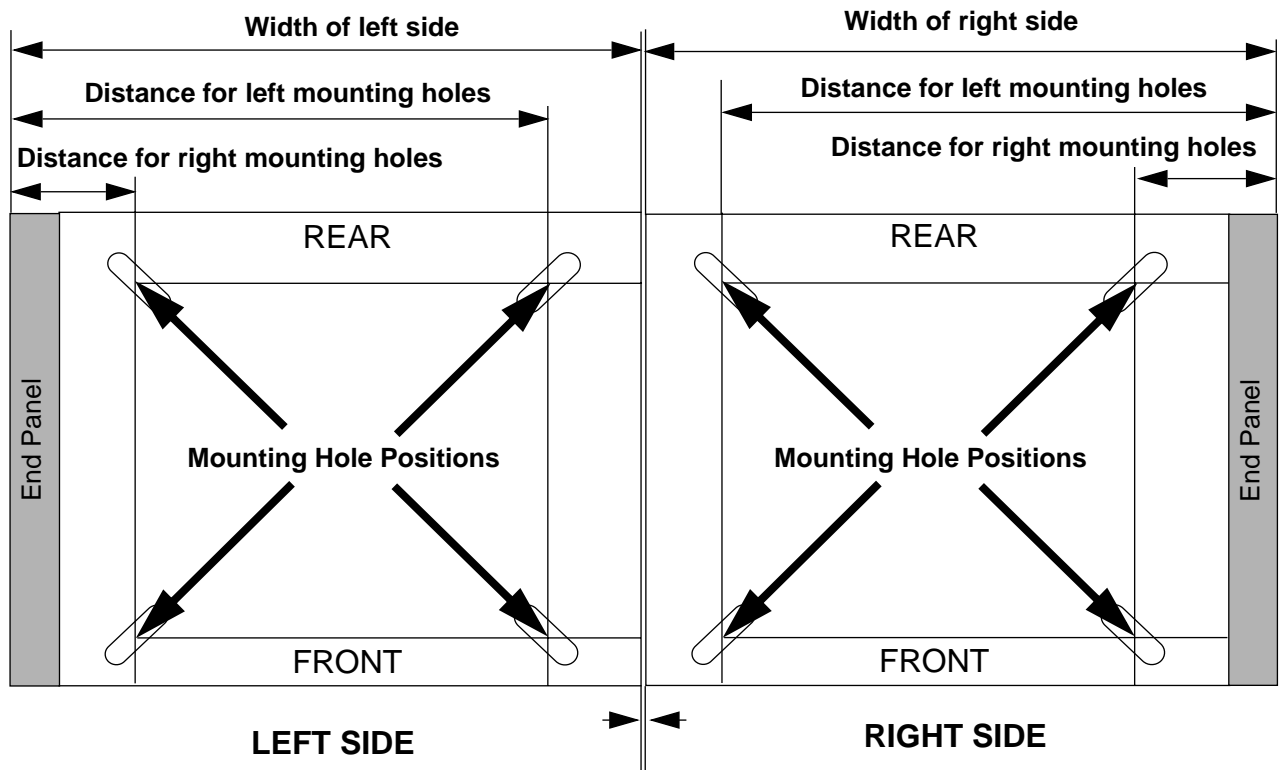


Figure 1: Floor Mounting Holes

2. Using the template, measure and mark off the system footprint and mounting hole positions.

Note if your configuration includes an expansion rack, mark off two sets of system footprints and mounting holes as shown in Figure 2.



NOTE: Allow 1/16 inch for frame widths.

Figure 2: Floor Mounting Holes For Systems With Expansion Racks

3. Drill anchor mounting holes in the positions marked in Step 2. The minimum depth of the hole must be 3 inches.

4. Insert the drop-in floor anchors into the drill holes as shown in Figure 3

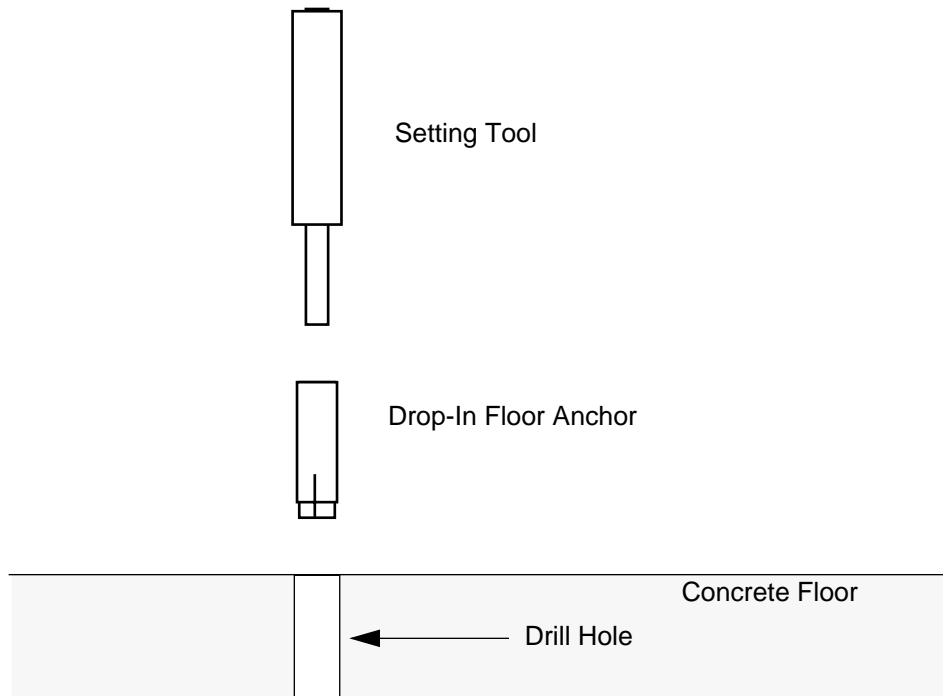


Figure 3: Installing The Drop-In Floor Anchors

5. Using the setting tool and hammer, tap each anchor into position. The top of the anchor must be flush with the floor.
6. If your site has Earthquake Zone 4 requirements, place the 1 and 1/8 thick shims around the drill holes as shown in Figure 4.

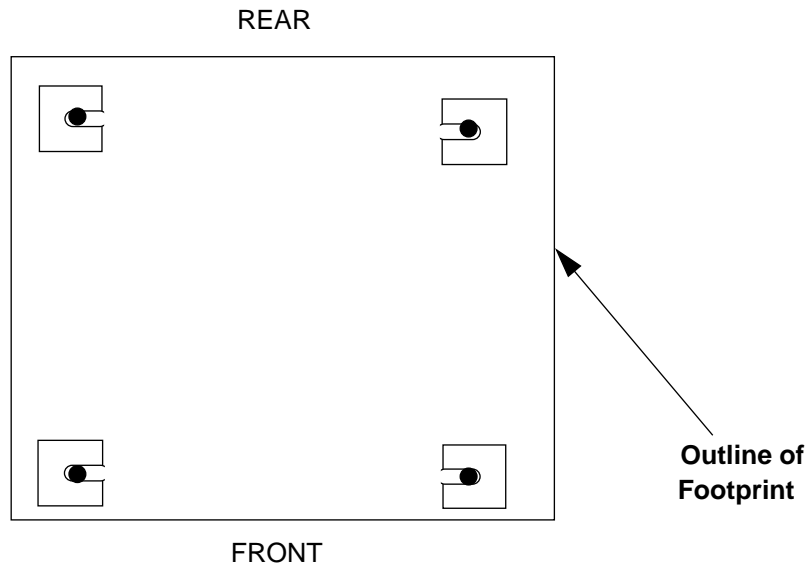


Figure 4: Placement of Zone 4 Earthquake Shims

7. Maneuver the system until the front edge of the base assembly is within the outline of the system footprint. Check the clearances around the system. Be sure door(s) can be opened fully without hitting an obstruction.
8. Raise the system on its leveling pads until all casters are just barely off the floor. The leveling pads are located at the four corners of the bottom of the system.
 - a. Unscrew the leveling pads, turning them clockwise until they just touch the floor.
 - b. Using the adjustable wrench, continue to turn the leveling pads clockwise until each caster is raised slightly off the floor.
 - c. Use a bubble level to check that the cabinet is vertically plumb and horizontally level. Use the wrench to adjust individual leveling pads, as necessary.
9. Open the system's door(s) and check internal components for signs of damage.

Accessing The System Enclosure Floor

1. If your system has an optional rear door, remove the door.
2. From the rear of the system, remove the power supply bucket cover and control subrack back panel. The location of these components is shown in Figure 5.

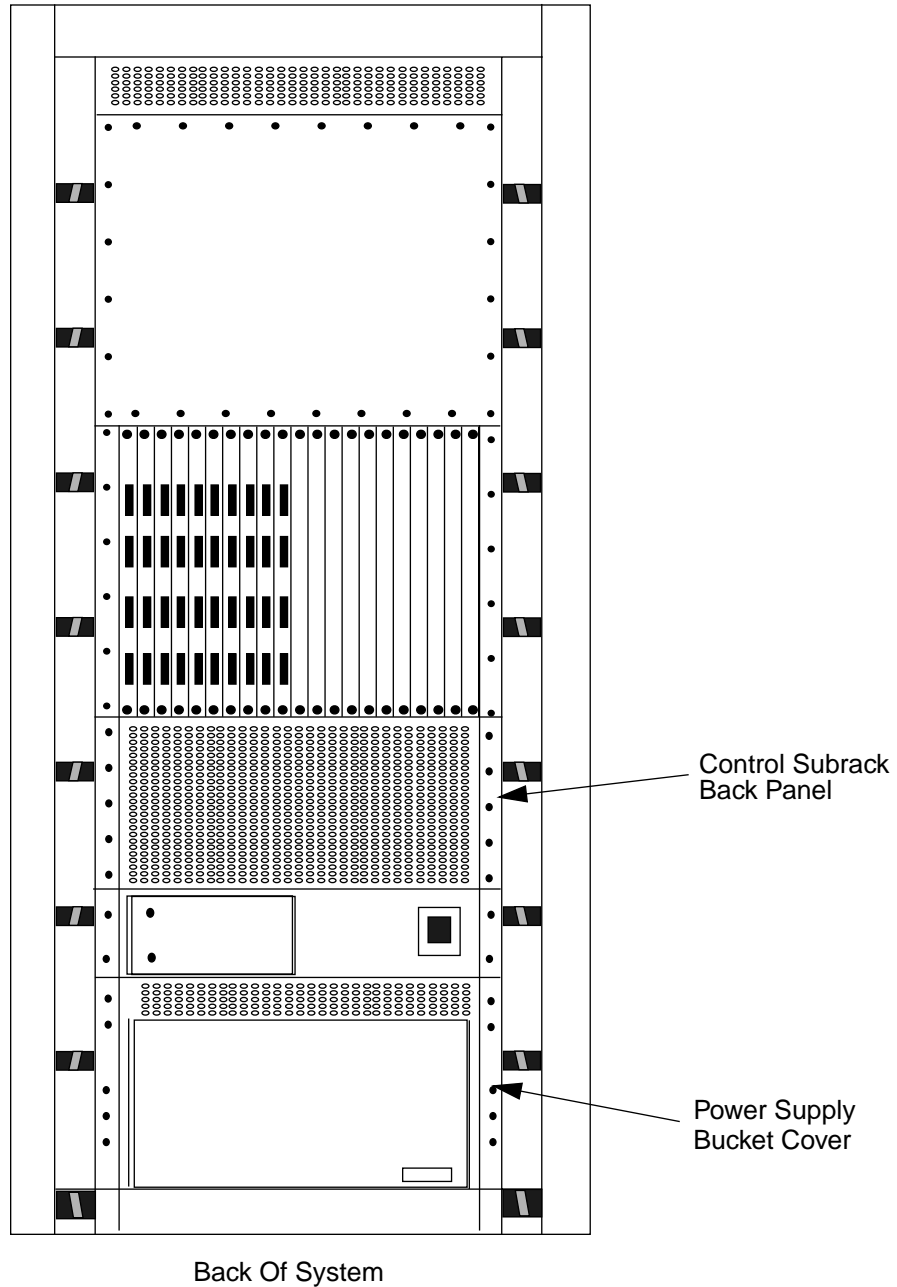


Figure 5: Power Supply Bucket Cover And Control Subrack Back Panel

3. Go to the front of the system and open the front door.
4. Remove all blank power supply panels shown in Figure 6.

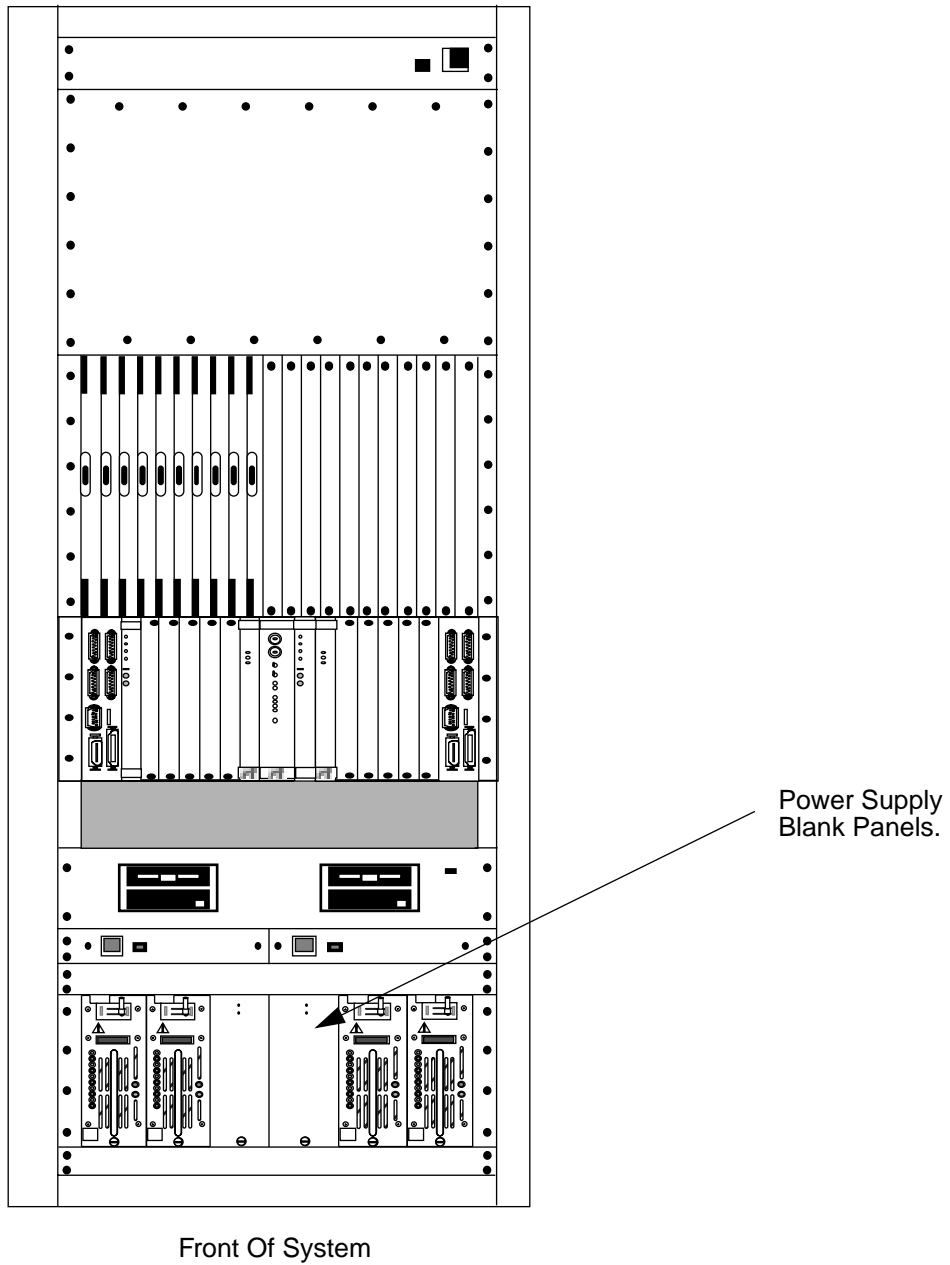


Figure 6: Removing Blank Power Supply Panels

5. Remove all power supplies by disengaging the locking switch at the actuator basket as shown in Figure 6.

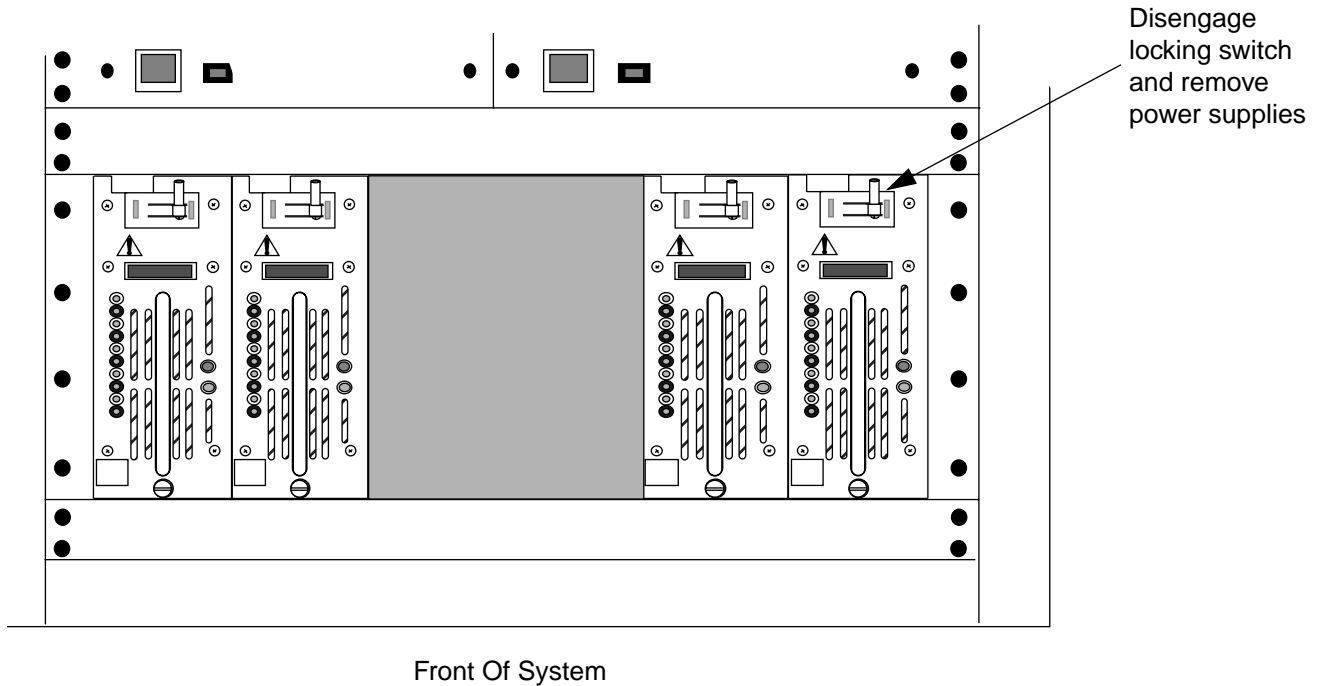


Figure 7: Unlocking And Removing The Power Supplies

CAUTION: The power supplies must be replaced in their original location. Place the power supplies on a bench in the same order as they were removed.

6. Remove the screws holding in the power supply bucket shown in Figure 7.

NOTE: Do not remove the bracket underneath the power supply bucket (Figure 7). This bracket is used later in these procedures to guide and support the power supply bucket.

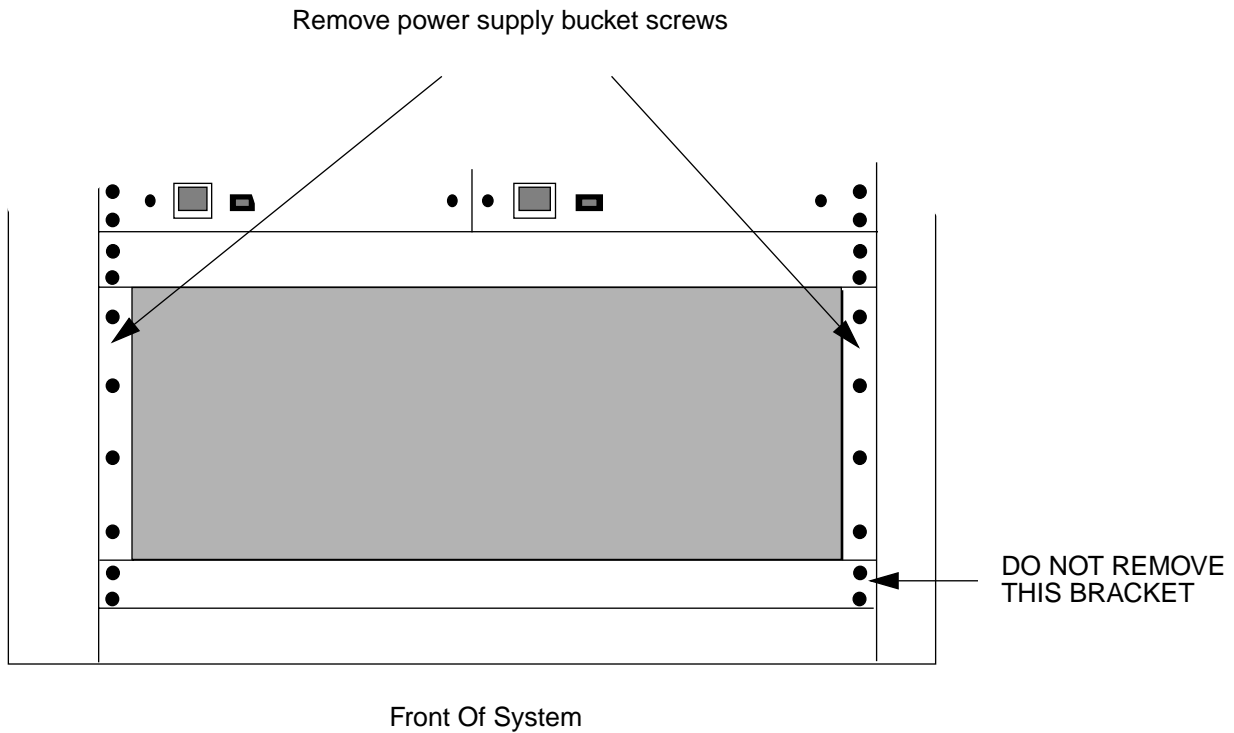


Figure 8: Removing The Power Supply Bucket Screws

7. Carefully slide the bucket out of the system as far as possible without disconnecting any of the wiring to the power supply bucket.

CAUTION: Check to assure that no wiring is pinched or taut.

8. From the back of the system, remove the rear kick panel shown in Figure 9.

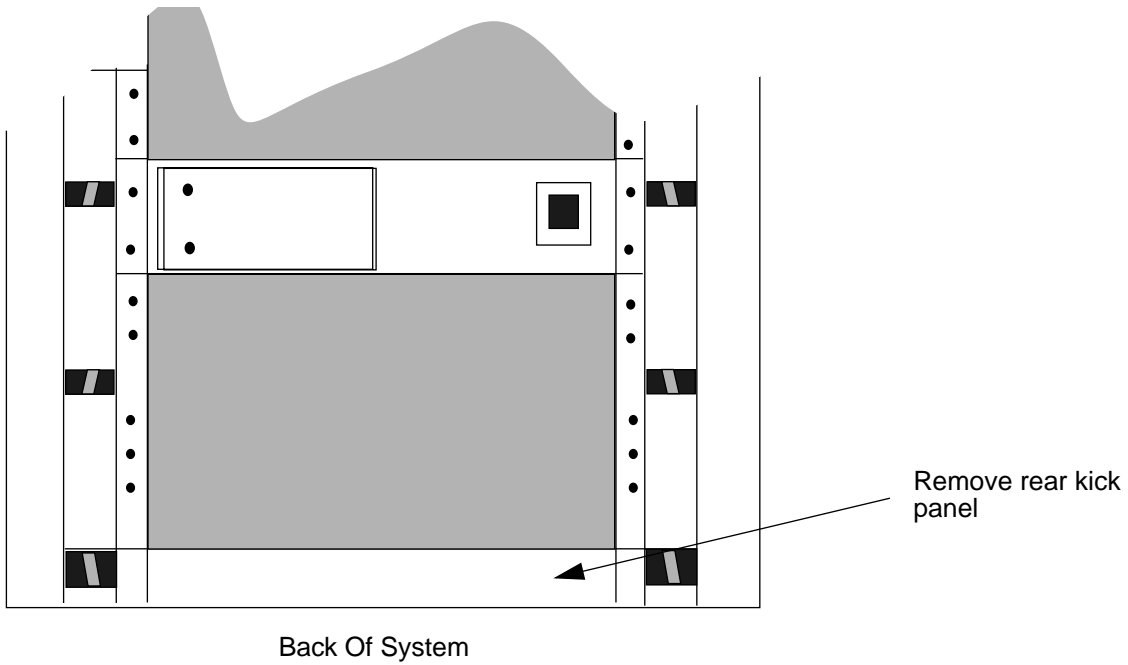


Figure 9: Removing The Rear Kick Panel

9. Go to the front of the system and remove the bracket covering the airflow baffle and the airflow baffle. The baffle chamber is located above the power supplies shown in Figure 10

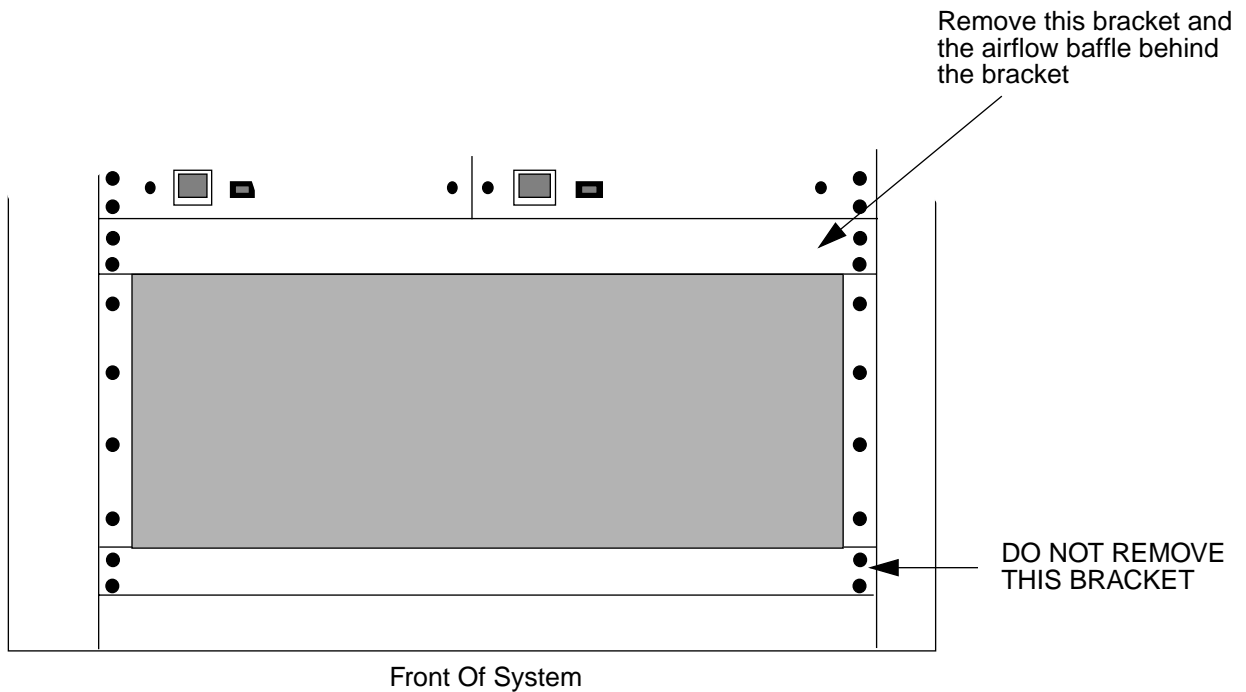


Figure 10: Removing The Airflow Baffle

The system disassembly procedures are complete. From the back of the system, you can now see the two rear mounting holes as shown in Figure 11.

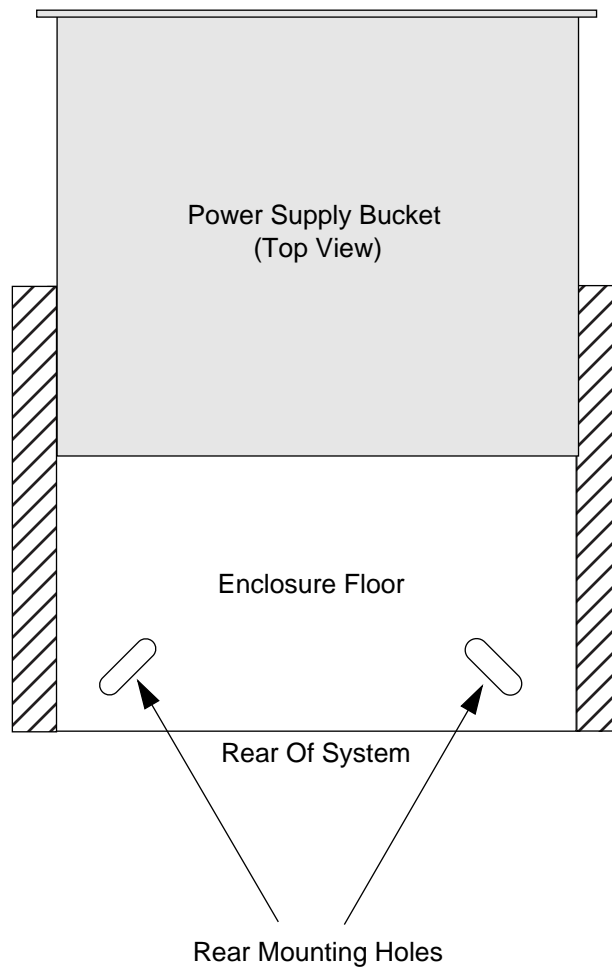


Figure 11: Floor Mounting Holes

To access the two front mounting holes, the power supply bucket must be tilted up towards the front of the system.

CAUTION: Remove watches, jewelry, and loose clothing before attempting to access the two front mounting holes or performing the procedures described in the next sections.

Installing Floor Bolts In An Earthquake Zone 2 Environment

To install the floor bolts and shims in an Earthquake Zone 2 environment, complete the following steps:

1. Loosely install the bolt, lock washers, shims, and nut in the rear mounting hole as shown in Figure 12.

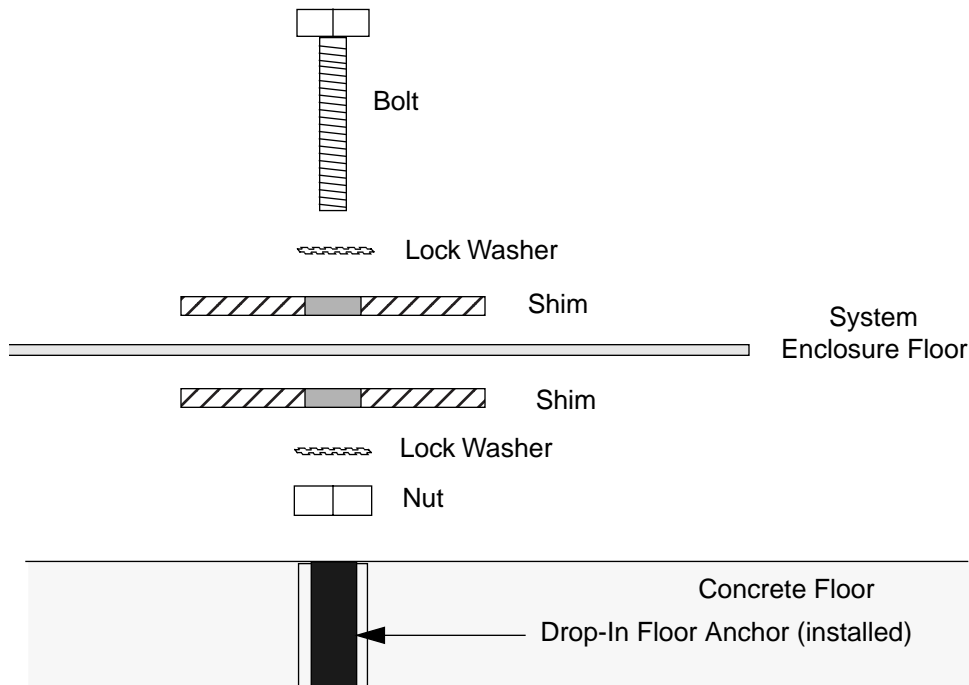


Figure 12: Installing The Earthquake Zone 2 Hardware

2. Repeat Step 1 for all other mounting holes.

NOTE: To access the holes in the front of the system, tip the power supply bucket and reach towards the front of the system. You may not be able to see the holes, but there is enough clearance for you to feel the hole and maneuver the hardware into position.

3. From inside the system, tighten each bolt a little at a time and move on to the next until you have securely tightened all bolts into the drop-in floor anchors. This method of tightening distributes the pressure evenly.

4. Holding the bolts in place, tighten the nuts from underneath the system as shown in Figure 14. Use the same “a little at a time” method for tightening the nuts as described in Step 3.

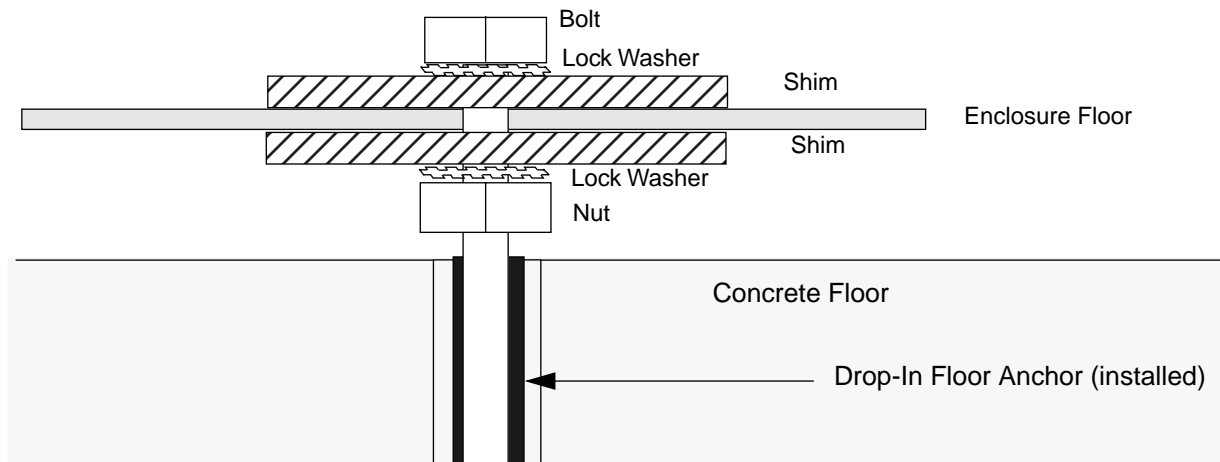


Figure 13: Tightening The Earthquake 2 Nuts

5. The floor anchor procedures are complete. Go to the section entitled *Reassembling The System*.

Installing Floor Bolts In An Earthquake Zone 4 Environment

To install the floor bolts in an Earthquake Zone 4 environment, complete the following steps:

1. Verify that the shims are still in place as shown in Figure 4
2. Install the bolt and lock washer as shown in Figure 12.

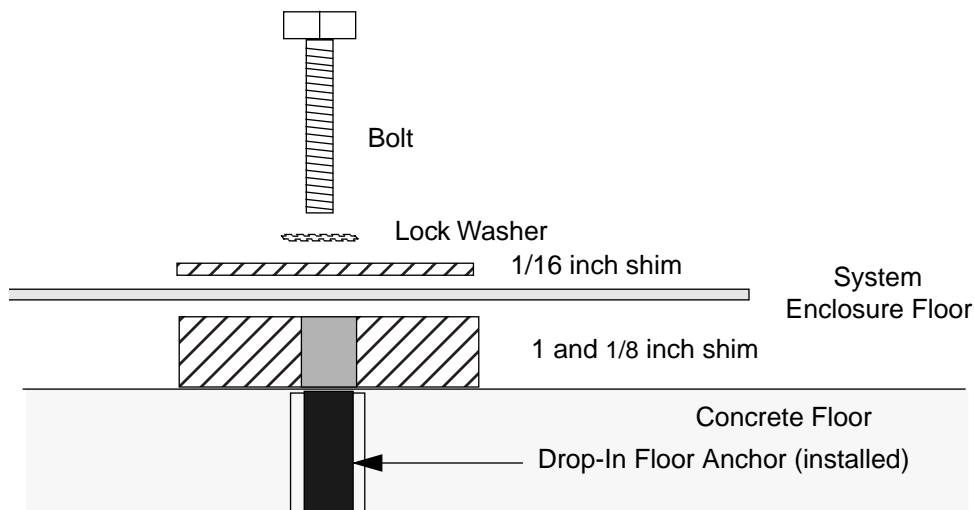


Figure 14: Installing The Earthquake Zone 2 Hardware

3. Repeat Step 1 for all other mounting holes.

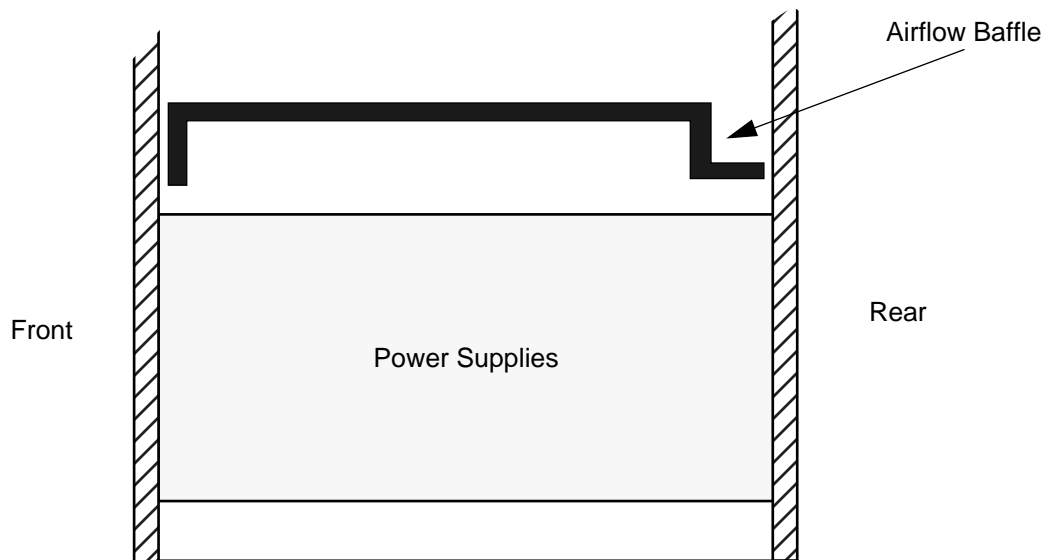
NOTE: To access the holes in the front of the system, tip the power supply bucket and reach towards the front of the system. You may not be able to see the holes, but there is enough clearance for you to feel the hole and maneuver the hardware into position.

4. Insert the 1/16 inch shims between the floor and the 1 and 1/8 thick shims until no more shims can fit under the system. The shims must be applied evenly to each bolt and inserted one at a time. That is, before you add the second shim to bolt 1, you must add the first shims to bolts 2, 3, and 4. You may have to gently tap the last shims in place.
5. The floor anchor procedures are complete. Go the section entitled *Reassembling The System*.

Reassembling The System

CAUTION: Before beginning the reassembly of the system, verify that all wires are neatly dressed and clear from obstructions.

1. From the back of the system, replace the rear kick panel. (See Figure 9)
2. Replace the airflow baffle as shown in Figure 15.



Side View Of System

Figure 15: Replacing The Airflow Baffle

- a. From the front of the system, carefully begin to slide the air baffle into the rack.
- b. When the airflow baffle is partially in the rack, go to the back of the system and lift cables above the baffle.
- c. From the front of the system, pull the baffle forward until it is properly seated.
- d. Replace the airflow bracket and screws.

CAUTION: The airflow baffle must be installed exactly as shown in Figure 15. Do not force the airflow baffle into place. If you encounter any resistance, check the wiring and cables.

3. Replace the power supply bucket.
 - a. Carefully lift the bucket and slowly start pushing it slowly back into the rack. Watch the wiring to ensure it does not get pinched or damaged.
 - b. When the bucket is approximately half way back into the rack, go to the back of the system and dress the wiring as required.
 - c. Return to the front of the system and continue to slide the power supply bucket back into position.

CAUTION: Do not force the bucket into the rack. Forcing the bucket in place could cause damage to the wiring.

- d. When the bucket is seated in position, review the wiring one more time to assure that the wires are not pinched or damaged.
 - e. Go to the front of the system and replace the bucket screws.
4. From the front of the system, carefully replace the power supplies in the exact location from which they were removed and lock them in place.

CAUTION: The power supplies must be replaced in their original location.

5. Replace the power supply blank panels, if necessary.
6. From the back of the system, replace the power supply bucket cover and the control subrack back panel. (See Figure 5)

CAUTION: Use extreme caution to avoid pinching the wiring.

7. If your system has an optional rear door, replace the door.

The installation of the Earthquake Anchor Kit(s) is complete. Refer to the *VCO/80 Installation Manual* for further instructions on installing the system.