# TABLE OF CONTENTS

# 1- REPLACEMENT PROCEDURE

## Manpower Requirements

2 (two) people are needed to lift fan

- Total Fan Assembly Weight: 114 lbs.
- Total Fan Motor/Blower Weight: 48 lbs.

## 1-1 Tools and Instruments Required

| Item | Description | Part Number |
|---|---|---|
| 1. | Fan Assembly (Motor & Turbine Only) | FRU # 2181131 |
| 2. | Ladder | |
| 3. | 2- Phillips-head screwdriver (Standard & small sizes/short shaft handle or offset) | |
| 4. | Wrench (Metric 14 & small adjustable crescent wrench) | |
| 5. | 1 Open end adjustable hex wrench | |
| 6. | 1 pair of Gloves | |
| 7. | Ty-wrap cutters | |
| 8. | 1 Ty-wrap | |

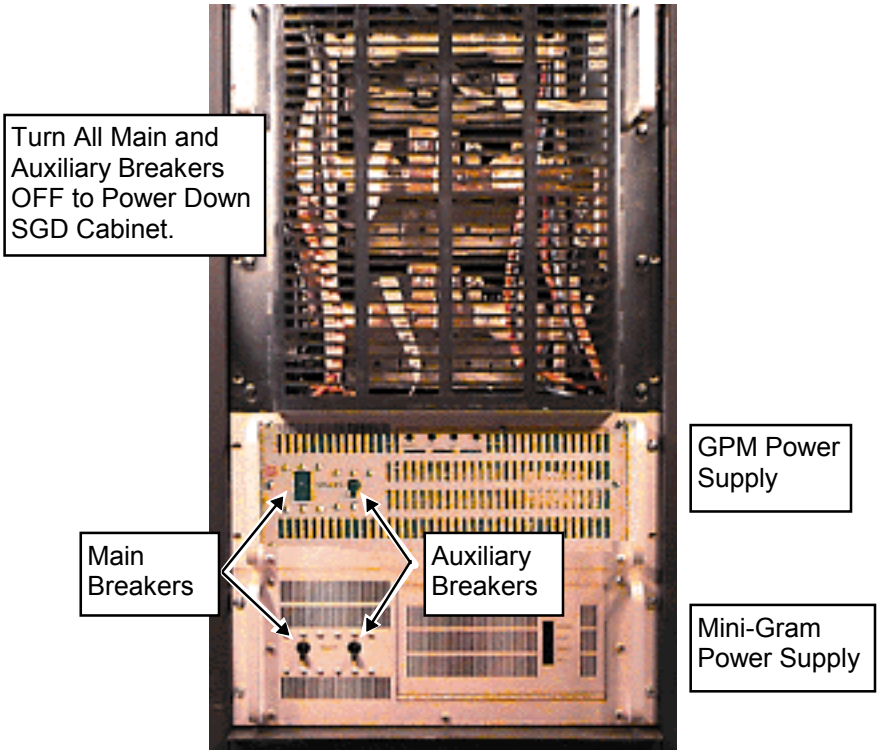
## 1-2 Preliminary Set Up Procedure

**DANGER!!**

**FATAL ELECTRIC SHOCK HAZARD!! TO PREVENT FATAL ELECTRIC SHOCK, DISCONNECT POWER FROM THE PDU BEFORE YOU PERFORM THE FOLLOWING PROCEDURES. PERFORM LOCKOUT / TAGOUT PROCEDURE PER GE OSHA LOCKOUT / TAGOUT REQUIREMENTS LISTED IN THE *FIELD SERVICE EHS MANUAL & TRAINING 2000* P/N 2135387-200.**

1. Power down the system according to the directions posted in the equipment room.

2. Power down SGD Cabinet by turning off the Main Breakers and Auxiliary Breakers on the Front Panel of **both** the Mini-GRAM Power Supply and the Gradient Power Module Power Supply. See Illustration 1-1.




**SGD HI-SLEW CABINET—LOWER HALF (FRONT COVER REMOVED)**
ILLUSTRATION 1-1

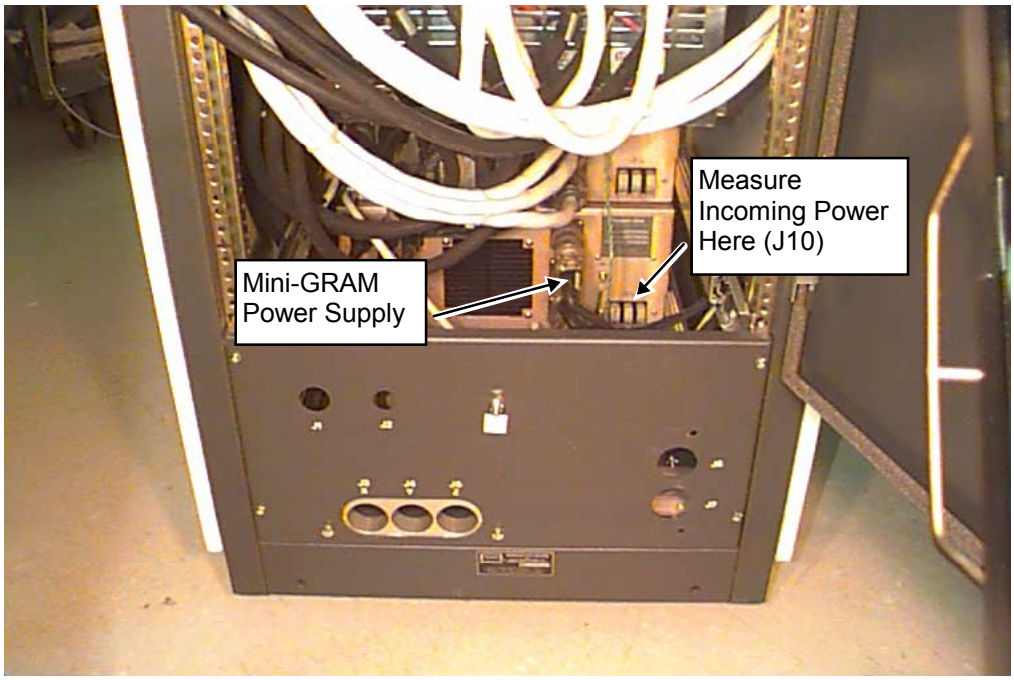
3. Turn off the SGD Cabinet Breaker at the Power Distribution Unit. Lock out the Breaker and tag it.

4. After power to the SGD Cabinet has been removed, take a Digital Multimeter and set it to its highest AC voltage range.

5. Verify that all energy has been dissipated. Measure incoming power to all components of the Scaleable Gradient Cabinet as directed in steps 6 and 7.

6. Measure incoming power to the Mini-GRAM Power Supply as follows:

   - Place the reference probe (black) on the SGD Cabinet Ground.
   - Locate J10. This is the 208V, 3 Phase input to the Mini-GRAM Power Supply.
   - Measure voltage at each of three 208 Volt input terminals. The meter should read 0 Volts AC at each of the three measuring points. See Illustration 1-2.

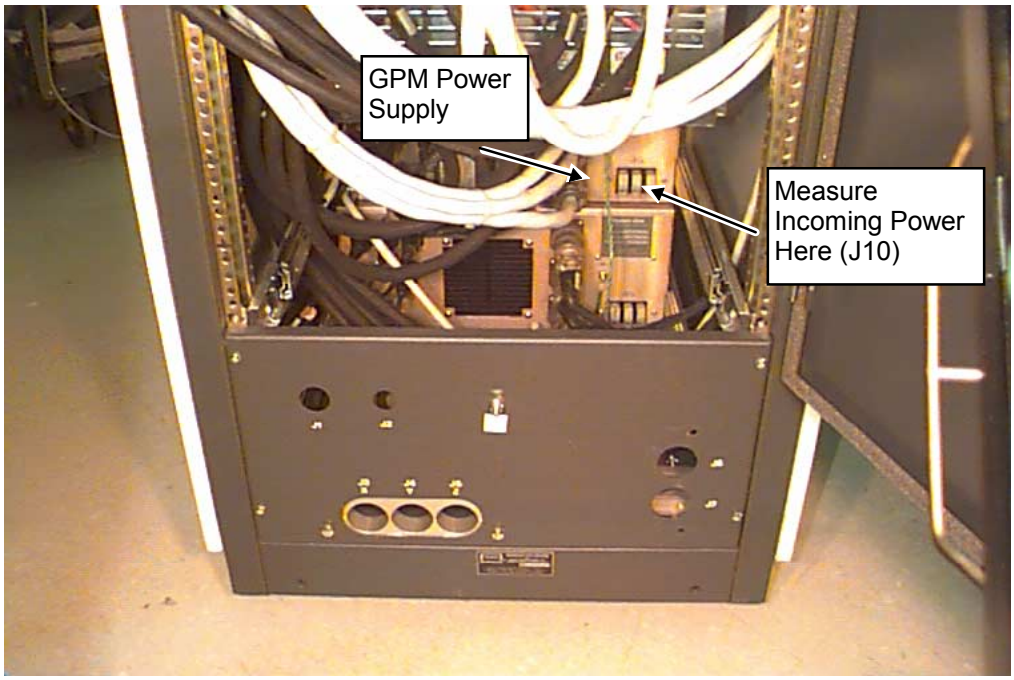



**SGD CABINET—REAR VIEW: INCOMING POWER MEASUREMENT LOCATIONS**
ILLUSTRATION 1-2

## 1-2 Preliminary Setup Procedure (continued)

7. Measure voltage at the GPM Power Supply as follows:

   - Place the reference probe (black) on the SGD Cabinet Ground.
   - Locate J-10. This is the 208V, 3 Phase input to the GPM Power Supply.
   - Place the red probe on each of three 208 Volt input terminals: L1, L2, and L3. The meter should read 0 Volts AC at each of the three measuring points. See Illustration 1-3.




**SGD CABINET—REAR VIEW: INCOMING POWER MEASUREMENT LOCATIONS**
ILLUSTRATION 1-3

## 1-3 Fan Removal/Replacement Procedure Steps

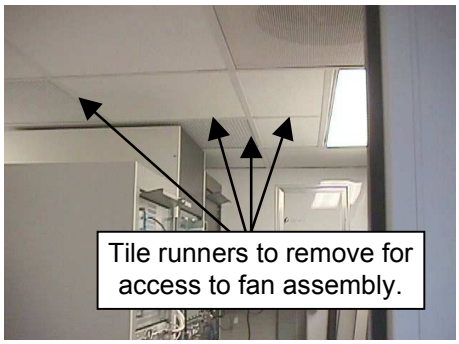
**Note**

The Fan Motor/Blower weighs 48 lbs. The procedure requires two people to remove the fan motor/blower from the cabinet.

1. Using the ladder, remove the 5 (five) ceiling tiles over and in the front of the SGD Gradient cabinet. See Illustration 1-4.

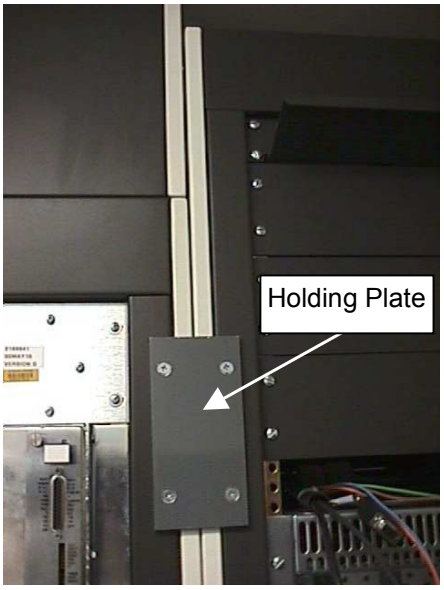

**CEILING TILES REMOVED**
ILLUSTRATION 1-4

2. Remove ceiling tile runners. See Illustration 1-5.




**TILE RUNNER LOCATIONS**
ILLUSTRATION 1-5

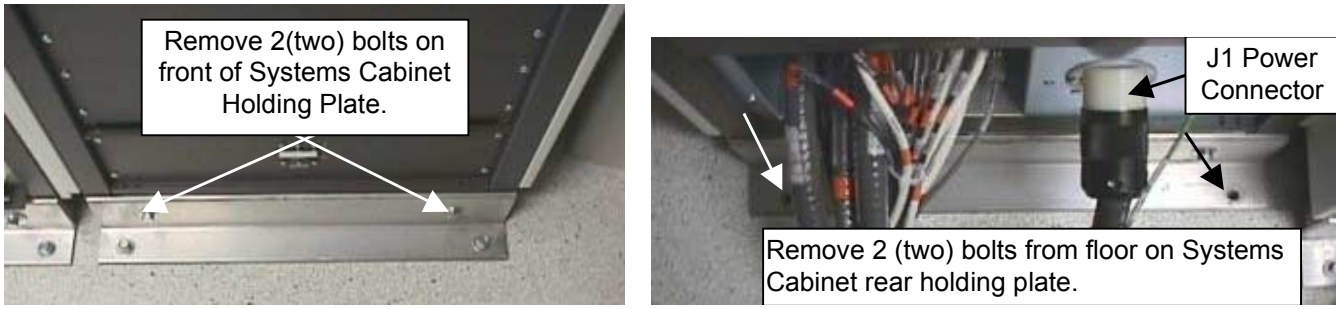
3. Using a large phillips screwdriver, remove 4 (four) screws of the holding plate. See Illustration 1-6.




**HOLDING PLATE BETWEEN GRADIENT AND SYSTEM CABINETS**
ILLUSTRATION 1-6

4. Remove holding plate.

5. Unbolt the systems cabinet from floor using the adjustable open-end hex wrench. See Illustration 1-7.




**HOLDING PLATE LOCATIONS**
ILLUSTRATION 1-7

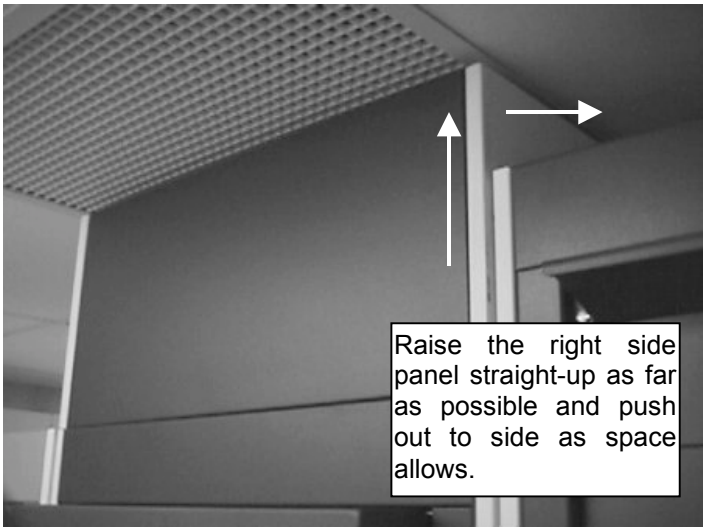
6. Remove J1 power connector at rear of Systems Cabinet. See Illustration 1-7.

7. Push the Systems Cabinet back from the front until able to access the screw on the side panel of the Fan Assembly. See Illustration 1-8.


**FAN SIDE PANEL SCREW LOCATION**
ILLUSTRATION 1-8

8. Remove two (2) phillips-head screws from each fan side panel.

9. Remove left side panel and lift the right side panel up and out. See Illustration 1-9.

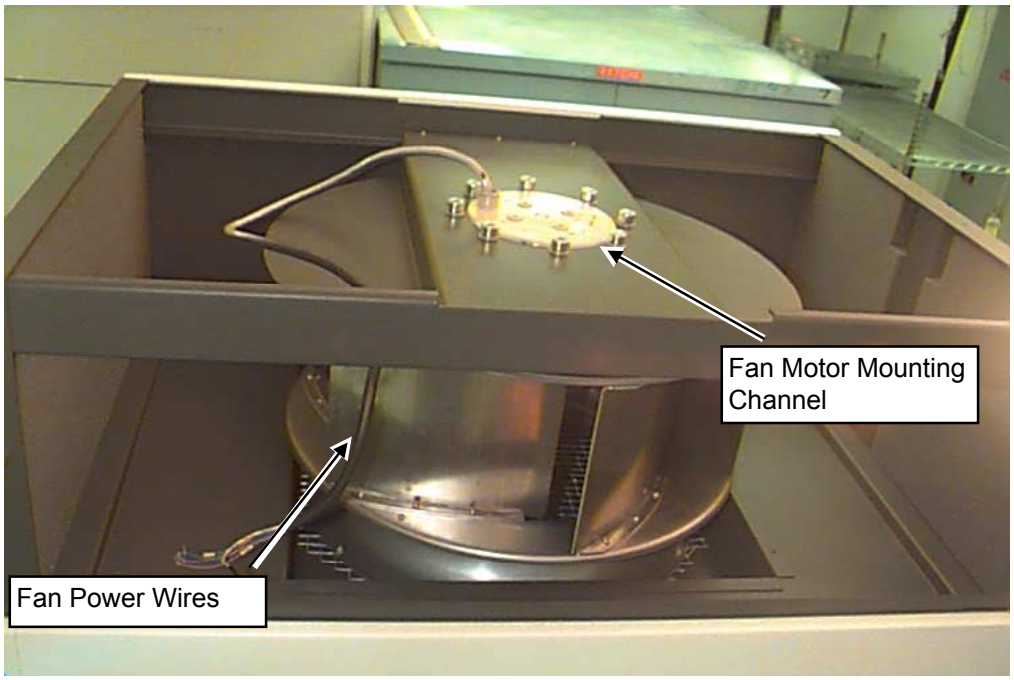



**FAN ASSEMBLY SIDE PANEL INSTRUCTIONS**
ILLUSTRATION 1-9

10. Using ladder to access top of fan assembly, lift the left side of the top grill and pull the left side out of the right side panel.

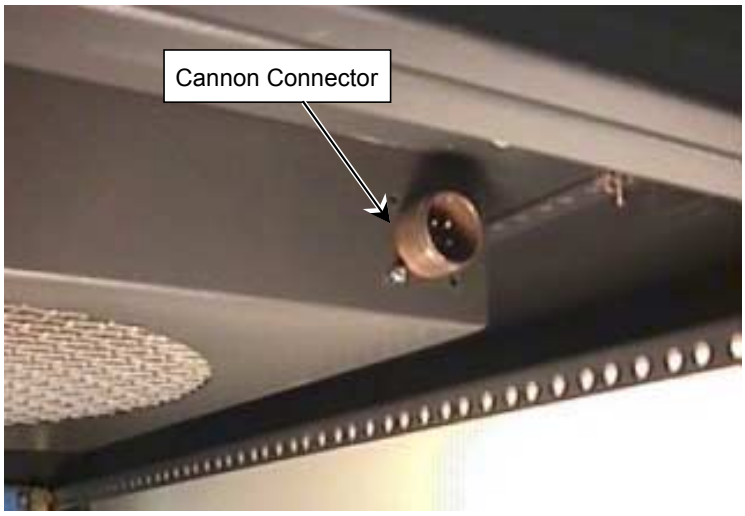
11. Remove the Fan Enclosure Top Grill.

10. Locate the cable that contains the power wires leading directly to the Fan Motor. This cable is terminated with a cannon connector. See Illustration 1-10.




**SGD CABINET FAN ENCLOSURE—INSIDE VIEW**
ILLUSTRATION 1-10

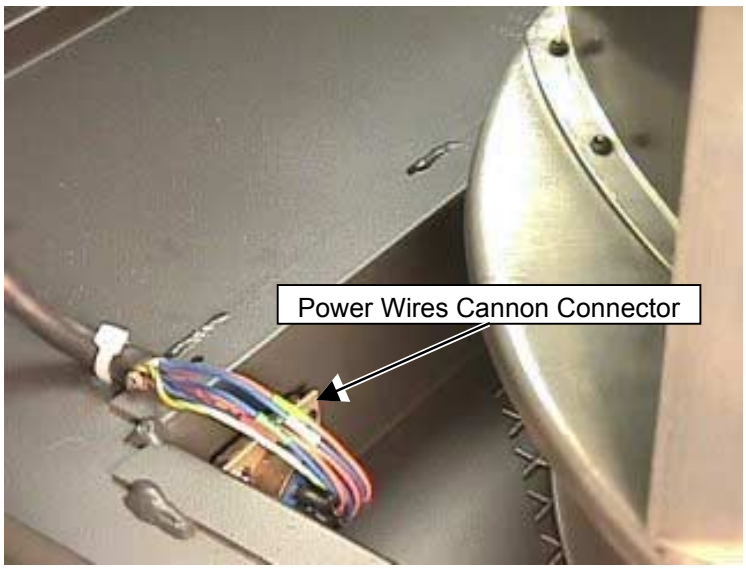
11. Locate the cannon connector from the inside of the Fan Enclosure and remove the power cable. See Illustration 1-11.




**CANNON CONNECTOR LOCATION–REAR INSIDE VIEW OF CABINET**
ILLUSTRATION 1-11

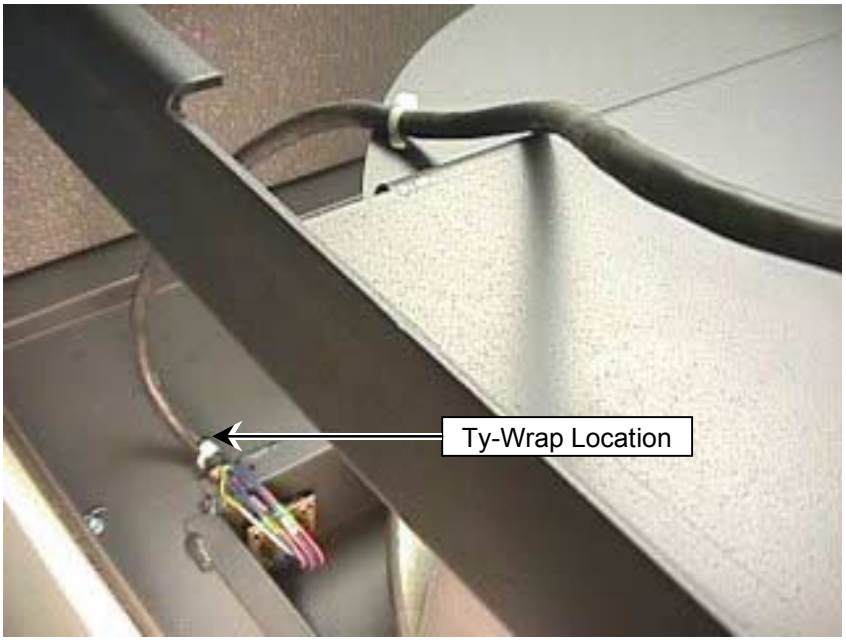
12. Remove 4 screws, using small phillips screwdriver, holding the connector in place. See Illustration 1-11.

13. Remove the fan cannon connector from inside the fan motor/blower assembly. See Illustration 1-12.



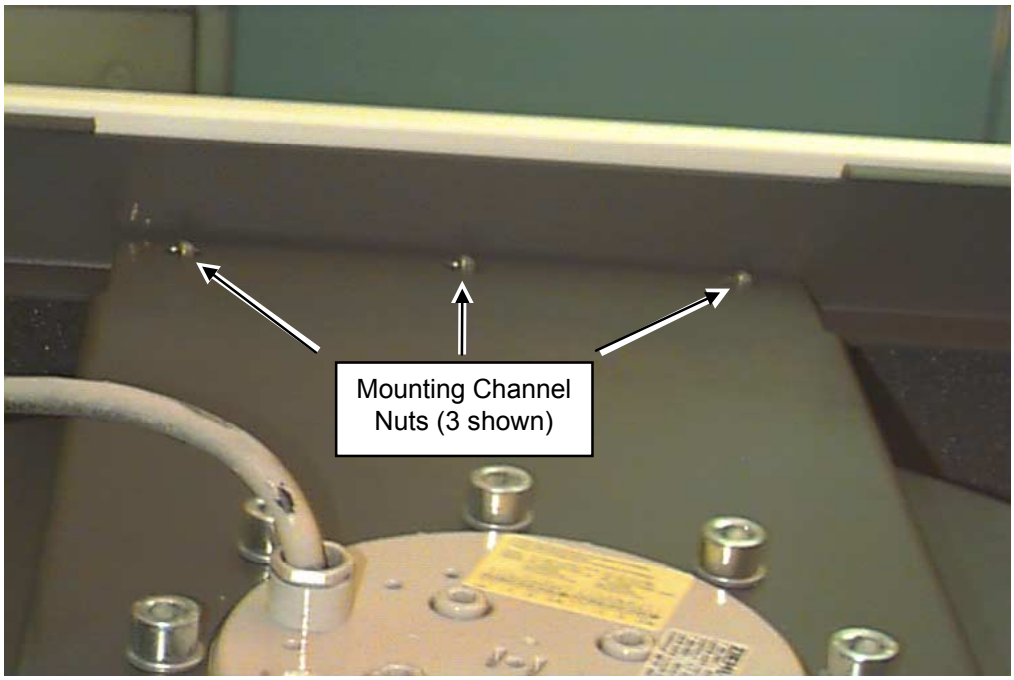

**CANNON CONNECTOR LOCATION IN FAN ASSEMBLY**
ILLUSTRATION 1-12

14. Cut Ty-wraps, see Illustration 1-13.




**TY-WRAP LOCATIONS**
ILLUSTRATION 1-13

15. Remove the six (6) 11/32” or 9mm hex nuts that secure the Fan Motor Mounting Channel to the Fan Enclosure. See Illustration 1-14.




**SGD CABINET FAN MOTOR MOUNTING CHANNEL**
ILLUSTRATION 1-14

**CAUTION**

**Personal injury may occur. The fan motor/blower assembly has sharp edges, wear protective gloves to avoid injury when removing from the fan assembly box.**

16. Use two people to grasp the Fan Motor Mounting bracket and lift it up and out of the Fan Enclosure.

17. Reverse the order of the above steps to install the fan replacement.

### 1-4 Functional Tests Required

Power up the SGD cabinet and verify the fan operates. The fan should create enough suction to hold the rear cabinet door closed.

# REVISION HISTORY

| REV | DATE | AUTHOR | PRIMARY REASONS FOR CHANGE |
|---|---|---|---|
| A | August 8, 2000 | K.Keshena | Created procedure specifically for the Calumet Coach Van. |
| 0 | September 7, 2000 | K. Keshena | Initial Release. |
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