

INSTALLATION INSTRUCTIONS

Original Issue Date: 4/96

Model: 20-2000 kW Generator Sets

Market: Industrial

Subject: Inner Tank Leak Alarm Kits PA-226203, PA-226203-SD, PA-226204, PA-226204-SD

Introduction

The inner tank leak alarm indicates the inner tank has leaked into the outer tank and the double-wall subbase fuel tank needs replacement. See Figure 1.

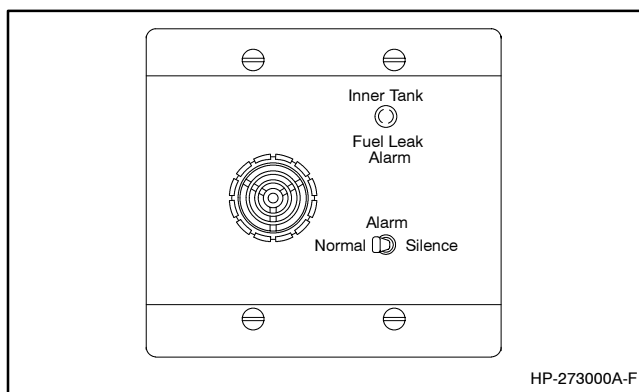


Figure 1 Inner Tank Leak Alarm Panel

Tools Required

- Electric drill
- Drill bit 3/16 in.
- 3/8 in. hex driver

Leak Alarm Panel Function

Use the Figure 2 table to identify leak alarm conditions.

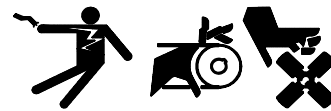
Alarm Switch Position	Float Switch Position	Horn/Lamp Functions
Normal	Open	The alarm horn and the lamp are not energized.
Normal	Closed	The alarm horn and lamp activate when a fuel leak occurs. If the alarm switch is moved to the silence position, the lamp stays on until the fuel leak fault is corrected.
Silence	Open	The alarm horn sounds to alert the user that the alarm horn switch is not in the normal position and that the alarm horn will not sound should a fuel leak occur.

Figure 2 Leak Alarm Function

Safety Precautions

Observe the following safety precautions while installing the kit.

⚠ WARNING

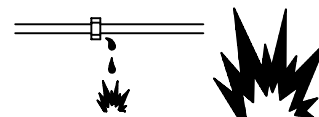


Accidental starting.
Can cause severe injury or death.

Disconnect the battery cables before working on the generator set. Remove the negative (-) lead first when disconnecting the battery. Reconnect the negative (-) lead last when reconnecting the battery.

Disabling the generator set. Accidental starting can cause severe injury or death. Before working on the generator set or connected equipment, disable the generator set as follows: (1) Move the generator set master switch to the OFF position. (2) Disconnect the power to the battery charger. (3) Remove the battery cables, negative (-) lead first. Reconnect the negative (-) lead last when reconnecting the battery. Follow these precautions to prevent starting of the generator set by an automatic transfer switch, remote start/stop switch, or engine start command from a remote computer.

⚠ WARNING



Explosive fuel vapors.
Can cause severe injury or death.

Use extreme care when handling, storing, and using fuels.

Read the entire installation procedure and compare the kit parts with the parts list in this publication before beginning installation. Perform the steps in the order shown.

Installation Procedure

This installation instruction provides recommended locations. Select the location and position of the leak alarm front panel where access and visibility is optimum for the application and within the limits of the wiring harness.

Refer to Figure 3 with kit PA-226203/PA-226203-SD and Figure 4 with kit PA-226204/PA-226204-SD.

1. Removing the generator set from service.

- 1.1 Place the generator set master switch in the OFF/RESET position.
- 1.2 Disconnect the power to the battery charger.
- 1.3 Disconnect the generator set engine starting battery(ies), negative (-) lead first.
- 1.4 Remove the junction box doors.

2. Mounting the leak alarm kit components.

- 2.1 Remove the pipe plug from the fuel tank for the leak alarm sensor. See Figure 3 or Figure 4 for pipe plug location.
- 2.2 Remove any tape or banding from the leak alarm sensor. Apply pipe sealant to the threads of the leak alarm sensor (A-226201) and install in the fuel tank. See Figure 3 or Figure 4, Detail D, for leak alarm sensor position.
- 2.3 **Kit PA-226204/PA-226204-SD only.** Use bracket (336505) as a template and drill two 3/16 in. dia. holes in junction box. See corresponding illustration in Figure 4 for location. Deburr the holes and clean up any metal chips. Attach leak alarm bracket (336505) to the junction box (J-box) using two drill screws (X-794-1).

- 2.4 **Kit PA-226203/PA-226203-SD only.** Attach leak alarm bracket (336505) to the junction box (J-box) using two screws (X-51-11) and nuts (X-6210-4) in the predrilled holes.

- 2.5 Place the annunciator box assembly (A-224861) on the alarm bracket and secure with three nuts (X-6210-4). See Figure 3 or Figure 4. Position the leak alarm front panel where access and visibility is optimum for the application.

3. Wiring the leak alarm kit.

- 3.1 Connect the leak alarm wiring harness (226207 or 226208) to the annunciator box assembly and the leak alarm sensor. See Figure 3 or Figure 4.
- 3.2 Connect the wiring harness positive (+) lead to either the engine starting battery(ies) or starter solenoid battery positive terminal. See illustrations in Figure 3 or Figure 4.
- 3.3 Connect the wiring harness negative (-) lead to either the engine starting battery(ies) negative terminal or the engine block ground. See illustrations in Figure 3 or Figure 4.

Kit PA-226204/PA-226204-SD only. Replace N terminal with ring terminal (X-283-21) as needed.

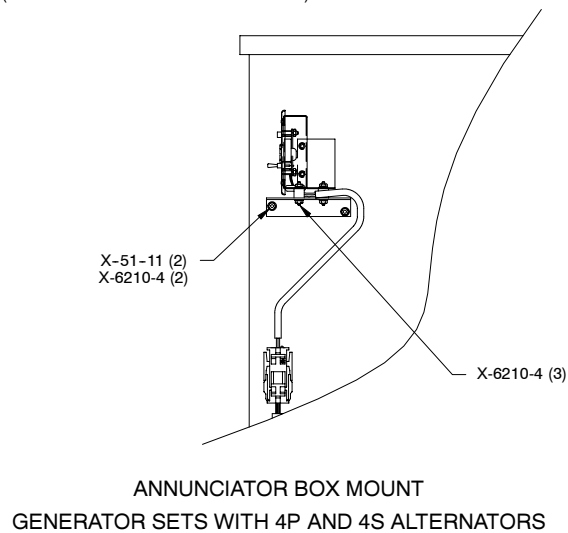
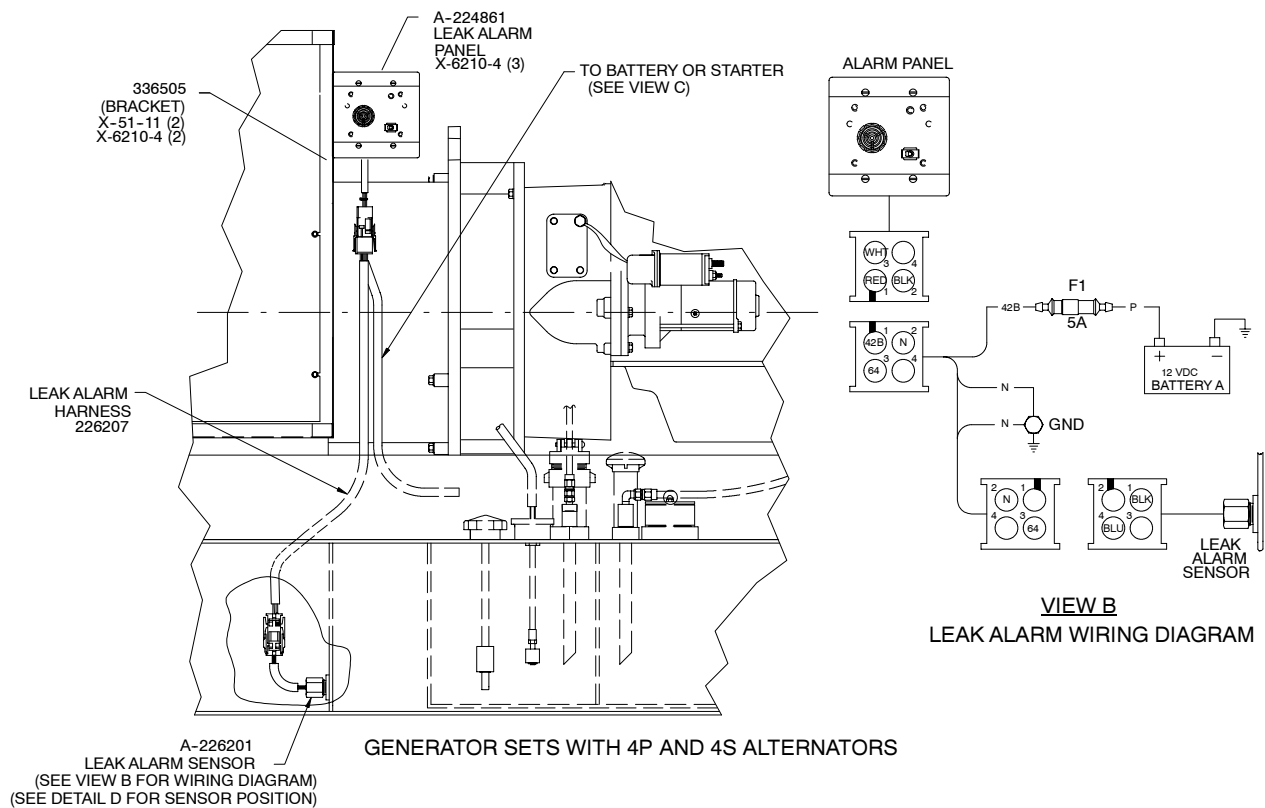
4. Restoring the generator set to service.

- 4.1 Replace the junction box doors.
- 4.2 Check that the generator set master switch is in the OFF position.
- 4.3 Reconnect the generator set engine starting battery, negative (-) lead last.
- 4.4 Reconnect power to the battery charger and block heater as required.
- 4.5 Place the inner tank leak alarm panel switch to the NORMAL position.

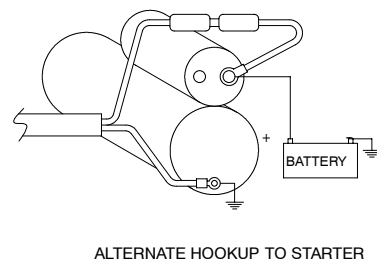
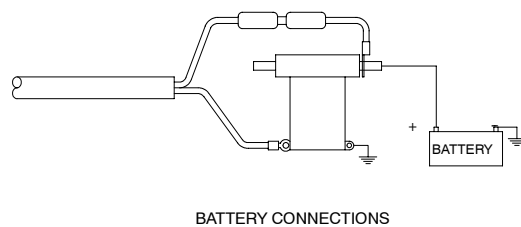
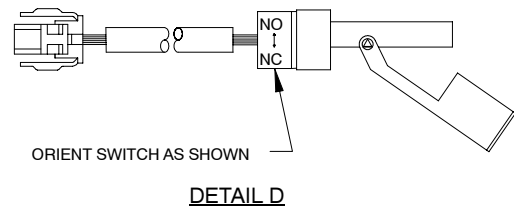
Parts List

Inner Tank Leak Alarm Kits

Parts List				
Kits: PA-226203, PA-226203-SD, PA-226204, PA-226204-SD				
Qty.	Description	Common Parts	PA-226203, PA-226203-SD	PA-226204, PA-226204-SD
2	Screw, drill			X-794-1
2	Screw, 8-32 x 3/4		X-51-11	
5	Nut, 8-32 whiz		X-6210-4	
3	Nut, 8-32 whiz			X-6210-4
1	Terminal, ring			X-283-21
1	Box, annunciator	A-224861		
1	Sensor, leak alarm	A-226201		
1	Harness, leak alarm wiring		226207	226208
1	Bracket, leak alarm	336505		



NOTE:
REMOVE ANY TAPE OR BANDING FROM FLOAT
BEFORE INSTALLATION INTO TANK BASIN.

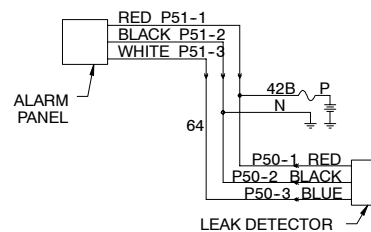
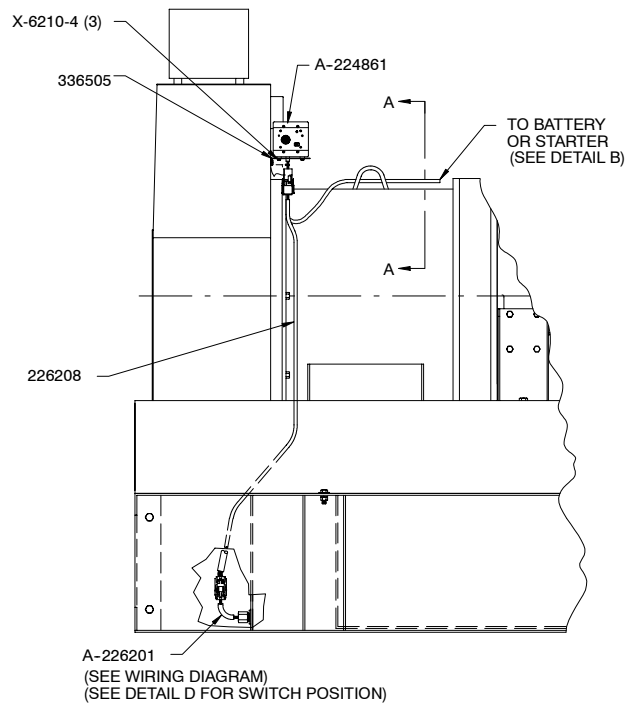


VIEW C

Note: Dimensions shown are in inches; 1 in. equals 25.4 mm.

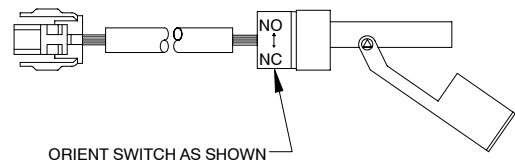
HP-273000A/B-F

Figure 3 20-180 kW Generator Sets Using Inner Tank Leak Alarm Kit PA-226203/PA-226203-SD

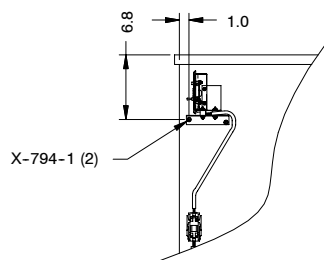


WIRING DIAGRAM

NOTE:
REMOVE ANY TAPE OR BANDING FROM FLOAT
BEFORE INSTALLATION INTO TANK BASIN.

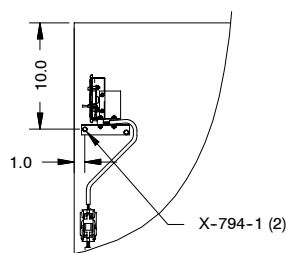


DETAIL D



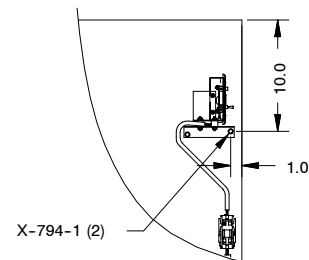
VIEW A-A

20-400 kW J-BOX
ANNUNCIATOR BOX MOUNTING
DRILL (2) $\varnothing$.188 HOLES
USE BRACKET AS TEMPLATE



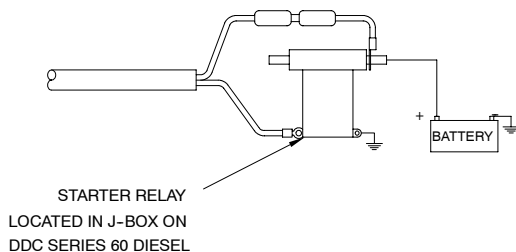
VIEW A-A

350-2000 kW J-BOX
ANNUNCIATOR BOX MOUNTING
HOLE LOCATIONS
DRILL (2) $\varnothing$.188 HOLES
USE BRACKET AS TEMPLATE



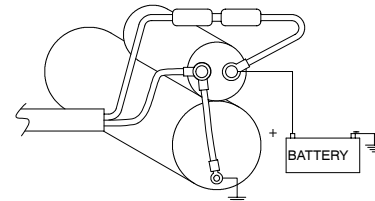
VIEW A-A

350-2000 kW J-BOX
ANNUNCIATOR BOX MOUNTING
HOLE LOCATIONS
WHEN J-BOX IS
EQUIPPED WITH CIRCUIT BREAKER
EXTENSION BOX
DRILL (2) $\varnothing$.188 HOLES
USE BRACKET AS TEMPLATE



BATTERY CONNECTIONS

DETAIL B



ALTERNATE HOOKUP TO STARTER

Note: Dimensions shown are in inches; 1 in. equals 25.4 mm.

AB-343000-H

Figure 4 200-2000 kW Generator Sets Using Inner Tank Leak Alarm Kit PA-226204/PA-226204-SD