

INSTALLATION INSTRUCTIONS

Original Issue Date: **2/99**

Model: **1250-2000 kW (Detroit Diesel Series 4000 Engines)**

Market: **Industrial**

Subject: **Audio/Visual Alarm Kits PA-361937 and PA-361937-SD**

The audio/visual (A/V) alarm warns the operator at a remote location of fault shutdowns and prealarm conditions (except battery charger fault and low battery voltage). The A/V alarm kit includes an alarm horn, an alarm silence switch, and a common fault lamp. See Figure 1. If a fault shutdown or prealarm condition occurs, the alarm horn sounds and the common fault lamp lights. Quiet the alarm horn by moving the A/V alarm switch to the SILENCE position; the A/V lamp remains lit until the fault is corrected. See the Resetting section following. Mount the A/V alarm(s) in a location observable by operating personnel at a normal workstation.

NOTE

Connect any combination of A/V alarms and/or remote annunciators, totaling up to three kits, to the customer interface terminal strip.

NOTE

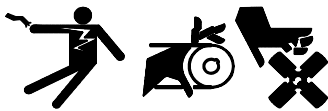
The A/V alarm kit requires a failure relay kit, a common failure relay kit, or a dry contact kit.

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.

NOTE

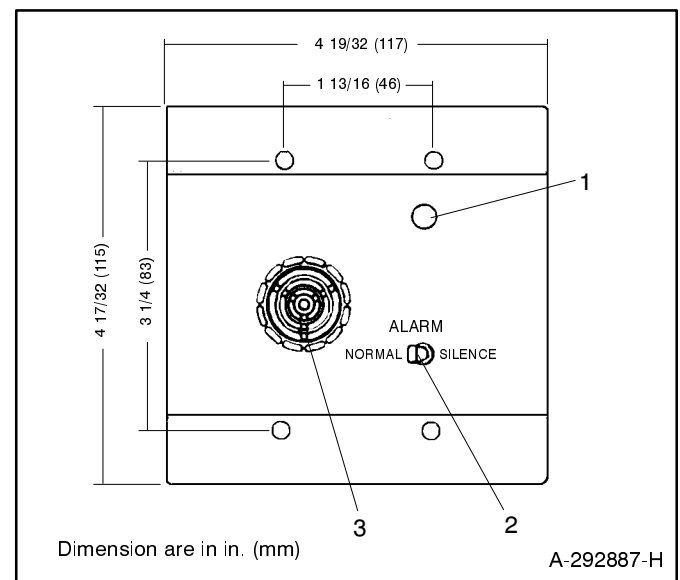
Observe applicable local, state, and national electrical codes when installing the A/V alarm wiring system.

⚠ 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.



- 1. Common fault lamp
- 2. Alarm silence switch
- 3. Alarm horn

Figure 1. A/V Alarm Panel

Installation

1. Place the generator set master switch in the OFF position.
2. Disconnect the power to the battery charger, if equipped.
3. Disconnect the generator set engine starting battery(ies), negative (-) lead first.
4. Remove the two screws securing the inner panel access door to the junction box. See Figure 2.
5. Secure the customer interface terminal strip (328913) and the terminal strip marker (328914) to the junction box inner panel with screws (X-49-36) and whiz nuts (X-6210-3). See Figure 2 for mounting location.

6. Remove the controller cover to access the controller circuit board.
7. Determine which wiring diagram to use by identifying the type of generator set controller by the circuit board part number on the controller circuit board. The alphacharacter in the circuit board part number may be different from the one shown. See Figure 3.

Connect the kit-supplied leads between the controller circuit board and the customer interface terminal strip. Route the leads through the junction box and up into the controller through the controller port and harness loops. See Figure 4 or Figure 5 for wiring.

Circuit Board Part Number	Terminal Strip Qty.	Wiring Diagram
A-336415	TB1 and TB2	Figure 4
A-352160	TB1, TB2, TB3, and TB4	Figure 5

Figure 3. Generator Set Controller Identification

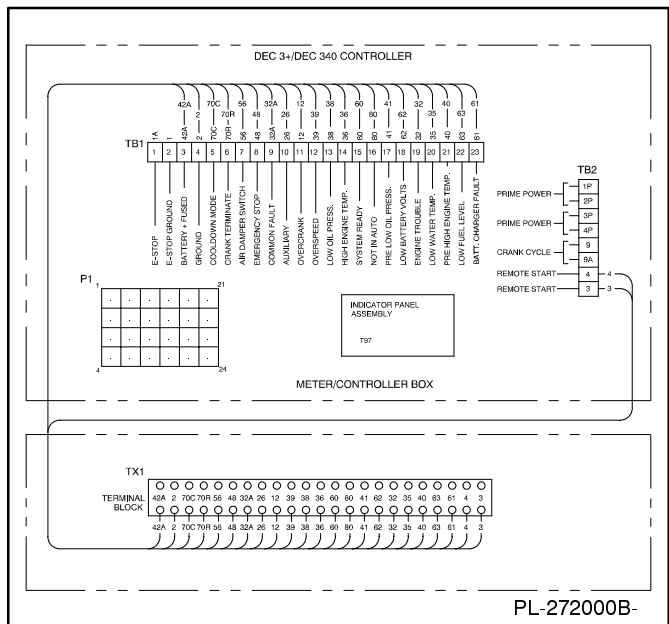
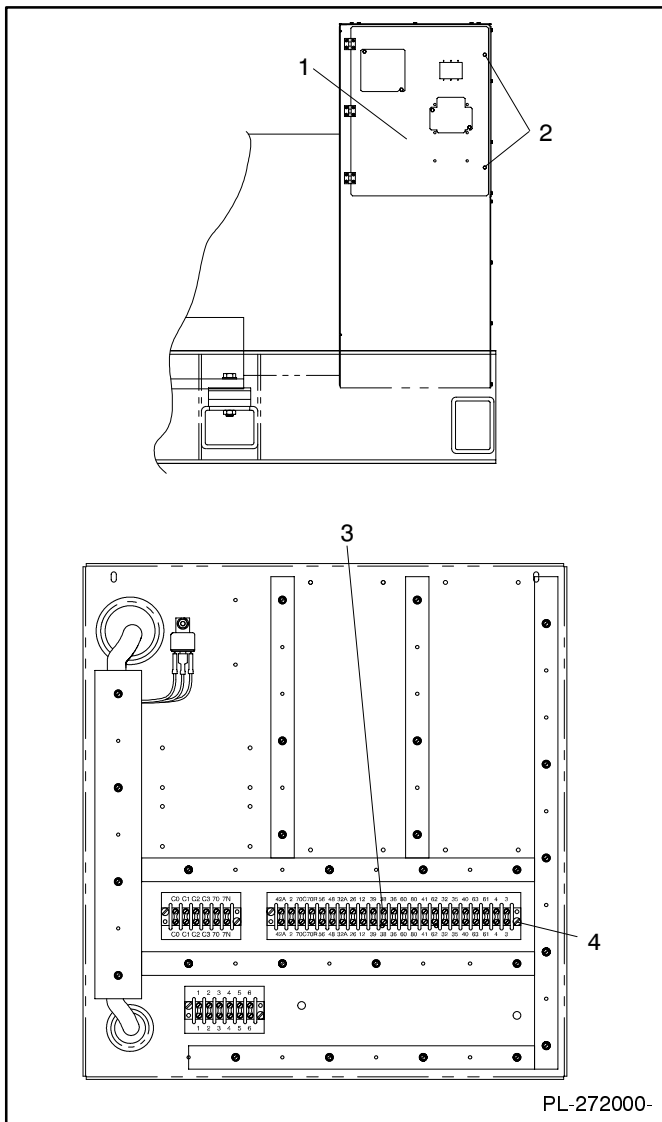


Figure 4. Customer Interface Terminal Block Wiring with Controller Circuit Board A-336415



1. Inner panel access door
2. Access door bolts
3. Customer interface terminal strip (328913) and terminal strip marker (328914)
4. Screws, #6-32 x 0.625 in. (X-49-36), and #6-32 whiz nuts (X-6210-3)

Figure 2. Inner Panel

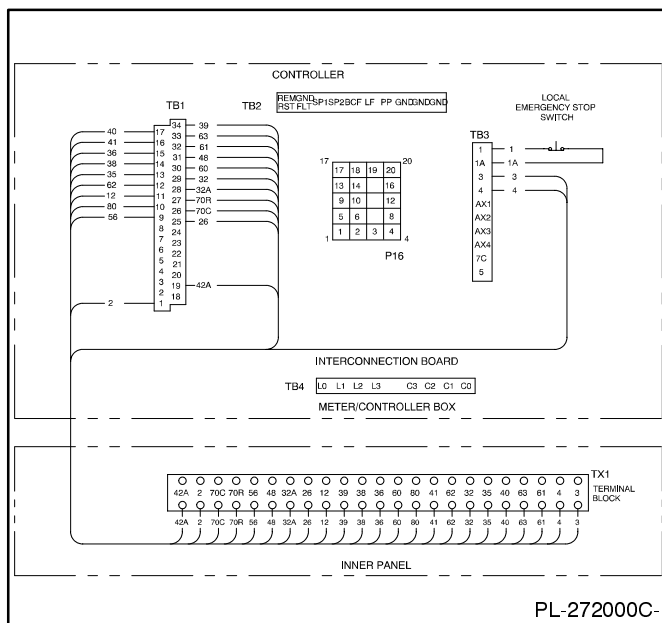
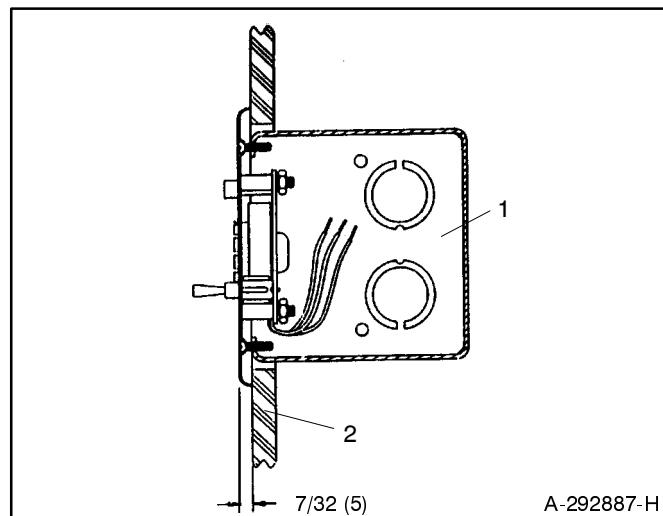


Figure 5. Customer Interface Terminal Block Wiring with Controller Circuit Board A-352160

8. Reinstall the controller cover.
9. Mount a two-gang electrical box (not supplied) in a location selected for the A/V alarm(s). Mount the electrical box(es) flush with the surrounding wall surface. See Figure 6.
10. Cut three lengths of 18-gauge (minimum) stranded wire long enough to connect each A/V alarm to the inner panel customer interface terminal strip. Use color-coded wires for easy identification. Make wires long enough to allow routing through walls and ductwork and around obstructions.
11. Strip one end of each wire and connect the wires to the A/V panel leads 2 (black), 32 (white), and 42A (red). Secure wire connections with wire nuts (not supplied). Attach the A/V panel to the electrical box with four machine screws (292828).
12. Route the alarm leads through the junction box port to the inner panel customer interface terminal strip. Cut the lead connected to A/V terminal 2 (black) to length. Strip the end and connect the lead to the customer interface terminal strip terminal 2. Repeat the procedure for leads 32 (white) and 42A (red).
13. Close the inner panel access door and reinstall the two screws removed in step 4.
14. Check that the generator set master switch is in the OFF position.
15. Reconnect the generator set engine starting battery, negative (-) lead last.
16. Reconnect the power to the battery charger, if equipped.

17. Move the generator master switch to the AUTO position for startup by a remote transfer switch or remote start/stop switch.
18. Move the A/V alarm switch to the NORMAL position. The A/V alarm lamp should not be lit. If the alarm horn sounds or the lamp remains lit, refer to the Resetting section following.



1. Electrical box
2. Wall

Figure 6. Electrical Box Mounting

Resetting

Use the following procedure to reset the controller and A/V alarm after a fault alarm.

1. Move the controller alarm horn switch to the SILENCE position. Move the A/V alarm switch to the SILENCE position to stop the alarm horn. The A/V lamp remains lit.
2. Disconnect the generator set from the load with the line circuit breaker or automatic transfer switch.
3. Correct the cause of the fault alarm (refer to the generator set service manual).
4. Move the generator set master switch to the OFF/RESET position and then to the RUN position for startup. The A/V alarm horn sounds and the lamp darkens.
5. Verify that the cause of the alarm has been corrected.
6. Reconnect the generator set to the load via the line circuit breaker or the automatic transfer switch.
7. Move the generator set master switch to the AUTO position for startup by a remote transfer switch or a remote start/stop switch. Move the A/V alarm switch to the NORMAL position.
8. Move the controller alarm horn switch to the NORMAL position.

A/V Alarm Kit

Parts List		
Kit: PA-361937, PA-361937-SD		
Qty.	Description	Part Number
1	Plate Assembly (includes *)	A-292887
1	*PCB Assembly, 1 light	A-292883
4	*Stud, self-clinching	X-6205-3
4	*Spacer	X-712-9
1	*Lens, red	253241
4	*Screw, mounting	292828
1	*Plate, silkscreened	292936
1	Lead, 2	SWO2-1873-2222
1	Lead, 3	SWO3-1861-2222
1	Lead, 4	SWO4-1861-2222
1	Lead, 12	SW12-1873-2222
1	Lead, 26	SW26-1873-2222
1	Lead, 32	SW32-1873-2222
1	Lead, 35	SW35-1873-2222
1	Lead, 36	SW36-1873-2222
1	Lead, 38	SW38-1873-2222
1	Lead, 39	SW39-1873-2222
1	Lead, 40	SW40-1873-2222
1	Lead, 41	SW41-1873-2222
1	Lead, 48	SW48-1873-2222
1	Lead, 56	SW56-1873-2222
1	Lead, 60	SW60-1873-2222
1	Lead, 61	SW61-1873-2222
1	Lead, 62	SW62-1873-2222
1	Lead, 63	SW63-1873-2222
1	Lead, 80	SW80-1873-2222
1	Lead, 32A	T32A-1873-2222
1	Lead, 42A	T42A-1873-2222
1	Lead, 70C	T70C-1873-2222
1	Lead, 70R	T70R-1873-2222
2	Screw, 6-32 x 0.625 in.	X-49-36
2	Nut, 6-32	X-6210-3
1	Strip, terminal	328913
1	Strip, marker	328914