
INSTALLATION INSTRUCTIONS

Battery Heater Kits PA-272936 and PA-272936-SD For 230-350 kW Standby Generator Sets

The battery heater kit provides a means to increase battery temperature in cold climates, allowing the battery to maintain maximum cranking power on demand. The battery warmers are connected to a thermostat for controlled heating. This kit requires that the batteries be mounted to the generator set using the optional battery rack kit. The battery warmer (plate) is rated at 200 watts and the battery heater (blanket) is rated at 80 watts.



Accidental starting.

Can cause severe injury or death.

Disconnect battery cables before working on generator set (negative lead first and reconnect it last).

Accidental starting can cause severe injury or death. Turn generator master switch to OFF position, disconnect power to battery charger, and remove battery cables (remove negative lead first and reconnect it last) to disable generator set before working on any equipment connected to generator. The generator set can be started by automatic transfer switch or remote start/stop switch unless these precautions are followed.



Sulfuric acid in batteries.

Can cause severe injury or death.

Use protective goggles and clothes. Can cause permanent damage to eyes, burn skin, and eat holes in clothing.

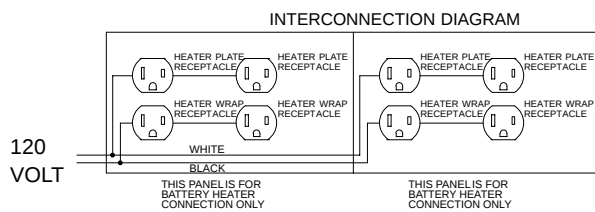
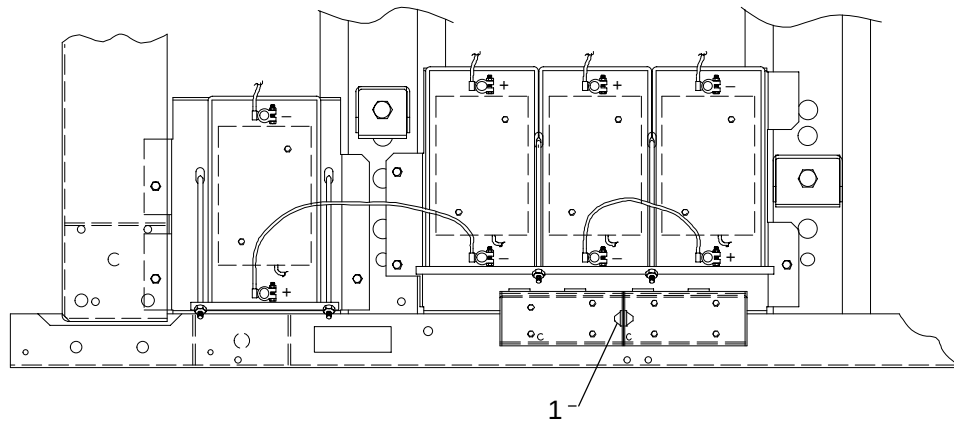
Sulfuric acid in batteries can cause severe injury or death. Sulfuric acid in battery can cause permanent damage to eyes, burn skin, and eat holes in clothing. Always wear splash-proof safety goggles when working around the battery. If battery electrolyte is splashed in the eyes or on skin, immediately flush the affected area for 15 minutes with large quantities of clean water. In the case of eye contact, seek immediate medical aid. Never add acid to a battery once the battery has been placed in service. Doing so may result in hazardous spattering of electrolyte.

Explosion can cause severe injury or death. Battery gases can cause an explosion. Do not smoke or permit flame or spark to occur near a battery at any time, particularly when it is being charged. Avoid contacting terminals with tools, etc. to prevent burns and to prevent sparks that could cause an explosion. Remove wristwatch, rings, and any other jewelry before handling battery. Never connect negative (–) battery cable to positive (+) connection terminal of starter solenoid. Do not test battery condition by shorting terminals together or sparks could ignite battery gases or fuel vapors. Any compartment containing batteries must be well ventilated to prevent accumulation of explosive gases. To avoid sparks, do not disturb battery charger connections while battery is being charged and always turn charger off before disconnecting battery connections. When disconnecting battery, remove negative lead first and reconnect it last.

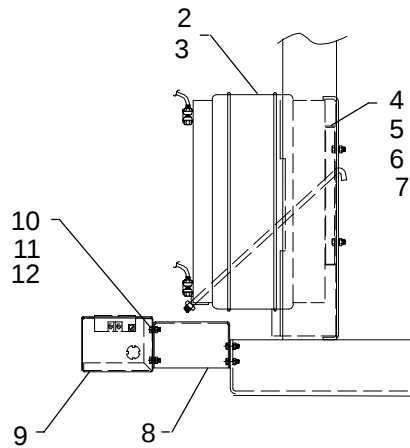
INSTALLATION

1. Move generator master switch to OFF position. Disconnect battery cables, negative lead first. Remove batteries from battery rack.
2. Install mounting bracket (272970) to generator skid with four 1/4-20 x 0.75-in. hex screws (X-465-16), 0.281 x 0.625 x 0.065-in. plain washers (X-25-40), and 1/4-20 elastic stop hex nuts (X-101-8) (see Figure 1).

3. Remove one knockout from each relay box (A-272825) and install one grommet (243035) in each opening. Locate grommets so that when relay box assemblies are mounted side-by-side the grommets will allow the electrical leads to pass between each box.
 4. Remove four screws on each relay box assembly to remove front cover. Save screws for reuse.
 5. Mount relay box assemblies to mounting bracket with eight 1/4-20 x 0.75-in. hex screws (X-465-16), 0.281 x 0.625 x 0.065-in. plain washers (X-25-40), and 1/4-20 elastic stop hex screws (X-101-8).
 6. Locate black and white leads and connect to power source (see Figure 2). Wiring should be done according to local codes and National Electrical Code (NEC). Do NOT energize relay box assemblies (receptacle boxes) at this time. Replace relay box assembly covers.
- NOTE**
- All electrical connections should be made by a certified electrician or competent electrical technician.
7. Install battery warmer (255649) to top of battery rack with two 5/16-18 x 0.75-in. hex screws (X-125-3), 0.344 x 0.687 x 0.065-in. plain washers (X-25-85), and 5/16-18 elastic stop hex nuts (X-101-16). Position the end of the battery plate warmer cord nearest to the relay box assembly. Do not plug battery plate warmer into relay box at this time. Repeat procedure for each battery rack.
 8. Replace battery(ies) in battery rack. Secure using battery rack hardware. Do NOT connect battery cables at this time.
 9. Attach battery heater (258780) to each battery with cable ties (X-468-4). Be sure to place end of battery wrap heater with cord nearest to relay box assemblies and with arrow on battery wrap heater pointing upward.
 10. Plug battery plate warmers into top outlet and plug battery wrap heaters into bottom outlet of relay box assembly.
 11. Connect relay boxes to AC power source.
 12. Verify that the generator master switch is in the OFF position. Reconnect battery cables, negative lead last.



TOP VIEW

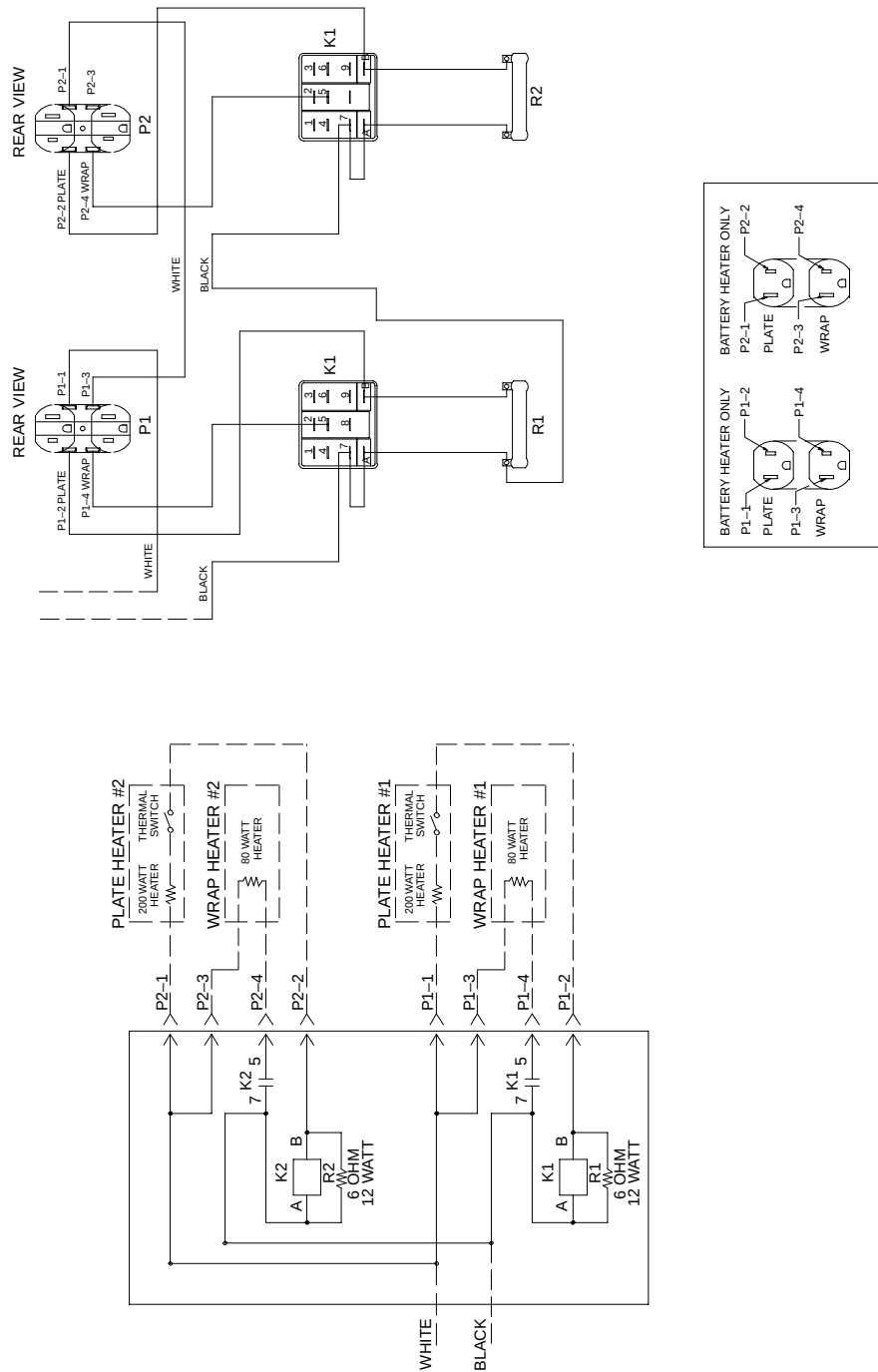


SIDE VIEW

AH-272000-H

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|--------------------------------------|------------------------------------|
| 1. Grommet (243035) | 7. Elastic Stop Hex Nut (X-101-16) |
| 2. Cable Tie (X-468-4) | 8. Mounting Bracket (272970) |
| 3. Battery Heater (Blanket) (258780) | 9. Relay Box Assembly (A-272825) |
| 4. Battery Warmer (Plate) (255649) | 10. Hex Screw (X-465-16) |
| 5. Hex Screw (X-125-3) | 11. Plain Washer (X-25-40) |
| 6. Plain Washer (X-25-85) | 12. Elastic Stop Hex Nut (X-101-8) |

Figure 1. Battery Heater Kit Installation



A-272825-F P2

Figure 2. Battery Heater Electrical Connections

Parts List		
Kits PA-272936 and PA-272936-SD		
Description	Qty.	Part No.
Box, relay assembly (includes *)	2	A-272825
Lead *	2	LN-1608-5600
Lead *	1	LW-1608-2300
Lead *	1	LW-1608-2323
Lead *	1	LW-1803-5600
Lead *	1	LW-1808-5600
Screw, 6-32 x 0.375 in. *	8	X-49-2
Terminal *	1	X-431-42
Screw, 8-32 x 0.500 in. *	4	X-51-15
Tube, heat shrink *	1	X-6081-3
Screw, 10-32 x 0.50 in. Phillips® hex CrimpTite® *	4	X-6216-1
Receptacle *	2	238581
Box, relay *	1	272820
Cover, silkscreen *	1	272823
Adaptor, tab *	2	287571
Resistor *	2	292915
Relay *	2	292916
Lead Assembly *	2	299915
Lead Assembly *	2	299916
Nut, 1/4-20 elastic stop hex	12	X-101-8
Nut, 5/16-18 elastic stop hex	8	X-101-16
Screw, 5/16-18 x 0.75 in. hex	8	X-125-3
Washer, 0.281 x 0.625 x 0.065 in. plain	12	X-25-40
Washer, 0.344 x 0.687 x 0.065 in. plain	8	X-25-85
Screw, 1/4-20 x 0.75 in. hex	12	X-465-16
Tie, cable	4	X-468-4
Grommet	2	243035
Warmer, battery (plate)	4	255649
Heater, battery (blanket)	4	258780
Bracket, mounting	1	272970