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## INSTALLATION INSTRUCTIONS

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Original Issue Date: 1/97

Model: 450-600 kW

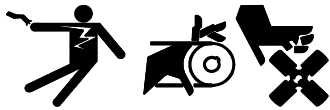
Market: Industrial

Subject: **Battery Rack and Cables Kits PA-354061, PA-354061-SD,  
PA-354064, PA-354064-SD**

The battery rack and cables kit provides a safe and convenient means of securing generator set batteries to the generator set skid. Battery cables supplied in the kit connect the batteries. Observe the following safety precautions while installing the kit.

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### WARNING



**Accidental starting.**  
**Can cause severe injury or death.**

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

**Disabling 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) Turn the generator set master switch to OFF position.
- 2) Disconnect power to battery charger.
- 3) Remove battery cables (remove negative (-) lead first). Reconnect negative (-) lead last when reconnecting battery.

Follow these precautions to prevent starting of generator set by an automatic transfer switch or remote start/stop switch.

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### WARNING



**Sulfuric acid in batteries.**  
**Can cause severe injury or death.**

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

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### WARNING

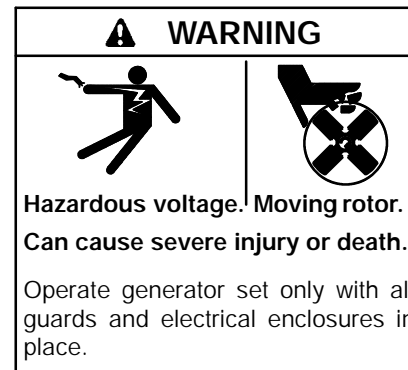


**Explosion.**  
**Can cause severe injury or death.**  
**Relays in battery charger cause arcs or sparks.**

Locate battery in a well-ventilated area. Isolate battery charger from explosive fumes.

**Battery acid. 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 near the battery. If battery acid is splashed in the eyes or on skin, immediately flush the affected area for 15 minutes with large quantities of clean water. Seek immediate medical aid in the case of eye contact. Never add acid to a battery after placing the battery in service, as this may result in hazardous spattering of battery acid.

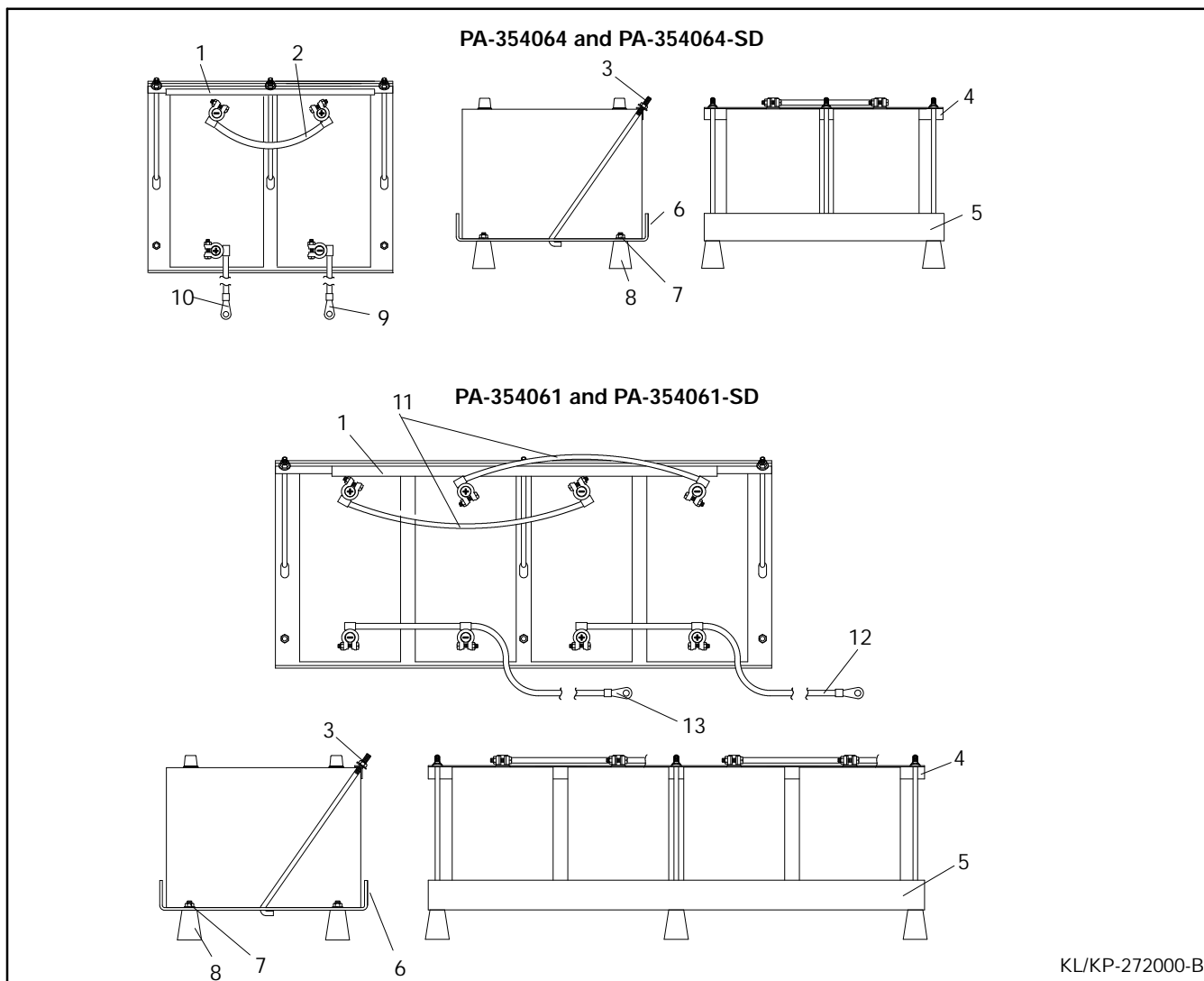
**Battery gases. Explosion can cause severe injury or death.** Battery gases can cause an explosion. Do not smoke or permit flame or spark to occur near a battery at any time, particularly when it is charging. Avoid touching terminals with tools, etc., to prevent burns and sparks that could cause an 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. Sparks could ignite battery gases or fuel vapors. Ventilate any compartment containing batteries to prevent accumulation of explosive gases. To avoid sparks, do not disturb battery charger connections while battery is charging. Always turn battery charger off before disconnecting battery connections. Remove negative (-) lead first when disconnecting battery. Reconnect negative (-) lead last when reconnecting battery.



**Short circuits. Hazardous voltage/current can cause severe injury or death.** Short circuits can cause bodily injury and/or equipment damage. Do not contact electrical connections with tools or jewelry while making adjustments or repairs. Remove wristwatch, rings, and jewelry before servicing equipment.

## Installation

1. Place generator set master switch in OFF position.
2. Disconnect power to battery charger, if equipped.
3. Disconnect generator set engine starting battery, negative (-) lead first.
4. Install vibromounts (238565) on battery rack (354116 or 354057) with spiralock nuts (X-6210-7). See Figure 1.
5. Place battery rack in a convenient location near generator set. Battery cable length limits location options.
6. Install batteries (not supplied) as shown in Figure 1.
7. With surface clean and dry, apply warning decal (273780) onto battery rack in a highly visible position. See Figure 1 for recommended location.
8. Install U-channel (X-6047-7 or X-6047-11) on battery clamp (274570 or 354058). Place battery clamp on batteries with U-channel resting on battery tops.
9. Secure battery clamp with angle bolts (286316), plain washers (X-25-85), and nuts (X-101-14).
10. Install battery cable(s) (X-545-71) as shown in Figure 1.
11. Check that generator set master switch is in OFF position.
12. Connect battery cable (X-545-17 or X-545-79) to positive (+) terminal of generator set starter solenoid. See Figure 1.
13. Connect battery cable (X-545-18 or X-545-80) to negative (-) connection of engine starter motor. See Figure 1.
14. Connect positive (+) battery cables to battery positive (+) terminals.
15. Connect negative (-) battery cables to battery negative (-) terminals.



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| 1. U-channel (X-6047-7 or X-6047-11)                       | 8. Vibromount (238565)                                |
| 2. Battery cable, black, 16 in. (406 mm) (X-545-71)        | 9. Battery cable, black, 50 in. (1270 mm) (X-545-18)  |
| 3. Angle bolt, washer, nut (286316, X-25-85, and X-101-14) | 10. Battery cable, red, 50 in. (1270 mm) (X-545-17)   |
| 4. Battery clamp (274570 or 354058)                        | 11. Battery cable, black, 16 in. (406 mm) (X-545-71)  |
| 5. Battery rack (354057 or 354116)                         | 12. Battery cable, red, 66 in. (1676 mm) (X-545-79)   |
| 6. Warning decal (273780)                                  | 13. Battery cable, black, 66 in. (1676 mm) (X-545-80) |
| 7. Spiralock nut (X-6210-7)                                |   |

**Figure 1. Battery Rack and Cables Installation**

## Battery Rack and Cables Kit

Parts List				
Kits: PA-354061, PA-354061-SD, PA-354064, PA-354064-SD			Unique Parts	
Qty.	Description	Common Parts	PA-354061 PA-354061-SD	PA-354064 PA-354064-SD
3	Washer, plain	X-25-85		
3	Nut	X-101-4		
	Cable, battery, black, 16 in.		(2) X-545-71	(1) X-545-71
1	Cable, battery, black, 50 in.			X-545-18
1	Cable, battery, red, 50 in.			X-545-17
1	Cable, battery, red, 66 in.		X-545-79	
1	Cable, battery, black, 66 in.		X-545-80	
1	Channel, U		X-6047-11	X-6047-7
	Nut, spiralock		(6) X-6210-7	(4) X-6210-7
	Vibromount		(6) 238565	(4) 238565
1	Decal, warning	273780		
	Clamp, battery		(1) 274570	(1) 354058
3	Bolt, angle	286316		
1	Rack, battery		354116	354057