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**INSTALLATION INSTRUCTIONS**


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Original Issue Date: 1/97

Model: 230-300 kW

Market: Industrial

Subject: **Battery Rack and Cables Kits PA-354183, PA-354183-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 finalize the battery connections together. Observe the following safety precautions while installing the kit.



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

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

**Disabling generator set. Accidental starting can cause severe injury or death.** Turn generator set 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 the generator set or connected equipment. The generator set can be started by an automatic transfer switch or remote start/stop switch unless these precautions are followed.

**⚠ 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 being changed. Always turn battery charger off before disconnecting battery connections. Remove negative lead first and reconnect it last when disconnecting battery.

<b>⚠ WARNING</b>	
	
<b>Hazardous voltage.</b>	<b>Moving rotor.</b>
<b>Can cause severe injury or death.</b>	
Operate generator set only with all guards and electrical enclosures in place.	

**Short circuits. Hazardous voltage 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 adjustments are made. Remove wristwatch, rings, and jewelry before servicing equipment.

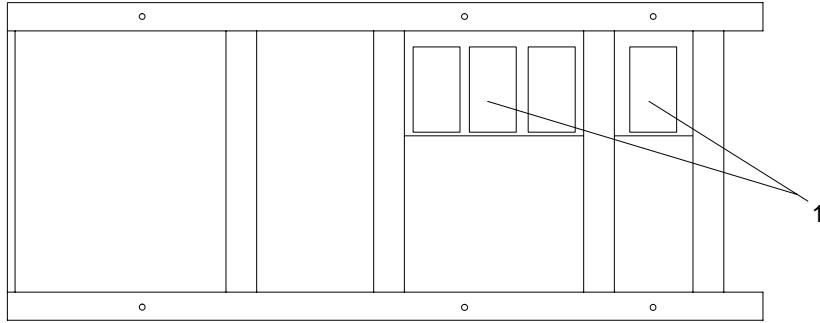
## Installation

1. Place generator set master switch in OFF position.
2. Disconnect generator set engine starting battery, negative (-) lead first. Disconnect power to battery charger, if equipped.
3. Drill four 0.188 in. (4.78 mm) diameter holes in the right side skid crossmembers using the battery rack as a template. See Figure 1.
4. Mount battery rack (354181) to generator set skid using drill screws (X-794-1).
5. Install batteries (not supplied). See Figure 1 for placement of polarity.
6. Clean inside surface (bent side) of battery clamps (272695 and 272696).
7. With inside surface clean and dry, attach insulators (274399 and 274400) to battery clamp.
8. Install angle bolts (288446) to battery racks and attach to battery clamps using plain washers (X-25-40) and lock nuts (X-101-4). Torque nuts to 12-16 ft. lbs. (16-22 Nm).
9. Install battery cables (X-545-71) between battery terminals located nearest to outside of skid. See Figure 1 for location.
10. With surfaces clean and dry, attach warning decal (273780) to skid. See Figure 1 for location.
11. Check that generator set master switch is in OFF position.
12. Install battery cable (X-545-24) to positive (+) connection of engine starter motor. See Figure 1.
13. Install battery cable (X-545-60) 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.

### Battery Rack and Cables Kit

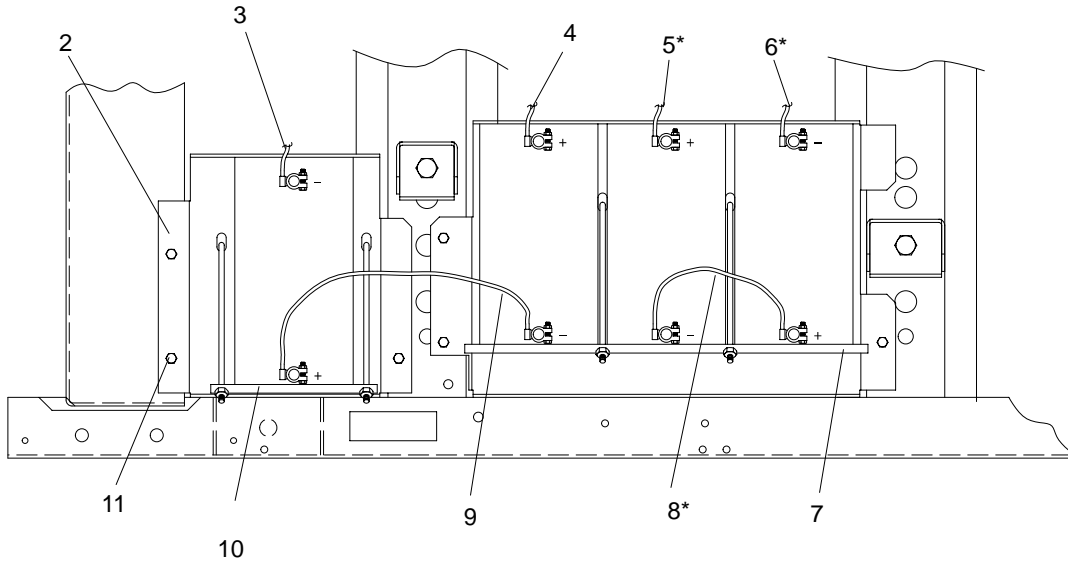
Parts List		
Kits: PA-354183, PA-354183-SD		
Qty.	Description	Part Number
1	Washer, plain	X-25-40
1	Nut	X-101-4
5	Tie, cable	X-468-1
1	Cable, battery red 28 in.	X-545-24
1	Cable, battery black 20 in.	X-545-60
1	Cable, battery black 16 in.	X-545-71
3	Screw, drill	X-794-1
1	Clamp, battery	272695
1	Clamp, battery	272696
1	Insulator	274399
1	Insulator	274400
1	Bolt, angle	288446
1	Rack, battery	354181

### Top View of Generator Set Skid

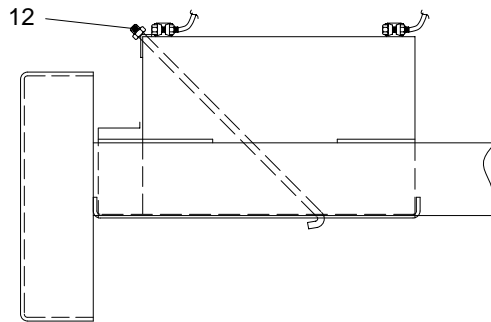


ADV-5974A-C

### Top View



### End View



Part numbers with (\*) asterisk indicate that they are not included with the PA-kits. Customers should have parts from the standard battery rack assembly.

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| 1. Battery and battery rack location   | 7. Battery clamp and insulator         |
| 2. Battery rack                        | 8. Battery cable black 16 in. (406 mm) |
| 3. Battery cable black 20 in. (508 mm) | 9. Battery cable black 16 in. (406 mm) |
| 4. Battery cable red 28 in. (711 mm)   | 10. Battery clamp and insulator        |
| 5. Battery cable red 28 in. (711 mm)   | 11. Drill screw                        |
| 6. Battery cable black 20 in. (508 mm) | 12. Angle bolt, nut, and washer        |

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