

## INSTALLATION INSTRUCTIONS

Original Issue Date: 12/90

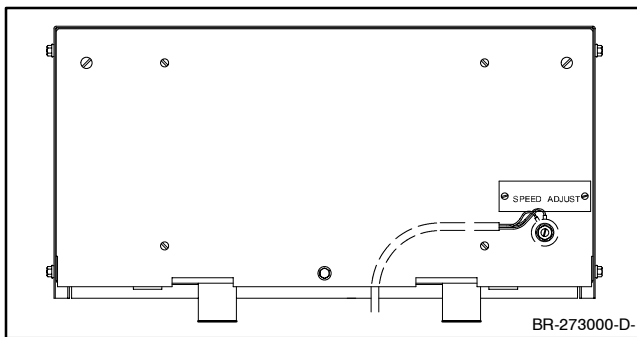
Model: 20-1500 kW

Market: Industrial Generator Sets

Subject: Remote Speed Adjusting Control Kit PA-273768

### Introduction

This kit provides remote engine speed adjustments with an approximate range of  $\pm 5\%$  at 1800 rpm. This kit requires a generator set with an electronic governor.



**Figure 1** Remote Speed Adjusting Control  
(back of controller)

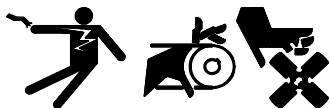
Read the entire installation procedure and compare the kit parts with the parts list in this publication before beginning installation. Perform the steps in the order shown.

Observe applicable local and national electrical codes when installing the wiring system.

### Safety Precautions

Observe the following safety precautions when installing the kit.

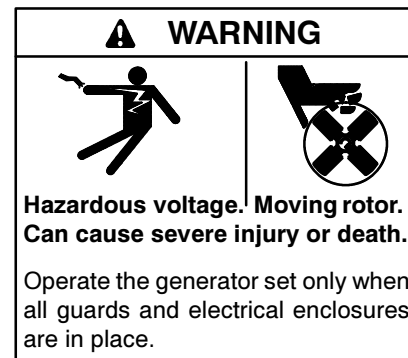
#### **⚠ WARNING**



**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.

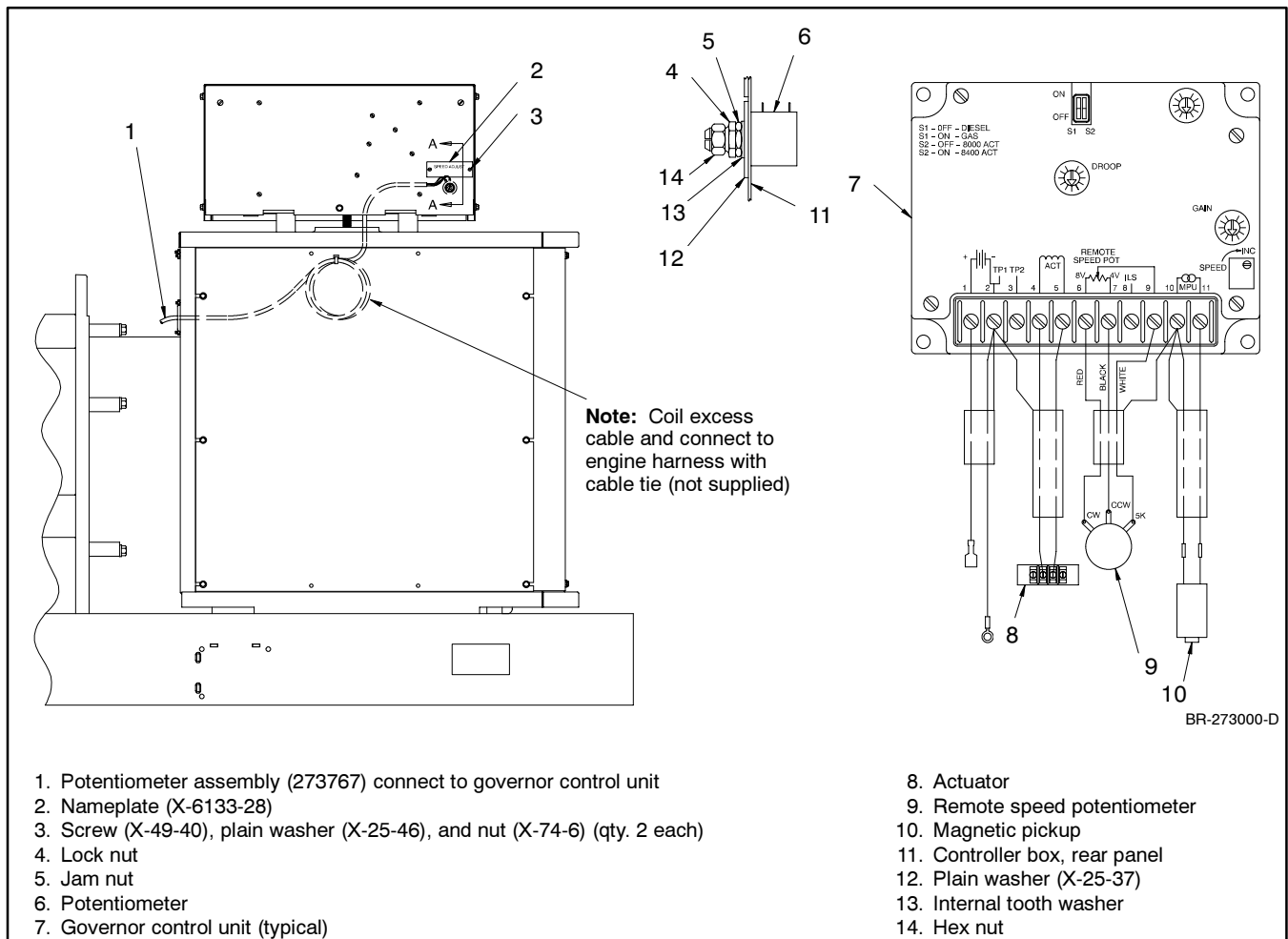
**Disabling the generator set. Accidental starting can cause severe injury or death.** Before working on the generator set or connected equipment, disable the generator set as follows: (1) Move the generator set master switch to the OFF position. (2) Disconnect the power to the battery charger. (3) Remove 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.



**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 all jewelry before servicing the equipment.

**Battery short circuits. Explosion can cause severe injury or death.** Short circuits can cause bodily injury and/or equipment damage. Disconnect the battery before generator set installation or maintenance. Remove all jewelry before servicing the equipment. Use tools with insulated handles. Remove the negative (-) lead first when disconnecting the battery. Reconnect the negative (-) lead last when reconnecting the battery. Never connect the negative (-) battery cable to the positive (+) connection terminal of the starter solenoid. Do not test the battery condition by shorting the terminals together.

- 2.3 Locate the controller mounting hole and remove the hole plug. The hole plug will not be reused.
- 2.4 Remove the mounting hardware (hex nut, lock nut, jam nut, and internal tooth lock washer) from the potentiometer shaft.
- 2.5 Place the potentiometer (273767) through the controller hole and install plain washer (X-25-37), internal tooth lock washer, and jam nut. Rotate the potentiometer assembly so that the potentiometer metal tab aligns with the controller index hole and tighten the jam nut. See Figure 2.
- 2.6 Install the lock nut and tighten.
- 2.7 Install the hex nut by hand. Do not tighten.
- 2.8 Rotate the potentiometer shaft to the approximate midpoint of the adjustment range. Tighten the hex nut. Do NOT overtighten.



### Figure 2 Remote Speed Potentiometer Installation

### 3. Install nameplate.

- 3.1 Locate two small holes in controller above potentiometer.
- 3.2 Position nameplate (X-6133-28) over controller holes and install screws (X-49-40).
- 3.3 Install plain washers (X-25-46) and nuts (X-74-6).

### 4. Attach the wiring harness.

- 4.1 Route the wiring harness attached to the potentiometer through the controller bottom grommet and into the junction box.
- 4.2 Continue routing the wiring harness through the junction box hole and to the governor controller mounted on the junction box front outside panel.
- 4.3 Connect the red, black, and white leads to the governor controller terminal strip as shown in Figure 2.
- 4.4 Pull any excess wiring harness back into the junction box. Coil the excess wiring harness and secure to the engine wiring harness with a cable tie or electrical tape (not supplied).

### 5. Replace the generator set components.

- 5.1 Install the left-side junction box panel and screws.
- 5.2 Install the controller cover and screws.

### 6. Place the generator set into service.

- 6.1 Place the generator set master switch in the OFF/RESET position.

- 6.2 Reconnect the generator set engine starting battery(ies), negative (-) lead last.

- 6.3 Reconnect the power to the battery charger, if equipped.

- 6.4 Move the generator set master switch to AUTO for startup by remote transfer switch or remote start/stop switch.

### 7. Adjust the speed adjusting potentiometer.

Refer to the governor adjustment instructions for final adjustment.

## Parts List

### Remote Speed Adjusting Control Kit

Kit: PA-273768		
Qty.	Description	Part Number
1	Potentiometer assembly (includes *)	273767
1	* Potentiometer	X-6136-6
1	* Harness, wiring	—
1	* Lock washer, internal tooth	—
1	* Nut, jam	—
1	* Nut, lock	—
1	* Nut, hex	—
1	Washer, plain (0.406 x 0.812 OD)	X-25-37
2	Washer, plain (0.125 x 0.25 OD)	X-25-46
2	Screw, slotted pan head	X-49-40
1	Nameplate	X-6133-28
2	Nut, 4-40 hex machine screw	X-74-6