

## PA1600 Control Replacement Kit

### Subject:

The purpose of this document is to show the procedure for removing an existing speed controller and switch, and replacing it with the current speed control and switch.

### Step 1:

- Disconnect solar harness plug (A) from charge controller harness plug (B). (Figure 1)
- Disconnect charge controller harness plug (A) from speed control harness plug (B). Disconnect battery plug (C) from speed controller (D) (If equipped).

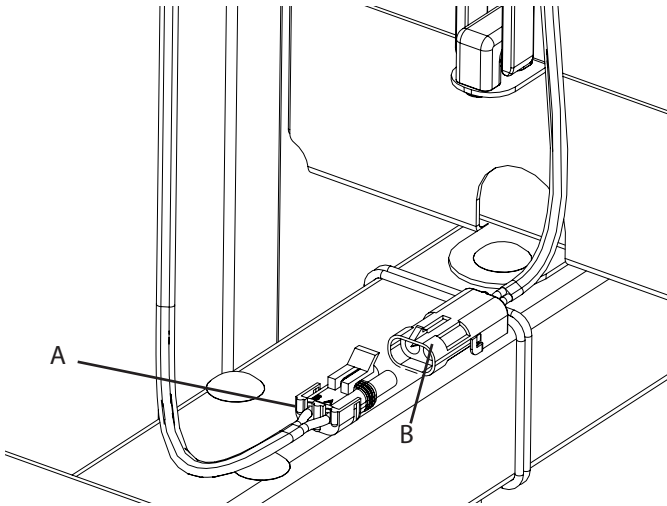


Figure 1: Disconnect solar panels from the charge controller.

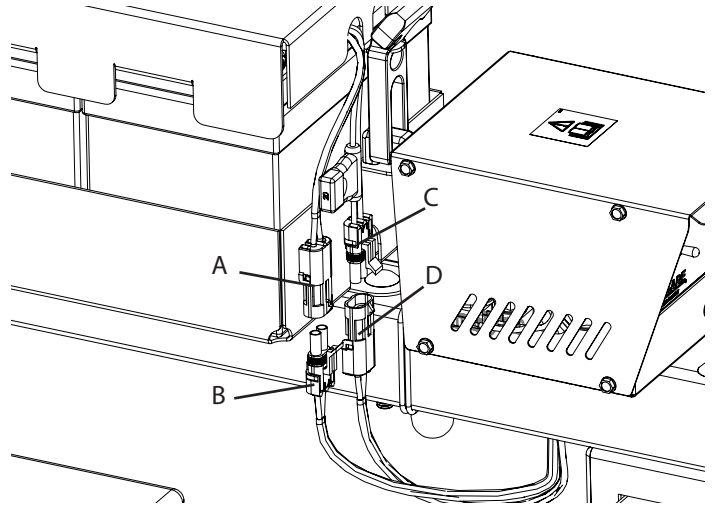


Figure 2: Disconnect charge controller from the speed controller.

### Step 2:

- Remove the cover from the speed controller and switch box. (Figure 3)

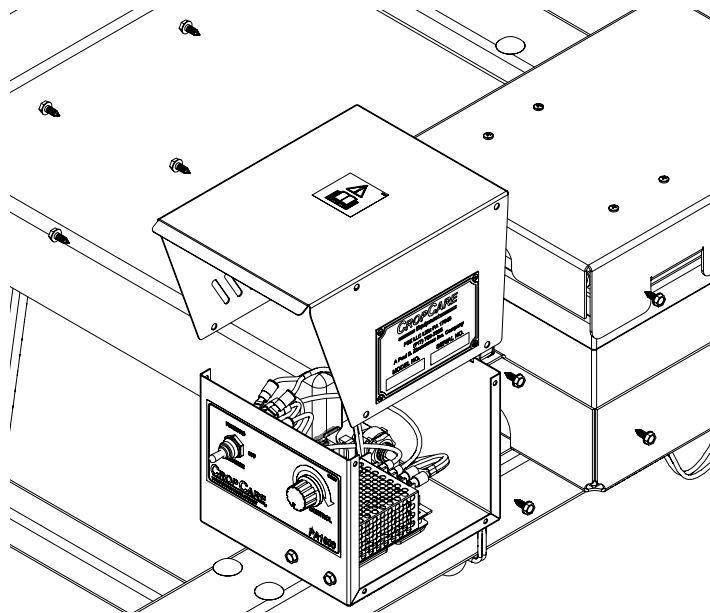


Figure 3: Removing the lid from the speed control/ switch box.

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### Step 3:

- Disconnect the motor harness (A) from the switch terminals. (Figure 4)
- Disconnect the wiring (B) from the foot switch terminals. (Figure 4)

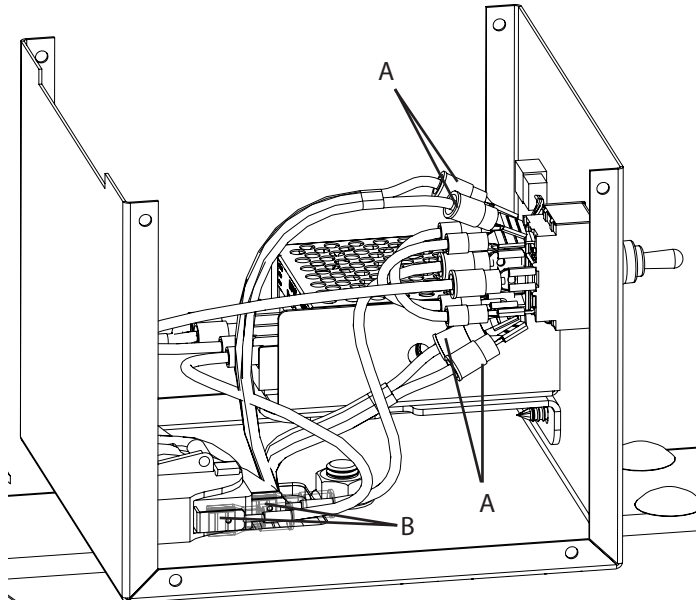


Figure 4: Disconnecting the motors and foot switch.

### Step 4:

- Unbolt the speed control/switch box from the frame rail (A). (Figure 5)
- Make sure the foot switch (B) and the motor harnesses (C) are pulled out of the speed control/switch box through the opening in the base. (These will have to be pulled into the new speed control/switch box in the following steps.)

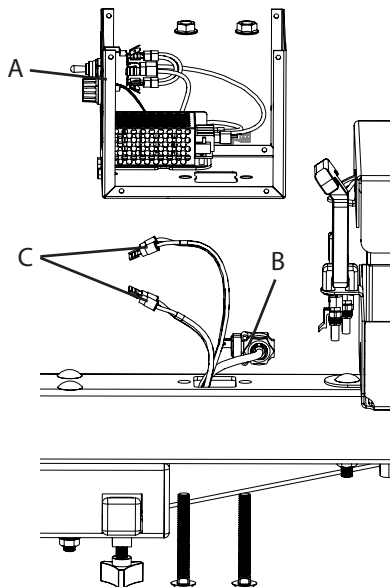


Figure 5: Removing the speed control/switch box.

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### Step 5:

- Cut off the terminals (A) on the ends of the motor harnesses and strip the ends (1/4" length) of the wires. (Figure 6)

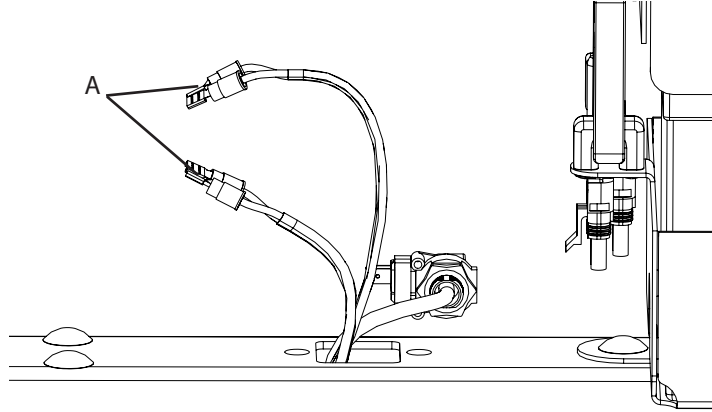


Figure 6: Removing the terminals from the motor harnesses.

### Step 6:

- Feed motor harnesses (A) and foot switch (B) up through the opening in the base of the new speed control/switch box.
- Bolt the new speed control/switch box to the frame rail. (Figure 7)
- Route the new charge controller harness(C) and battery harness (D) thru the bottom of the frame rail. (Figure 8)

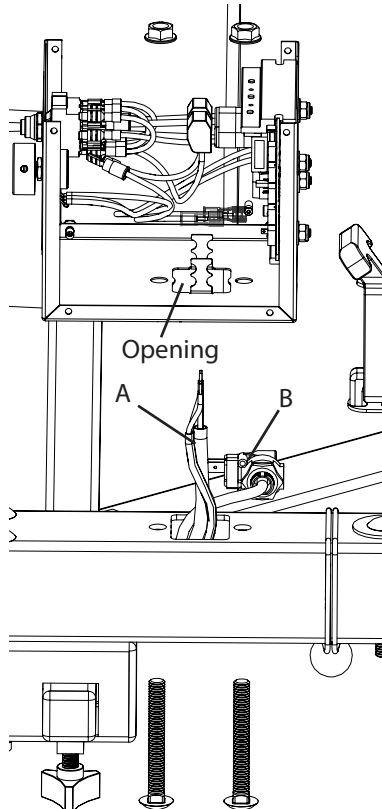


Figure 7: Installing the new speed control/switch box.

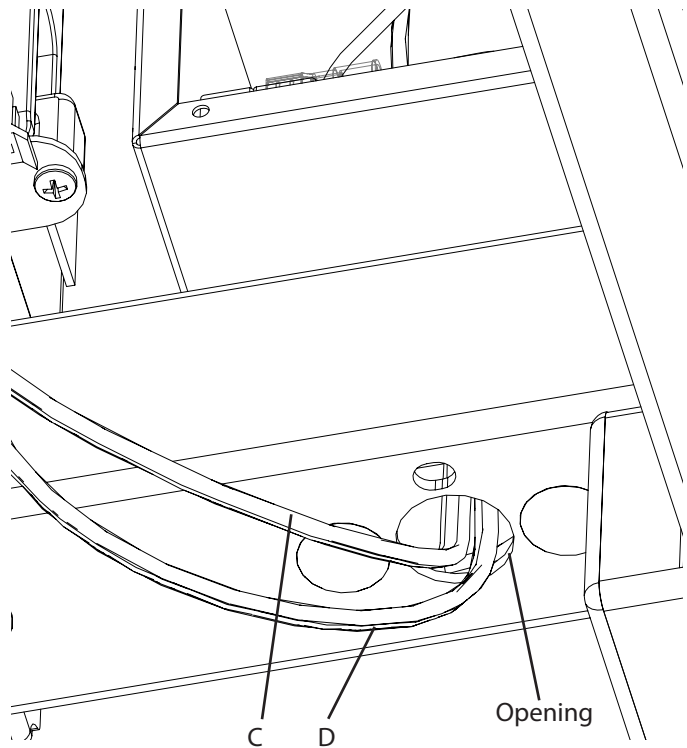


Figure 8: Routing the new charge control and battery harness.

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### Step 7:

- Connect the motor harnesses (A) to the lever splicing connectors (B). The red and white wires from the motor harnesses connect to the lever splice connector with the red wire from the switch. The black wires from the motor harnesses connect to the lever splice connector with the black wire from the switch. (Figure 9)
- Connect the wire from the speed control knob (A) and the wire from the switch (B) (both wires are white) to the terminals of the foot switch (C) as shown. (Figure 10)

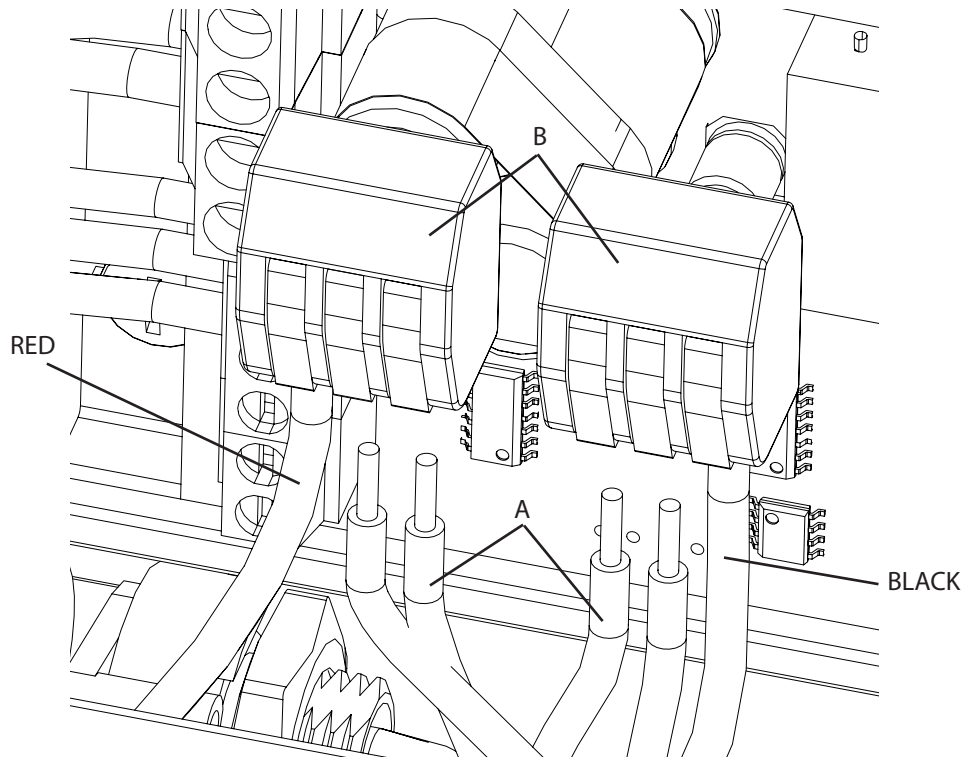


Figure 9: Connecting the motor harnesses.

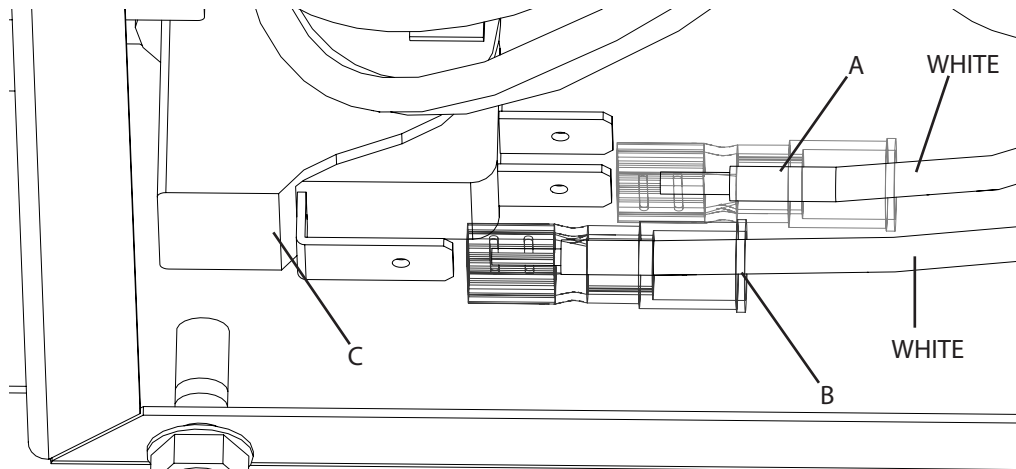


Figure 10: Connecting the foot switch.

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### Step 9:

- Reconnect the speed controller harness (B) to the charge controller harness (A). (Figure 11)
- Reconnect the battery harness (C) to the charge controller harness (D) (if applicable). (Figure 11)
- In some instances the battery and the speed controller do not connect directly. This leaves an unused plug for the speed controller. In this instance install plug (A) onto unused plug (B) from the speed controller. (Figure 12)
- Reconnect the charge controller harness (B) to the solar panel harness (A). (Figure 13)
- Reinstall the cover onto the speed control/switch box. (Figure 14)

**IMPORTANT**  
Connect the battery power to the charge controller before connecting solar panels to charge controller.

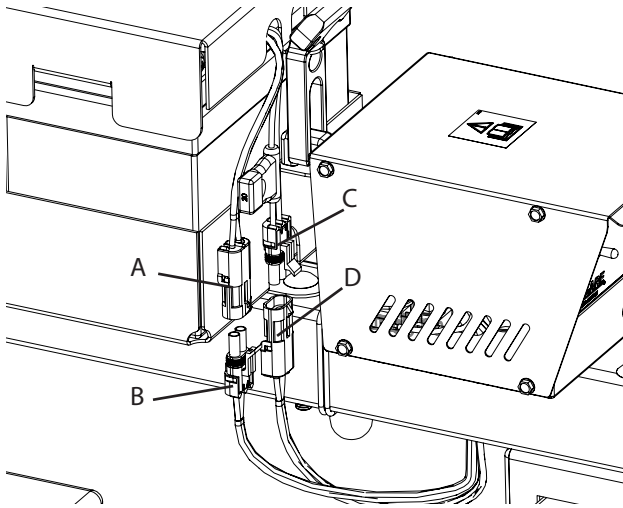


Figure 11: Reconnect the charge controller and speed controller. (Reconnect the battery and speed controller if applicable.)

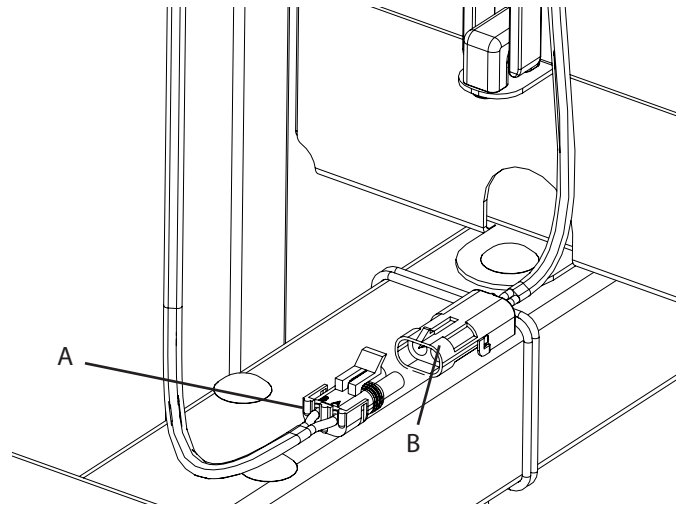


Figure 13: Reconnect solar harness plug to the charge controller harness plug.

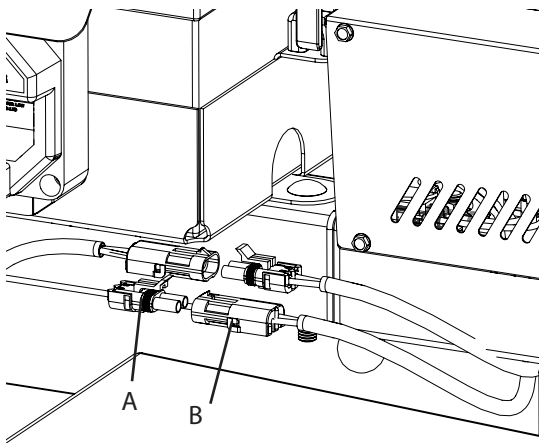


Figure 12: Install plug into the unused speed controller harness (if applicable).

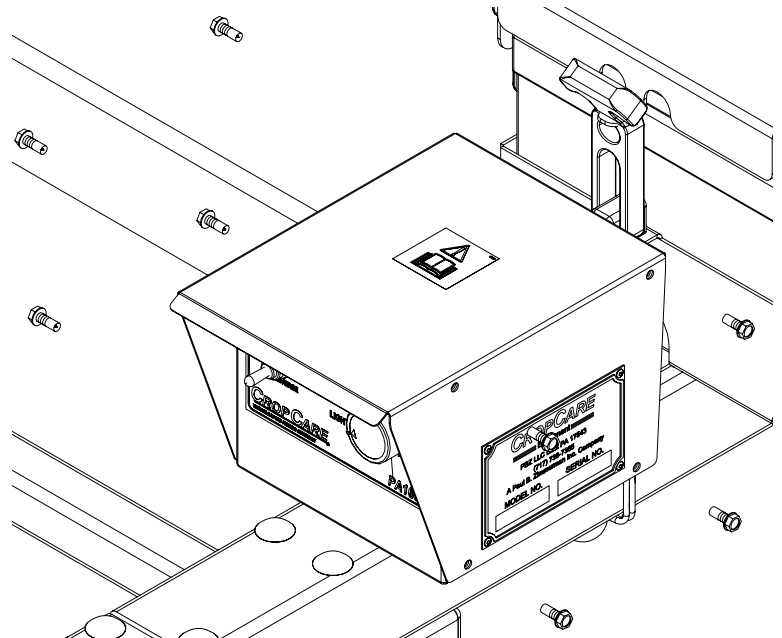


Figure 14: Reinstall the cover onto the new speed control/switch box.