

## 9.1.2 Replacement Procedures by Part

- 9.2 Control Panel Small Components Replacement
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## 9.2 Control Panel Small Components Replacement

### 9.2.1 Vacuum Pump Motor Breaker Replacement

#### Safety



Use lockout / tagout procedures prior to starting work.

#### 9.2.1.1 Removing the Vacuum Pump Motor Breaker

- **See Figure 9-2, and 9-3.**
  1. Turn off the GREEN MACHINE breaker in the main electrical distribution panel.
  2. Follow lockout & tagout procedures prior to starting work.
  3. Unlock the metal clasps on the right-hand side of the Control Panel and open the Control Panel door.
  4. Find the Vacuum Pump motor breaker (**See Figure 9-2, item #20**) and note the wire numbers and locations. **See Figure 9-3.**
  5. Using a screwdriver, loosen the two screws on the top and bottom of the breaker. Remove the two wires.
  6. Pull up on the small black release mechanism on the bottom side of the breaker and rotate the breaker out of the Control Panel.

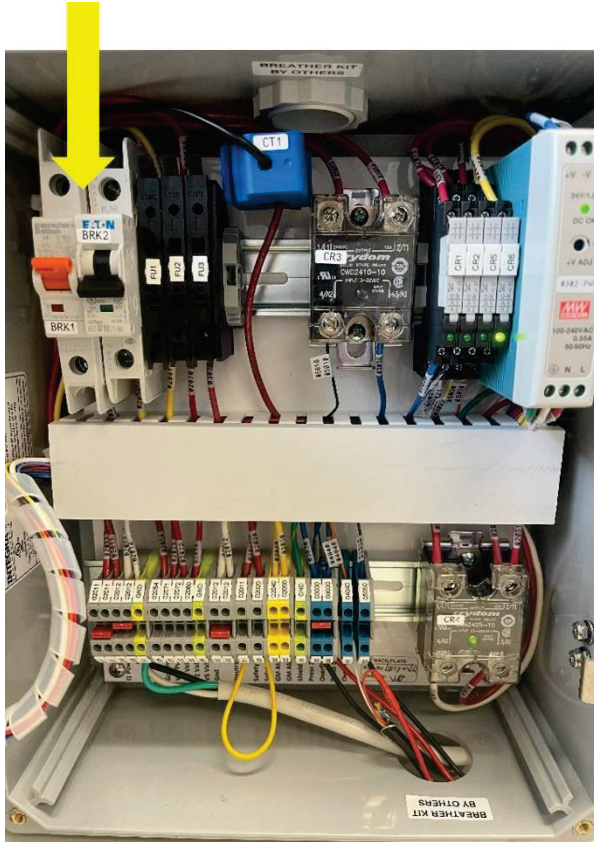


Figure 9-3: Vacuum Pump BRK1

(NOTE: Control Panel Component may not be in the position as shown depending on the Control Panel revision. Always refer to the wire numbers.)

### 9.2.1.2 Replacing the Vacuum Pump Motor Breaker

See Figure 9-3.

1. Install the new breaker, hooking the top of the breaker on first and then pushing the bottom of the breaker down into place.
2. Using a screwdriver, reinstall the two wires.
3. Be sure the switch on the breaker is in the UP position. **See Figure 9-3.**  
**NOTE: The small window below the switch should be RED. If the window is GREEN, flip the switch so that the window is RED.**
4. Close the Control Panel door and lock the 2 metal clasps on the right-hand side of the Control Panel.
5. Remove the lock(s) and tags from the lockout/tagout and turn the GREEN MACHINE breaker back on at the main electrical distribution panel.
6. If there is an alarm on the Main Screen, refer to Vacuum Pump Alarm in the Troubleshooting chapter.

## 9.2.2 Vacuum Pump Motor Solid-State Relay Replacement

### Safety



Use lockout / tagout procedures prior to starting work.

### 9.2.2.1 Removing the Solid State Relay

- **See Figures 9-2, and 9-4.**
  1. Turn off the GREEN MACHINE breaker in the main electrical distribution panel.
  2. Follow lockout & tagout procedures prior to starting work.
  3. Unlock the metal clasps on the right-hand side of the Control Panel and open the Control Panel door.
  4. Find the Vacuum Pump solid-state relay (see **Figure 9-2, item #19**) and note the wire numbers and locations. **See Figure 9-4.**
  5. Using a screwdriver, remove the four wires from the four terminals. **See Figure 9-4.**
  6. Remove the top screw and loosen the bottom screw securing the solid-state relay to the Control Panel. The solid-state relay can now be removed by sliding up.

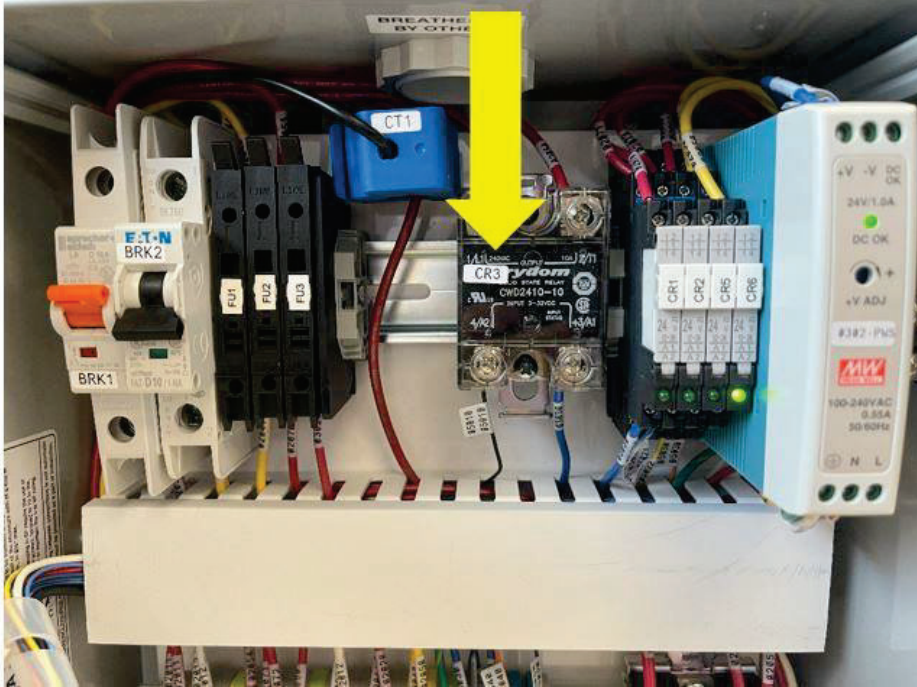


Figure 9-4: Vacuum Pump Solid State Relay

(NOTE: Control Panel Component may not be in the position as shown depending on the Control Panel revision. Always refer to the wire numbers.)

### 9.2.2.2 Replacing the Solid State Relay

- See Figure 9-4.
  1. Install the new solid-state relay, sliding it down into place onto the bottom screw.
  2. Using a screwdriver, reinstall and tighten the top screw, then tighten the bottom screw.
  3. Reinstall the wires to the appropriate contacts. The bottom VDC wires must be installed as shown in **Figure 9-4** because of polarity.
  4. Close the Control Panel door and lock the 2 metal clasps on the right-hand side of the Control Panel.
  5. Remove the lock(s) and tags from the lockout/tagout and turn the GREEN MACHINE breaker back on at the main electrical distribution panel.
  6. If there is an alarm on the Main Screen, refer to Vacuum Pump Alarm in the Troubleshooting chapter.