Figure 1. 
CL-6B regulator control panels in various control boxes.

Contents

Safety Information ......................................................... 2
  Hazard Statement Definitions ..................................... 2
  Safety Instructions ......................................................... 2
Product Information .......................................................... 3
  Introduction .................................................................. 3
  Acceptance and Initial Inspection .................................. 3
  Handling and Storage ....................................................... 3
  Quality Standards ............................................................. 3

Installation Procedures Kit 57A64327900A, 
CL-6B Control Panel in Cooper Box, Dead Front ... 4

Installation Procedures Kit 57A64327900B, 
CL-6B Control Panel in Cooper Box, 
Not Dead Front ................................................................. 5

Installation Procedures Kit 57A64327900C, 
CL-6B Control Panel in Siemens Box ......................... 6

Installation Procedures Kit 57A64327900D, 
CL-6B Control Panel in General Electric Box 
with Fork-Type Terminal .................................................. 9

Installation Procedures Kit 57A64327900E, 
CL-6B Control Panel in General Electric box 
with Pin-Type Terminal .................................................... 12

Installation Procedures Kit 57A64327900F, 
CL-6B Control Panel in Howard Box ......................... 14
SAFETY FOR LIFE

Cooper Power Systems products meet or exceed all applicable industry standards relating to product safety. We actively promote safe practices in the use and maintenance of our products through our service literature, instructional training programs, and the continuous efforts of all Cooper Power Systems employees involved in product design, manufacture, marketing and service.

We strongly urge that you always follow all locally approved safety procedures and safety instructions when working around high-voltage lines and equipment and support our “Safety For Life” mission.

SAFETY INFORMATION

The instructions in this manual are not intended as a substitute for proper training or adequate experience in the safe operation of the equipment described. Only competent technicians, who are familiar with this equipment should install, operate and service it.

A competent technician has these qualifications:

- Is thoroughly familiar with these instructions.
- Is trained in industry-accepted high- and low-voltage safe operating practices and procedures.
- Is trained and authorized to energize, de-energize, clear, and ground power distribution equipment.
- Is trained in the care and use of protective equipment such as flash clothing, safety glasses, face shield, hard hat, rubber gloves, clampstick, hotstick, etc.

Following is important safety information. For safe installation and operation of this equipment, be sure to read and understand all cautions and warnings.

### Hazard Statement Definitions

This manual may contain four types of hazard statements:

- **DANGER:** Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

- **WARNING:** Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

- **CAUTION:** Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

- **CAUTION:** Indicates a hazardous situation which, if not avoided, could result in equipment damage only.

### Safety Instructions

Following are general caution and warning statements that apply to this equipment. Additional statements, related to specific tasks and procedures, are located throughout the manual.

- **DANGER:** Hazardous voltage. Contact with high voltage will cause death or severe personal injury. Follow all locally approved safety procedures when working around high- and low-voltage lines and equipment.

- **WARNING:** Before installing, operating, maintaining, or testing this equipment, carefully read and understand the contents of this manual. Improper operation, handling or maintenance can result in death, severe personal injury, and equipment damage.

- **WARNING:** This equipment is not intended to protect human life. Follow all locally approved procedures and safety practices when installing or operating this equipment. Failure to comply may result in death, severe personal injury and equipment damage.

- **WARNING:** Power distribution and transmission equipment must be properly selected for the intended application. It must be installed and serviced by competent personnel who have been trained and understand proper safety procedures. These instructions are written for such personnel and are not a substitute for adequate training and experience in safety procedures. Failure to properly select, install or maintain power distribution and transmission equipment can result in death, severe personal injury, and equipment damage.
**PRODUCT INFORMATION**

**Introduction**

Service Information S225-50-54 provides the instructions for retrofitting a CL-6B control panel on a Cooper Power Systems, Siemens Corporation, General Electric, or Howard Industries, Inc. 32-step voltage regulator.

⚠️ **Read This Manual First**

Read and understand the contents of this manual and follow all locally approved procedures and safety practices before installing or operating this equipment. Read and understand the manuals detailing the installation and operation of the regulator and the regulator control used with the regulator. Refer to S225-11-1 CL-6 Series Control Installation, Operation, and Maintenance Instructions for information on the CL-6B voltage regulator control. Refer to S225-10-30 VR-32 Voltage Regulator with Quik-Drive™ Tap-Changer Installation, Operation, and Maintenance Instructions for information on the Cooper Power Systems voltage regulator with Quik-Drive tap-changer.

**Additional Information**

These instructions cannot cover all details or variations in the equipment, procedures, or process described nor provide directions for meeting every possible contingency during installation, operation, or maintenance. For additional information, please contact your Cooper Power Systems representative.

**Acceptance and Initial Inspection**

This kit is thoroughly inspected at the factory. It is in good condition when accepted by the carrier for shipment.

Upon receipt of the regulator kit, a thorough inspection should be made for damage, evidence of rough handling, or shortages. Should this initial inspection reveal evidence of rough handling, damage, or shortages, it should be noted on the bill of lading and a claim should immediately be made with the carrier. Also, notify your Cooper Power Systems representative.

**Handling and Storage**

Be careful during handing and storage of equipment to minimize the possibility of damage. If the regulator kit is not to be placed into immediate use, store the kit where the possibility of damage is minimized.

**Quality Standards**

ISO 9001 Certified Quality Management System
Follow these instructions to install the CL-6B in a CL-6A control box on a Cooper Power Systems voltage regulator with a dead-front backpanel.

Required Tools:
- Screwdriver (standard)
- Backpanel tool (included in kit)

Note: Verify all kit items are present before beginning installation procedure.

1. Remove the existing control. Refer to the appropriate voltage regulator control manual for complete instructions on removing a control. Refer to S225-11-1 VR-32 Voltage Regulators CL-6 Series Control Installation, Operation, and Maintenance Instructions for information on the Cooper Power Systems CL-6 series voltage regulator control.

2. Using a screwdriver, install the bracket (Item 1) on the control box mounting tabs with screws (Item 2). Refer to Figure 2.

3. Slide the Cooper CL-6B control panel onto the existing hinge pins.

4. Plug the wiring harness connector into TB-2 on the backpanel.

5. Connect ground cable to back panel. Refer to Figure 3.

6. Secure the Cooper CL-6B control panel to the bracket using the existing latch.

7. Refer to S225-11-1 CL-6 Series Control Installation, Operation, and Maintenance Instructions for proper control configuration and start up procedures.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Cooper Part #</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CL-6 adaptor bracket, Cooper box</td>
<td>2092700A001</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>12-13-203-11 screw</td>
<td>0800071095Z</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Backpanel tool, plastic†</td>
<td>A613098001</td>
<td>1</td>
</tr>
</tbody>
</table>

* Use this kit with CL-6B control panel, Part # 57A6432690EA.
† Retain for future use.

Follow these instructions to install the CL-6B in a CL-6A control box on a Cooper Power Systems voltage regulator with a dead-front backpanel.

Required Tools:
- Screwdriver (standard)
- Backpanel tool (included in kit)

Note: Verify all kit items are present before beginning installation procedure.

1. Remove the existing control. Refer to the appropriate voltage regulator control manual for complete instructions on removing a control. Refer to S225-11-1 VR-32 Voltage Regulators CL-6 Series Control Installation, Operation, and Maintenance Instructions for information on the Cooper Power Systems CL-6 series voltage regulator control.

2. Using a screwdriver, install the bracket (Item 1) on the control box mounting tabs with screws (Item 2). Refer to Figure 2.

3. Slide the Cooper CL-6B control panel onto the existing hinge pins.

4. Plug the wiring harness connector into TB-2 on the backpanel.

5. Connect ground cable to back panel. Refer to Figure 3.

6. Secure the Cooper CL-6B control panel to the bracket using the existing latch.

7. Refer to S225-11-1 CL-6 Series Control Installation, Operation, and Maintenance Instructions for proper control configuration and start up procedures.
Follow these instructions to install the CL-6B PRA in a CL-5 control box on a Cooper Power Systems voltage regulator without a dead-front backpanel.

Required Tools:
- Screwdriver (standard)
- SVR tool (included in kit)

Note: Verify all kit items are present before beginning installation procedure.

1. Remove the existing control. Refer to the appropriate voltage regulator control manual for complete instructions on removing a control. Refer to S225-11-1 VR-32 Voltage Regulators CL-6 Series Control Installation, Operation, and Maintenance Instructions for information on the Cooper Power Systems CL-6 series voltage regulator control.

2. Refer to S225-50-27, CL-6A Control Retrofit Connector Kit Instructions for updating control box for CL-6B control. Pay particular attention to:
   - Updating older 10-position terminal block to 18.
   - Insure jumpers between 4 and 3 and 2 and 1 are in place. See Figure 6 in S225-50-27 S225-50-27, CL-6A Control Retrofit Connector Kit Instructions.

3. Using a screwdriver, install the bracket (Item 2) on the control box mounting tabs with screws (Item 3). Refer to Figure 2.

4. Disconnect the white connector from the side of the panel to remove the strain relief and standard wiring harness from the CL-6B control panel. See Figure 4.

5. Install the new wiring harness assembly (Item 1) in the connectors located on the side of the CL-6B control panel. Refer to Figure 5.

6. Attach the strain relief device, removed in Step 3, to the wiring harness. Be careful to position the tie-wrap on the proper side of strain relief device. Resecure with screw. Refer to Figure 5.

7. Slide the Cooper CL-6B control panel onto the existing hinge pins.

8. Install the wiring harness fanning strip into TB-2 on the backpanel. Refer to Figure 6.

9. Connect the ground lead to the ground connection located on the back panel of the control encloser. Refer to Figure 6.

10. Secure the Cooper CL-6B control panel to the bracket using the existing latch.

11. Refer to S225-11-1 CL-6 Series Control Installation, Operation, and Maintenance Instructions for proper control configuration and start up procedures.
Follow these instructions to install the CL-6B PRA on a voltage regulator manufactured by Siemens Corporation.

**Required Tools:**
- Screwdriver (standard)
- Screwdriver (Phillips head)
- Backpanel tool (included in kit)

**Note:** Verify all kit items are present before beginning installation procedure.

1. Remove existing control per manufacturer’s requirements. Retain wingnuts.
   - **Note:** If the Siemens style wiring harness, hinge and magnet assembly have already been installed on the control, proceed to Step 11.

2. Using a screwdriver, attach the hinges (Item 13) and brackets (Item 12) to the CL-6B control panel. Refer to Figure 7.

---

**TABLE 3**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Cooper Part #</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CL-6B PRA wiring harness, Siemens/Howard control equipment</td>
<td>A64316200B</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>CL-6B adaptor bracket assembly, Siemens box</td>
<td>57A643282001</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>CL-6B kit magnet assembly, Siemens retrofit</td>
<td>57A643282002</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>CL-6B shield ground wire</td>
<td>A643281001</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>SS flat washer, #6</td>
<td>0800019079Z</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Phillips-head screw, 6-32X0.38</td>
<td>0800071090Z</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>SS lockwasher, #6</td>
<td>0800070916Z</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>Mounting base</td>
<td>TAA136264002</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>Cable tie assembly, (1/16 to 5/8)</td>
<td>TAA136263001</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>Cable tie with SS locking, 50 lb, 7”</td>
<td>0800011079Z</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>Backpanel tool, plastic†</td>
<td>A613098001</td>
<td>1</td>
</tr>
</tbody>
</table>

* Use this kit with CL-6B control panel, Part # 57A6432690EA.
† Retain for future use.

---

Figure 7.
Hinge and bracket placement.
3. Disconnect the white connector from the side of the panel to remove the strain relief and standard wiring harness from the CL-6B control panel. See Figure 8.

4. Remove the ground wire from the side of the panel.

5. Plug the small white connector on the wiring harness (Item 1) into the connector located on the side of the CL-6B control panel.

6. Attach the strain relief device, removed in Step 3, to the wiring harness. Be careful to position the tie-wrap on the proper side of strain relief device. Resecure with screw. Refer to Figure 9.

7. Install the cable-tie mounting bases in the CL-6B control back panel. This provides strain relief for the wiring harness. Refer to Figure 10.

8. Secure the wiring harness (Item 1) to both cable-tie mounting provisions with cable ties (Item 10). Refer to Figure 10.

9. Using the backpanel tool (Item 11), insert the BROWN lead from the wiring harness into the auxiliary I/O connector (Position 13 - second from bottom). Refer to Figure 10.

10. Install the ground wire (Item 4) onto the hinge side of the CL-6B control panel using screw provided. Refer to Figure 11.

11. Slide the Cooper CL-6B control panel onto the existing hinge pins.

12. Connect the green ground wire to the enclosure ground.

13. Using a screwdriver, adjust the magnet depth in the magnet bracket as needed so that the CL-6B control panel remains in a closed position.
14. Install the large black connector (Figure 12) into the existing enclosure terminal block (Figure 13), securing with retained wing nuts.

**Important:** If a source side PT will not be used, move the white/brown wire from terminal U2 and place it on terminal P2 to enable the source-side voltage calculation.

15. Review manufacturer’s nameplate to determine correct overall Potential Transformer (PT) ratio used at Function Code 44 on control. On regulators manufactured by Siemens Corporation, divide the load volts by the corresponding control volts to obtain the overall PT ratio.

16. Refer to S225-11-1 CL-6 Series Control Installation, Operation, and Maintenance Instructions for proper control configuration and start up procedures.
Follow these instructions to install the CL-6B PRA on a General Electric voltage regulator type with the fork-type terminal.

Required Tools:
- Screwdriver (standard)
- Screwdriver (Phillips head)
- Backpanel tool (included in kit)

Note: Verify all kit items are present before beginning installation procedure.

**WARNING:** Hazardous Voltage. Disconnecting the control panel without proper precautions could open the regulator CT circuit, which can cause hazardous voltage levels in the control box. The CT circuit must be shorted when disconnecting the control. Follow the regulator manufacturer’s guidelines when disconnecting any part of the control. Failure to comply can cause severe personal injury or death.

1. Remove existing control per manufacturer’s requirements. Retain hinge pins.

   Note: If the General Electric style wiring harness has previously been installed on the control and the hinges relocated, proceed to Step 11.

2. Using standard screwdriver, change the hinge locations on the CL-6B control panel. Refer to Figure 15.

3. Disconnect the white connector from the side of the panel to remove the strain relief and standard wiring harness from the CL-6B control panel. See Figure 16.

4. Remove the ground wire from the side of the panel.

5. Install the small white connector on the wiring harness (Item 1) into the connector located on the side of the CL-6B control panel.

6. Attach the strain relief device, removed in Step 3, to the wiring harness. Be careful to position the tie-wrap on the proper side of strain relief device. Resecure with screw. Refer to Figure 15.

7. Install the ground wire to the hinge side of the CL-6B control panel. Refer to Figure 15.

   Note: Verify that harness wires are not in contact with edge of metal shield.
8. Using a Phillips-head screwdriver, install the cable-tie mounting bases (Item 5) onto the control back using screws (Item 3). Refer to Figure 17.

9. Using the backpanel tool (Item 7), insert the BROWN lead from the wiring harness into the auxiliary I/O connector (Position 13 - second from bottom). See Figure 17.

10. Install the cable ties into the cable-tie mounting bases (Item 5). Secure the brown wire in the cable ties. Refer to Figure 17.

11. Install the Cooper CL-6B control panel onto the existing control box hinges using the hinge pins removed in Step 1.

12. Connect the fork lugs on the wiring harness (Item 1) to the General Electric terminal block NN as specified in the Table 5. Also see Figures 18 and 19. The wires designated to connect to cabinet grounds may be connected to any convenient ground point including the studs and nuts used to hold the terminal boards in place.

Important: If a source side PT will not be used, move the white/brown wire from terminal 32 and place it on terminal 9 to enable the source-side voltage calculation. As necessary, use the extra length of wire provided and train the wire around securing it with wire ties.

<table>
<thead>
<tr>
<th>GE Labels¹</th>
<th>Cooper Wiring Harness</th>
<th>Required Signals:</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>White/Brown</td>
<td>Source PT</td>
</tr>
<tr>
<td>31</td>
<td>White/Red</td>
<td>Neutral Light</td>
</tr>
<tr>
<td>30</td>
<td>Brown²</td>
<td>Operations Counter</td>
</tr>
<tr>
<td>29</td>
<td>White/Orange</td>
<td>Drag hand reset</td>
</tr>
<tr>
<td>28</td>
<td>White/Green</td>
<td>Lower</td>
</tr>
<tr>
<td>27</td>
<td>Blue</td>
<td>Raise</td>
</tr>
<tr>
<td>26</td>
<td>White, White</td>
<td>Common</td>
</tr>
<tr>
<td>25</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Cabinet Ground³</td>
<td>Red, Red</td>
<td>CT Ground</td>
</tr>
<tr>
<td>24</td>
<td>Red, White</td>
<td>CT Ground</td>
</tr>
<tr>
<td>23</td>
<td>Green</td>
<td>CT</td>
</tr>
<tr>
<td>22⁴</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>21⁴</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>20⁴</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>White, White</td>
<td>Common</td>
</tr>
<tr>
<td>9⁴</td>
<td>Black, White/Black</td>
<td>Load PT</td>
</tr>
<tr>
<td>8⁴</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>Cabinet Ground³</td>
<td>White</td>
<td>Common</td>
</tr>
</tbody>
</table>

Notes:
1. General Electric terminal labels and wiring has changed over time. Consult the regulator documentation for terminal markings and required signals when connecting the wiring harness.
2. The other end of the brown wire connects to orange I/O connector on the back of the control panel (See Step 6).
3. Connect to any of the convenient ground studs.
4. Some General Electric units will have a jumper between terminals 8 or 9 and terminals 20, 2¹, or 22. If this is the case, leave the jumper in place. Terminals 20, 2¹, and 22 are used for PT tap adjustments. A system voltage change may require a change in the position of the jumper. See the nameplate for the correct jumper position.
13. Connect the green ground wire to the enclosure ground.

14. Close and secure Cooper CL-6B control panel using the existing latch.

15. Review manufacturer’s nameplate to determine correct overall PT ratio used at Function Code 44 on control. On General Electric regulators, divide the load terminal volts by the corresponding control volts to obtain the overall PT ratio.

16. Refer to S225-11-1 CL-6 Series Control Installation, Operation, and Maintenance Instructions for proper control configuration and start up procedures.

---

Figure 19. Connections to General Electric terminal board.
Follow these instructions to install the CL-6B PRA on a voltage regulator type manufactured by General Electric with the pin-type terminal.

Required Tools:
- Screwdriver (standard)
- Screwdriver (Phillips head)
- Backpanel tool (included in kit)

Note: Verify all kit items are present before beginning installation procedure.

1. Remove existing control per manufacturer's requirements. Retain hinge pins.
2. Remove the circuit board from the existing control backpanel by pressing the white plastic levers out and sliding down. Disconnect existing wiring harness from circuit board, and save circuit board for reinstallation.
3. Using standard screwdriver, change the hinge locations on the CL-6B control panel. Refer to Figure 20.

**WARNING:** Hazardous Voltage. Disconnecting the control panel without proper precautions could open the regulator CT circuit, which can cause hazardous voltage levels in the control box. The CT circuit must be shorted when disconnecting the control. Follow the regulator manufacturer's guidelines when disconnecting any part of the control. Failure to comply can cause severe personal injury or death.

![Figure 20. Hinge location.](image)

**Table 6**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Cooper Part #</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CL-6B PRA wiring harness, General Electric, pin-type control equipment</td>
<td>A643162000D</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>CL-6 shield ground wire</td>
<td>A643281001</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Machine screw, 4-40X0.31</td>
<td>0800070990Z</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Lock washer, #4</td>
<td>0800070914Z</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>Phillips-head screw, 6-32 0.38*</td>
<td>0800071090Z</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>Lock washer, #6</td>
<td>0800070916Z</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>Cable-tie mounting base</td>
<td>TAA136264002</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>Cable Tie</td>
<td>TAA136253001</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>Backpanel tool, plastic†</td>
<td>A613098001</td>
<td>1</td>
</tr>
</tbody>
</table>

* Use this kit with CL-6B control panel, Part # 57A6432690EA.
† Retain for future use.
4. Disconnect the white connector from the side of the panel to remove the strain relief and standard wiring harness from the CL-6B control panel. See Figure 21.

5. Remove the ground wire from the side of the panel.

6. Install the small white connector on the wiring harness (Item 1) into the connector located on the side of the CL-6B control panel. Refer to Figure 20.

Note: Verify that harness wires are not in contact with edge of metal shield.

7. Attach the strain relief device, removed in Step 4, to the wiring harness. Be careful to position the tie-wrap on the proper side of strain relief device. Resecure with screw. Refer to Figure 20.

8. Install the ground wire (Item 2) to the hinge side of the CL-6B control panel.

9. Using a Phillips-head screwdriver, install the cable-tie mounting bases (Item 7) onto the control back using screws (Item 5). Refer to Figure 22.

10. Using a screwdriver, mount the terminal block on wiring harness with screws (Item 3) onto the CL-6B control back panel. Refer to Figure 22.

11. Insert the BROWN lead from the wiring harness into the auxiliary I/O connector (Position 13 - second from bottom). See Figure 22.

12. Install the cable ties into the cable-tie mounting bases (Item 7). Secure cable with tie-wrap. Refer to Figure 22.

13. Install Cooper CL-6B control panel on existing hinges using pins removed in Step 1.

14. Connect ground lead to enclosure ground.

15. Connect wiring harness (Item 1) to circuit board removed in Step 2.

16. Reinstall circuit board into backpanel enclosure by lining up the circuit board and pressing up firmly. Refer to Figure 23.

17. Close and secure Cooper CL-6B control panel using existing latch.

18. Review manufacturer's nameplate to determine correct overall PT ratio used at Function Code 44 on control. On regulators manufactured by General Electric, divide the load terminal volts by the corresponding control volts to obtain the overall PT ratio.

19. Refer to S225-11-1 CL-6 Series Control Installation, Operation, and Maintenance Instructions for proper control configuration and start up procedures.
Follow these instructions to install the CL-6B PRA on a voltage regulator manufactured by Howard Industries, Inc.

Required Tools:
- Screwdriver (standard)
- Screwdriver (Phillips head)
- SVR tool (included in kit)

Note: Verify all kit items are present before beginning installation procedure.

1. Remove existing control per manufacturer's requirements. Retain hinge pins.
   
   Note: If the Howard style wiring harness, hinge and latch bracket have already been installed on the control, proceed to Step 11.

2. Using a screwdriver, attach adapter brackets (Item 2) and latch brackets (Item 3) to CL-6B front-panel. Refer to Figure 24.

   ![Figure 24. Hinge and bracket locations.](image)

3. Disconnect the white connector from the side of the panel to remove the strain relief and standard wiring harness from the CL-6B control panel. Refer to Figure 25.

   ![Figure 25. Harness connector.](image)

4. Remove the ground wire from the side of the panel.
5. Plug the small white connector on the wiring harness (Item 1) into the connector located on the side of the CL-6B control panel. Refer to Figure 26.

6. Attach the strain relief device, removed in Step 3, to the wiring harness. Be careful to position the tie-wrap on the proper side of strain relief device. Resecure with screw. Refer to Figure 26.

7. Install the cable-tie mounting bases in the CL-6B control back panel. This provides strain relief for the wiring harness. Refer to Figure 27.

8. Using the backpanel tool (Item 12), insert the BROWN lead from the wiring harness into the auxiliary I/O connector (Position 13 - second from bottom). Refer to Figure 27.

9. Secure wire harness to (2) mounting provisions with cable ties (Item 11). Refer to Figure 27.

10. Install the ground wire (Item 4) onto the hinge side of the CL-6B control panel.

11. Install Cooper CL-6B control panel on mounting provisions.

12. Install terminal block and secure with wing nuts.

13. Connect the green ground wire to the enclosure ground.

14. Close the CL-6B panel and secure with the latch.

15. Review to manufacturer’s nameplate to determine correct overall PT ratio used at Function Code 44 on control. On regulators manufactured by Howard Industries, Inc., divide the load volts by the corresponding control volts to obtain the overall PT ratio.

16. Refer to S225-11-1 CL-6 Series Control Installation, Operation, and Maintenance Instructions for proper control configuration and start up procedures.