

# SERVICE BULLETIN

**SB98.7**

**Machines/Models: SL20 - Proportional Controls**

**Serial Numbers:  
8000-8192**

**THIS BULLETIN IS MANDATORY.**

**DATE:** June 9, 1998

**PURPOSE:** Install Relay Kit (#030891-001) and Keyswitch Kit (#030891-002) to cut off power to Valberg Controller while machine is not in operation.

**OPERATION REQUIRED:** Install Relay Kit and Keyswitch Kit per instructions below.

**PARTS REQUIRED: SL20 Relay Kit (#030891-001)**

**SL20 Keyswitch Kit (#030891-002)**

**REIMBURSEMENT:** Installation of Relay Kit and Keyswitch Kit will take approximately 2 hours. UpRight will reimburse the owner of record for up to 2 hours of labor at \$30.00 per hour and for travel (up to 100 miles) at \$0.25 per mile. Reimbursement will be made upon receipt by UpRight of your completed warranty claim form. Please reference SB98.7 on your warranty claim form.

**SL20 Relay Kit (#030891-001)**

1. 4 ea. 029615-002 Relay Connector
2. 5 ea. 029610-002 Fork Connector
3. 1 ea. 026920-003 Butt Connector
4. 1 ea. 029456-099 Wire, 16 AWG Yellow-7 inch
5. 1 ea. 029620-002 Butt Connector
6. 1 ea. 029825-002 3 Amp Diode
7. 1 ea. 029495-000 14 AWG 3-Conductor wire x 43 foot
8. 4 ea. 011240-001 Washer, #6 STD
9. 2 ea. 011248-047 Nut Hex Esna #6-32 x 3/4
10. 2 ea. 011715-006 Screw, RD HD MS #6-32 x 3/4
11. 1 ea. 063951-001 Relay DPST 12VDC
12. 50 ea. 15 1/2" Black Tie Straps

**PROCEDURE:** Read all instructions thoroughly and refer to figures 1 through 5 before starting.

1. Remove the negative wire from the battery terminal.
2. Remove the four screws from the top cover of the upper controls.
3. Remove and mark position of the org/blk and wht/blk wires from the E-stop contact block in the upper controls. Cut off the existing connectors and splice both wires together using butt connector (#026920-003).
4. Unscrew the black plastic nut on the bottom of the control box and feed the 3-conductor wire (#029495-000) through the hole.
5. Install fork connector (#029620-002), to the red and black wire in the 3-conductor cable.
6. Insert the black wire into the E-stop slot where the org/blk wire was removed.
7. Insert the red wire into the E-stop slot where the wht/blk wires was removed.
8. On the controller fanning strip, remove the wht/blk wire from the controller. This wire is on the side of the controller, which has the green wire.

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If you have any questions regarding this Service Bulletin, please contact the UpRight Product Support Department by telephone at (800) 926-5438 from within the USA or at (209) 891-5200 from outside the USA or by FAX at (209) 896-9244.

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**PROCEDURE: (Continued)** Read all instructions thoroughly and refer to figure 1 through 5 before starting.

9. Using Butt Connector (#029620-002), connect the wht/blk wire to 3 amp diode item (#029825-002). Be sure the diode is in the direction shown in figure 2.
10. Replace black plastic nut on bottom of control box to keep cables from pulling through.
11. Replace top cover and tighten screws.
12. Route the 3-conductor cable wire in the same manner as the existing blue control cable. Using the tie straps in the Relay Kit to secure the cables together, attaching them approximately every 2 feet.
13. Be sure to route the cable inside the aluminum tray as it enters the chassis area.
14. Once through the hole in the lower control box, cut the 3-conductor wire to a length of 8 inches from the box to the end of the cable.
15. Fix the relay, (#063951-001), to the side tray, using two 6-32 x 3/4" screws (#011715-006), two 6-32 x 3/4" hex nuts (#011248-047), and four washers (#011240-001). Drill one 9/64" diameter hole 5 1/2" from the side of the module and 1/2" down from the top of the module. Drill another 9/64" diameter hole 1 1/2" below the first hole. Figure 1.
16. Attach the white wire from the 3-conductor cable to terminal B on the relay using Relay Connector (#029615-002). Figure 2.
17. Remove the red wire from the E-stop (this wire runs from the E-stop to the keyswitch).
18. Attach the red wire from the 3-conductor cable to the open slot of the E-stop using Fork Connector (#029610-002).
19. Connect the red wire that was removed from the E-stop to terminal A on the relay using Relay Connector (#029615-002).
20. Attach the black wire from the 3-conductor cable to the red wire connection on the keyswitch using Fork Connector (#029610-002).
21. Remove the wht/red wire on the keyswitch and attach it to terminal 5 on the relay using Relay Connector (#029615-002).
22. Attach one end of the supplied yellow wire, (#029456-099), to the open slot on the keyswitch using Fork Connector (#029610-002) and install the other end to terminal 3 on the relay using Relay Connector (#029615-002).
23. Fasten the lower control box wires with tie straps. Allow a bit of slack in the pigtail harness.
24. Replace negative wire to the battery terminal.
25. Perform function test by turning keyswitch to platform position. The red light on Valberg control box should not be illuminated.
26. Depress interlock handle. Light should illuminate and all operations should function.

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## Installation Instructions for Keyswitch

### Parts Required: Keyswitch Kit (#030891-002)

1. 2 ea. 029610-002 Fork Connector
2. 2 ea. 029620-003 Butt Connector
3. 1 ea. 029452-099 16 AWG wire black x 4 inch
4. 1 ea. 029454-099 16 AWG red x 4 inch
5. 2 ea. 066805-010 N/O Contact Block, GE
6. 1 ea. 101221-000 Keyswitch

**Procedure:** Read all instructions thoroughly and refer to figures 1 through 5 before starting.

1. Remove all four wires that are connected to the existing keyswitch. (yellow, red, black, charcoal/red).
2. Unscrew the nut which fastens the body of the switch to the side flange. Remove switch.
3. Remove the new switch (# 101221-000) from package. Fasten the two contact blocks (# 066805-010) to port 1 and port 2 of the switch contact block.
4. Cut off the 3-conductor cable black wire 4 inches from the end of the fork terminal.
5. Prepare the ends of the included black wire (#029452-099). Using the large butt connector (#029620-003), connect this wire and the 4 inch cut off wire to the end of 3-conductor cable black wire. Figure 5.
6. Fix one end of the black wire to terminal 4 on left contact block and fasten the other black wire to terminal 4 of the right contact block.
7. Take the red wire that was removed from the previous keyswitch and cut it 4 inches from the end of the fork terminal.
8. Prepare the ends of the included red wire (#029454-099). Butt connect one end of this wire and the 4 inch cut off wire to the end of the red wire that connects to terminal 4 on the relay via the large butt connector (#029620-003). Figure 4 and 5.
9. Fix one end of the red wire to terminal 4 on left contact block and fasten the other red wire to terminal 4 of the right contact block.  
There should now be both a black and a red wire connected to terminal 4 on both contact blocks.
10. Fasten the end of the yellow wire that was removed from the previous keyswitch to terminal 3 on the left contact block. **This contact block supplies power to the platform.**
11. Fasten the blk/red wire to terminal 3 on the right contact block. **This supplies power to the Chassis functions.**
12. Insert the keyswitch body from outside the control tray. Thread the fastening screw hand tight plus 1/2 turn. Align the switch so the key is in the 6 o'clock position, which is the OFF position.

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13. Snap on the switch contact block to the end of the keyswitch.
14. Replace negative battery terminal.
15. Turn switch to the 8 o'clock position. Test the machine function from the chassis controls. The switch must be actuated while lifting and spring back to the off position when disengaged.
16. Switch the key to the 4 o'clock position. It will lock into place and platform functions are now available. The footswitch/joystick trigger will actuate the platform function.
17. If no functions are occurring, swap the contact block from port 1 to port 2 and vice versa. Retest for platform and chassis function.
18. If machine does not perform as described, please contact the UpRight Product Support Department by telephone at (800) 926-5438.

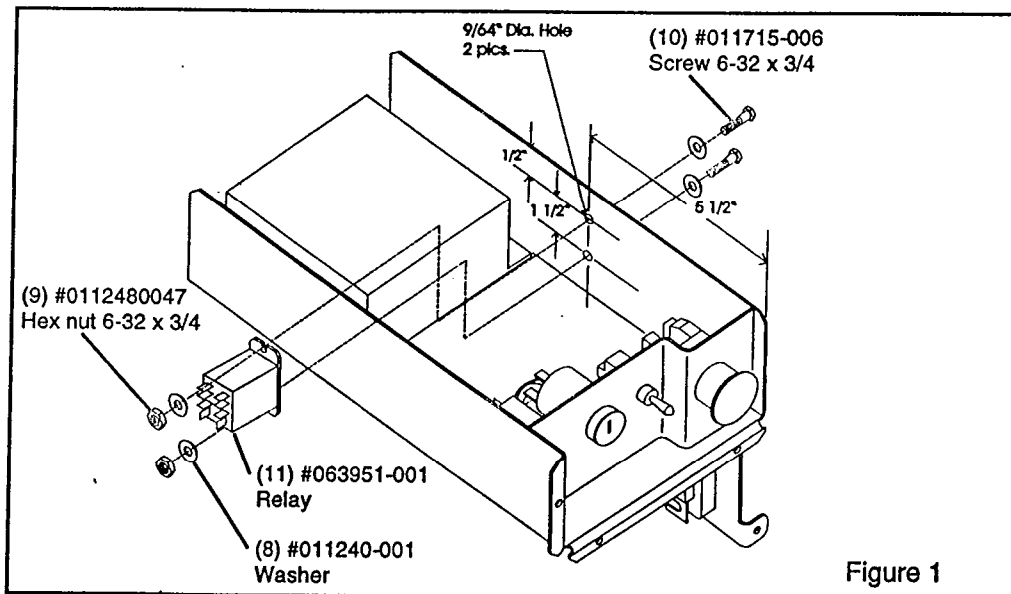


Figure 1

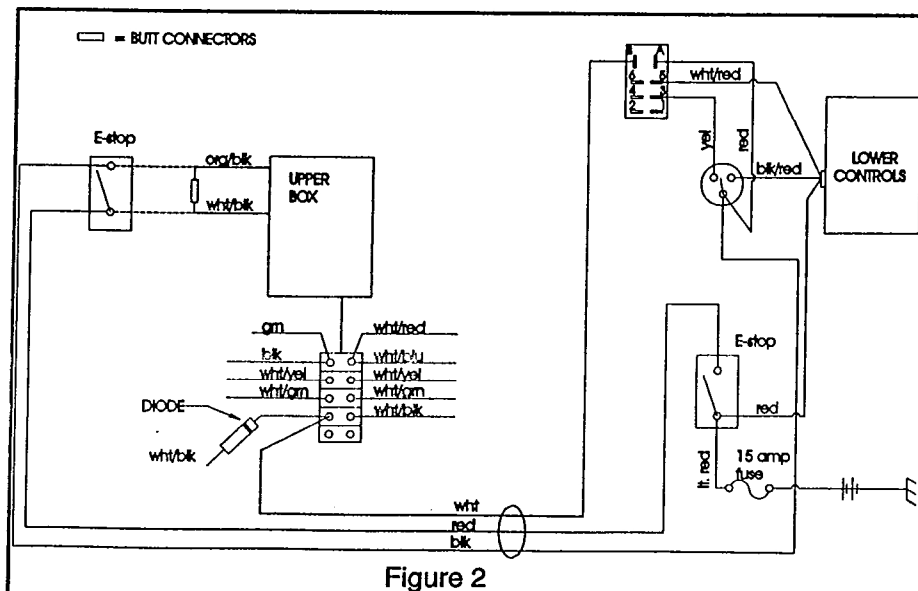


Figure 2

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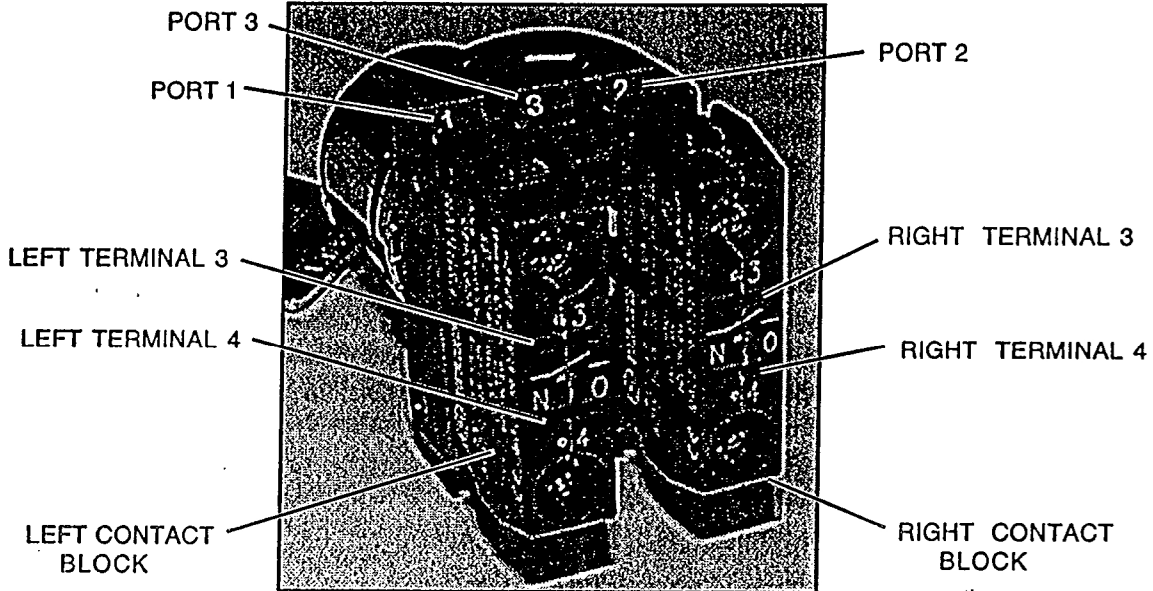


Figure 3 - Contact Block

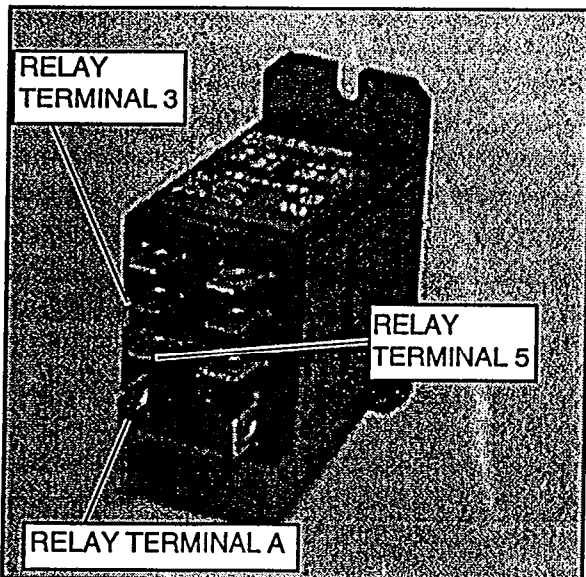


Figure 4

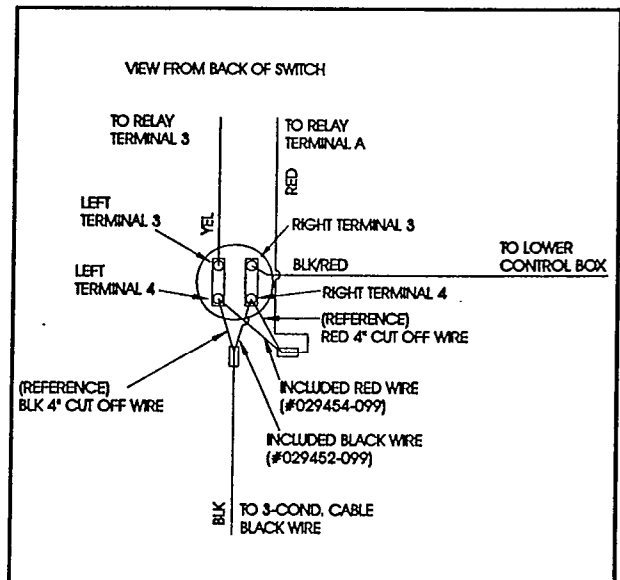


Figure 5

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