



SUN ELECTRIC CORPORATION

Model: **CWB-1820**
MOTOR CHANGE KIT

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Field Installation Instructions

INSTALLATION MUST BE PERFORMED BY QUALIFIED SUN SERVICE PERSONNEL ONLY

INSTALLATION OVERVIEW:

The CWB-1820 was shipped with the incorrect motor and control circuitry. This kit provides the parts and harnesses to convert the 115 V 1 phase CWB-1820 into a 220 V 3 phase unit.

PARTS LIST:

NOTE : *The three groups of three, nine digit Part Numbers are SUN Part Numbers in Beissbarth format.*

<u>Description</u>	<u>Part Number</u>	<u>Quantity</u>
Motor with pulley 220V 3 phase	977-251-039	1
with Motor Control Harness	931-553-024	
ON OFF Switch with harness	931-522-007	1
Motor Control Board	931-523-002	1
AC cable Strain Relief	974-205-070	1
Wiring Diagram	941-712-001	1
AC Plug 3 phase	2803-0005-01	1
Installation Instructions	0692-1933-01	1

REQUIRED TOOLS:

Complete Sun Issued Tool Kit

INSTALLATION PROCEDURE:

USE STANDARD SAFETY PRECAUTIONS WHILE PERFORMING THIS PROCEDURE

1. Disconnect power cord from wall outlet.
2. Remove the single phase 115V connector (AC plug) on the AC line cord.
3. Remove the distance gauge arm with a hex wrench.
4. Remove the Phillips screws around the base of the weight tray and carefully lift off. You can position the weight tray to allow access to

5. Pull the AC power cord back through the threaded strain relief in the sheet metal base, it may be necessary to loosen the outside nut on the strain relief.
6. Remove the two Phillips screws holding the black plastic cover over the motor control board. Disconnect all wires from the Motor control board.
7. Loosen the screw in the middle of the On/Off switch. After loosening it a few turns, press on the screw and remove the Red switch lever and Yellow base. Remove the four screws and save all these parts until later.
8. Remove the two ground screws and wires from the On/Off switch. Save screws for later reinstallation. Set the On/Off switch assembly with harnesses aside for return to the factory.
9. Remove the six belts from the motor pulley. They will remain on the main shaft until later.
10. Remove the three bolts and nuts holding the drive motor to the measurement casting. Be careful of the optical timer mounted on the rear of the main shaft with a steel fork going down to the motor. It is held in place by a plastic stud.
11. Carefully remove the motor and its harness from the balancer.
12. Remove the Plastic stud and hardware from the original motor and install in the same hole in the new motor.
13. Install the motor with the three bolts and nuts. Be careful to center the optical timers fork around the plastic stud.
14. Remove the motor control board from the balancer, it has two large yellow relays like the replacement board but it is a little shorter in length.
15. Install the new motor control board in the balancer. The ground Fast On should be toward the front of the balancer. See figure 1.
16. Plug the motor harness into ST6 on the motor control board.
17. Install the On/Off switch and harness assembly using screws removed in step 7. Install the Yellow switch cover and the Red switch lever tighten the screw in the center of the switch lever (do not over tighten it will strip) . Connect the Switch harness to ST1 on the motor control board. Install ground wire and screw removed in step 8.
18. Remove the AC power cords strain relief and replace with the new one supplied.
19. Insert the AC power cord into the strain relief and feed it out leaving some slack in the balancer. Tighten the nut of the strain relief and make sure the cable is snug in the retainer.
20. Install the six rubber drive belts on the motor and shaft pulleys.

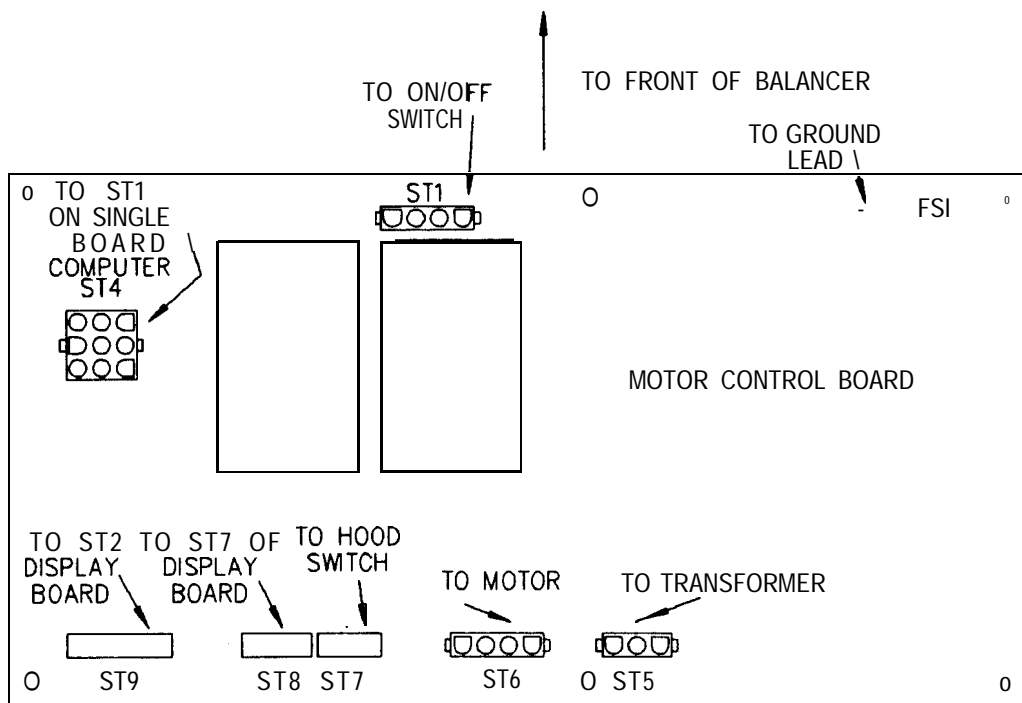


Figure 1 MOTOR CONTROL BOARD

21. Install the other harnesses on the motor control board in their respective places. See figure 1.
22. Remove the plastic guard over the High voltage side of the power transformer and move jumper lead from the transformer 110 V position #3 to the 220 V position #4. Clip the tab on the guard and replace it over the High voltage terminals.
23. Install the black plastic cover over the motor control board. Remove the plastic bag taped to the top of the cover and remove the schematic and replace it with the schematic included in the kit.
24. Check all connections and reinstall the weight tray being careful to not push the distance gauge in beyond your ability to pull it out and reconnect the arm. Install all the fasteners in the tray and Install the distance gauge arm with the hex screw.
25. Install the AC Plug on the end of the power cord following the instructions in figure 2.

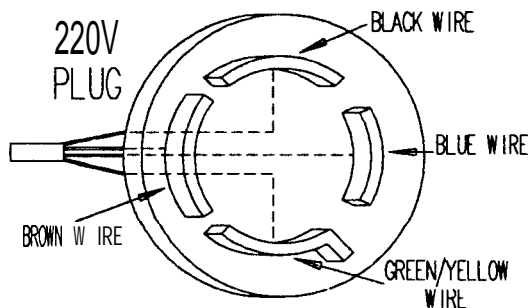


Figure 2 A/C Plug Color Code

26. Connect the AC connector to the 3 Phase 220V wall connector.
27. Check balancer for proper rotation of the shaft by running through a balance cycle. The tire should turn in the direction of the arrow. If not, error code '3" will be displayed on the screen. Reverse the Brown Wire and the Black Wire in the A/C plug.
28. If the balancer is in the Grams mode press and hold the Gr/Oz switch for 5 seconds to change to the Oz mode.
29. Perform a Flange Calibration using the following instruction:
 - a. Place Spring, medium size Cone, Drum and Hub nut on shaft and tighten.
 - b. Press C to clear the machine.
 - c. Press Balance Weight Position key and Weight Tolerance/OK keys simultaneously for 5 seconds, and CAL 000 will appear on the displays.
 - d. Close the Hood and Press Start.
 - e. When the machine stops the Flange Calibration is complete.
30. Machine Calibration with Wheel.
 - a. Mount and balance a bare 14" rim to less than .25 OZ.
 - b. Program the Potentiometers with the correct values for Width, Diameter, and distance.
 - c. Press Balance Weight Position key and Weight Tolerance/OK keys simultaneously (they are shown with a CO above and between them) for 5 seconds, and CAL 000 will appear on the displays.
 - d. Close the Hood and Press Start.
 - e. When the machine stops the Zero Wheel Calibration is complete.
31. Calibration with 2 ounce weight.
 - a. With the same wheel mounted place a 2 ounce weight on the rim at 6 o'clock position.

NOTE: *The earth will open up and swallow you whole and spit out your buttons, if you do not place the weight at exactly the 6 o'clock position.*

- b. Press the Weight Threshold and Grams/Ounce buttons (they are shown with a C60 above and between them) at the same time for at least 5 seconds. The display will read CAL 060. (60 grams is close to 2 ounces in the metric system.)
- c. Close the Hood and Press Start.
- d. The machine will spin for about 20 seconds and stop.

32. Remove the wheel and repeat step 29 Flange Calibration.

* INSTALLATION COMPLETE *

CHECK OUT PROCEDURE: _____

1. Properly mount a 14" wheel and tire on Balancer.
2. Program the Potentiometers with the correct values for Width, Diameter, and distance.

3. Balance the assembly with the Weight Threshold showing one red and one green light.
4. Place a 2 ounce weight on the outside of the wheel.
5. Close the hood and the wheel will spin.
6. The display should show 2 Oz. \pm 0.2 Oz. on the outside display and 0.0 Oz. \pm 0.2 on the inside display.

* CHECK OUT COMPLETE *

**INSERT THESE INSTALLATION INSTRUCTIONS IN THE BACK
OF THE APPROPRIATE SUN SERVICE MANUAL**

PARTS RETURN PROCEDURE: _____

Package all parts in the box used to ship the original Kit. Be careful of the circuit board and pack it in the provided packing materials. These are good parts and must be returned for credit. Ship parts back to Crystal Lake using the enclosed packing label.