



We invented the popcorn machine
THEN JUST KEPT GOING!

176 MITTEL DRIVE, WOOD DALE, IL 60191

MWVT Instructions

120 Volt,
Single Phase, 60 Hz

230 Volt,
Single Phase, 50 Hz



READ and UNDERSTAND these safety instructions before
cleaning this popcorn machine

METRIC WEIGHT VOLUME TESTER (M.W.V.T.) OPERATING INSTRUCTIONS

The Cretors' Metric Weight Volume Tester has been produced under the guidelines of the Popcorn Institute. The Tester is used to determine the expansion of a popcorn sample under tightly controlled popping conditions.

The main features of the Tester are:

1. High wattage Pan
2. Voltage Control to permit exact control of the pan wattage
3. Digital Watt Meter
4. Digital Temperature Control to ensure accurate oil temperature.
5. Measuring Tube with a large diameter to limit bridging of the popcorn in the tube.

The tools provided with the tester are a corn cup for handling raw kernels, graduated cup for measuring oil, a salt measure and a corn scoop for handling the popped corn.

To start the Tester, you should take the following steps:

1. Turn on the circuit breaker, kettle switch and lights.
2. Using the Voltage Control, adjust the power to 1400 Watts as shown on the Watt Meter. As the meter is very sensitive, you can expect the value to oscillate between 1395 and 1405 Watts.
3. Set the temperature on the Temperature Controller to 480 °F (249 °C). The upper display on the controller shows the actual measured temperature, while the lower display shows the desired or set-point temperature. When the controller is calling for heat, the indicator light labeled L1 on the controller will be illuminated. When the popper finally reaches 480 °F (249 °C), the light L1 will go off. The measured temperature will overshoot the set-point by a few degrees; the pan will cool down below 480 °F (249 °C), and then the heat will come back on. However this time the temperature will not overshoot the set-point by much.

The popper is now up to temperature (480 °F or 249 °C) and holding steady. You will need the following **materials to do the test**:

1. Oil. Yellow or white coconut oil is recommended. If solid at room temperature, heat to liquid state. A loss of color will indicate the use of excessive heat/temperature. Measure one half-cup of oil (4 Fl. Oz or 118 CC).

2. Popcorn Samples. You should make up four samples at 250 grams each. Label one as “warm up sample”, and the other two as “Sample A” and “Sample B”.

The Test should be done as follows:

1. Ensure that the Watt Meter is set at 1400 Watts, and that the measured temperature (upper display on the controller) is at 480 °F (249 °C).
2. Turn on the motor/stirrer.
3. Pour the half-cup measure of oil in the pan, and close the lid.
4. The temperature will drop initially but will recover to the 480 °F (249 °C) set-point.
5. Once the L1 light on the controller goes off (approaching set-point), immediately place the “warm up sample” of popcorn in the kettle and close the lid.
6. The popping corn will push the kettle lid up and popped corn will spill into the cabinet. The popping run is considered finished once there is a lapse of five seconds between “pops” heard by the operator.
7. The operator should then empty the kettle by pulling down on the kettle handle, empty popped corn in cabinet, then return kettle to level position.
8. Push all of the corn into the tube, remove the tube and discard the first batch, then return tube into the MWVT.
9. Add another half-cup measure of oil to the kettle.
10. Once the kettle temperature has recovered, place “Sample A” in the popper and close the lid.
11. Repeat steps 6 and 7.
12. Gently brush the popped kernels from the cabinet into the tube. You need to be careful not to unnecessarily pack the popcorn into the tube. Start at the left side and moving clockwise around the cabinet, brush the kernels into the tube.
13. Carefully remove the tube and read the popped corn height by interpolating the “level point” on the popped corn column. Record the M.W.V.T. reading for “Sample A” in units of Cubic Centimeters Output per Grams of Corn Input.
14. Empty the tube.
15. Re-position the tube and rerun for Sample B.
16. Generally only two samples are required. If there is a large difference in the values read for Sample A and B, then a third test should be run to confirm the correct reading
17. After the last popping, shut off the kettle, light and motor switches. Switch off the circuit breaker.
18. Clean the machine.

After a test is completed, the following data should be recorded (reference last page of manual as sample test sheet which should be recorded and kept):

1. Corn Hybrid
2. Corn Moisture
3. Pan temperature
4. Popper Wattage
5. Tested Volume

Note: A deviation of ± 1 unit of measure should be expected and is normal due to testing machine tolerances.

IX SANITATION INSTRUCTIONS



Be certain the machine is turned 'OFF' and power is unplugged before sanitizing this machine. Failure to do so could result in injury or death.



Do not clean heated surfaces until they have been given sufficient time to cool. Failure to do so may result in serious burns.

1. Popping Kettle



Do not immerse an assembled pan in water. This will damage the electrical components and may cause short circuits resulting in electrical shock hazard if power is applied.



Do not use steel wool or other similar abrasives to clean the kettle as they will ruin the kettle by removing the nickel plating



Do not attempt to clean the kettle with power connected unless you are boiling the "CKC" cleaning compound to clean the inside of the kettle in step F.



Do not attempt to clean a hot kettle. Failure to do so may result in serious burns or scalds.

- A. The kettle has a polished nickel finish and is very easy to clean if oil is not allowed to burn on it. After the final popping, the best practice is to wait until the oil just begins to solidify, then take a cotton towel or absorbent rag and wipe the kettle. Once the oil is allowed to completely solidified, it can become more difficult to remove. We recommend coconut oil for your Cretors popper; it will not stick or burn as easily as other oils.
- B. A thorough cleaning every week with "CKC" cleaning compound is recommended. This will prevent the accumulation of carbon on the bottom and internal sides of the kettle. When boiling the "CKC" cleaning compound in the kettle, do not fill the kettle with more

- than 3/4" high of water inside the kettle. If the kettle has been overheated or oils that tend to carbonize are used the normal cleaning procedures may not suffice. Increase frequency as needed.
- C. Make sure the thermocouple fitting in the bottom of the pan is not full of carbon. If this fitting is allowed to fill with carbon, it will affect the way the thermocouple reads the temperature. Be careful when cleaning this fitting that you do not damage the thermocouple.
 - D. Cretors Outside Kettle Cleaner "COC" should be used periodically to remove popping oil that may become baked to the outside of the kettle. The kettle agitator assembly should be removed weekly for thorough cleaning.
 - E. The stirrer blade is disassembled by removing the spring pin (#1472) going through the top of the stirrer blade (#2152-NSF). Lift off stirrer blade.
 - F. Clean all parts thoroughly, making sure to use Cretors Kettle Cleaner. Do not use any harsh abrasives or cleaning material.
 - G. Reassemble in reverse order, following the directions above.

2. Cabinet

- A. The cabinet glass and cabinet can be cleaned with any good grade glass or household cleaner suitable for glass and plastic surfaces. The inside of the cabinet can be cleaned with the same cleaner as the outside, if it is the type that has a cleaning agent to cut the oil remaining from the popping operation, and it is acceptable for food contact surfaces. Do not soak unit with water. Avoid wetting of inside of electrical enclosure
- B. The dropshelf (#3812) can be removed for cleaning. To remove the dropshelf you will need to lift it up on one side at an angle until it clears the frame
- C. The hopper (#2680) also can be removed for cleaning. To remove the hopper, you will need to remove the dropshelf (3812) and the measuring tube (#2140-55). Then lift the right hand side of the hopper up at an angle until it will allow you to clear the frame.
- D. When cleaning the measuring tube, be careful not to drop it. It is made out of extruded plastic. If dropped it may crack.
- E. This appliance shall not be cleaned with a water jet.



C. CRETORS AND COMPANY
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Appendix – Sample test form.

MWVT TEST FORM

DATE: _____

TESTED BY: _____

The popping time is from the time corn is added to the time the kettle is dumped.

SERIAL NUMBER:			
COLD START TIME:			
TEST #	EXPANSION	POPPING TIME	
1			
2			
3			
4			
5			
6			
NOTES:			

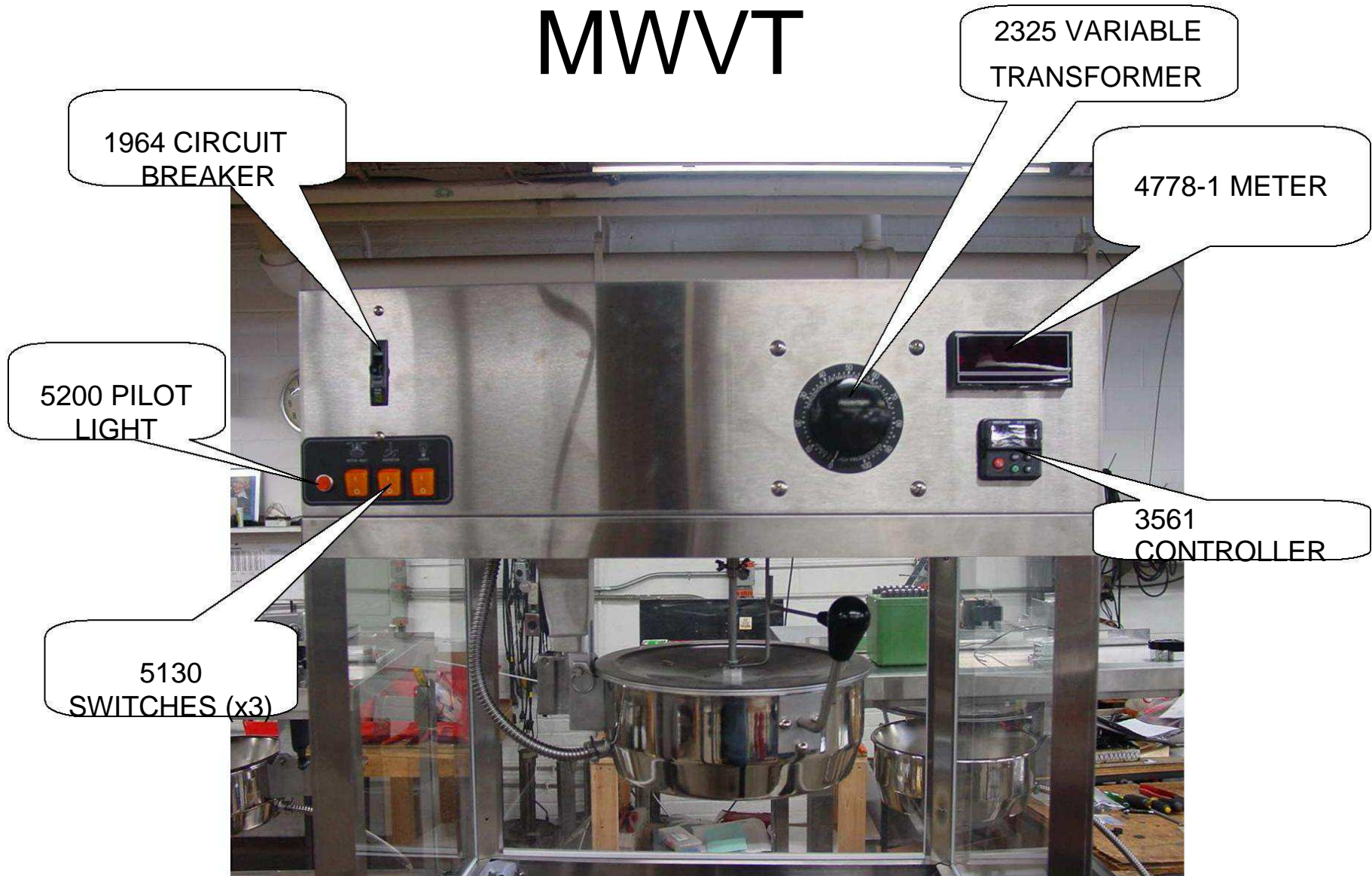
SERIAL NUMBER:			
COLD START TIME:			
TEST #	EXPANSION	POPPING TIME	
1			
2			
3			
4			
5			
6			
NOTES:			

SERIAL NUMBER:			
COLD START TIME:			
TEST #	EXPANSION	POPPING TIME	
1			
2			
3			
4			
5			
6			
NOTES:			

SERIAL NUMBER:			
COLD START TIME:			
TEST #	EXPANSION	POPPING TIME	
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5			
6			
NOTES:			

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MWVT



MWVT

2152-NSF STIR
BLADE



MWVT

NOT SHOWN:
2719 FILTER

1114 SQUARE
HEAD SCREW

4263
CONNECTOR

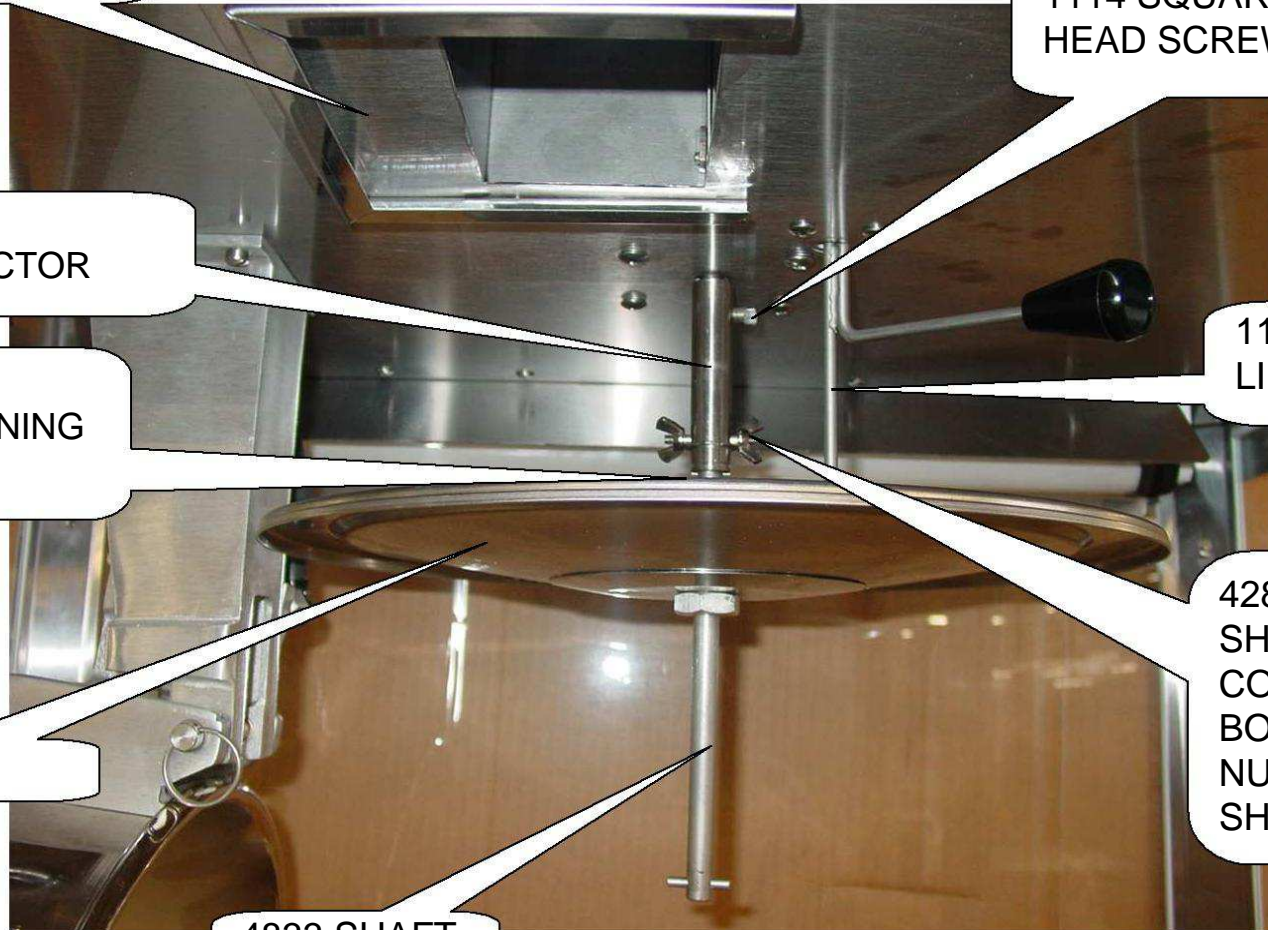
1129 COVER
LIFT ROD

4267
RETAINING
RING

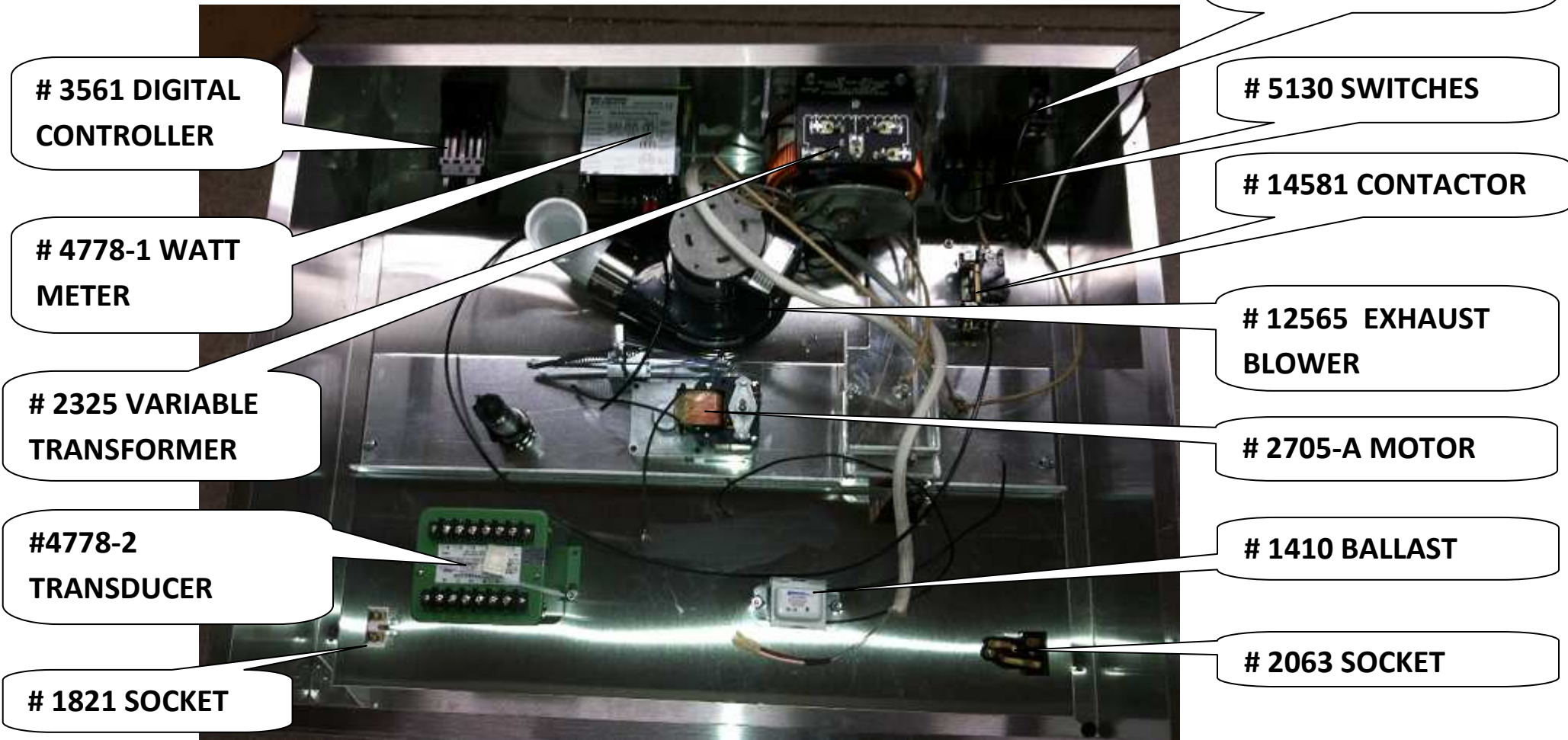
4283 / 14116
SHAFT
CONNECTOR
BOLT W/ WING
NUT / KETTLE
SHAFT PIN

7551 COVER

4833 SHAFT



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