Model ST 2.5E

DANGER!

**HIGH VOLTAGE TEST EQUIPMENT SHOULD BE HANDLED WITH CAUTION.
HIGH VOLTAGE TEST PROCEDURE SHOULD BE FOLLOWED
INCLUDING THE USE OF HIGH VOLTAGE GLOVES!**

NOTICE

DO NOT DESTROY THIS SHIPPING CARTON
IT IS SPECIALLY DESIGNED, AND MUST BE USED FOR ALL SHIPMENTS OF THIS INSTRUMENT

THE WARRANTY IS VOID IF SHIPPED IN ANY OTHER CONTAINER WITHOUT SUFFICIENT SHOCK ABSORBING PACKING MATERIAL

SAFETY PRECAUTIONS

1. Do not touch the test leads, winding, or component under test while a test is being made. Severe electric shock may result.
2. Be sure the surge tester is grounded. Use a three lead grounded supply (or an extra ground lead if unsure of supply ground).
3. In capacitor-start motors, remove all capacitors from test circuit.
4. The surge tester is NOT APPROVED for use in an explosive atmosphere.
5. Upon completion of a High Potential test, allow sufficient time for the winding to discharge before disconnecting test leads.

OPERATION NOTES

1. Irregularities, particularly vertical peaks, may be seen in the first cycle of the wave pattern. These occur most frequently on large, high voltage motors. Do not interpret these as faults in the winding. Any winding fault will be seen through the entire waveform.
2. Do not change the TEST SELECT switch setting while a test is being made.
3. When increasing applied voltage, use a higher VOLTS/DIVISION setting so the entire wave pattern stays visible on the screen.
4. Always return the Output control to MIN when a test is complete. Begin each test at a low Output setting. Failure to do so may result in damage to next winding or component under test and/or the surge tester.

IMPORTANT NOTICE

If there is a failure of the Baker Surge Tester, regardless if it is under warranty or not, the customer should call the Baker Service Department before returning the unit for repair. In some cases, the repair may be done by the customer at a significant savings. If under warranty, the customer could still save costly shipping charges and lost time while the unit is being shipped and repaired. In addition, our service staff may direct the customer to ship the unit to one of our authorized service centers if it needs in-house repair. One of our regional Service Centers may be closer than our home office, with less expensive shipping charges.

When calling the Baker Service Department or one of the Service Centers, the Model and Serial Number (located on the rear panel of the unit) must be available. If the unit is out of warranty, a purchase order will be required if the unit is returned for repair.

Service calls should be directed to the number listed below:
(303) 221-3150

CAUTION

**Contact with test leads on this equipment can cause harmful or fatal electrical shock.
Do not touch the test leads while test is in progress!**

SECTION II: OPERATION

A. CONTROL FUNCTIONS, FRONT PANEL

POWER: This switch controls the instrument power. When the switch is moved down, so that the red indicator is showing, the instrument is ON. This switch does not affect the battery charger.

FOCUS: This control adjusts the clarity of the display, from a wide or thick trace, to narrow or fine trace line.

VERTICAL: This control will adjust the position of the CRT display in an UP or DOWN movement. Optimum positioning would be at or near CENTER screen.

SWEEP: This control will adjust the CRT display LENGTH, or the time duration taken by the oscilloscope to display the pattern.

FUNCTION: This control selects the type of test, either DC Hipot or Surge Comparison. The settings on the left side of the switch are the Surge Volts per Division. This determines the scale factor when doing surge comparison testing.

The settings on the right side of the Function Switch are Hipot Micro-amps per Division. In hipot testing, the Model ST 2.5E has a fixed value of 500 volts per division, shown on the left half of the CRT. On the right side of the screen, leakage current is shown. Refer to Section IV. C for examples of reading micro-amps of leakage current.

OUTPUT CONTROL: This control when rotated clockwise will adjust the unit output voltage from 0 to 100%, the unit's rated output maximum. CAUTION: When testing very small windings, the surge tester can generate voltages in excess of the unit's output rating, which may damage the unit. Use caution to limit the output to no more than the nameplate rating.

ALWAYS RETURN OUTPUT CONTROL TO MINIMUM SETTING AFTER EACH TESTING SEQUENCE. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE NEXT WINDING BEING TESTED.

SURGE TEST LEAD COMPARISON SELECT: This switch determines which of the test leads are to be HOT or ENERGIZED and which are to be at GROUND potential. (Please see chart in Section III, Page 1.) Numbers indicated around switch are test leads that will be HOT. Windings connected to the corresponding numbered test leads will be compared with each other, and these patterns displayed on the CRT screen.

B. Rear Panel

Battery Charger ON-OFF. This unlabeled green switch controls the line power to the battery charger. It does not control the instrument power. When the switch is moved up and the instrument is plugged into line power, this switch will glow green to indicate that the batteries are being charged. The battery charger is current limited and temperature compensated, and may be left on at all times. It is not possible to damage the batteries by overcharging. When operating on battery power only, the batteries will last about 2-3 hours with intermittent testing. Low battery condition will be indicated by a flickering, unstable test voltage and dimming display. Full battery charge requires 8 hours if the batteries were deeply discharged. Frequent deep discharges will substantially shorten the battery life. Under 50% discharge conditions, 250-500 charge cycles can be expected. The instrument may be operated while the batteries are being charged.

LINE VOLTAGE SELECTOR: This switch allows operating the battery charger on 115 or 230 volts as required. To change the line voltage selector, remove the power cord from the instrument. With a small screwdriver, pry open the door holding the 115/230v selector drum. Remove the selector drum completely, rotate to the correct position, insert the drum and close the door. The line protection fuses are also accessed through this door.

CAUTION

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Do not touch the test leads while test is in progress!