

Owners Operating Instructions Manual for **CHANCE**[®] Wet/Dry Hot Stick Testers C403-3178 (115 Volts) & C403-3179 (230 Volts)



Introduction:

The Chance Hot Stick Tester is a portable, self-contained unit for checking the insulating integrity of electrical live-line tools in accordance with industry standards. By design, it is for testing tools made only of fiberglass-reinforced plastic (FRP) up to 3 inches in diameter. It is designed to detect leakage current through a tool.



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These instructions do not claim to cover all details or variations in equipment, nor to provide for all possible conditions to be met concerning installation, operation, or maintenance of this equipment. If further information is desired or if particular problems are encountered which are not sufficiently covered in this guide, contact A. B. Chance Company.

Set Up

Chance Hot Stick Testers C403-3178 and C403-3179 both perform in the same manner. The C403-3178 is for 115V source power only; the C403-3179, for 230V source only.

Make sure the tester power switch is on the “Off” position before connecting the unit to its correct power source.

⚠ CAUTION

Use only a properly grounded 3-wire power source. Incorrect readings can occur when attempting to use a gas powered generator or inverter as a power source.

⚠ DANGER

The unit tests with high voltages. Do not remove covers, keep hands away from the underside of unit.

NOTICE

Before turning the power switch to the “WET or DRY” position, turn the Zero knob to the “Zero” setting (fully counterclockwise). Damage to the meter could result if the Zero knob is at the maximum setting (fully clockwise position) when the unit is turned on.



After turning the power switch to the “DRY” position and with nothing in the open test area of the electrodes, rotate the Zero knob until the meter needle aligns with the line on the meter face indicated by the words “ZERO TO LINE.” This is the position the meter needle should return to after every test. Placing the Check Bar (which is stored in the case) in the tester should result in a near full deflection of the meter needle.



NOTICE

Using the check bar with the power switch in the Wet position will cause only a small deflection of the meter.



Dry Testing

NOTICE

Before turning the power switch to the “WET or DRY” position, turn the Zero knob to the “Zero” setting (fully counterclockwise). Damage to the meter could result if the Zero knob is at the maximum setting (fully clockwise position) when the unit is turned on.



1. Dry test:

The dry test should be conducted with the power switch in the “DRY” position.

- After turning the power switch to the “DRY” position and with nothing in the open test area of the electrodes, rotate the Zero knob until the meter needle aligns with the line on the meter face indicated by the words “ZERO TO LINE.”



... continued Dry Testing

- b. To begin testing, support the stick at both ends and place the tester on the stick. Take overlapping reading from one end to the other.
- c. Rotate the stick and test it again from end to end. Continue in this manner until all four quadrants around the pole circumference are thoroughly tested.

NOTICE

DO NOT slide the tester on the stick, but raise and replace it on the stick to check each location.



Wet Testing

NOTICE

Before turning the power switch to the “WET or DRY” position, turn the Zero knob to the “Zero” setting (fully counterclockwise). Damage to the meter could result if the Zero knob is at the maximum setting (fully clockwise position) when the unit is turned on.



2. Wet test:

Cleaning prior to testing:

Prior to testing, thoroughly clean each stick with Moisture Eater II solvent and a nonabrasive cloth. Apply the solvent liberally over the entire stick and wipe away contaminants with the cloth.

The wet test should be conducted with the power switch in the “WET” position.

- a. After turning the power switch to the “WET” position and with nothing in the open test area of the electrodes, rotate the Zero knob until the meter needle aligns with the line on the meter face indicated by the words “ZERO TO LINE.”
- b. For wet testing the hot stick should be horizontal. Using a mist applicator, mist the stick with distilled water evenly over the entire surface, from end to end. Avoid overwetting and discontinue spraying before the beads form a continuous line. A continuous line will provide a current path through the water and falsely indicate failure. The objective is for the water to bead up on a glossy surface.
- c. Follow the same testing procedures in Section (Dry Testing) **b.** & **c.** except the voltage should be applied to each tested section until the reading stabilizes before continuing to the next section of the stick.



Specific Readings



The lower (Dry) scale is read when the power switch is in the Dry position. The meter reads the leakage current on the Epoxiglas® stick when voltage equivalent to 100 kV/ft. is applied to the stick. The upper (Wet) scale is read when the power switch is in the Wet position. The meter reads the leakage current on the Epoxiglas stick when voltage equivalent to 75 kV/ft. is applied to the stick.

There are three critical meter indications:

1. A high leakage current reading can be caused by such problems as contamination on the stick, moisture or carbon tracks on the surface or in the wall. Any sticks registering this kind of reading should be removed from service until the problem is identified and remedied.

To eliminate surface contamination as the cause, clean the stick as prescribed for Chance hot line tools and repeat the test. A failure after properly cleaning, or refinishing and retesting indicates an internal problem. The stick should be removed from further service.

2. Non-uniformity in readings taken at various locations along the hot stick. Example: The first five consecutive readings on a stick are slightly above the Zero line. The sixth reading has a considerably higher leakage current. The remainder of the readings fall near the Zero line. The non-uniformity of the sixth reading should be retested by rotating the stick to get a maximum reading. Rotating the pole may result in a high leakage current reading.

In any case, non-uniformity should be checked by inspecting for localized surface contamination, cracking or other damage to the pole, a patched pole or plugged pole. (The latter condition often is noted on side rails of fiberglass-pole ladders where the rungs connect to the rails.)

3. In some cases, the leakage current will continue to rise as the stick is being tested. This stick should be cleaned and retested. If this condition is not corrected the pole should be removed from service.

For repairs, contact:

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NOTE: Because Hubbell has a policy of continuous product improvement, we reserve the right to change design and specifications without notice.