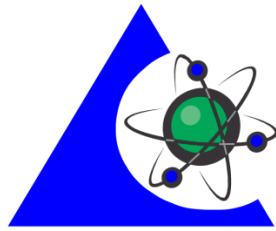
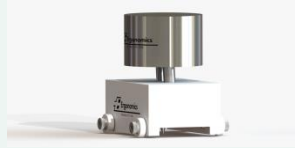


## WARRANTY

The ST10 Scratch Tester has a (1) year limited warranty against manufacturer's defects from date of purchase.



**PJLA**  
Calibration

Accreditation #75821  
**ISO/IEC 17025:2017**

Accredited Calibration Services are available.

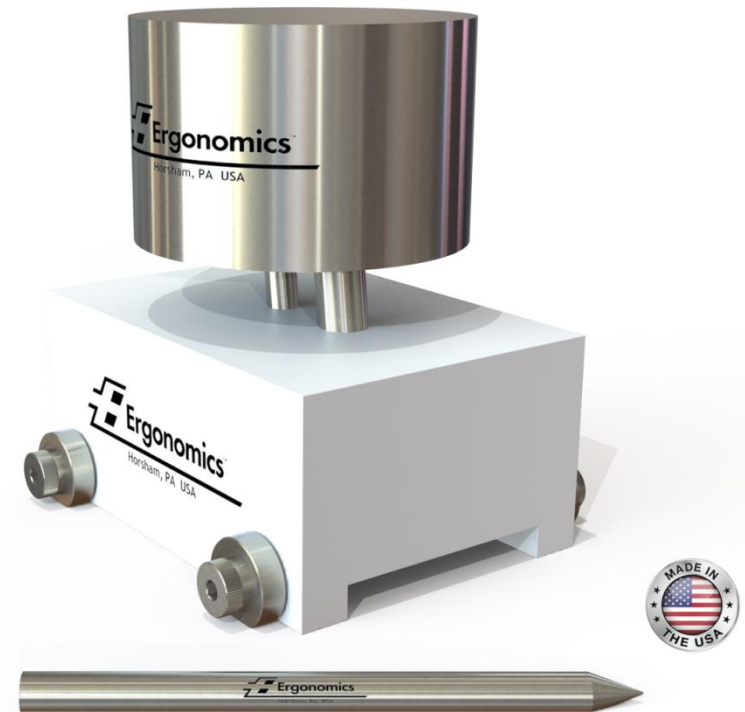
Please send to:  
Ergonomics Calibrations  
405 Caredean Drive  
Horsham, PA 19044

Scratch Pin Replacement – Model: SPP40

For pricing and order information contact:  
[Office@RamPrecision.net](mailto:Office@RamPrecision.net)

# ST10 USER MANUAL

## SCRATCH TESTER



**Ergonomics™**

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*Helping Customers Meet Worldwide Standards Since 1985*

## General

The Scratch Tester, Model ST10, has been developed in accordance with product safety standards IEC60950 and IEC60065.

It is used to determine the effectiveness of insulating coatings on printed wiring boards and anywhere the robustness of coatings is important. The cart is designed to hold the pin at 80°- 85° and the mass provides the proper force.

## Care and Maintenance

The Scratch Tester ST10 needs little care. It should be stored and used at room temperature. Warning, there is a sharp point on the pin which could cause injury if improperly handled. Annual calibration is recommended, especially for the point on the Scratch Pin. Even though the point is made of hardened steel, if the point is dropped on a hard surface it may disfigure the radius and not perform properly.



## Unpacking

Unpack the Scratch Tester ST10 and inspect for damage. It is packed in three pieces, the base, pin and the calibrated mass. Insert the scribe pin into the small hole on the bottom of the mass. Using the supplied 3/32" Allen Wrench, tighten the set screw in the side of the mass (screw may first need to be loosened to ensure scribe pin is seated properly). The apparatus is calibrated to the standards mentioned above.

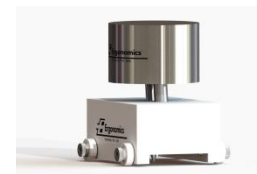
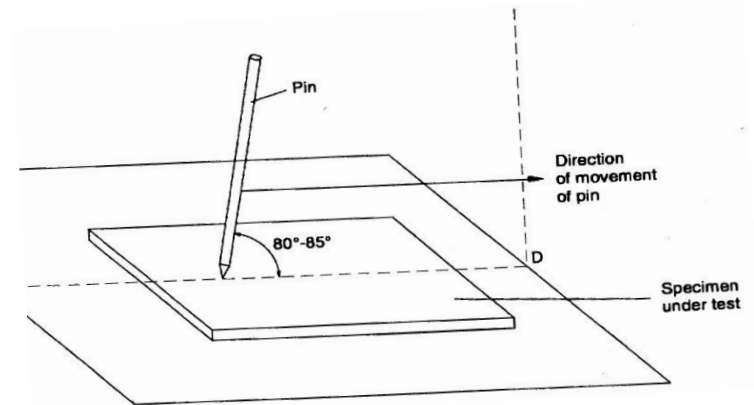
## Suggested Procedures

The procedures mentioned in this manual are general in nature. The following requirement is a summary of procedures appearing in product safety standards. For accurate results, refer to applicable standards for specific test procedures required.

The purpose of using the ST10 Scratch Tester is to determine if a coating is robust enough to maintain its dielectric properties or maintain its appearance after normal wear. It is important to refer to the applicable product standard for specific test procedures required for your application. This will ensure accurate results are generated.

Tests should be performed at room temperatures. Scratches are made across five pairs of conducting parts by drawing the pin along the surface in a plane perpendicular to conductor edges. The speed should be 20mm per second  $\pm$  5mm per sec. The pin is loaded to make the force along the axis 10N  $\pm$  0.5 N. The scratches should be at least 5mm apart and at least 5mm from the edge of the specimen under test. Consult the standard for any tests after scratching. See Figure 1.

The ST10 Scratch Tester has the pin and weight mounted on a carriage. The carriage can be moved in the proper direction by following the label on the side. When the travel for a scratch is complete, pick up the tester and move it to the next location for scratching. Do not drag the tester in the wrong direction since this would be an invalid test. Repeat until all the lines are complete.



## Specifications

Pin point: 0.25mm radius  
Angle: 40 degrees  
Mass: 10 N

**WARNING!** *The point at the end of the scribe is sharp and it may cause injury if it is mishandled.*

Replacement Pin Model : SPP40

