



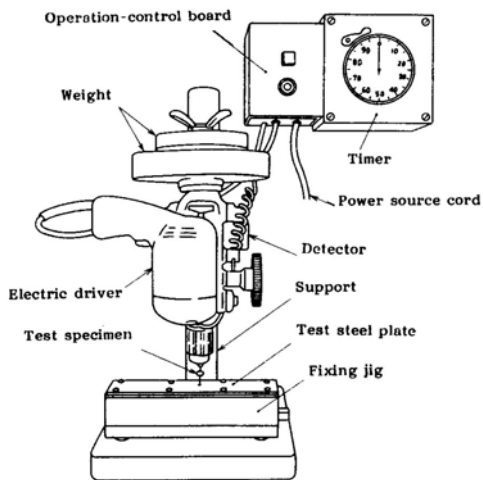
# Greenslade & Company DrilScruChek<sup>®</sup> Tester



**Greenslade & Company, Inc. USA**  
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## HISTORICAL DATA

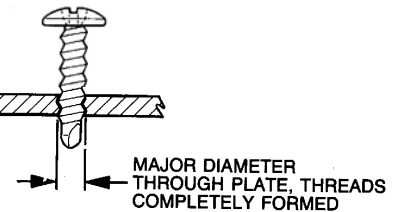
Drilling Capability Test Apparatus



SPECIFIED AXIAL LOAD  
AND DRILLING SPEED



LIMIT SWITCH STOPS  
AXIAL LOAD & ROTATION



CROSS - SECTIONAL VIEW  
OF DRILL TEST PLATE  
.060 - .064 THICK  
RB60 - 85



TIMER - SECONDS



TIMER - SECONDS

The DrilScruChek<sup>®</sup> tester is designed to test self-drilling and self-piercing screw drill time performance.

The purpose of the drill time test is to determine the relative performance of self-drilling and self-piercing screws by determining the precise amount of time it takes the screw to penetrate material of a specified thickness and hardness, using a specified amount of end-load and a driver rotating at a specified RPM.

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## **SAFETY**

To prevent serious injury, always observe basic safety precautions when moving, installing operating or maintaining this equipment.

1. Always wear approved industrial safety glasses.
2. Do not wear long hair loosely, loose clothing, jewelry or other items that could become entangled in the moving parts of this equipment.
3. Do not operate this equipment with the safety guards removed.
4. Only qualified maintenance personnel should be allowed to service this equipment.
5. Personnel operating or servicing this equipment should review this operating manual.
6. Lockout/Tagout procedures should be adhered to, prior to performing maintenance or repairs.

## **INSTALLATION INSTRUCTIONS**

1. Remove all shipping materials.
2. Place machine on a flat stable operating surface.
3. Level and bolt the machine to floor.
4. Connect 120 volt single phase power.

## **MAINTENANCE**

### **DAILY**

1. Remove all dust, oil and debris from the machine.

### **QUARTERLY**

1. Inspect V-Belt for breaks, replace if necessary.

### **AS REQUIRED FUSE**

1. Replace main fuse inside control box, if tester will not run and the red LED 017 top of the Time Mark Model 650 is not on.

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## OPERATION

### Pre-test preparation:

1. Refer to the applicable specification and determine the required RPM and end load weight for performing the desired test.
2. Press the two "RST" (reset) buttons on the control panel. The display and button on the left is for registering the tester's RPM, and the display and button on the right are for registering the elapsed test time.



3. With no weight on the tester and no screw in the chuck, press the "START" button and observe the RPM display.



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4. Unlock the RPM adjusting knob by pushing the outer tab on the upper right side of the speed dial counterclockwise. Adjust the tester's speed to the desired RPM by rotating the speed control dial. When the tester is running at the desired speed rotate the outer tab in the clockwise direction to lock the test speed into a fixed position. Press the STOP button.

The tester can be adjusted from 0 – approximately 2525 RPM. It is normal to observe a speed fluctuation of about +/- 5 RPM when making this setting.



5. Placed the desired test weight on the tester's weight rod.



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6. Place the desired driver tool in the spindle chuck and tighten it securely with the chuck key.



7. Move the table up or down so the driving tool is one or more inches above the top of the test plate holding vice.
8. Release the vice by moving the lock handle toward the back post. Slide the vice ram back to provide a space for the test plate.



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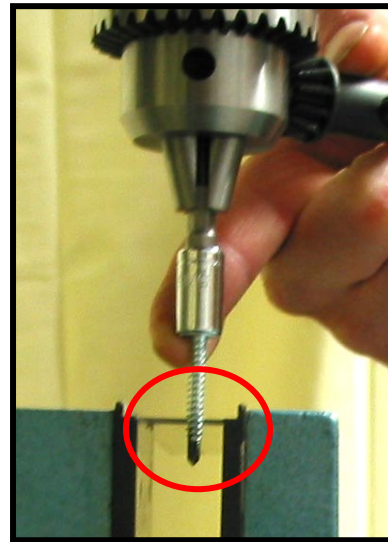
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9. Clamp a test plate into the vice so the plate is close to, but not under the driving tool.



10. Place a test screw in the driver and adjust the table up or down until the screw's point and at least two threads protrude below the bottom of the test plate. Using the handle opposite the table height crank, lock the table into position.



Note: The up and down table movement is easier and smoother if the front of the table is lifted as the crank is turned.

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### Screw Testing Procedure:

1. Slide the test plate under the driving tool, slide the vice jaw toward the test plate, and lock the vice into place by pushing the vice lock lever toward the tester.
2. Rotate the spindle handle to raise the spindle and place a test screw in the driver, and slowly release the spindle handle to allow the test screw to sit on the top of the test plate.



3. Press the timer display RST button.



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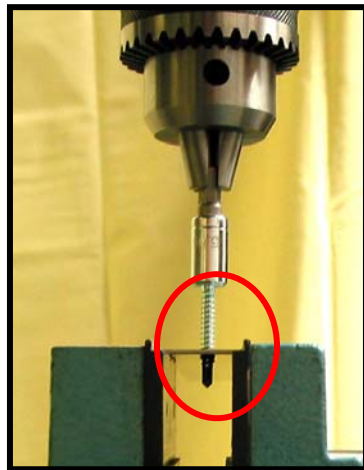
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4. Press the START button.



5. After the screw's point penetrates the test plate the micro-switch stops the tester.



6. The value on the timer display is the test screw's elapsed test time. To be acceptable the elapsed time must be less than that stated in the applicable test specification.



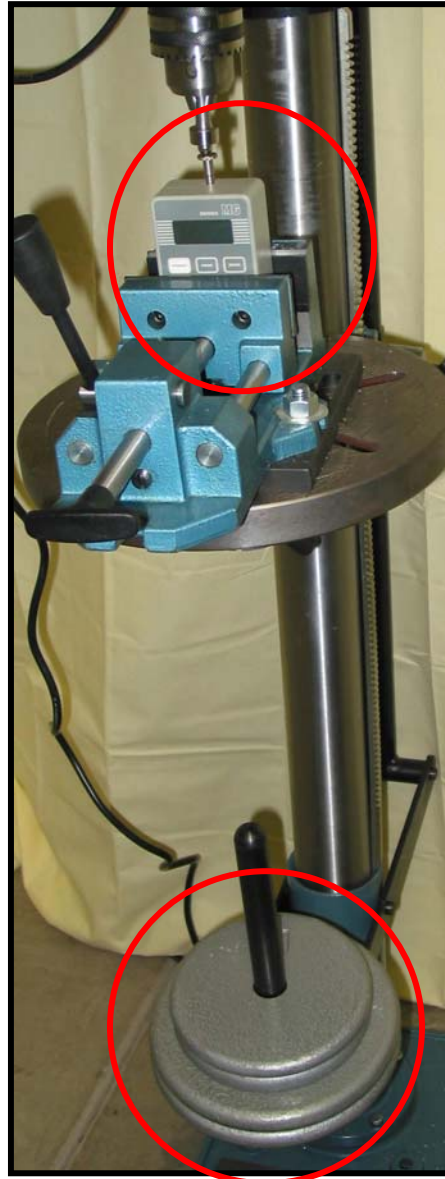
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## DrilScruChek<sup>®</sup> Calibration Procedure:

1. **Test End-load:** The tester is calibrated for end-load by placing a calibration force gauge between the spindle chuck of the tester and the table or vice. The end-load is considered within specification if the force gauge reads within +/- 10% of the weight loaded on the tester.



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2. **Tester Speed:** The speed is calibrated by comparing the comparing the RPM display with a non-contact calibrated tachometer that is monitoring the spindle speed. The RPM display for RPM is considered within specification if the display reads within +/- 5% of the speed indicated by the tachometer.



3. **Timer:** The timer display is calibrated by pressing the START and STOP buttons on the tester and on a calibrated stop watch simultaneously and comparing the results. The tester timer is considered to be within specification if the tester timer is within +/- 5% of the time indicated by the stop watch.



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