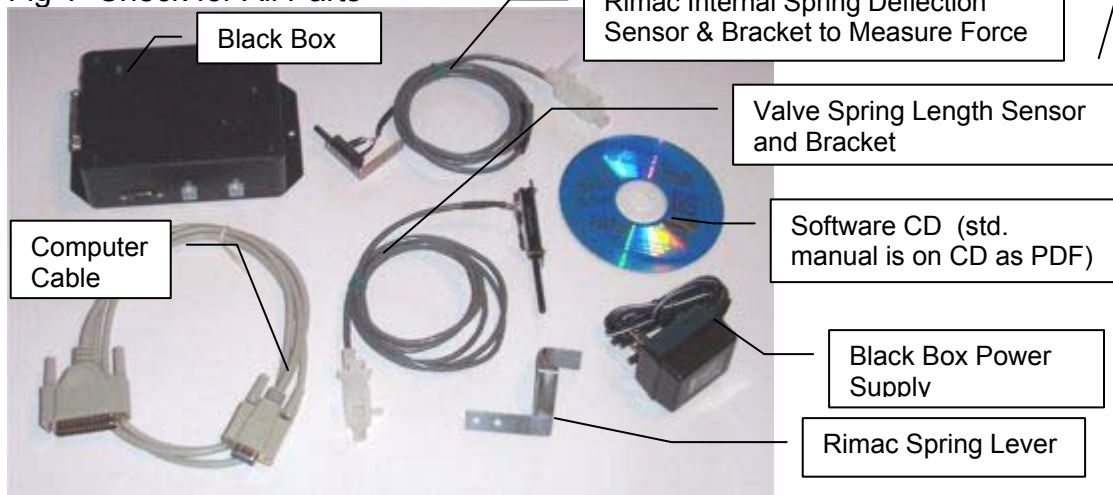


Rimac™ Spring Tester Retro-Fit Kit

Fig 1 Check for All Parts

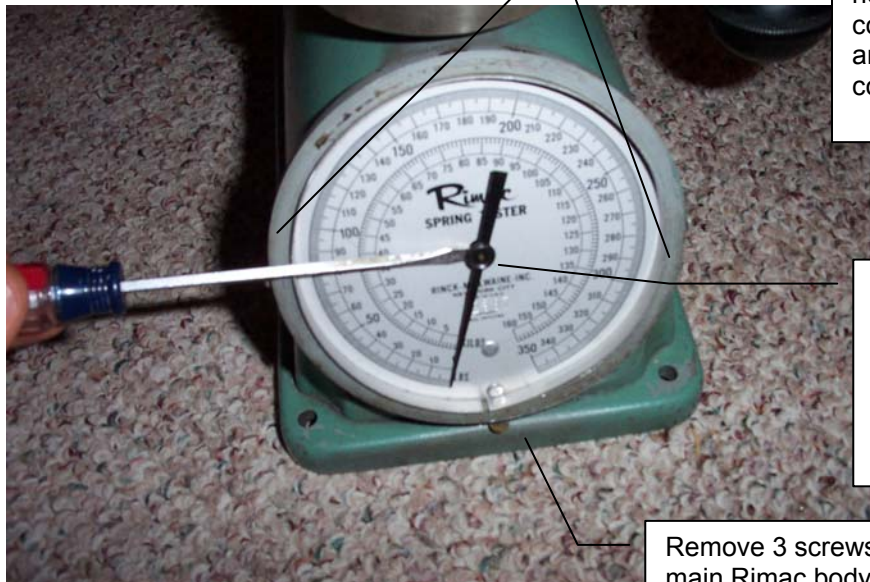


Not Shown: 1" Safety Collar and Miscellaneous Screws and Nuts

Important

The Black Box has been replaced by the Mini Black Box, which provides the same power as the standard Black Box, but in a much more compact package. See last page for wiring instructions.

Fig 2 Disassemble Rimac



Remove 2 screws holding front cover ring in place and remove front cover.


Gently pry needle off shaft with screwdriver, twisting blade of screwdriver.

Remove 3 screws holding base to main Rimac body



Remove top arbor platform with allen wrench. (Picture here is shown after modifications have been made.)

Fig 3 Template for Drilling Base Plate

Front existing screw hole 



Drill these 2 holes, 3/16" diameter
for 6-32 screws

**Important: This is the TOP side
of the Rimac Base Plate**

Rear Existing Screw Holes

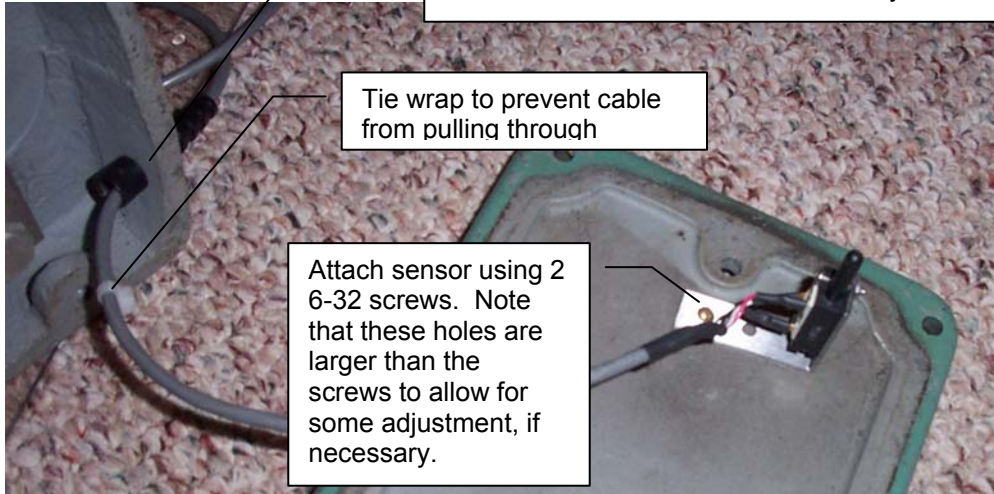


Fig 4 Attach Spring Lever to Rimac Spring



Remove these 2 screws (being careful to hold the existing dial indicator mechanism in place) and install the Spring Lever as shown and replace and tighten screws.

Fig 5 Attach Rimac Internal Spring Deflection Sensor to Base Plate and Drill Rimac Body for Lead



Drill 3/8 inch hole at back of main body for this lead

Tie wrap to prevent cable from pulling through

Attach sensor using 2 6-32 screws. Note that these holes are larger than the screws to allow for some adjustment, if necessary.

Fig 6 Route Strain Relief and Sensor Lead Through Hole

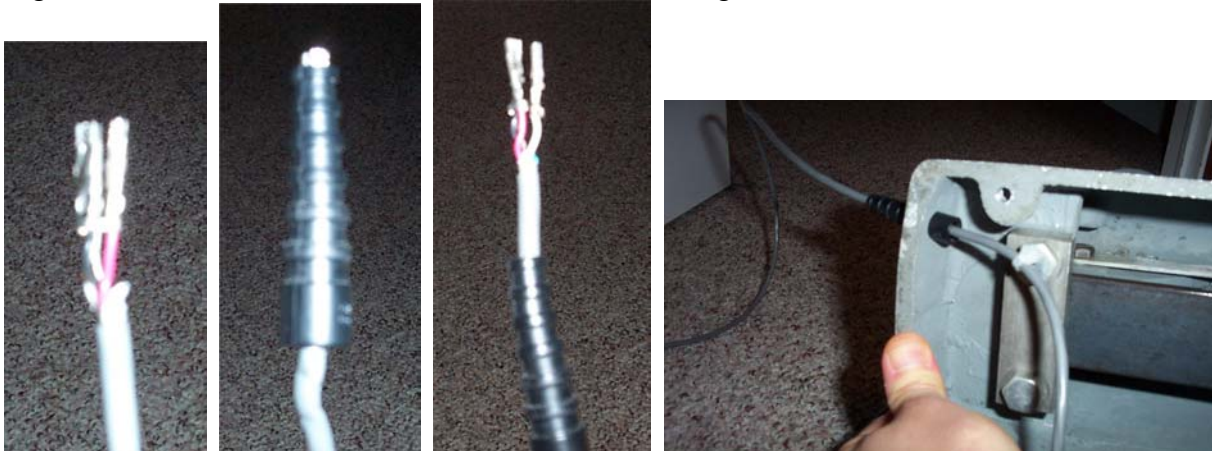


Fig 7 Insert Terminals into 4 pin Molex Connector, then Add Strain Relief

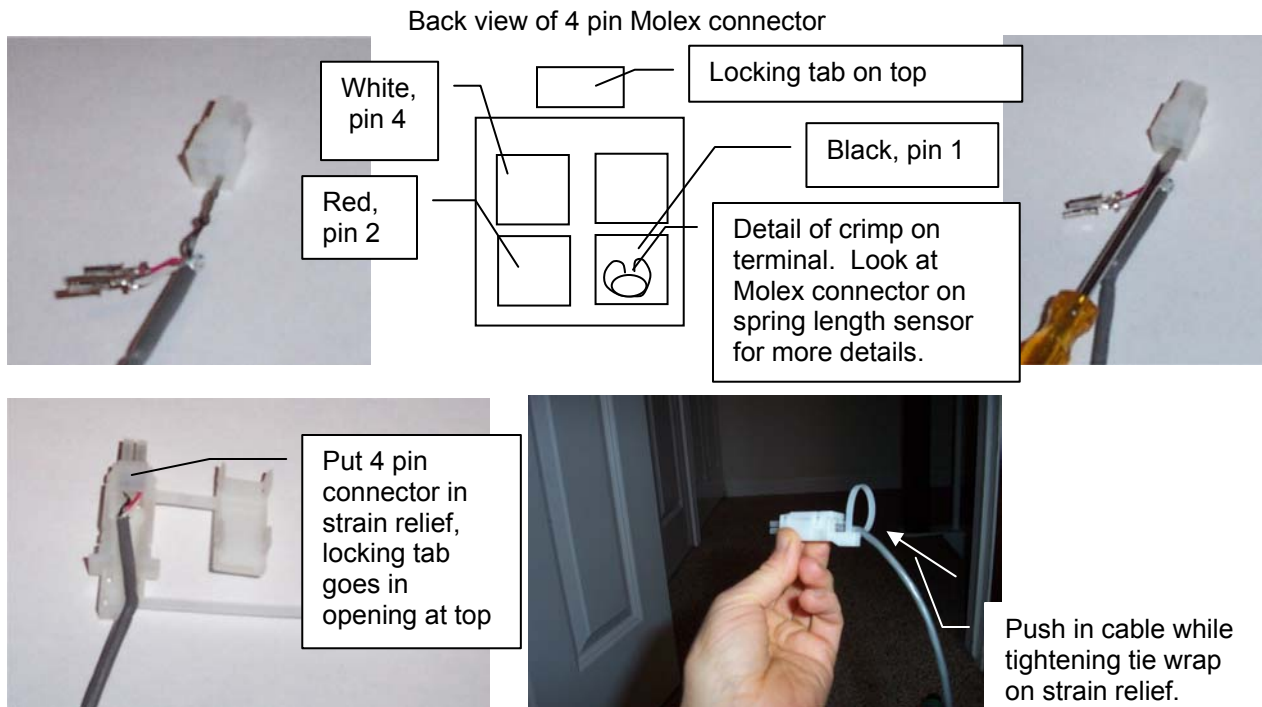


Fig 8 Reinstall Base Plate and Ensure Good Alignment of Force Sensor with Spring Lever

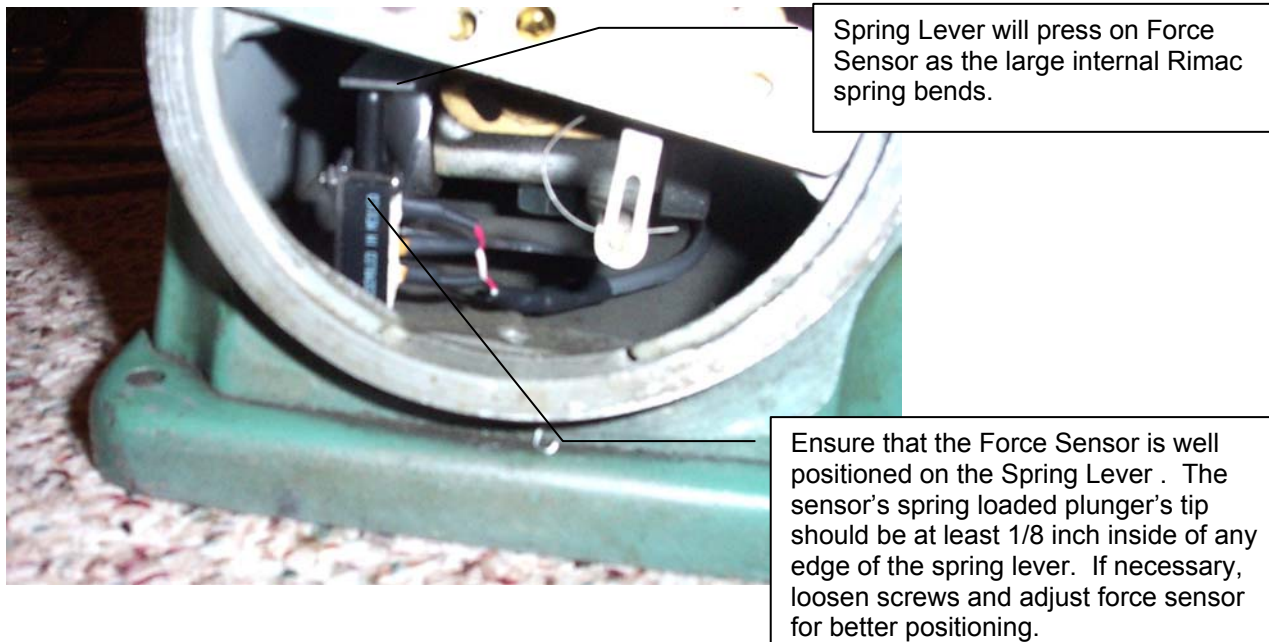
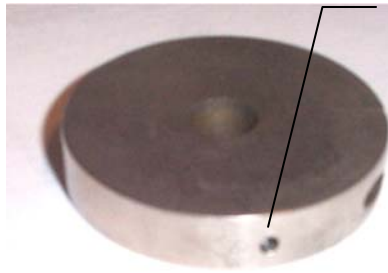
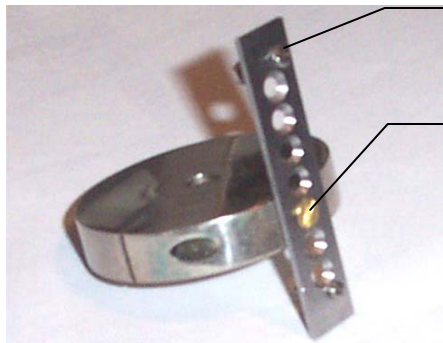
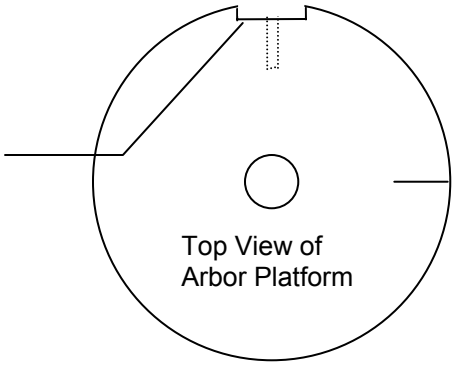


Fig 9 Install Valve Spring Length Sensor to Top Arbor Platform



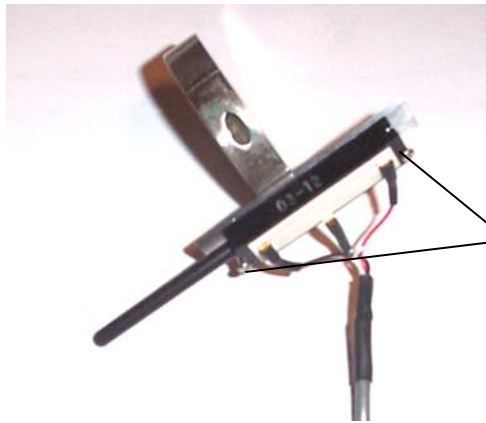
Drill and Tap for 6-32 screw on back side or Arbor Platform

Option: For added stability, machine a slot approximately .050" deep and .520 wide down back side of Arbor Platform. This will then hold the Spring Length sensor bracket more securely vertical.



Note that 2-56 screw holes are on the right side when viewed from this angle.

Install bracket with 1 6-32 countersunk screw. The 3rd hole from the bottom is typically a good initial setting from most valve springs.



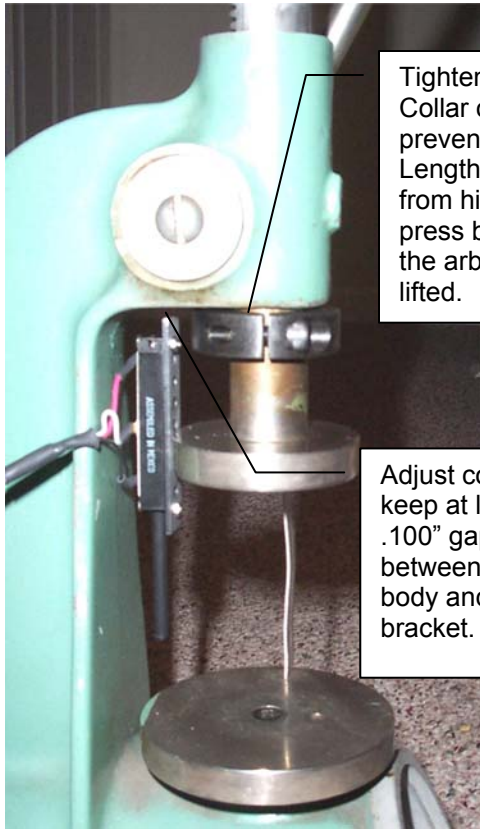
Install 1.5" sensor with two 2-56 screws and nuts

Figure 10 Reinstall Top Arbor Platform and Set Safety Stops



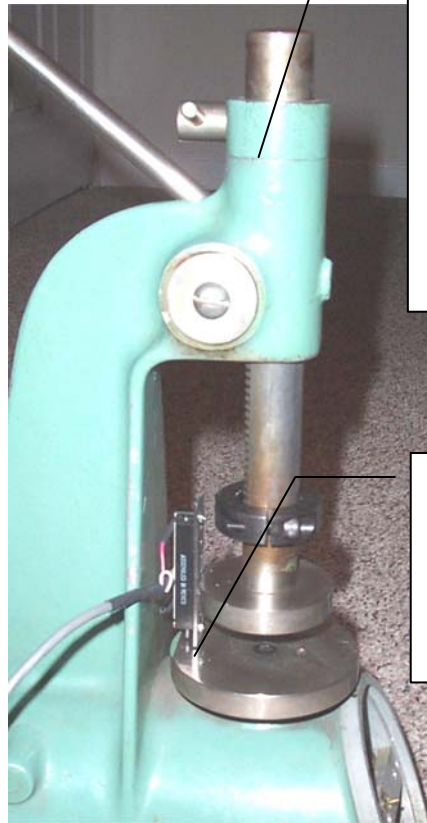
Depending on the design of the Safety Collar, you may need to slide it on the arbor at this time also.

Reinstall Top Arbor Platform with sensor positioned toward the back.



Tighten Safety Collar on arbor to prevent Spring Length sensor from hitting the press body while the arbor press is lifted.

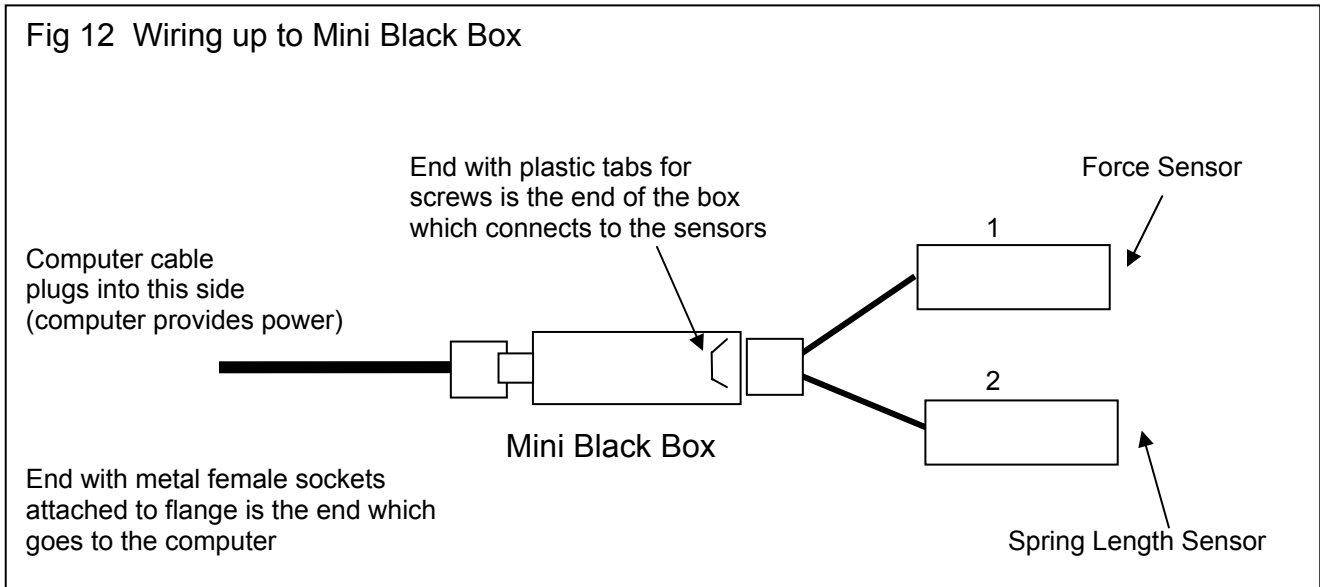
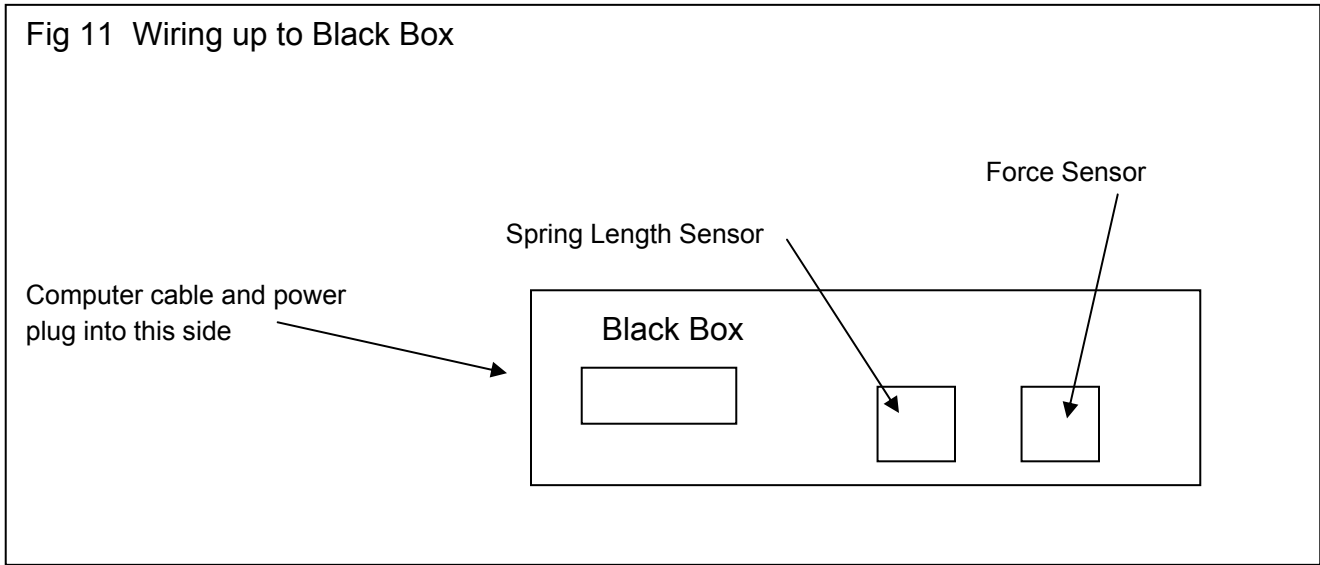
Adjust collar to keep at least a .100" gap between Rimac body and sensor bracket.



Adjust and tighten Rimac's existing Safety Collar on arbor to prevent Spring Length sensor from hitting the lower arbor platform while the arbor press is compressed.

Adjust collar to keep at least a .100" gap between the lower platform and sensor bracket.

Reinstall the front dial plate, dial needle (pointing to 0 with no force on tester), and cover with the 2 screws previously removed as shown in Fig 2.



Install the Valve Spring Tester software by installing the CD and running the Installation Wizard.

Calibrate the Black Box following the instructions in the manual. Since you have a force dial, you can calibrate the force sensor using the Rimac's force dial reading as the "upscale" force reading..

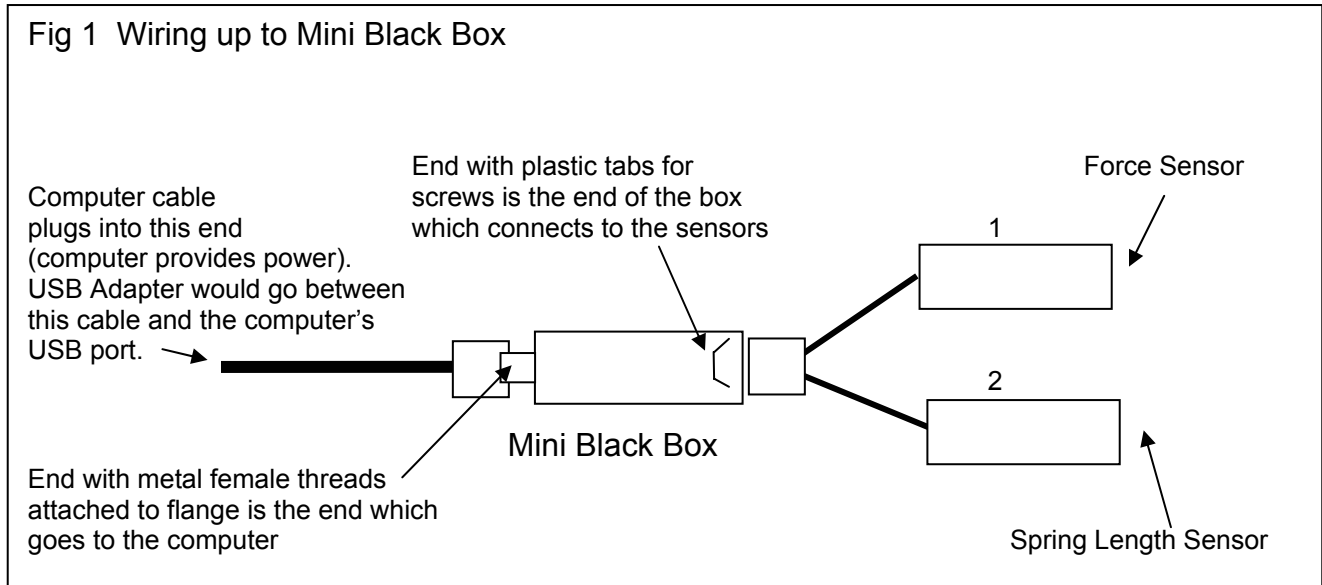
Now you are ready to start testing springs with much improved speed, accuracy and repeatability.

Bill of Materials

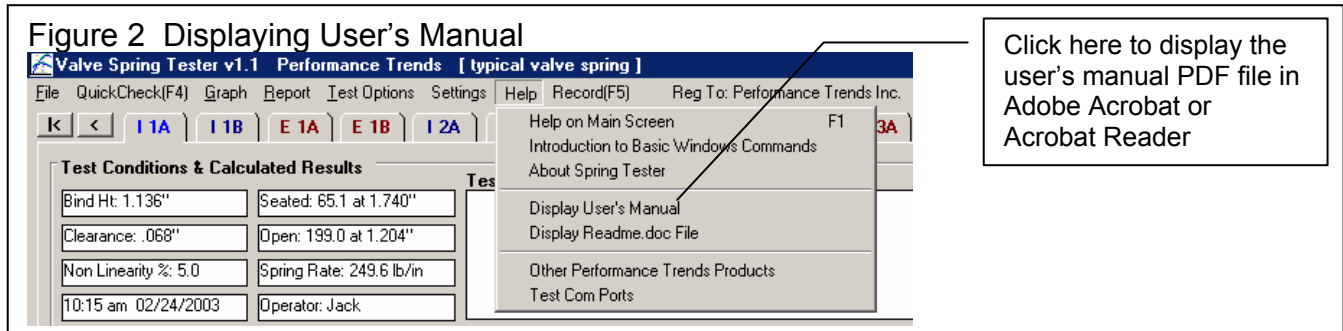
| | |
|---|--|
| 3 | Brackets |
| 1 | Male 4 pin molex connector |
| 1 | 4 pin strain relief |
| 4 | screws and nuts |
| 1 | 1" collar |
| 1 | Grommet/strain relief |
| 1 | Instruction sheet |
| 1 | CD with program |
| 1 | Mini Black Box |
| 1 | Break out cable with 2 connectors for force and height sensors |
| 1 | 1.5" height sensor |
| 1 | .5" force sensor |

Spring Tester Kit Quick Start

- 1) Install force (or pressure sensor) and spring length sensor per attached sheet. Provide mechanical stops on the tester so you do not go to either limit of the length sensor or you will damage the sensor.
- 2) Wire up the Mini Black Box per Figure 1 below. Note that the computer's COM port (or USB adapter if one is needed) provides the power for the Mini Black Box and the sensors.



- 3) Calibrate the sensors using the attached factory Calibration Sheen (if one is included and applicable) or following the procedure in Section 2.4 in the user's manual, starting on page 29. To view the manual, click on Help at the top of the main screen, then Display User's Manual.



- 4) Check Section 2.9, Recording Data... in the manual on page 39 for tips on actually running a test on a spring or series of springs.
- 5) Read the entire manual for info on tips on this entire spring testing system.