

SBT**SOUTH BAY TECHNOLOGY inc.**

509 TYLER AVENUE

TEMPLE CITY, CALIFORNIA 91780-3698

● (818) 442-1839

● TELEX: 311382

● ELN: 62828949

INSTRUCTIONS FOR USE OF MODEL 150 HAND LAPPING FIXTURE

The Model 150 Hand Lapping Fixture was designed for parallel or angle lapping or polishing of materials up to one inch in diameter. It is constructed of type 303 stainless steel with six tungsten carbide pads that are precision ground perpendicular to the precision hole for the center slide.

The sample is cemented to either a 0.75" or 1.0" diameter parallel mounting block or to a standard 1" diameter block with angles of 0.25, 0.5, 1, 2, 5, or 10 degrees. Of course, mounting blocks with any angles can easily be made. The mounting block is held firmly against the precision center slide with a draw rod and 2 locating pins. The center slide can be locked in any position inside the 2 1/4" diameter outer ring. A threaded knob with graduations of 500 microns for one revolution is screwed on the the upper threaded end of the center slide. Turning this threaded knob positions the sample relative to the bottom of the outer ring.

One procedure for lapping or polishing is to turn the threaded knob until the face of the sample is aligned with the bottom of the outer ring. Lock the center slide with the thumb screw. Then back off the threaded knob the thickness that is to be removed using the micron scale on the threaded knob.

Tighten the round knurled lock nut against the threaded knob to hold it securely in place. Loosen the thumb screw. Lap or polish the sample until the base of the threaded knob comes to rest on the top of the outer ring. At this point the measured amount of material has been removed. Additional weights can be added to the center slide for increased pressure.

Another procedure is to adjust the position of the sample so it extends past the bottom of the outer ring a distance equal to the amount of material to be removed. The slide is locked in this position and the material is lapped away until its surface is even with the bottom of the outer ring.

In order to insure that samples are lapped parallel it is necessary that the samples are mounted parallel to the mounting blocks. In order to accomplish this it is recommended that a wafer mounting fixture such as those available from South Bay Technology be used. These fixtures have uniform pressure applied to the sample while it is being waxed to the mounting block which is being heated on a hot plate. When absolute precision is required it is suggested that the mounting block is first lapped or polished parallel to the carbide pads before the sample is mounted.

Please note that the same mounting blocks used with the Model 150 can be used on other SBT lapping and polishing fixtures, all slicing instruments and crystal facing instruments.