

DIAL INDICATOR ATTACHMENT**1305-7**

The Ultra Tec Dial Indicator Attachment mounts onto the Yoke adjacent to the Angle Stop. It provides a visual indication of the stop position in relation to the position of the stone being faceted. It can be used in conjunction with the mechanical stop, or, in replacement of the mechanical Angle Stop (which can be moved out of the way after setting the angle).

1.0 SETTING UP (Illustrations on page 2)**1.1 STEP 1: MOUNTING**

In preparation for mounting the Dial Indicator Attachment, set the Head with the Spindle pointing up (in the inspection position). The horizontal channel that runs through the body of the attachment fits onto the Yoke. You will see that there are two set screws in the lower edge that will be used to clamp the Attachment in place.

With your left hand, slip the Attachment over the Yoke and hold it there--the front edge of the body should be approximately even with the front edge of the Yoke (this alignment is not critical). With your right hand, using the 1/16" Allen wrench, tightening the two upward-pointing set screws. When the set screws are tight, the Attachment is in place, held firmly.

1.2 STEP 2: SETTING THE RANGE OF TRAVEL ON THE DIAL

Set the Spindle position to an approximate angle of about 45 degrees (anywhere within +/-10 degrees on the Angle Dial is OK). Raise and lower the spindle, observing that the pointer on the Dial has a travel between 1/2 turn and 1 turn (if it doesn't, the position of the Fine Adjustment Screw is out-of-range --keep rotating the Fine Adjustment Knob until an in-range condition is observed, that is, when a raising of the spindle angular position provides 1/2 to 1 full turn of the Indicator Pointer).

2.0 USING THE DIAL INDICATOR ATTACHMENT

2.1 Set the pointer to an approximate up-pointing position. Turn the Fine Adjustment Knob to bring the pointer on the dial to an approximate up-pointing position. At this time do not be concerned with the position of the "0" on the face of the Indicator Dial—but note that if you loosen the lock-screw on the perimeter of the Dial Indicator, and grip that outer ring, you can rotate the face of the Dial to any desired position—you will use this feature in the next step.

2.2 Set the desired stop angle on the Angle Dial—set it close to the desired angle so that the Fine Adjustment Screw does not have to be moved excessively (that will to keep the pointer generally pointed up—for easy visibility). Having set the angle, hold against the Stop. Now, rotate the indicator face so that "0" coincides with the position of the pointer, (in this type of application it is not necessary to retighten the lock-screw). Raise and lower the Spindle, repeating the position against the stop—there will usually be a small deviation from the original "0" setting. Reset the "0" to that new position and confirm that it then repeats (resetting is a matter of settling out the various minute errors in the entire linkage).

2.2 Now, it is ready for use--the "0" on the Dial is coordinated with the Stop setting.

The unit can now be used with the Stop in place, or, alternatively, the fine adjustment screw can be backed off, inactivating the Stop, and the work performed to the "0" reading on the dial. Be aware that the Stop can always be reset to the "0" position. Inactivating the Stop eliminates the possibility of overcutting by bending—with the Stop backed off, the only pressure point is the stone pressing onto the surface of the lap.

As you work on the stone, you are observing the position of the stone relative to the lap by looking at the Dial Indicator. This allows you to work quickly since you can push hard on the stone as the "0" is approached, without fear of overcutting. Also, it is not necessary to inspect frequently as the "0" is approached.

You will find that there are certain types of facets, particularly small ones, that it is preferable to keep the Stop engaged (because of the minimal movement seen on the Dial Indicator).

A FEW NOTES:

When setting a new angle, repeat the Step 2.1 Instruction—that is, move the pointer to an up-pointing position, and later rotate the face of the dial indicator to conform to the new angle dial setting. This just keeps the pointer in an easily observable position.

Before changing to another lap, set the stone flush against the lap surface, so that the Indicator reads "0" (which is its usual position at this point in the process). The new lap will have a different thickness—set the stone onto the new lap, and bring the indicator to "0" by changing the height position (by rotating the Vertical Knob). You have positioned the stone relative to the new lap surface without trial and error cutting.

MAINTENANCE

There is no special maintenance required for the Dial Indicator Attachment. The Dial Indicator has been set at a proper depth in relationship to the mechanism at the factory.

