

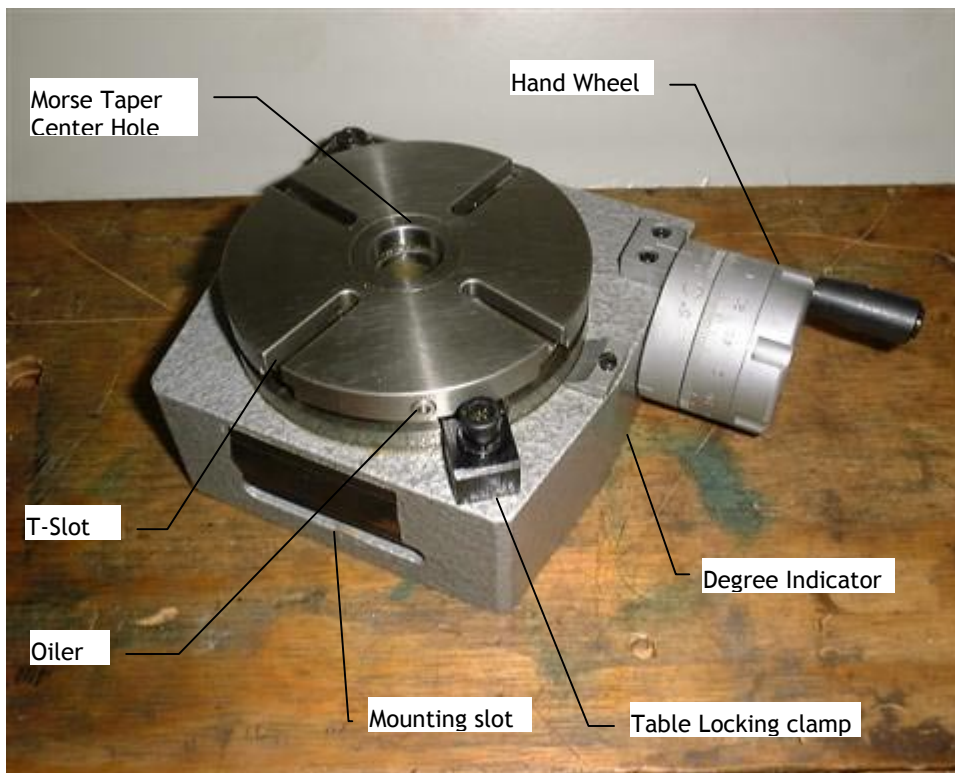
## Using a Rotary Table

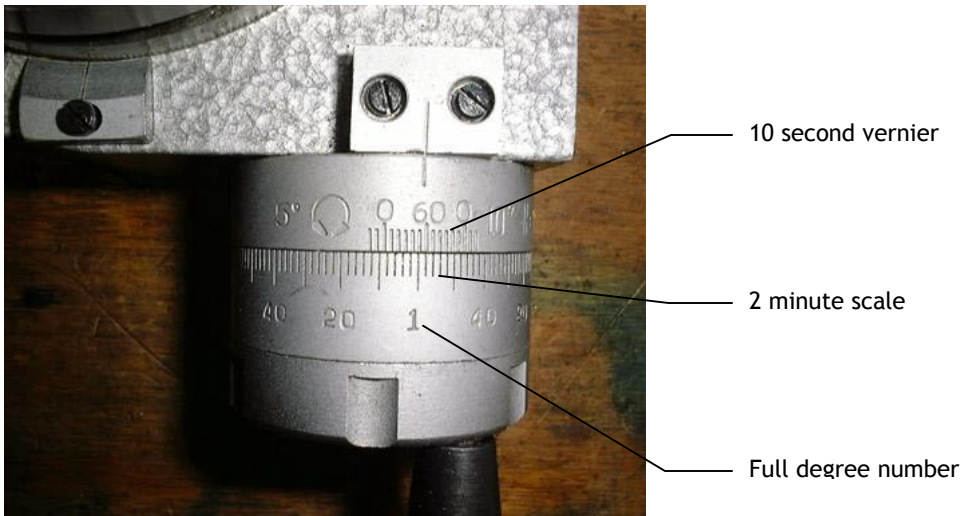
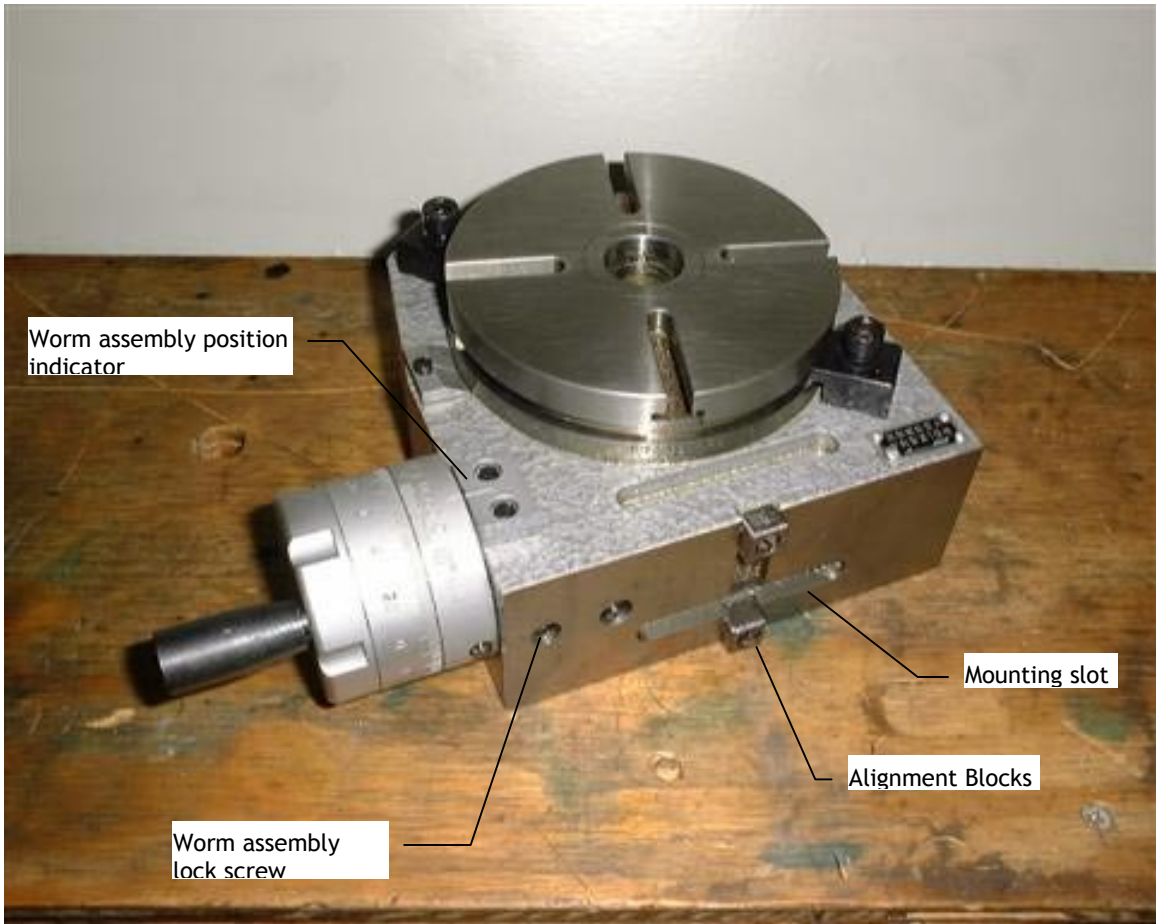
A rotary table can be used to make arcs and circles. For example, the circular T-slot in the swivel base for a vise can be made using a rotary table.

Rotary tables can also be used for indexing, where a workpiece must be rotated an exact amount between operations. You can make gears on a milling machine using a rotary table. Dividing plates make indexing with a rotary table easier.

### *Introduction*

The following illustrations show the various parts and controls of a rotary table.





### ***Setup and Adjustment***

The rotary table is shipped with a protective coating of grease that must be cleaned off before first use. We recommend mineral spirits (paint thinner) for removing the grease.

There is one adjustment you should make before using the rotary table. Follow these steps to adjust the full degree indicator.

1. Turn the hand wheel to the 0 degree full degree mark aligns with the 60-second mark on the vernier.
2. Adjust the full degree indicator to align with any line on the index around the table.

### ***Disengaging the Worm***

The worm can be disengaged from the worm wheel so that the table turns freely.

3. Loosen the worm assembly lock screw.
4. Rotate the vernier color clockwise until the lone index mark lines up with the indicator on the rotary table body.
5. Tighten the worm assembly lock screw.



**Worm drive disengaged**

### ***Engage the Worm***

To reengage the worm, follow these steps.

6. Loosen the worm assembly lock screw.
7. Rotate the vernier color counterclockwise until the index mark adjacent to the vernier lines up with the indicator on the rotary table body.
8. Tighten the worm assembly lock screw.

### ***Eliminating Backlash in the Worm Drive***

Normal use of a rotary table does not require that there be no play in the worm drive. If you always rotate the hand wheel in the same direction, play in the worm drive will not affect your work.

However, there are some operations where backlash can affect the work. In these cases, follow this procedure to minimize play in the worm drive.

1. Loosen the worm assembly lock screw.
2. Rotate the vernier color counterclockwise so that the index mark adjacent to the vernier is slightly to the left of the indicator on the rotary table body. If you move it too far, the worm drive will bind. Find the point where there is minimum play yet the worm drive works smoothly and free.
3. Tighten the worm assembly lock screw.

### ***Locking the Table in Position***

When you are making a cut, it is a good idea to lock the position of the table to ensure that the forces of cutting do not move it.

Tighten the socket head cap screws in the two table locking clamps to lock the table in position.

### ***Reading the Dials***

There are three scales that indicate the position of the table.

- The scale around the table can be read to one degree.
- The scale on the hand wheel can be read to two minutes.
- The vernier scale adjacent to the hand wheel can be read to 10 seconds.

Follow this procedure for reading the position of the rotary table when you are turning the hand wheel clockwise:

Read the number of full degrees off the scale around the table. Record this value. Use the full degree indications on the hand wheel to assist in this reading.

Read the number of minutes by identifying the first line to the left of the left 0 index on the vernier scale.

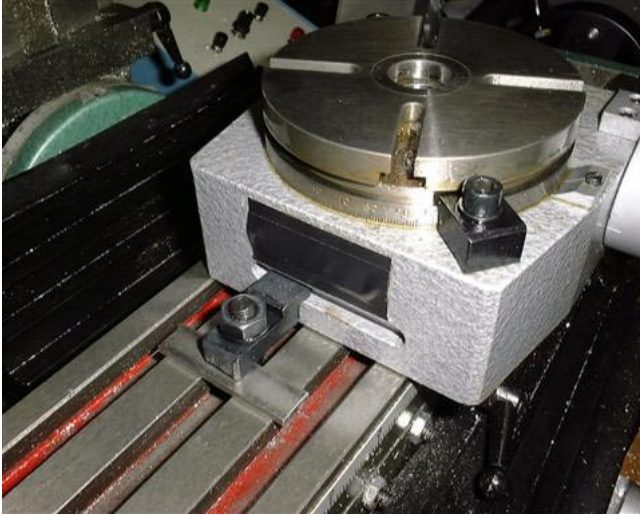
Identify the line in the vernier that lines up exactly with a line on the hand wheel. This line identifies the number of seconds. If the value is above 60, add one to the number of minutes and subtract 60.



In the photo above, the reading is 1 degree, 10 minutes, 70 seconds. This value should be recorded as 1 degree, 11 minutes and 10 seconds.

### ***Mounting the Rotary Table***

The rotary table can be mounted horizontally or vertically.



The rotary table mounted horizontally

Use a small piece of steel to support the back end of the Z-shaped hold down clamps.



The rotary table mounted vertically.

Cut 1/8" off the end of one of the T-bolts so it will clear the table when mounted in the vertical position.

### ***Mounting a Chuck on the Rotary Table***

A lathe chuck can be mounted on the rotary table to hold cylindrical objects. Make or purchase an adapter plate to mount the chuck.



Lathe chuck mounted on a rotary table

### *Using a Tailstock*

When working on relatively long cylindrical objects, you might need to support the end of the workpiece. A tailstock provides the required support.



Rotary table set up for indexing with a tailstock