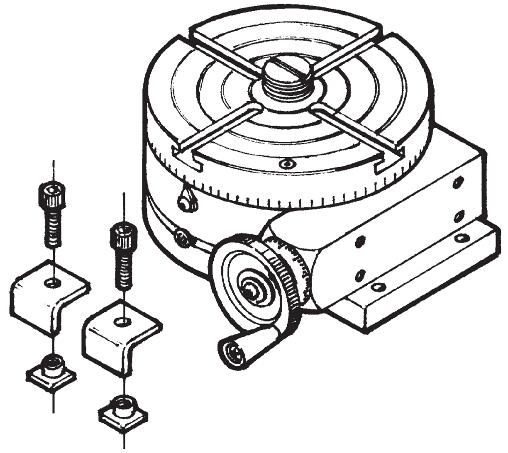
WEAR YOUR SAFETY GLASSES
FORESIGHT IS BETTER THAN NO SIGHT
READ INSTRUCTIONS BEFORE OPERATING



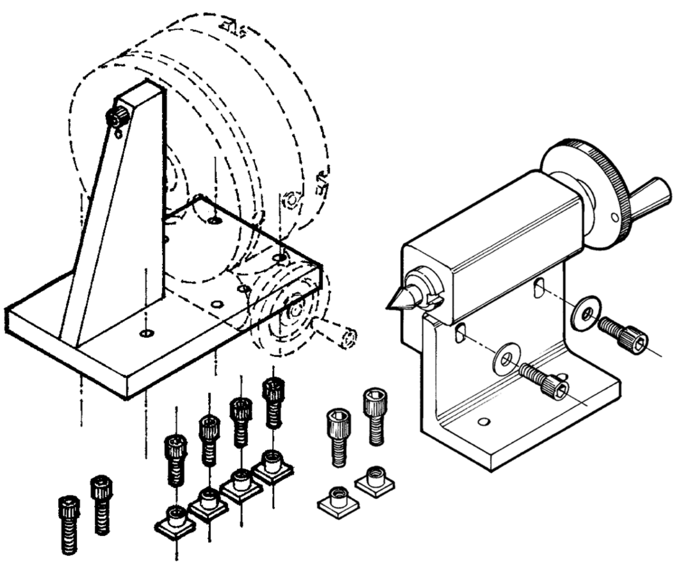
SHERLINE PRODUCTS
INCORPORATED 1974

# 4" Rotary Table

## P/N 3700

Sherline Products' rotary table is 4" (100mm) in diameter and has been designed to be used in conjunction with their vertical mills; however, it can be easily adapted to any equipment where size and configuration would make it useful. It has a worm ratio of 72-1 making one revolution of the handwheel 5° of table movement. The table has been engraved with 5° lines identified every 15°, and the handwheel has 50 graduations making each graduation 1/10° allowing a circle to be divided into 3600 parts without interpolating. The table can be locked by tightening set screw ref. #24 of the exploded view.

The T-slots accept Sherline 10-32 T-nuts (P/N 3056 or 4025). The weight of the rotary table is 7 pounds and it stands 2" (50mm) high; it has been built of bar stock steel.



*LEFT: Optional Sherline right angle attachment (P/N 3701).*

*RIGHT: Optional Sherline adjustable right-angle tailstock (P/N 3702) allows for accurate turning between centers when the optional right angle attachment (P/N 3701) is used.*

A right angle attachment (P/N 3701) is available. This has been designed with an adjustment to align the table perfectly vertical. (See separate instructions at end of rotary table instructions.)

An adjustable right-angle tailstock (P/N 3702) is also available to allow you to turn a part between centers using the rotary table, right angle attachment, and adjustable right-angle tailstock. (See page 6 for details about the adjustable right-angle tailstock.)

The following instructions have been written to show what's involved in doing a complex job accurately. We believe if you truly understand the job described in detail, average jobs will be accomplished without filling your trash can with mistakes. Remember, there are not many people capable of making the complex machined products used today, and if you can master the vertical mill and the rotary table combination, you will have come a long way at becoming a good machinist. You will find erasers aren't much good and no one has come up with a good "putting on" tool when it comes to metal parts. Complex parts are very difficult to make. When you're making "one-of-a-kind" parts, don't worry how long it takes; spend your time planning and checking so you don't have to worry about starting over.

When a rotary table is put on a vertical mill you end up with a machine that is theoretically capable of reproducing itself. This means the capabilities of your Sherline mill are governed by the size of the part and the ingenuity of the operator. The purpose of these instructions is to give you an insight into properly using this accessory. An inexpensive calculator with trig functions is a must for complex jobs.

Standard milling machine setups usually involve aligning the work with the table and then with the spindle. This is easily accomplished because the table can be accurately moved with the handwheels. Aligning a part on a rotary table can be very trying because the work has to be clamped into

**Rotary Table Specifications**

**Backlash** — ± 0.1°
**Repeatability** — ± 0.1°
**Positioning accuracy** — ± 0.1°
**Horizontal orientation weight limit** — 50 lbs.
**Vertical orientation weight limit** — 30 lbs.
**Vertical rotational torque** — 6 foot/lbs. (meaning it can lift a 6 lb. weight when suspended 12" away from the center of the rotary table)

**NOTE:** We have stated the weight limits for our rotary tables when under continual use. The rotary tables can hold more weight when they are not under a continuous load.

position. When you consider the fact that the part turns, a .001" (.03mm) error in location gives a .002" True Indicated Reading (T.I.R.) run-out when checked with a dial indicator.

Many times it is advisable to start by doing the rotary table work first which can eliminate precision aligning. A quick way to align the milling spindle with the rotary table is by indicating the hole in the center of the rotary table. Next, prick punch or spot drill the center on the work you wish to have line up with the rotary table. Put a pointer in the spindle that runs true. Set the work under the spindle and lower the head until it engages with the center mark, then clamp the part down. You now have the work reasonably aligned with the rotary table and spindle. At this time, rotate the table with the spindle running and the pointer slightly backed off. If the part is properly aligned, the pointer should always line up with the center mark, and you should write down your handwheel settings. It is also advisable to write an “R” or “L” after the handwheel setting to remember which way the backlash was set.

Enclosed with your rotary table is an adapter (P/N 3709) that allows a Sherline chuck to be screwed directly to the table. This allows work that is of the correct size and configuration to be quickly aligned with the rotary table with reasonable accuracy. Be sure to consider the fact that a mill cutter could unscrew a 3- or 4-jaw chuck held on in this fashion (See Figure 1). Use only very light cuts when this adapter is used. If you believe this could be a problem with your set-up, add a second clamp to eliminate the possibility of the chuck unscrewing from the adapter.

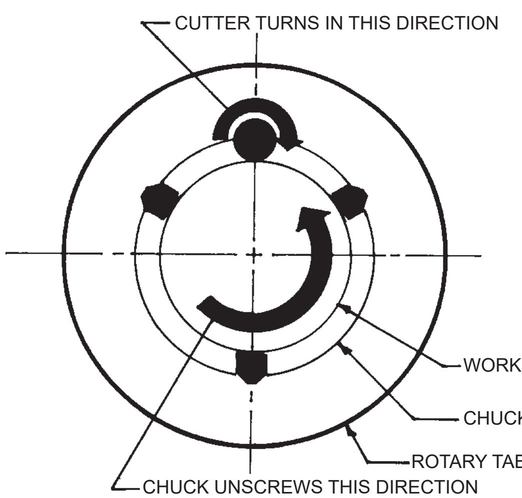



*FIGURE 1—Cutter and chuck directions of rotation.*

The ball game changes when you want perfection and this is true whether you are working with an inexpensive Sherline tool or a $20,000 mill. You can’t expect to work within .001" unless you have your machine square. On the Sherline, a few shims and a dial indicator should get your machine square if you have something square to work to, preferably a small precision square. There is no adjustment for X-axis in relation to Y-axis, but this has been machined accurately. The vertical slide should be square with the table and the head and spindle should be square with the vertical slide. Remember that the size of the part has a lot to do with how square the machine has to be.

The first place to start to align your Sherline mill is to run an indicator on the work table to check for flatness. Move the X- and Y-axes independently to determine any error. These errors can be easily eliminated by placing a shim under the rotary table so the table runs perfectly true. Normally, this isn’t necessary, but we are talking about “perfection.”

To align the vertical bed with the X and Y slide, clamp something to the table that you are sure is square. With an indicator mounted to the head, move the head up and down a couple of inches with the indicator reading a known square that is set up to read in the X-axis direction. With the four screws that hold the steel bed to the column block, adjust the bed until there is a minimum indicator movement. The Y-axis direction can be corrected with a shim between the column block and the mill base using the same method.

With the vertical bed aligned with the base, the head can be aligned to the rest of the machine by “sweeping” the head in. The rotary table will give a good surface to indicate in. Clamp the indicator in the spindle as shown in the mill instructions that came with your mill. The head should be fairly square but can be improved upon by using the slight amount of play on the alignment key to square it up on the X-axis and a shim between the head and saddle (if needed) on the Y-axis.

In most cases the job can usually be done without going through the process outlined and using the machine as it comes. We are only trying to educate you to what it takes to work at a precision level of machining. Any toolmaker worth his salt would not attempt to build a close tolerance part without first squaring the spindle of a vertical mill.

### Making Allowances for Cutter Diameter

A close look at Figure 2 will start making you aware of the complexities of working with a rotary table. Unless you are doing a hole layout, you very seldom can work with the angles and dimensions on your drawing because of the cutter diameter.

REASONABLY ACCURATE METHOD
WITHOUT TRIG. TABLES

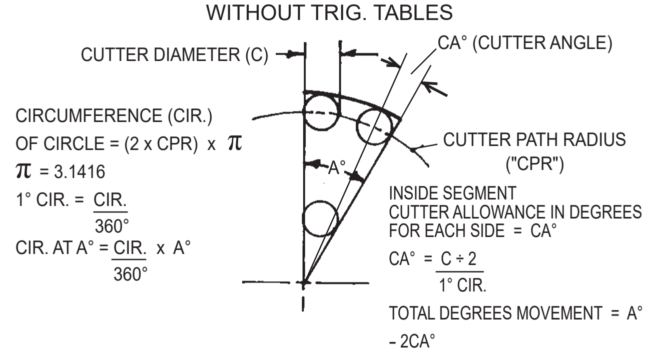



*FIGURE 2—A demonstration of CPR or Cutter Path Radius.*

Figures 3 and 4 show the relation of cutter and part. Start considering what We refer to as CPR, which is where the center of the cutter is from the center of the rotary table.

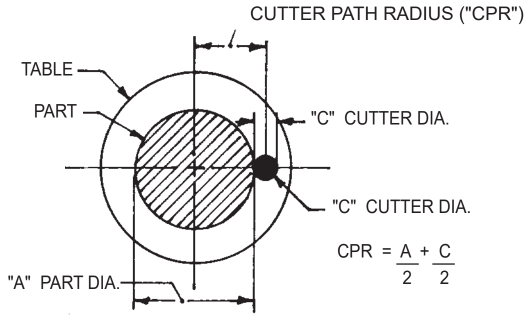



*FIGURE 3—Cutter machining outside of part.*

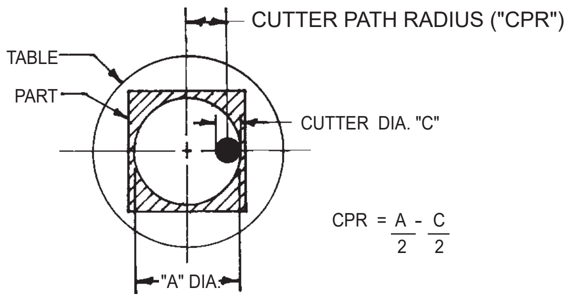



*FIGURE 4—Cutter machining inside of part.*

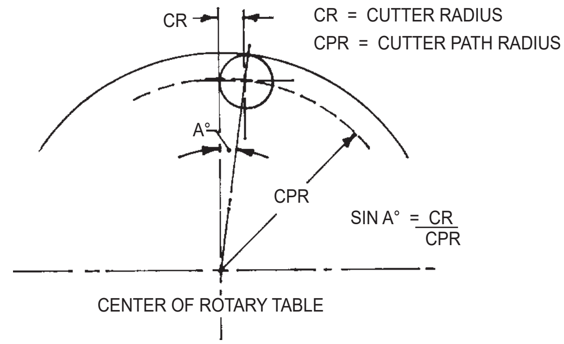
Sherline now offers adjustable "zero" handwheels for our lathes and mills. This makes calculation of the feed much easier as the handwheels can be reset to "zero" each time. If you do not have the resettable handwheels, the job simply requires a bit of note-taking. If you get into the habit of writing your handwheel setting down and calculating movements, it's really not bad. A piece of tape stuck along the edge of the mill table and mill base with a mark that shows starting and finishing points can be of considerable help. Of course, you will still have to use your handwheel numbers, but the marks will make you aware they are coming up. Counting the turns of a handwheel on long movements can have disastrous results if you're distracted and turn one too many. If you have trig tables or a calculator with trig functions you can take a lot of the guess work out of exact locations and angles.

The next problem you must be aware of is why the rotary table must be offset to cut segments. Study Figure 6 and it becomes obvious that allowing for the cutter diameter at one end of the segment will not make any correction at the other.

### Example: Cutting a Wheel with Spokes

When one of our customers purchases their first metal cutting tool, it is usually a lathe and somewhere in that customer's mind is a brass canon he now has an opportunity to build. When a customer buys his first rotary table, chances are they either want to drill hole patterns which shouldn't require any instructions or make some kind of wheel with spokes in it. Therefore, we will describe how to "accurately" cut a wheel with spokes. We realize that in most cases it is not necessary to work to this degree of accuracy to do a job of this nature, but to accurately make a precision part of this type is what a rotary table is all about. In most cases, We will leave you to your own common sense as to the depth of cuts and how much to leave from roughing and finish cuts. Remember, there has never been a part scrapped from taking too light of a cut.

Make an accurate drawing at the start showing offsets and cutter paths (similar to Figure 7). The offsets can be calculated as shown in the sample in Figure 7 on the next page.




CPR = 1.375 CUTTER DIAMETER = .250

$\frac{\text{CUTTER DIAMETER}}{2}$ = CUTTER RADIUS = CR

SIN A° = $\frac{\text{CR}}{\text{CPR}} = \frac{.125}{1.375}$ = .0909

FROM TRIG. TABLE: A° = 5° 13' = 5-13/60° = 5.216°

FROM CALCULATOR: A° = 5.215°

CUTTER ALLOWANCE DEGREES = A° = 5.215°

*FIGURE 5—This example shows how easy it is to allow for the cutter diameter using trigonometry.*

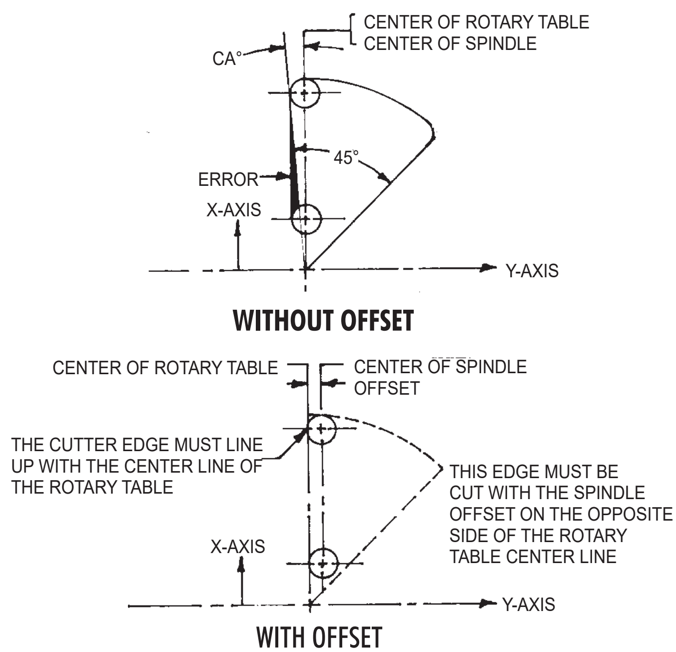
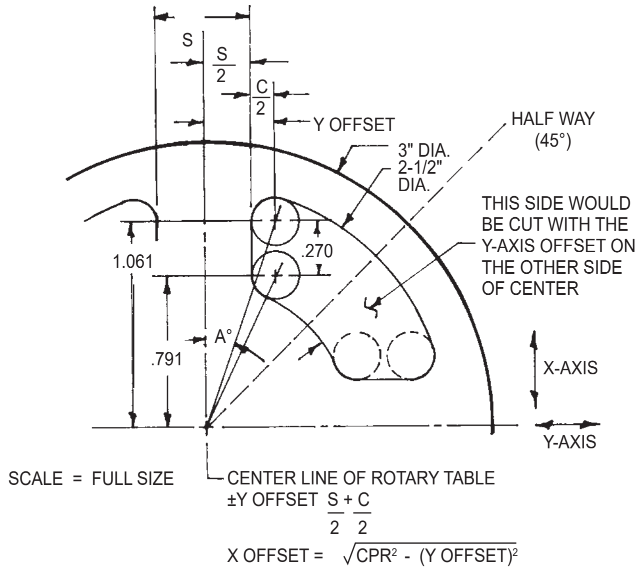



*FIGURE 6—Offsetting the Rotary Table to cut segments.*




### CUT OUTSIDE

CPR = CUTTER PATH RADIUS

CR = CUTTER RADIUS = $\frac{\text{CUTTER DIA.}}{2}$

GIVEN: S (SPOKE WIDTH) = .5

CPR = 1.250 - .125 = 1.125

C (CUTTER DIA.) = O.25

$$\pm\text{Y OFFSET} = \frac{S}{2} + \frac{C}{2} = \frac{.5}{2} + \frac{.250}{2} = .375$$

$$\text{X OFFSET} = \sqrt{\text{CPR}^2 - (\text{Y OFFSET})^2}$$

$$= \sqrt{1.125^2 - .375^2} = \sqrt{1.266 - .1406} = 1.061$$

### CUT INSIDE

CPR = .750 (HUB RADIUS + .125 [CUTTER RAD.] ) = .875

$$\text{X OFFSET} = \sqrt{\text{CPR}^2 - \text{Y OFFSET}^2} = \sqrt{.875^2 - .375^2} = .791$$

DISTANCE BETWEEN INSIDE & OUTSIDE OFFSETS = 1.061 - .791 = .270

*FIGURE 7—Drawing and calculations for cutter paths.*

**REMEMBER**...the rotary table center must be precisely located below the spindle when you start. Only one half of the segment may be cut from the calculated point which is why only one half of the spoke width is considered. Look at the drawing again and be sure you truly understand why you can only cut one half of the segment before proceeding or your chances for success will be dismal.

Now we have the offsets calculated and the rotary table "indicated in" in relation to the spindle. We move the X-axis the amount of the offset moving the table to the left. Be sure to consider the backlash, and it may also be prudent to allow for roughing and finish cuts. Now move the Y-axis and the Y offset in (towards the column). This will allow the first half of the segment to be cut so that it looks like the diagram. Assuming the part is properly clamped to the rotary table and held in such a way that you can't inadvertently cut into the table, it's time to start. The example has four equal segments which means a spoke will be cut every 90°; therefore, a lot of confusion can be eliminated if you start with your table at 0° (see Figure 8). The center of the spokes will now lay out at 0°, 90°, 180°, and 270°, and the halfway point will be at 45°, 135° etc. Allowance for the cutter was taken care of when the offsets were calculated. It is not necessary to calculate the value of angle "A" or other angles because you are only cutting one-half the segment at a time.

A good rule now is to take a very light cut (.001") and convince yourself everything is correct. The real trick of machining is to do something you have never done before the "1st time" and you can't be too careful. A one minute check versus 3 hours or more to start over makes this a good investment in time. The cut along the spoke is accomplished by moving the X-axis only back and forth using the calculated points until you get through the part, and again We remind you it may be wise to take a roughing cut. Sometimes an undersized (resharpened) end mill is a good way to rough cut. Then change end mills for finish passes. This allows the same handwheel number used for roughing and finishing.

The rotary cuts are made with the X-axis in its proper position, and the table rotated counter clockwise. One of the real neat things in machining happens when using a rotary table to feed work into an end mill, and We believe it comes about because of the slow and precise feed that can be obtained. If a hole you're cutting requires a bottom, great finishes can be had from end mills and rotary tables. The rotary part of the segment only needs to be moved slightly past the half way point for the remainder of the segment will be cut with the Y-axis offset moved out from the column and the table rotated in a clockwise direction.

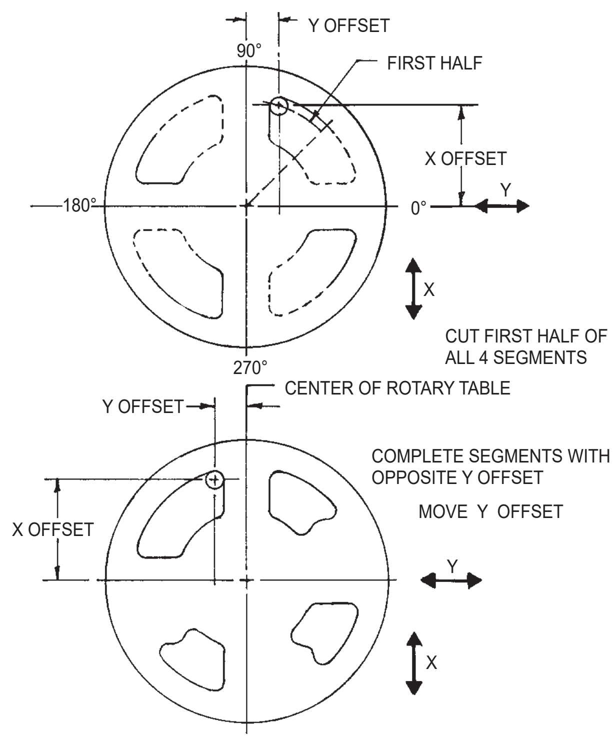



*FIGURE 8—Completing the spokes of a wheel.*

It's quicker to cut the first half of all four segments, then move the Y offset and complete the segments. If you're going to try something like this for a first project, check your entire plan out with .001" cuts and be positive you're correct before making cuts that could scrap your part (see Figure 8).

### Cutting Gears with a Rotary Table

We will leave it up to you to determine when you know enough about gears to try and produce one. One of the best sources for information on gears is Machinery's Handbook. Gears are built to a rigid set of rules, and they are more complex than you might imagine.

We will only try to explain how to cut a simple, low tolerance gear. You will also have to determine the blank size, depth of cut, RPM of the spindle and so on. If you successfully cut a good gear on your first attempt, be very proud of yourself. It can be frustrating if you are not organized.

Gears can be cut using a rotary table with a reasonable amount of precision. In many cases, gears—even inexpensive ones—are very precise. Gears are usually produced by "hobbing". This method uses a cutter that is similar to a worm gear. The teeth are generated with both the cutter and the blank turning. In fact, the process looks just like a worm gear running. Methods like this produce perfectly shaped teeth that are perfectly spaced. It may be theoretically possible to produce a perfect gear one tooth at a time, but your odds of success are dismal if this is the type of gear that is required. We suggest you stick with "clock" type gears for your first few projects.

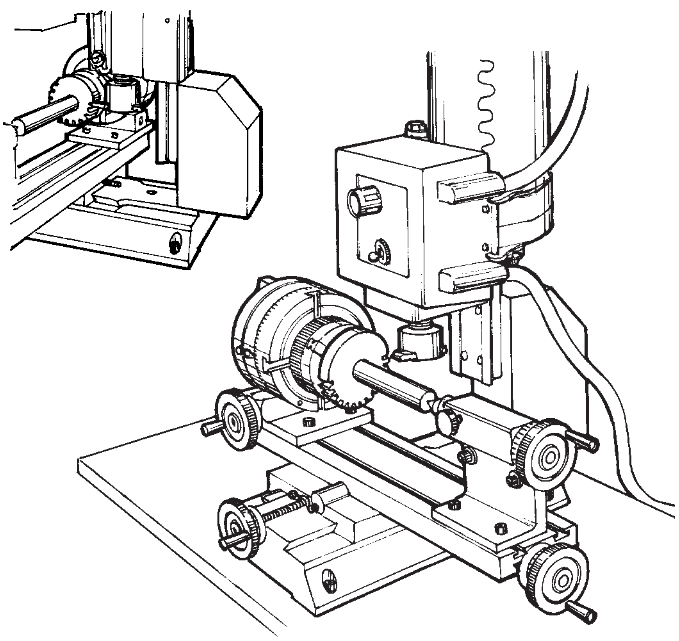


*FIGURE 9—A sample setup for cutting a gear. The small inset shows the column moved back to the rear hole to allow clearance for cutting larger diameters.*

Cutters can be purchased that will produce a fairly good tooth form, but they are expensive and have a very limited range. A cutter can be ground that works like a fly cutter. Use our P/N 3217 for this. A 1/4" lathe tool blank is provided which fits this holder. Use the damaged gear you are replacing for a shape reference to grind the tip of the cutter. The corners on a bench grinder wheel are used to generate the shape on the tool blank. At first it may seem almost impossible to do this, but it is not. Just keep checking the tool to a gear that can be used for a gauge by holding the two up to a light source. You'll find that the final grinding is done by "feel." Lathe tool bits are cheap and available, so it is a process worth learning. When the tool is mounted in the holder, don't allow it to stick out any more than necessary. Figure 9 above shows a typical setup. A tailstock isn't always necessary. Remember, the gear blank must run true before starting.

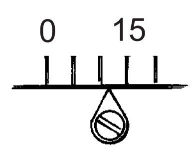
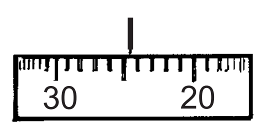
### Calculating Your Cuts

To figure the amount to move between cuts, a calculator with a memory function is very helpful. Simply divide 360° by the number of teeth you wish to cut. This will give you an answer in degrees and tenths that can be used directly on your rotary table without conversion to degrees, minutes and seconds. Your rotary table is calibrated directly in degrees and decimal divisions of a degree.

### Example: Cutting a 29-Tooth Gear

(**NOTE:** We have purposely used a number of teeth that does not easily divide into 360° as this will normally be the situation in which you will find yourself.)

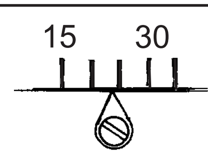
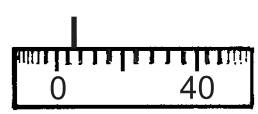
Here are the calculations and handwheel settings you would need to cut a 29-tooth gear. Remember that the table is marked every 5° and one revolution of the handwheel is 5° which is divided into 50 parts. Therefore, each line on the handwheel equals 1/10 of a degree. Figure 10 below shows how the handwheel settings would look for the first four cuts on the 29-tooth gear:

| | ROTARY TABLE SETTING | HANDWHEEL SETTING |
|---|---|---|
| **FIRST CUT** | 0 | 0 |
| **SECOND CUT** |  |  |

$\frac{360°}{29} \times 1 = 12.4137931°$

$10° + 2.4\underline{137}° = 12.4137°$

This part can be interpolated

| | ROTARY TABLE SETTING | HANDWHEEL SETTING |
|---|---|---|
| **THIRD CUT** |  |  |

$\frac{360°}{29} \times 2 = 24.82758621°$

$20° + 4.8275° = 24.8275°$

*Figure 10* *(Continued on next page)*


$$\frac{360°}{29} \times 3 = 37.24137931°$$

$$35° + 2.2413° = 37.2413°$$

*FIGURE 10—Degree calculations and handwheel settings for making the first four cuts on a 29-tooth gear.*

The reason you should divide and then multiply each time is if you "rounded off" on the first division is that otherwise your error would build up by the number of teeth you were cutting. If your pocket calculator has a memory function there is an even easier method of calculating each cut. Simply store the first in memory and add it to itself each time. Because the calculator stores the number to even more decimal places than it displays on the screen, the answer is usually so accurate the 29th calculation should yield almost exactly 360°.

1. First calculation: $\frac{360°}{29}$ = 12.4137931° (2nd cut)
2. Press "Memory" key (usually "M" or "M+") to store (Remember that the first calculation is actually for the second cut, because the first cut is made with the handwheels both set at "0.")
3. Press [+] key
4. Press [recall] key
5. Press [=] key (3rd cut)
6. Press [+] key
7. Press [recall] key
8. Press [=] key (4th cut)
   etc.

### Lubrication and Maintenance

Keep your rotary table oiled to prevent rust. A few drops of 3-in-1 oil, or a light sewing machine oil, in the oiler before using will eliminate table wear. If you are using the rotary table frequently, add oil once a week. The oil port has a spring loaded steel ball in the middle of the oil port. With a small screw driver or paper clip, push the ball down to open the hole in the top of the oiler. While pushing the ball down, add drops of oil to the top of the oiler. The oil will seep down past the ball into the oiler. After the oil has entered the oiler port, release the ball and it will pop back up to seal the oiler port.

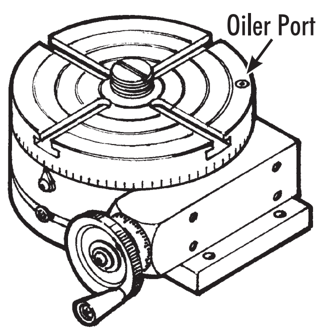



*FIGURE 11—Oiler port location.*

The worm gear is greased at the factory. The lubricating grease that we apply at the factory will last a lifetime for the average customer. In industrial use, where the rotary table is used 24/7, it can run for a year or more before it needs any maintenance.

Moving the worm housing to compensate for wear can eliminate worm backlash. From the bottom of the rotary table, loosen one of the two socket head cap screws holding the worm housing to the table base. Lightly tap the housing toward the table with a plastic mallet to push the worm a little tighter into the gear teeth on the table. When backlash is less than .2°, retighten the screw.

**NOTE:** Modification or disassembly of the rotary table beyond normal maintenance procedures described in the instructions may void the warranty. Before attempting major repairs, call the factory for advice and instructions.

### A Note on Mounting the Right Angle Attachment

On the side of the worm housing (part # 8, exploded view) are four holes that are used to mount the optional right angle attachment, P/N 3701. They go all the way through the part. In order to keep dirt and chips from entering the worm housing, set screws have been installed in the holes. Before the right angle attachment can be mounted, these set screws must be removed. Be sure to reinstall them when the right angle attachment is removed.

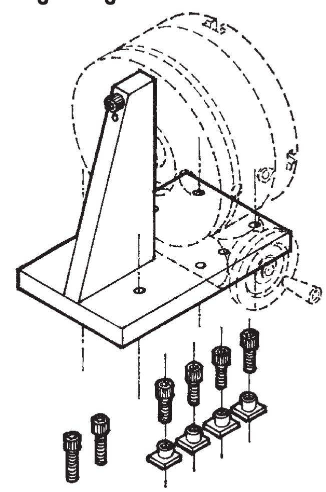


*FIGURE 12—The right angle attachment and hold-down nuts and screws. The standard rotary table is shown with dotted lines.*

### Adjustable Right-angle tailstock P/N 3702

Because of tolerance build-up, it would be just about impossible to offer a tailstock that was perfectly on center with the rotary table/right angle attachment combination. The solution offered here is a modification of our standard tailstock which allows it to be adjusted to exactly line up with the center of the rotary table in order to allow for perfect alignment between the rotary table and the tailstock while holding long parts between centers. The base is attached to the mill table with cap screws and T-nuts. The two socket head cap screws go through elongated slots in the side of the right angle piece and allow for minor adjustments in height when making your setup.

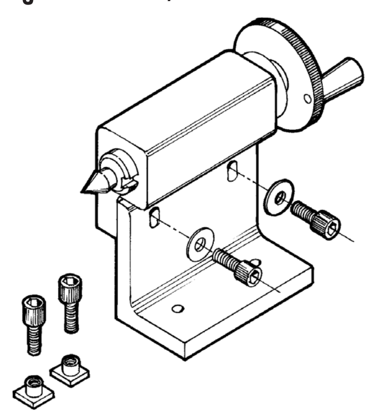


*FIGURE 13—The right angle adjustable tailstock. (See also Figure 9 on page 5.)*

### Purchasing Gear Cutters

Gear cutters may be purchased from large, industrial tool suppliers. One of the best known is Manhattan Supply Company in New York. Contact them at (800) 645-7270 or check their website at www.mscdirect.com. They carry a complete selection of 14-1/2° and 20° HSS gear cutters in stock. The chart in Figure 14 shows what size cutter is used based on how many teeth are to be cut on the gear.

**Range of Cutters**

| CUTTER # | CUTS GEARS FROM |
|---|---|
| 1 | 135 Teeth to rack |
| 2 | 55 to 134 |
| 3 | 35 to 54 |
| 4 | 26 to 34 |
| 5 | 21 to 25 |
| 6 | 17 to 20 |
| 7 | 14 to 16 |
| 8 | 12 to 13 |

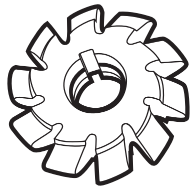


*FIGURE 14—A 14-1/2° HSS involute gear cutter and a chart showing the cutting range of each size*

### Gear Cutter Arbors

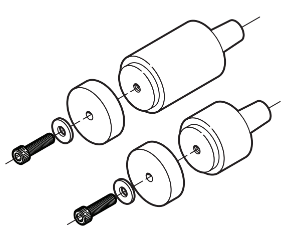


*FIGURE 15—Gear cutter arbors*

Round gear cutters like the ones described above can be held on Sherline tools using Sherline's mill cutter arbors. They are available to hold 7/8" or 1" I.D. cutters and come in short (3/4") or long 1-3/4" standoff lengths. They have a #1 Morse taper with drawbolt and are designed to fit Sherline's headstock. Part numbers are: 3230–7/8" short, 3231–7/8" long, 3235–1" short and 3236–1" long.

### Purchasing Clock Gear Cutters

Clock gear cutters can be hard to find, but they are available from Hirschmann Antique Clocks, P.O. Box 194, Titusville, NJ 08560-0194. Their phone number is (609) 737-0800 and their fax number is (609) 737-0054.

### CNC-Ready Rotary Tables, P/N 3700-CNC

If you are capable of supplying your own CNC controls, the rotary table can also be ordered "CNC-ready" with a stepper motor mount as P/N 3700-CNC. A handwheel is supplied for use on stepper motors with shafts at both ends. The stepper motor mount is ready to accept a 23 frame size stepper motor. Sherline has the proper 100 oz/in, 23 frame size stepper motors if you wish to purchase one through us. (A stepper motor is not included with P/N 3700-CNC.)

### CNC Rotary Indexer, P/N 8700

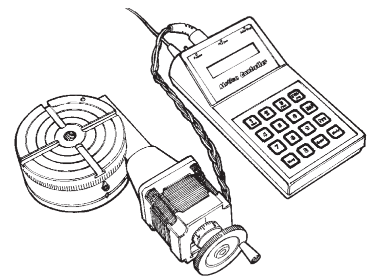


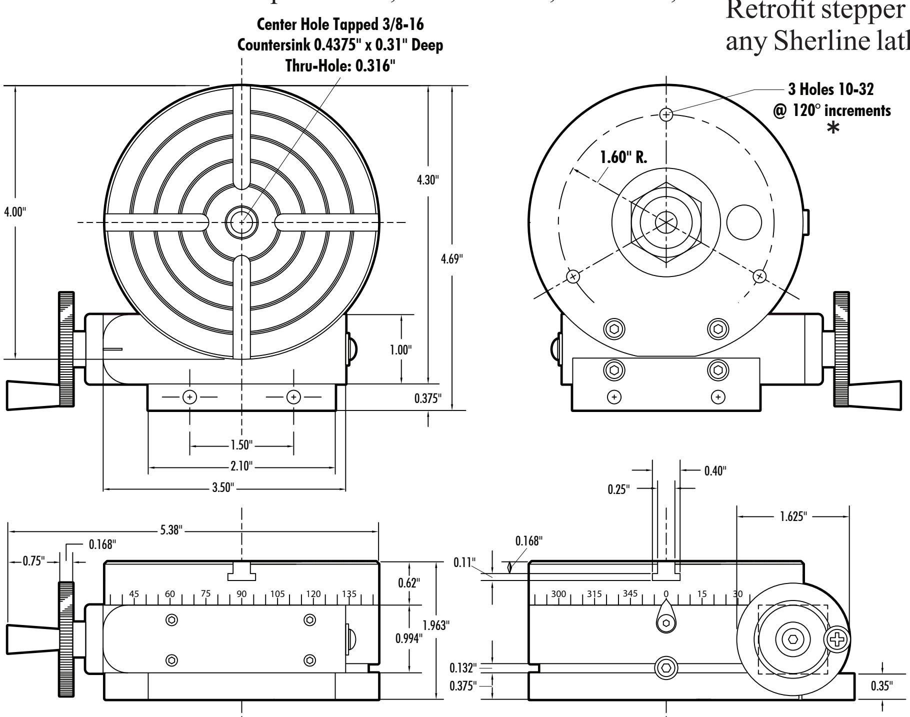
*FIGURE 16—Sherline's P/N 8700 CNC rotary table with indexer.*

Sherline has taken our popular 4" rotary table and added a complete, stand-alone CNC control setup to turn it into a computer-controlled rotary indexer. For a fraction of the price, it offers functions previously available only on similar products costing several thousand dollars. It makes quick work of repetitive indexing operations like cutting gears. To read instructions for its use, see P/N 8700 on Sherline's website at www.sherline.com/wp-content/uploads/2015/12/8700inst.pdf. The unit includes the rotary table, stepper motor mount and coupling, stepper motor, power supply, computer controller with its own keypad, and detailed operating instructions.

### Retrofits

Retrofit stepper motor mounting kits are available to make any Sherline lathe or mill ready to accept your own stepper motor and CNC controls. However, due to the way Sherline rotary tables are manufactured, it is not possible to retrofit existing rotary tables and convert them to CNC use. The major components are machined as a matched set, and the worm and housing cannot be switched with another unit. It is necessary to purchase a complete rotary table when switching to CNC. While it is always our goal to design new products so they work with all our existing products, in this case it just wasn't possible without compromising quality. However, if you just purchased a new manual rotary table and would prefer to exchange it for a CNC version, you may return your unused table and pay only the difference in retail price plus the cost of shipping.

Thank you,
Sherline Products Inc.



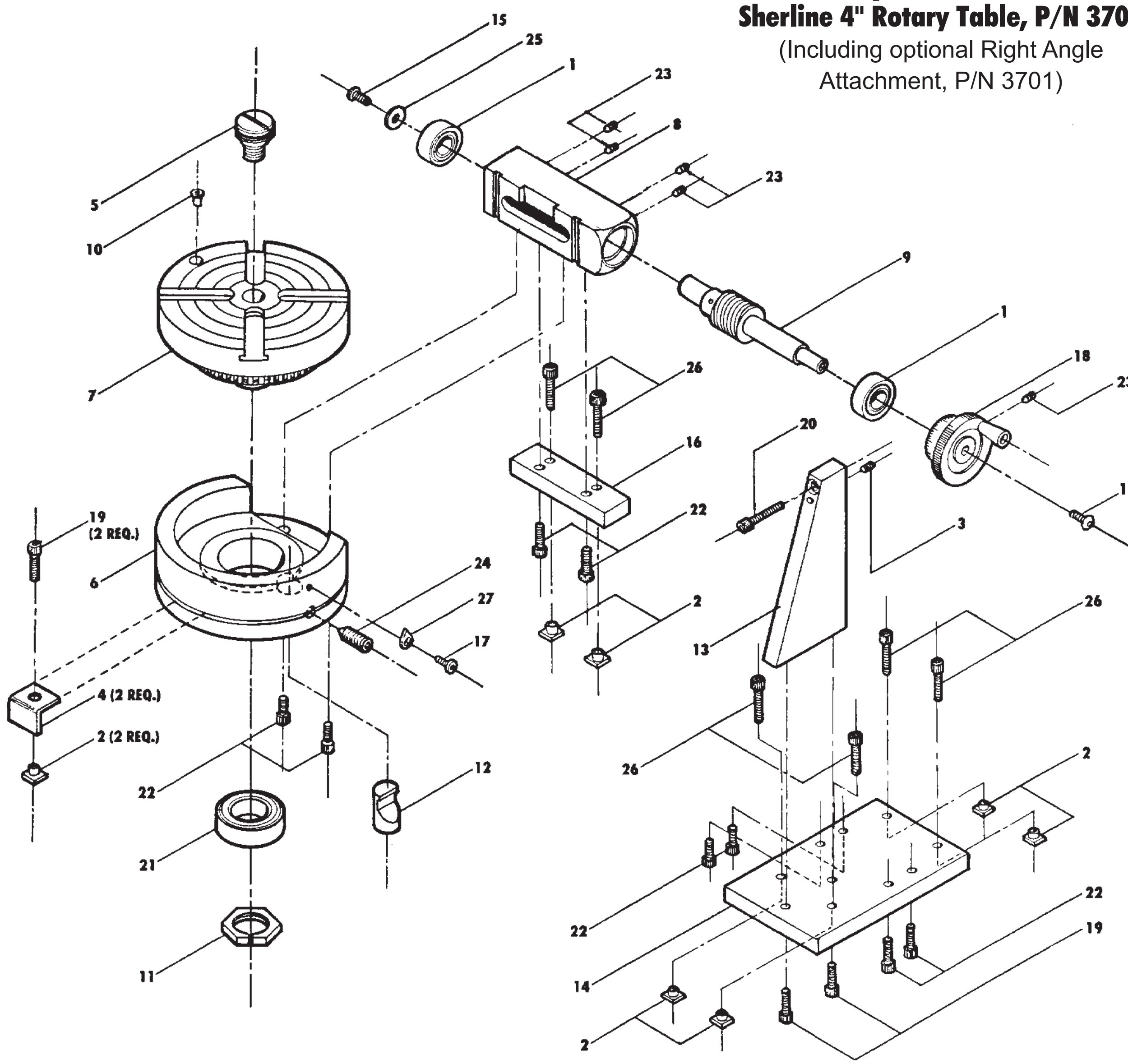

**P/N 3700 4" Rotary Table**

* ***NOTE:*** *If you need a metric equivalent for the 10-32 thread, you can use a 5 x .8mm thread. If the fit is too tight, you can retap the 10-32 holes with a 5 x .8mm tap and the new threads should be fine.*

# Exploded View

## Sherline 4" Rotary Table, P/N 3700

(Including optional Right Angle Attachment, P/N 3701)




**Parts List**

| REF. NO. | PART NO. | DESCRIPTION | REF. NO. | PART NO. | DESCRIPTION |
|---|---|---|---|---|---|
| 1 | 10930 | 3/8" Bearing | 15 | 37200 | Button Hd SHC Screw, 10-32 X 3/8" |
| 2 | 30561 | 10-32 T-nuts | 16 | 37210 | Hold Down Tab |
| 3 | 31080 | Set Screw, 10-32 X 3/8" (P/N 3701 only) | 17 | 37220 | Button Hd SHC Screw, 6-32 X 1/4" |
| 4 | 35580 | Hold Down Clamp | 18 | 40050 | Handwheel Assembly |
| 5 | 37090 | Chuck Adapter | 19 | 40330 | SHC Screw, 10-32 X 5/8" |
| 6 | 37100 | Rotary Table Base | 20 | 40340 | SHC Screw, 10-32 X 1" (P/N 3701 only) |
| 7 | 37110 | Rotary Table Top | 21 | 40420 | Headstock Bearing |
| 8 | 37120 | Rotary Table Worm Housing (Not sold separately) | 22 | 40510 | SHC Screw, 10-32 X 3/8" |
| 9 | 37130 | Rotary Table Worm Shaft | 23 | 40520 | Cup Point Set Screw, 10-32 X 3/16" |
| 10 | 37150 | Oiler | 24 | 40540 | Cone Pt Set Screw, 5/16-18 X 3/4" |
| 11 | 37160 | Preload Nut | 25 | 40660 | Washer, 3/16" I.D. |
| 12 | 37170 | Lock Pin | 26 | 40670 | SHC Screw, 10-32 X 1/2" |
| 13 | 37180 | Upright (P/N 3701 only) | 27 | 50120 | Pointer |
| 14 | 37190 | Right Angle Base (P/N 3701 only) | | | |