

**SHERLINE  
PRODUCTS**  
INCORPORATED 1974

## 3C Collet Headstock

P/N 30113 (C3 Bearings), P/N 30104 (C5 Bearings)

### About the 3C Collet Headstock

As with many of our accessories and machine modifications, our decision to make a 3C Collet Headstock was based on customers' requests. Many of our customers over the years have requested a spindle and collet that would allow larger diameter stock to go through the headstock. With the 3C collet, our customers can now hold stock up to 1/2" diameter that will pass through the headstock.

When we designed our 3C Collet Headstock we also designed it so it would be interchangeable with our standard headstock. The centerline height is the same. The mounting system is the same. Therefore you can easily switch from any of our other headstocks to the 3C headstock.

The 3C Spindle is electroless nickel plated to aid in rust prevention, and to increase the surface hardness of the spindle for durability.

### Bearing Classes

Our headstock bearings come in two classes: C3 and C5. The C3 bearings have been standard in all of our headstocks for years, and we introduced C5 bearings in March 2022.

The C5 bearing headstocks come at a higher price than the standard C3 bearings headstocks, but they run smoother, quieter, and cooler than our regular class 3 bearing headstocks, and are more suitable in an industrial setting.

The C5 headstocks feature two 20 mm, class 5, lifetime lubricated ball bearings with an adjustable preload nut. The preload is adjusted at the factory to .0002" (.005 mm) of endplay. The preload adjustment is controlled by the outer races of the bearings being held apart by the headstock case and the inner races being pulled together by the preload nut. This is appropriate for extended running at speeds in the range of 4000 RPM or less. You may need a slightly looser preload setting of .0003" for operating speeds up to 10,000 RPM.

### 3C Collets

Now we come to the 3C collets. We chose the 3C because of its size relative to our machine size, and because of the selection of collet sizes available.

We make all of our WW and mill collets right here at Sherline Products. However, when it comes to making the 3C collets, we can't compete with the cheap import collets. Companies like Hardinge already make quality 3C collets in many sizes. Therefore, we leave it up to you to decide who you want to buy your collets from.

[Hardinge.com](http://Hardinge.com) carries 3C collets in round sizes from .020" to .542", 1/64" to 5/8", and 1 mm to 13 mm. In square collets, they carry 3/32" to 3/8". In hex collets, they carry 3/32" to 7/16". They also carry emergency collets that you can bore to specific sizes to match your needs. In 2016 the Hardinge collets ranged in price from \$50.00 to \$133.00 each depending on the size. You can find 3C collet sets on eBay for as little as \$13.00 each. The choice is yours. Beware; you get what you pay for.

### 3C Collet Accessories

We made the 1" spindle wrench (P/N 43234) to go with the headstock to tighten and loosen the collets. The wrench is in a size range that will allow you to exert sufficient force without exerting excessive force. It is also in a size range that will make it easier to handle (than a standard 1" wrench) when you are tightening and loosening the collet. Also included, is a "Tommy" bar that is inserted into one of the "Tommy" bar holes on the 3C headstock draw-bar knob. This is to aid in tightening and loosening the 3C collet.

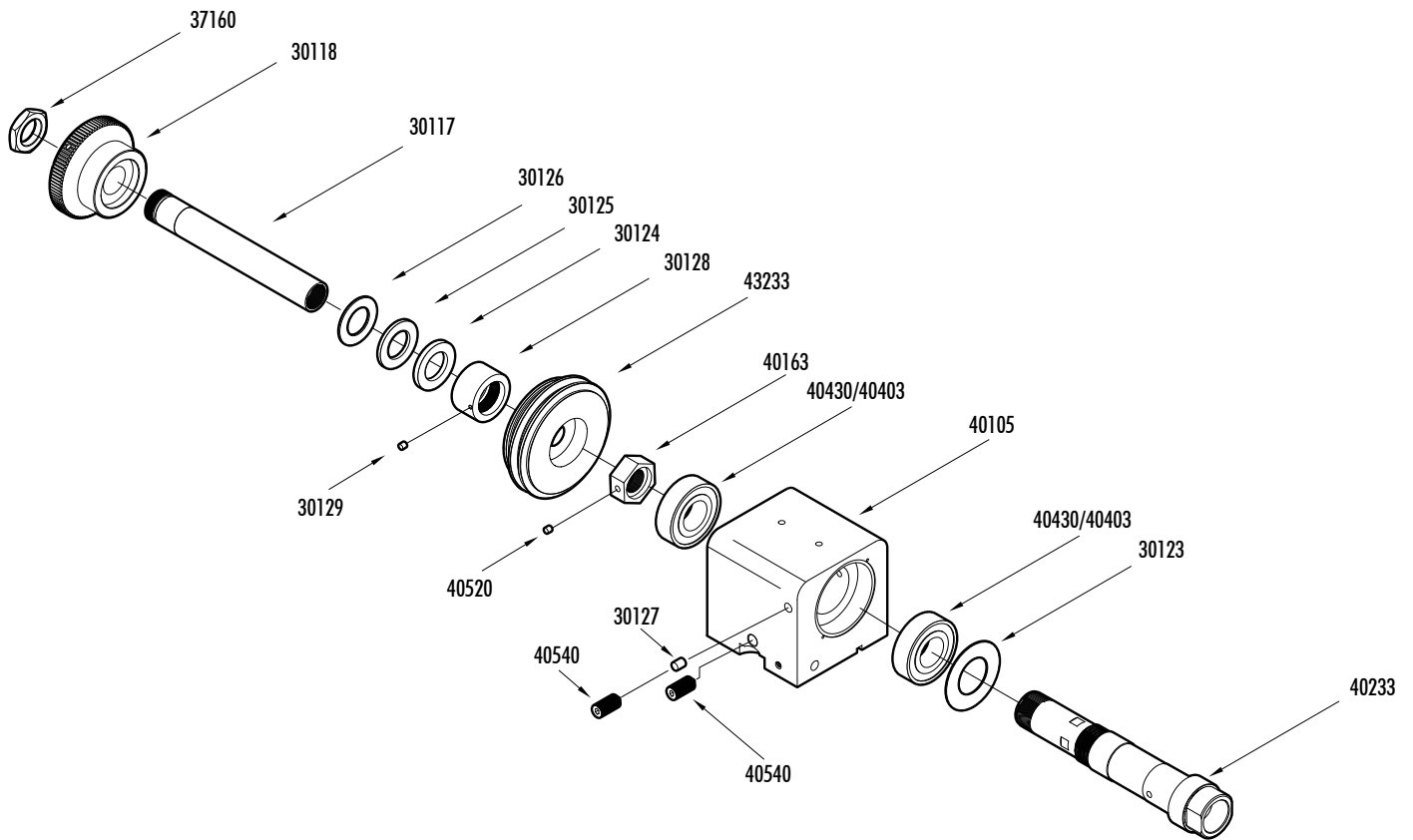
If you wish to use a chuck with the 3C headstock, you can purchase (P/N 10670) which is our 3C to 3/4-16 chuck arbor. All of our 3- and 4-jaw chucks with a 3/4-16 thread will fit on this arbor.

We believe that the 3C Collet Headstock is a great addition to our line of accessories and that it will add versatility to your Sherline Lathe.

**NOTE:** Certain attachments, like the Thread Cutting Attachment (P/N 3100), will not work on the 3C Collet Headstock. If you are uncertain if an accessory will work with the 3C Collet Headstock please call for more information.

Thank you,  
Sherline Products Inc.

# 3C Collet Headstock Exploded View and Part Numbers



## Parts List

| NO. REQ. | PART NO. | DESCRIPTION                                    |
|----------|----------|--|
| 1        | 40105    | 3C Headstock Case                              |
| 1        | 40233    | 3C Headstock Spindle                           |
| 1        | 43233    | 3C Main Spindle Pulley                         |
| 1        | 40163    | 3C Preload Nut                                 |
| 2        | 40430    | 3C Headstock Class 3 Bearings (P/N 30113 only) |
| 2        | 40403    | 3C Headstock Class 5 Bearings (P/N 30104 only) |
| 1        | 40260    | Precision Ground Head Key (not shown)          |
| 1        | 30117    | 3C Collet Draw Bar                             |
| 1        | 30118    | 3C Collet Draw Bar Knob                        |
| 1        | 30123    | 3C Headstock Spindle Bearing "Washer"          |
| 1        | 30124    | 3C Drawbar Thrust Washer "Inner" .126"         |
| 1        | 30125    | 3C Drawbar Thrust "Needle Bearing"             |
| 1        | 30126    | 3C Drawbar Thrust Washer "Outer" .032"         |
| 2        | 40540    | 5/16-18 X 3/4" Cone Point Set Screw            |
| 1        | 30127    | 3C Spindle Key Way Set Screw                   |
| 1        | 30128    | 3C Spindle "End Cap"                           |
| 1        | 37160    | Rotary Table Preload Nut                       |
| 1        | 43234    | 3C 1" Multi-Wrench (not shown)                 |
| 1        | 40520    | 10-32 x 3/16" Cup point Set Screw              |
| 1        | 30129    | 5-40 x 1/8" Cup Point Set Screw                |
| 1        | 40580    | Spindle "Tommy" Bar (not shown)                |

## 3C Spindle Specifications

Runout at spindle nose: 0.0005" or less  
 End play at factory preload setting: 0.0002" (preload is adjustable)