(P/N 6523 shown)

PRODUCT DESCRIPTION
6523—3/4-16 Spindle w/ 2-step V-belt pulley
6524—ER-16 Spindle w/ 2-step V-belt pulley

SHERLINE INDUSTRIAL PRODUCTS DIVISION

Industrial Headstock with Flat Base

P/N 6523 and 6524

Spindle Precautions

It is important to realize that this spindle should be considered light duty. To make the spindle versatile, the spindle nose includes both a 3/4-16 external thread and a #1 Morse internal taper. A .405" (10 mm) through hole allows long, unsupported stock to be passed through the spindle. This design provides a lot of versatility, but was not intended for long or out-of-balance parts to be rotated at high RPM. It is up to the end user to determine if the spindle and the setup are adequate and safe for the job being attempted.

The spindle is equipped with a dust cap, but it is not totally sealed. The presence of dust from grinding operations can shorten bearing life considerably. It is also not designed to be operated in a coolant bath. The spindle shaft, motor and speed control should be shielded from coolant spray.

Introduction

The Sherline industrial headstock was developed based on components used in the Sherline lathe and milling machine. It features two 20 mm, class 5, lifetime lubricated ball bearings with an adjustable preload nut. The preload is adjusted at the factory to .0002" (.005mm) of endplay. This 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.

Optional Nickel/Teflon Spindles

Most of our spindles are available with a Nickle/Teflon plating as a rustproof option for an additional cost. You can select the option to add the Nickel/Teflon plating to your spindle order.

Adjusting the Preload

To reduce the preload adjustment, remove the spindle pulley, loosen the set screw in the preload nut and back the preload nut off four degrees of rotation (counterclockwise). The bearings are lightly pressed into the case, so the inner race will not move without a sharp tap with a plastic mallet to the end of the spindle where the pulley was attached. When adjusted, retighten the set screw and reinstall the pulley.

If you find your bearings are set too loose, you may want to take up on the endplay. You can check them with an indicator or by spinning the spindle without the drive belt engaged. If the spindle spins freely with a chuck or faceplate on it, the spindle is too loose for normal work. Adjust the preload nut until the spindle turns approximately one and a half revolutions when spun by hand.

Mounting the Headstock

The flat bottom headstocks have mounting holes and a keyway. The two 1/4-20 mounting holes provided in the bottom of the headstock are for mounting to your fixture or machine. A 3/16" wide x .110" deep slot is provided should you wish to use a 3/16" alignment key to aid in precisely locating your headstock.

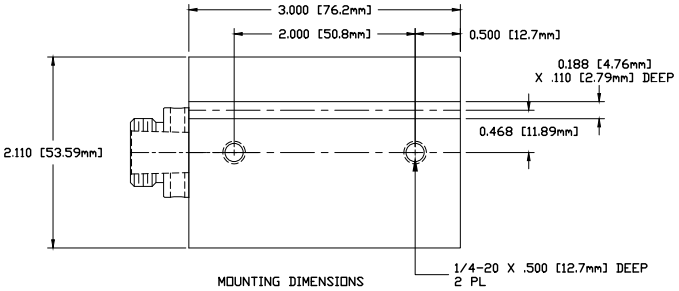

FIGURE 1—Mounting holes and keyway slot dimensions shown on the bottom of the headstock.

Accessories Available

Sherline manufactures a complete line of accessories for the headstock, including 3-jaw and 4-jaw chucks, drill chucks, collets, and special tool holders. These accessories will fit the 3/4-16 external spindle thread or the #1 Morse internal taper. See our tools and accessories website at Sherline.com, or call for a catalog.

Purchasing ER-16 Collets

ER-16 collets and collet nuts are available from major tool suppliers including the following:

- Manhattan Supply Co. (MSC)—(800) 645-7270
- McMaster-Carr—(562) 692-5911
- Travers Tool Co.—(800) 221-0270

Specifications

- Spindle base size: 3.0" long x 2.11" wide (76.2 mm x 53.6 mm)
- Spindle case height: 3.66" (93.1 mm)
- Spindle centerline height above table: 1.75" (44.5 mm)
- Hole through spindle: .405" (10 mm)
- Spindle nose thread (Model 6523): 3/4-16
- Spindle nose internal taper (Model 6523): #1 Morse
- Spindle nose thread and taper (Model 6524): ER-16
- Bearings: (2) 20 mm, class 5, lifetime lubricated ball bearings with adjustable preload
- Runout at spindle nose: 0.001" (Most are within .0005")
- End play (factory preload adjustment): .0002" (.0051 mm)
- Recommended continuous spindle speed: 4000 RPM or less
- Maximum spindle speed: 10,000 RPM
- Mounting provision: 2 holes, 1/4-20, 2" (50.8 mm) between centers on part centerline
- Alignment provision: .188" wide by .110" deep slot, .468" to side of spindle centerline for 3/16" alignment key

Thank you,
Sherline Products Inc.

Parts List

NO. REQ.	PART NO.	DESCRIPTION
1	31080	10-32 x 3/8" Flat Point Set Screw
1	40160	Preload Nut
1	40230	Spindle (3/4-16/#1 Morse) (used on P/N 6523)
1	40320	Dust Cover
1	40330	10-32 x 5/8" SHCS
2	40410	Headstock Class 5 Bearings
2	40440	#2 x 1/4" Self-Tapping Phillips Head Screws
1	43230	2-Step V-Belt Pulley
1	65023	Spindle (ER-16) (used on P/N 6524)
1	65026	ER-16 collet nut (used on P/N 6524)
1	65101	Industrial Headstock Case w/ Flat Base