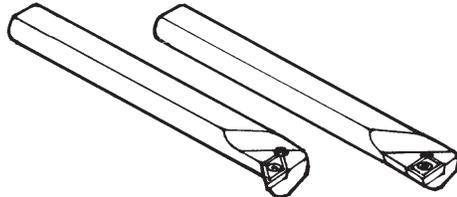


P/N 2266 (RH 55°) P/N 2268 (RH 80°) Torx wrench



P/N 2273 (LH 55°) P/N 2274 (LH 80°)

**CAUTION: HOT CHIPS!**

The chips produced by carbide insert tools can be very *HOT!* Remember, your hands are closer to the cutting edge when using miniature machine tools, so use caution.

**SHERLINE  
PRODUCTS**  
INCORPORATED 1974

## Inserted Tip Carbide Boring Tools w/2 Flats

P/N 2266, 2268, 2273, and 2274

**WARNING**

Carbide cutting tips may chip or fragment while in use. Always use machine guards, protective clothing, and safety glasses to prevent burns or other injury to body or eyes from flying particles or chips. Grinding produces hazardous dust. To avoid adverse health effects, use adequate ventilation.

**About the Insert Boring Tool Holders**

These 3/8" diameter boring bars hold a carbide insert secured with a Torx screw. Each comes with either a 2-sided 55° or 80° carbide insert and Torx wrench. The 55° RH boring tool will fit into a 3/4" starting hole. The 80° holder will fit into a smaller 1/2" hole. The 80° holder offers a little more strength for roughing cuts while the 55° insert will cut into sharper corners. The 3-1/4" long holder can bore a hole a little over 2" deep with two fastening screws tightened on it. The holders are made from 1144 Stress-proof steel with a black oxide finish.

**Advantages of Using Carbide Insert Tools**

Though relatively expensive, if a cutting edge of a carbide insert becomes dull or chipped, the insert can be removed and rotated 180° to expose two new cutting surfaces, providing, in effect, two tools for the price of one.

The primary method of cutting metal on miniature machine tools is usually with high-speed steel tools as they are inexpensive, easily resharpened and can be ground into "form" tools for special jobs. However, inserted tip carbide tools can be lifesavers for some jobs. Though more expensive and not able to be resharpened, carbide tools hold their cutting edge when cutting exotic metals like stainless steel or titanium or abrasive materials like carbon fiber and can speed up the cutting process. This is why they are used for most cutting tasks in the modern professional machine shop.

**Boring Bar Use with CNC Chucker Lathe (P/N 6600)**

With the addition of the CNC chucker lathe to our machine line, we increased the use and function of our boring bars. Most of the parts to be manufactured on the chucker lathe are going to be in the range of 1/2" (13mm) diameter or smaller. The distance between centers on our gang tool post is 1.5" (38mm). With these part sizes and the spacing, we

realized that our boring bars could be used as both boring bars and O.D. turning tools. We added a second flat to the boring bars so they could be held with the insert face up or face down.

**Using the Left-Hand Tools for Turning**

When using either of the left-hand tools with two flats (P/N 2273 or 2274), the modifications allow the left hand, 55-degree and 80-degree boring bars to be used as O.D. turning tools on either the front or back side of the part.

1. In Figure 1, we are using two LH, 55-degree boring bars (P/N 2273). Tool #4 is mounted with the insert face down as a rough turning tool on the backside of the part.

**NOTE:** With the insert face down, the chips fall down below the part and away from the insert. This means that the chips don't build up on the top of the insert.

2. Tool #5 is also P/N 2273 and it is being used as a finish turning tool on the front side of the part.

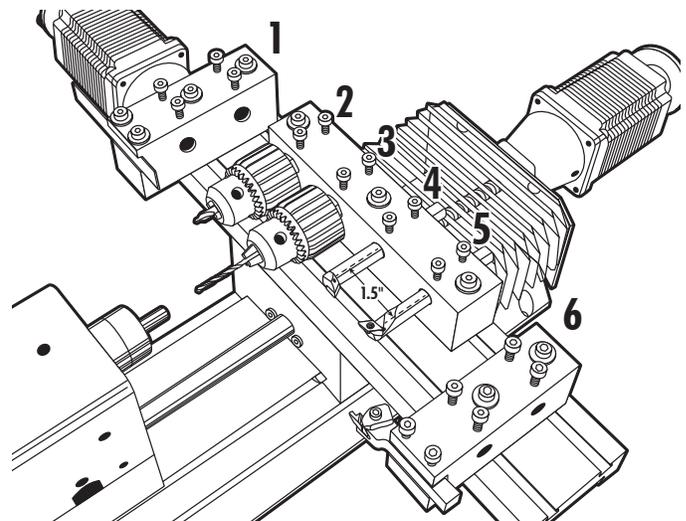


FIGURE 1— The distance between the two cutting tips of these boring bars (#4 and #5) is enough to allow backside clearance when either tool is cutting so they don't interfere with the part when the other tool is cutting. Each hole on the 3/8" Gang-tooling tool post (P/N 5930) is 1.5" on center.

### Using the Right-Hand Tools for Boring

When using either of the right-hand tools with two flats (P/N 2266 or 2268), the advantages that are gained are:

1. You can bore a part with the insert face down on the backside. This is very important on boring operations because the chip buildup when the insert is face up will interfere with the boring cut.
2. If your turning operation is on the backside of the part, with the insert of the boring bar face down, you can program the boring operation on the same side of the part. Otherwise, you will need to program one tool in the X+ quadrant, and the other tool in the X- quadrant. In short, it makes programming the part easier.

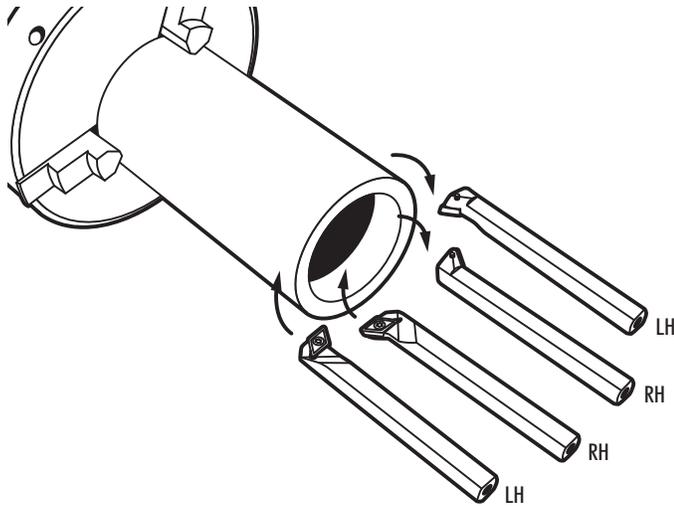


FIGURE 2—55° boring bars used as examples. The left-hand tools are used as turning tools, while the right-hand tools are used as boring tools.

Consider the options and possibilities of using these boring bars as turning tools as well as boring bars. Also, consider using these boring bars with the insert face down to reduce chip buildup on top of the insert.

Thank you,  
Sherline Products Inc.

### Parts List Carbide Boring Tool Holders w/2 Flats

NO. REQ.	PART NO.	DESCRIPTION
1	22661	55° right-hand boring tool holder body
1	22682	80° right-hand boring tool holder body
1	22730	55° left-hand boring tool holder body
1	22740	80° left-hand boring tool holder body
1	7605	55° carbide insert (DPMT 21.51 2A VC29)
1	7608	80° carbide insert (CPMT 21.21 2A VC29)
1	76232	Torx screw
1	22580	T7 Torx driver

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