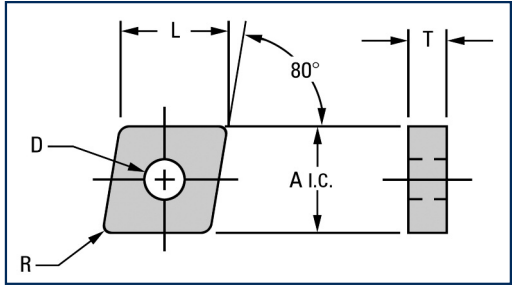


# Machining

Recommendations for machining self-lubricating bushings are predicated on maintaining the porosity of the overall part by avoiding closure of the surface microporosity during the machining process. Minimizing the loss of microporosity can be achieved by utilizing sharp tooling and proper feed rates.



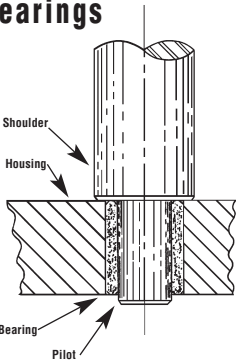
Material	Speed (SFM)	Feed rate (IPM)	Tool Nose Radius (Dim "R")
Bronze	500	.002"-.006	.003-.015
Iron-Copper	500	.002"-.006	.003-.015

**Notes:**

CNGG style inserts are recommended for general turning and boring. Tool nose radius can be .003" - .015", cutting edges must be "dead sharp."

- Where ID tolerance are to be held within 0.0005", roller-type burnishing tools may be used for large volumes. This operation will maintain porosity. (Amount rolled must not exceed .001".)
- Reaming is more susceptible to destroying surface microporosity versus single point tooling, and when used, sharp tooling is critical. Stock removal should be limited to (0.003" - 0.005") on the diameter.
- Boring - Carbide inserted tooling with "dead sharp" edges will produce quality finishes and maintain porosity.
- Oil impregnated parts should be re-oiled after machining.
- For additional information or technical assistance, please contact Symmco engineering support.

## PILOTED DRIVER for proper insertion of sintered bearings



Suggestions for inserting sintered bronze bearings using a piloted driver:

1. Shoulder diameter should be larger than bearing.
2. Pilot length should exceed bearing length.
3. Pilot diameter should be approximately .0003 larger than desired bearing ID after insertion.
4. Edge of housing bore should be broken to prevent shearing of bearing OD after insertion.

**REF:**

- Housing Bore -----1.2495/1.2505
- Shaft Diameter -----.9995/1.0000
- Bearing size-----1.003/1.004 ID x 1.253/1.254 OD
- Pilot Diameter -----1.0013 - 1.0015

Even though your available bearings may vary slightly in bore size, the proper use of a piloted driver for insertion will assure correct shaft clearance after assembly.

Depending on the bore size, bearings having dimensional differences of up to .003" can be interchanged.