



GATCO, INC.

ANTIFRICTION
ROTARY
BUSHINGS AND
TOOL HOLDERS

WHY GATCO ROTARY BUSHINGS?

Tool designers and engineers have long recognized the advantages to be gained from rigid support of rotary tools in metal cutting operations such as drilling, boring, reaming and milling. Among these advantages are improved surface finish, greater accuracies and longer tool life. However, certain inherent problems arise in the use of solid bushings to support these tools. By their very nature, they require running clearance between the static solid bushing and the rotating toolholder. Thermal expansion from friction may necessitate larger running clearances than can be tolerated. Too little clearance can cause the toolholder to “freeze” in the bushing resulting in costly downtime and maintenance repairs.

A search for a bushing which is free running, low in operating temperature and free from frictional wear leads us to the live rotary bushing; i.e. one which rotates with the tool or toolholder. This is accomplished by using anti-friction bearings assembled between the rotating bushing member (liner) and the stationary main housing (body). Because the liner is free running and rotates with the cutting tool, heat generation and bushing wear from friction is held to a minimum.

The requirement for running clearance thus eliminated, the diametral clearance between the toolholder and bushing can be held to .0003 to .0005” typically, thereby producing a smoother chatter-free finish with greater accuracy and longer tool life.

Additional benefits are realized from higher production rates due to heavier cuts and increased feeds and speeds and a reduction in downtime. Further, process capability (Cpk) is improved because of the tighter tolerances you are able to hold.

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