STERLING GUN DRILLS, INC.

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Gundrilling Guidelines:
Gun drilling on a CNC or Manual Lathe or Mill

File: Gundrilling guidelines

Operating Parameters:

For hole depths greater than 40 diameters deep, we suggest a shorter drill / longer drill combination that will allow the drilled hole of the shorter drill support the flute of the longer drill.

On a lathe or milling machine, a gun drill bushing to start a single flute gun drill is generally not practical. Drill supports, chip box, etc., are also unnecessary.

Start a gun drill with a pilot hole drilled, reamed, or bored to the gun drill diameter +.0005" (+.001" max.), -0 x ½ to 1 diameter deep. The shape at the bottom of a pilot hole is of no consequence.

Use oil, or oil based, high "EP" water soluble coolant at 10-12% concentration. NEVER use a synthetic coolant as these provide no lubricating action.

General guidelines:

Dia.	Ideal psi	Min. psi	GPM@ ideal psi
.125	1500	500	1.0
.187	1150	400	1.6
.250	925	350	2.5
.375	675	300	4.5
.500	525	250	7.0
.625	450	200	10.0
.750	400	175	14.0
1.000	300	150	20.0
1.250	250	125	28.0
1.500	200	100	36.0

We offer our DM2000 / DM3000 Spraymist Kits as an alternative to high pressure coolant. Operate with 100-125 psi air pressure. Start with a spindle speed the same as "Min psi" above. Refer to our Speed & Feed chart from our literature or online @ www.sterlinggundrills.com.

Drilling:

Enter the drill tip into the bushing or pilot hole dead spindle to just off the bottom.
Start the oil, coolant, or mist from our Spraymist System.
Start the spindle.
Drilling is continuous to depth.
At depth, if a blind hole back off the bottom slightly, stop everything and remove the drill.
NEVER rotate a gun drill outside of the hole.

Note wear at the tip's outer corner and flank to establish a re-grind interval. Proper tool life will depend on material type, hardness, correct coolant type, pressure, and speed & feed.

Special nose grind / Contour combinations are available for very deep holes, cross holes, interrupted cuts, special shapes, steps. Visit our website, call, fax, or email doug@sterlinggundrills,com for more information.