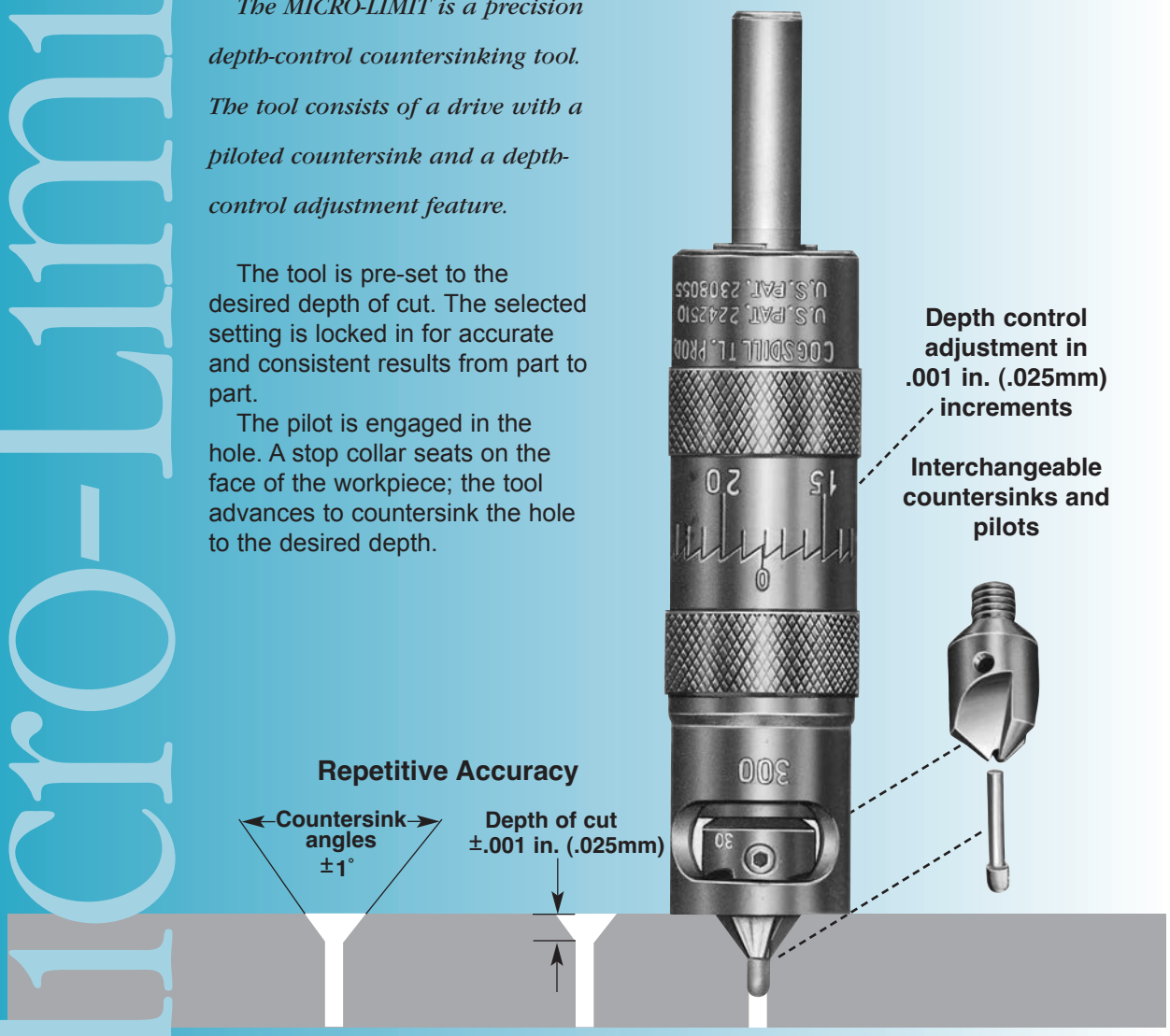
How it works

Micro-Limit

The MICRO-LIMIT is a precision depth-control countersinking tool. The tool consists of a drive with a piloted countersink and a depth-control adjustment feature.

The tool is pre-set to the desired depth of cut. The selected setting is locked in for accurate and consistent results from part to part.

The pilot is engaged in the hole. A stop collar seats on the face of the workpiece; the tool advances to countersink the hole to the desired depth.



Design features

The Micro-Limit drive is designed and built for rugged production work. The thrust load is taken up on ball bearings through a hardened steel stop collar. The drive shaft rides on needle bearings. This design makes our drive the longest lasting in the industry.

Adjustment is in increments of .001 inch (.025mm).

Three drive models cover a wide range of hole sizes.

Countersinks & pilots

An array of interchangeable countersinks and pilots are available as standard (refer to tool specifications on page 18).

Countersinks are offered with three standard angles. Special angles and carbide-tipped countersinks are available upon request.

Pilots for hole sizes from .125 to .500 inch (3.17 to 12.7mm) are standard; intermediate sizes are available upon request.

Optional overtravel feature

The MICRO-LIMIT is also offered with an overtravel unit built into the standard drive.* Ideally suited to automatic applications, the overtravel feature compensates for variations in part thickness and for overtravel of the machine spindle up to .125 inch (3.17mm).

The MICRO-LIMIT with overtravel also simplifies set-up for applications on multiple spindles.

*Available only on #300 and #400 drives.

MICRO-LIMIT drive with overtravel

Custom designs available to suit your requirements

Altered standards and special designs are available upon request. Furnish a part print for a quotation.

Standard tool specifications

Drives

TOOL NUMBER	"A"		"B"		"C"		"D"		"E"		"F"	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm
200	.187	4.75	.92	23.36	3.87	98.29	.62	15.74	.47	11.93	.62	15.74
300	.312	7.92	1.04	26.41	4.25	107.95	.84	21.33	.62	15.74	.75	19.05
300 OT*	.500	12.7	1.50	38.1	6.50	165.1	.84	21.33	.62	15.74	.75	19.05
400	.312	7.92	1.04	26.41	4.81	122.17	.84	21.33	1.03	26.16	1.18	29.97
400 OT*	.500	12.7	1.50	38.1	7.25	184.15	.84	21.33	1.03	26.16	1.18	29.97

*With overtravel.

Countersinks

TOOL NUMBER	SERIES	STANDARD ANGLES*	"A"	"B"		"C"	
				in	mm	in	mm
200	20	82°	5/16-32	.390	9.9	.125	3.17
300 & 300 OT	30	90°	1/4-28	.500	12.7	.125	3.17
400 &400 OT	40	100°	7/16-20	.875	22.22	.218	5.53

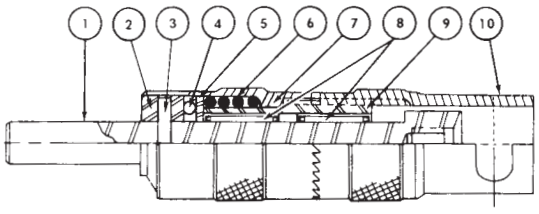
*Standard angles shown are available for each series; other angles are available upon request. Carbide-tipped countersinks are also available upon request.

Pilots

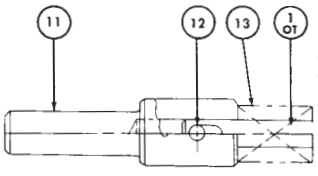
TOOL NUMBER	SERIES	STANDARD PILOT HOLE SIZES (IN.)	"A"	
			in	mm
200 300 300 OT	3	.125 .128 .156 .161 .187 .250 .312	.093	2.36
400 400 OT	4	.250 .312 .375 .500	.187	4.74

Available in intermediate diameters.

Standard Drive Details

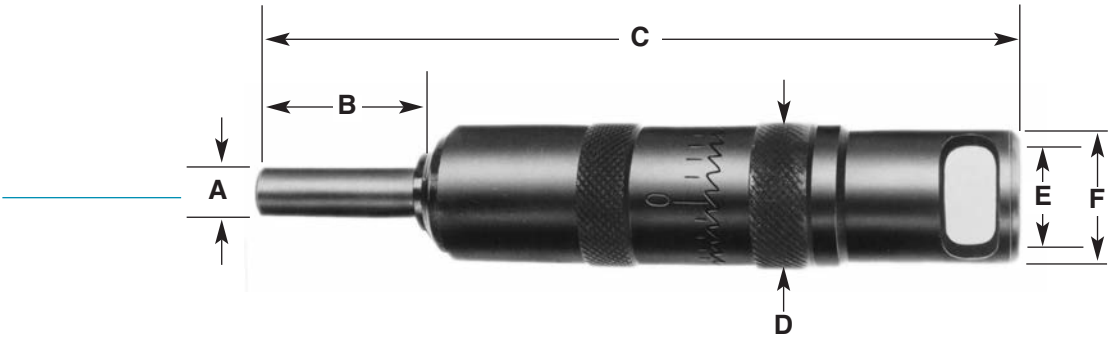


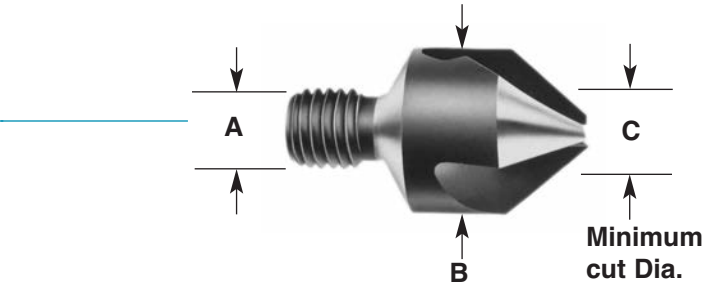
1 Spindle
2 Retainer Disc.
3 Roll Pin
4 Thrust Bearing
5 Spring Retainer
6 Spring
7 Adjustment Collar
8 Needle Bearing
9 Bearing Body
10 Stop Collar

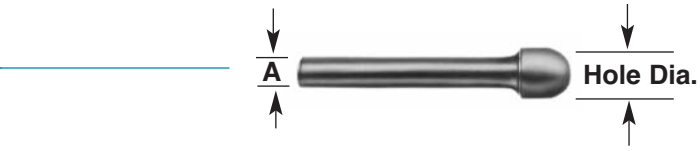


Overtravel

11 Adapter M. T. Shank-optional
12 Roll Pin
13 Belleville Washers







Tool adjustment & operating recommendations

Versatile, easy to use

Use the MICRO-LIMIT on virtually any type of shop equipment. No special operator skills are required.

Quick and easy adjustment

Adjustments are made by hand-indexing the castellated adjustment collar to control the depth of cut. Adjustment is in increments of .001 inch (.025mm).

Speeds and feeds

Use approximately the same speed and feed rate as with a standard HSS drill. However, the greater the depth of cut, the slower the speed required to avoid chatter.

Tool maintenance

For long tool life, the MICRO-LIMIT should be kept free of grit, chips, and foreign matter.

The countersink should be replaced when the cutting edges become dull. Loosen the set screw in the side of the countersink to remove the pilot. Unscrew the countersink to remove it from the drive spindle, and replace with a new one.