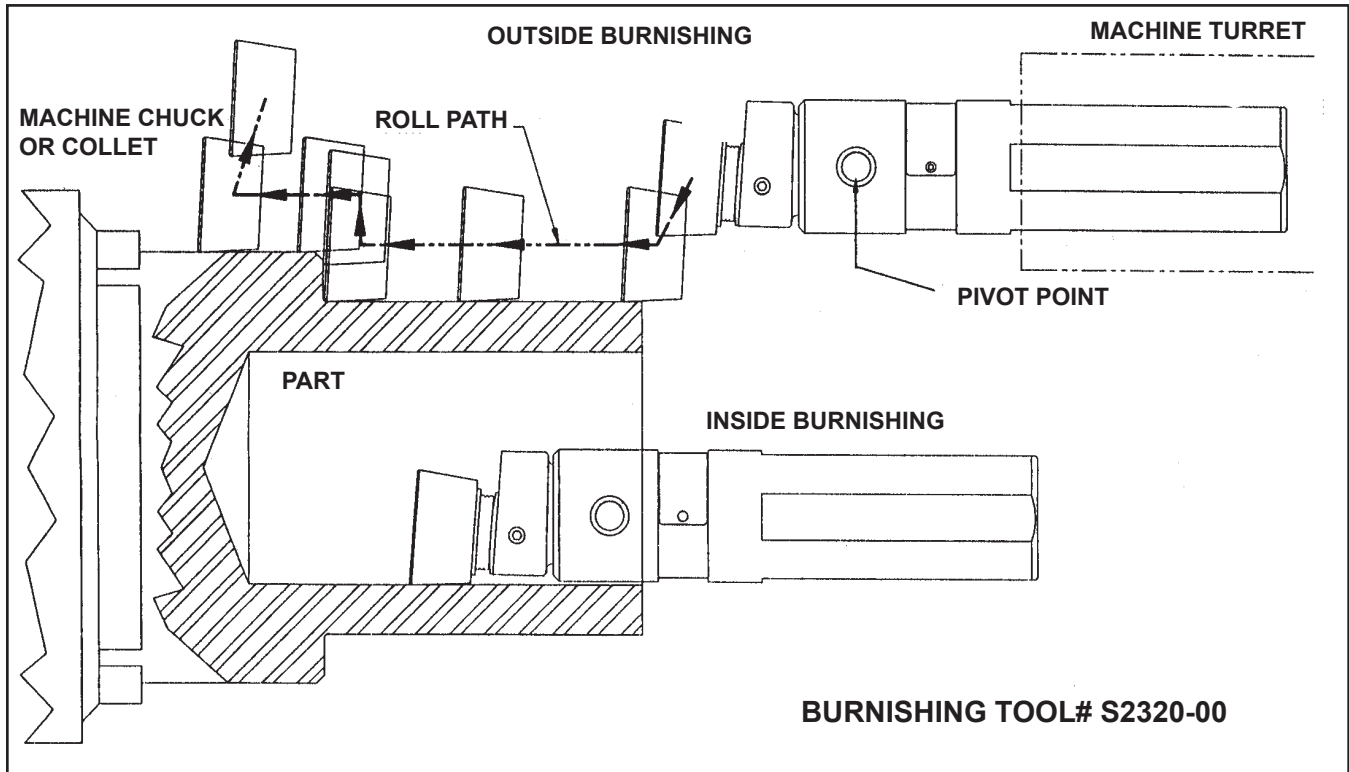


## INSTALLATION AND OPERATING INSTRUCTIONS

# ELLIOTT BORING-BAR STYLE BURNISHING TOOL



### Operating Instructions:

Part Preparation - 100/120 RMS  
 Feed Rate - .004/.008 Max. 1200 SFM  
 Coolant Required - water soluble or oil  
 Ensure bearings are sufficiently greased at all times.

The Boring-Bar Style burnishing tool can be used to burnish O.D.'s, I.D.'s and flat face surfaces.

### Mounting:

The tool has a straight diameter shank with flats. The shank will slide into the machine's tool holder, allowing the tool to project for the necessary reach. Note the relationship of the pivot point to pressure point (90°).

### Spring Loaded:

The Elliott Boring-Bar style burnishing tool has two series of springs for bi-directional spring loading. One series of springs is located in the shank

and allows the entire head assembly to deflect when the carbide roll is pushed against an I.D. or O.D. The head assembly actually pivots on the pivot pin, located between the head assembly and the series of springs in the shank. A second series of springs is located directly behind the carbide roll. These springs allow deflection of the carbide roll when the tool is fed directly into a flat surface.

### Tool Setting (I.D. and O.D. Surfaces):

Before the tool can be operated, it must be determined how much spring deflection is required and the proper feed rate. These are determined as follows:

Spring deflection should be determined first. Bring the carbide roll in contact with the workpiece and deflect the head assembly .025".

(continued on re-

### Tool Setting (cont.):

Upon full .025" deflection, immediately feed the tool across the surface at a feed rate between .004"/.008" per revolution.

Check finish to determine if acceptable. If finish is unacceptable, there are two adjustments:

- 1) Increase or decrease the spring pressure between tool and part.
- 2) Increase or decrease the feed rate per revolution.

Be sure not to exceed the maximum deflection allowed by the tool (approximately .100"). The set screw located towards the rear of the shank can be tightened to preload the spring so the deflection does not have to be so great.

### Tool Setting (Flat Face surfaces):

Determination of spring deflection for burnishing

flat face surfaces is made by feeding the tool forward until the carbide roll contacts the work surface. After the initial contact, continue forward approximately .020". This will cause a like amount of spring deflection. Immediately, upon .020" spring deflection, feed the tool across the surface with the carbide roll leading at the point of contact at .004"/.008" per revolution feed rate.

Check the surface finish to determine if acceptable. If finish is unacceptable, increase the spring deflection an additional .015". Again, check surface finish to determine if acceptable. Continue to increase spring deflection in .015" increments until the proper finish is attained. Be sure not to exceed the maximum deflection allowed by the tool (approximately .060").

ACROSS FLATS  
1.87  
SHANK DIA.  
1.998

ASSEMBLY NOTE:  
MARK NAME PLATE AT ASSEMBLY  
S2320-00

TOOL SHOWN IN DEFLECTED POSITION

DIA.  
1.750  
.031 R.

SPRING PRESSURE INFORMATION			
COMPRESSION SPRING ( DET. 4 )		BELLEVILLE SPRING ( DET. 12 )	
DEFLECTION	PRESSURE	DEFLECTION	PRESSURE
.100	140 LBS.	.011	95 LBS.
.150	210 LBS.	.022	145 LBS.
.200	280 LBS.	.033	165 LBS.
.250	350 LBS.	.044	170 LBS.

18				
17	AXLE	S2075D10	1	
16	ROLL	S2075-05	1	
15	BEARING RACE	S2075D17	1	
14	THRUST BEARING	P1067-1	1	
13	THRUST RACE	P1067K	2	
12	BELLEVILLE SPRING	579-94	1	
11	SOC.SET SCREWS (A)	128N	3	
10	BRASS SLUGS	4236H1AP	2	
9	RETAINING RINGS	P8286-50	2	
8	PIVOT PIN	S1920D12	1	
7	ROLLER SHAFT	S2320D7	1	
6	SOC.SET SCREW	173W	1	
5	SLUG	S1920D17	1	
4	COMPRESSION SPRING	S1969-39	1	▲
3	SLUG	S1920D15	1	▲
2	SHANK ASSEMBLY	S2320-12	1	
1	ASSEMBLED TOOL	S2320-00	~	SHK CUT
	PART NAME	PART NUMBER	REQ.	

TOOL SHOWN IN HOME POSITION

NOTE:  
1) GREASE LUBRICATE TOOL WITH LUBRICATION FITTING IN PLACE. IF NECESSARY REMOVE LUBRICATION FITTING AND REPLACE WITH SOC. SET SCREW THAT IS SHIPPED WITH ASSEMBLED TOOL.  
2) NEEDLE BEARING SUPPLIED WITH ROLL (DET.16).

**TOOL NUMBER**  
**S2320-00**



1-800-732-4565  
(937)253-7706 Fax (937)259-9241



1760 Tuttle Avenue  
Dayton, Ohio 45403-3426