

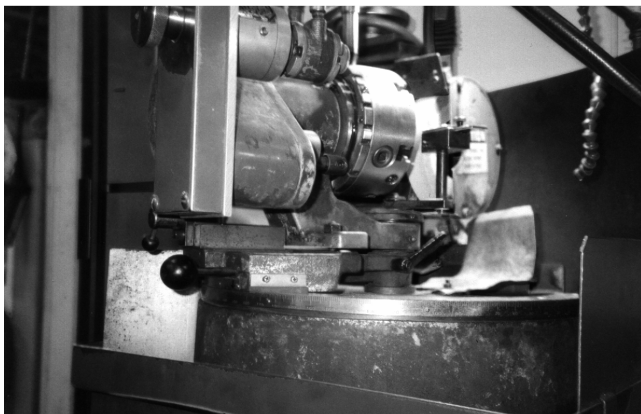
RUSH 250 A DRILL GRINDER

This procedure strictly pertains to the sharpening of the 118°, 2 flute straight and tapered shank twist drill, up to 1.5" diameter.

A. SAFETY

1. Never put your hands near the rotating stone.
2. Never allow coolant to flow over a non-rotating stone. (Stones are porous and will absorb a certain amount of coolant, which will cause an out of balance condition should the stone be turned on.)
3. Handle twist drills carefully as they are sharp.

B. OPERATING



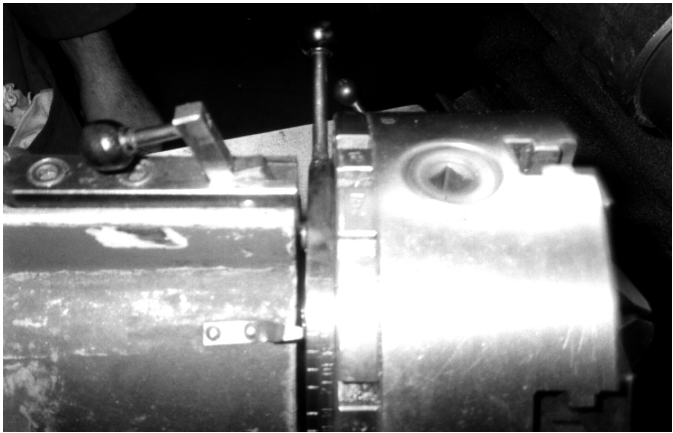
1. Check the "Point Angle Scale" to make sure it is at 118°, if it is not, loosen the pivot lock and adjust.



2. Insert twist drill in holder.



3. Clean ID of main access.



4. Set relief lever (Refer to wall chart - diameter of drill will determine relief).



5. Set chuck for type of twist drill, i.e., right hand two flute. (Refer to wall chart)

7. Slide twist drill and holder in the main access, chuck opening accordingly.

6. Check to see what number of cam is installed on the sharpener. (For right hand two flute it should be a #4.)



8. Slide the setting blade against the drill (Refer to the wall chart for “stick-out”).
9. With drill in proper orientation to the setting blade, tighten chuck.

10. Before starting oscillation, be sure register pin is retracted.
11. Start the rotation of the stone.
12. Align twist drill to stone - chisel point should be on right edge of stone.
13. Start oscillation - use manual levers to touch off and grind drill (use coolant).
14. Once sharp - remove twist drill and hone.
15. Splitting point manually is optional.

C. DRESSING THE WHEEL

1. Deactivate oscillation.
2. Rotate point angle scale until you can insert the lock pin.
3. Insert oscillation lock pin.
4. Insert and clamp diamond dresser in chuck.
5. Adjust dresser point until it is 3/8” BELOW center of stone (10 on scale).
6. Take several very light (.00025) passes to dress stone.

D. CAMS

Different cams are used for the various types of drills and/or drill points.

	Purpose	RH Marked	LH Marked
2	Flute Drills & Taps	# 4	# 1*
2	Flute Step, Sub land, & Plastic Point Drills	# 6	# 5*
4	Flute Drills, Taps, & Reamers	# 8	# 7*
3 & 6	Flute Tools	# 10*	* 9*
	Spiral Point Drills	# 12*	# 11*
	Sheet metal & Brad Point Drills	# 14*	# 13*
8	Flute Taps & Reamers	# 16*	# 15*
<i>* Optional</i>			

Drill Bit Size	Drill Point Setting	Standard Clearance Relief Setting	Drill Bit Size	Drill Point Setting	Standard Clearance Relief Setting	Drill Bit Size	Drill Point Setting	Standard Clearance Relief Setting
1/8	2.000	6	41/64	10.250	12	1 3/16	19.000	16
9/64	2.250	6	21/32	10.500	12	1 13/64	19.250	16
5/32	2.500	6	43/64	10.750	12	1 7/32	19.500	16
11/64	2.750	6	11/16	11.000	12	1 1/4	20.000	16
3/16	3.000	8	45/64	11.250	12	1 17/64	20.250	16
13/64	3.250	8	23/32	11.500	12	1 9/32	20.500	16
7/32	3.500	8	47/64	11.750	12	1 5/16	21.000	16
15/64	3.750	8	3/4	12.000	12	1 11/32	21.500	16
1/4	4.000	8	49/64	12.250	12	1 3/8	22.000	16
17/64	4.250	8	25/32	12.500	12	1 7/16	23.000	16
9/32	4.500	8	51/64	12.750	12	1 29/64	23.250	16
19/64	4.750	8	13/16	13.000	12	1 15/32	23.500	16
5/16	5.000	8	35/64	13.250	12	1 1/2	24.000	17
21/64	5.250	8	27/32	13.500	12	1 33/64	24.250	17
11/32	5.500	8	55/64	13.750	12	1 17/32	24.500	17

23/64	5.750	8	7/8	14.000	12	1 9/16	25.000	17
3/8	6.000	8	57/64	14.250	12	1 5/8	26.000	17
25/64	6.250	8	29/32	14.500	12	1 11/16	27.000	17
13/32	6.500	8	59/64	14.750	12	1 3/4	28.000	17
27/64	6.750	8	15/16	15.000	12	1 49/64	28.250	17
7/16	7.000	10	61/64	15.250	12	1 25/32	28.500	17
29/64	7.250	10	31/32	15.500	12	1 13/16	29.000	17
15/32	7.500	10	63/64	15.750	12	1 7/8	30.000	17
31/64	7.750	10	1	16.000	16	1 15/16	31.000	17
1/2	8.000	10	1 1/64	16.250	16	2	32.000	17
33/64	8.250	10	1 1/32	16.500	16			
17/32	8.500	10	1 3/64	16.750	16			
35/64	8.750	10	1 1/16	17.000	16			
9/16	9.000	10	1 5/64	17.250	16			
37/64	9.250	10	1 3/32	17.500	16			
19/32	9.500	10	1 1/8	18.000	16			
39/64	9.750	10	1 9/64	18.250	16			
5/8	10.000	12	1 11/64	18.750	16			