



## **Rotary Broach Holders**

Use on any type CNC, manual turning, milling or screw machine. Holders and broaches are sold separately and available from stock for immediate delivery.

# For optimal tool life in large production settings these broaches should be used with Rotary Broach Holders.

- The holder has an internal live spindle, which holds the cutting broach tool.
- The centerline of the cutting tool is offset at 1° from the centerline of the work piece.
- This 1° offset causes the broach to wobble, creating a shearing effect as the broach is advanced into the work piece.





#### Diagram A Broaching a Rotating Work Piece In a turning or screw machine, the holder is mounted stationary while its internal live spindle

mounted stationary while its internal live spindle and the broach rotates after contact with the rotating work piece. At the appropriate feed, the workpiece is sheared by the pressure of the broach through a wobbling type action producing the polygon shape desired.



### Diagram B Broaching a Stationary Work Piece

In a vertical milling or drilling machine, the holder is mounted into and rotates with the machine spindle while its internal live spindle along with the broach remains stationary upon contact with the stationary work piece. While the machine spindle is rotating, the broach's pressure shears the polygon shape into the work piece with a wobbling type action.

Internal Broaches - Approximate Thrust Lbs. for Broaching							
Form	Aluminum (6062) 60 Brinell	F.C. Brass (360) 78 Brinell	Screw Stk. (12L14) 163 Brinell	Alloy (8620) 187 Brinell	F.C. S.S. (303SS) 160 Brinell	Super Alloy 200 Brinell	Pre-Heat Treated 277 Brinell
1/8" Square	90	95	120	150	177	200	228
1/2" Square	1430	1670	1910	2385	2623	3100	3534
1" Square	5700	6650	7600	9500	11,400	12,350	14,250
1/8" Hex	41	48	54	68	81	88	148
1/2" Hex	636	742	848	1060	1272	1378	1571
1″ Hex	2530	2950	3371	4215	5060	5480	6251
Serrations							
3/8" 14 Teeth	166	133	220	190	331	360	415
1" 36 Teeth	1178	1319	1571	1885	2356	2552	2945







## Hassay Savage Rotary Tool Holder Set Up Procedure

## For Internal Rotary Holders:

- 1. Place the Rotary Tool Holder in the Turret (Lathe) or Tool Holder (Milling) depending on the application which fits your needs.
- 2. Mount the Set Up Plug or Rotary Broach in the spindle of the Rotary Tool Holder and take care that the Plug or Rotary is bottomed out in the spindle before tightening the set screw on the Holder's Spindle.
- 3. Drill and Ream a hole to the proper diameter (.001 larger) for the Set Up Plug in a piece of raw material with a lead chamfer .010-.015 larger than the cross points dimension of the Rotary being used. If using the Rotary Broach for centering, drill and ream the hole to the diameter of the cross point's dimension.
- 4. Loosen the 2 cap screws 2-3 turns on the face to generate 3/16" space between the flange portion of the Holder so that it is easily movable in the cup of your hand.
- 5. Advance the Rotary Tool Holder with the inserted Plug or Rotary to .030 away from the part while holding the holder flush against the flange.
- 6. By hand, insert the Plug or Rotary into the reamed hole.
- 7. Advance the turret or tool holder until the holder and tool is fully engaged in the hole
- 8. With the **Plug or Rotary still engaged in the hole, rotate the broach by hand in the hole while tightening the 2 cap screws**.
- 9. Retract the turret or tool holder out of the reamed hole.
- 10. Remove the set up plug (If using one) and replace with the Rotary Broach making sure the Rotary Broach is bottomed out in the holder the same as in step 2.
- 11. Start broaching.

