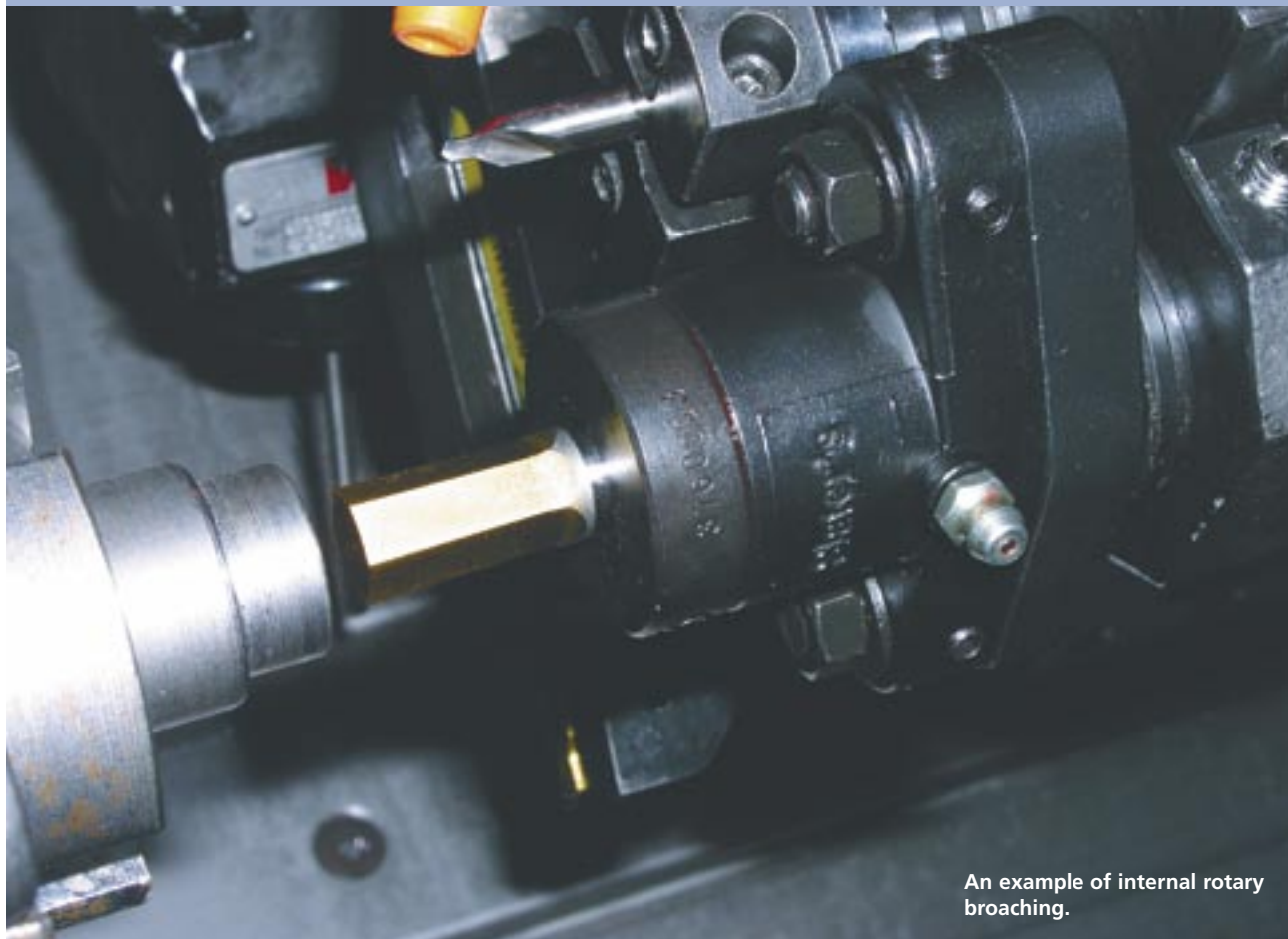


► BY PETER BAGWELL AND JEFF TRYLES, SLATER TOOLS INC.



An example of internal rotary broaching.

All images: Slater Tools

One-Pass Polygons

With rotary broaching, a polygon form is cut in one pass.

Rotary broaching is a fast and accurate method of producing internal and external polygon forms on the end of a workpiece while it is rotating. The entire operation takes seconds and is capable of producing forms to an accuracy of better than 0.0005".

The advantage of performing this operation is that it almost always costs less, because it eliminates a secondary operation on another machine. In some cases, rotary broaching can be performed at the same time as other operations, thereby increasing speed and profitability during production, without sacrificing accuracy.

Unlike conventional broaching, in which a series of polygon forms that increase in size are pushed through a hole until the desired form is achieved,

the rotary broach cuts the full form, one corner at a time, in one pass.

Rotary broaching requires two components: a toolholder and a broach. Due to the increased use of titanium and other difficult-to-machine workpiece materials for items such as bone screws, the variety of materials used to produce rotary broaches has expanded. Standard broaches typically are made from M-2 HSS, but are also available in PM-4 and cobalt-HSS metals like T-15. Broaches are

