



## TT00022 Spiral-Reamed Valve Guides

There has been some confusion about the function of the threaded portion of the inside diameter of spiral reamed valve guides. The spiral inside the guide is there to hold oil and aid the lubrication of the valve during engine operation. To prevent excessive oil consumption, the threads stop approximately 7 to 10 mm from the bottom (combustion chamber end) of the guide in most applications; however, there are applications where the spiral ream is the total length of inside diameter. SBI supplies valve guides manufactured with a single-point boring tool (see **Figure 1** illustration below), which can be dragged backwards after spiral reaming is completed. This process creates a secondary cut or tool return in the spiral-reamed finish.

Another misconception is that the secondary groove, or tool return, sometimes seen in the spiral, performs any lubrication function. The secondary groove, or tool return, is merely a manufacturing process step and offers no benefit towards lubrication. This process is an optional step in spiral-reamed guides and is usually determined by the manufacturer. Whether the tool return is present or not, this does not mean the guide is of lower quality or the spiral reaming will not perform its lubrication function. In most cases where the tool return is present, it is a manufacturing process that enables the manufacturer to increase production time.

Spiral-reamed guides are offered on many applications but not all. Some spiral-reamed guides are offered as optional in the application section in the SBI catalog note field. Refer to the Valve Guide Numerical Listing in the SBI catalog to see if the guide you are using is spiral-reamed.

**Figure 1:** Single-point boring tool



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