

## Three-Angle Seat Cutting Tips

Carbide pilots give precise and high-quality valve seat and bowl work.

1. Carbide pilots offer the following advantages:

- Carbide pilots help keep tooling cutting true. When cutting 3-angle seats, counterboring for seat rings or using Bowl Hogs to enlarge valve bowls, the resistance of the workpiece against the tool tries to deflect the pilot. Carbide pilots resist this deflection five times better to keep the tool cutting precisely in its path.
- Carbide pilots are resistant to wear and maintain “like new” precision. Carbide pilots are much more resistant to wear than tool steel pilots. As steel pilots wear, they lose their initial precision and allow an increase in run-out with age. Carbide pilots maintain their greater precision many times longer. Their stability in use and performance over a long period of time makes these pilots a greatly superior tool.
- Creates the most concentric valve seat finish. The rigidity of the carbide pilot (5 times less deflection) creates the concentric valve seat finish available. Please note, however, that due to the brittle nature of carbide, they must be handled with care!

2. Be sure to secure cylinder head.

Some shimming may be required to assure a more concentric seat and a better finish. Make certain that the cylinder head is firmly attached to the head fixture of the machine so that no vibrations can occur.

3. Keep those tips sharp!

Remember that the tip (or form tool) should be kept sharp at all times. DO NOT allow it to become dull. The sharper the tip, the less drag it will have, thus reducing the chance for chattering.

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