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JGS Recommended Feeds and Speeds

We recommend the following RPMs and feed rates based on a 30/06. Depending on the diameter of the tool, you may need to go higher or lower because it affects the surface speed.

1. Highspeed steel chamber reamers: 150-300 RPM, feed rate .004 to .006 per revolution.
2. Carbide chamber reamers: Begin at 200-400 RPM, feed rate .004 to .006 per revolution, for CNC applications, feed .050 to .200 per peck. This will vary due to diameter and shoulder angle of the chambering reamer. The amount of chip build up will vary somewhere in this range. Also, coolant pressure and flow will vary the amount of feed per peck. There are many variables which may affect the outcome, a few include: coolant, oil, barrel steel, temperature of cutting fluids and the machines you are running.
3. Form tools such as center reamers, counterbores, muzzle crowns and breech counterbores: 30-70 RPM
4. Bore reamers: High speed and carbide 200-400 RPM; feed between 4" and 6" a minute.

In our testing process, when tools are sent back, we take gun barrel stubs from top quality barrel makers and test the reamers in a hartige (sp) tool room lathe with a 6 station hand turrett with variable speed so we can match up with anyones rpm that they desire to run it. Cutting fluid is rigid (see cheat sheet) which brings of the sulphurs, chlorides and parafins of the oils. These are all additives that make the reamer cut freely.

For holding the reamer, we run the reamers with a JGS Floating Reamer Holder which we highly recommend. Our floating reamer holder was designed because of the extreme difficulty in getting a bore lined up for zero runout. A slight error in concentricity will result in an oversize chamber by "double" the amount of the error. With the use of our floating reamer holder, it is possible for the reamer pilot to follow a noncentered hole and maintain correct alignment through an anti-friction ball bearing multiple slide mechanism within the holder, correcting a maximum runout of .04". This creates a nearly perfect chamber and good finish. We feel that with the use of this tool, the quality of any chamber will be greatly improved.

There are many other high quality floating reamer holders in the industry to use. Preferable none of them that function by pins, spring restraint for centering, or anything that hinders the floatation of the reamer.

Office Hours: 7:30 a.m. - 2:00 p.m. PST Monday through Friday