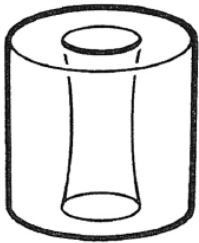


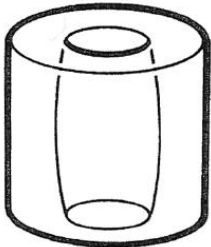
### Oval Bores

Ensure the tool is the correct size for the bore to be honed. Thoroughly true in the stones, preferably to the exact bore diameter. If the part to be honed is thin walled, reduce the cutting pressure. If the stone stops cutting at reduced pressure, use a softer stone. For bores containing cut outs, large cross holes etc. use keyway type tooling.



### Bellmouth Bores

Thoroughly true in the stones, preferably to the exact bore diameter. Reduce the stroke length and use tool with shorter stone length if available. If the bore length is less than 50% of the stone length reduce the stone length to 1½ times the bore length. If bell mouth persists continue to shorten stone or use a softer stone. Over correction will cause barreling.



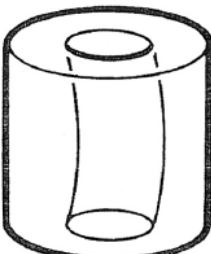
### Barrelled Bores

Thoroughly true in the stones, preferably to the exact bore diameter. Increase stroke length and use tool with longer stone length if available. If barreling persists shorten stone at both ends. Over correction will cause bell mousing.



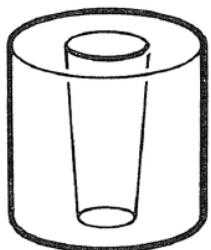
### Combined Bellmouth / Barrel Bores

Typical in bores containing many cross holes, e.g. valve spool. Shorten stone length AND increase stroke length. If problem persists use softer stone.



### Rainbow Bores (&Waviness)

Use long series tooling. Stone length should be at least 1 1/2 times the bore length. Correction of bent bores may result in bellmousing. When bend has been corrected any bellmousing can be corrected as described above.



### Tapered Bores

Thoroughly true in the stones, preferably to the exact bore diameter. When honing manually reverse the component frequently. When honing automatically adjust stroke position to allow more stone to pass through the tight end of the bore.

### **Taper in Blind Bores**

Thoroughly true in the stones, preferably to the exact bore diameter and reduce the stone length to 2/3 bore length. If the bore has insufficient or no relief at the blind end use short stone first to hone bottom of the bore. Use stone with hard tip. Ensure adequate supply of honing to blind bore.

### **Bent Bores**

Use longest stone length available. Stone length should be at least 1½ times bore length. Correction of bent bores may result in bell mouthing. When bend has been corrected any bell mouth can be corrected as described above.

### **Stone Glazed**

Stone does not cut  
Open surface of stone with dressing stick  
Increase stroking speed  
Reduce rotation speed  
Increase pressure  
Use softer stone

### **Slow Stock Removal**

If slow stock removal is not the result of stone glazed or loaded  
Increase rotation speed  
Increase pressure  
Use softer stone  
Use coarser stone

### **Pick Up**

Reduce pressure  
Reduce rotation speed  
Use softer stone  
Use finer stone  
Change HS type mandrel to bronze or PT type  
Ensure good flow of honing fluid  
Check quality of honing fluid

### **Finish Too Fine**

Open surface of stone with dressing stick  
Increase stroking speed  
Reduce rotation speed  
Increase pressure  
Use coarser stone  
Use softer stone

### **Stone Loaded**

Stone surface becomes clogged with material  
Clean stone surface with dressing stick  
Increase stroking speed  
Use softer stone  
Use coarser stone

### **Excessive Stone Wear**

Reduce pressure  
Increase rotation speed  
Use harder stone  
Use finer stone

### **Finish Too Rough**

Thoroughly dress stone and shoe preferably to exact bore diameter  
Increase rotation speed  
Reduce pressure  
Use finer stone  
Check quality of honing fluid