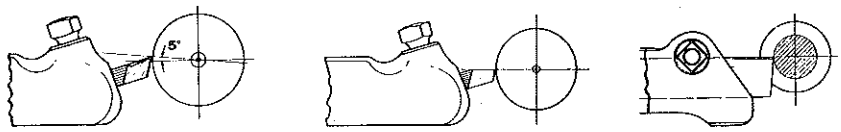
# CUTTING TOOLS DATA

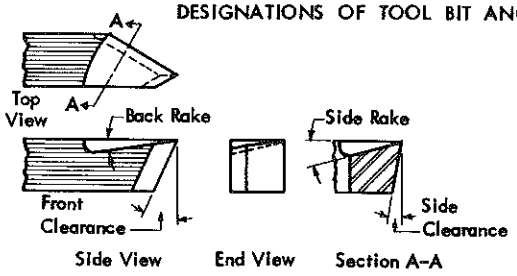
This Cutting Tool Data also available in chart form 12x16 inch size. Price 15¢

## CORRECT HEIGHT OF THE CUTTING EDGE

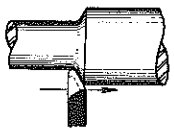


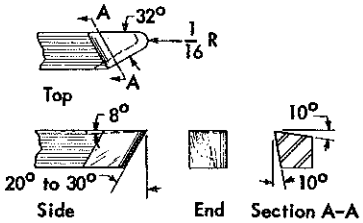

STRAIGHT TURNING — TAPER TURNING, THREAD CUTTING, BRASS TURNING — CUTTING OFF

## DESIGNATIONS OF TOOL BIT ANGLES

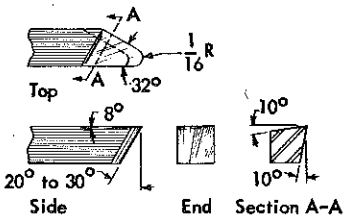



## APPLICATIONS — TOOL BIT ANGLES — APPLICATIONS

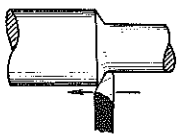


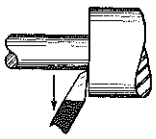


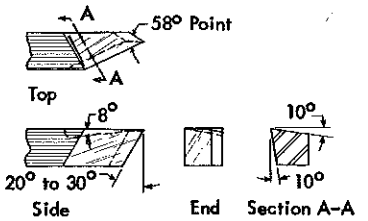

LEFT HAND TURNING TOOL



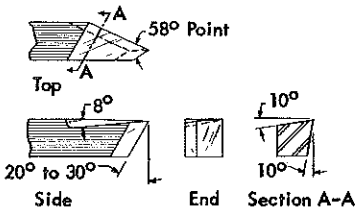

RIGHT HAND TURNING TOOL



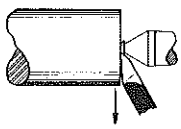


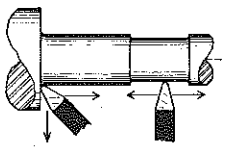


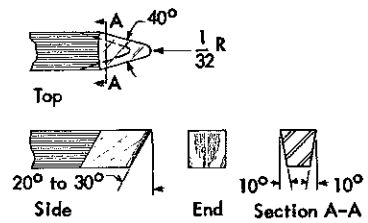

LEFT HAND SIDE TOOL



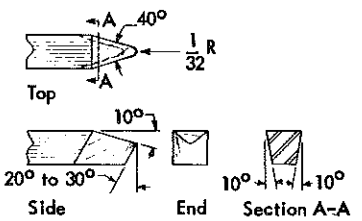

RIGHT HAND SIDE TOOL



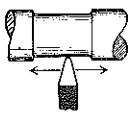


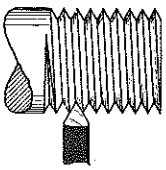


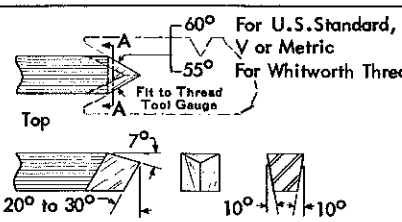

ROUND NOSED TURNING TOOL



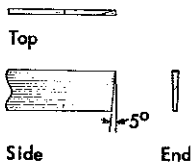

BRASS TURNING TOOL





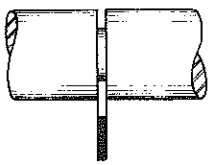



SCREW THREAD CUTTING TOOL




CUTTING OFF TOOL

Cutting off tool cannot be ground in block



### Cutting Speeds for Turning With High Speed Steel Cutting Tools

| Material | Ft. per Minute | Lubricant |
|---|---|---|
| Aluminum | 300-400 | Comp. or Kerosene |
| Brass, leaded | 300-700 | Dry or Comp. |
| Brass, red & yellow | 150-300 | Comp. |
| Bronze, leaded | 300-700 | Comp. |
| Bronze, phosphor | 75-150 | Comp. |
| Cast Iron | 50-110 | Dry |
| Cast Steel | 45-90 | Comp. |
| Copper, leaded | 300-700 | Comp. |
| Copper, electro. | 75-150 | Comp. |
| Chrome Steel | 65-115 | Comp. |
| Die Castings | 225-350 | Compound |
| Duralumin | 275-400 | Compound |
| Fiber | 200-300 | Dry |
| Machine Steel | 115-225 | Compound |

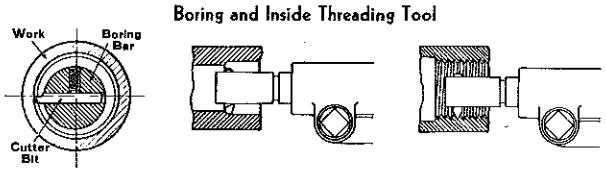
| Material | Ft. per Minute | Lubricant |
|---|---|---|
| Malleable Iron | 80-130 | Dry or Comp. |
| Mang. Bronze | 150-300 | Comp. |
| Mang. Steel | 20-40 | Comp. |
| Moly. Steel | 100-120 | Comp. |
| Monel Metal | 100-125 | Comp. or Sul. Base |
| Nickel Silver 18% | 75-150 | Comp. |
| Nickel Silver, leaded | 150-300 | Comp. |
| Nickel Steel | 85-110 | Comp. or Sul. Base |
| Plastics, hot-set molded | 200-600 | Dry |
| Rubber, Hard | 200-300 | Dry |
| Stainless Steel | 100-150 | Sul. Base |
| Tool Steel | 70-130 | Comp. |
| Tungsten Steel | 70-130 | Comp. |
| Vanadium Steel | 85-120 | Comp. |

The above speeds have been collected from several sources and are suggested as practical for average work. Special conditions may necessitate the use of higher or lower speeds for maximum efficiency.

### HONING the CUTTER BIT


After grinding, hone cutting edge of tool on oil stone. It will improve cutting quality of cutter bit.

### Boring and Inside Threading Tool




The boring tool is ground exactly the same as the left hand turning tool except the front clearance of boring tool must be ground at a slightly greater angle so that the heel of the tool will not rub in the hole of the work. The inside threading tool is ground the same as the screw thread cutting tool except that the front clearance must be increased for the same reason as for the boring tool.

NOTE: These are suggested starting angles for general work. Slightly smaller or larger angles may prove more efficient, depending on the texture of the material machined, finish required, cutting speed and the type of cutting tool used.