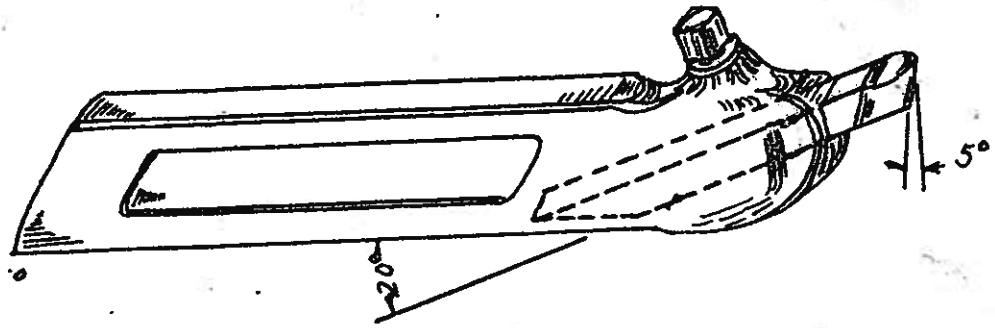
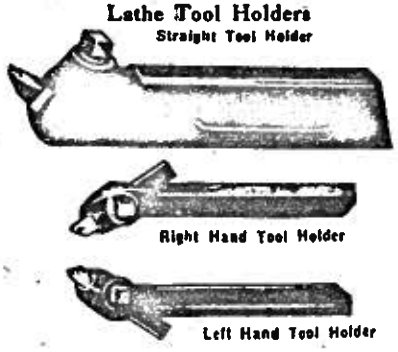
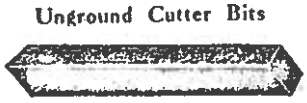
TOOL HOLDERS

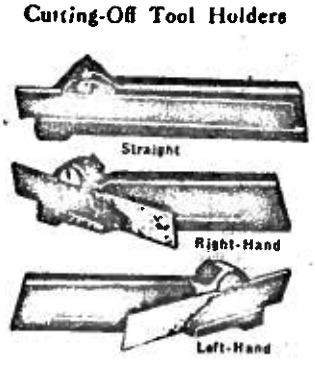
An inserted tool bit usually sets in the holder at an angle of from 15° to 20°. In order to grind a front clearance of 5°, one actually grinds an angle of 25° on the part of the tool bit.

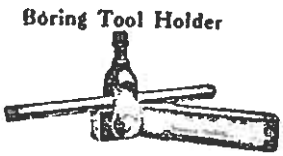


Tool bit holders usually hold square, high speed steel bits of various sizes. $\frac{1}{4}$" X $\frac{1}{4}$", 5/16" x 5/16" and 3/8" x 3/8" sizes are most common in our shops. The following sketches show some of the standard types of tool holders used in machine shops:







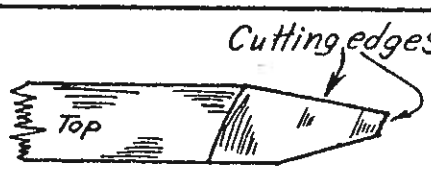


New York University
Department of
Vocational Education

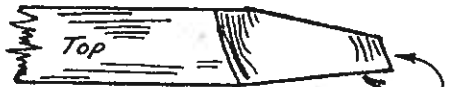
LATHE CUTTING TOOLS

School of Education
Industrial Arts
Teacher-Training Curriculum

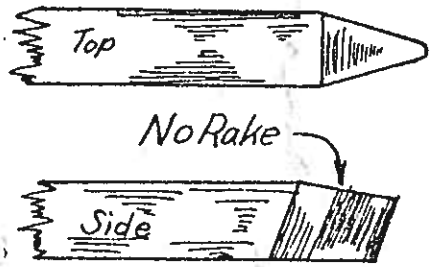
Clearance: Front - 10° Side - 10°
"Diamond Point" Utility Tool



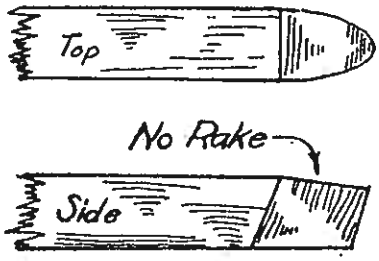
Clearance: Front - 5°; Side 5°
Right-hand Facing Tool



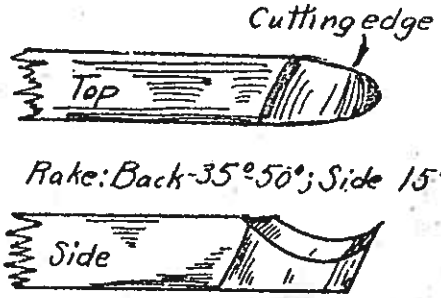
Clearance: Front - 5°; Side 5°
Left-hand Facing Tool



Clearance: Front: 5°; Side - 5°
Brass & Copper Tool

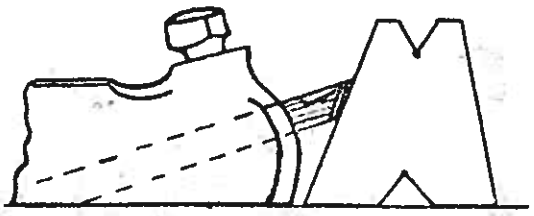


Clearance: Front 5°; Side 5°
Bull Nose Tool for Cast Iron

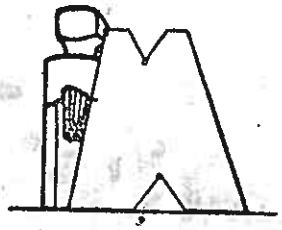


Clearance: Front 10°; Side - 5°
Aluminum Tool

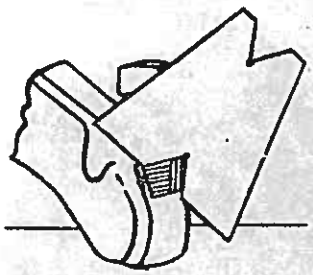
Using the Tool Bit Gage



Testing for Front Clearance,

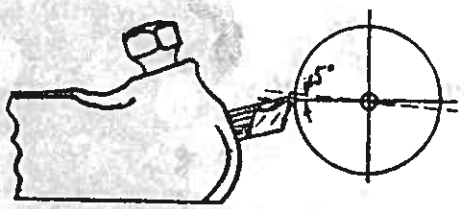


Side Clearance,

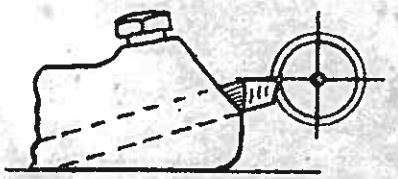


Side Rake

Setting Tool Holder in the Lathe



For straight turning on steel and cast iron, set the cutting edge of the cutter bit 5° above center of work. Remove burr from cutting edge with a slip stone.



When taper turning, threading or machining brass, set the cutting edge on center.