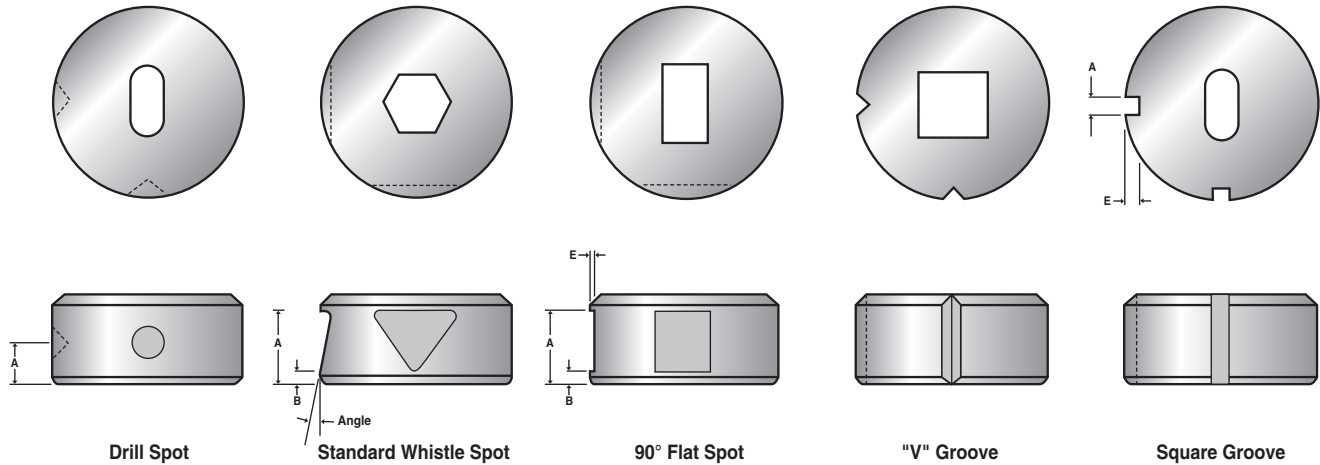


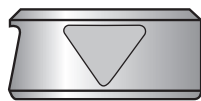
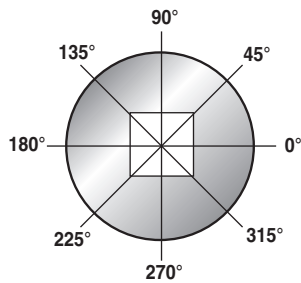
### Locating Spots and Grooves

Locating spots and grooves are recommended for positive alignment of shaped dies as well as for securing the die in the die holder. Cleveland Steel Tool offers a variety of styles to fit your machine.



### Orientation of Dies

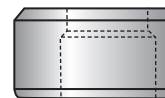
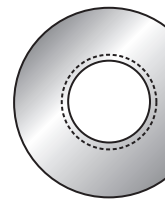
Orientation for shaped dies is not limited to 90°. Diagram shows various angles of orientation possible.



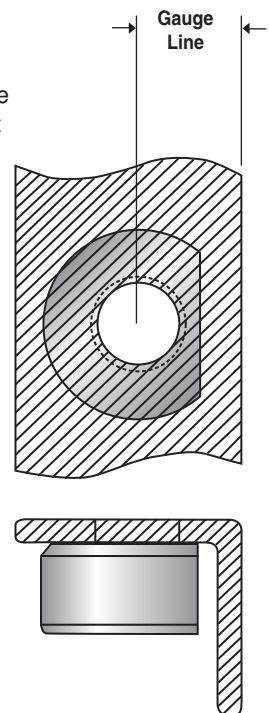
Front of Machine

### Flat Sided Dies

When punching angle iron, a flat sided die will allow the hole to be punched closer to the gauge line of the angle. The flat on the die must be flush with the front of the die holder.

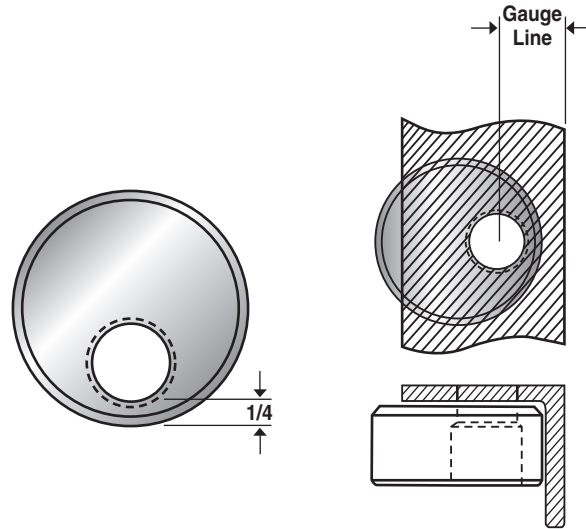


Flat Sided Die

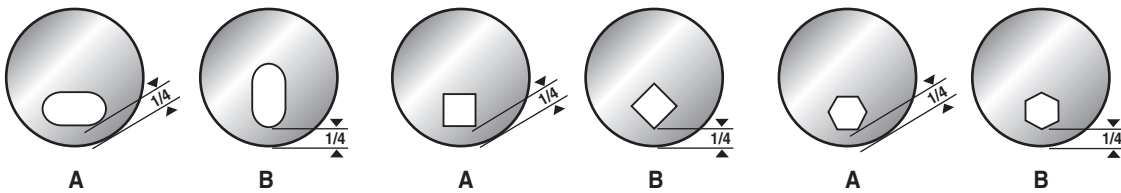


### Eccentric/Offset Die Hole Position

Some applications require the hole of the die to be offset. This allows the hole to be punched closer to a desired gauge line. **Note: Offset hole dies can only be used on machines with a moveable die block.** Standard offset dies require a minimum 1/4" wall thickness from the edge of the hole to the outside of the die.

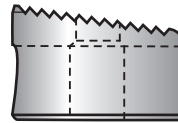
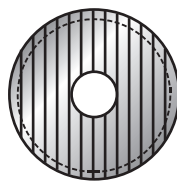
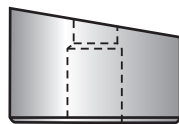
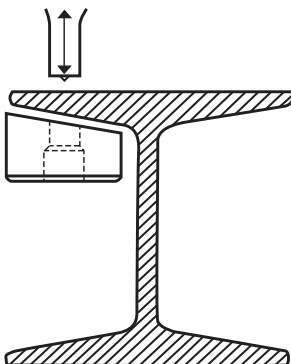


### Offset Shaped Hole Positions

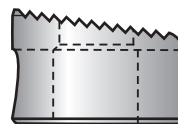


### Bevel Top Dies

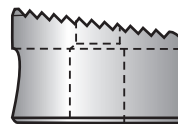
Bevel top dies are used for maintaining vertical punch and die alignment when punching structural "I" beams and channels. Bevel corrugated top dies can be supplied when extreme punching pressures may cause slipping of punched material. When punching shapes, please indicate the position of the hole. Bevel top dies may also be offset provided the die block is moveable.



Bevel Corrugated Top



Shape Parallel to Bevel



Shape Perpendicular to Bevel



### Stock Bevel Corrugated Dies

SIZE	47B	48B
11/32	●	●
13/32	●	●
7/16	●	●
15/32	●	●
1/2	●	●
17/32	●	●
9/16	●	●
19/32	●	●
5/8	●	●
21/32	●	●
11/16	●	●
23/32	●	●
3/4	●	●
25/32	●	●
13/16	●	●
27/32	●	●
7/8	●	●
29/32	●	●
15/16	●	●
31/32	●	●
1	●	●
1-1/32	●	●
1-1/16	●	●
1-3/32	●	●
1-1/8	●	●