

CHOOSE THE RIGHT STYLE

SEVEN POINT SELECTION GUIDELINES

- 1. Material Thickness.** Do not exceed the rated material thickness for each cam unit without consulting our engineering department.
- 2. Part Shape.** Use the Pos-Z-Cams where positive stripping is required. Use Inboard Spring cam units on flat parts with room for urethane stripper displacement. Use Outboard Spring cam units on tubes and cured surfaces for positive die spring stripping. Use Gas Spring cam units where higher stripping force is required.
- 3. Punch Stroke.** Select amount needed. Use full stroke for maximum leverage and stripping force.
- 4. Punching Force.** Punching Force, tons = $LC \times t \times TS \div 2000$
- 5. Stripping Force.** The force required to strip a punch is difficult to determine since it is influenced by the type of metal pierced, punch size, punch/die clearance, punch sharpness, and other factors.

$$\text{Stripping Force, lbs.} = LC \times t \times M \times 2000$$

Where: LC = Length of cut (hole circumference, hole perimeter, notch length, etc.)
 t = Material thickness
 TS = Material tensile strength, psi
 M = Material multiplier, tsi, steel and stainless steel – 1.5, aluminum – 2.25

- 6. Point Size.** Diagonals must fit maximum point size. For Inboard Spring models maximum point size is less than punch body diameter due to the ground shoulder supporting the washer and stripper.
- 7. Point Shape.** The Pos-Z-Cam punch points can be either round or shaped with the standard ball lock punch. The spring return cams with shaped points require keyed (k) cam units to keep the punch from rotating in the bore.

Dowels to be transferred to mounting surface at assembly.

Milfab Cam Units generate the rated punching and stripping forces at the end of the stroke. Always use the full stroke entering the die 1/16 in.

HOW TO ORDER

PREFIXES

(Spring Return Model)

| | |
|-----|----------------------------------|
| (n) | Number of punches |
| M | Metric punch, dowels, and screws |
| T | Top mount |
| G | Gas spring |
| E | Extended range, oversized point |
| B | Self-lubricating bushing |
| K | Keyed cam unit and punch |
| O | Outboard spring |
| S | Short punch stroke |
| L | Long punch stroke |
| P | Positive Return |

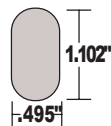
SUFFIXES

(Positive & Spring Return Models)

| | |
|--|----------------------------------|
| A | A2 punch |
| AE | A2 ejector punch |
| M | M2 punch |
| ME | M2 ejector punch |
| PUNCH BODY DIAMETER | |
| (Positive & Spring Return Models) | |
| 250 | 1/4 in., 6 mm |
| 375 | 3/8 in., 10 mm |
| 500 | 1/2 in., 13 mm |
| 625 | 5/8 in., 16 mm |
| 75 | 3/4 in., 20 mm |
| 87 | 7/8 in. (no metric equivalent) |
| 100 | 1 in., 25 mm |
| 125 | 1-1/4 in. (no metric equivalent) |
| 137 | 1-3/8 in. (no metric equivalent) |
| 150 | 1-1/2 in. (no metric equivalent) |

To order, specify quantity, cam unit model number, and P' dimension for round holes, or P' and W' dimensions and the shape.

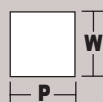
Example: KOS125AE, P=.495", W=1.102", oblong. This is a keyed, outboard spring model, short stroke cam unit with a 1.250" A2 ejector punch ground to a .495" x 1.102" oblong point.



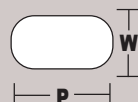
STANDARD ROUND



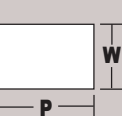
SQUARE



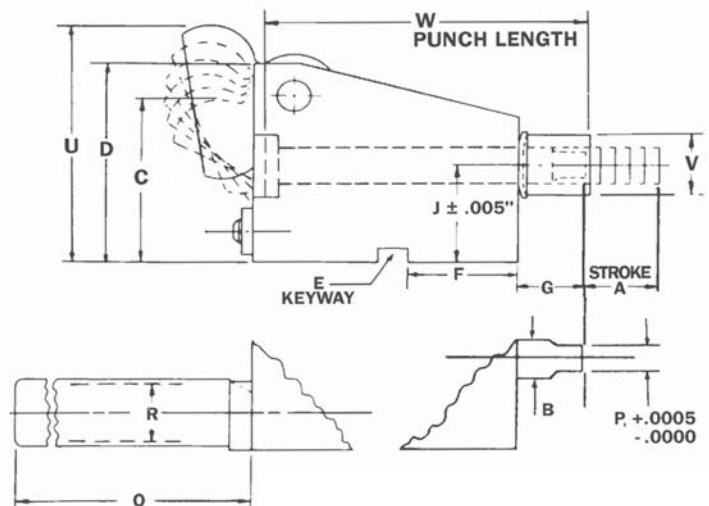
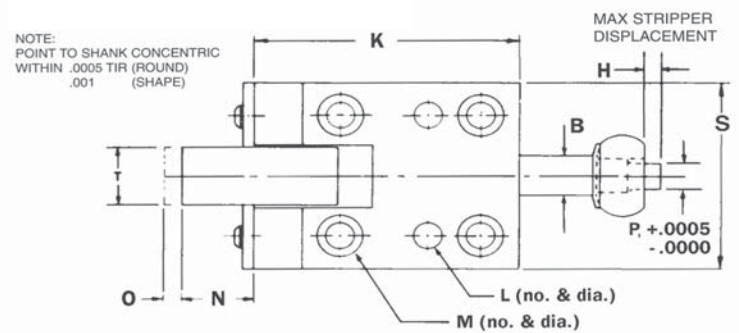
OBLONG



RECTANGULAR



INBOARD SPRING



OUTBOARD SPRING & GAS SPRING