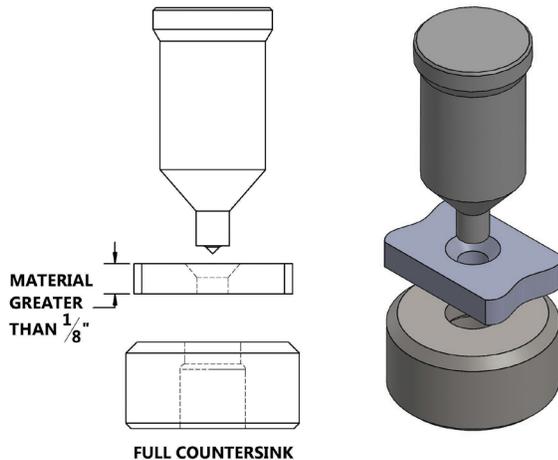


Miscellaneous Tooling

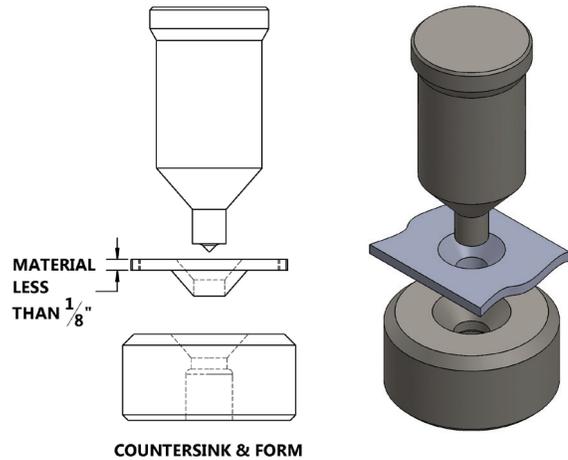
COUNTERSINK TOOLS

Countersink tooling produces a countersunk hole for flat head screws. Please indicate screw size, material thickness, punch and die style and type of countersink required.



FULL COUNTERSINK

Material 1/8" and greater will typically not deform with countersink operation.

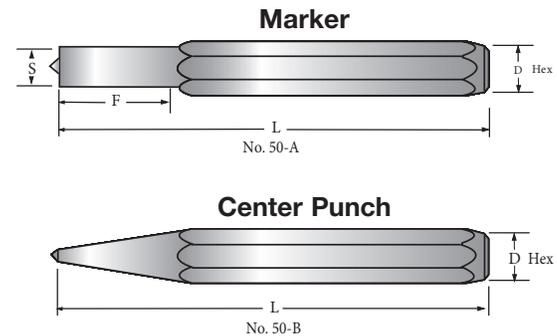
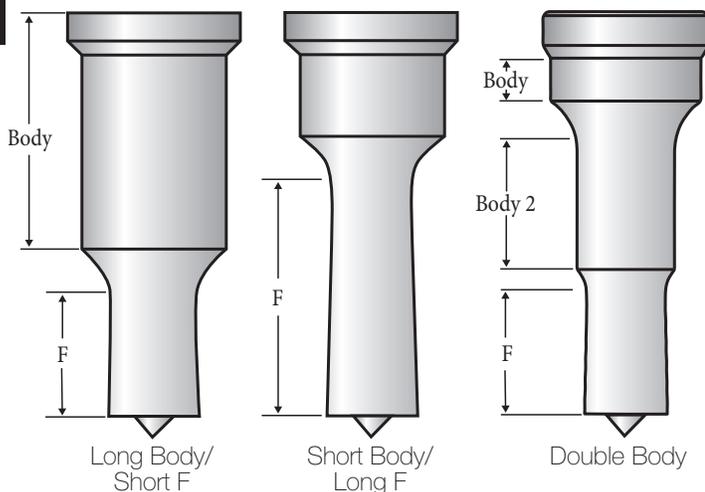


COUNTERSINK & FORM

Material under 1/8" will deform with countersink operation.

EXTRA LENGTH PUNCHES

Some applications require extra length to be added to the "F" dimension (working end of the punch) or the "Body" dimension for clearance punching leg up or closer to the flange. For special orders, please specify the length of the "F" dimension or "Body" of Punch.

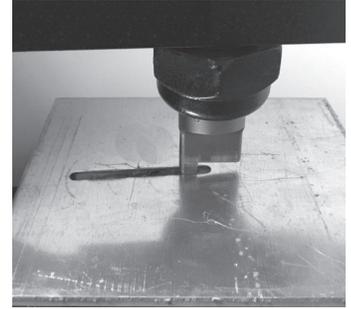
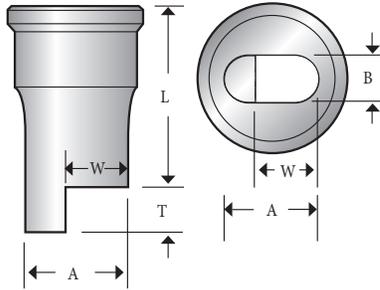




Miscellaneous Tooling

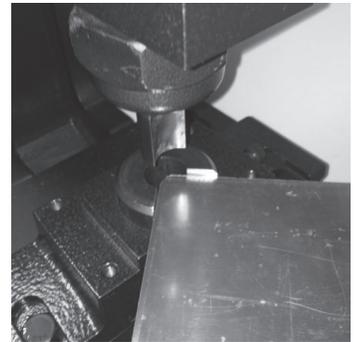
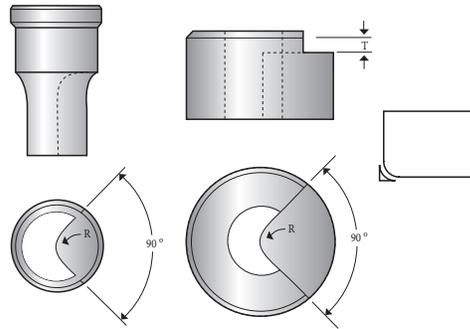
RIPPING PUNCH

An oblong or rectangular ripping punch is used to elongate existing holes or to notch material. The ripping punch is used with a standard oblong or rectangular die. Please specify style number of punch required and advise our sales experts if your machine has an adjustable stroke. Note: The guide (T) is 1/8" longer than the material thickness to allow for material clearance and prevent side loading. Material thickness must not exceed 5/16".



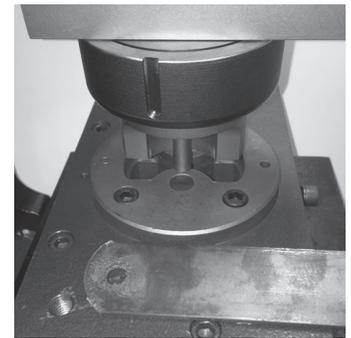
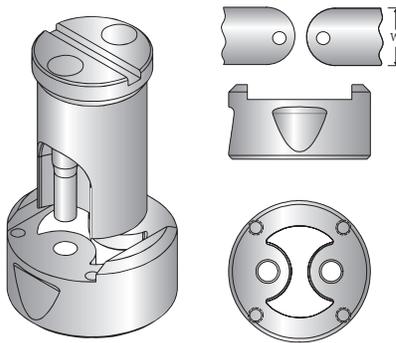
CORNER ROUNDING TOOLING

The corner rounding punch is used to round the corners on **material up to 5/16" thick**. The bottom die has a built in guide at least 1/8" higher than material thickness. Indicate radius (R) and material thickness (T) when ordering.



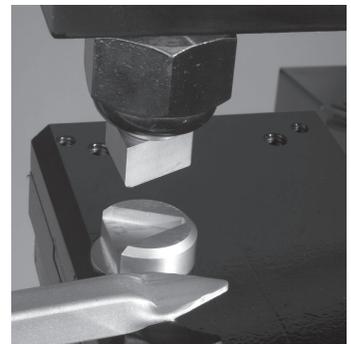
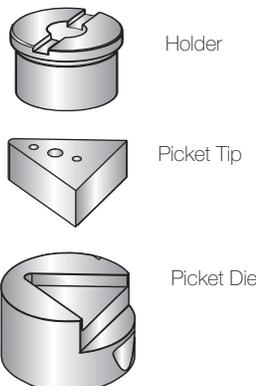
LATTICE BAR (TRIM AND PART) TOOLING

The lattice bar punch allows operator to simultaneously trim and radius strip **material up to 5/16" thick**. The punch or die has a guide that is a minimum of 1/8" longer than the material thickness. When ordering, please specify material thickness and material width. Trim and part (lattice bar) tooling can also include punches for bolt holes.



PICKET TOOLING

The picket punch is used to make pickets in ornamental iron. Sizes available up to 1" for thin gauge, hollow wall, square tubing only. 14 gauge (.078) maximum thickness.



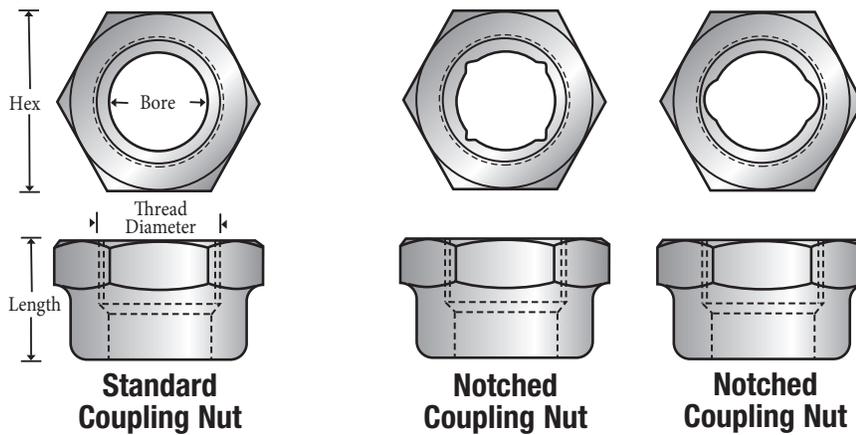
Miscellaneous Tooling

Miscellaneous Tooling

STANDARD COUPLING NUTS

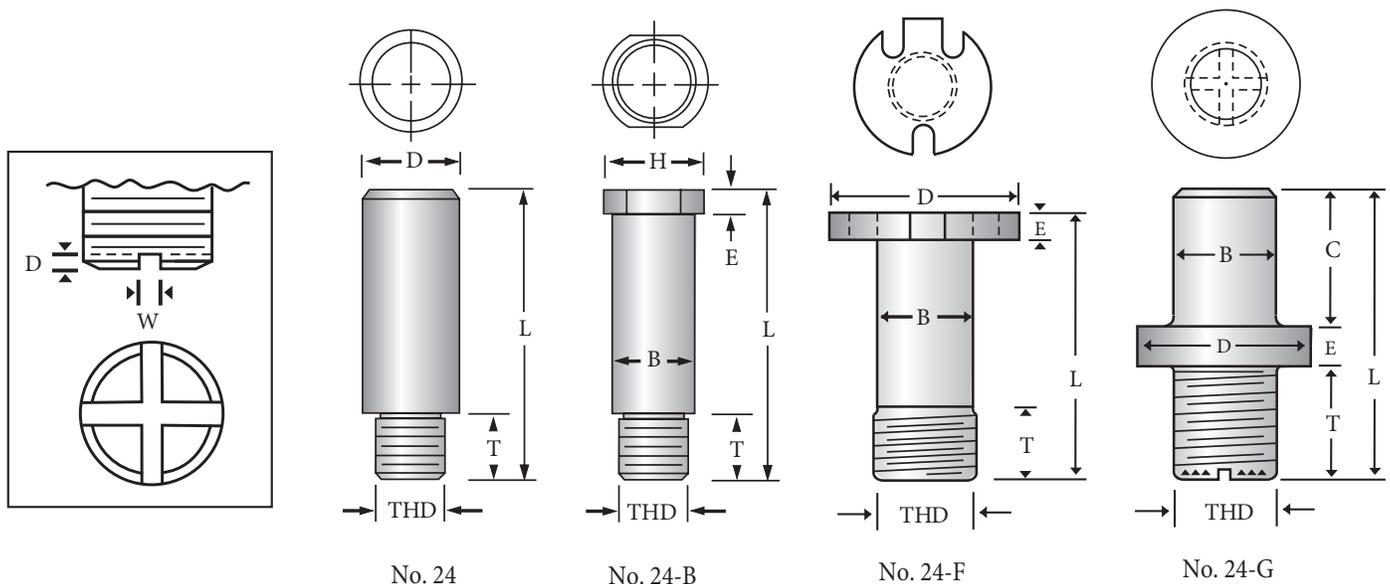
The critical dimensions required to identify a coupling nut are the thread diameter, threads per inch, bore and size of hex from flat to flat. We can manufacture replacements for most machine models.

Coupling nuts are designed to be turned on the stem by hand and then tightened with a wrench or spanner wrench. Over-torquing may cause damage to the threads. Check periodically to ensure that the nut remains tight and the punch cannot move. Loose nuts are a leading cause of punch breakage.



PUNCH STEMS

Shown below are general styles of punch stems. Cleveland Steel Tool can manufacture punch stem replacements for most machine models. Note: The use of two 90° keyways in the face of the threaded end of a punch stem is recommended to ensure proper alignment of shaped punches with matching dies.

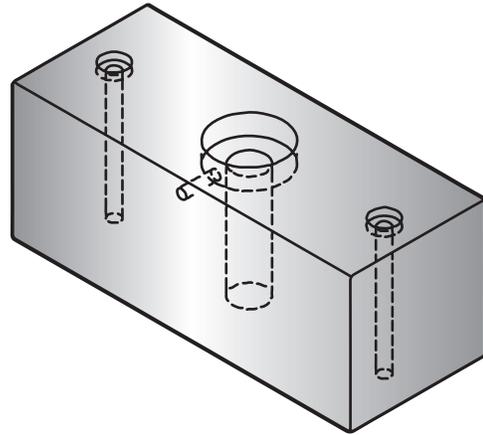
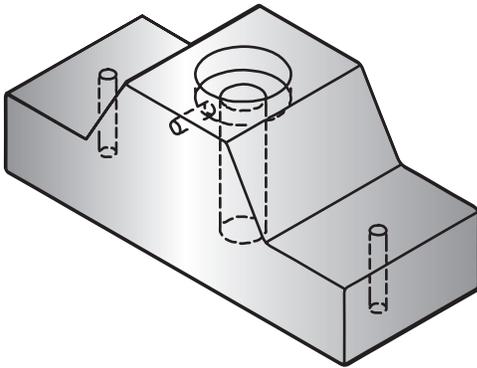




Miscellaneous Tooling

DIE HOLDERS

We can manufacture a replacement or custom die holder for most machines. Some common styles include pedestal and block type holders as shown below. Call our sales staff for more information.



TOOLING TO ADAPT MACHINES

In some instances, it may be desirable to substitute the style of tooling used in your equipment. Filler Blocks or Reducing Sleeves may be used to convert your punch setup, or a Die Liner and Reducing Socket can allow substitution of a different style Die.



FILLER BLOCK



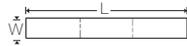
PUNCH



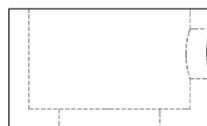
REDUCING SLEEVE



DIE



DIE LINER



REDUCING SOCKET

