

Updated Gingery Metal Shaper Drawings

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Version 1

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Overview

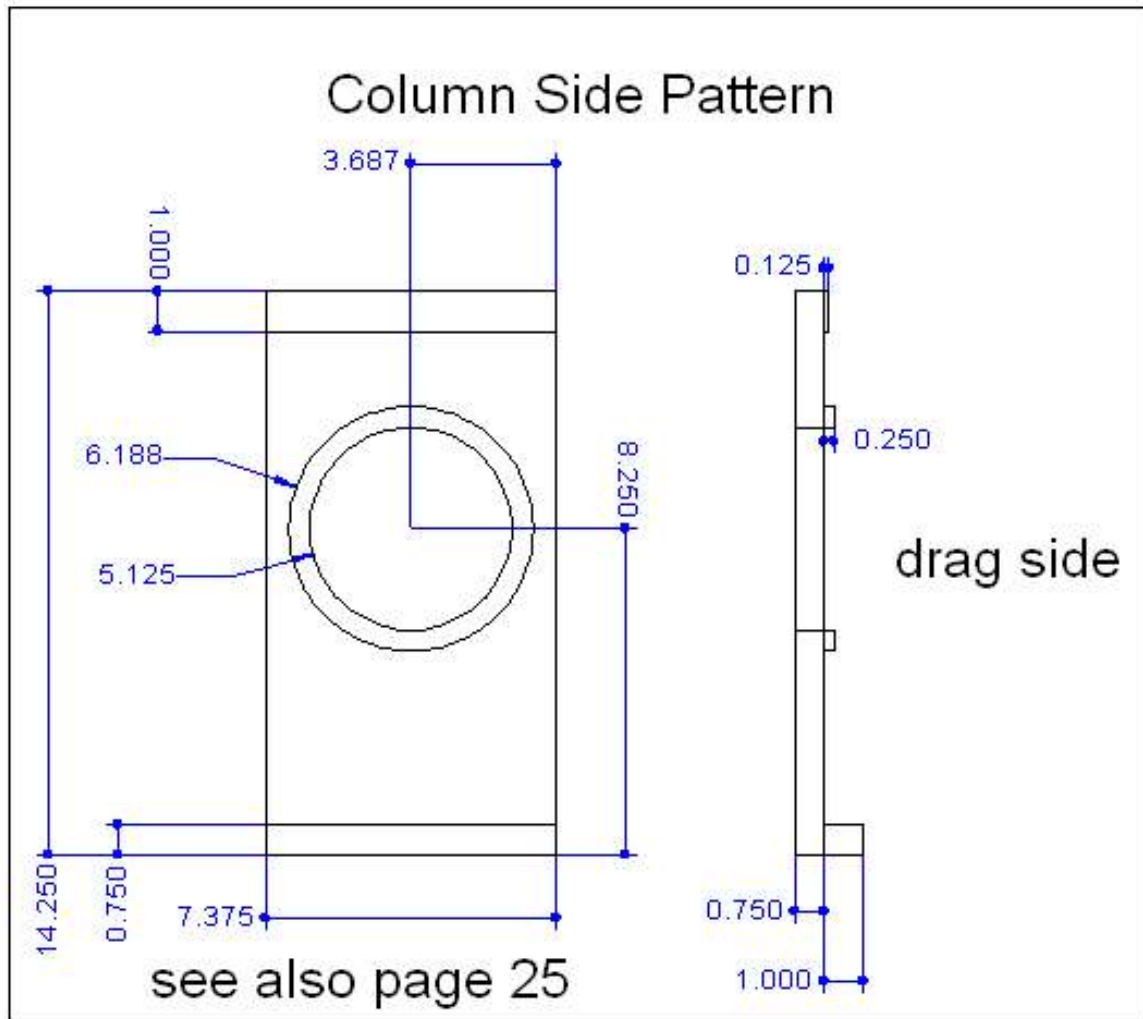
The drawings offered will, when complete, contain about 60 suggested improvements to the original Gingery metal shaper design. I have assumed that the reader has a copy of Gingery's book. These drawings supplement the book.

This is a work in progress. As I progress through the design, more drawings will be added. All errors found during construction will cause corrections to these drawings.

Patterns and Parts

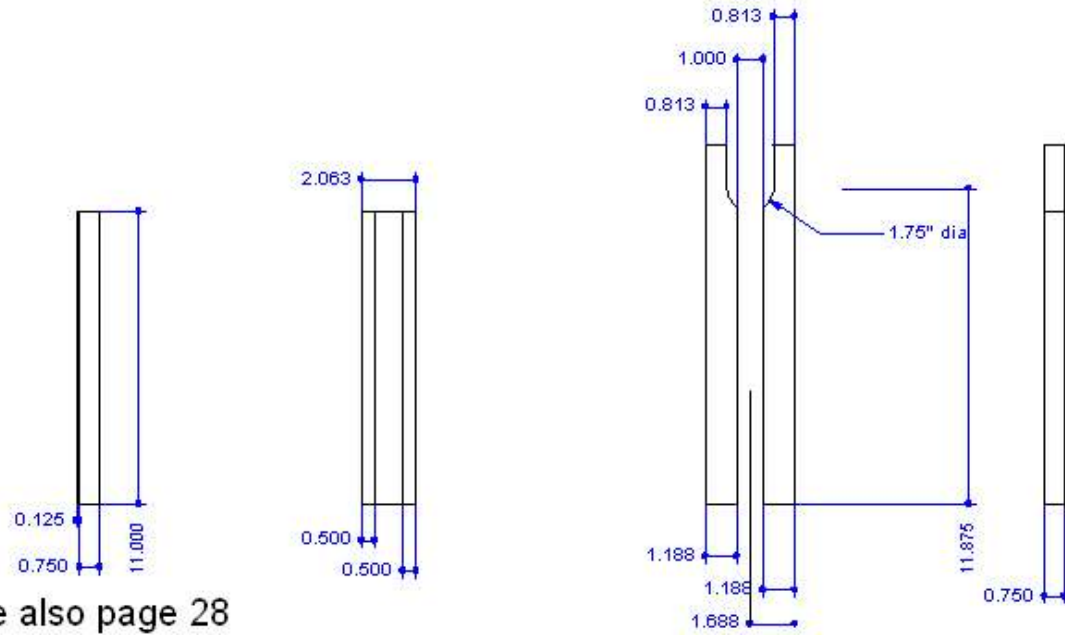
I first draft the pattern of a part. I then scale this drawing by 0.979, which represents the estimated shrink of aluminum described by Gingery in his Book 1, page 34. Any remaining metal above the needed size is for machining. When parts have been enlarged, I simply added to the size of the pattern. This is not precisely correct since for every inch added to a dimension on the pattern I really only get 0.979" nominally in the unmachined part. Time will tell if this gets me in trouble.

Side Column Pattern



Column Front Pattern

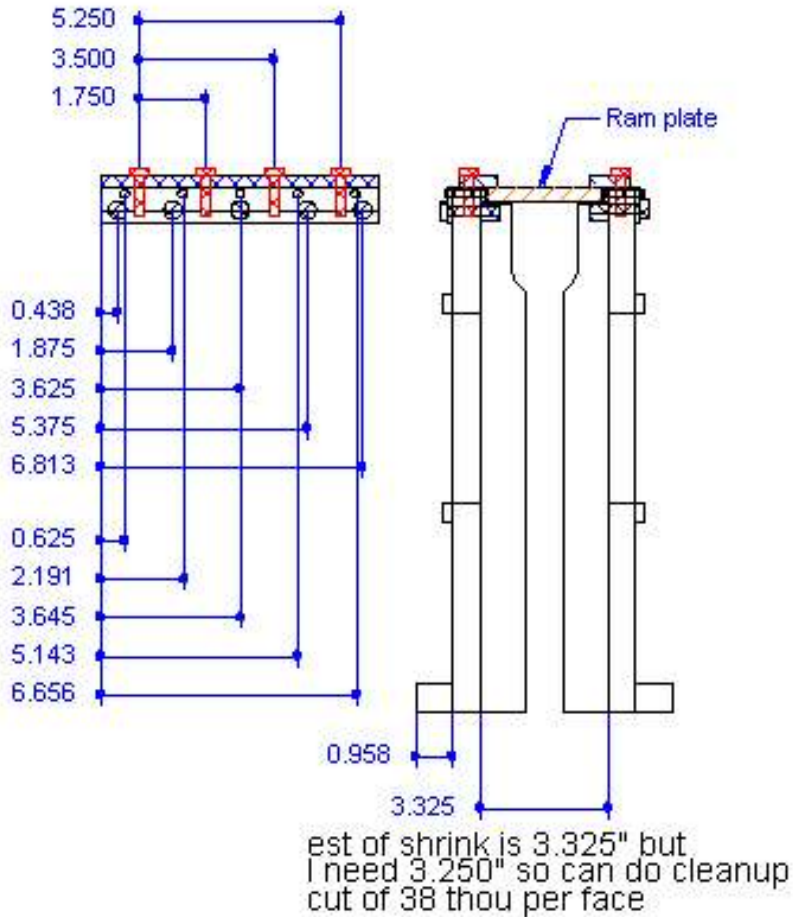
Column Front Pattern



see also page 28

Ram Slide Assembly

machined side and front column
with Ram Slide assembly



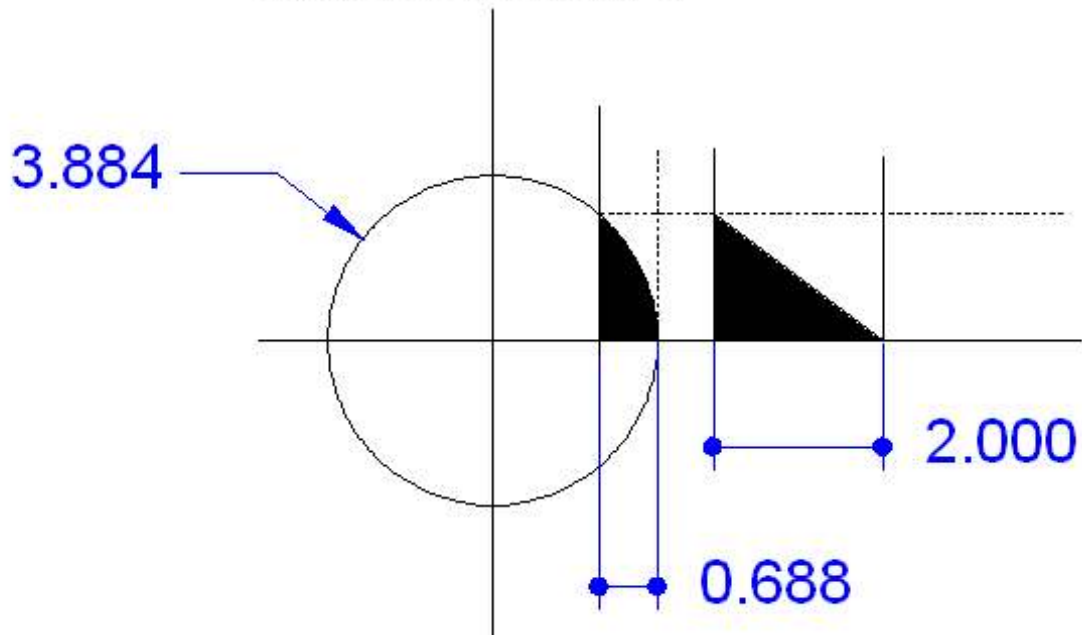
The ram slide is entirely encased in brass strips. Bronze would be better but I have brass and this project has already cost me enough money.

Note that the slide is symmetrically held. The 3/8" x 1/8" strip on the right is the gib and will have pointed 10-24 screws pressing on its surface. The twin strip on the left will be drilled and tapped so it does not move. A set of 1/2" x 1/2" bars support the ram slide from below and is held on with 5 1/4-20 screws.

A Possible Ram Side Transition Piece

Rather than shape Bondo to form the transition areas on the ram, I was looking for a way to machine them. The plan is to turn a taper with a major diameter of 3.884" and bring it to a point at 2". Then cut out the sector shown in black below. A second sector is cut from the opposite side.

turn a taper that starts at 3.884
and goes to a point after 2"



What Next?

I welcome comments and corrections, hopefully before I invest a lot more time on these parts. I have already found a few errors as I drew up the figures.

All of us are smarter than any one of us.

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