



# Technical Document

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**File name:** TD10129\_Super\_Soft\_Jaws\_0312A

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**Product Identification:** Super Soft Jaws

Super Soft Jaws (PN 31841) are accessory jaws for the Tormach 5" Machinist (PN 30553), Tormach 5" CNC (PN 31759) and compatible vises. The jaws are used to hold irregularly shaped and delicate work pieces. A reusable plastic (PN 31846) is heated in water to 150-212F (65-100C) until it has the consistency of a pliable putty and is then formed around the work piece. The special jaw plates and included hardware kit provide anchor points for the plastic to adhere.

When the plastic cools to room temperature it has a hardness and toughness similar to Nylon and locks the work piece to the jaws. Metal work pieces readily release from the hardened plastic. The plastic is also easily machined.



## Key Jaw Dimensions

Length: 6.25" (159 mm)

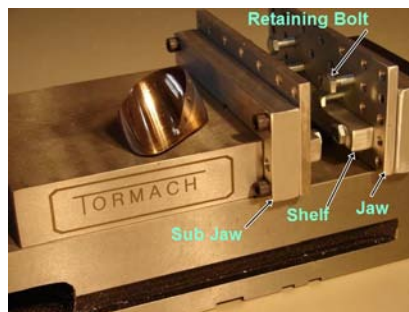
Height: 2.5" (63.5 mm)

Maximum Opening: 3.75" (95 mm)

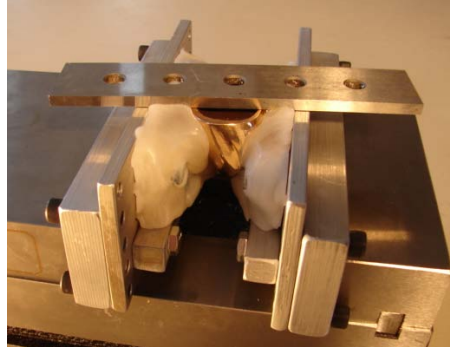
## Application Examples

### *Antique Brass Taillight Base Casting*

The figure below shows the setup for holding a rigid antique brass taillight base casting. The sub jaws and jaws are bolted to the vise and the shelf and retaining bolts are in place.

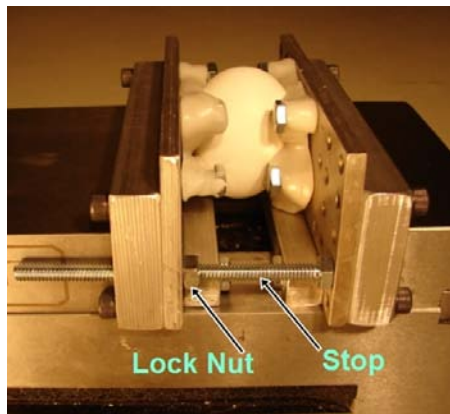


In this photo, the base is temporarily hot glued to a flat plate and the moldable plastic worked underneath the head of the retaining bolts and formed around the taillight. The flat plate resting on the top surface of the jaws helps to align the surface that will be machined.

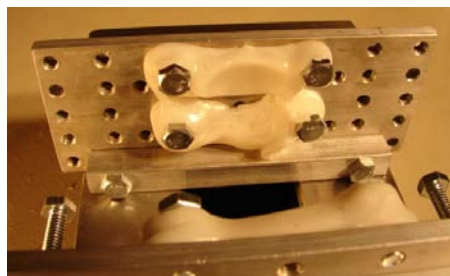


### *Delicate Work Pieces*

Pictured below is the setup for holding an egg. Unlike the taillight casting, clamping hard on the egg would crush it. Using a pair of stops allows the vise to be tightened in a repeatable position without crushing delicate work pieces. After the vise forced the warm plastic to conform around the work the stops are threaded into position and locked in place with the lock nut.



To minimize the forces on the egg while forming the plastic, minimize the amount of plastic the egg has to displace. Rather than using a large mass of plastic on each jaw two smaller strips were used.





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## *Small Plastic Knob*

To prevent the moldable plastic from sticking to itself or the knob, thin plastic film is draped over the jaws before clamping the knob and removed after the plastic has hardened. Film .0005" (0.01mm) thick is readily available at grocery stores under brand names such as Saran Wrap or Glad Cling Wrap.

