

**Preparing the wax pattern:**

- 1) ✓ The wax pattern must be complete and *manifest the artist's vision and intention*. (While the transformation into bronze is exciting and beautiful, it will not magically improve inherent flaws!) No pattern is complete until it bears the artist's **signature** and the **year** made. Copyright and edition #'s are optional.
- 2) ✓ The wax pattern must be sturdy and hold together well. The thickness must be as consistent as possible: preferably about 3/16 inch.
- 3) ✓ Check the pattern surface: any small air bubbles, deep crevices or other flaws must be sealed or repaired.
- 4) ✓ Determine the number of sections large pieces must be cut into and make cuts. (This may provide an opportunity to inspect and fix the thickness of the pattern.)
- 5) ✓ Determine the location of any 'windows' needed to support the core or to allow air to flow up through the pattern as investment flows in; make these cuts.
- 6) ✓ Shave a bevel along the perimeter of any wax sections to be welded later.

**Gating the wax pattern:**

- 1) ✓ Establish the best 'attitude' for the piece: A) Insure that the main core is facing up so that core gasses can escape. B) Check that other air pockets will not form during investing. C) Check the accessibility of points to attach the main gates to.
- 2) ✓ Determine whether the piece will be poured Directly or Indirectly: 'Direct' is simplest and most common. '*Indirect*' allows more control of the bronze flow.
  - 2a) ✓ **DIRECT**: Weld gates directly from cup to all high points of pattern. Skip to #3.
  - 2b) ✓ **INDIRECT**: *Determine location of cup and main runner in relation to pattern.*
    - A) *Space gates 4-5 inches apart, mostly on the bottom half; avoid surface details.*
    - B) *Always point gates uphill from main runner, so that the piece fills with bronze through these gates from the bottom up, allowing the air to rush out of vents.*
    - C) *Keep the gates about 1 inch away from pattern. Provide room to cut later.*
- 3) ✓ **Welding Wax: Be Patient!** After planning, cut pieces to fit well. Support the piece so it can't move. Penetrate joints completely. Never disturb fresh welds!
- 4) ✓ Locate any high points and attach vents, jumpers, or 'blind' vents to these spots. Vents should come straight up, away from the top of the cup. Attach windows.
- 5) ✓ Place 1" x 3/32" bronze core pins as necessary (typically three, in lower half).
- 6) ✓ Place 1" x 1/32" bronze pins in 1/4" wax rod as a 'core vent' in hollow pieces.
- 7) ✓ A 'dirt trap' may be placed on the extreme bottom point(s) of the pattern.
- 8) ✓ Hold the pattern, not gating! Inspect welds, drips, etc. and **double-check this list.**