

**Adding Sculptural Elements to Your Turnings**  
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**General Woodworking Safety**

- No dangling hair/jewelry/neckties, etc.
- Use safety goggles/glasses/faceshield/hearing protection when wise
- Always have a good light source
- Use lung protection around sawdust always: good dust mask or respirator
- Work toward good shop dust control: desktop or lap dust collector, ambient dust collector in shop for fine particles
- Always work with focused attention (not tired, impaired, emotional wreck, etc.)
- Listen to your body. Take breaks, stretch, get a good chair, do your stretches or physical therapy exercises

**Methods for connecting elements to turned objects**

**Method 1 – Internal structural tenon or dowel joint between 2 flat surfaces:**

- Make a flat area on turned object (piece 1) by pressing wood into the flat metal platen on a belt or disk sander, or a flat sanding disk on the lathe
- Drill a hole perpendicular to this flat area that will serve as a mortise for a mortise/tenon joint. It is critical that the hole is drilled at a 90 degree angle to the flat surface, so make or use a jig to ensure this
- Turn a tenon that is slightly smaller than the size of the above drilled mortise onto the end of piece that you wish to add (piece 2), making sure that the shoulder is 90 degrees to the tenon
- Glue tenon into mortise, adding a pinch of fine sawdust to the glue
- Carve and sand a smooth transition between parts

**Method 2: Visible dowel joint between 2 flat surfaces: (Useful for areas that will be later be texture-carved and painted)**

- Make a flat area on turned object (piece 1) by using a belt or disk sander, or a flat sanding disk on the lathe
- Make a flat area on the backside of the object you want to join to your turned object (piece 2) using the above method
- Use epoxy or wood glue to join the two surfaces
- Drill through piece 2 into the body of turned piece 1 with a drill bit that matches the diameter of a dowel or good-quality round wood toothpick
- Use 5-minute epoxy (add a pinch of sawdust) to glue the dowel/toothpick into hole, let cure
- Saw/carve dowel/toothpick flush with the surface of piece 2
- If want to camouflage dowel end:
  - o Texture carve the surface of piece 2
  - o Paint piece 2 or entire finished object

### **Method 3: The mighty toothpick dowel: (Useful for connecting pieces without perfect connections)**

- Determine where your decorative object (piece 2) will fit onto woodturned object (piece 1). Create flat area on both pieces if necessary, but a perfect fit isn't critical or even visually optimal
- Use painters tape/rubber bands or similar to hold pieces in place
- Drill through piece 2 into the body of turned piece 1 with a drill bit that matches the diameter of a good-quality round wood toothpick
- Use 5-minute epoxy (add a pinch of sawdust) to glue the toothpick "dowel" into hole, let cure
- Saw/carve dowel/toothpick flush with the surface of piece 2
- If want to camouflage dowel end:
  - o Texture carve the surface of piece 2
  - o Paint piece 2 or entire finished object

### **Method 4: Magnetic connection (non-permanent connection)**

- Use method 1 or 2 above to prepare pieces 1 and 2
- Screw a neodymium (rare earth) magnet disk (a good source is [kjmagnetics.com](http://kjmagnetics.com)) with a countersunk hole in it into the bottom of mortise



hole in piece 1

- Screw a neodymium countersunk magnet disk with reverse polarity onto the end of tenon on piece 2
- You will need to play around with the depth of your mortise hole and the length of your tenon. (Or you can make a tenon solely consisting of stacked neodymium disks)
- If your connection isn't strong enough, stack 2 or more magnet disks together and test again

### **Method 5: Hanger bolt connection**

- Make a flat area on turned object (piece 1) by pressing wood into the flat metal platen on a belt or disk sander, or a flat sanding disk on the lathe
- Drill a hole perpendicular to this flat area with a diameter suitable to accommodate the self-tapping thread (tapered) end of your hanger bolt. It is critical that the hole is drilled at a 90 degree angle to the flat surface, so make or use a jig to ensure this
- Piece 2: Make a flat area on side of piece 2 where it will be connected to piece 1
- Drill a hole perpendicular to flat area in piece 2 with a diameter suitable to accept the machine thread end of your hanger bolt. It is critical that the

hole is drilled at a 90 degree angle to the flat surface, so make or use a jig to ensure this

- Glue hanger bolt (machine screw side) into hole in piece 2 with epoxy
- Screw piece 2 into body of woodturned object

### **Useful glues:**

- Titebond (PVA) I or II – gluing up of smooth, clampable, dry wood
- Quik-Cure 5- or 30-minute epoxy – fast way to glue up small wood parts, can simply hold pieces together with fingers if can't clamp parts
  - o Epoxy is gap-filling and can be used on non-smooth surfaces
  - o If surfaces to be glued are glossy-smooth, need to rough them up with sandpaper or a file before gluing
  - o Add a pinch of sawdust to epoxy to further fill any gaps between glued pieces

### **Making joints between two pieces of wood appear seamless**

- Add a pinch of fine sawdust made from the wood you are using for your project to your pre-mixed 5 minute epoxy. Glue your joint. Want enough glue to get squeeze-out over your joint. Sand down to surface of your piece. (Wear your respirator! Epoxy dust can't be a good thing to breathe)
- Still have a gap or void? Repeat: another pinch of sawdust to mixed epoxy, overfill, sand

### **Design: Desired Features**

(Christiansen, Jim. "The Art of Critique." *American Woodturner*. Spring 2004: 52 - 55)

- Lines flow smoothly – no high or low spots
- Shape well balanced: not top or bottom heavy
- Consistent style elements
- Pattern smaller where vessel is smaller, larger where larger
- Finish/surface appropriate to shape and intent
- Scale choice is successful

### **Design: Planning and Execution**

- Preplanning can be very helpful
- Sketching: scan items, resize on computer, play with sketch
- You don't have to know how to draw! Scan things (leaves, sketches), print, trace
- Create a simple maquette with clay, pipecleaners, foam, wire
- Design pattern to be smaller where vessel is smaller, larger where larger
- Carbon paper/tracing paper to transfer drawing onto piece
- Cut pattern out of pliable material that will wrap around vessel, trace