

Demonstration – Inside-Out Knick Knack

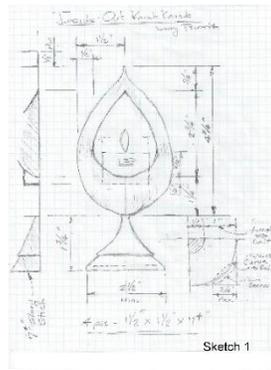
Demo by Larry Prunotto – October 12, 2021 – Turning Special Interest Group



This demonstration is for turning a wood turned globe shaped hollow form knickknack that can be occasion specific or seasonal. Final form can have a built-in stand (Figure 1 & Sketch 1), or with the stand section omitted, can be hung on a stand or as a holiday decoration. Demonstration will include safety concerns, time saving tricks, how to avoid annoying happenings, and options to consider.



Figure 1



Sketch 1

Wood materials used or recommended, include; maple, hickory, cherry, and/or basswood. Globe materials presented in the demo are maple, cherry, & hickory, but would recommend maple and cherry. The hickory's harder properties and grain structure created some challenges. The internal decoration piece materials are whatever a turner prefers to satisfy the shape, design, and final finishes.

Finish used is acrylic paint for the globe's interior, and wipe-on-poly for the exterior. Internal decorations were finished with acrylic paint and polyurethane spray.

Globe materials and preparation:

The globe is turned from (4) approximate 1.5" squares, at least 7" long, and accomplished in 2 stages. Extra care is needed to ensure the pieces are identical in size and true squares. Variances in size and squareness will create frustrating challenges during initial assembly, and during reassembly after the internal shape is turned.

Some minor variations in shape and size can be resolved by belt sanding mating surfaces during glue-up stages.

For global material, selected approximately a 1.5" thick board at least 22" long (required longer components for planer use), that could be ripped into 1 9/16" wide sections. See



Figure 2a



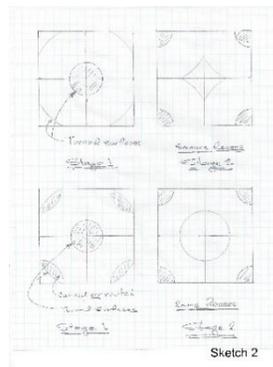
Figure 2b

Figures 2a & 2b. Before cutting, verify that the saw blade is vertical. Non-square sides create the most frustrating complications during component sub-assemblies, that requires belting sanding to correct surface lack of trueness. After ripping, planer was used to ensure clean surfaces and square dimensions. Cut pieces to approximately 7" lengths, and create sets of 4 for glue-up. Lightly break all corners to ensure center marks are defined in the ends of the glued-up components.

Turning Stage 1 (Internal Shape):



Figure 3



Sketch 2

Mark ends as shown in Figure 3. Determine desired orientation of end grains and internal recess design (Sketch 2).

Note – An internal depressed recess is optional – Flared square (Extra cut) or round (Requires extra cut and carving).

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Figure 4a



Figure 4b

With arrows pointing outward, glue pieces 1 & 2 and 3 & 4, and finally glue pairs together (Figures 4a & 4b).

Note - For turning stage 1, only use small daps of glue (Tite-Bond) on interior corners. Pieces need to be split apart, rotated and reglued for exterior final turning. Using paper and glue over a greater area is also an option. If to be glued surfaces are not true or flush, gaps will be present between pairs. You will be required to true up mating surfaces on a belt sander.

Numbers are to be orientated in a clockwise direction, ends are flush, and centers are true. Use of vise allows adjustment of alignment and full pressure for the entire length of the components (Figure 4a). Much easier than using clamps.



Figure 5



Figure 5b



Figure 5c

Install component on lathe between centers. Mark limits of interior hollow form surface and turn interior surface (Figure 5). After interior surface is complete, sand and finish (paint) interior surface as desired (Figures 5b & 5c). Component can then be split, rotated, and reglued as preparation for Turning Stage 2.

Turning Stage 2 (Exterior Shape):



Figure 6

After splitting component, rotate arrows to the inside and with numbers orientated in a clockwise direction. Reglue as pairs 1 & 2 and 3 & 4, and then reglue pairs (Figure 6).

Apply glue to the entire contact surfaces, but wipe away excess glue after compression is applied. Make sure ends are flush and centers are true.

Note – Check fit up before gluing up. Again, if to be glued surfaces are not flush and gaps are present between pair surfaces, true up surfaces on a belt sander.

Mount the component in the lathe between centers and remove sharp edges, partially shape each end, and cut a tenon at the top end of the component (Figure 6a). Remount into the lathe using a chuck, center and stabilize with the tail stock (Figure 6b). Clean tail



Figure 6a



Figure 6b



Figure 6c

stock end surface and cut a 2" diameter by 3/16" deep recess for internal chuck attachment. Remove tailstock and clean and sand end and recess surface (Figure 6c).

Demonstration – Inside-out Knick Knack *(cont'd)*

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Reverse component and remount in chuck, and add tailstock support for final turning (**Figure 6f**).

Complete final shape, sand and apply finish coating (**Figure 6g**).

Internal Decoration pieces:

Internal decorations can be permanent or changeable. Decoration can be glued in place or temporarily secured by a magnet. With an internal recess the magnet use will not be obvious, or if gluing in place, an additional section on the internal decoration may be required. Process provided below is for changeable internal decorations with a recess.



Prepare bottom of decoration to be slightly hollow. A steel screw can be inserted or a steel disk or random size steel piece glued to the underside of the decoration. Make sure materials are not stainless steel. If FHWS is used, drill pilot hole and countersink hole for flush FHWS insertion (**Figure 7**). Support the decoration with a cone tailstock unit and turn to desired shape, sand, finish, and then insert screw (**Figures 7a & 7b**).

For steel plate/disk, glue to the bottom of the decoration after turning is complete.

Note - Do **NOT** use washers, because the decoration will not center on the magnet.

A second final shape with magnet glued into the recess holding the perch and bird in place (**Figure 8**).

