

# The Yankee Beekeeper's Twenty Frame Extractor

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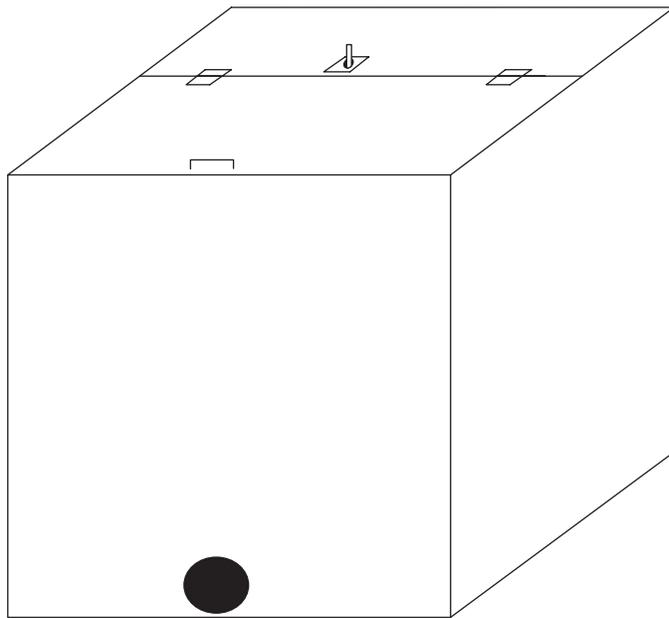
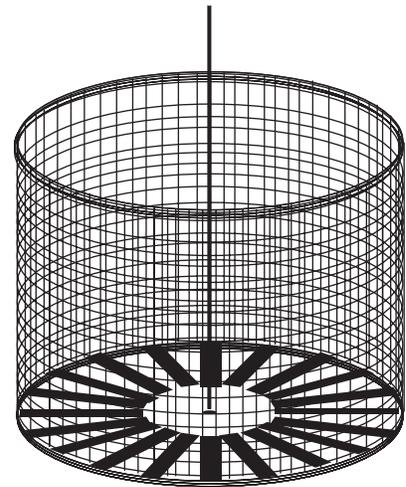


Figure 1



Bottom

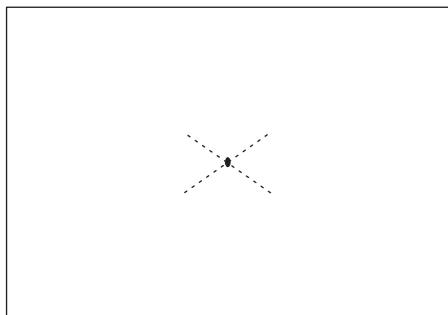


Figure 1B

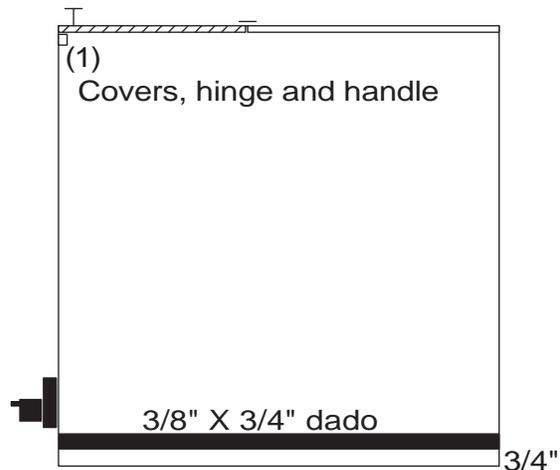


Figure 1A

## The Extractor Box.

The two side pieces are 26 3/4" X 23 3/4" X 3/4" plywood.

The front and rear are 27 1/2" X 23 3/4" X 3/4" plywood.

With a 3/4" X 3/8" rabbet down each side.

The bottom is 26 3/4" X 26 3/4" X 3/4" Plywood.

The cover is made of two pieces. One is stationary and measures 26" X 14 3/4" X 3/4". The other cover is movable and measures 26" X 11 1/8" X 3/4".

The front cover rest on a cleat (1) which is in the inside of the box and measures 26" X 1" X 3/4".

There is a 3/8" X 3/4" dado 3/4" from the bottom edge on all four panels. (See Figure 1A.)

to hold the bottom in place.

A honey gate is attached to a floor flange.

Mark the center of the bottom before assembling the box.

(See Figure 1B, the dotted lines.)

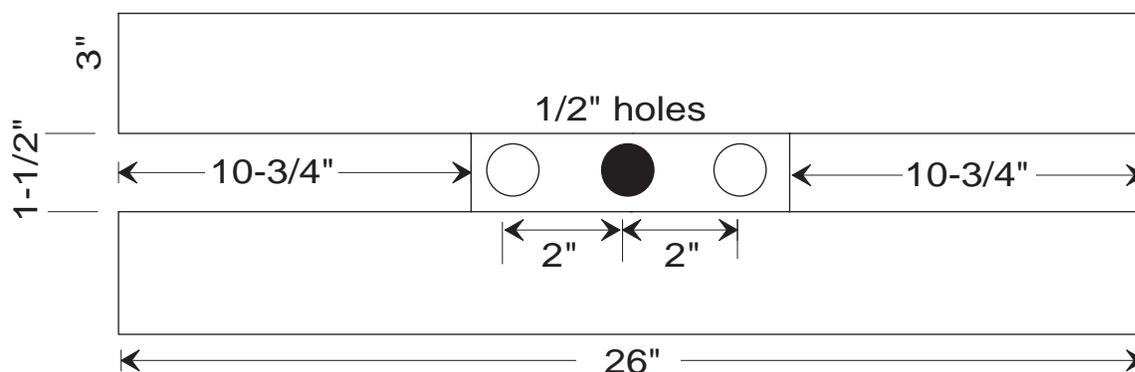
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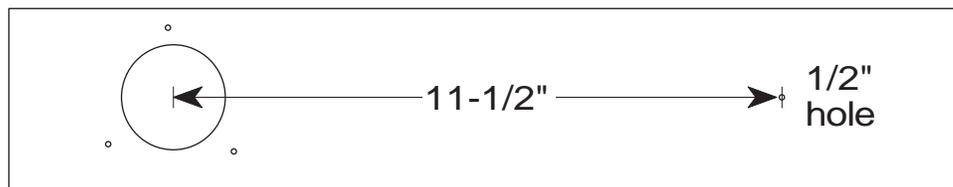
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Jigs to assist in making the extractor.

## Frame rest router jig.



## Circle cutting router jig



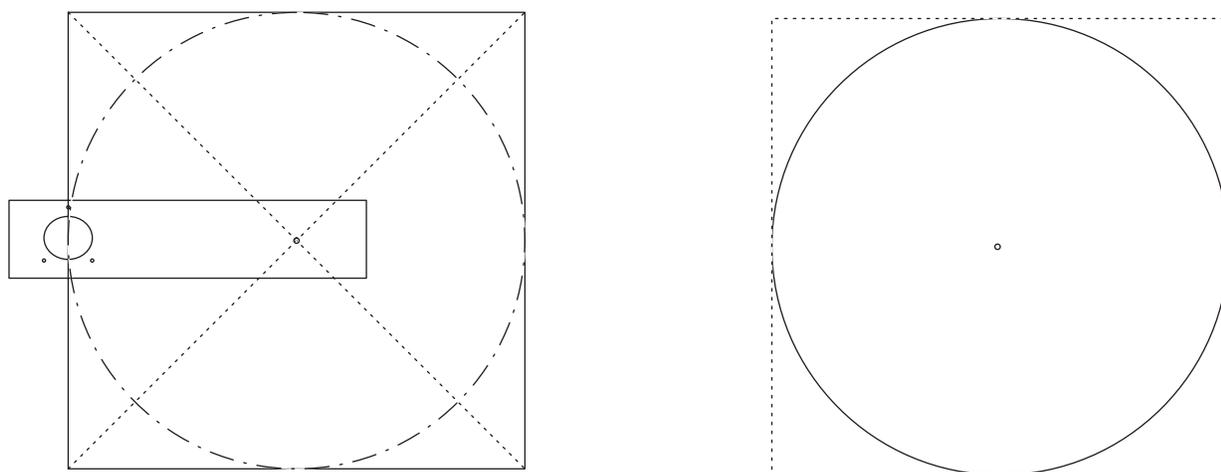
Make a hole large enough for the router bit to pass through.  
11-1/2" from the cutting edge of the router bit, drill the pilot hole. Mount router to jig.

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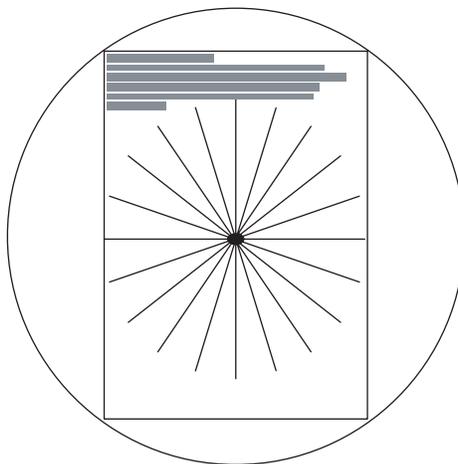
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## The drum.

**STEP 1:** Using a piece of 3/4" solid core plywood. (24 X 24 X 3/4) and the circle cutting jig, cut out a circle 23" in diameter. Mark the center of the plywood and drill a 1/2" hole. Using a 1/2 wooden dowel for the pilot place the circle cutting jig over the plywood and cut out the circle. Using a 1/2" dowel will make assembly and alignment easier.



**STEP 2:** Glue the 20 frame spacing template to the circle. Be sure to align the centers as close as possible.

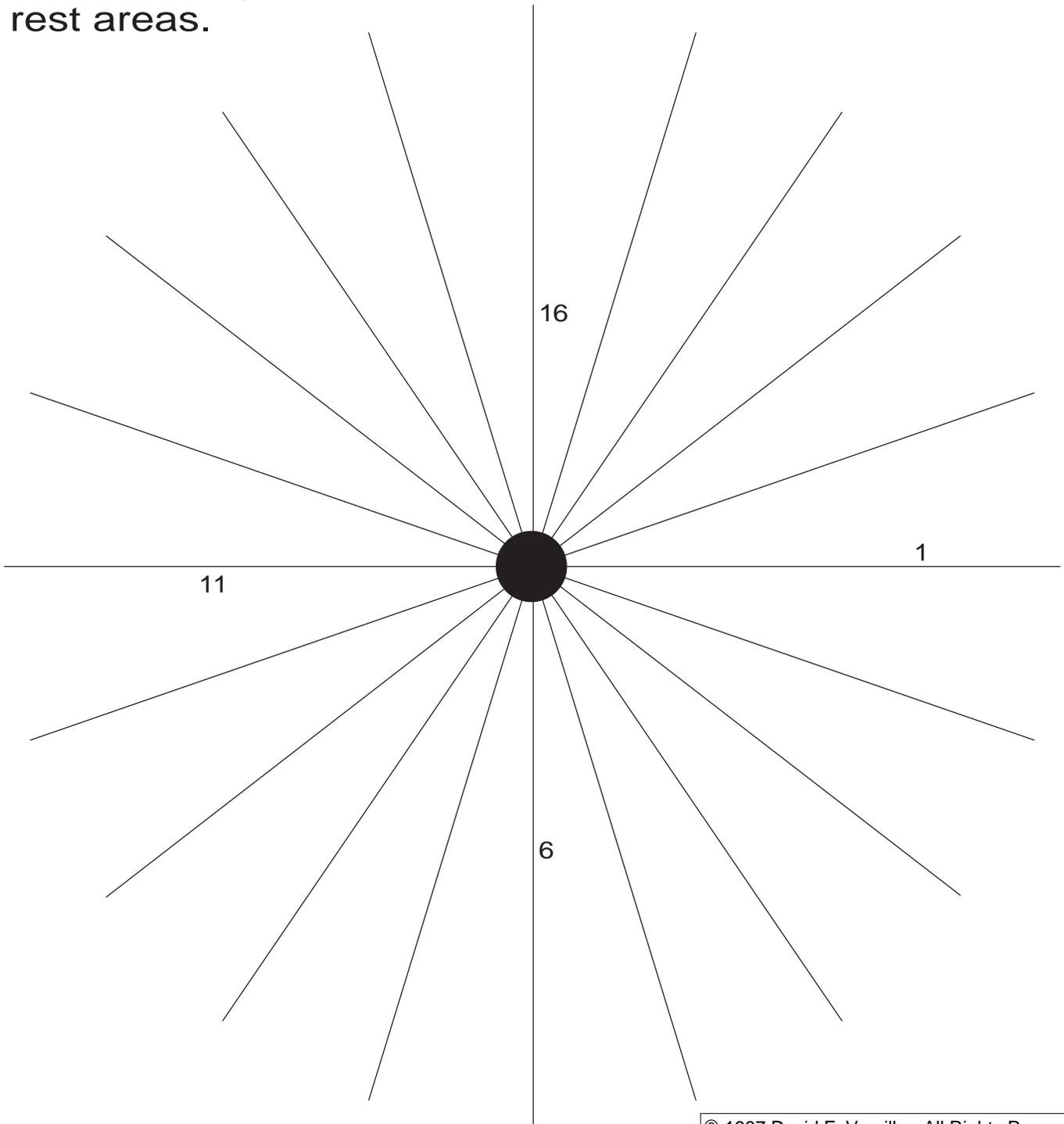


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Frame Rest template.

Glue this page down on top of the bottom drum centering the pilot hole and the center of this template. Then using the frame rest router jig, router out the frame rest areas.



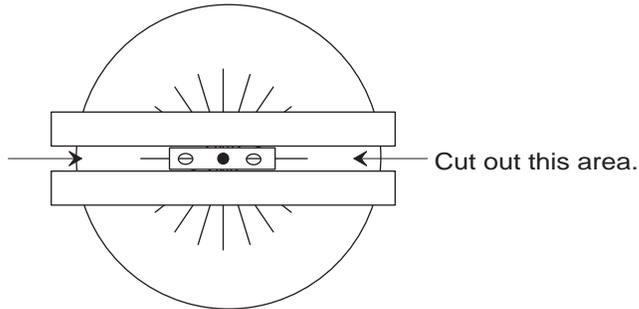
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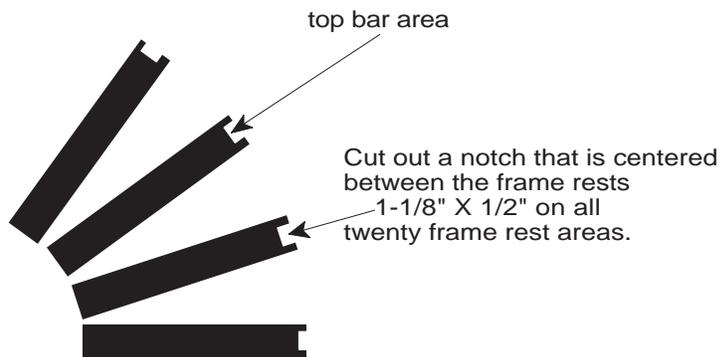
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### The drum.

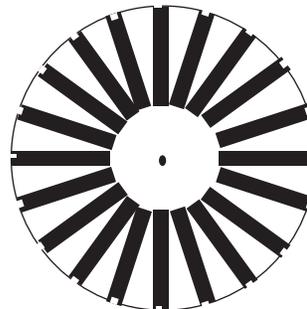
STEP 3: Using a 1/2" wooden dowel place the frame rest router jig over the plywood circle. Then using the outer two holes line up the jig so that the template lines are centered. Clamp the jig down to the circle and route out the area for the frame rests. Cut at least 3/8" deep. After removing the material, rotate the jig 18 degrees, line up the next set of lines and route out the frame rest area. Repeat for all twenty frame rests.



STEP 4: See below for the next step. Using a coupling saw, cut out the "top bar" area as indicated in the detail. The top bar of the frame fits down into this opening while the flat side of the end bar sits on the drum.



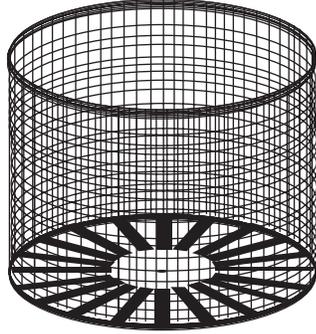
STEP 5: After routing out the twenty frame rests and cutting out the top bar notches the circle should look something like this. (Where the black indicates that material has been removed.) Sand all rough areas and apply at least two coats of a food grade poly.



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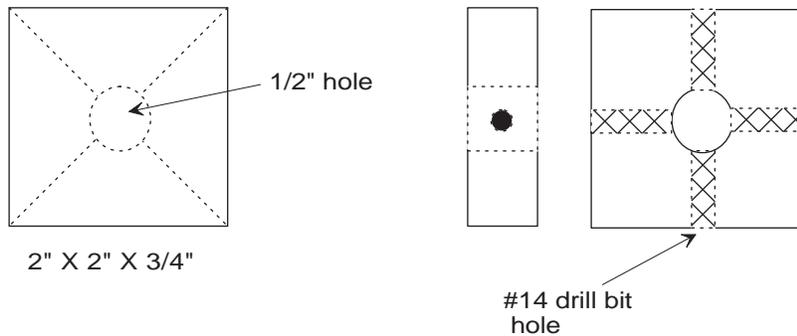
## The frame cage.

STEP 6: Wrap 1/2" mesh around the outside of the drum. Using (1) piece of 1/2" 16ga aluminum strapping and stainless steel screws secure the bottom of the mesh to the drum. To form the cage top, use two pieces of strapping. Form one strap on the inside of the cage and form another around the outside of the cage. Secure the two straps together with the mesh in the middle using either SS screws or rivets. Mesh is 19-1/2" high.

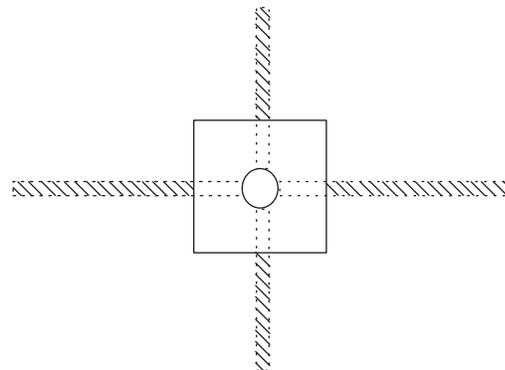


## The frame cage (Upper Cage Support).

The upper cage support is 2" X 2" X 3/4" as shown below. Mark the center of the support and drill a 1/2" hole. Then on the four edges drill a hole from the outer edge to the center hole. Drill this hole slightly smaller than a #10 rod. (Drill bit #14 is fine.)



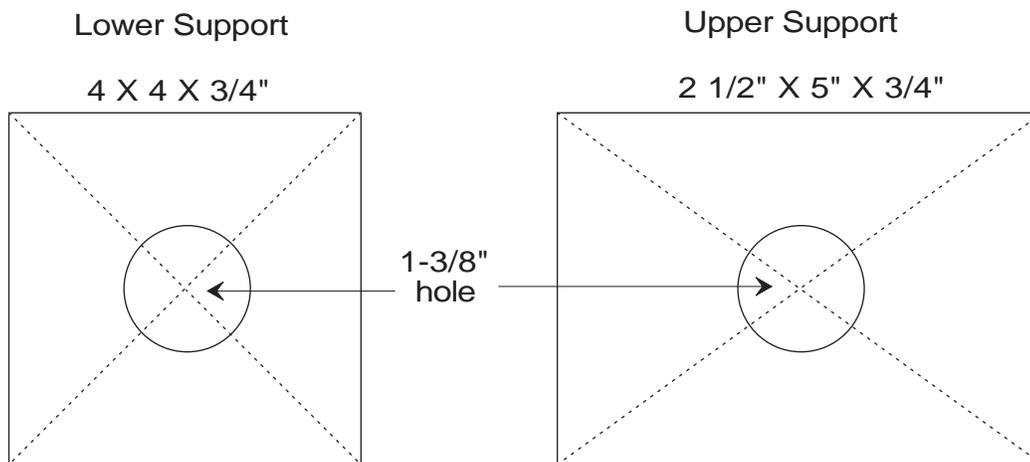
4 threaded rods (10 X 24) X 12" are threaded into the four #10 holes in the sides of the Upper cage support block. Thread each rod into the block so that it is just shy of the hole in the center of the block. (Do not attached this block to the cage just yet!)



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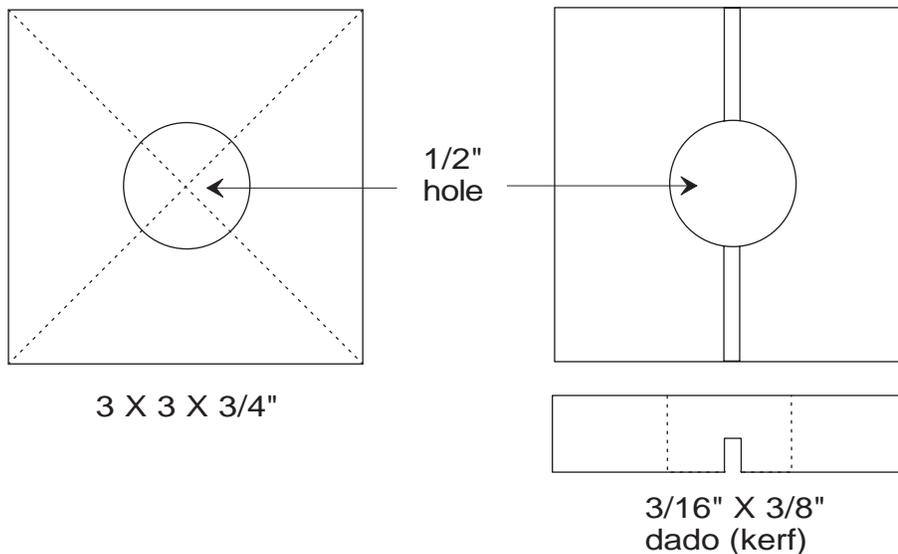
## The bearings supporting blocks.

Using 3/4" stock cut out the two bearing support block as shown below.



## The Drive block.

Using 3/4" stock cut out the drive block as shown below.



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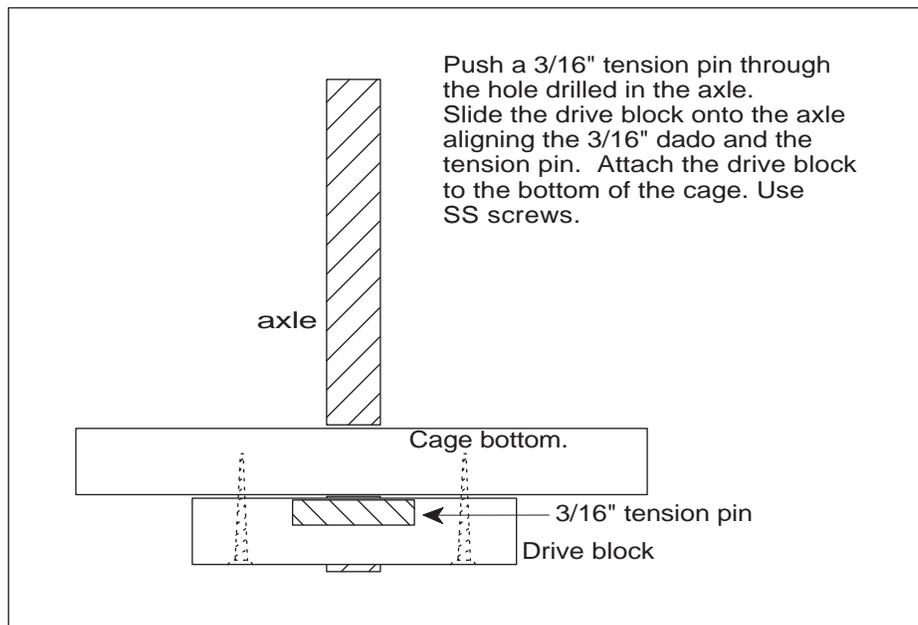
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## The Axle

Using a solid 1/2" (x 30") rod, drill a 3/16" hole as shown below.

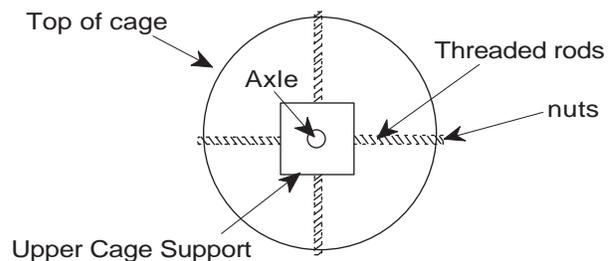


## The Axle and Cage Assembly



## Attaching the Upper Cage Support.

Slide the upper cage support over the axle and attach the four threaded rods to the top of the cage. Drill a hole through the strapping at the top of the cage. Attach using stainless steel nuts. Use two nuts on each rod. One on the inside of the cage and another on the outside of the cage. Measure and adjust each supporting rod so that the outer edge of the cage is equal from the axle.



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## Final Assembly.

After the extractor box has been assembled, sand any rough wood and finish the insides with at least two coats of a good food grade poly.

Use Stainless screws and glue.

Make sure the joints are tight and that the box is square.

Drill a hole the same diameter as the inside diameter of the floor flange in the front of the box.

Attach a floor flange onto the front of the box.

Align the inside hole with the very bottom of the box.

Secure with stainless screws.

Attach the lower bearing block to the bottom of the box.

The previous marked center will assist in locating this position. Attach using stainless screws.

Place the lower bearing into the supporting block.

Then carefully place a 1/2" stainless steel washer over the lower bearing. Carefully lower the cage assembly into the box. Make sure the axle goes through the washer and into the bearing.

Measure the distance from the axle to the back of the box and transfer this measurement to the stationary cover.

Drill a hole at least 1" in diameter.

Position the stationary cover so that the axle extends through the 1" hole. Attach the stationary cover to the box. Lower the upper bearing and support block onto the axle. Be sure the

axle is vertical and doesn't wobble around. When satisfied, secure the upper block to the stationary cover.

Attach the movable cover using hinges and attach a handle in a comfortable position.

### The kit!

A kit that contains the following items is available from the designer.

Kit contains the two bearings, the upper and lower bearing support block, the drive block with tension pin and the upper cage support block. All holes are predrilled. Specify either 1/2 or 5/8 axle.

All of the blocks are made using a hard nylon for years of dependable use. Cost of the kit is \$19.95 plus shipping. For more information contact:

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