

Division 37 Literacy Campaign
 Treasure Chest Measurements and Materials
 (If you have questions call Morris Pike (760) 942-8778)

Lumber: Chests can be made from any suitable wood. Discarded redwood or cedar fencing works great. The weathered look makes the finished product appear that it came from Treasure Island.

Greater Encinitas Kiwanis treasure chests are cut into specific lengths and widths (of course, you can make the chests any size and shape you wish). Measurements for what we make are as follows:

Boards:

- *Box front and back:* 2 1/2" x 3/4" x 24" (the thickness of fencing boards vary greatly).
 - The ends of all *front* and *back* pieces on the demonstration chest are mitered at 45 degree angles. (Some have found that the chests look just fine with square ends)
 - Number needed 8
- *Box ends:* 2 1/2" x 3/4" x 13 1/2"
 - The ends of the end boards are mitered at 45degree angles. (If the above ends are squared at 24", the box end boards are reduced by 1 1/2" to 12")
 - Number needed 8
- *Lid front and back:* 2 1/2" x 3/4"x 24" (not mitered)

IMPORTANT NOTE: Old fencing varies in thickness enough that it is important the front and back boards of the lid are as close to 3/4 inch thickness as possible. If it is varies from that measurement the lid won't fit properly).

 - Grind off the sharp edges of the top side of front and back pieces of the *Lid*. A 4" grinder disk with rough grade is quick and easy.
 - Number needed 2
- *Lid Rib Supports:* All identical: one at each end one 8" from each end (you'll need to make a template reflecting the curves you desire on the lid top... (The ends of the lid are not mitered). Trace from the template onto 12"x 5"x 3/4" stock, cut out four (4).
 - Number needed 4
- *Lid shaping ribs:* 24" x 1/2" x 1/2" (note: you can make the top of the lid smoother by ripping a 15 degree angle on both sides of eight or so pieces that form both the convex and concave curves of the lid. The 15 degree angle is my best guess. You may have the patience to figure the exact angle for each portion of the arc. I didn't. I use latex calking to cover the cracks and multitudes of sloppiness).
 - Number needed approximately 26
- *Bottom:* 2 1/2" x 3/4" x the ID (interior length of the box). The last piece will have to be ripped to fit. Since the lumber is rough, the builder will have take inside measurements to get a tight fit... somewhere around 22 1/2".
 - Number needed 6
- *Bottom Rails:* Optional: 1 1/2" x 3/4" x 15" (used to increase sturdiness, three skids on the bottom, one on each end and one in the middle, however this feature is optional).
- *Reinforcement:* Experience has taught us that the corners of the box need to be reinforced with 1" x 1" x (depth of box) piece of wood)... stapled and glued into place at the corners. And a triangular piece of wood (2 1/2" on the hypotenuse) inside each corner of the lid helps make a strong lid.

Construction Hardware and Materials: Greater Encinitas Kiwanis treasure chests are put together using a Porter Cable finish nail air gun and construction wood glue. (Of course, the chests can be put together any number of ways, if you work with wood, have the tools and know how to use them).

- A 16 or 18 gage finish nailer (electric or air) that takes sizes 1" to 1 1/2". 1" nails will do almost everything. Only those places where the nail must secure 3/4" stock are the 1 1/4 or 1 1/2" nails desirable. For the lid ribs 5/8" nails are appropriate.
- A supply of finish nails of the desired sizes.
- A supply of Phillips head screws: 3/4" will do to hold the chain in place. I've come to use nylon rope (holes and knots will not break... chains will).
- Phillips screw driver.
- A carpenter's square.
- A hammer.
- A small square.
- A carpenter's pencil for marking.
- Exterior wood glue. All joints are glued.
- Optional. You might want to use four 3' bar clamps to hold things together temporarily (depending on how many chests you might be working on at a time).
- A sturdy sanding disks on a small grinder work great to take the course edges off the lid.
- Use latex calking to smooth out the lid after the grinding and/or sanding is done.

Decorative Hardware and Materials: Let your imagination and budget be your guide. Most of the hardware from the demonstration model came from Home Depot. (Note: Better not to put the hardware on until most of the painting is done)

- *Black Hinges*, 3" wide x 5" with one flat side, the other strap. You can find them at Home Depot. (* I'd like to use the antique hinges but cannot justify the cost. It would be wonderful to have a handler of antique hardware help us out with this.)
 - *NOTE:* We've found that our chests with regular hinges are dangerous for very young children. A child might have his or her hand on the lip of the box when another child, inadvertently, pushes the lid closes... ouch! To alleviate this problem we purchase hinges that will come apart when the lid is opened to a certain point. The lid is put aside until it is time to close the lid. It is then placed back on the chest box.
- *Hasp*, 3 3/4" is a good size. Home Depot. However, you'll have to paint it black (*). I've come to simply put a drawer knob in the center of the lid... looks good and provides a handle for opening.
- *Brass Chain or nylon rope:* Home Depot (*)
- *Handles*. 2 1/2" x 2": Home Depot does not have the right size handles for this treasure chest. I found some at Dixieline. I look for unusual handles everywhere. I've found some great looking pieces at garage sales and second hand stores. Here's where you get creative. I made some out of heavy rope. I got others (very expensive ones) on sale at Home Expo and at an "up-scale" hardware. I also make some out of wood (*).
- *Paint*
 - A flat white primer. The demonstration chest was primed with "oops" paint bought at Home Depot. Five gallons for very little money.

- First decorative coat can be one of several colors: yellow or green or brown, blue even. This coat can be thinned down and doesn't have to go on very evenly.
- Second decorative coat (of contrasting color to the first decorative coat) can be brushed on in a nearly transparent fashion or with a nearly dry brush or a sponge or a rag even.
- A third decorative coat is rubbed or dabbed on here and there with a sponge or rag. Its purpose is to give the chest character. Use your creative judgment.
- A fourth coat consists of layering on gilding along the decorative motif used on the front and back.
- A final decorative coat of Danish Oil Finish, medium walnut is painted over everything giving the chest an aged look.
- Decorative Items: here's where imagination and ingenuity come into play. Look in those drawers where you keep those things that seem too good to throw away but can no longer be used. Ask others to do the same. (NOTE: whatever you attach to the chest should be firmly secured so the children can not easily pull it off)
 - Cabinet door knobs and decorative back plates
 - Brass buttons including military brass, etc.
 - Costume jewelry
 - Wood beads from crafts stores
 - Brass candle stick holders and other items from thrift stores... might have to be dismantled and pounded into shape.
 - Things I have done that work well include:
 1. Drilling holes in various sizes and shapes of **wooden beads**, splitting them in half, then, nailing them in a pattern along the edges of the chest.
 2. Pounding soft, bare # 4 AWG **copper wire** with a hammer so it is flat on both sides; cutting the wire into desired lengths, drilling small holes at appropriate intervals, shaping it into a pattern and attaching it to the chest.
 3. **Wooden buttons** purchased at Michaels are painted with glitter glue and attached to the chest in an attractive pattern.
 4. Thin strips of sheet **brass** cut into suitable widths. The edges are folded over to cover sharp edges. The brass strip is nailed to the edge of the chest with brass nails.
 5. A strand of **rope** or **leather** nailed along the edges of the chest. The rope can be stained with brown stain and gilded. Leather looks great studded with brass carpet nails.
 6. Objects cut from **wood** are painted and attached to the front of the chest: eagles, stars, hot air balloons, ships, etc.

Suggested Steps in Construction:

Box:

- Rip sufficient lumber (old fence) for at least one treasure chest into 2 ½" widths. Cut the lumber into 2' lengths for the front and back and 13 ½" lengths for the sides (see above for number of pieces needed for each category).
- Rip 26 pieces of ½" x ½" x 24" for the lid.
- Cut 3 curved ends and middle lid pieces using template provided.

- Nail a front board to a side board after gluing the two mitered ends; nail the back board to the other mitered end. Nail the front and side piece to the back and side piece.
- Repeat step (4) four times.
- Place glue the four framed pieces together using bar clamps. (Make certain the box is square!)

Lid:

- Align the front and back rails to one end of the lid, glue, square and nail. Align the other end to the front and back rails, glue, square and nail (Note: make certain the two ends are also squared on the vertical as well as horizontally).
- Insert the two other pieces of rib support 8" from each end of the lid, glue, square and nail.
- Starting at the front or back begin gluing and nailing the ½" x ½" x 24" ribs into place. The closer you get them to fit the less filling you will have to do later. If your measurements and cutting are accurate, the first rib should be fairly even with the top of the front or back rail. Continue gluing and nailing in the ribs. If you cut a 15 degree angle on some, they will fit along the curved sections of the lid.
- Your lid may need to be roughly sanded and filled with Rock Hard or calking of some sort before your lid is ready for painting. I use a three inch grinder with a sanding disk. Makes this job go much quicker than using a regular flat or circular sander.

Finish:

- Fill or repair places in the box and lid that might detract from the desired character of the finished chest.
- Grind off and sand where needed.
- Paint texturing and character coats of paint before you attach the hardware.
- Nail and/or screw the hardware and decorative items in place: hinges, hasp, handles and decorative trim (Note: some of the painted decorative details can be done after the hardware is in place: final glaze finish {I like Watco medium walnut Danish Oil Finish}, gilding and any painted art images)
- Allow to dry.
- Caution! Carefully check for sharp points of protruding screws and nails. Grind off and repair finished surfaces.
- Place Kiwanis name plate in the upper back center of the box.
- Fill with books (40) is a good number, arrange a time and date with receiving agency for the presentation ceremony.
- Notify the PRESS one week before delivery.