

# Adult & Child Workbenches

## Adult Workbench

This basic adult workbench is larger than the child's bench, and is made of heavier stock to take a lot of rugged use, but the basic design and construction of both benches is pretty much the same.

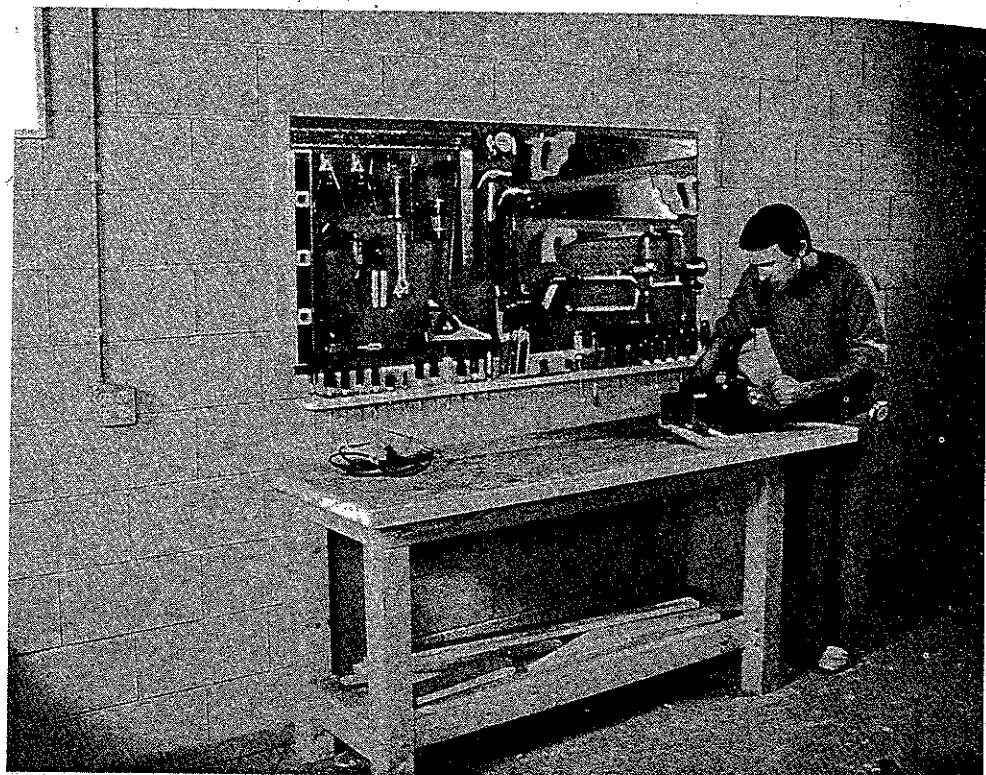
### Materials:

4 - 2 x 4's - 32-1/2" long for legs;  
4 - 2 x 4's - 29" long for legs; 4 -  
1 x 4's 22" long for end stretchers;  
4 - 2 x 4's - 58-1/2" long for side  
stretchers; 1 - 3/4" plywood 16" x  
60" for shelf; 2 - 3/4" quarter round  
53" long, and 2 - 3/4" quarter round  
16" long for shelf filler strips; 2 -  
3/4" plywood 24" x 72" for top;  
2 - 1-3/4" lattice 24" long for top  
edges; 1 - 1-3/4" lattice 72-1/2" long  
for front edge of top.

Carriage bolts with nuts and  
washers; 4 - 1/4" x 4 - 1/2" bolts;  
28 - 1/4" x 4" bolts; 1 box No. 10  
flathead screws, 1-1/4" long; white  
glue; slow-setting glue; brads,  
finishing nails, sandpaper, etc.

### Construction:

Be sure all elements are cut and assembled square. Begin by making bench legs. Each leg is made out of two pieces of 2 x 4 glued together. By making one piece of 2 x 4 for each leg 3-1/2" (or actual dimension of lumber) less than the overall length of 32-1/2", a notch is formed to take the front and rear top stretchers made of 2 x 4 stock. (You can also make the legs from a single piece of 4 x 4 stock and cut a notch at the top of each 1-1/2" deep and 3-1/2" in length.)



You will have to cut notches in each leg 3/4" deep and 3-1/2" wide to take the top and bottom end stretchers that are made of 1 x 4 stock and the bottom stretchers on front and rear made of 2 x 4 stock. To insure accuracy, clamp all pieces together and cut notches in all at the same time. The inside face of these 2 x 4 stretchers will extend beyond the inside face of the legs.

Use the same construction techniques for assembling legs to stretchers as given for child's bench. Glue clamp, drill through both pieces at the same time, remove clamps and use glue and carriage bolts to make the joints. Assemble end with stretchers first, then front and rear stretchers. Be

sure to stagger those bolt holes so you'll have room for the four bolts at the joints.

The top of this bench is made of two pieces of 3/4" plywood glued and screwed together.

Cut the two pieces of plywood to size - 24" x 72" - and fasten the bottom piece to the bench with No. 10 flathead screws 1-1/2" long.

The top should be set flush at the rear and with a 2" overhang on the right and about a 10" overhang at the left. Set screws so they go into the center of the top stretchers and place them every 12 inches or so. Countersink the screw heads.

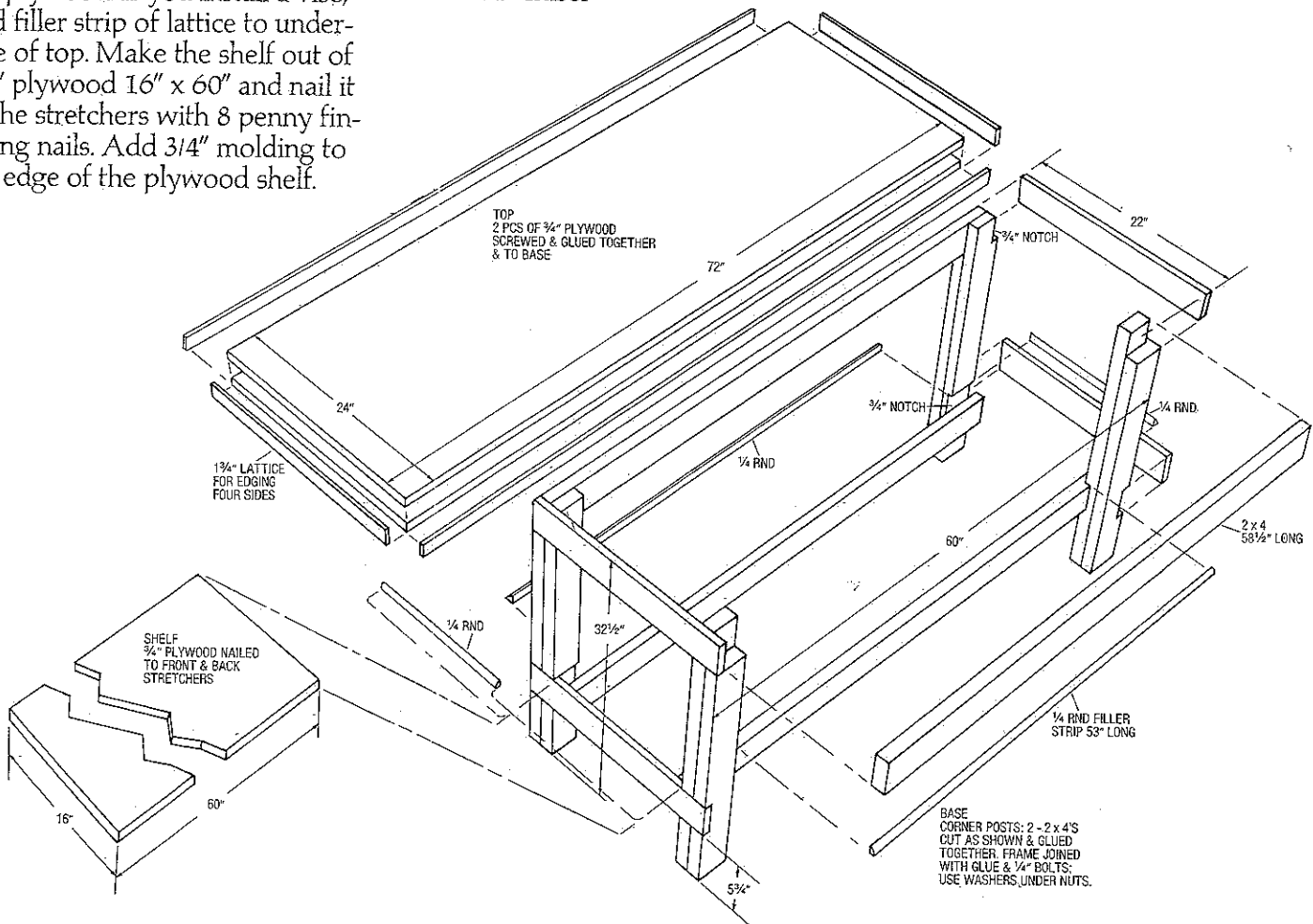
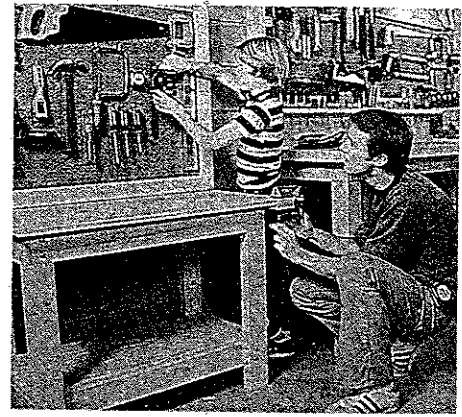
The top layer of plywood is glued and screwed to the bottom

with screws run up from the bottom so screw heads won't be exposed on the finished work surface. Apply a thin coat of slow-setting glue to both surfaces. Don't use a fast-setting glue. After you have applied the glue, set top piece into exact position over bottom piece. Tack it in place with a few finishing nails driven up from the underside. Turn bench upside down and install screws from the underside. Use No. 10 1-1/4" flat head screws, set every 12" or so along edges and six or eight towards the center.

Turn the bench right side up and add 1-3/4" lattice to cover edges of the plywood. If you install a vise, add filler strip of lattice to underside of top. Make the shelf out of 3/4" plywood 16" x 60" and nail it to the stretchers with 8 penny finishing nails. Add 3/4" molding to the edge of the plywood shelf.

### Tools you'll need to build the child's bench and the basic adult bench:

1. Flexible steel tape
2. Combination square
3. Marking gauge
4. Claw hammer
5. Screwdrivers
6. Wood brace, hand drill or power drill with 1/4" bit
7. Push drill with bits and countersink
8. Surform® tool
9. Adjustable wrench
10. Back saw and mitre box
11. Cross cut saw
12. 3/4" chisel



Smooth off any rough spots on bench with Surform tool and medium sandpaper. Varnish for a natural finish, or paint the bench.

# Child Workbench

This sturdy workbench has been specially designed for the young person, ages 8 to 13. It is an easy workbench to build and makes a fine weekend building project for parents and children.

The height of the bench shown is 28 inches but can be varied a few inches depending on child's height.

## Materials:

4 - 2 x 4's - 27-1/4" long for legs;  
4 - 1 x 4's - 18-1/2" long for end stretchers; 4 - 1 x 4's - 33-1/2" long for front and rear stretchers; 1-3/4" plywood 15-1/2" x 35" for shelf; 1-3/4" plywood 20" x 40" for top; 1-3/4" screen molding 28" long for shelf edge strip; 2-3/4" screen molding 20" long for top end edges; 1-3/4" screen molding 40-1/2" long for top side edge; 1-1/4" Pegboard 32" x 40" for tool board; 2 - 5/4" x 3" pine 48" long for tool board supports; 2 - clamshell casings 32" long for tool board side trim; 2 - clamshell casings 48" long for tool board trim top and bottom.

Carriage bolts with nuts and washers: 6 - 1/4" by 3" bolts for tool board supports; 16 - 1/4" by 4" bolts for end stretchers; 16 - 1/4" x 2" bolts for side stretchers; 12 - No. 10 1-1/2" flathead screws for top.

Three dozen No. 10 pan head metal screws for Pegboard. White glue, sandpaper, finish for bench, paint for Pegboard and brads or small finishing nails for plywood edge strips.

## Construction:

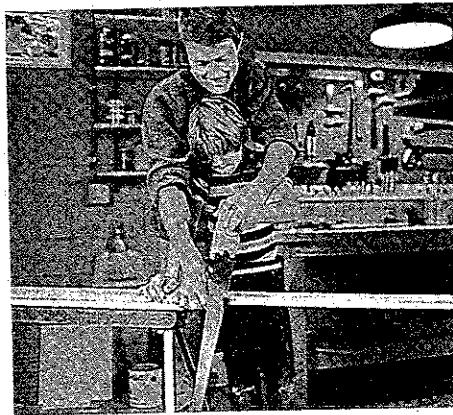
Be sure all elements are cut and assembled square. Make legs of bench from straight, smooth, knotless 2 x 4 stock. Cut legs to size and mark each one for correct position - left rear, left front, etc.

Cut notches in each leg to take 1 x 4 stretchers. Each notch should be 3/4" deep and wide enough to take the width of the 1 x 4. Use a combination square to lay out the lines to indicate width of notch and a marking gauge to mark for depth. Cut with back saw, making 3/4" deep cuts along the two lines that mark the width or shoulder of the notch. Now make additional cuts with saw slightly less than 3/4" deep every 3/4" between shoulder cuts. Use your chisel to remove the waste between the cuts. The bottom surfaces must be smooth. Cut all notches in all legs before you begin to assemble.

Begin assembly by connecting end stretchers to legs. First, drill holes for 1/4" carriage bolts. Drill through both pieces at the same time. Use C-clamps to hold the two pieces together while you drill. Position holes to leave room in the leg for the two bolts that will be installed for front and rear stretchers. Stagger holes slightly to provide clearance.

After holes are made, remove clamps; apply white glue to surfaces to be joined; slip the bolt into place; add the washer and nut, and tighten the nut.

Next, install two front and two rear stretchers. Use same method for drilling holes.



Cut shelf from 3/4" plywood - 15-1/2" x 35" - and nail to the stretchers with 8 penny finishing nails. Apply a strip of wood screen molding along front edge to cover exposed edge of plywood.

Add bench top, of 3/4" plywood 20" x 40". Top should be set on bench frame so that rear edge of top comes flush with outside face of rear top stretcher. Right end of top should extend about 1-1/2" beyond right end stretcher. Left end of top will extend about 4" beyond the end to provide space for mounting a vise.

Tack or clamp plywood top to stretchers and screw in place. Use No. 10 flathead screws 1-1/2" long and place them so they will go into approximate center of stretchers. Use a screw about every 12 inches. Countersink heads and fill over with wood plugs or plastic wood.

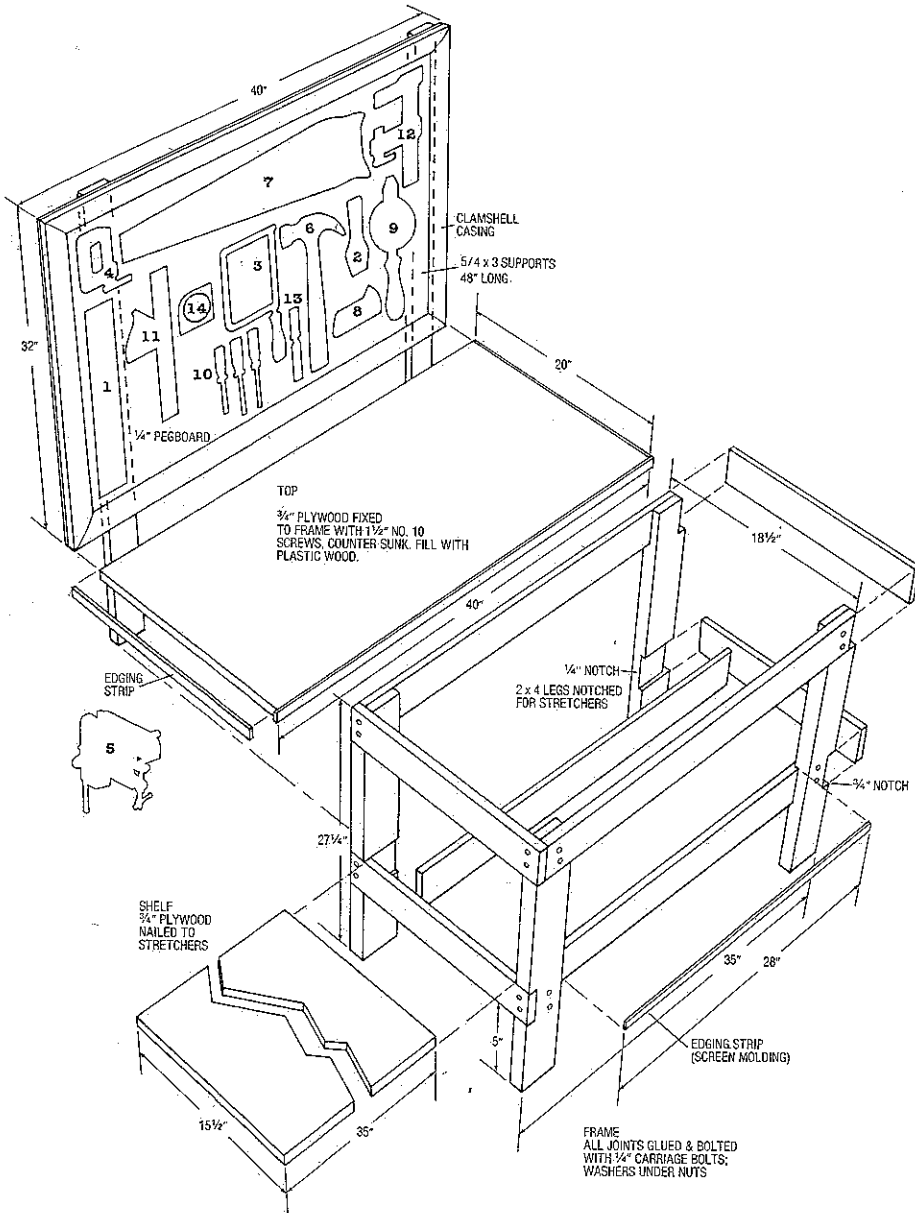
Install 3/4" screen molding around the front and end edges of plywood top.

The final step is to install the Pegboard tool board mounted to rear of bench with carriage bolts. Note that the two supports for the tool board are made out of 5/4" x 3" stock. Cut two supports 48" long. Cut the Pegboard to size, 32" x 40". Set the supports on a smooth surface with the inside distance between them exactly 28". Place Pegboard on the supports so that it will line up with the top when tool board is installed. Fasten Pegboard to the supports with No. 10-3/4" long pan head metal screws so you can set them right through the holes in the Pegboard.

Add clamshell casing. Use a back saw and mitre box to get accurate 45 degree cuts for the corners. Attach casing to Pegboard with 1/2" metal pan head screws through Pegboard into rear face of casing.

Put tool board in position and tack or clamp it so holes can be drilled for the carriage bolts that will secure it to legs of bench.

The tools we've recommended will allow a young "carpenter" to handle a wide variety of wood-working projects. In choosing these tools we have kept an eye on price and in some instances have selected lighter weight or smaller size tools that are easier for youngsters to handle.



### Basic Tools For Youngsters

1. 18" aluminum Level
2. Surform® Shaver
3. Coping Saw
4. C-Clamps
5. Vise
6. 13 ounce Hammer
7. 20" Cross Cut Saw
8. Pocket Surform®
9. Hand Drill
10. Screwdrivers
11. Combination Square
12. Bar Clamp
13. 3/4" Chisel
14. 10' Powerlock® Tape Rule

Hang tools; draw outlines with broad-tip felt markers.