

# PROJECTS

by **CARVEWRIGHT™**



**PROJECT  
BASIC  
DIFFICULTY**

Replica of small wooden pull toy. Figure of a horse with wheels.

This toy was a Christmas gift for my wife (age 4), purchased in 1944, in Hungary. A few months later her family had to flee Hungary. She carried this toy as they escaped with horse drawn wagon, migrating to Austria and 5 years later to the U.S.



Very simple project, the horse body and wheels are cut from a small pine board.

## Materials List

### Project Files

- ToyHorseV1.mpc

### Routing bits:

- 1/8" cutting bit

### Boards:

- 3/4" x 7.5"W x 12"L

### Materials:

- 3/16" wood dowel 5"
- measuring tape
- pencil

### Hand Tools:

- sanding block
- hacksaw blade

### Power Tools: (optional)

- Drill press with sanding drum

After appropriate sanding and finishing the wheels are assembled using a 3/16 inch diameter wooden dowel (available from a hardware store).

Cut two pieces of dowel 2.25 inches long using small wood saw or hack saw. The dowel should fit snugly into the wheel holes.

The hole in the hoof is slightly larger to allow axle to turn freely when toy is moved.

## Detailed steps

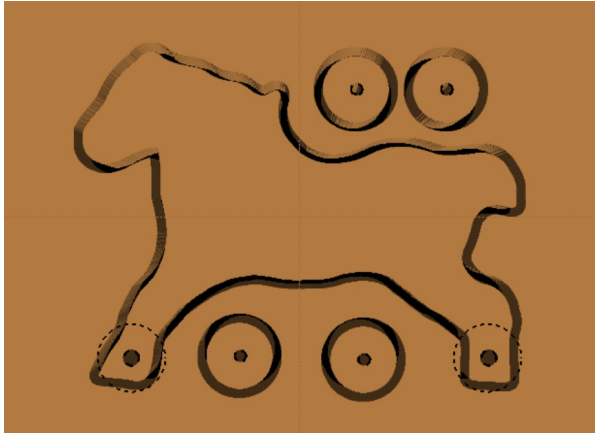
### Step 1

Obtain board for cutting design.

The minimum size (to prevent scaling) is 7.5" x 12". A longer board can be used (up to 12 feet), only the end will be used. It can be wider, cutting will use the edge of the board. It can be as thin as .5 ". Designed for .75" for better wheel width.

### Step 2

Open the ToyHorseV1.mpc file in PC Desgner program.



### Step 3

Upload mpc file (ToyHorseV1.mpc) to the CarveWright flash drive.

### Step 4

Place flash drive in machine (powered off).

### Step 5

Place board in machine. Aligning left edge on brass tracking gear. Position right guide against right side of board. Crank down compression rollers, position red locking lever.

### Step 6

Locate the design. Power on machine. Wait a few seconds for the select design prompt. Press 1 and scroll to locate the ToyHorseV1 design. Press enter.

### Step 7

Machine setup.

Machine will ask if board will stay under rollers.



Enter 2 (No)

Machine will measure the board and find it larger than specified in design. Then will ask how to position the board 1) center 2) jog or 3) Corner.

Enter 3 (corner)

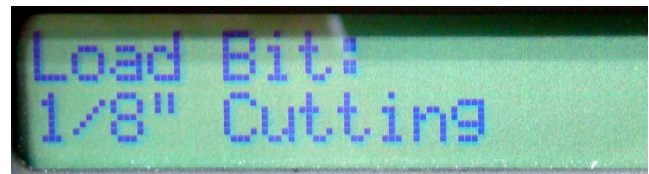
Machine will ask if you want to cut the board to the design dimensions.



Enter 2 (No)

If the board is less than .75" it will ask for thickness. enter the thickness (not less than .5"), enter.

Machine will ask to select the 1/8" cutting bit, press enter, it will position the spindle in center of Y track and asks for the 1/8 cutting bit to be loaded.



Load the bit and press enter.

Machine will perform some tests to determine the bit height and the board height.

Routing of figure begins

Routing time is about 16 minutes.



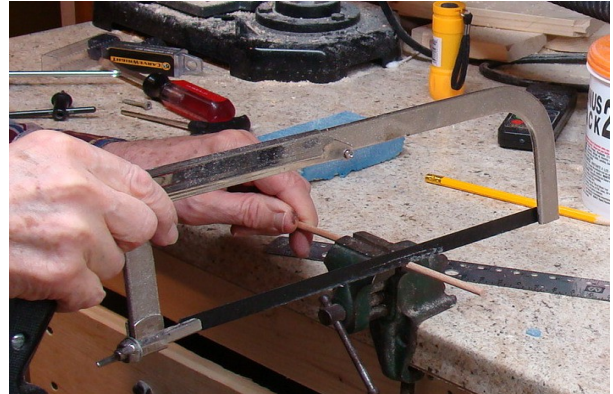
## Detailed steps

### Step 8

Routing completes.

Remove completed board from machine.

Remove tabs using fine tooth hacksaw blade.



Sand the ends. Test insert one end into a wheel, push other end thru one of the horse hoof holes. If too tight, reduce the dowel diameter with a little sanding, or use a 3/16 inch drill bit to ream the wheel hole a little larger. Apply another wheel to complete the axle set.

### Step 9

Sand body and wheels using sanding block. If available, a drill press with sanding drum is a great help.



### Step 10

Prepare axles.

Cut two 2.25 inch long axle pieces from a 3/16 inch diameter wooden dowel.

Repeat test for other axle. Remove wheels and axles for finishing.

### Step 11

Stain or paint as desired.

### Step 12

Assemble axles.

Wheels should fit snugly, if too loose apply wood glue.