



Hammerhead Walking Cane

Figure A - Hammer Pattern:
Band Saw Cutout - 1/4" graph

Materials:

- (1) 1 1/2" x 1 3/4" x 8" - Hammer
- (1) 1 1/2" x 1 1/2" x 36" - Cane

Router Bits:

- 1 1/2" Rope or 1" Barley Twist
- 2" Core Box Bit
- 1 1/2" Surface Planning Bit

Techniques:

- 2 Start Rope or 3 Start Barley Indexing

Preparation: Use the 2 templates (fig. A) provided to layout and cut the profile of the hammer. Mount the hub on the head end of the hammer (the claw will be the tailstock end). The stock for the cane should have the corners cut off. This will save wear on the bits.

Machine Setup: You will be using the 24 position index plate and the 3" gear pitch. Set the hammer so that the top is level in the machine and lock the indexing plate into place.

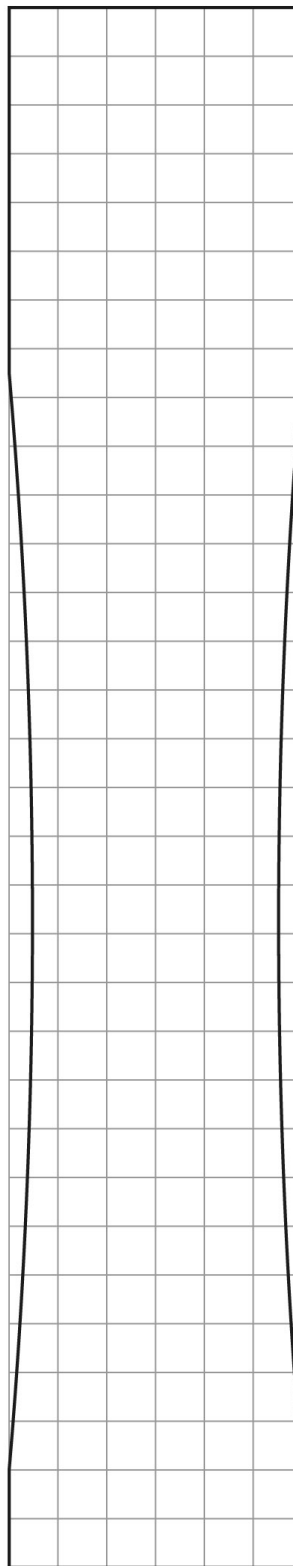
STEP ONE: Using the 2" core box bit, set your plunge depth so that your cut will be 1/2" deep. Plunge your router on the side and mill across the stock. Release the indexing plate and rotate the stock three holes, lock the plate into place and make the second cut. Repeat this process until you have milled all 8 sides of the neck.

STEP TWO: Use a 1 1/2" surface planning bit to mill the head of the hammer to a round. Set the plunge depth to mill 1/4" deep.

STEP THREE: Drill a 1/2" hole in the top of the hammer for the tenon of the cane. Make certain the hole is drilled in the exact center, side-to-side.

STEP FOUR: Mount the 36" long stock into the machine with a 1 1/2" rope moulding bit. Set the stops at 3 1/2" and 13 1/2". Set the plunge depth by placing the shoulder of the router bit on the flat surface of the stock. With the split-nut open, mill the bead at the head-stock end (3 1/2" stop).

Top View



Side View





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STEP FIVE: With the split-nut locked into place at the 3 1/2" stop, mill the first bead of a two-start rope until you reach the 13 1/2" stop on the left side of the carrier tray. To mill the second bead of the rope, simply open the split-nut and slide the carrier tray back to the 4 1/2" setting. Lock the split-nut into place and drive the carrier tray back to the beginning. Mill the second bead. (see *Owner's Manual: Mill a Rope Design*)

STEP SIX: With the split-nut open, mill the bead at the tailstock end (13 1/2" stop).

STEP SEVEN: Reset the stop on the tailstock end at 14 1/2". This will give you an oval shaped ball as a transition from the rope to the round section of the cane.

STEP EIGHT: Change the router bit to the 1 1/2" surface planning bit. Reset your plunge depth so that you will be milling to a 1" round on the bottom section of the cane. Your stops should be set at 15 1/2" on the headstock end and 35 1/4" on the tailstock end (check to make sure that you are not going to run into the tailstock). (see *Owner's Manual: Mill Stock to Round*)

STEP NINE: On the tailstock end mill a 7/8" diameter recess that is 1" long for the rubber cap.

STEP TEN: At the headstock mill a round transition from the rope for the top part of the shaft. Now mill a tenon on the end that is 1/2" diameter and at least 2" long. Watch so that you don't run into the screws that are mounting the index hub.

Release the cane from the machine, cut the hub end off, and mount the hammerhead into the shaft. A little sanding and finish work and you'll have a real conversation piece.

**Figure B -
 Hammer Pattern:
 1/4" graph squares**

