Building a Pickin’ Stick

1. Cut the body piece to 31”L × 1”W × 1 ¼”D.

2. Cut a dado across the top of the body for the nut. The dado runs the width of the body and is 1/8”W × 1/8”D. The distance from the head (i.e., the tuner end) of the body to the far edge of the dado is 3 ¾”. (See diagram A.)

3. Drill the fork hole (3/4” diameter) from top to bottom through the body. The hole is centered across the top of the body, and the center of the hole is 20 1/4” from the head of the body. (See diagram A.)

4. Route fork shoulders from the tail of the body to the center of the fork hole, on both top and bottom. These shoulders are 1/4”W × 1/8”. (See diagram B.)

5. Using the same router bit and dept setting, cut across both the top and bottom of the body, removing the material from the point where the fretboard ends (19 5/8” from the body head) to the center of the fork hole. (See diagram B.)

6. Align the tuner jig (i.e., a jig with three holes where the tuning mechanism pegs will pass through the body) with the side of the head of the body and clamp it in place. Drill the three holes that are closest to the head from one side of the body to the other. (The exact spacing of these holes, shown on Diagram A, is dependent on the exact tuner mechanisms you are using.)

7. With the tuner jig still in place, mark across the top of the body at the centers of the three jig holes closest to the head. Drill 3 wiring holes (1/2” diameter) at these marks, through the body from top to bottom. (See diagram A.)
   a. The wiring hole closest to the head is centered 5/16” from the left edge of the body (looking toward the head).
   b. The middle wiring hole is centered at the center of the body top width.
c. The wiring hole furthest from the head is centered 5/16” from the right edge of the body (looking toward the head).

8. Mark a 1” diameter semicircle across the top of the body top, at the head. Sand to this line to round the head. (See diagram A.)

9. Mark the fret locations on the fretboard, and cut the fret slots. You can use one of the many fret location calculators available online; the distance between the nut and the bridge is 26”. I use 12 fret slots that correspond to the frets of a mountain dulcimer.

10. Route the bottom of the body neck with a 1/2” round-over bit, such that the finished cross-section 1” deep. (See diagram C.) Start routing 18 1/8” from the head on the left edge (looking toward the head) and finish at the same spot on the right edge. (This distance corresponds to the next-to-last fret from the head.) Make a shallow pass, and then make another pass to complete the job.

11. Clamp the body in a woodworker’s vise and rasp the neck to body transition area to a smooth shape.

12. Use a bandsaw to remove the material between the fork shoulders.

13. Cut the soundbox endpiece, 1” thick. (See diagram D, which is the actual size of the piece.)

14. Carefully spread the fork legs and glue and clamp the soundbox endpiece between them so that the distance from the head to the tail (soundbox end) of the stick is 30”. Let the glue dry.

15. Cut or purchase materials for the soundbox top and bottoms. The pieces are 1/8” thick and large enough to cover the routed area from the end of the fretboard to the tail of the stick. (I cut these pieces such that the grain runs the length of the stick.)

16. Cut a 1” diameter soundhole in the soundbox top at the appropriate location. (See diagram A.)

17. Glue and clamp the soundbox top and bottom in place.
18. After the glue is dry, sand the top and bottom flush with the sides and tail of the stick.

19. Using a tablesaw with its blade set 1/8” high, trim away 1/8” to 1/4” of the tail end of the soundbox top; this area will be used to add the string support. (See diagram A.)

20. Cut the string support, which is a rectangular piece of very hard wood (e.g., ebony) 1/8” thick, and glue it into place in place of the part of the soundbox top you trimmed away on the soundbox top. (In other words, the top of the string support is flush with the top of the soundboard, and butted up against the top of the soundboard. I glue the string support into place such that its grain runs perpendicular to the length of the instrument.)

21. After the glue has dried, sand the edge of the string support so that it is flush with the soundbox end. This piece provides support where the strings bend over then end of the soundbox.

22. Cut the nut and bridge pieces from the same hard wood. (See diagram E.) The nut is 1” × 3/8” × 1/8”, with the grain running along the longest edge. The bridge is 1” × 1/4” × 1/8”, with the grain running along the longest edge. File or cut string slots into these pieces.

23. Sand away the sharp corners to a rounded profile where the fork legs of the body and the soundbox endpiece meet.

24. Finish sand the entire stick.

25. Drill three holes into the end of the soundbox endpiece, spaced and positioned appropriately for the ends of the three strings.

26. Cut and set into place the frets on the fretboard.

27. Wipe on a coat of finish. (I use Arm-R-Seal wiping polyurethane.) Wipe off the excess and let dry overnight. (Remember to finish the nut and bridge, too.)

28. Slightly “rough up” the entire stick with 0000 steel wool.
29. Wipe on a second coat of finish. Wipe off the excess and let dry overnight.

30. Tap a linoleum nail (with rounded heads) into each of the holes you drilled into the end of the soundbox endpiece, such that about 1/8” to 1/4” of the nail protrudes from the hole.

31. Attach the tuner mechanisms.

32. Put the nut into its slot at the head of the fretboard, and the bridge on the top of the soundboard so that there is exactly 26” between the two pieces.

33. Purchase a set of mountain dulcimer strings. The set usually come with a set of four strings: one large gauge, one medium gauge, and two small gauge; you will use the large, medium, and one small. Hook the loop of each string over the linoleum nail, stretch the string over the bridge and nut seated in the string slots, and thread the string through the hole in the tuner mechanism. Tighten each string until the slack is gone. Order the strings so that when the stick is held like a guitar, the large gauge (low tone) string is at the top, and the small gauge (high tone) string is at the bottom. (The order of strings is reversed between a stick for a left-handed and a right-handed player.)

34. Tune the stick as you desire. I usually tune the stick (low-to-high) G-D-G’, where G is one octave below G’.
DIAGRAM A — Top View

HEAD

30"

TAIL

10 3/8"

7 1/2"

3 3/4"

15 7/8"

5 1/8"

1 3/4"

5/8"

1"

5/8"

5/8"

4 1/2"

Tuner Holes

Nut

Fork Hole

Sound Hole

Bridge

String Support

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**Diagram B**
- Fork Hole
- End of Fretboard
- Routed Shoulders
- Tail (Top & Bottom)
- Routed Dado

**Diagram C**
- Neck Cross Section After Routing
- 1¼" D
- 1¼" W
- Original Body Cross Section
- Neck 1" D

**Diagram D**
- Soundbox Endpiece
- Actual Size
- 4¼"
String slots are 1/8" deep.
* The center slot is centered on the width.
* The outer slots are 1/8" from the edges.

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