

John Nyquist Chair Horse

Plan of Procedure

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1. Mill rough lumber to size. Part sizes are not too critical, so leave them thicker than specified if possible. The four 1" x 1" guides will be milled to thickness during the assembly, so leave them oversized. Leave other parts long until ready for installation.
2. Cut the feet and legs to length. With a sled and dado set on the table saw, or with a router table, straight bit, and fence, cut the dados on the feet to fit the width of the legs, 1/4" deep.
3. Set up a 3/4" or 1" straight bit on the router table with a fence and relieve the underside of the feet to create a small foot at each end. Use a stop to keep things consistent.
4. Mark the angled cuts at the ends of the feet; cut on the bandsaw and sand or plane to the line.
5. Drill two 3/8" holes in each leg for the carriage bolts, ensuring the holes are centered in the width of the part. The holes are located 4" and 10" down from the top.
6. Attach the legs to the feet with four 2" screws and glue.
7. Cut the bottom stretchers to length and ensure the cuts are square. Attach to the feet with two 3" screws at each end.
8. Ensure the legs are parallel to each other by clamping a piece of scrap between them and tapping the legs into place with a mallet. Cut the top stretchers to length using the outside of the legs as a reference. Attach the top stretchers with two 2" screws at each end.
9. Cut the sliding legs to length. Cut a 7/16" slot in the sliding legs; the slot should start 5" from each end and be centered in width of the legs. Sand the surfaces.
10. Bolt the sliding legs in place on the fixed legs using the carriage bolts and knobs. Carefully mill the guides on a planer so they fit nicely between the top stretchers and the sliding legs.
11. Cut the four guides to length and attach each one with three 1 1/2" screws. Note that the top screws can be hard to reach because of the top stretchers, so locate them about 1" below the bottom of the stretchers.
12. Using a sled and dado set on the table saw, cut a rabbet on each end of the sliding leg. Both rabbets should be about 1/2" deep, or about half the thickness of the parts. The top rabbet should be cut slightly narrower than the width of the frame members, to ensure that the end of the sliding leg does not protrude above the frame when assembled. The bottom rabbet width should match the thickness of the tray bottom.
13. Cut all the frame parts to length.
14. Using a sled and dado set on the table saw, cut the dado on two of the short frame members so they fit on the sliding legs. Using the same dado set, cut rabbets on the ends of all frame members to create half lap joints. Leave the dado setup in place for the next steps.
15. Drill the clearance holes and countersinks in the bottom of the sliding legs for the tray parts. Mount the sliding legs upside down in the base assembly using the carriage bolts and knobs. Cut the tray bottom to length and attach with two 2" screws on each end. Cut the tray sides to length and attach similarly.
16. Remove the sliding leg assembly and re-mount right-side up. Attach the dadoed frame members to the sliding legs with glue and three 1 1/4" screws.
17. Using the dado setup from before, with the fence as a stop, cut dados in the long frame members to match the short members mounted on the sliding legs. Make sure the dados are on the opposite side of the parts from the rabbets. Cut the center dado similarly.
18. Glue all the frame parts together.
19. Cut the filler block to length and mount with two 2" screws.
20. The frame cover on the bottom is made with three pieces. All the pieces should be cut so the plywood hangs over the frame by about 1/16" on all sides. Cut the center piece so it fits between the sliding legs. Cut the end pieces to cover the remainder of the surface, then create a cutout to clear the legs. Cut the top to size, with 1/16" extra on each edge. Glue and clamp all the pieces in place. Flush trim the edges with a router.
21. Sand and finish, but don't apply finish at the interface of the sliding parts.