

Basic Construction Notes and Procedures.

If you wish to deviate from the plans, make sure the box adheres to your association or governing body's box specifications.

These construction notes and procedures are just a guide to build a vertical front flyball box as noted on the plans. Slight variances may be required during the construction process.

The side and partial front elevations on the plans are full scale (exact size). If you require a dimension that is not shown just measure it with a ruler or tape measure off of the drawing.

1. Make cutting templates by using a sheet of cardboard. This can be done by placing the plans over the cardboard and pin pricking all the corners. Connect the dots and cut out the cardboard.
2. Cut out all the wood pieces.
3. Use a 2-5/8" hole saw to cut out the ball hole(s). If you want the balls to stick out further cut the ball hole smaller (ie. 2-1/2" to 2-3/8" will work)
4. Attach the uprights (side) to the base (floor) of the box. *Use many screws and glue*
5. Mount the 2x4 bottom cross member to the floor of the box. Screw from the bottom up.
6. Temporally attach the front ball face to the uprights. Only use 2 screws per side at this time. You will need to remove the face several time during the construction process.
7. Mount the pedal return spring blocks to the side uprights. Use 2 screws and glue per each block since there is a lot of force applied to these blocks.
8. Apply the pedal bump padding on the uprights. This is the padding that goes between the uprights and the front pedal. This provides cushioning and prevents the pedal from making a loud slapping sound.
9. Fasten the piano hinge to the pedal.
10. Test fit the front pedal on the box. Make sure pedal is square and mark locations of the mounting holes on the base (floor) of the box.
11. Temporally mount the pedal into the box.
12. Mount the front plate cross member to the ball face plate. This cross member helps stiffens the face plate and also acts as a guide for the ball hammer.
13. Install the ball hammer rubber bumps stops in the ends of the cross member groove.
14. Assemble the ball hammers, mounting and spring hardware.
15. Test fit and mount the ball hammers onto the 2x4 bottom cross member. Shims (flat washers) may be required to achieve the correct height and alignment.
16. Mount the spring anchor(s) to the front face plate.
17. Mount the latch cross member. You will probably have to adjust and test fit the latch cross member position to achieve the correct alignment and ball hammer throw distance (*This can be tricky so take your time and double check before permanently mounting the cross member*)
18. Align and mount the latches.

19. Install the ball hammer springs.
20. Test fire. Check for any clearance issues.
21. Install the springs in each front pedal return block. The lighter the spring, the easier the box can be triggered. **Note:** *Don't use too light of a spring because this could cause the box to false fire. Also, a spring that is too stiff will make the box hard to trigger.*
22. Cut and assemble the de-latch arms.
23. With the front pedal temporarily mounted, align and mark locations on the de-latch arms to the front pedal.
24. Remove the front pedal. Align and pre-drill bolt holes for mounting the de-latch arms to the front pedal.
25. Use bolts to fasten the de-latch arms to the pedal. (*The de-latch arm's will have to be mounted after the pedal is permanently mounted in the box. This is the most awkward process of building this box!*)
26. Test fit/bolt the de-latch arms to the pedal in the box. The tail end of the de-latch arm should just touch the tail of the latch.
27. Permanently attach the front face plate. **Use lots of screws and glue!**
28. The box should be ready to test fire. Check for any clearance issues.
29. If you're comfortable with the internal mechanism(s) then it's time to apply the rubber.
30. Glue and apply the rubber matting to the front face. Cut out ball hole(s)
31. Glue and apply the rubber to the pedal.
32. Permanently mount the front pedal.
33. Permanently mount the de-latch arms to the front pedal.
34. Install the rear of the box and lid to close it up.
35. Install box loader shin pad at the rear of the box.
36. Cut 2 holes at the rear of the box for anchoring the box when running on dirt or grass.
37. Only paint the exposed areas of the box.
38. For the underside of the base of the box I recommend rolling on a heavy-duty paint/sand mixture. This will give you a sand paper effect that will help the box stick when running on mats and help protect against water absorption.