

# PROVISIONAL PRESS

Thank you for purchasing this Provisional Press kit! We are excited to get you printing. Follow these instructions to assemble your press. Also check out our assembly videos at [provisionalpress.com/assembly-instructions](http://provisionalpress.com/assembly-instructions).

*When you open your box please check that all the parts are contained.  
Leave all letter labels on the pieces until assembled.*

## Roller Assembly

- 1 - 12" long threaded rod
- 1 - 11" long, 2" white PVC pipe
- 2 - predrilled oak roller handles (H)
- 4 - large hole, 1/4" roller ends (F)
- 2 - small hole, 1/4" roller ends (G)

## IS bag -

- 9 - 1/4" wood donut spacers (I)
- 6 - gray plastic spacers (S)

## Bed Assembly

- 1 - bag of 16 - 1" screws (J)
- 1 - bag of 18 - 1-1/4" screws (K)
- 1 - bag of 8 - 3/4" screws (L)
- 2 - 1/2" thick predrilled long wood sides (A)
- 2 - 1/2" red oak roller rails (E)

## Additional Parts

- 2 - calibration wood blocks
- 1 - 18 gauge steel bed plate
- 1 - small bottle wood glue

## MNOP bag -

- 4 - machine screws (M)
- 8 - 1/4" small steel washers (N)
- 4 - 8mm small bearings (O)
- 4 - 5/16" small steel nuts (P)

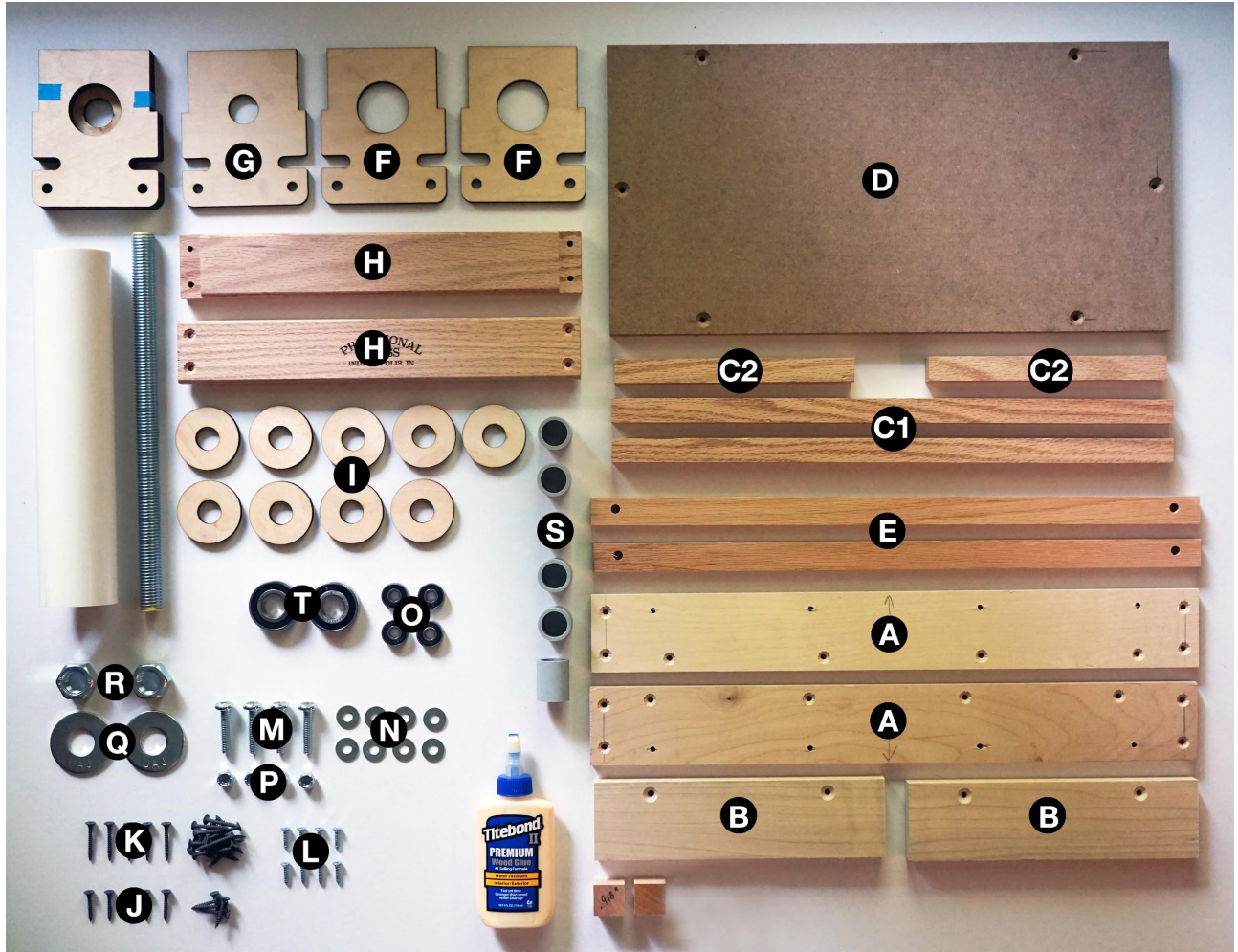
## QRT bag -

- 2 - 3/4" large steel washers (Q)
- 2 - 3/4" large steel nuts (R)
- 2 - 3/4" large bearings (T)

- 2 - 3/4" thick predrilled short wood ends (B)
- 2 - long wood cleats with paint on top (C1)
- 2 - short wood cleats with paint on top (C2)
- 1 - MDF press bed (D)
- 1 - bag of 4 - stop pins (W)

## Tools Needed

- #2 Phillips head screwdriver (or power drill)
- Adjustable wrench or standard pliers
- Masking tape (if needed)
- Clamps are helpful, not necessary



## Preparation

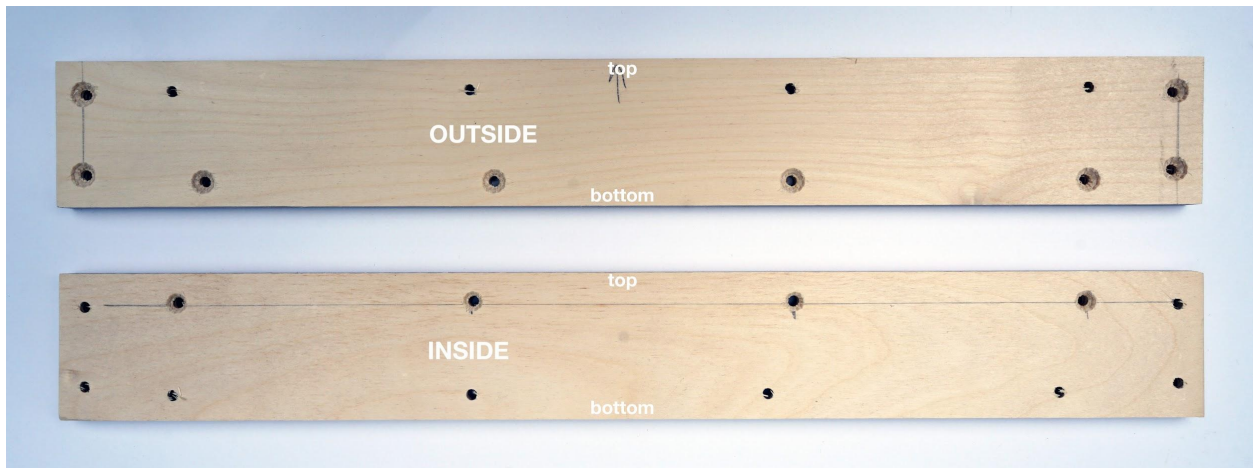
1. To build the press you will need a flat, hard surface to work on like a countertop or work table. The accuracy of the press is dependent on building it flat. You may also want to put down some newspaper to keep any wood glue off your table.
2. Get some paper towels or a rag and dampen a few with water to wipe off glue on the press and your fingers.
3. Leave all of the letter stickers on their respective pieces until fully assembled (especially the A and E pieces).

## Start Bed Assembly

Step 1: Gather Parts As, Bs, and bag of 1-1/4" screws (K).

Locate the two long plywood sides (A) and notice their countersink placements. The inside of the A pieces have 4 countersinks on the top, the outside has 8 countersinks along the sides and bottom. On the two short sides (B), the countersinks go on the outside and bottom.

**\*\*Do NOT remove the label stickers on the A or E pieces at this time.\*\***

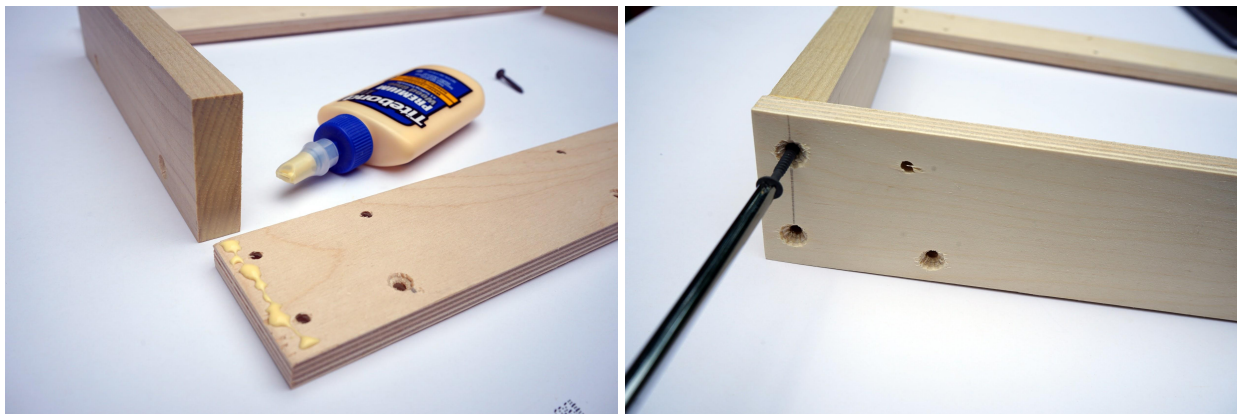


Lay the pieces of wood out to create a rectangular box with the B's at the ends, on the inside of the A pieces. The outside countersink holes should all be down, closest to the table/work surface. The most important part of this step is that the bottom of the pieces are flush. The tops of the pieces can have a bit of variation and don't have to match up perfectly.



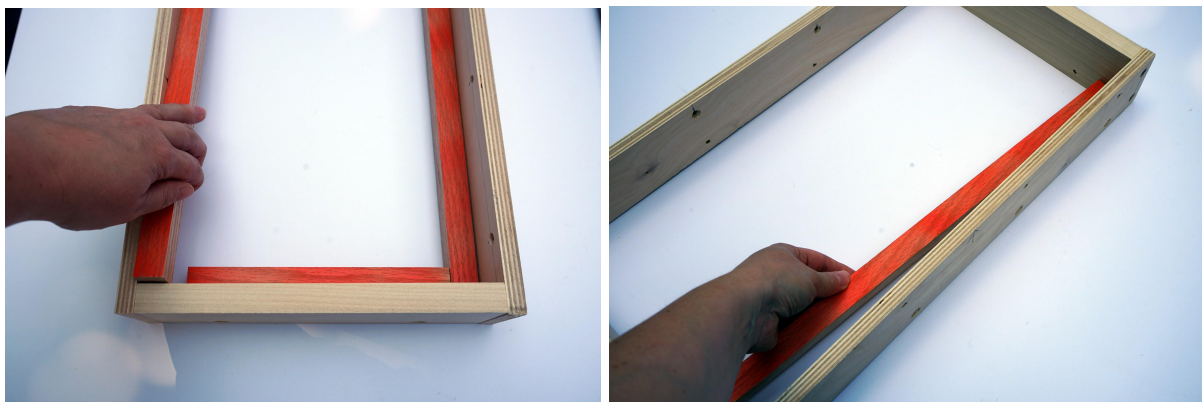
Step 2: Glue A and B and screw them together.

- Apply a thin layer of wood glue to the ends of the short sides (B) and the inside edges of the long side pieces (A).
- Use the 1- $\frac{1}{4}$ " screws (K) and a screwdriver to carefully screw the long sides onto the end grain of the short sides through the countersunk side holes.
- Be careful to match the corners flush and set the screws straight and tight through the predrilled holes. The tops of the pieces do NOT have to be the same height.
- The two pieces might pull apart as you screw but will pull together snug as you keep going. The screwheads should be flush to the outside surface.
- Wipe off any excess glue with a damp paper towel.
- Repeat this process for each corner. The resulting box should lay perfectly flat.



Step 3: Locate the 2 long bottom cleats (C1), two short bottom cleats (C2), 8 1" screws (J), and 4 1- $\frac{1}{4}$ " screws (K).

Test fit (lay inside) the cleats into the bottom of the box with the painted sides up. The cleats do not need to be perfectly snug as in these pictures.



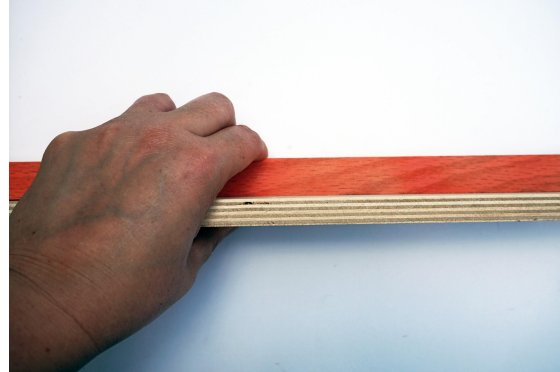
The cleats will be a base for the wooden press bed. They must be glued and screwed through the pre-drilled countersunk holes on the outside bottom of the A and B pieces to be the correct height.

**Step 4: Glue C1's to A pieces on your assembled box**

Working on your perfectly flat surface, glue the cleats to the inside bottom of the box - one at a time for better accuracy.

Start with both long cleats (C1).

- Apply a thin layer of glue to where the cleat meets the inside of the box.
- Be sure the cleat is perfectly flush with the bottom side of the plywood.
- Hold it in alignment until the glue tacks (starts to hold).
- Let the glue set for at least 5 minutes. You could use clamps for this step.



**Step 5: Screw on C1's through predrilled holes.**

After the long cleats are glued, use 8 1" screws (J) (4 on each side) through the countersunk predrilled holes on the outside of the long A pieces to attach the long cleats permanently.



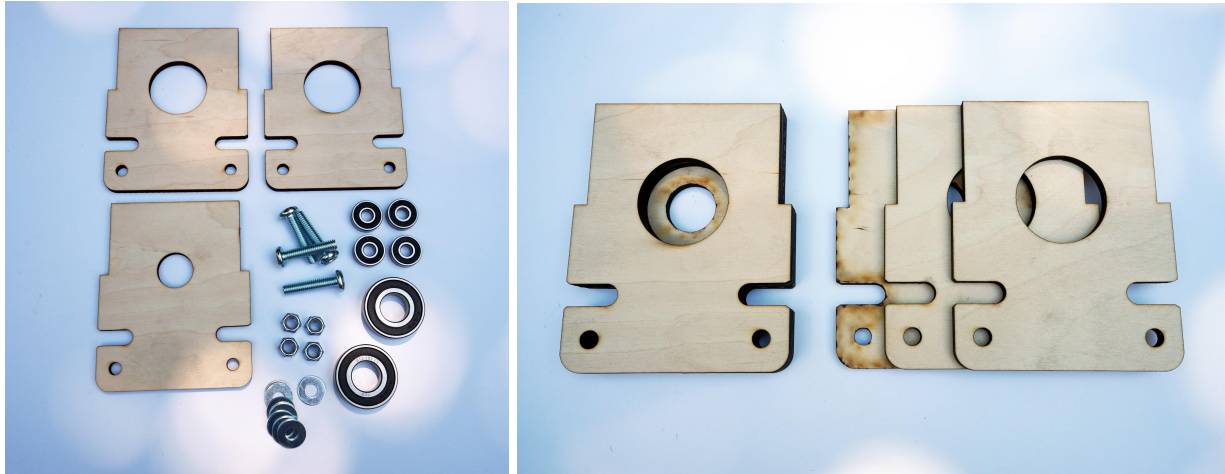
**Step 6: Repeat steps 4 & 5 using C2's on the short side with 1-1/4" screws (K).**

- After completing the 2 long cleats, move on to the 2 short cleats.
- Follow the same process, but use 1-1/4" (K) screws to attach them.
- Be sure to wipe off any excess glue that squeezes out of the sides during the process.
- Set the assembled box aside on a flat surface to let it dry while you work on the Roller Assembly.

## Start Roller Ends Assembly

Step 7: Gather parts for the two roller ends.

- You will need parts (F), (G), 2 - large bearings (T), 4 - machine screws (M), 4 small steel nuts (P), 8 - ¼" small steel washers (N), and 4 small bearings (O).



Each end is like a 3 piece sandwich. Each needs two big hole pieces (F) on one side and one small hole piece (G) on the other side. Dry fit the stack together (F)(F)(G).

- Be sure to make the sandwich with the clean (not laser charred) sides facing out so it looks nicer.
- A large bearing will eventually fit into the gap left by the two big hole pieces (F).
- Small and large bearings must be on the same side of the cylinder assembly.

Step 8: Assemble the roller assembly hardware

- Slide a small bearing and small washer on each of the four machine screws.
- The bearing should be next to the head of the machine screw.
- Set aside for Step 10.



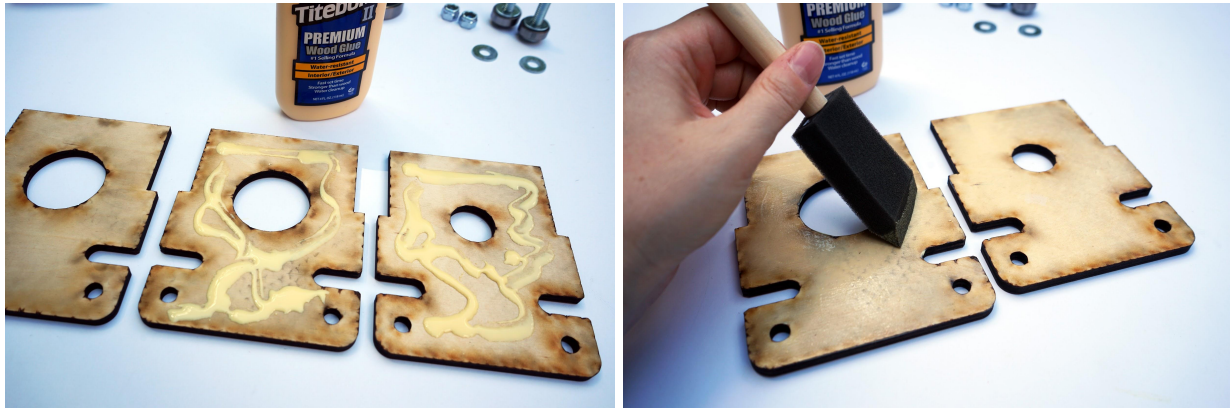
Read Steps 9 & 10 before starting to glue!

They need to be done together in a short period of time (5-10 minutes)

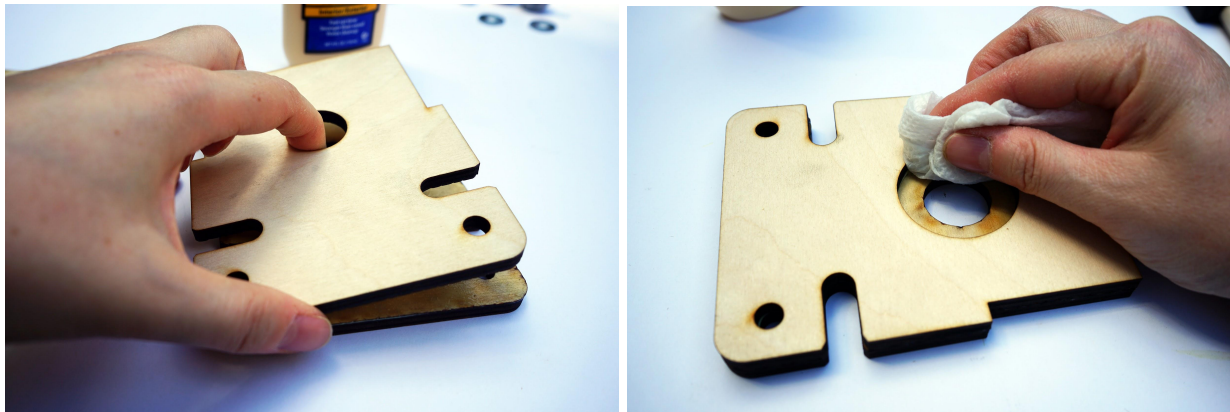
Step 9: Glue up one side of the roller assembly.

Apply a thin layer of wood glue to the surfaces that face each other. No glue goes on the outside faces.

- Use your finger or a foam brush to get complete coverage.
- Apply glue spread thinly one at a time, otherwise it will dry lumpy and make your roller assembly too thick



- Glue together the three piece sandwich (F)(F)(G).
- Ensure that the sandwiched pieces are completely flush to one another.
- Wipe excess glue out of the double hole created by (F)(F).
- Slip the large bearing into the double hole.



Step 10: Add small bearing hardware in small holes.

- Be sure there is no wet glue inside the small holes on the roller assembly.
- Slip the machine screws with small bearings and washers into the small holes with the bearing on the same side as the large bearing.



- Put a washer and nut on the threads sticking out the other side. Use a wrench to hold the nut and tighten the machine screw with a screwdriver until snug and small bearings still spin (silver outside of black rubber spins easily but the entire screw/bearing/washer/wood/washer/nut doesn't wiggle around). *Do not overtighten.*



- The bolts will clamp the wood together while the glue dries.
- Wipe off any excess glue that may have squeezed out.
- Remove the large bearing. It is ok to leave the bearing if it is not removed easily.
- If you have clamps, clamp the top of the FFG's to ensure proper glue adhesion. If you don't have clamps, try putting the top between some heavy books.
- Repeat Steps 9 & 10 for the second roller end assembly. After both ends are built, set aside to dry.
- Allow the ends to dry for 24 hours to prevent splitting in later steps.



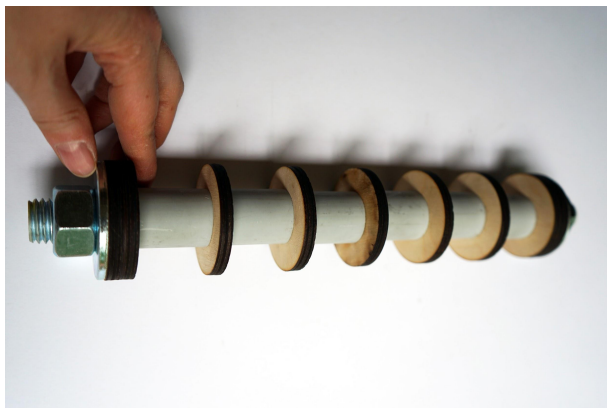
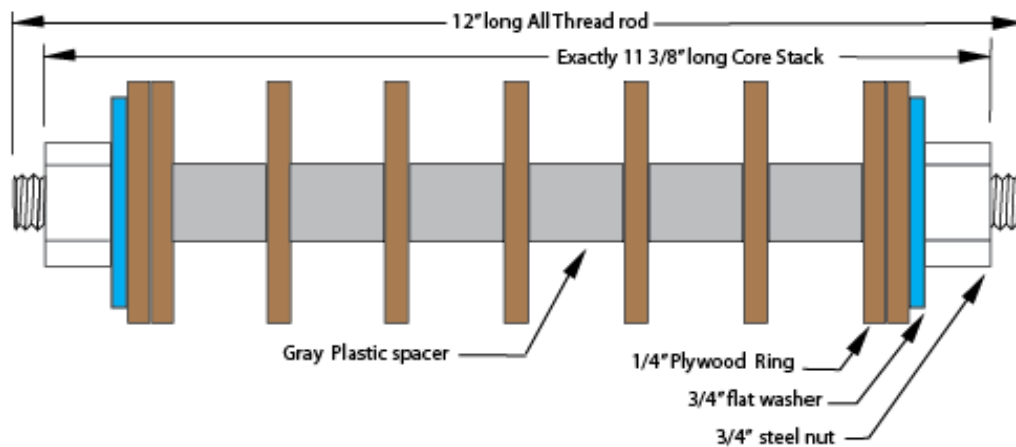
## Build the Roller Cylinder and Core

### Step 11: Gather cylinder and core pieces

- 2" PVC pipe, 12" threaded rod, gray plastic spacers (S), wooden donut spacers (I), 3/4" large steel washers (Q), 3/4" large steel nuts (R).

### Step 12: Build the cylinder core

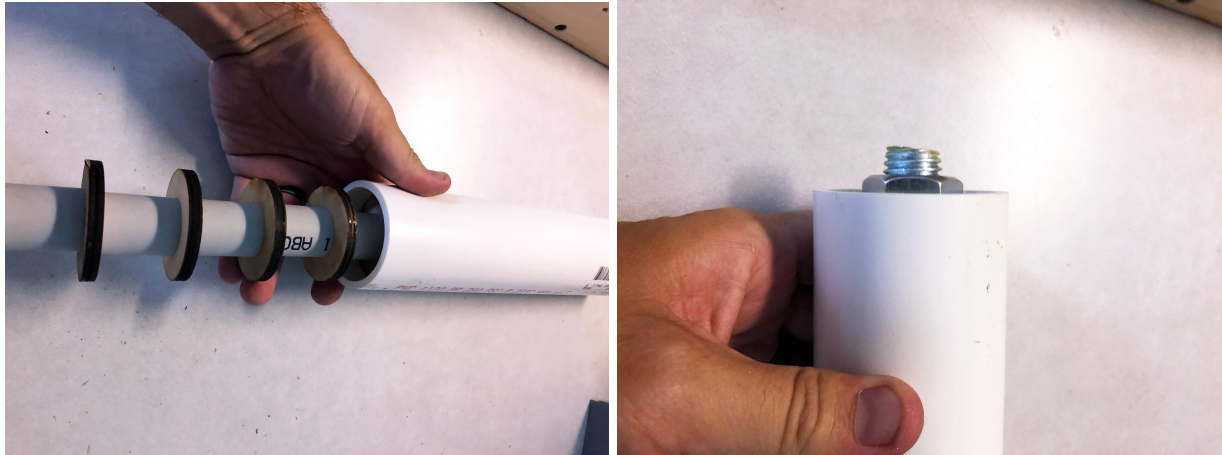
- Thread one nut onto the end of the threaded rod stopping 5/16" from the end.
- Slip on the steel washer, two wooden donut spacers and gray plastic spacer.
- Follow the diagram below for the pattern to slide on spacers and washers until you finally put the nut on the other side.
- Tighten the two nuts with pliers or wrench as tight as you can, keeping them centered on the threaded rod.
- Measure the Core Stack to confirm it is 11-3/8"
- **\*\*Please Note\*\*** The large steel washers were included in the kit to allow for variations in the wooden spacer thickness due to humidity and other factors. If you come to Step 18 of this roller assembly and the cylinder will not sit flush inside the roller ends and handles, you can remove one or both of these big washers to make it fit.



Step 13: Slide PVC pipe over core.

Carefully slide the core assembly inside the 2" PVC pipe.

- It will be a snug fit, but wiggle it around until it is centered on the pipe.
- Do not use any glue.



## Finish the Base

Step 14: Gather 2 oak rails (E) and the bag of  $\frac{3}{4}$ " screws (L).

By now the base (box + cleats) should be pretty dry.

- The oak rails must be attached in the correct position for the press to work properly as they guide the cylinder. The rails must be flush with the tops of the A pieces. Be sure to match piece A1 with E1 as well as A2 with E2.
- Make sure the E stickers are facing out and right side up when putting together to ensure that they are facing the right way.



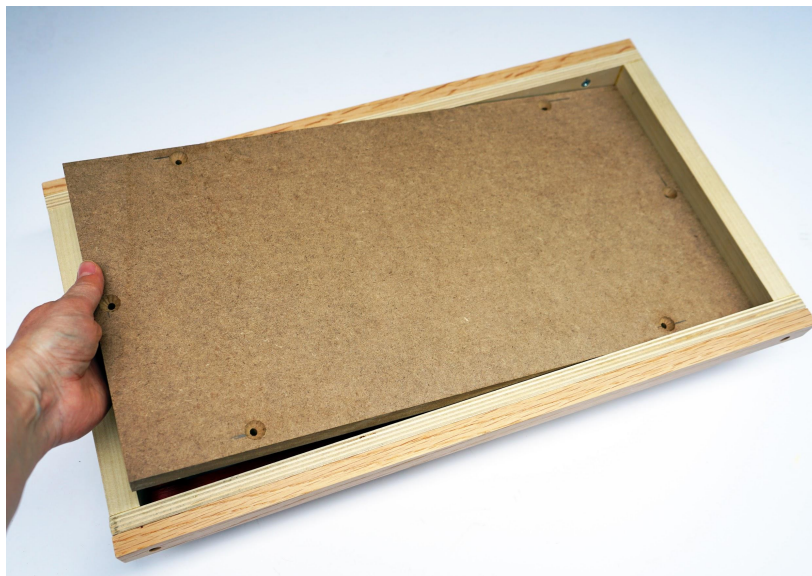
Step 15: Screw on two top rails.

- Add a thin layer of glue to the inside of one oak rail (E).
- Hold the top edge of the oak rail flush to the top of the base. (Clamps can be useful in this step as well)
- Wipe off any excess glue.
- Screw in the 4 - 3/4" screws (L) through the predrilled holes and matching pilot holes from the inside of the base keeping it as flush as possible.
- Repeat with the second rail on the other side.



Step 16: Put press bed (D) in base assembly.

- Place the MDF press bed in the base with the countersink holes facing up.
- Do not screw it down yet.
- Set aside.



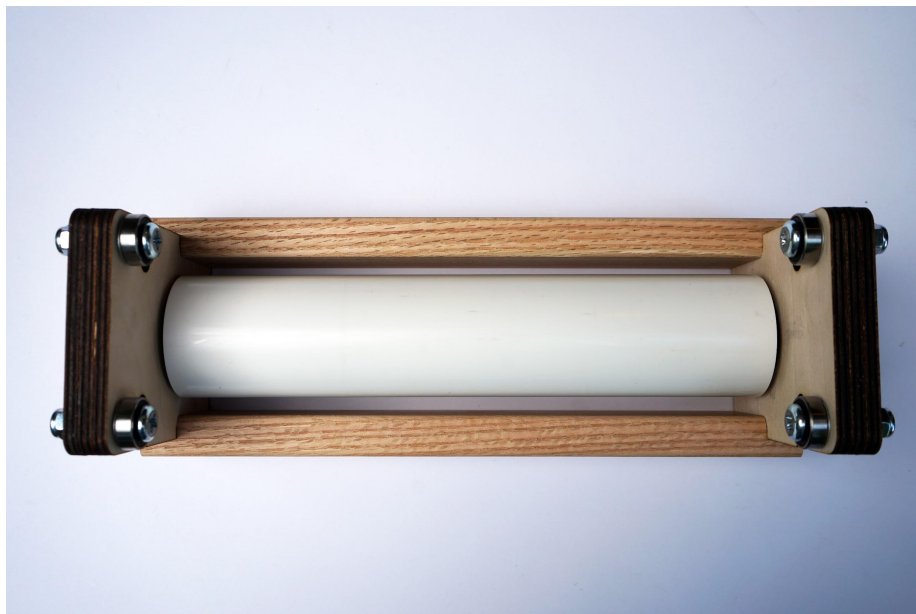
## Finish the Roller Assembly

Step 17: Gather remaining roller assembly parts.

- You will need the end pieces you assembled in Steps 7–10, the PVC cylinder you assembled in Steps 11–13, 2 handles (H), and 8 - 1" screws (J) .

Step 18: Dry attach handles.

- This step can be helpful to have an extra set of hands, clamps, or 2 heavy stacks of books.
- Assemble the rest of the cylinder on a sturdy, flat surface.
- Put the large bearings back in each roller end and stand them upside down with the small bearings facing each other.
- Place the PVC cylinder on the table and slip the threaded ends into the large bearing holes.



- With a helper holding both ends, place the two oak roller handles in the proper location with the logo side out and upside down. This can also be done by placing a heavy object or stack of books one either side of the roller unit.
- Use the 1" screws to attach the handle to the roller assembly through the predrilled holes. If you have a drill and a 1/16" bit, drilling pilot holes into the FFG end pieces can be helpful to avoid splitting. **\*Note\*** Minor splitting will not affect the press function.
- Do not use glue at this time.

- Alignment is important. It must be square and flush. If it is not flush, try removing one or both of the large washers (Q) from the cylinder core assembly. Removing them will not affect the press functionality.
- Repeat on the other handle at the same end of the cylinder assembly making sure to get the cylinder assemblies parallel.



#### Step 19: Check alignment and finish roller assembly

- Slide the roller assembly onto the press.
- The oak rails should fit between the plastic pipe and the small bearings on the roller assembly and roll smoothly.
  - If the roller does not roll smoothly, check to make sure the heads of the machine screws are not rubbing against the side of the press. If they are, use a wrench to tighten the small nuts as tight as they will go while the small bearing still spins. If they still rub, the head of the screw may need to be ground down further. We grind down the heads of the screws ourselves to make them fit in the press so if you are unable to grind them, please let us know and we can send you replacement screws.

*Optional:* Add a thin layer of glue where the handles meet the FFG ends and reattach the handles with the screws. *You may choose not to add glue for later adjustments. The screws are strong enough on their own.* Be sure to wipe off any excess glue.

Once you are happy with the roller and would like to keep the handle from sliding off the press while printing, put the 4 stop pins (W) into the predrilled holes on the ends of the oak rails (E). They are easily removable.



## Calibrate the Press

### Step 21: Calibrating the press.

- The press has been designed to be galley high (.968) printing height. This allows for the provided 18 gauge steel bed plate or a type galley to be added to the press to make it type high (.918).
- Based on accuracy of assembly and small material tolerances, you will need to do a little adjusting to make everything exactly the correct height. It should be within a few thousandths of an inch now. (.001"-.009")
- The press is provided with two square calibration blocks of maple exactly 0.918" high.



With the press bed (D) and the steel bed plate (or a standard American galley) on the press bed, put two calibration blocks on one side of the press.

Push the roller over to that same side.

-If the blocks are tight under the cylinder, you do not need to do anything.

-If they move, you will need to remove the calibration blocks, bed plate, and bed to add a layer of masking tape or paper on top of the cleats on that side of the press.



Step 22: Replace the bed, bed plate, and calibration blocks.

Try again. If the calibration blocks are tight, you are good. If they are not, remove blocks, bed plate and bed and add more paper or tape. Repeat until calibration blocks are both tight.

Repeat steps 21 & 22 on the opposite end of the press bed.

Repeat steps 21 & 22 in the center of the press bed.

Step 23: Reinstall the base countersinks facing up and screw it down using the 1-¼" screws (K). Do not use any glue in case you need to make a correction in the future.

## Alternate Calibration Method

Ink the top of the two blocks (or use carbon paper) and place them in the left corners of the galley or bed plate.

Lay on a piece of print paper and run the press and any packing.

- In a perfect world both blocks will print the same.
- If one or both are light, remove the press bed and shim on top of the cleats as needed til the press prints perfectly.

Repeat the process with the inked blocks in the right corners of the galley or bed plate.

Reinstall the base countersinks facing up and screw it down using the 1-¼" screws (K). Do not use any glue in case you need to make a correction in the future.

## Optional Grid Base information:

The grid base was designed to print materials under .168" thick including linoleum, ⅛" plywood, and Lego. You may need to put a few sheets of paper or chipboard under the base to raise it up for your given material. For some Lego bases you will need to remove the metal plate from the press altogether. A tutorial explaining this process can be found on YouTube at the following link: <https://youtu.be/kv4szHg2O4g>

Cleaning and Care: wipe the grid base with a damp rag and dry immediately. Do not soak the surface with solvents as this can cause warping and bubbling of the melamine coating. A dry magic eraser works well.

You are now ready to print!

Please check out our FAQ page at [www.provisionalpress.com/faq](http://www.provisionalpress.com/faq) to resolve any issues you may be experiencing. Also feel free to email your questions to [provisionalpress@gmail.com](mailto:provisionalpress@gmail.com). We are always happy to help!

Thank you for your support!

- Steve and Liz Garst

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