

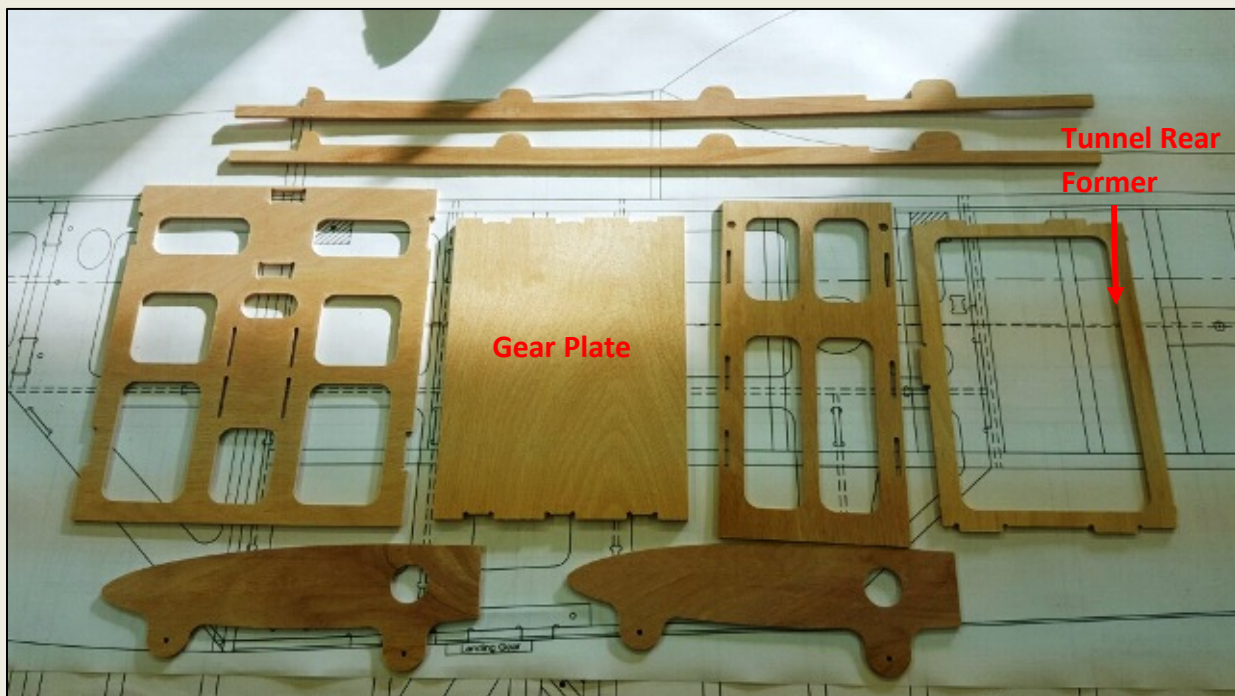
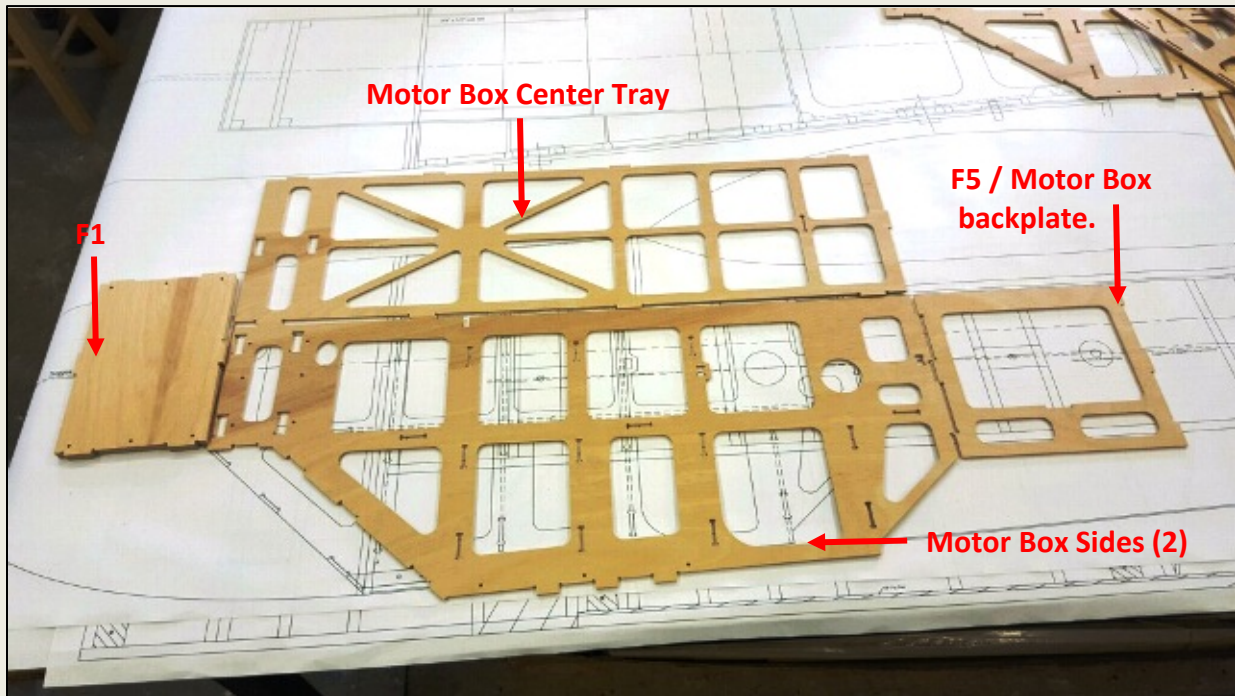
# Kam-Aero 43% Extra 300.

## Motor Box Assembly:

Note: **Dry / test fit all parts according to plans prior to applying glue in order to ensure proper fit and parts assembly!**

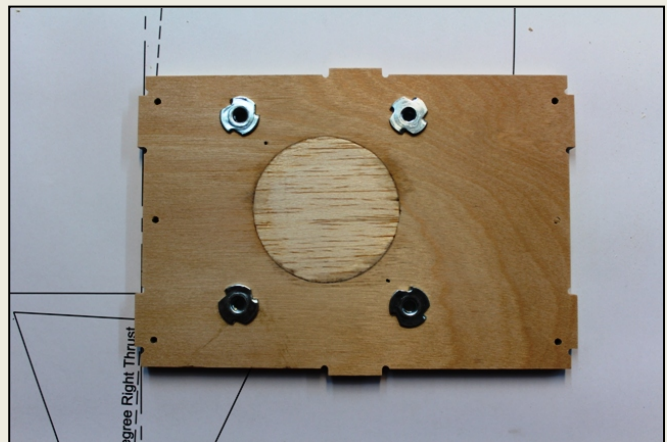
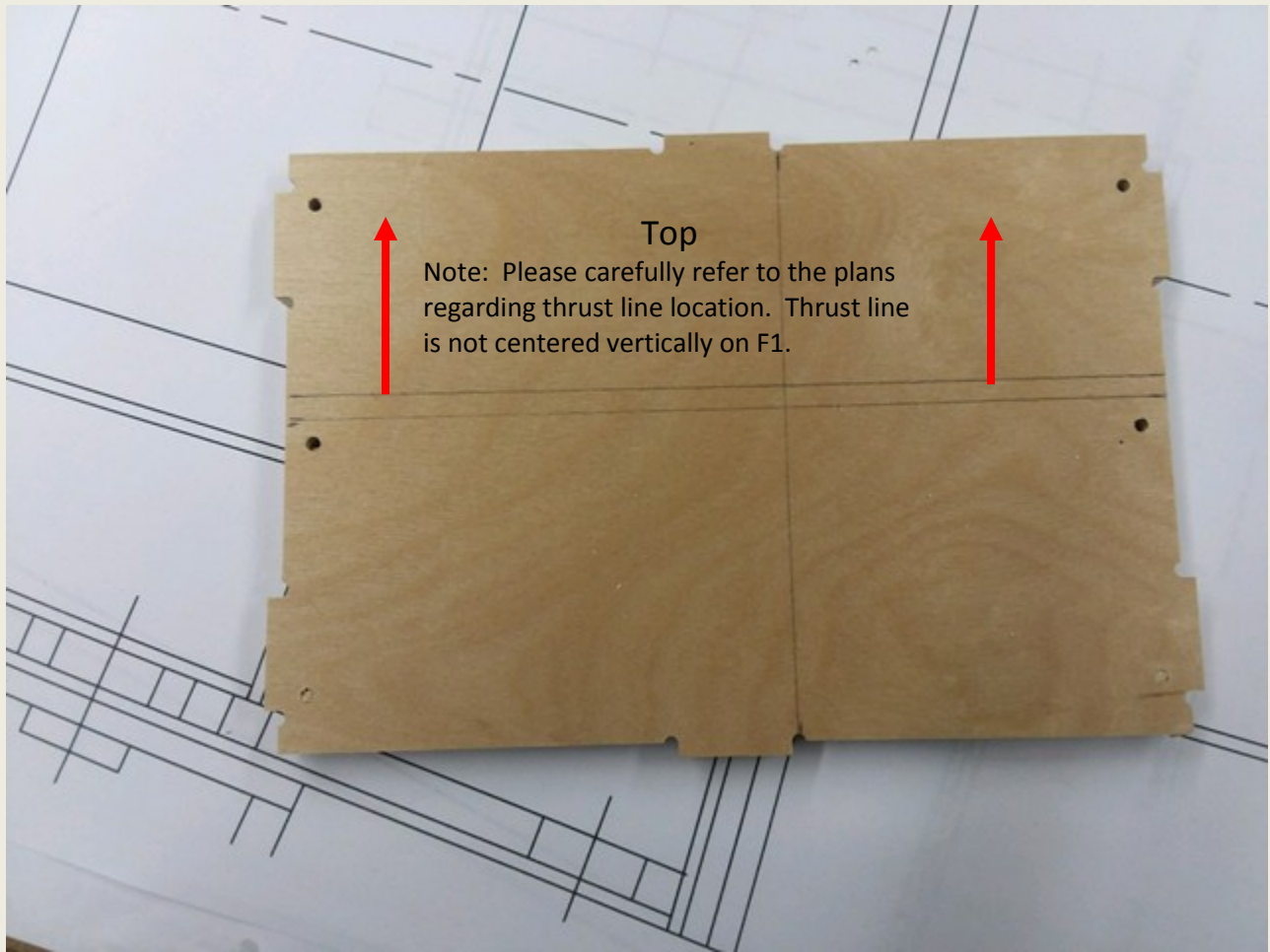
Locate / identify the following CNC Aircraft Ply Motor Box Parts:

- 1) F1 / Firewall
- 2) Motor Box Sides (2)
- 3) Motor Box Center Tray
- 4) F5 / Motor Box backplate.
- 5) Tunnel Rear Former



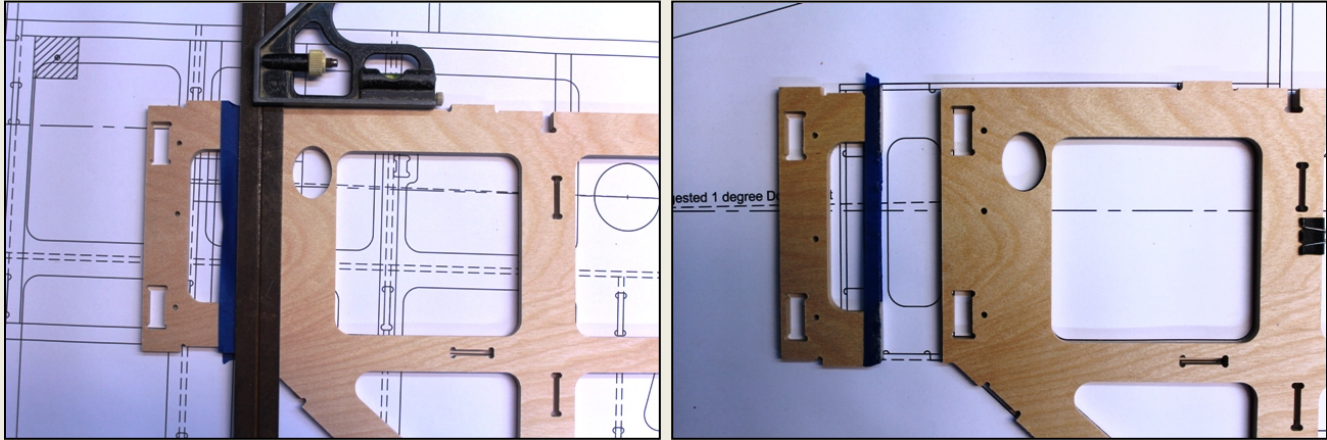
Motor box assembly:

- Locate and mark F1 (firewall) for appropriate engine mount location.
- Drill engine mount bolt holes and install blind nuts in F1 prior to motor box assembly.

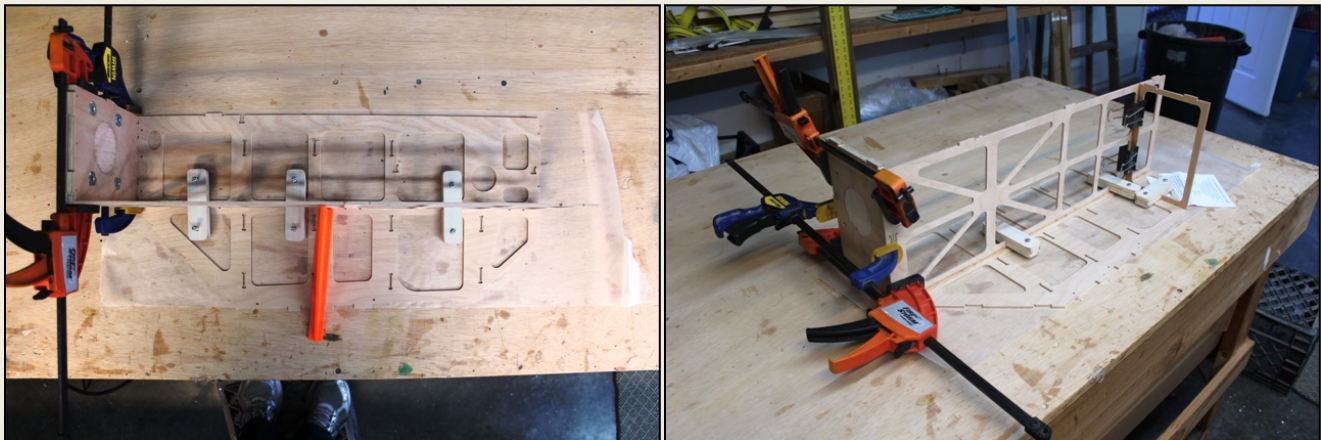


Note: I like to set the table of the drill press at the thrust angle of, and use the motor mount as a drill guide. Drilling the motor mount bolt holes at the same angle as the motor mount prevents the bolts from binding when you install your engine. This firewall is set and drilled for 3 degrees of right thrust and 1 degree of down.

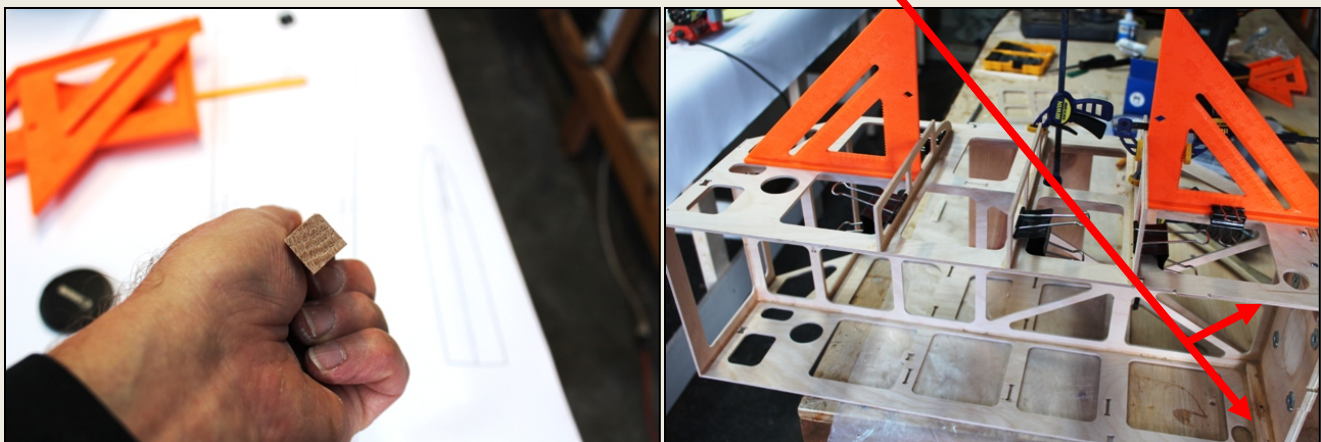
- Locate motor box sides, determine F1 location and cut MB side if necessary.



- Starting with one MB side, use a quality epoxy and begin assembling MB by gluing in F1, the center tray, and lower rear former. Make sure each part is square to the MB side and clamp in place.

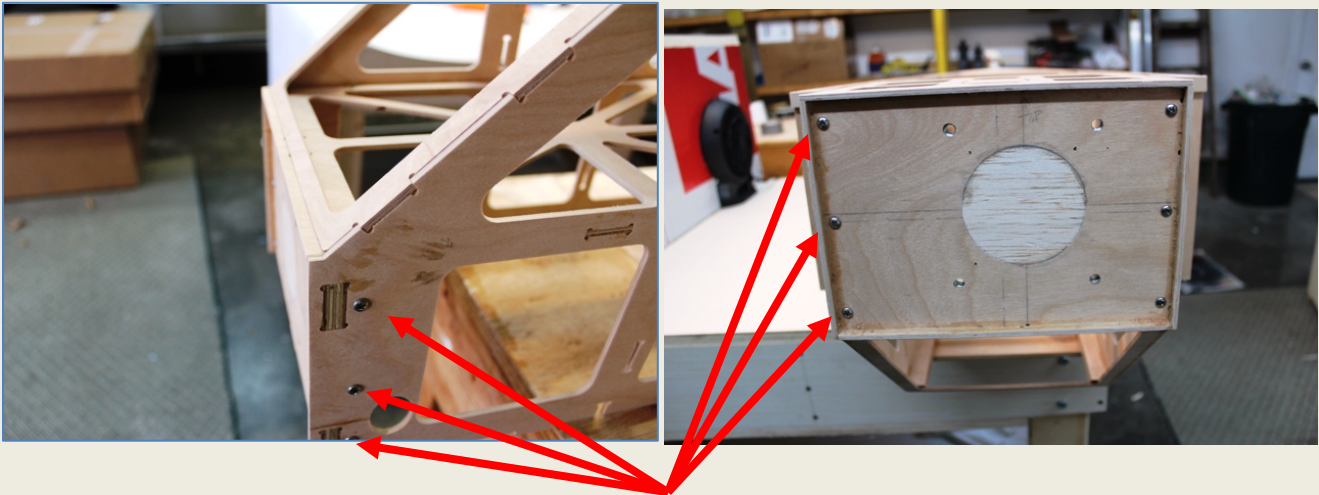


- Glue second MB side to the MB assembly.
- Fit and epoxy in place  $\frac{1}{2}$ " x  $\frac{1}{2}$ " oak F1 to MB side support posts.



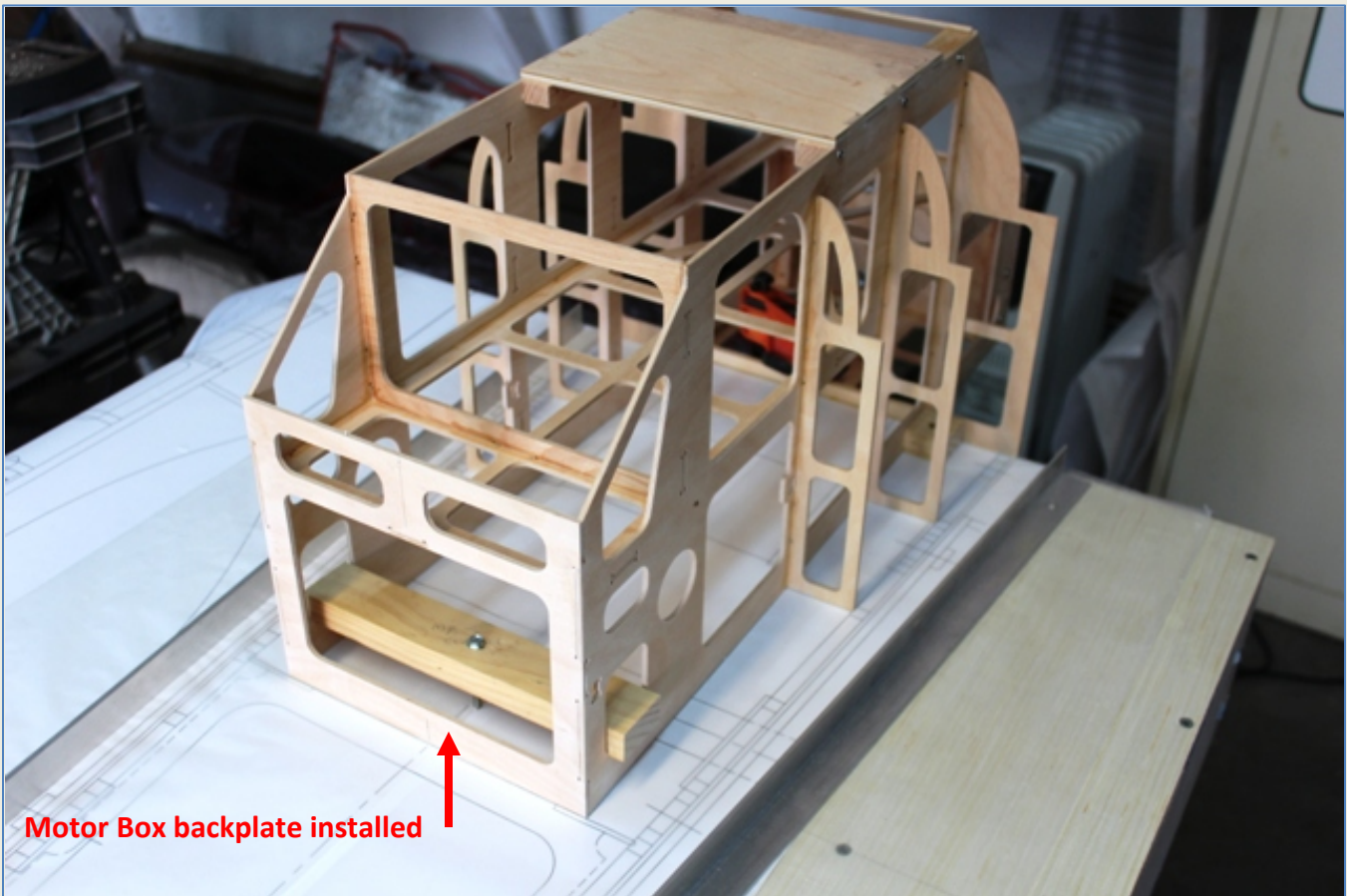
Note: Slightly chamfering the inner corner (glue side) of the posts helps insure a good fit and solid contact on both glue surfaces to F1 and the MB side.

- Secure the posts in place with  $\frac{3}{4}$ " #6 screws through the MB sides and F1 (pilot holes pre-drilled). The screws may left in place, or replaced later with dowel pins.

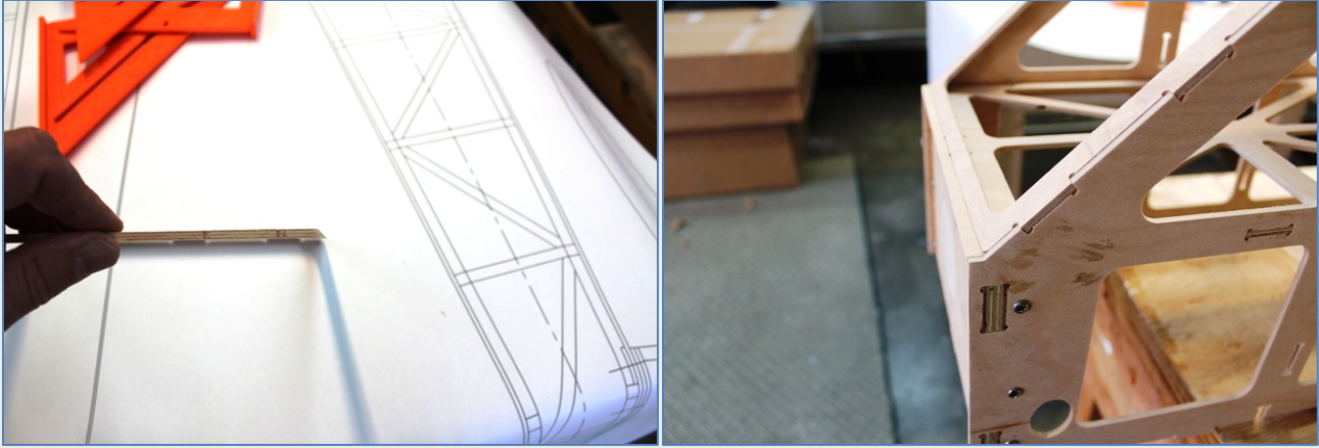


$\frac{3}{4}$ " # 6 sheet metal screws

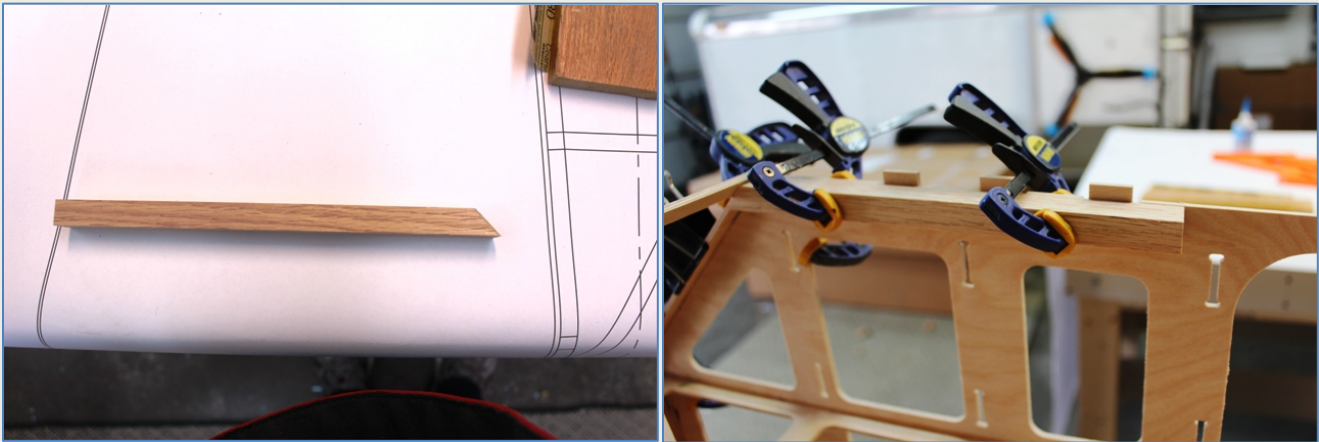
- Install the MB backplate.



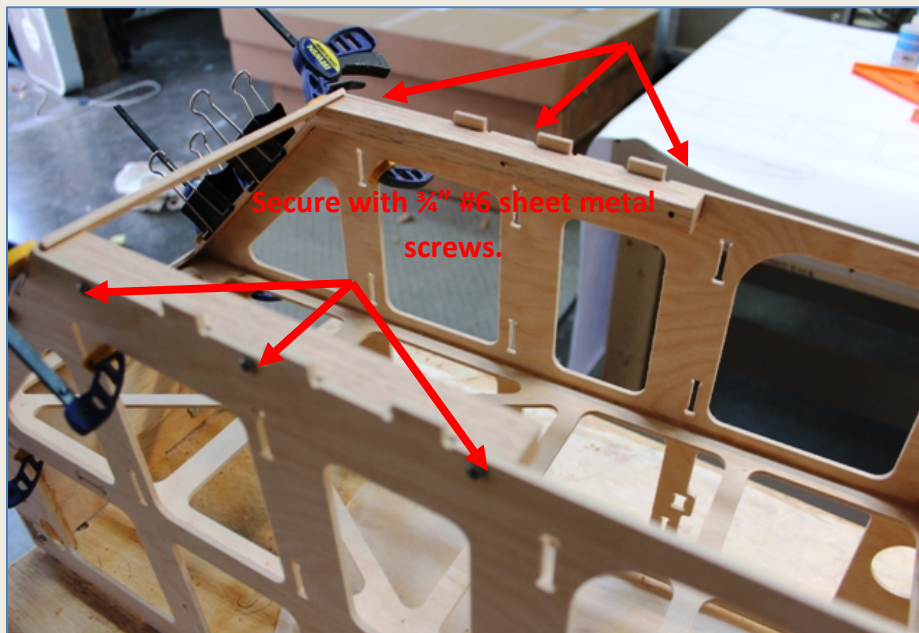
- Fit and install MB chin plate. The upper edge must be beveled to fit flush to the center tray.



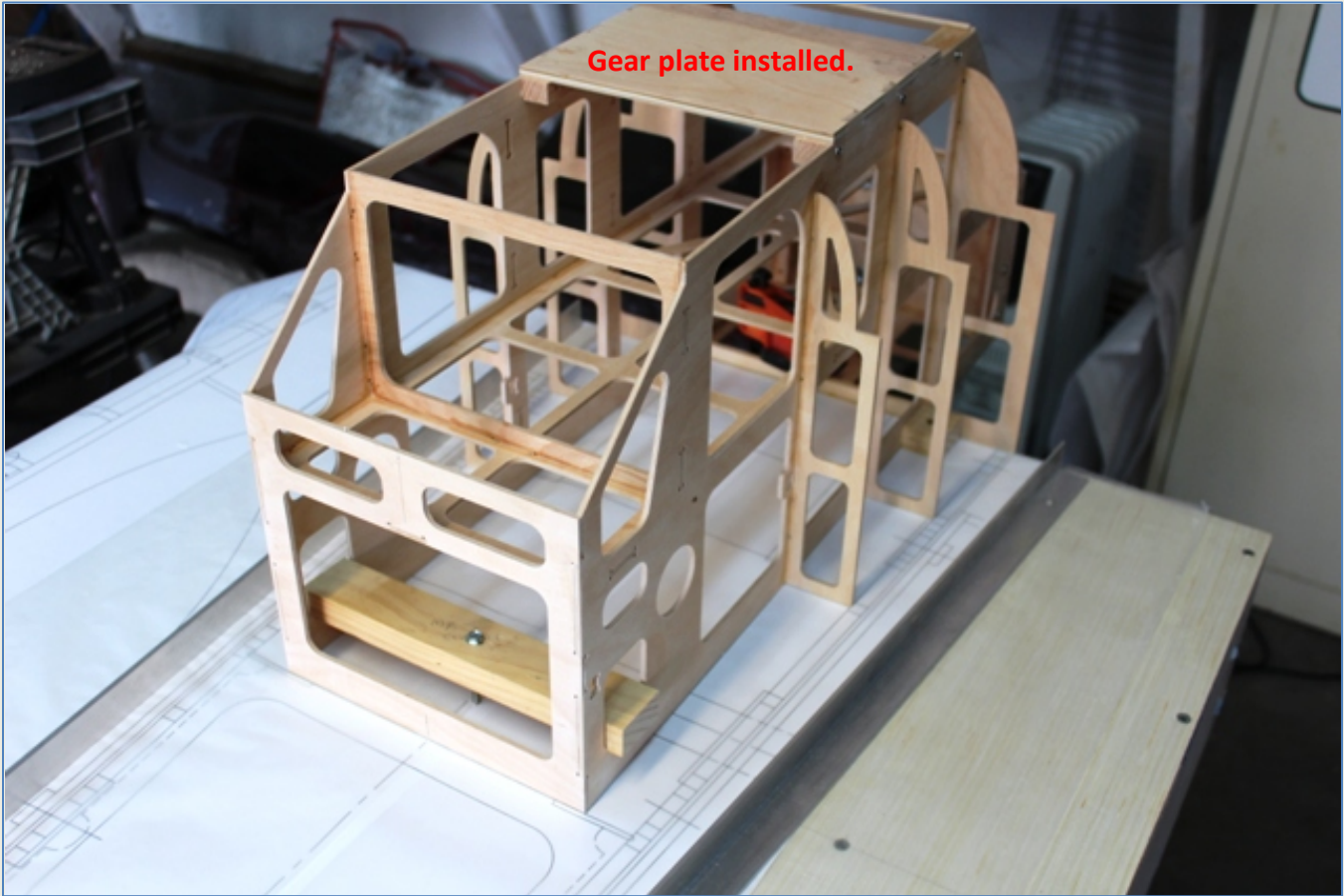
- Mark and cut the 1/2" x 3/4" oak landing gear support rails to fit flush against the chin plate.



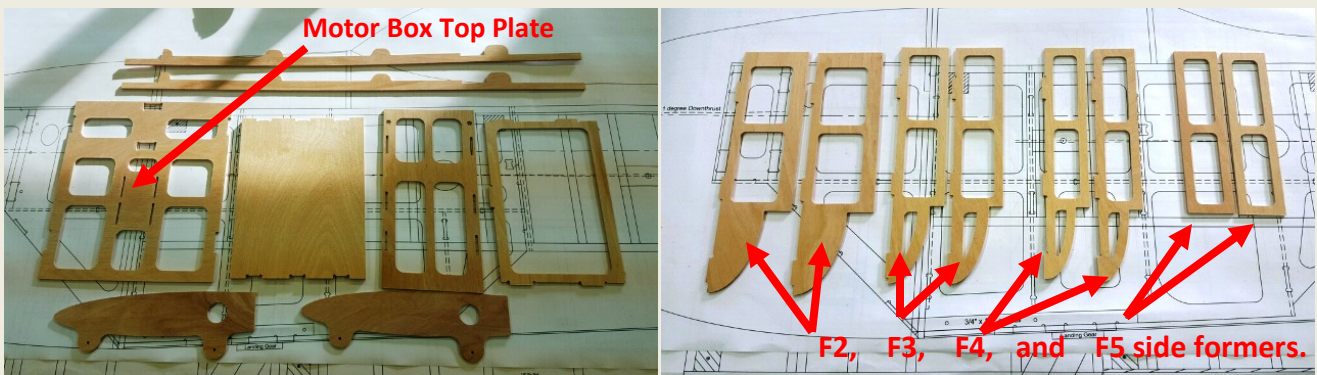
- Install the landing gear support rails with epoxy, and secure to the MB sides with 3/4" #6 sheet metal screws.



- Locate and install Landing Gear Plate to the LGP support rails and MB sides. Clamp in place until cured.

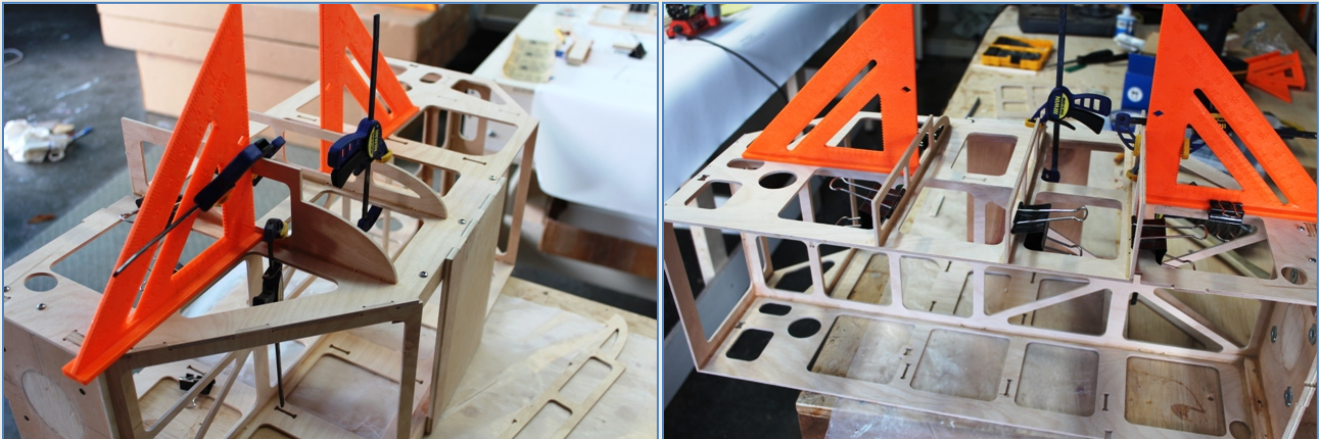


- With the primary motor box structure complete, now locate the motor box top plate, and side formers.

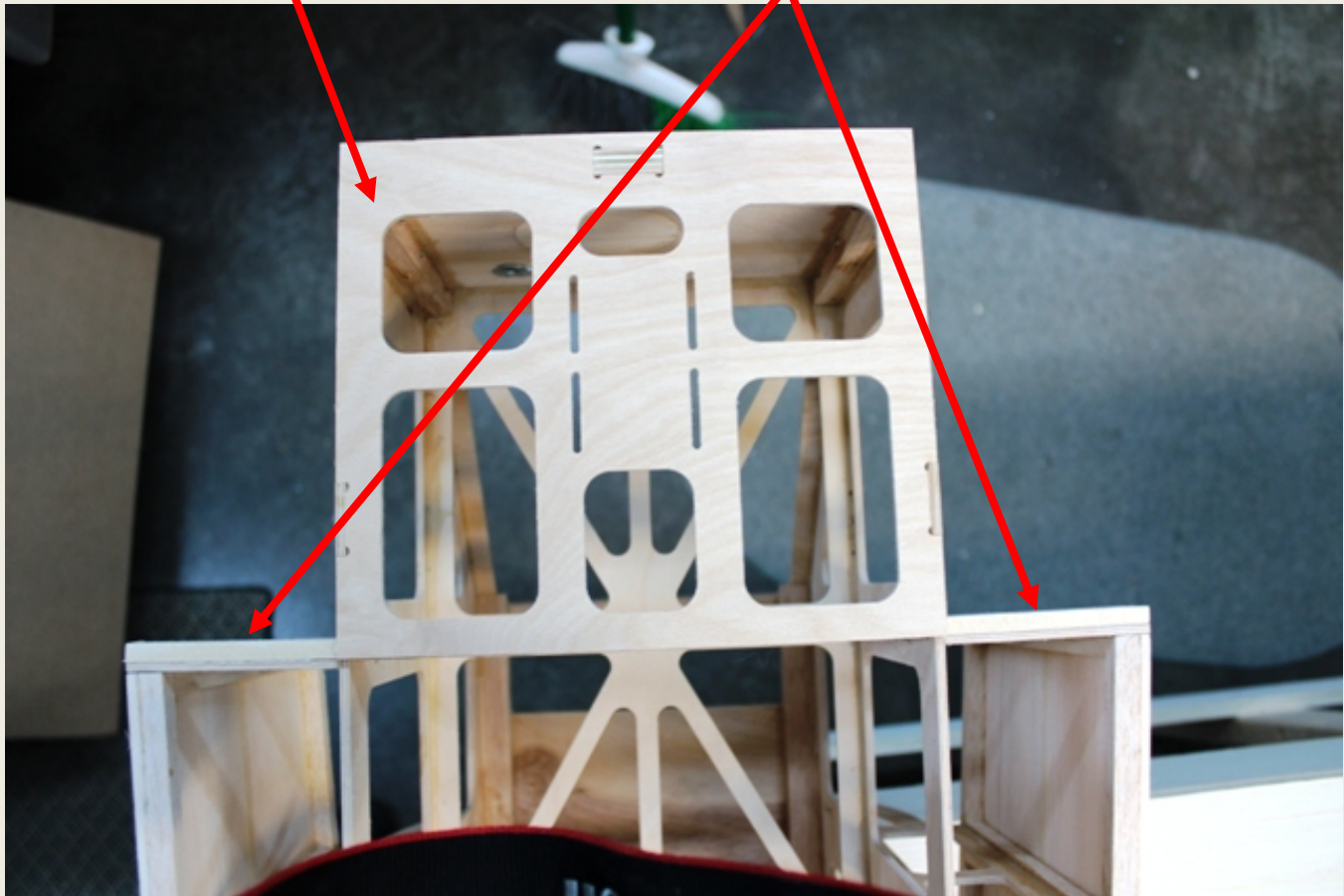


- If you cut the motor box side to accept a 4 cylinder engine, you'll need to also do so for the MB Top Plate.

- Using speed squares to ensure each remains square to the MB sides, install F2 - F4 side formers to the MB sides and clamp in place. Do **not** install the F5 side formers at this time.



- Install MB top plate and  $\frac{1}{2}$ " x  $\frac{1}{4}$ " basswood support rail.



- Install two ½"x ¼" basswood tank tray support rails, but **do not** install the tank tray at this time.



This completes the motor box assembly and it is now ready to be mated to the fuse sides. The next chapter will detail the construction of the fuselage sides.

Notes:

- If you are planning to use canister mufflers or a tuned pipe exhaust installation you may prefer to fabricate and install your mounts and pipe tunnel walls prior to joining the MB to the fuselage sides.
- It is recommended that you use a quality epoxy for assembly of the motorbox parts. I prefer 3m DP420, but there may other similar epoxies that work quite well.
- The #6 ¾" sheet metal screws used to secure both the gear plate support rails can be removed and replaced with dowels if you choose to do so. I have always left the screws in place. If you do remove them, use the tip of a soldering iron against the screw to heat it a little, this will soften the epoxy and make removal easier.



I am happy to answer questions about the assembly and construction steps listed in this blog:  
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