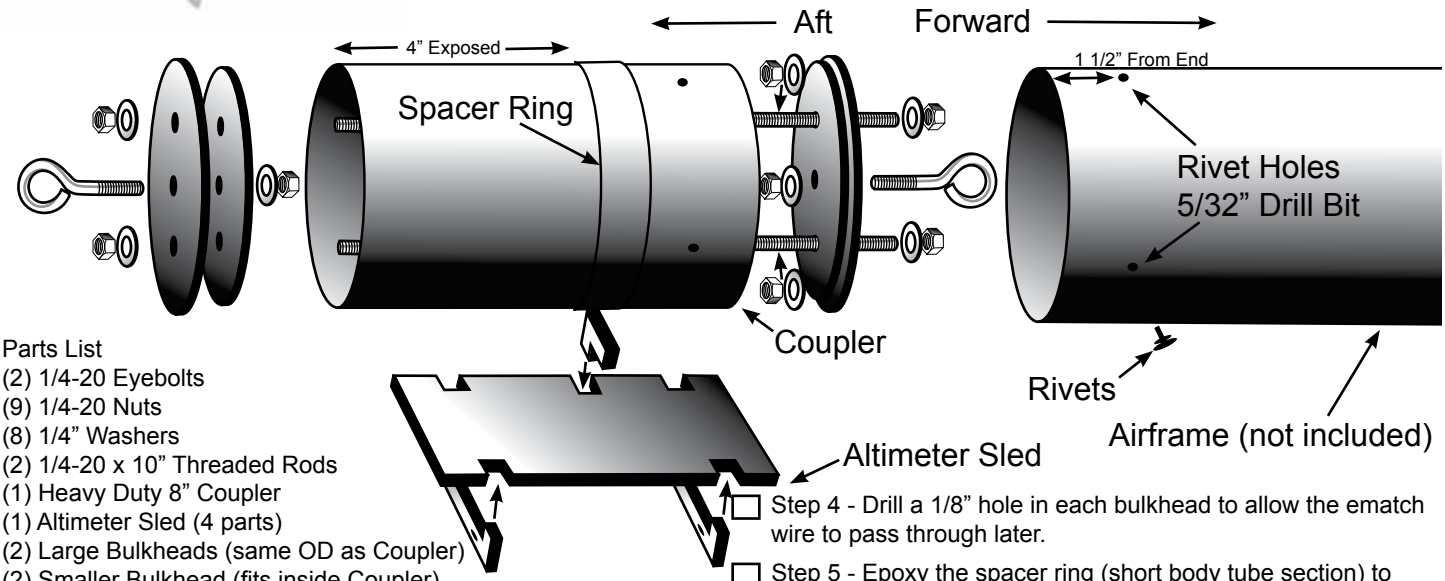
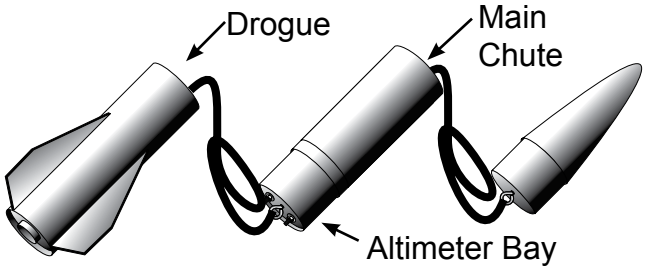
4” Removable Altimeter Bay

24338 El Toro Rd #E-134
Laguna Woods, CA 92637
949.547.8847
www.madcowrocketry.com
support@madcowrocketry.com



Parts List
(2) 1/4-20 Eyebolts
(9) 1/4-20 Nuts
(8) 1/4” Washers
(2) 1/4-20 x 10” Threaded Rods
(1) Heavy Duty 8” Coupler
(1) Altimeter Sled (4 parts)
(2) Large Bulkheads (same OD as Coupler)
(2) Smaller Bulkhead (fits inside Coupler)
(1) Spacer Ring
(4) Rivets

These instructions will show how to assemble the altimeter bay in a traditional configuration. The bay can be adapted to other configurations, but they are not covered here.



- ☐ Step 1 - Start with one of small and one large bulkhead and attach the eyebolt and two threaded rods as shown in the diagram above. Use two washers and two nuts on each threaded rod to trap the plywood bulkheads. Most of the threaded rod should extend into the coupler. Leave about 1/4” of exposed threaded rod that extends forward. Use thread lock on all nuts to make sure they doesn’t come loose later.
- ☐ Step 2 - Insert the bulkplates into the forward end of the coupler with the threaded rods inside the coupler. Do not glue so you can remove later.
- ☐ Step 3 - Carefully align the three holes in the remaining 2 bulkheads and attach them together using the remaining eyebolt. Use thread lock to make sure the eyebolt doesn’t come loose later. The smaller bulkhead will go into the coupler first. IMPORTANT: do not glue the bulkheads into the coupler - they need to be removed to insert the altimeter sled. Insert onto the open end of the coupler and attach with the remaining washers and nuts. IMPORTANT: do not use thread lock on these nuts so they can be removed later.
- ☐ Step 4 - Drill a 1/8” hole in each bulkhead to allow the ematch wire to pass through later.
- ☐ Step 5 - Epoxy the spacer ring (short body tube section) to the coupler with 4” of coupler exposed on the aft end. Make sure this section is aligned properly by temporarily sliding the airframe onto the coupler - make sure you don’t accidentaly glue the airframe to the coupler. IMPORTANT: make sure you have the coupler facing the right way. Also, make sure there is no epoxy left on the outside of the coupler that would interfere later with the airframes.
- ☐ Step 6 - Insert the coupler into the aft end of the **FORWARD** airframe and temporarily tape it in place with masking tape - **DO NOT GLUE**. Drill 4 evenly spaced rivet holes around the airframe using a 5/32” drill bit. These holes should be 1 1/2” from the aft end of the forward airframe. After you drill the first hole, insert one of the rivets to ensure the body tube alignment doesn’t change while drilling the remaining holes. To insert the rivet, push in the rivet until the base of the rivet is flush with the body tube, then push the cap until it is flush with the body tube to lock it in place. Remove the rivet by pulling up the cap to unlock it and then pulling up on the base to remove the rivet. This configuration allows you to remove the bay so you can easily set up your altimeter bay for flight. Draw an alignment mark across the spacer ring and forward airframe to allow you to line up the rivet holes after removal. IMPORTANT: these rivets are estimated to have a shear strength of 75lbs.
- ☐ Step 7 - Assemble the altimeter tray as shown in the diagram using epoxy. Drill mounting holes into the sled and attach your altimeter. Notes: The L shaped piece of plywood acts as a shelf for a 9V battery to rest against. You can drill a hole on either side of the 9V battery to allow you to tie wrap the battery to the sled. The shelf should go on the aft end of the battery to allow the battery to rest on the shelf during liftoff. The sled will slide over the threaded rods and you can use the remaining 1/4-20 nut to lock the sled into place so it does not slide back and forth during flight.
- ☐ Step 8 - Mount your altimeter switch if needed (not included) and drill any vent holes if required in the short body tube section. Refer to your altimeter manual to determine what is required for proper operation.