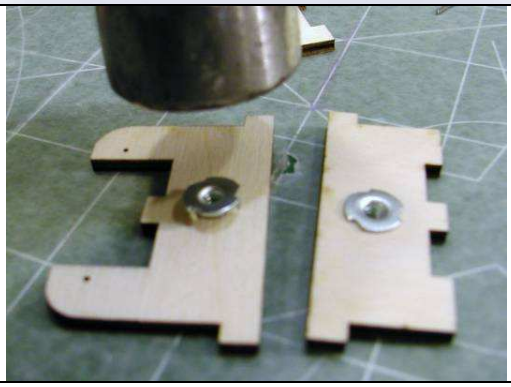
GoPro HD Camera Tilt Kit Assembly Instructions

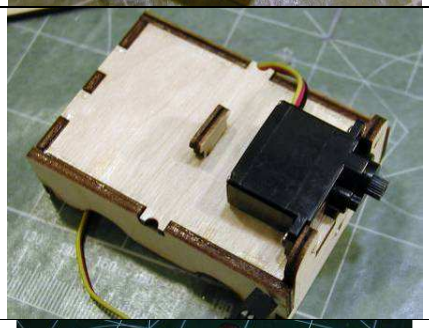
Note: prior to gluing pieces, dry fit the entire assembly to insure there are no binding joints. Lightly sand any connections that are excessively tight.

Items required for completion of kit:

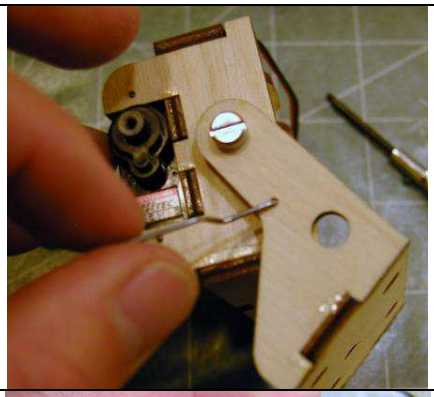
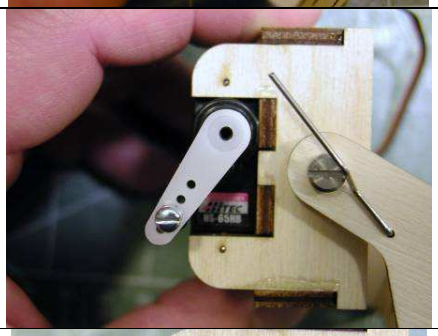
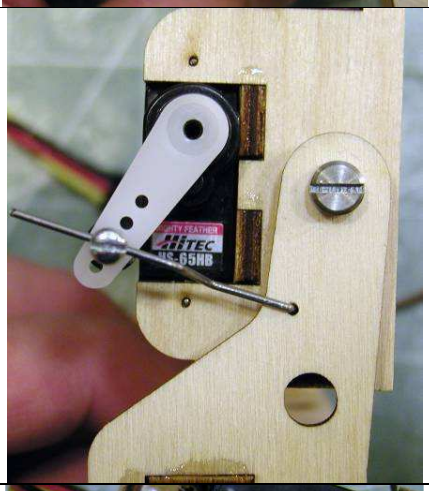
- Medium CA
- Thread-lock
- Your GoProHD, and wiring!

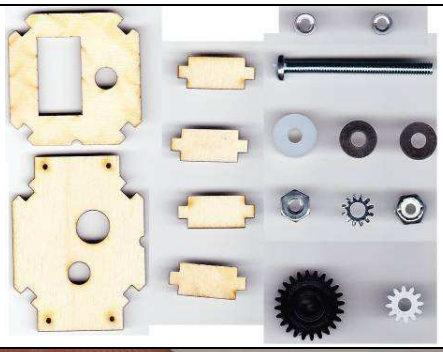
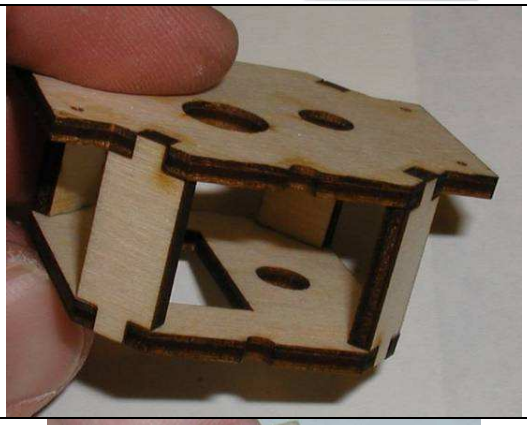
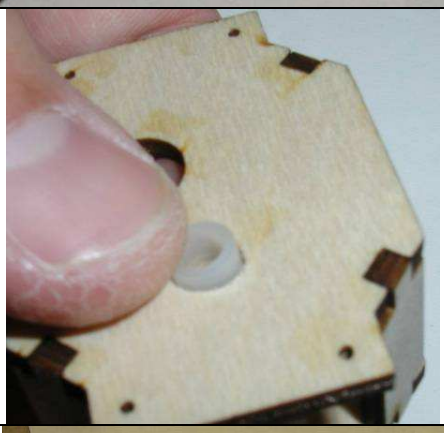
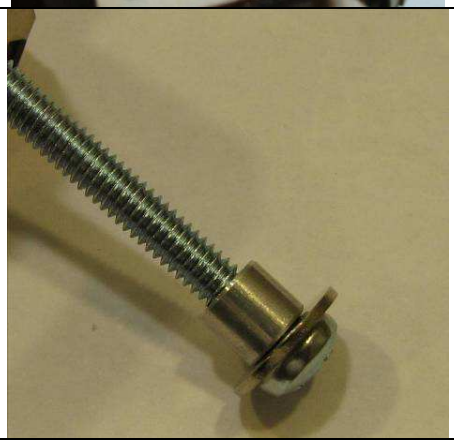
Verify all parts are included in the kit	
Insert tee-nuts into side pieces as show. Tap in with a hammer.	

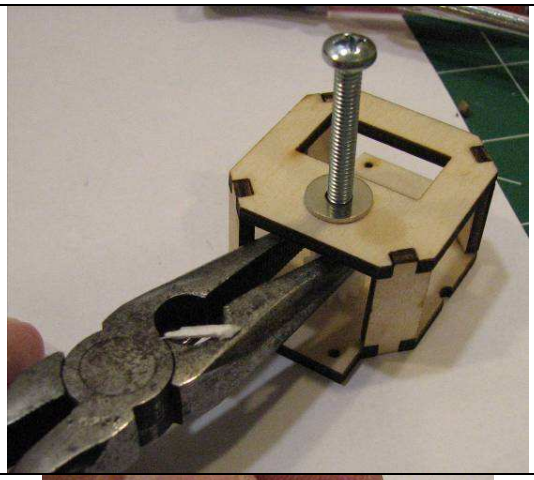
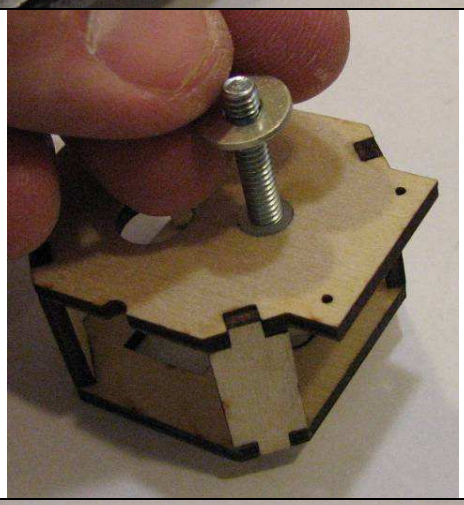
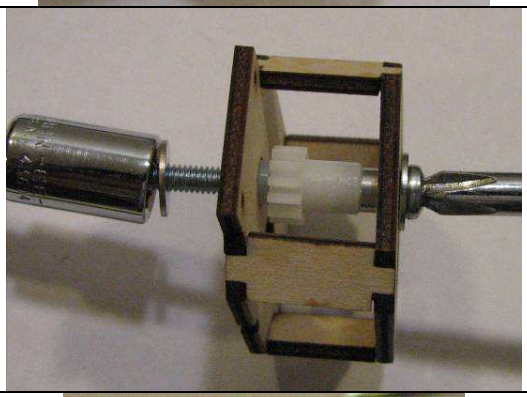
Attach the two pieces to the back plate as shown.	
Attach the next piece as shown.	
Attach the last side piece as shown.	

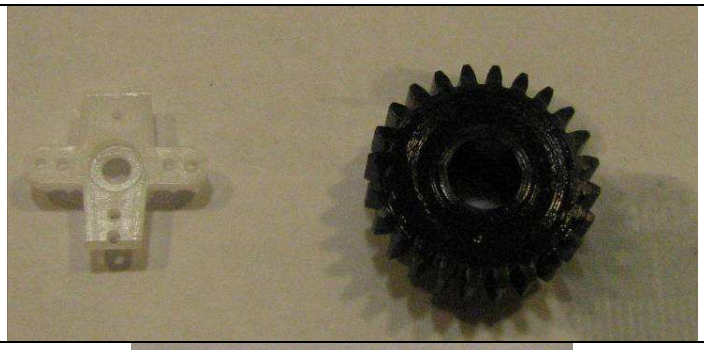
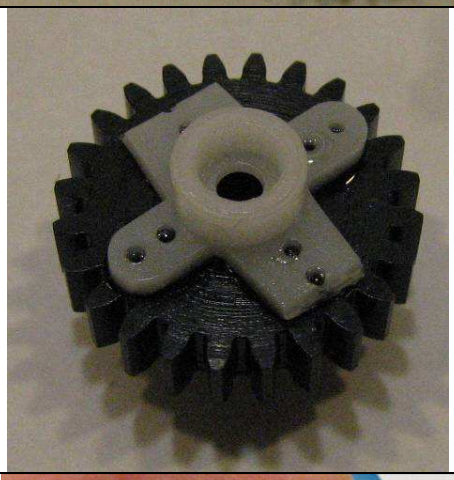
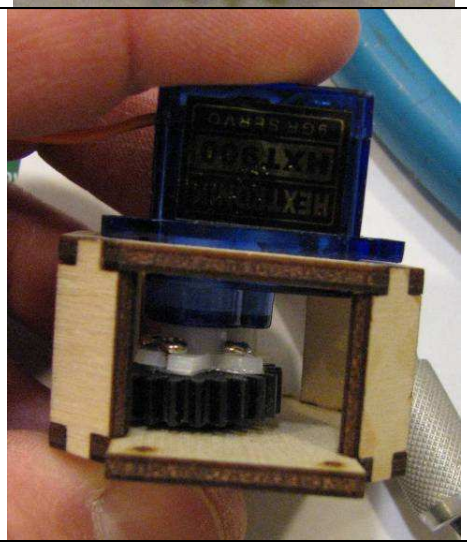
Attach the rubber-band catch as shown.	
Attach the servo as shown. Make sure the screws do not go beyond the wood. If using the screws supplied with the servo, you will need to cut them with wire cutters to reduce the length.	
Attach the side pieces to the base plate as shown (note orientation of sides and location of center hole).	
Slide a shoulder screw into one side and put two of the black washers on the screw.	

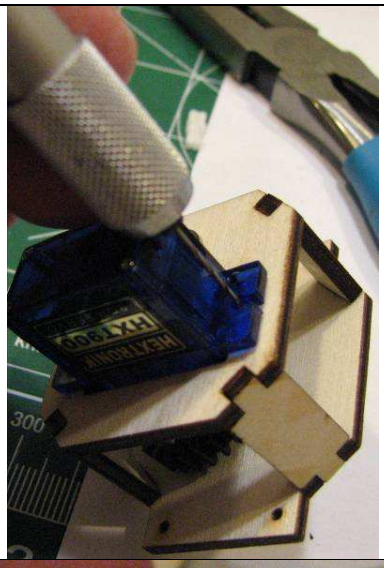
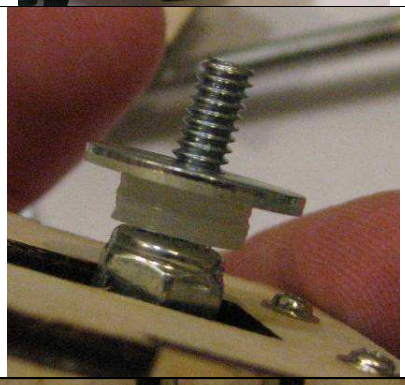
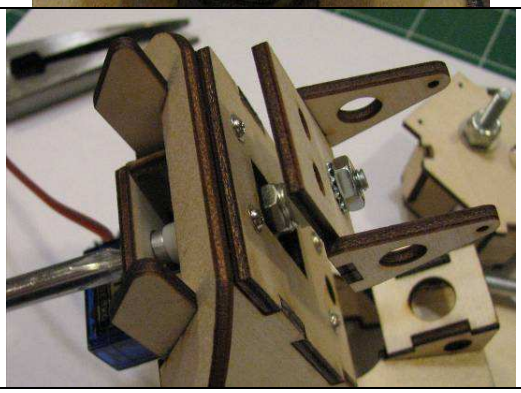
Screw the shoulder screw into the tee nut as shown.	
On the opposite side, insert the shoulder screw as shown and add the two washers. Pull the shoulder screw back so it just barely holds the two washers and move the camera holder in place. Tighten the shoulder screw into the tee nut.	
IMPORTANT: Use thread-lock on both screws.	
Attach the EZ Connector to the servo horn as shown. (Use the 2nd hole from the end)	

Insert control wire as shown.	
Place servo horn on servo so that the angle is approximately the same as in the picture when the servo is centered.	
Slight control rod into the EZ Connector and tighten securely when camera is pointed directly forward when the servo is centered.	
Camera is held in by using both rubber bands and hooked around the back as shown.	

Verify all pan assembly components are included.	
Assemble as shown and glue with CA. Make sure alignment dimples are on the same edge, and the small holes line up. Make sure all pieces are fit completely together and that the unit is not crooked.	
Verify aluminum spacers slides smoothly through holes on top and bottom plate. If force is required, scrape the hole with an X-Acto knife until the spacer slides through easily.	
Install small washer and aluminum spacer on the bolt as shown.	

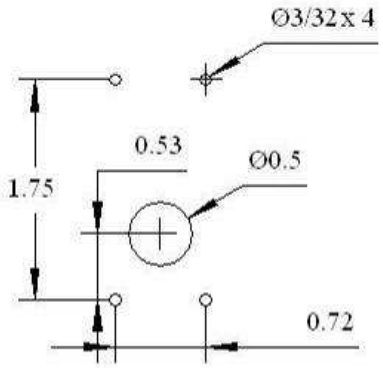
Holding the small spur gear snugly with needle-nosed pliers, being careful not to damage the gears, place the parts as shown and screw the bolt through the spur gear. Tighten until the spur gear is snug against the aluminum spacer.	
Install aluminum spacer and second small washer as shown	
Install the lock nut until snug. Verify free movement of assembly. If gear assembly does not move freely you may back off the lock nut slightly. If it still does not move freely, disassemble the components and verify the spacers fit loosely in the holes. If needed, scrape the inside of the holes with an X-Acto knife until the spacers slide freely through the holes.	
Cut all four arms of the X servo arm so that it will not go into the area of the gear teeth.	

Sand the top surface of the servo arm and the side of the large gear to roughen.	
Apply a thin layer of epoxy to the top of the servo arms and place it on the gear. Make sure the arm is centered in the gear (look through the opposite side to make sure the holes line up). Be careful to not get any epoxy on the gears. Quickly wipe excess epoxy away using alcohol on a rag if needed.	
Insert the gear in the large hole and insert servo into gear. Tighten screw to retain servo horn through the hole in the gear center.	

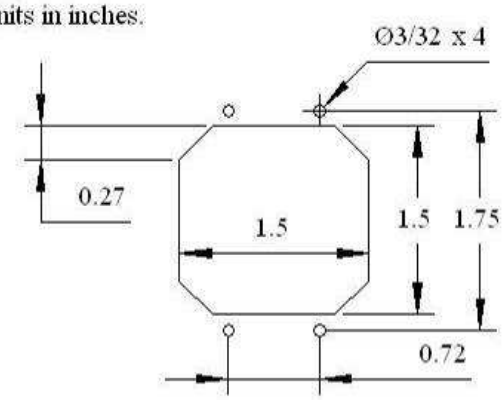
Verify that the gear is aligned and the servo is seated properly. Drill pilot holes for the servo screws and hold servo in place with screws.	
Install the two plastic washers and the large washer on the bolt. *Note: this kit will use a single large nylon spacer in place of the two plastic washers and large aluminum washer.	
Place tilt platform on bolt. Place tooth-lock washer and nut on until it just starts to snug down (standard tilt module shown, GoPro tilt mounts using the same method in the center hole on the base).	
Center the servo and place tilt platform pointed 180 degrees from the desired direction. Hold the bolt with a screwdriver (DO NOT APPLY FORCE AGAINST THE SERVO). Rotate the tilt platform, making sure the bolt is moving, until the bolt is tight and the platform is facing the proper direction.	

Cutout dimensions for stand-alone use:

Units in inches.



Cutout locations for through-mounting



Cutout locations when inserted through mounting surface.