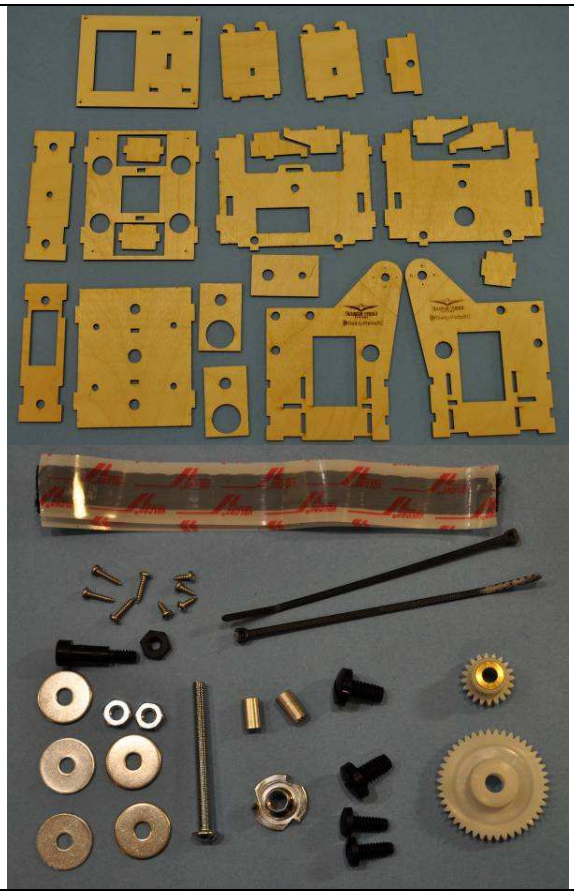
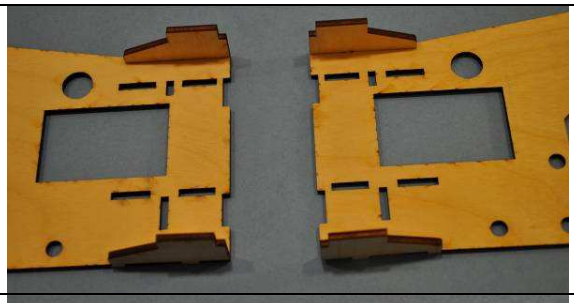
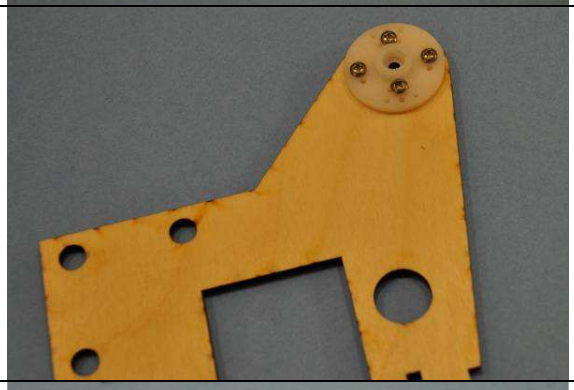
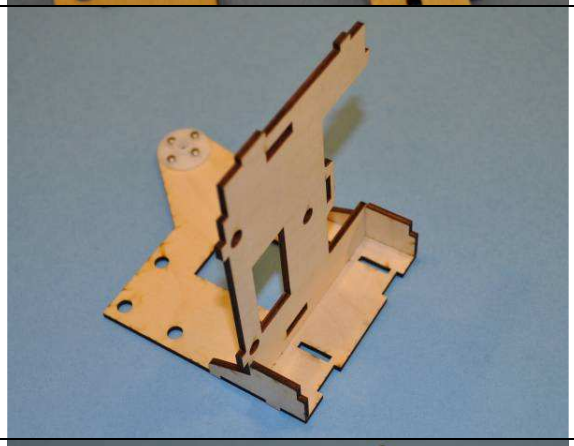
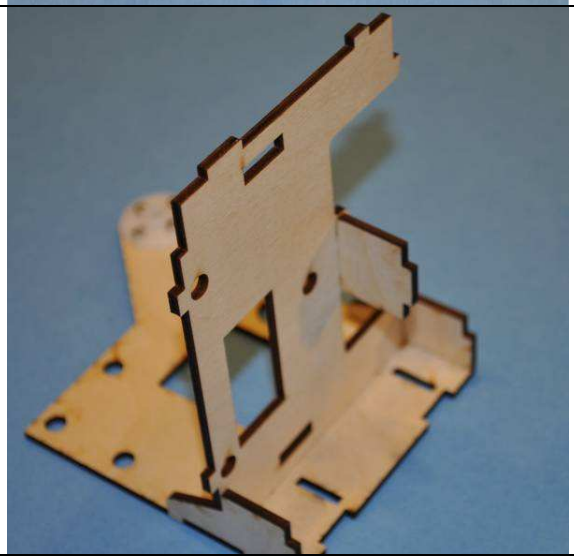
Eagle Eyes Antenna Pan/Tilt Assembly Instructions

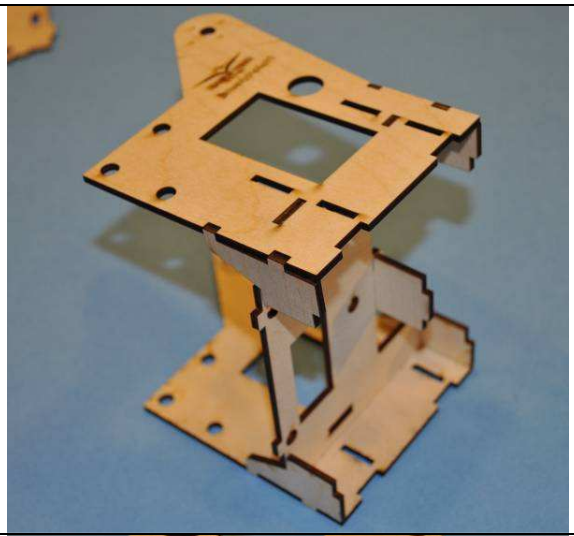
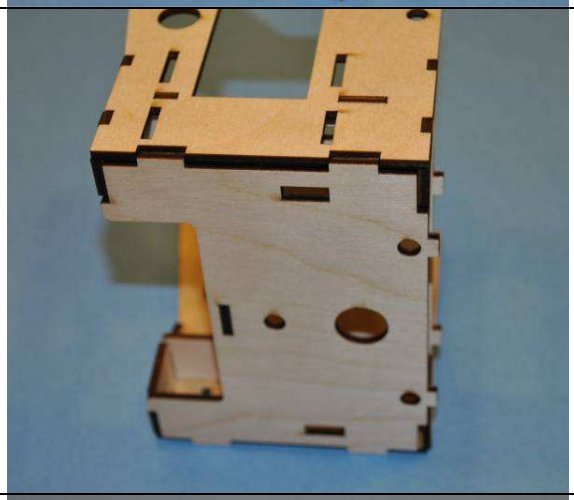
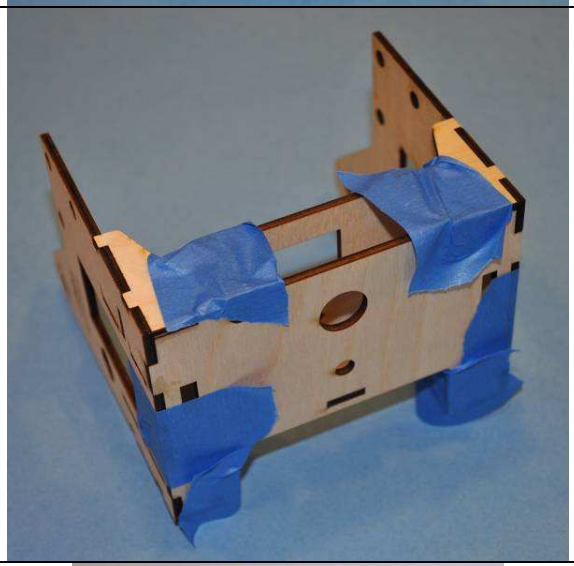
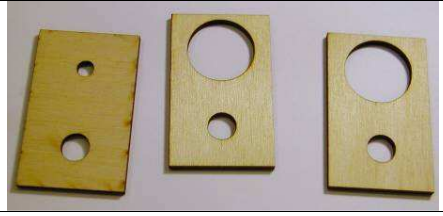
Note: prior to gluing pieces, dry fit the entire assembly to insure there are no binding joints. Lightly sand any connections that are excessively tight.

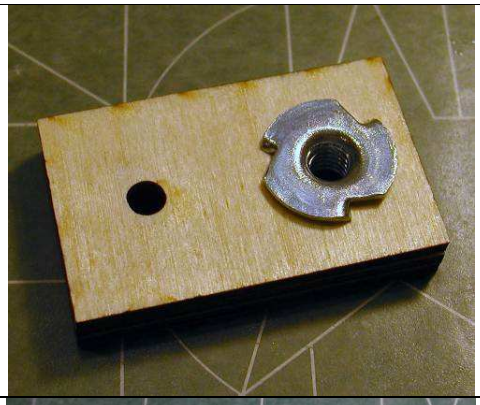
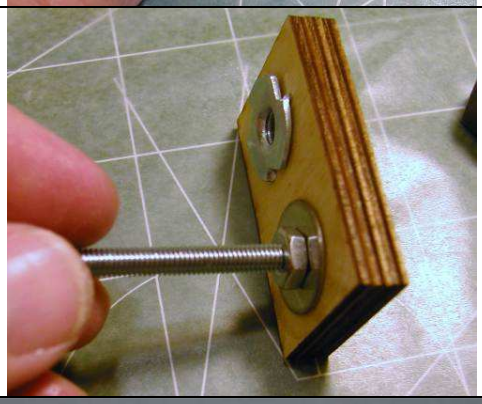
Items required for completion of kit:

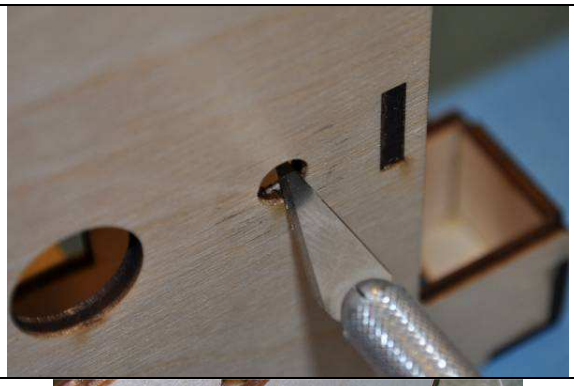
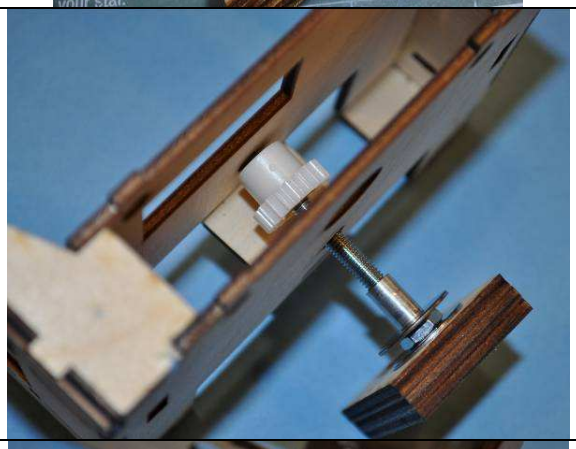
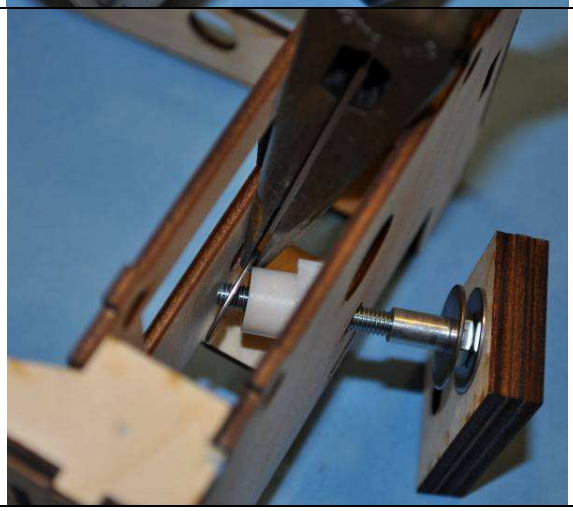
- Medium CA
- 5 minute epoxy
- CA kicker
- Small screws or additional hook-and-loop tape for mounting receivers.
- Your antenna, Eagle Eyes, Battery, RX, and wiring!

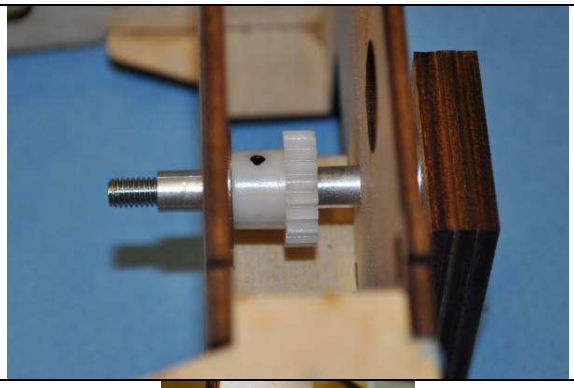
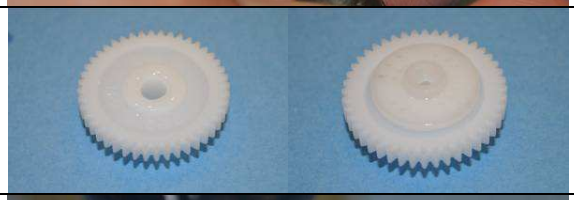
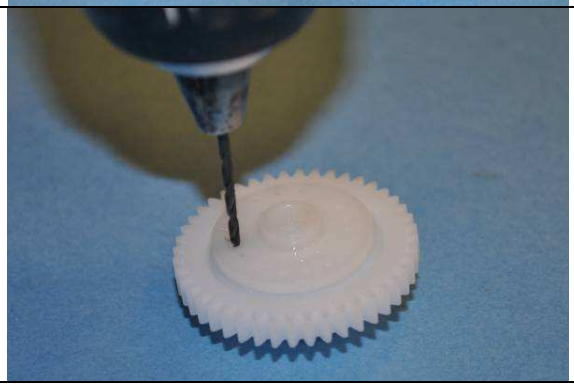
Verify all parts are included in the kit.	

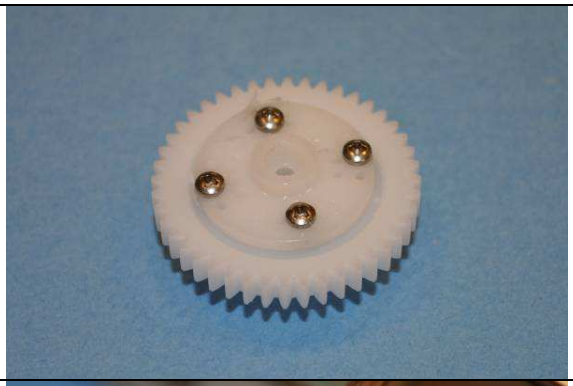
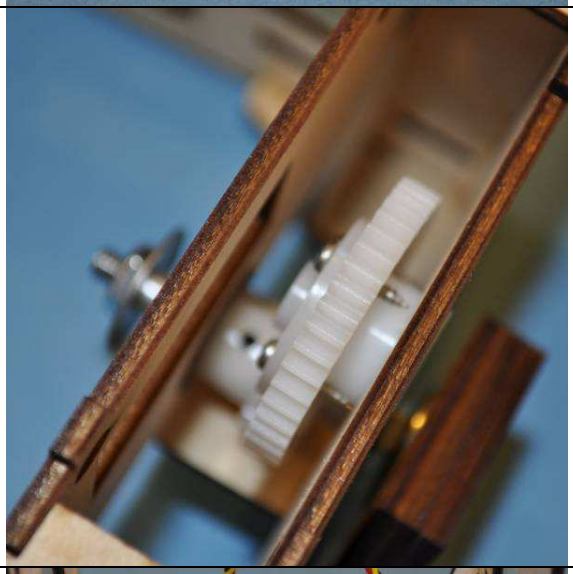
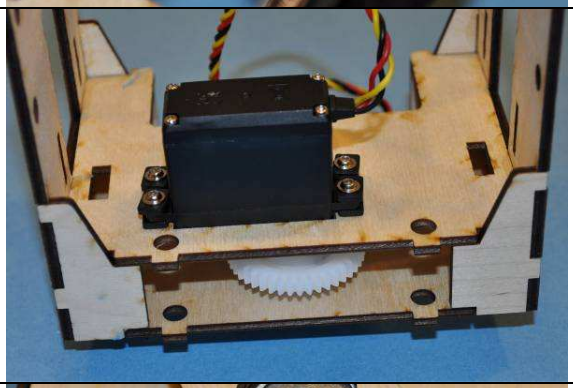
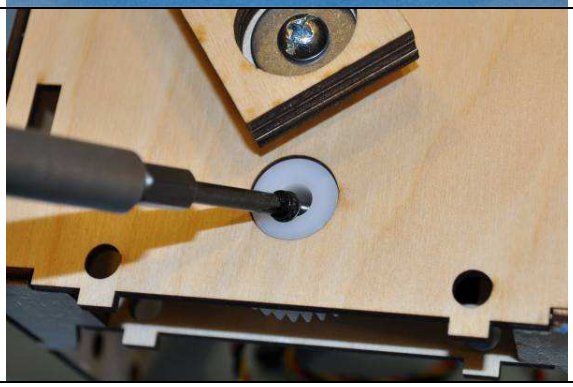
Lay the side supports as shown (logos down), and install the small reinforcement pieces.	
Install the servo horn using the four included small screws. Install it on the left support as shown.	
Install bottom platform to side support as shown.	
Install the center spacer as shown.	

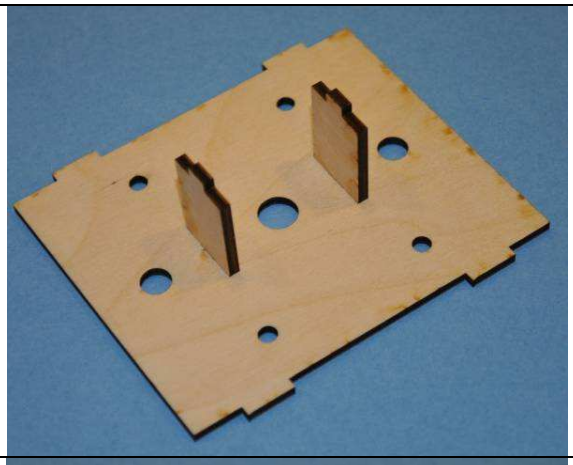
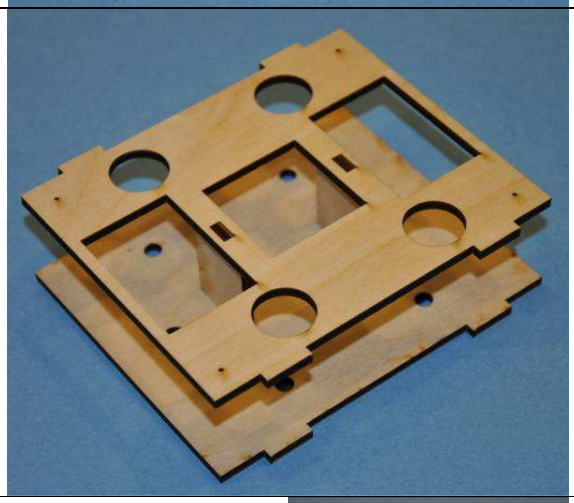
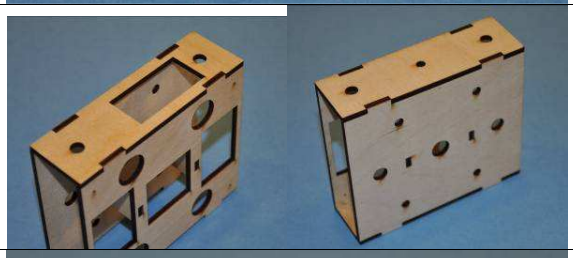
Install other side as shown. Glue everything in place.	
Add the bottom plate as shown. Add glue to all interfaces after checking the fit.	
Make sure it is held together securely until all the glue has hardened.	
Obtain the three pieces for the tripod mount shown. The medium sized holes in the bottom of each part will all be aligned during the assembly in the next step.	

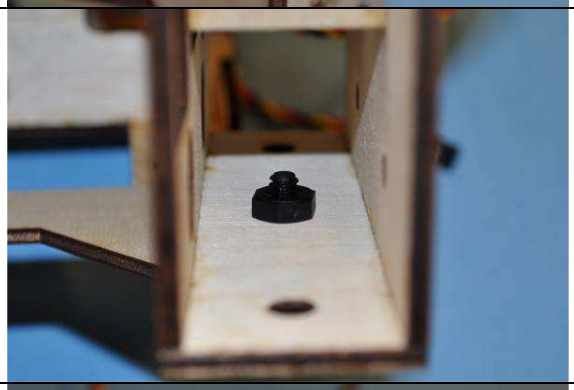
Apply glue to the first piece as shown. Add the second identical piece next, and add glue to the top of that piece. Add the third piece, making sure the medium holes are aligned.	
Using a hammer, insert the tee-nut on the side of the support shown.	
Insert the bolt with one washer as shown.	
On the opposite side, add a washer and a nut. Tighten securely.	
Add another washer and one of the threaded spacers. If the washer has a more rounded edge, face it away from the wood assembly.	

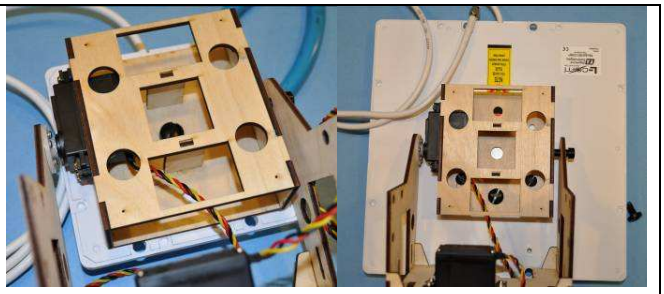
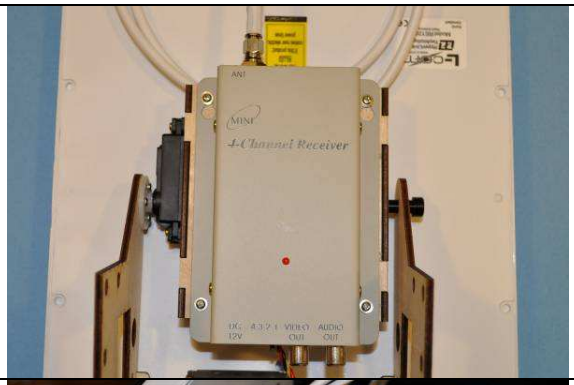
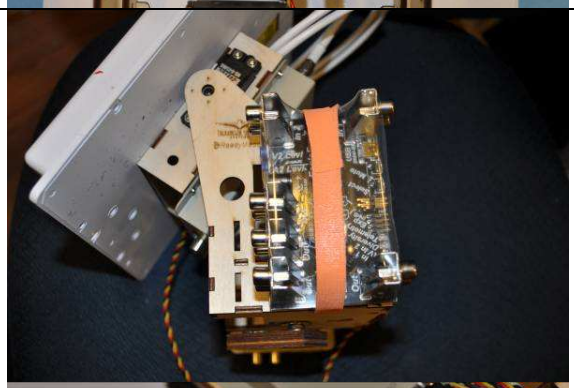
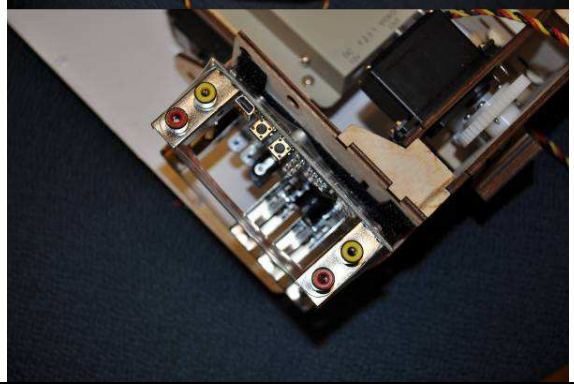
Test fit the spacers in the holes on the main body of the pan/tilt assembly. If they won't fit or if they don't spin freely, use a hobby knife to scrape a small amount of material from the holes on the top and bottom plates until the threaded spacer slides through without binding. Do not remove too much material or there will be excess slop in the pan assembly.	
Insert the bolt into the hole on the bottom plate.	
With the bolt partially inserted through the bottom hole, drop in the small gear in the orientation shown and slide the bolt through the gear. A set of needle nose pliers may be helpful in this step for holding the gear.	
Using needle-nosed pliers, add a washer above the gear. If the washer has one side with a more rounded edge, it should go toward the top plate, away from the gear.	

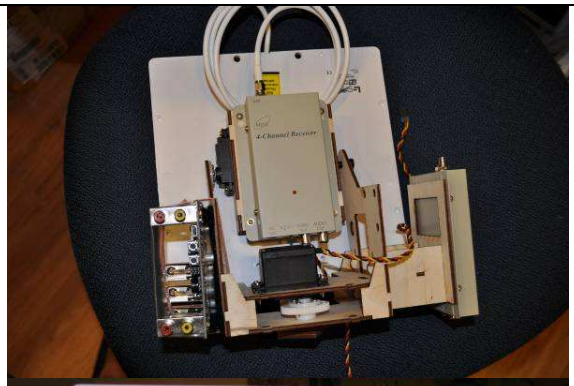
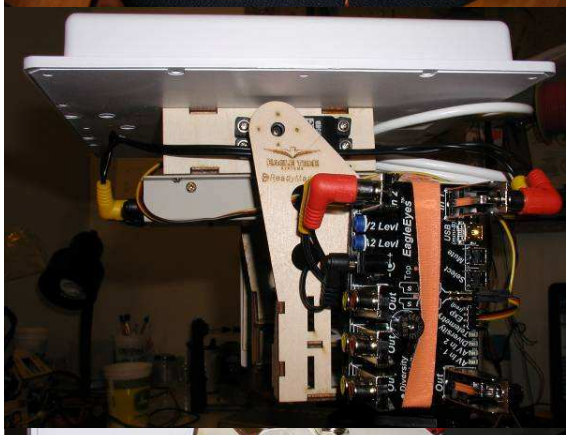
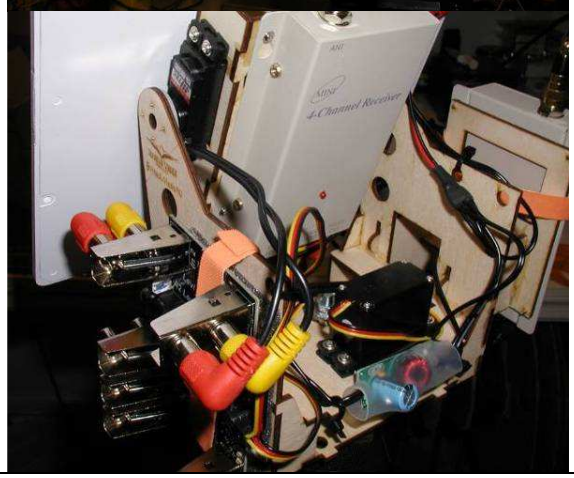
Insert the bolt through the hole on the top plate, and add the second threaded spacer.	
Add the last washer and the nut to the bolt and tighten securely. A good amount of force is helpful to prevent any slippage of the assembly during use. At this time you should also tighten the set screw on the gear. *NOTE: The spacer is designed to allow the gear to "disengage" when the tracker is lifted. That way, the placement of the tripod is less critical, you can align the tracker after the tripod has been mounted.	
Remove some material at the center of the large gear as shown using a drill bit (MANUALLY!), or with a knife. This is so the servo arm will fit flush with the gear.	
Mist the servo arm with kicker, and apply some CA to the gear as shown. This will hold the gear in place for drilling screw holes. Carefully (and quickly!) place the servo arm on the gear, making sure it's centered as perfectly as possible.	
Once the CA has hardened, drill 4 pilot holes for the screws.	

Insert the screws	
Slide the gear into the bottom plate as shown.	
After adding the spacers included with the servos, place the servo in the hole as shown and push the gear assembly onto the servo shaft. Making sure the servo gear is engaging the smaller gear snugly, screw the servo into place using the included screws.	
Don't forget to put the screw in to hold the gear to the servo!	

Add the two spacers to the front plate as shown. Glue in place.	
Add CA to the top side of the spacers, and add the back plate as shown.	
Add the side supports as shown. Make sure the areas touching are glued together.	
Tape assembly together until glue has hardened.	

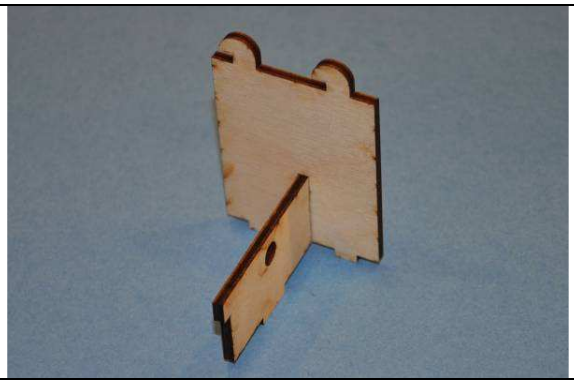
Mount the servo as shown, with the spline aligned to the middle of the side of the pan assembly.	
Insert the screw through the hole on the side plate and into the hole on the side of the antenna support. Note that extra room is left here to account for the use of servos that have different heights.	
Add the nut to the inside and tighten securely. Add thread lock.	
With the servo centered, align the antenna support to the line shown. Perfect alignment isn't necessary, just as close as the servo splines allow. Don't forget to put the screw in to hold the servo horn to the servo..	

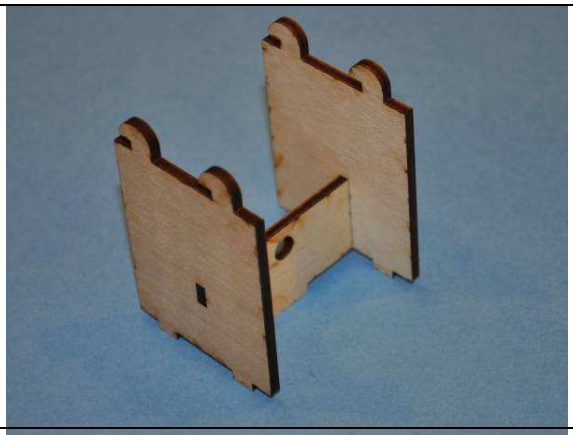
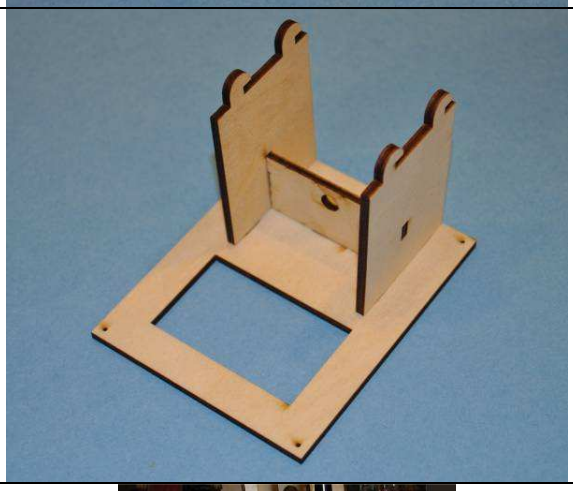
The antenna can be installed with the cable coming out of the top or bottom (I prefer top) and should be centered as much as possible on the mount. For the standard L-Com large antennas typically one large and two small bolt holes will line up. It's best to try to keep the antenna centered on the mount as much as possible. For the smaller 8dBi 2.4GHz antennas, the mounting hole on the antenna will line up with the center hole on the mount. For 2.4GHz systems, an 11dBi diversity antenna is available in the ReadyMadeRC antenna section.	
Depending on the receiver type, the receiver can be mounted either with hook-and-loop or with screws. Make sure there is clearance for the tilt assembly to move to the vertical position. Note that the tilt was designed to have the receiver mounted on the back. It helps to balance the load of the antenna on the servo.	
The Eagle Eyes unit is mounted to the side plate using adhesive Velcro and the Velcro strap. The adhesive Velcro can be placed in an "I" configuration with one longer strip up the middle and two shorter strips across the top and bottom.	 

Make sure wiring is free from binding. Some sample installations are shown.	  

OPTIONAL “SIDE CAR” Installation Instructions

The “side car” can be used to mount a second receiver with a vertical whip antenna or as a spot to mount additional equipment. I also like to mount the battery inside this sidecar as well.

Assemble as shown	

Make sure “hooks” are pointing the same direction.	
Make sure “hooks” are pointed in the direction shown.	
Hangs on either side of pan/tilt unit. Receiver can be held in place with screws or with hook and loop tape.