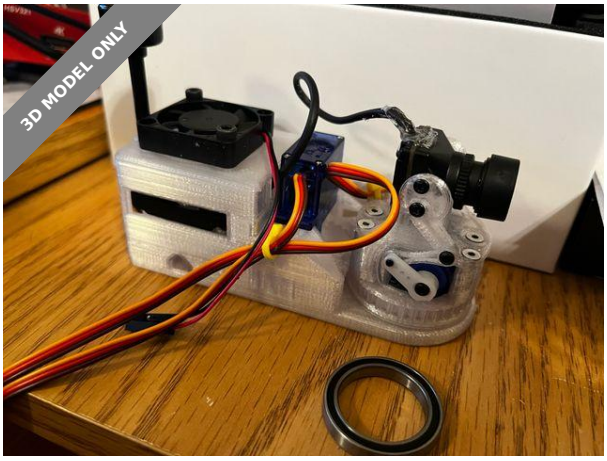


# BABYgimbal

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VIEW IN BROWSER

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## Summary

Compact FPV camera pan and tilt gimbal focused on short vertical size

Hobby & Makers > RC & Robotics

Tags: drone plane fpv gimbal

**Compact FPV gimbal that doesn't need extra vertical clearance for the pan servo.**
**This design is focused on short vertical size and is more complex than some.**

Designed for Walksnail 19mm cameras and VTX V1/V2.

Tested with analog 19mm cameras, a little glue replaces the second screw.

Print 1x each part, base plate will need support. 2 walls 20% is sufficient in PLA

### Hardware Needed

-1x 6704 bearing (20x27x4mm) B082PS5HHN

-2x 9g servos (22x12.2x23mm) B072V529YD

-1x 30x30mm fan, height not important for fit B0792BW2VH

-1x camera system, camera is integral to structure of tilt system

-small cable ties for wire management

**Designed to use a 30x30mm fan for VTX cooling while on bench/pre-flight**

-2x or 4x M2.5 button head screws, length depends on fan thickness (10/12mm likely).

**Minimum Screws needed if using servo screws (will require trimming for clearance)**

-7x M2.5x10mm countersunk for pan upper

-2x M2x4mm button head for tilt link

-4x M2x6mm button head for tilt wheels

-4x M2x16mm button head for VTX mounting

-4x M2 nut for WS VTX V1

**Screws needed to replace servo kit screws so all use same hex key tool**

-2x M2x4mm button head for pan gear

-4x M2x6mm button head for servo horn and pan servo

## All M2 screws needed come with the WS VTX Kits

1. Screw PanBearingCap to BasePlate with Bearing in between with 3x M2.5x10mm countersunk screws
2. Trim PanGear and a Servo Horn to fit together, screw together with 2x M2x4mm
3. Place PanGear into the BasePlate with Servo Horn side up
4. Place Pan Servo into BasePlate and screw in with 2x M2x6mm
5. Center Pan Servo and attach to PanGear with 1x M2x6mm, center PanGear forward
6. Press PanLower onto Bearing, should be a firm fit but not a struggle, align teeth with PanGear so PanLower is aligned forward with the offset screw holes to the right (when looking from rear)
7. If alignment is off, switch to PanGearPlus5deg, test pan movement for preferred centering and travel at this point
8. Insert Tilt Servo into PanLower, with 4x M2.5x10mm countersunk screw PanUpper to lock servo in place
9. With 2x M2x4mm assemble TiltLink to TiltWheelB2 and a Servo Horn where TiltLink sits to the outside of TiltWheelB2 and to the inside and

underneath of Servo Horn, suggest to trim Servo Horn and use 4th hole from center

10. Assemble last assembly to centered Tilt Servo with M2x6mm

-TBD: DJI version, HDz version, simple version without VTX mount.

## Model files

**baseplate.stl**

**panlower.stl**

**panbearingcap.stl**

**panupper.stl**

**tiltwheelb1.stl**

**tiltwheelb2.stl**

**tiltlink.stl**

**pangear.stl**

**pangearplus5deg.stl**

**fancover.stl**

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