

GPS Drone (7-inch / S500): Step-by-step build

Concept assembly guide derived from the staged build plan. Not a certified engineering drawing. Prices are estimates (Oct 2026); nothing here is a purchase.

Stage 1

- 1 Assemble the 7-inch frame.**
Part G1: 7-inch carbon LR frame (Chimera7 class) x1 (\$45) Buy: [Amazon search](#)
- 2 Bolt one motor on each arm.**
Part G2: 2806.5 1300KV 6S motors x4 (\$80) Buy: [Amazon search](#)
- 3 Mount the F405 V4 stack; solder motor leads and XT60.**
Part G3: SpeedyBee F405 V4 BLS 60A stack x1 (\$75.99) Buy: [SpeedyBee](#)
- 4 Flash ArduPilot.**
Part G3: SpeedyBee F405 V4 BLS 60A stack x1 (\$75.99) Buy: [SpeedyBee](#)
- 5 Mount the GPS on a mast; wire to a UART.**
Part G4: Matek M10Q-5883 GPS/compass x1 (\$42.99) Buy: [Boulder MultiRotor \(Matek\)](#)
- 6 Bind the ELRS receiver.**
Part G5: RadioMaster Pocket ELRS + RP2 receiver x1 (\$80) Buy: [Amazon search](#)
- 7 Mount the Pi Zero 2 W + camera with the BEC; link MAVLink UART.**
Part G7: Pi Zero 2 W + Camera Module 3 + microSD + 5V 3A BEC x1 (\$60) Buy: [Raspberry Pi](#)
- 8 Fit and register the Remote ID module.**
Part G8: Remote ID broadcast module (Holybro or FAA-listed) x1 (\$40) Buy: [Amazon search](#)
- 9 Charge the 6S packs.**
Part G9: 2x 6S 1500-1800 mAh LiPo, XT60 x1 (\$70) Buy: [Amazon search](#)
- 10 Fit props last; tethered hover test.**
Part G6: 7-inch tri-blade props, 3 sets x1 (\$10) Buy: [Amazon search](#)

Stage 2

- 11 Print and fit the bottom quick-swap sled with Kevlar backup strap.**
Part G10: Printed TPU/PETG quick-swap sled + Kevlar strap x1 (\$12) Buy: [Amazon search](#)

Stage 3

- 12 (Optional) Move the electronics to the S500 frame.**
Part G11: S500 frame kit (optional big frame) x1 (~\$375 stage) Buy: [Amazon search](#)