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CHC P310 Operation Procedure

1. GCS-202 Ground Control System Preparation

   a. Fix the location of GCS-202

   b. Power on the GCS-202 and wait for the DGPS signal lock-in.

   Note: 1. if external power supply for GSS-202 needed, please connect power cable and cord well.

   2. GCS-202 would fix at the location at least 2m height above ground and avoiding from the metal reflection (such as car, iron sheet) and disturbance at least 10m.

2. P310 Airplane Assembly

   P310 airplane assembly and mechanical check about the structure, connection and propellers and so on.

3. Battery Installation

   Battery installation including the fixed wing forward battery and Quad-copter battery and check the center of gravity of airplane

   Note: please check battery fixed tightly in the airplane .

4. Mechanical & Electronics Check

   Please refer to the pre-flight checklist for mechanical and electronic check

5. Control Surface Check by RC Mode

   RC switch to “Attitude mode” by Channel 5 (default SE switch),

Power on the AP system and keep the airplane in static status for 5secs for the AP system initialization

Then, check airplane control surface status by RC mode.

6. Magnetic Sensor Calibration

Every time we fly the plane in a new place more than 50km, or have not calibrate the magnetic sensor in more than 2 weeks, we need to calibrate the magnetic sensor before we fly it. (Please refer to details from CHC Commander Operation Manuel)

If magnetic sensor calibration finished, please check Display—Sensor Data—Magnetic Sensor—X axis data (Note: X axis data value would be positive value in the Northern Hemisphere.)

7. Create Flight Plan

Please refer to details from CHC Commander Operation manual.

8. Quad-copter Check by RC mode

Power on the quad-copter motors and unlock the quad-copter (Move RC rod as V mode for unlock) , then check the rotor motors works well, and lock the quad-copter mode (Move RC rod as inverse V mode for lock)

9. Create Landing Plan

a. Move the airplane to the landing point and check the landing hovering altitude and approaching direction

b. Create the landing plan

Please make sure the landing plan to avoid from the obstacles

Note: If it is left hand mode of landing plan, the hovering before landing is left spiraling, vise versa.

10. Pre-flight Check by CHC Commander

Pre-flight check by CHC commander, such as the photo setting, emergency handle. Please refer to P310 pre-flight checklist for more details.

11. Pre-launch

a. Move airplane to pre-launch location and nose forward to waypoint 1

b. RC switch to full auto mode and put throttle rod at position of 50%.

c. The technician operating GCS is ready to control the airplane and send command of takeoff

d. The pilot focus on the status of airplane and ready to protect airplane in case any emergency happens.

12. Takeoff

Send command “takeoff” to AP system, airplane would roll, liftoff by quad-copter mode, transit to fixed wing mode and trace waypoint 1

The pilot should monitor the airplane status and protect the airplane in case any emergency.

13. Mission Flight

The pilot could power off RC if airplane cruise mode for mission flight.

14. Monitor GCS Flight Data

The technician operating GCS needs to monitor the flight data, such as flight altitude, airspeed, ground speed, throttle, attitude, GPS position.

15. Preparation for Landing

a. When mission flight finished and airplane is ready for landing plan .

b. The pilot would make RC channel 5 is “Auto” and power on RC, then the technician monitor the GCS display “ RC normal “

c. The pilot put the RC throttle at 50% position to prepare for airplane landing.

16. Execute Landing Plan

a. The technicians check and adjust the landing plan to make sure the approaching direction against wind.

b. Send command of “land” for landing plan flight. Airplane would hover and adjust the location on the top of landing point.

c. The pilot would monitor and check the airplane status to protect the airplane in case any emergency happens.

17. Request POS Data

18. Checklist after Flight

19. Disassembly Aircraft and Pack

Disassembly aircraft and pack in the aviation case for finish all procedure.