

Artifact ID: TP-004	Artifact Title: Preflight Checklist	
Revision: 01	Revision Date: 2025-03-16	
Prepared by: Lucas Bons		Checked by: Jonah Lowther
Purpose: The checklist of items to bring and procedures to check before an active flight test		



Revision History			
Revision	Revised by	Checked by	Date
01	Lucas Bons	Nina Chao	2024-03-16

Flight Date:

High Altitude

Complete?	Action:	Tools, materials Needed:	Details:	Who can do it?
	Assemble wings	3/32 hex		Anyone
	Ensure connection to Pi	Pi, laptop, extra jumper cables, wiring diagram (on hood)	Insert Pi into drone, insert wifi antenna, connect jumpers from Flight Controller, connect to laptop through wifi	Israel, Anthony, Isaac, Tristan, Janie
	Ensure camera capabilities	Laptop		Anthony, Tristan, Isaac
	Drone battery level verification	Multimeter		Anyone
	Remote battery level verification	Controller		Brian
	Receiver Test	Controller	Power Drone on, test receiver range	JBJ
	Calibrate accelerometer	Laptop - QGroundControl	Stationary dance	JBJ (Jonah, Brian, Jadyne) + Anyone
	Calibrate compass	Laptop - QGroundControl	Spinning dance	JBJ + Anyone
	Calibrate gyro	Laptop - QGroundControl	Set on level ground	JBJ + Anyone
	Calibrate level horizon	Laptop - QGroundControl	Set on level ground	JBJ + Anyone
	Acquire GPS signal	Laptop - QGroundControl	Power up, take laptop and plane into the open and validate gps lock via Q ground control	JBJ + Anyone
	Create flight plan	Laptop - QGroundControl	Create and load flight plan	JBJ

Attach wings to fuselage	Phillips head screwdriver		Anyone
Right aileron servo test	Controller		Brian
Left aileron servo test	Controller		Brian
Right flap servo test	Controller		Brian
Left flap servo test	Controller		Brian
Front wheel servo test	Controller		Brian
Attach rear prop	Rear Prop, Nut, wrench		Lucas, Anna, Jady, Jonah, Brian
Final visual inspection			
Insert lid	Lid		Anyone
Center of gravity test		Pick up drone under wings and ensure balance	JB + Airframe integration
Set up ROS nodes	Laptop	Launch ROS nodes and start collecting data	Anthony, Tristan, Isaac
Start fire	Matches/lighter, wood		Anyone

Flight Date:

Low Altitude

Complete?	Action:	Tools, materials Needed:	Details:	Who can do it?
	Ensure connection to Pi	Pi, laptop, extra jumper cables, wiring diagram (on hood)	Insert Pi into drone, insert wifi antenna, connect jumpers from Flight Controller, connect to laptop through wifi	Israel, Anthony, Isaac, Tristan, Janie

Ensure camera capabilities	Laptop		Anthony, Tristan, Isaac
Drone battery level verification	Multimeter		Anyone
Remote Battery Level Verification	Controller		Brian
Receiver Test	Controller	Power Drone on, test receiver range	JBJ
Drop servo test	Laptop	Something to drop	Anthony, Tristan, Isaac
Calibrate accelerometer	Laptop - QGroundControl	Stationary dance	JBJ (Jonah, Brian, Jadyne) + Anyone
Calibrate compass	Laptop - QGroundControl	Spinning dance	JBJ + Anyone
Calibrate gyro	Laptop - QGroundControl	Set on level ground	JBJ + Anyone
Calibrate level horizon	Laptop - QGroundControl	Set on level ground	JBJ + Anyone
Acquire GPS signal	Laptop - QGroundControl	Power up, take laptop and plane into the open and validate gps lock via Q ground control	JBJ + Anyone
Create flight plan	Laptop - QGroundControl	Create and load flight plan	JBJ
Screw in rear lid	Rear lid screws, .05 in hex wrench		Airframe Integration
Attach wings to fuselage			Airframe Integration
Attach tail fins			Airframe Integration
Attach rear prop	Nut, cap, wrench, prop	Screws on opposite of normal direction	Lucas, Anna, Jadyne, Jonah, Brian
Right aileron servo test	Controller		Brian

Left aileron servo test	Controller		Brian
Right flap servo test	Controller		Brian
Left flap servo test	Controller		Brian
Insert Front Lid	Front Lid	Has retractable pin to secure	Anyone
Center of Gravity Verification		Pick up drone under wings and ensure balance	JBJ + Airframe integration
Final visual inspection			
Set up ROS nodes	Laptop	Launch ROS nodes and start collecting data	Anthony, Tristan, Isaac

Additional Tools/Materials:      Do we have it?

Multimeter

Servo tester

Wifi antenna

Tweezers

Hex sets

Painters tape

Ballast

Extra jumper cables

Foam tack glue

Speed tape

Velcro

USB cables

Phillips head screwdriver

Controllers

All props (4x quad rotors, 2x tail props)

Nuts

Crescent wrench

Wings, tail fins, lids

Rear lid screws

Matches/lighter

Wood

Fire extinguisher

gallon of water

Charged Batteries

scissors