Brigham Young University

AUVSI Capstone Team (Team 45)

Preflight Checklist v0.1

ID	Rev.	Date	Description	Author	Checked By
PF-001	0.1	11-3-2018	Wrote checklist based on google sheet	Andrew Torgesen	[CHECKED BY]

1 Purpose

The purpose of this artifact is to keep an up-to-date, standard protocol for ensuring safety and good performance for test flights in hardware. It is important that all test flights are run systematically, and according to the procedures and timelines outlined in this document.

2 Checklist

Day Before

- ☐ Check that the launch file does what it needs to with the plane grounded
- ☐ Ensure that the ROSbag records the data you want
- ☐ Charge airplane LiPo(s)
- ☐ Charge RC transmitter battery
- ☐ Parameter check
- ☐ Check WiFi config
- ☐ Check disk space on Odroid

Hardware Packing List

- ☐ Plane
- ☐ Wings w/ bolt attached
- ☐ Airplane batteries
- ☐ RC transmitter
- ☐ RC transmitter batteries
- ☐ 2+ sets of props
- ☐ Fiber tape
- ☐ Launch gloves
- ☐ Wrench for props
- ☐ Hex driver for wings

- ☐ Battery monitor
- ☐ Safety glasses
- ☐ Table (optional)
- ☐ Targets (optional)

Comms Packing List

- ☐ Router + power cable
- ☐ Litebeam + 2 ethernet cables
- ☐ A/C POE adapter
- ☐ Extra ethernet cable
- ☐ Car power adapter
- ☐ 3-plug extension cable

Flight Checklist: *Before Launching*

- ☐ Start network
- ☐ Attach wings and check bolt tightness
- ☐ Attach props and check tightness
- ☐ Strap down battery
- ☐ Connect battery monitor
- ☐ Check plane CG
- ☐ Connect battery
- ☐ Ensure network connection
- ☐ Launch ROS
- ☐ Ensure RC transmitter is emitting enough power ($> 10mW$)
- ☐ Check prop direction
- ☐ Check control surface direction
    - ☐ Ailerons

- ☐ Elevators
- ☐ Rudder

☐ RC Range Test (100ft)

☐ Ensure GPS Fix ($\geq$ 3 satellites)

Flight Checklist: *After Landing*

☐ Kill ROS

☐ Backup ROSbag

☐ Clean shutdown

☐ Unplug battery

☐ Gather all items

Post-flight

☐ Set battery to storage voltage