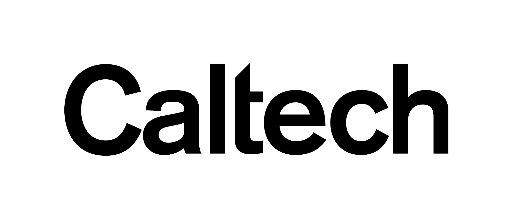
**Field Paperwork**

**Safety and Flight Documentation**

**<PROJECT>**



If found, please call (XXX) XXX-XXX or email email@uni.edu

**<< YOUR NAME >>**

**Pilot and UAS Documentation**

Shape

Description automatically generated with medium confidence

If found, please call (XXX) XXX-XXX or email email@uni.edu

# Before-the-Day Checklist

## Paperwork (Printed)

### Flight

* Flight Test Plan
* Airworthiness Certificates
* Airman Certificate with Remote Pilot Endorsement
* Pre-flight Safety Briefing (For specific trip)
* Weather Forecast
* FAA-required tags attached to aircraft

## Aircraft

* Bolts tightened
  + Aircraft
  + Payload
* No loose wires
* No damage to aircraft
* Checkout flights completed (where required)

## Software

* Geofence
  + Set geofence for location (write, clear, and read back)
    - FENCE\_ACTION = 1 (RTL or LAND)
    - FENCE\_ENABLE = 1 (Enabled)
    - FENCE\_TYPE = 5 (Polygon and Altitude)
* RTL\_ALT correctly set for aircraft
* Set for outdoor flying
  + EK2\_GPS\_TYPE = 0 - Enable GPS
  + EK2\_ALT\_SOURCE = 0 - Use barometer for altitude
* Logs taken from SD Card
* SD Card returned to aircraft
* Maps pre-allocated
* Correctly set transmitters

## Other

* Packing list completed

# Beginning-of-the-Day Safety Checklist

## Safety

* Site Briefing (Trip Leader / Mission Commander)
* Role Briefing (Mission Commander)

## Software (to be completed by the GCO)

* Survey for RTK GPS
* On-Site calibrations completed (magnetometer with payload installed)
  + System reboot
* Check failsafes (failsafe tab)
* Geofence correctly set for location
  + Clear and reload from aircraft via GCS

## Aircraft (to be completed by the PIC)

* Propellers
  + Propeller nuts are tight (including prop adaptor, nyloc or double nut)
  + Propellers spin freely
* General pre-flight of aircraft to ensure no damage during transport
* GPS mast screwed down tightly
* SD Card loaded
* Tx model correctly set up including warnings/switches/flight modes/etc.
* On-Site calibrations completed
* Emergency stops functioning correctly

# Pre-Flight Checklist

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Safety 1 (Mission Commander)** | | | | | | |
| □ | □ | □ | □ | □ | Mission briefed to team | |
| □ | □ | □ | □ | □ |  | Expected vehicle behaviours |
| □ | □ | □ | □ | □ |  | Abort criteria |
| □ | □ | □ | □ | □ |  | Break off procedures agreed upon (multi-vehicle only) |
|  |  |  |  |  |  |  |
| **Aircraft (PIC)** | | | | | | |
| □ | □ | □ | □ | □ | SD Card loaded (Aircraft) | |
| □ | □ | □ | □ | □ | GPS Logger Active (both LEDs blinking) | |
| □ | □ | □ | □ | □ | Payload secured and no loose cables | |
| □ | □ | □ | □ | □ | Check rotors and landing gear for damage | |
| □ | □ | □ | □ | □ | Check prop adaptor on motor tight | |
| □ | □ | □ | □ | □ | Check motors spin freely | |
| □ | □ | □ | □ | □ | Batteries | |
| □ | □ | □ | □ | □ |  | Check 4.15+ V/cell before using |
| □ | □ | □ | □ | □ |  | Secured with double straps |
| □ | □ | □ | □ | □ |  | CG Check |
| □ | □ | □ | □ | □ | Check RC | |
| □ | □ | □ | □ | □ |  | Check E-stop |
| □ | □ | □ | □ | □ |  | Ensure response to RC inputs |
|  |  |  |  |  |  |  |
| **Aircraft (GCO)** | | | | | | |
| □ | □ | □ | □ | □ | Check sensors | |
| □ | □ | □ | □ | □ | Check sensor data output | |
| □ | □ | □ | □ | □ | Visualizations to verify the expected behaviours | |
| □ | □ | □ | □ | □ | Check battery voltage via GCS | |
| □ | □ | □ | □ | □ | Check GPS health | |
| □ | □ | □ | □ | □ | Reset Time-In-Air counter | |
| □ | □ | □ | □ | □ | Logbook accessible | |
| □ | □ | □ | □ | □ | Check Follower aircraft is pre-loaded as active aircraft (if applicable) | |
|  |  |  |  |  |  |  |
| **Payload (Payload Operator** | | | | | | |
| □ | □ | □ | □ | □ | Payload operational | |
|  |  |  |  |  |  |  |
| **Safety 2** | | | | | | |
| □ | □ | □ | □ | □ | Safety Observers report flight area clear of people and property | |
| □ | □ | □ | □ | □ |  | 30 m exclusion zone |
| □ | □ | □ | □ | □ | Clear communications between flight crew (either direct verbal or walkie talkie) | |
| □ | □ | □ | □ | □ | Personnel at least 2 meters clear of aircraft (pilots excepted) | |

# Post-Flight Safety Checklist

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Aircraft (PIC)** | | | | | | |
| □ | □ | □ | □ | □ | Check ESC and motor temperatures | |
| □ | □ | □ | □ | □ |  | Hot motors/ESCs indicated unhealthy component |
| □ | □ | □ | □ | □ | Check prop adaptors and motors tight | |
| □ | □ | □ | □ | □ | Check props, landing gear and aircraft for any damage | |
| □ | □ | □ | □ | □ | Check payload for loosening bolts | |
|  |  |  |  |  |  |  |
| **Aircraft (PIC)** | | | | | | |
| □ | □ | □ | □ | □ | Fill out Aircraft Log Book (PIC) | |
| □ | □ | □ | □ | □ | Retrieve data from aircraft and back up (GCO / designated crew member) | |

**Aircraft Specifications**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Vehicle Name | |  | | Page |  |
| Class | |  | | Date | YYYY – MM – DD |
| Flight Control Software | |  | | F/C Version |  |
|  | [ | | [[ |  | |
|  |  | | Current | | Max. Allowable |
| Dimensions | Motor-to-Motor Span | | m | | m |
| Maximum Width | | m | | m |
|  | [ | | | | |
| Weights | Airframe Weight | | kg | | kg |
| Payload Weight (incl. Battery) | | kg | | kg |
| Max. Gross Weight | | kg | | kg |
|  |  | | | | |
| Performance | Cruise Speed | | m/s | | m/s |
| Max Speed | | m/s | | m/s |
| Rate of Climb | | m/s | | m/s |
| Rate of Descent | | m/s | | m/s |
| Max. Altitude | | ft. | | ft. |
| Max. Range | | km | | km |
| Max. Endurance | | min | | min |

**Flight Log**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Vehicle Name |  | | Page |  | |
|  | | | | | |
| Pilot-In-Command |  | | Date | YYYY – MM – DD | |
| Ground Station Operator |  | | Weather |  | |
| Location |  | | Project |  | |
|  | | | | | |
| Test ID |  | Rosbag File |  | | |
| Launch | HH:MM | Land | HH:MM | Duration | min s |
| Battery |  | Remaining | % | mAh used | mAh |
| Flight Log |  | | | mAh charge | mAh |
| Notes  : | | | | | |
| [ | | | | | |
| Test ID |  | Rosbag File |  | | |
| Launch | HH:MM | Land | HH:MM | Duration | min s |
| Battery |  | Remaining | % | mAh used | mAh |
| Flight Log |  | | | mAh charge | mAh |
| Notes  : | | | | | |
|  | | | | | |
| Test ID |  | Rosbag File |  | | |
| Launch | HH:MM | Land | HH:MM | Duration | min s |
| Battery |  | Remaining | % | mAh used | mAh |
| Flight Log |  | | | mAh charge | mAh |
| Notes | | | | | |
| [ | | | | | |
| Test ID |  | Rosbag File |  | | |
| Launch | HH:MM | Land | HH:MM | Duration | min s |
| Battery |  | Remaining | % | mAh used | mAh |
| Flight Log |  | | | mAh charge | mAh |
| Notes | | | | | |

**Major Software Change Log**

|  |  |  |  |
| --- | --- | --- | --- |
| Vehicle Name |  | Page |  |
|  | | | |
| Author |  | Date | YYYY – MM – DD |
| Change  }} | | | |
|  | | | |
| Author |  | Date | YYYY – MM – DD |
| Change  }} | | | |
|  | | | |
| Author |  | Date | YYYY – MM – DD |
| Change  }} | | | |
| [ | | | |
| Author |  | Date | YYYY – MM – DD |
| Change  }} | | | |
|  | | | |
| Author |  | Date | YYYY – MM – DD |
| Change  }} | | | |

**Major Hardware Change Log**

|  |  |  |  |
| --- | --- | --- | --- |
| Vehicle Name |  | Page |  |
|  | | | |
| Modification By |  | Date | YYYY – MM – DD |
| Modification Checked |  | Checkout Flight Pilot |  |
| Modification  }} | | | |
|  | | | |
| Modification By |  | Date | YYYY – MM – DD |
| Modification Checked |  | Checkout Flight Pilot |  |
| Modification  }} | | | |
|  | | | |
| Modification By |  | Date | YYYY – MM – DD |
| Modification Checked |  | Checkout Flight Pilot |  |
| Modification  }} | | | |
| [ | | | |
| Modification By |  | Date | YYYY – MM – DD |
| Modification Checked |  | Checkout Flight Pilot |  |
| Modification  }} | | | |
|  | | | |
| Modification By |  | Date | YYYY – MM – DD |
| Modification Checked |  | Checkout Flight Pilot |  |
| Modification  }} | | | |