



## Prepare for Takeoff

### INITIAL EQUIPMENT SETUP

#### READ THE MANUAL

Familiarize yourself with all aspects of your sUAS before you even consider going out for your first flight.

#### COMPLETE sUAS SETUP

Most sUAS manufacturers include an interactive setup process for the first time a new aircraft is detected via the Flight Software.

#### CHECK FIRMWARE

Make sure the firmware on all sUAS components is up to date.

#### CHECK SOFTWARE

Make sure the manufacturer-provided software is the latest version.



### LOCATION

#### IDENTIFY THE AIRSPACE

Use the AirMap App to make sure you are allowed to fly in that location (depends on the type of user you are). Commercial users need an airspace authorization to fly in controlled airspace. Recreational users do not need airspace authorizations, but if planning to fly within 5 miles of an airport are required to notify the airport directly prior to operation.

#### CHECK FOR RESTRICTED AREAS

You can't fly near military bases, national parks, selected government buildings, Washington D.C., etc. In certain areas local laws may apply as well.

#### CHECK FOR TEMPORARY FLIGHT RESTRICTIONS

Check for TFR NOTAMS via Flight Services, [tfr.faa.gov](http://tfr.faa.gov), AirMap, SkyVector, etc.

#### ABIDE BY FAA REGULATIONS

Remain below 400 feet AGL, maintain visual line of sight, do not fly over people, do not fly at night.

#### MAINTAIN VISUAL LINE OF SIGHT

Keep eyes on your aircraft at all times.

#### BE SMART AND CREATE A PLAN

Set a perimeter, avoid power lines, consider weather, locate landmarks, plan for emergencies, use checklists.

#### FIND A GOOD TAKE-OFF AREA

Flat, free of obstructions, people, and possible interference.



# FLIGHTCHECKLIST

## PRE-FLIGHT CHECKLIST

### VERIFY ALL EQUIPMENT IS FULLY CHARGED

Ground Control Unit, aircraft batteries, and mobile device or tablet.

### VISUALLY INSPECT THE DRONE

Physically examine the unmanned aircraft and all gimbals/payloads/props for visible defects.

### REMOVE GIMBAL CLAMPS

Gently remove gimbal clamps.

### CHECK PROPS

Make sure that they are properly attached and secure.

### TURN ON REMOTE CONTROL

Always power on Ground Control equipment before the aircraft system.

### POWER UP

Add fully charged battery to the drone and power on the battery.

### LAUNCH THE FLIGHT CONTROL APP

### VERIFY SYSTEM STATUSES

Firmware versions, Flight Mode, Datalink Strength, Payload Status, Battery Status, and Onboard Sensor Statuses.

### SET/VERIFY RETURN-TO-HOME HEIGHT (RTH)

Based on the height of the tallest obstacle within the flight area.

### SET/VERIFY MAXIMUM FLIGHT ALTITUDE

Use to ensure compliance with FAA rules for maximum flight altitude, if available.

### PERFORM A COMPASS CALIBRATION IF REQUIRED

Follow manufacturer instructions for when and how to calibrate the magnetometer (compass). It is considered a best practice to calibrate whenever you move more than 30 miles from the previous flight area.

### CONFIRM GPS SATELLITE CONTROL

Verify GPS signal strength and number of satellites connected. Be aware of the potential for losing GPS positioning capability in any area where less than 10 satellites are able to connect to the unmanned aircraft.

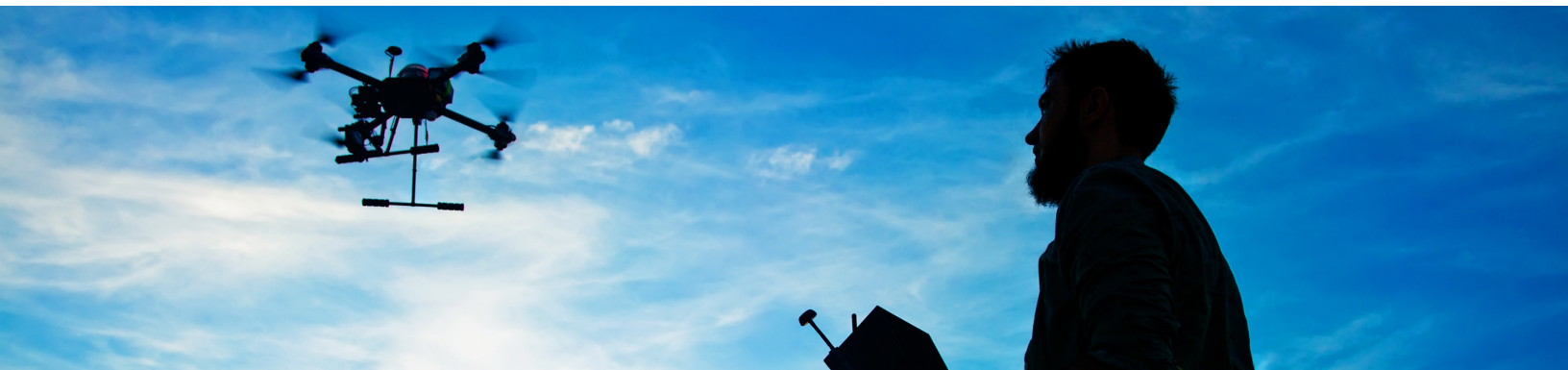
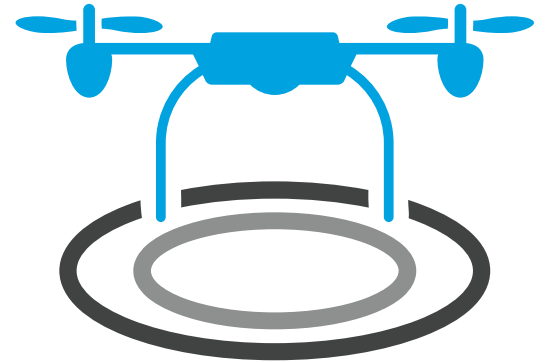
### MAP CHECK

Do a quick Map Check on the App monitor to make sure the icon indicating the GPS recorded 'Home Point' represents your actual location.

### CHECK AND CONFIRM CAMERA AND GIMBAL SETTINGS

Auto iris, white balance, shooting resolution, frame rate, file type, gimbal mode, etc.

### DESIGNATE POTENTIAL EMERGENCY LANDING LOCATIONS PRIOR TO TAKEOFF



# FLIGHTCHECKLIST

## TAKE OFF CHECKLIST

### MAINTAIN FLIGHT LINE

Do a final check to make sure all bystanders are clear. If people are standing too close, ask them to stand back.

### TAKE OFF

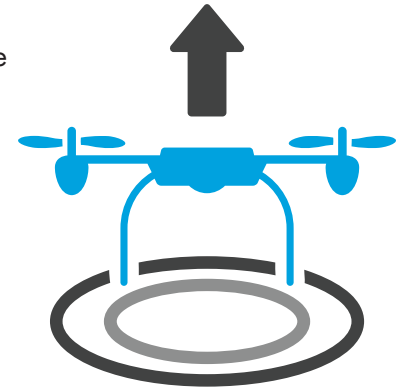
Hover 8-10 feet or so initially. Do a quick status check on your monitor to make sure everything is in order (GPS control, Datalink strength, battery levels, etc.)

### GO FLY

Capture any required footage or data. Be safe and remember to always have fun! Maintain visual line of sight. Be aware of disorientation risks. Make sure to thoroughly practice basic flight exercises before flying with hazards nearby.

### CONSTANTLY CHECK DRONE BATTERY LEVELS

Make sure you have enough battery to return in plenty of time. 25%-30% Low Battery warning level is recommended.



## AUTONOMOUS FLIGHT CONSIDERATIONS

### VERIFY BASELINE SETTINGS

Verify all baseline settings in the primary flight control software are correct prior to initializing any autonomous flight software.

### CONFIGURE AUTONOMOUS FLIGHT PROFILE

Configure settings in the autonomous software platform based on specific flight area conditions and data collection requirements.

### PERFORM PRE-LAUNCH CHECK

Execute either an automated or manual check of all critical system functions.

### CLEAR THE TAKE-OFF AREA

Ensure everyone is clear of the take off zone and that the unmanned aircraft is properly positioned for launch.

### INITIATE AUTONOMOUS FLIGHT

### MONITOR THE DRONE'S LOCATION AND SYSTEM STATUS

Maintain line of sight contact with the aircraft throughout the autonomous flight profile. Monitor system information and flight progress on the Flight Display.

## LANDING CHECKLIST

### CHECK LANDING ZONE

Prior to landing ensure landing area is clear.

### RETURN AIRCRAFT TO THE LANDING ZONE

Maneuver the aircraft to a position directly above the landing zone and rotate the aircraft to a 'nose forward' orientation.

### CONDUCT AN AUTONOMOUS OR MANUAL LANDING

Be sure you understand how the aircraft will function when under autonomous control. If manual landing is executed, perform a motor shutdown upon landing.

### POWER DOWN

When you land, turn the drone off first. Then turn off the ground control unit and the Flight Control App.

### COMPLETE FLIGHT LOG AND POST-FLIGHT MAINTENANCE CHECKS