

Operation Name: Senior Class Aerial Photograph

DATE: 28th May, 2014

LOCATION: Band Marching Field

Purpose: To take an Aerial Photograph of the 2014 Senior Class standing in the formation of "2014."

Set-Up: Consists of Quadcopter, Laptop, Tripod with GoPros, Radio and Operations Staff

Operation Staff

Operations Bossman: Jeffrey [Surname withheld for privacy reasons] (In charge of all operations, planning, logistics – will blend in with crowd however)

Quadcopter Pilot: Names withheld for privacy reasons

Telemetry Analyzer and Flight Safety Controller: Names withheld for privacy reasons

Camera Operator and Communications Chief: Names withheld for privacy reasons

Tower Command and Movements Director: Names withheld for privacy reasons

Section Leaders:

Alpha Team (No.2): Names withheld for privacy reasons

Bravo Team (No.0): Names withheld for privacy reasons

Charlie Team(No.1): Names withheld for privacy reasons

Delta Team (No.4): Names withheld for privacy reasons

Mission Timer:

0918- Jeffrey & Pilot head to Skunk Works to begin Set-up in Band Marching Field

0940- Section Leaders & Camera Operator/Communications Chief head to Band Marching Field

1016- Seniors Released to Band Marching Field

1030- **Section Leaders** put All Seniors in formation

1031-1035

- **Communications Chief:** Turns on Camera, Checks with **Tower Command, Flight Safety Officer,** and **Pilot** that all everything is set.
 - Pilot:** Quadcopter Takes Off and reaches altitude of **9 Meters**
 - Arms APM – **Flight Safety Controller** informs pilot of status & commands to takeoff
- **Tower Command:** orders everyone to look at quadcopter
- **Camera Operator:** Takes Pictures
- **Pilot:** Brings quadcopter to altitude of **15 Meters**
- **Camera Operator/Communications Chief**
 - Takes Pictures
 - Radios **Tower Command** to Disperse Crowd
 - Tell pilot to increase altitude to **60 Meters** slowly
- **Communications Chief**
 - Tell **Pilot** to land once field is clear

1036-1037 Clean Up

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Dialog: (CT Stands for "Confirm Transmission." This means to repeat what was said back)

Comm to **Tower** → "How does everything look from up there?"

Tower → "Looking good" **OR** "looking bad" (and now gives commands to crowd to correct positions & responds back with "looking good" once corrections are made)

Comm to **Pilot** → "Pilot, prepare for takeoff"

Comm to **Tower** → "Preparing for takeoff" **Tower** CT

Pilot → "preparing to takeoff, arming quadcopter"

FSO → "Quad is armed, stabilize."

Pilot → "switching to loiter mode"

FSO → "Loiter Mode"

Comm → "Pilot, take it up to 5 Meters"

Pilot → Moves controls

FSO → Altitude of 5 Meters has been reached

Comm → **Pilot** (Adjust quadcopter – to the left or to the right)

Comm → **Tower** "at altitude" & begins taking pictures

Tower → "Everyone, look at the quadcopter"

Comm → **Pilot** "Pictures complete, increase to 15 Meters"

FSO → Altitude of 15 Meters has been Reached

Comm → Takes more pictures, switches to video mode

Comm → **Tower** "Pictures complete, release seniors" and switches to video mode

Tower → Releases Seniors

Comm → **Pilot** "Increase altitude slowly to 60 meters"

FSO → "Altitude of 60 meters has been reached"

Comm → **Pilot** "Field is clear, prepare for landing" **Pilot** → CT

Pilot → switches to landing mode and lands

**FSO: If Battery is at <20%, inform pilot to prepare for landing

BACKUP PLAN: If Quadcopter fails to take off, TOWER will ask everyone to face TOWER and then TOWER will take the picture.

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