**Micro-UAV Safety Guidelines & Checklists**

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**Disclaimer**: The guidelines and the checklist are for *educational purposes only* in the course ROB498. All the flights should be conducted in room MY580 under the supervision of the professor / TA(s). Individual and/or outdoor flights are NOT ALLOWED; outside flight would very likely lead to violation of the law as defined by [Transport Canada](https://tc.canada.ca/en/aviation/drone-safety).

Please read this document carefully! It is recommended to keep a hard copy of this file on hand while working on/flying your drone. Failure to follow the safety rules/guidelines could cause serious injury to personnel or damage to the Myhal building and equipment.

**Safety Guidelines (while working on your drones):**

1. Charging the battery:

Battery type: **LiPo (4S),** Charging Current: **no greater than 2.3 A**.

**Different charging settings may reduce battery life or even cause a fire.**

1. Assembling the drone:

* Exposed PCBs and solder joints should *not* be in contact with the carbon fibre frame (may be conductive).
* Always ground/discharge yourself before touching any exposed PCBs.
* Make sure all the screws are properly tightened as vibration during flight will loosen them.
* Be very careful with the fragile white JST connectors.
* Make sure the flight controller (Pixhawk) is tightly attached to the frame, fairly close to CG. If you have to install the Pixhawk in a direction other than the forward-pointing direction, please configure this setting in QGroundControl.

1. Testing the motors:

* **Never install propellers before the aircraft is flight-ready!**
* Be careful with long hair that can become intertwined with motor shaft.

1. While other teams/drones are flying:

* **Never** turn on your transmitter (The Taranis remote control) as this could cause signal interference.

**Pre-Flight Checklist**

Please follow in sequential order. **DO NOT plug in the battery first**.

|  |  |
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| **Aircraft Check** | |
|  | Propeller direction check. |
|  | Propellers are installed tightly on the motor shafts. |
|  | The battery is fully charged and tightly strapped down. |
|  | All components are tightly attached to the frame. |
|  | All wires are clear from all propellers and the propellers spin freely. |
| **Aircraft Start-up** | |
| **Action:** Transmitter Start-up | |
|  | The *Throttle Stick* & *Arm Switch* are in the down position. |
|  | *Flight Mode Switch* is in the take-off position. |
| **Action:** Battery Plug-In | |
|  | Transmitter signal strength confirm. |
|  | Arm/disarm check. |
|  | Manual fail-safe switch check. |
| **Team & Surrounding Area Check** | |
|  | Flight area cleared. |
|  | All team members are wearing safety glassed. |
|  | Protection net has been secured. |

**Post-Flight Check**

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|  | Keep the transmitter turned on with disarm / fail-safe switch active before unplugging the battery. |