



Recreational UAS Pilot Certification Course

Comprehensive Online Training in Compliance with DCAA Guidelines

Learning Objectives

By completing this course, you will be able to:

- Understand that **Drone flying is not allowed in UAE right now**. All Recreational flying is under restriction currently.
- Understand updated DCAA rules for recreational drone use in Dubai when Airspace opens.
- Identify and fly only within approved Green Zones using official maps when DCAA operational suspensions is lifted
- Recognize key RPAS components and safe handling procedures
- Follow best practices for safe and legal drone operations
- Avoid common violations and restricted zones
- Manage signal loss using failsafe features effectively
- Pass the final assessment to renew your DCAA certification



Introduction

An RPAS, or Remotely Piloted Aircraft System, refers to an unmanned aircraft that is operated remotely by a pilot using a radio control system. Commonly known as

- **Drone**
- **UAV (Unmanned Aerial Vehicle)**
- **UAS (Unmanned Aircraft System)**

CATEGORIES

RPAS are categorized using its:

a. **MTOW (Maximum Take Off Weight) :**

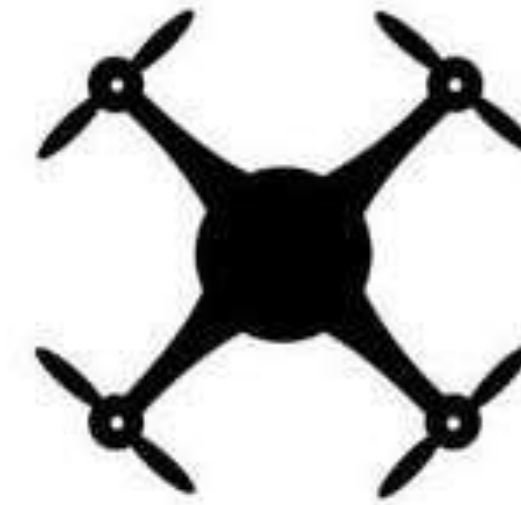
This refers to the total weight including maximum payload of the aircraft.

b. **Type :**

The two most common forms of RPAS are:

(Standard Aviation categorise RPAS into weight and type)

- **Multi Rotor :** Vertical take off and landing system
- **Fixed Wing :** Takes off from a runway or launch pad, has wings similar to a conventional airplane



Multirotor



Fixed-Wing



RPAS Hardware

➤ In this section we look at the main components of an RPA system.

FRAME:

- This component connects all of the other components.

Frames can be of various size, types or shapes.

PROPELLER:

- Propellers create the lift needed for the RPAS.
- They are of 2 types (Clockwise and Counter Clockwise)

BATTERY:

- RPA systems are powered by LiPo (Lithium Polymer) batteries also installed on the mainframe.

MOTORS:

- The motors spin the propellers.
- The motors are rated using kilovolts (Kv) which means that the higher the Kv the faster the motors spin.

FLIGHT CONTROLLER:

- The flight controller is most commonly installed on the main frame, which acts as the brain of the drone.

ESC (ELECTRONIC SPEED CONTROLLER):

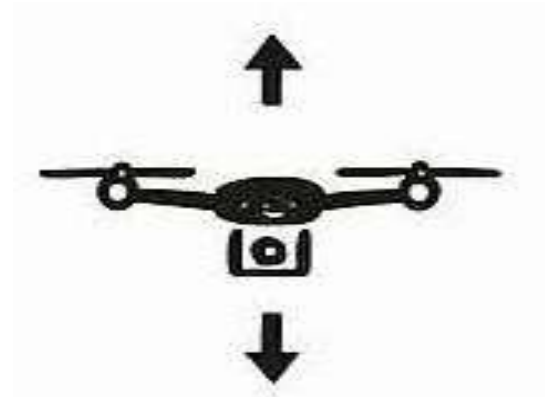
- The ESC's are installed on the arm of the aircraft.



Radio Controls

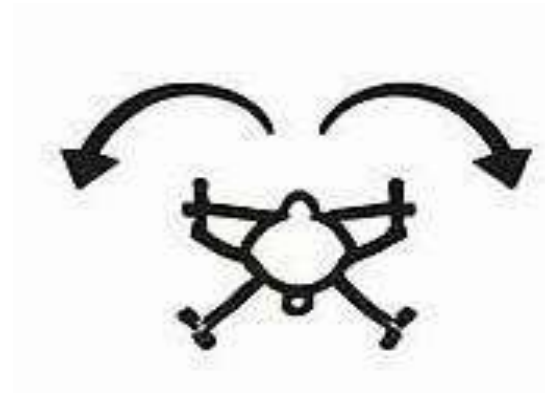
THROTTLE (USING LEFT JOYSTICK)

By pushing the left joystick up the aircraft shall move upwards (increase altitude*) and by pushing this stick down, it will move downwards (decrease altitude*).



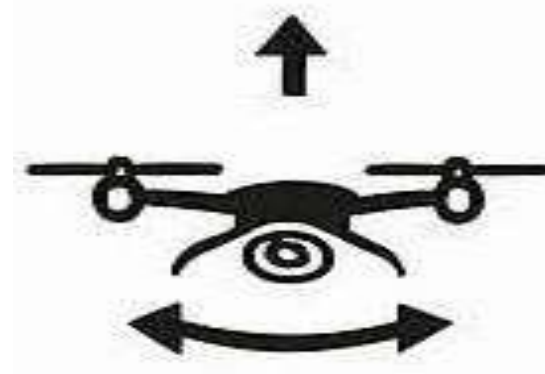
ROLL (USING LEFT JOYSTICK)

By pushing the left joystick to the left or the right, the aircraft will rotate around its axis in the manner illustrated on the right



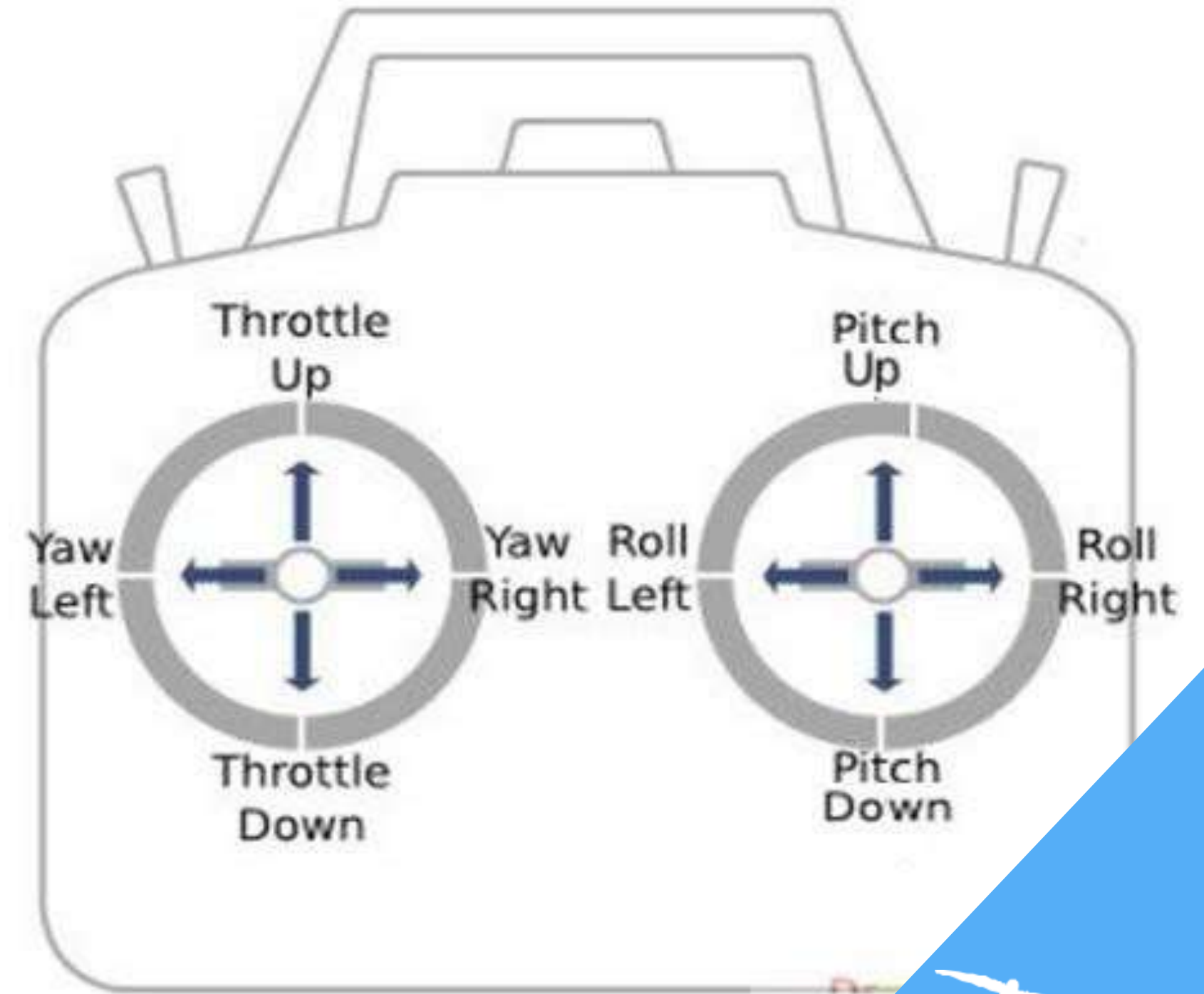
PITCH (USING RIGHT JOYSTICK)

By pushing the right joystick of the aircraft upwards, the aircraft will pitch forward and by pushing the stick down, it will pitch backwards. This is simply the front and back movement of the aircraft.



YAW (USING RIGHT JOYSTICK)

By pushing the right joystick to the left or right, the aircraft will roll sideways



Radio Operation

When piloting an RPA system, you must ensure that the aircraft is always in the VLOS (Visual line of sight) . This will ensure that the aircraft and the radio are always in communication. In the event that an obstruction comes in the way of the radio and aircraft, the connection will be disrupted immediately.

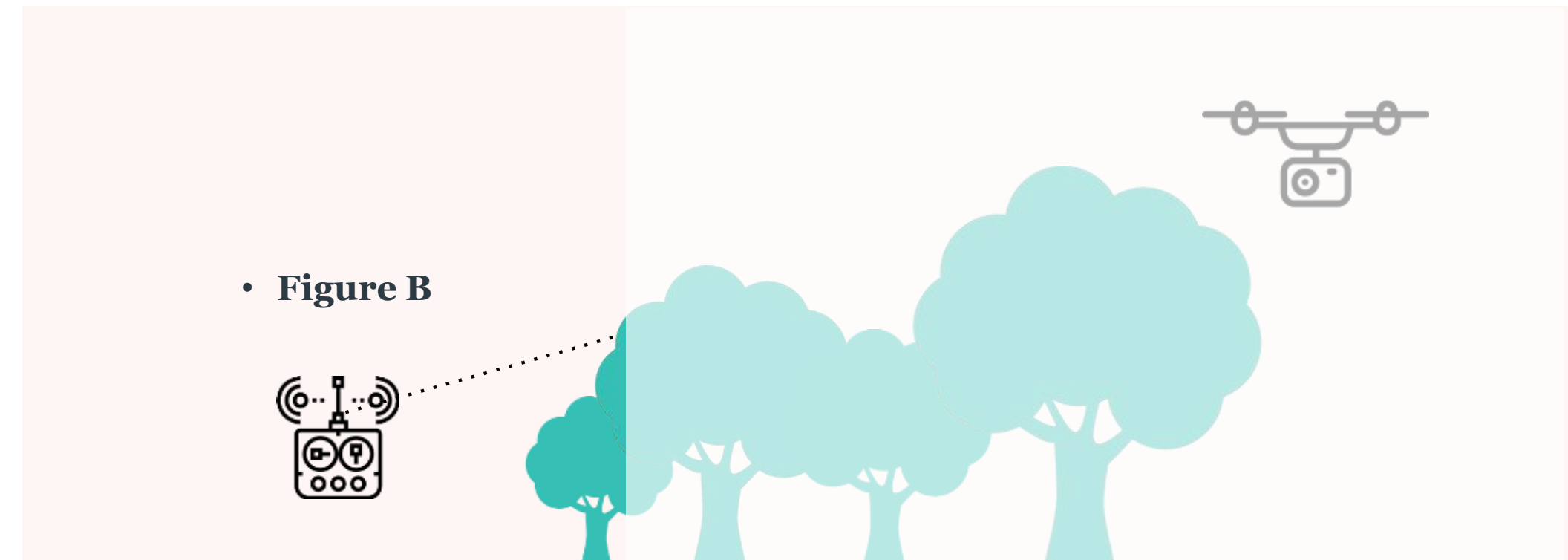
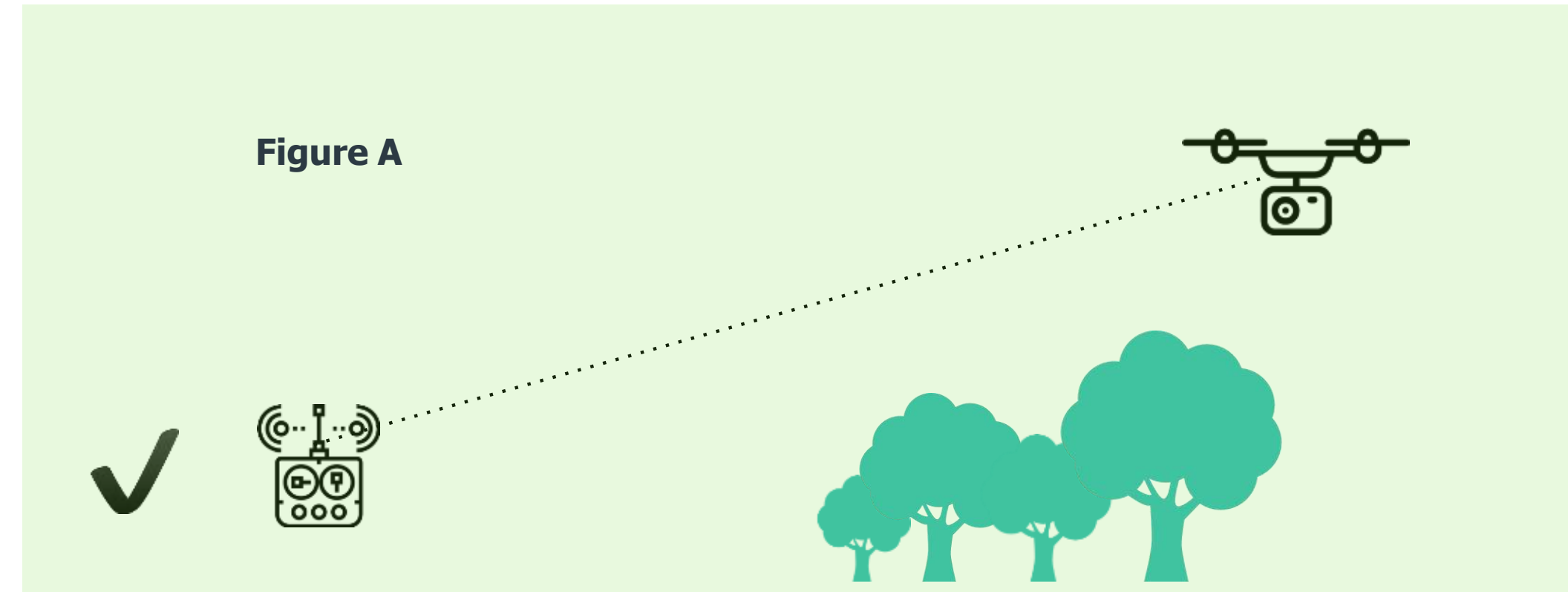
Figure A on the right illustrates a perfect radio connection that is necessary during a flight whereby Figure B illustrates an extremely dangerous flight whereby the connection between the PIC (Pilot in command's) radio and the aircraft has been disrupted.

TIP!

It is always advised to stay above the height of the highest obstruction within the area of your proposed flight. This must however be done within the limits of legally allowed flight altitudes.

For your information:

Visual Line of Sight (VLOS) means that the pilot is able to visually see the aircraft at all times while being airborne. This will allow the pilot to avoid any obstructions



Failsafe / Recovery

Figure A



Figure B



LEGEND:

- Disconnected Radio Connection
- FAILSAFE Flight Path To Landing

In the event that a RPA system loses connection from its radio, most in built flight controllers allow the following two methods of recovery:

a.Immediate Landing :

As illustrated in Figure A, when this recovery feature is active, the aircraft will land immediately upon loss of signal/ connection.

b.Return to home (RTH) :

The RTH feature will activate a recovery system in the aircraft whereby it will first gain altitude and then fly towards the point of take off where it will land. It does this using the pre- recorded GPS coordinate from the time of take off. Figure B illustrates this method of recovery.

Updated Drone Regulations and Safety Standards

1. Key Updates to Drone Safety Guidelines in the UAE

- **Recreational drones are strictly prohibited in UAE currently**
- Operators must fly within **designated Green Zones only when restriction is lifted**
- Maximum allowed altitude is as per allowed areas
- Use of drones in **restricted or no-fly zones** is penalized
- Drones must maintain a **safe distance from people, buildings, and airports**

2. Regulatory Entity - Dubai Civil Aviation Authority (DCAA):

- Governs all drone activities within the **Emirate of Dubai**
- Issues hobbyist and commercial drone approvals in Dubai
- Maintains approved flying zones (Green Zones) and altitude limits
- Enforces compliance through inspections and digital systems



3. Safety Practices for Recreational Drone Flying

- Conduct **pre-flight checks**: battery levels, propeller condition, GPS signal, weather
- Always fly **within Visual Line of Sight (VLOS)** & Stay **below** altitude limit authorized.
- **Avoid flying over people**, vehicles, residential areas, or sensitive infrastructure
- To check fly zones – refer to DCAA UAS Zone Map (<https://www.dcaa.gov.ae/drone-map>) & **DMS** app
- Maintain **safe distances from airports, heliports, and government buildings**
- **Immediately land** the drone if it malfunctions or loses signal
- Keep **firm control** of the drone – do not rely solely on GPS or auto features
- Always carry **registration proof** and identification during flying
- Ensure the drone firmware is **up to date** and calibrated properly



4. Importance of Maintaining Up-to-Date Certification

Legal Requirement

Staying certified ensures you are legally allowed to operate drones in the UAE.

Regulatory Compliance

Certification confirms that you understand and follow the latest rules and regulations.

Improved Safety Awareness

Keeps your knowledge current on safety protocols and risk prevention practices.

Avoids Penalties

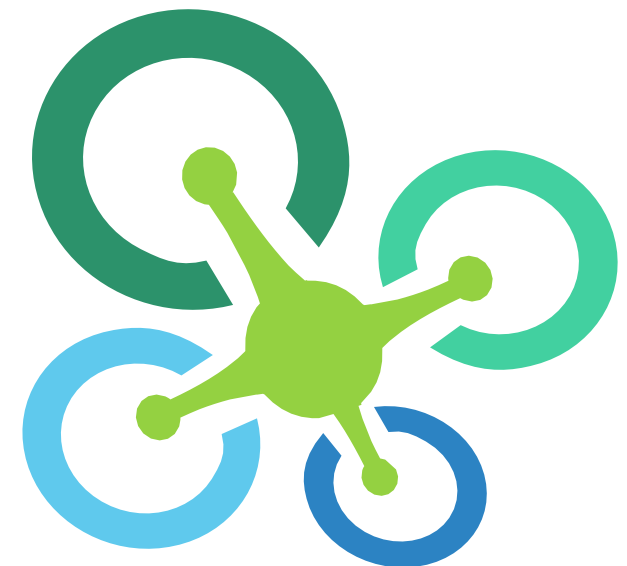
Reduces the risk of fines, confiscation of equipment, or legal consequences.

Boosts Operator Credibility

Demonstrates responsibility and professionalism as a drone hobbyist.

Supports Public Trust and Airspace Safety

Certified pilots contribute to safer skies and better community confidence in drone use.



Recreational UA Regulations

- Register your UA for recreational purposes on DCAA website.
- **Certification does not grant any authorization to operate drones during the restricted period**
- Pilots must use approved apps such as **DCAA website** and **DMS App** to view latest directives and operational suspensions
- Please create an account directly on the DCAA website instead of using UAE pass, as this will enable access to the proper use of the DMS application.
- **Flying in any area is strictly prohibited** and may lead to penalties or legal action



DCAA Drone Registration Process (Dubai)

- **Registration is mandatory** when traveling with your drone **out of Dubai**
- Registration must be completed via the official **DCAA website**: www.dcaa.gov.ae
- For guidelines visit: [DCAA - Recreational Drone](#)

Required Documents:

- **Emirates ID** (for UAE residents) or **Passport copy** (for tourists)
- **Pilot certificate** issued by a **DCAA-approved academy for registration purpose.**
- Clear images of the drone showing its Serial Number (SN); Flight controller SN ; Remote controller SN



DCAA Drone Registration Process (Dubai)

Recreational UA and Pilot Registration – Web Services

- Registration is thorough DCAA - [Application for registration of a drone for personal non commercial use](#)
- Any UA in the Emirate of Dubai shall be authorized and registered with the DCAA.
- Recreational UA Pilots wishing to register a UA with the DCAA shall submit:
 - ◆ UA - name of the registered Manufacturer, model, serial number, Serial number of the Flight Controller
Main color.
 - ◆ Photos of the UA representing the serial numbers of the UA and the Flight Controller
 - ◆ Pilot training institute where the UA pilot obtained the UA training certificate
 - ◆ UA Training certificate number
 - ◆ Submit the payment for the registration process.

Issuance Permits for Aviation Safety Operations

This service issues certificates of no objection to regulate the various aviation activities and professions associated with civil aviation to ensure adherence to the international and national laws and legislation.



Issuing No Objection Certificate for Sky Trackers / Space Cannon



Issuing No Objection Certificate for Balloon Operations



Application for a no-objection certificate to fly a drone during an event



Application for a no-objection certificate to fly a drone once for commercial purposes



Application for a permit to fly a Drone for aerial filming or advertising purposes



Application For Inspecting And Identifying Aircraft Spare Parts



Application for a no-objection certificate to conduct a Laser or pyrotechnic display



Application for registration of a drone for personal non-commercial use



Application for the registration of a drone for use for commercial purposes



Application for a no-objection certificate to conduct other activities or events having a minor or major effect on air navigation



Application for a no-objection certificate to conduct an air sports event



Application For A No-objection Certificate To Transport Aircraft, Helicopters

Tips for Maintaining Your Drone & Avoiding Common Mistakes

Firmware

Keep firmware **updated** and check for app notifications

Drone Parts

Clean camera lens and **check propellers** for damage

Labelling

Label your drone with your contact information in case it gets lost during operation



Calibration

Regularly **calibrate compass and IMU** before flights



Battery

Inspect **battery health** and avoid flying with low charge



GPS

Don't rely solely on **auto return-to-home** in poor GPS conditions



Key Violations to Avoid

⊘ Flying in Emirates of Dubai during the operational suspensions

Operating Drone during the operational suspensions / restriction is strictly prohibited.

⊘ Flying inside house or closed areas

Flying inside your house or closed areas is also not allowed.

⊘ Operating Near Airports or Heliports

Operating drone near the airport or any restricted areas is punishable.

⊘ Carrying Drone in and out of Dubai Without Certification or Registration

Uncertified Pilot or unregistered drones may result in fines or confiscation.

⊘ Certification does not authorize to operate Drones

Certification does not grant any authorization to operate drones during this restricted period.

⊘ Ignoring Temporary Flight Restrictions

Always check the DCAA website/app for real-time operational restrictions.



THANK YOU