



# INFINITE LOOPS

Learn basic controller functions and flight characteristics of the drone. Maintain elevation while making loops around two cones with and without sensors in Line of Sight (LOS). Students should be able to maintain steady altitude control and complete a full rotation to complete this activity. Cones should be 3-5 feet apart.

<b>Activity Type</b>	Advanced Control
<b>Activity Time</b>	10-20 Mins
<b>Student Groups of</b>	1-6
<b>Difficulty</b>	Medium
<b>Supplies</b>	Safety Gear, Drone, Controller, Batteries, Cones, FPV goggles
<b>Designated Flight Area</b>	Clear area free of obstructions and moving air. Recommend atleast 10x10 ft.

## PREFLIGHT CHECKLIST

### Site Safety Inspection

- ✓ Designate flight area
- ✓ Place signage and ensure area remains clear

### Preflight Inspections

- ✓ Inspect drone for any damage
- ✓ Debris or hair in the motors
- ✓ Inspect battery and verify voltage
- ✓ Insert battery until fully seated
- ✓ Connect and verify battery
- ✓ Apply safety gear

## STEP #1

Set up cones in flight area, 3-5 feet apart.  
Power on your launch controller and drone.



## STEP #2

Ensure the drone is in low speed and Normal Mode  
by flipping both switch A & C fully down.



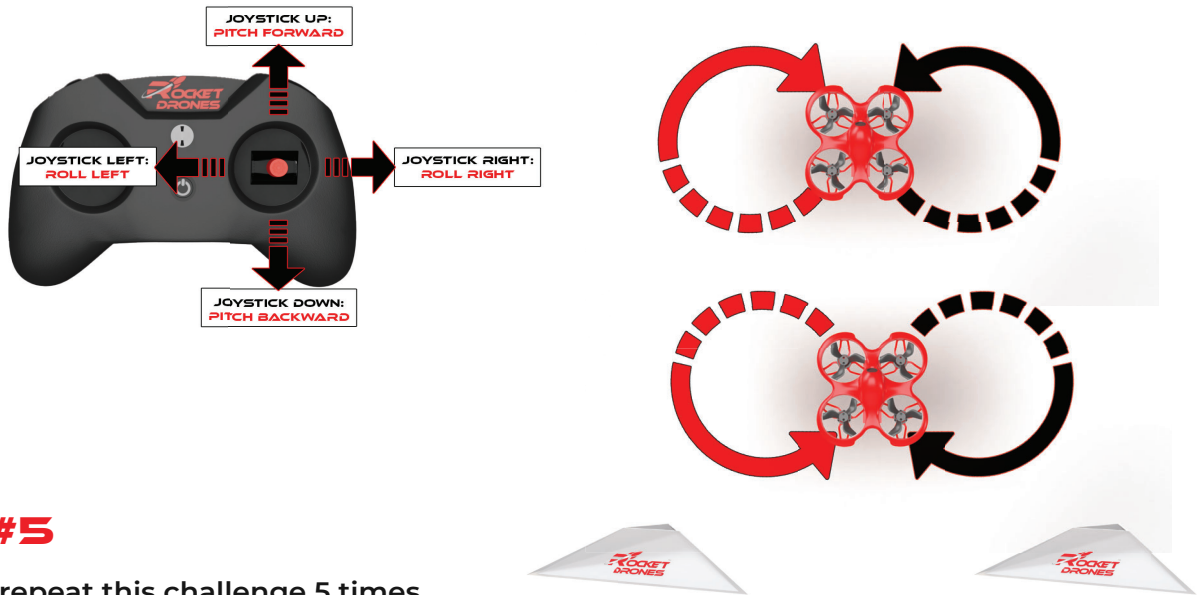
**Do not change flight modes during flight!**

### STEP #3

Ensure the left joystick (throttle) is in the down position on startup then bring your drone up to shoulder level at a safe distance.

### STEP #4

Once at shoulder level, each pilot should use a combination of left and right joystick to move around the cones in an infinite looping pattern.



### STEP #5

Land and repeat this challenge 5 times.

### STEP #6

Land and change to Sport mode by flipping switch A to the mid position. Then repeat steps 3-5.

### STEP #7

Complete Post Flight Checklist.

#### Post Flight Checklist

- |   |   |
|---|---|
| • Remove batteries and allow a cooldown (3 mins) <input type="checkbox"/> | • Ensure batteries are stored properly <input type="checkbox"/>         |
| • Power down controller and FPV goggles <input type="checkbox"/>          | • Store controllers with each designated drone <input type="checkbox"/> |
| • Inspect drone for any damage <input type="checkbox"/>                   | • _____ <input type="checkbox"/>  |

#### Power Up Mode: FPV Experience

Students who have mastered this skill in Normal and Sport Mode may attempt the Power Up Mode and complete this activity with FPV Goggles. Ensure channel frequencies are set properly. Refer to FPV Channel Settings.

# ROCKET DRONES CHALLENGE

## INFINITE LOOPS

### STUDENT COMPLETION CHECKLIST

Student's Name	Normal Mode		Sport Mode	
	LOS	FPV	LOS	FPV
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>