DRONE DRIFTING

In this activity the students will learn how to properly trim the drift out of a drone and use the auto land/take off feature to measure their ability to accurately trim the drone.

Trimming the drone removes drift and improves the position hold capability of the sensors. This will allow the drone to remian stable in flight and hover in place while controls are not applied.

Activity Type	Competitive
Activity Time	5-10 Mins
Student Groups of	Up to 6
Difficulty	Medium
Supplies	Safety Gear, Drone, Controller, Batteries, Landing Pads, Tape measure
Designated Flight Area	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

Have each pilot begin the binding procedure one at a time.
Binding procedure can be found here.
Pilots should press and hold the left joystick in, while powering on the controller for this activity.
This will be followed by three beeps confirming the trim settings have been reset.

STEP #2

Have each pilot perform a drone calibration.
Calibration procedure can be found here.

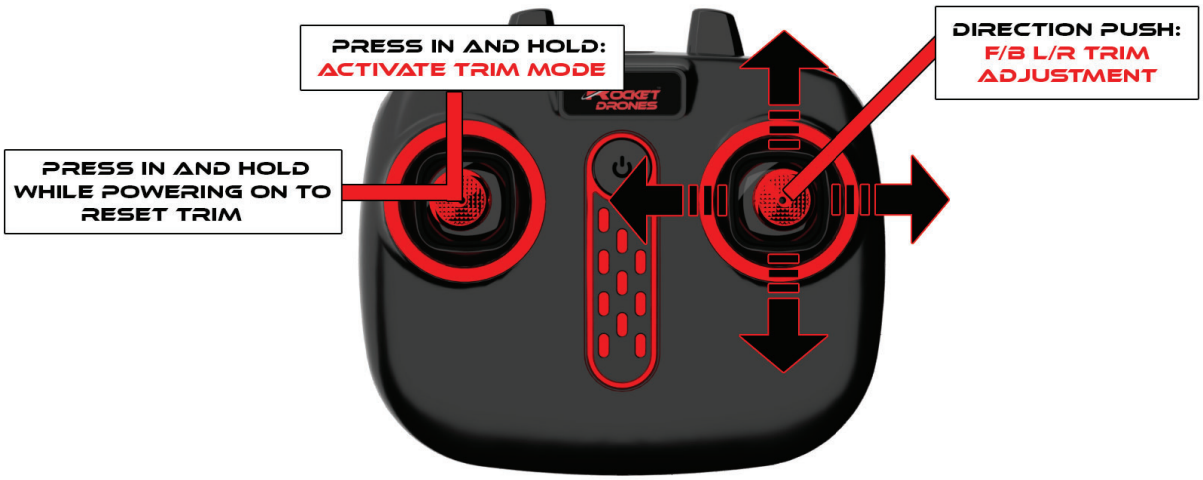
STEP #3

After all drones are bound, pilots should fly up to shoulder height.
Then let the drone hover and observe the direction of drift.
Ensure to orientate the drone before trimming with the red lights on the drone indicating forward.

STEP #4

To correct any drift, press in and hold the left stick while using the right stick to adjust the trim to the **opposite** direction of the drift.

Example, if the drone drifts to the **left**, press and hold left stick and push the right stick to the **right**. Beeps will be heard for each time the trim is adjusted.



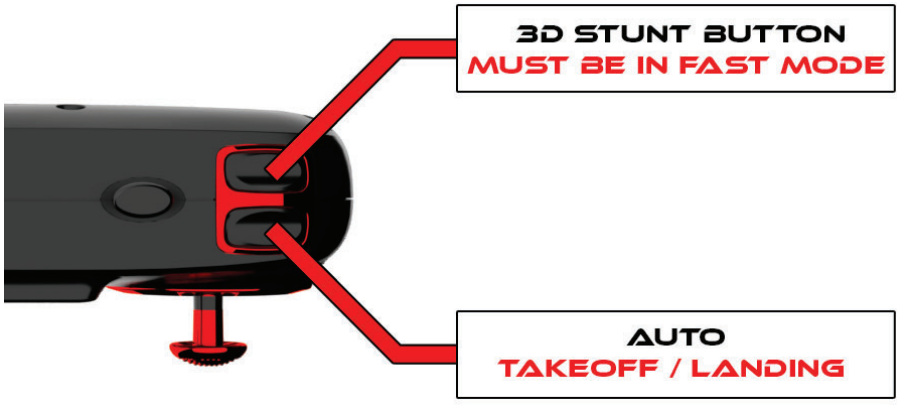
To reset the trim, press and hold the left stick while powering on the controller.

STEP #5

Once all students have performed their trim procedure, have them land on their landing pad and await the other pilots.

STEP #6

When ready, have each pilot use the auto take off feature. Each drone should fly up and begin to hover. The instructor should start a 10 second countdown. Pilots should hold their controller out in front of them to show that they are not adjusting their controls during this 10 seconds. After 10 seconds, each pilot should press the auto land button again.



STEP #7

After the drone lands, measure the distance from the edge of each drone to the center of the landing pad. Each pilot should record the number of inches away from the center of the landing pad to the center of the drone.

STEP #8

Each pilot should repeat step #6 and step #7 a total of three times, measuring and recording their results after each round. Repeat this activity with each student.

Between pilots, ensure to reset the trim settings and calibrate the controller from steps 1 and 2.

ROCKET DRONES ROVER SCORE SHEET

DRONE DRIFTING

Student's Name	Round 1	Round 2	Round 3	Average
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				

Pilots with the lowest average of rounds.

Please print additional score sheets as needed.