

DIAGNOSING YOUR DRONE



ROBOLINK 
CREATORS OF
codrone EDU

ADC Summit 2026

<https://bit.ly/ADC26Diagnosing>

Meet Your Instructors



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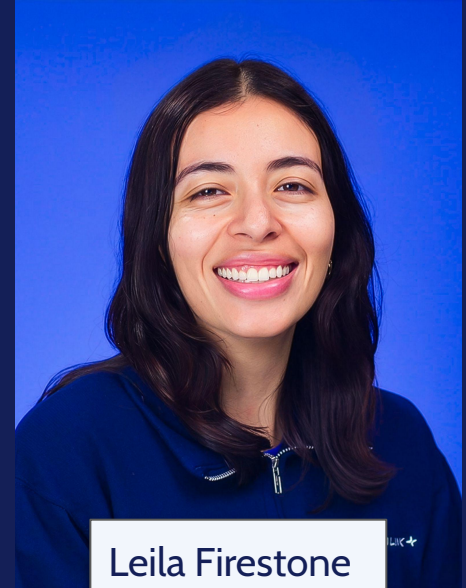


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CURRICULUM

learn.robolink.com



 Course  2 weeks  4 lessons  ● ○ ○ ○ ○

Getting Started with CoDrone EDU

Whether you are a seasoned pilot or a beginner, this course will go through all of the drone basics,...

[Explore](#)

DIAGNOSING

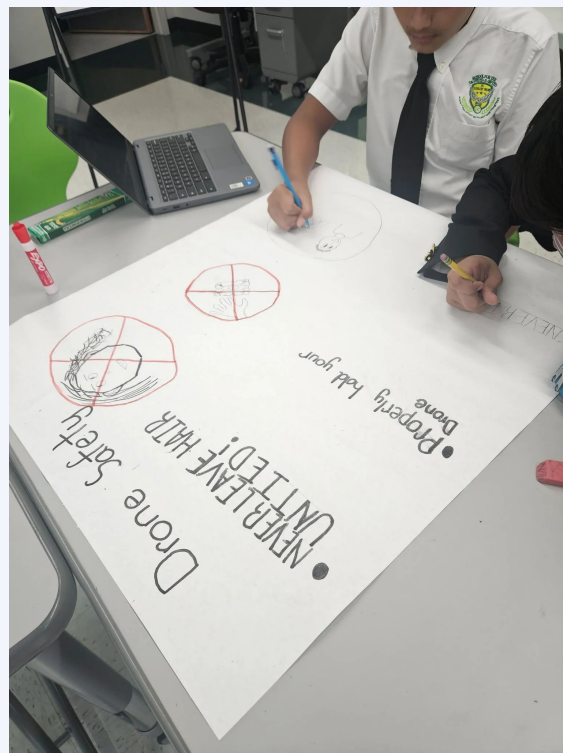
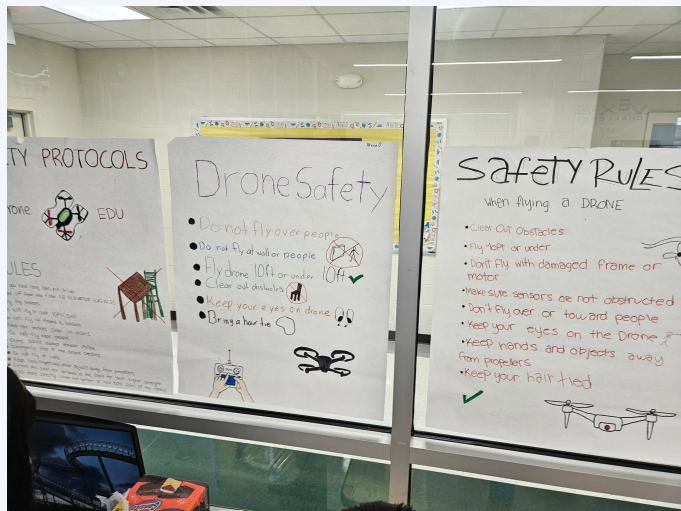
Step #1: Best Practice – Be Proactive

Prioritizing prevention over repair is the most effective approach to drone maintenance. That is why following a preflight checklist is essential to keeping your equipment in peak condition.

Pre-Flight Checklist

- ☐ All firmware is up-to-date
- ☐ Designated indoor flying area is clear
- ☐ Objects that may get caught in the propellers are secured
- ☐ Line of sight is unobstructed
- ☐ The appropriate flight mode settings are selected
- ☐ Frame and motors have no structural damage
- ☐ Propellers, motors, and silicone bumpers are in the correct position
- ☐ Propellers and motors are free of debris and spin freely
- ☐ Battery is charged and not damaged
- ☐ Antenna is extended and pointed at drone
- ☐ Sensors are unobstructed

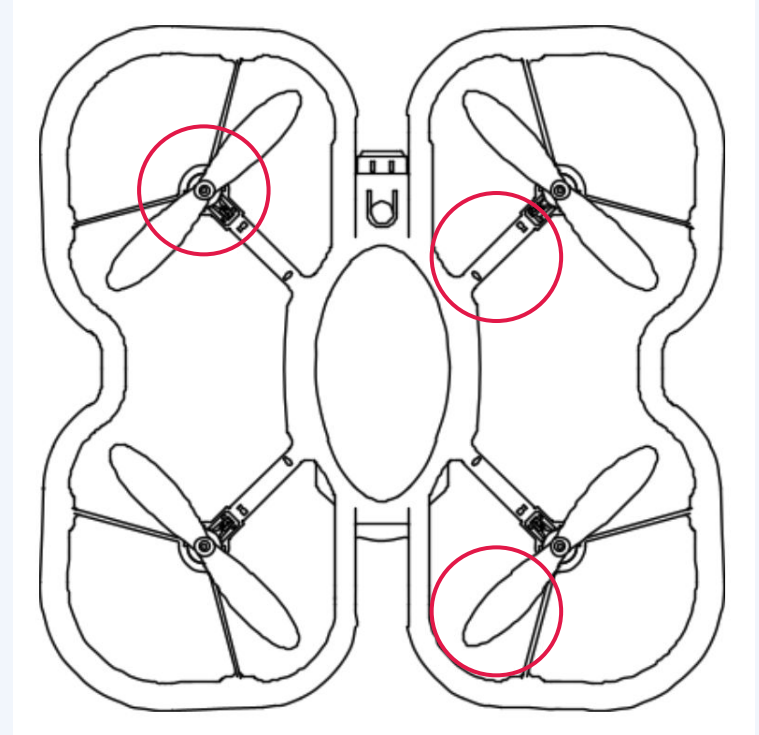
STUDENT-CREATED SAFETY POSTERS



Step #2: Check for visible damage/Missing Components

Diagnostic Checklist:

- Are propellers, motors, and silicone bumpers correctly positioned?
- Why are silicone bumpers essential?
- Can propellers be swapped if colors match?
- When should motors be replaced?
- Are there any frame cracks? (Use the gentle bend method)
- What is the current accident count in your log?





Ready to put your knowledge
to the test?

Diagnose Your Drone

Split into 5 groups.

Your group will be given a drone at random. Your task is to work together through the worksheet to diagnose the drone and propose solutions as well as preventative measures.

You will be given 5 - 10 minutes.

At the end, we will be sharing our findings!

After general diagnosis, what is a pattern you noticed?

Mosfet Damage

A **MOSFET** (Metal-Oxide-Semiconductor Field-Effect Transistor) is an electronic component used to **switch** or **amplify** electrical signals.

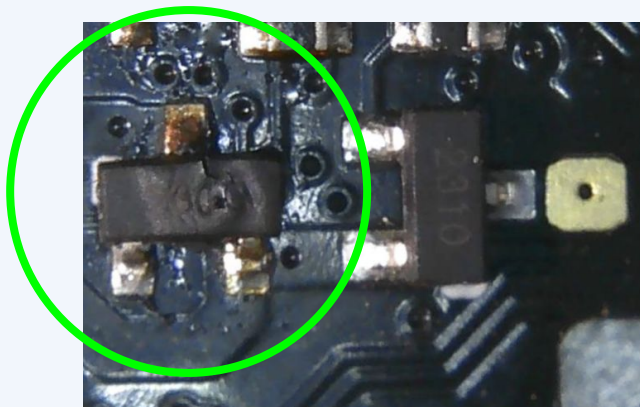
Why does this happen?

1. Firmware not up to date
2. Continuing to press the L1 button to take off, despite the drone not taking off

This leads to main portions of the circuit board to burn up, causing the propellers to spin uncontrollably.

How do I avoid this?

FOLLOW THE PRE-FLIGHT CHECKLIST!





KEY CONSIDERATIONS FOR TROUBLESHOOTING CONTROLLER MALFUNCTIONS

Why does the antenna cover on my controller keep breaking?

While the antenna plastic cover is durable, it is not indestructible. We have observed that students often use the antennas as fidget toys, which can lead to damage.

Please adhere to the following guidelines:

- **Proper Usage:** The antenna is designed only to be lifted up and down.
- **Avoid Damage:** Do not twist the antenna or apply pressure against resistance.

If the plastic cover breaks while the internal wire remains intact, you can purchase a replacement by contacting support@roboLink.com.

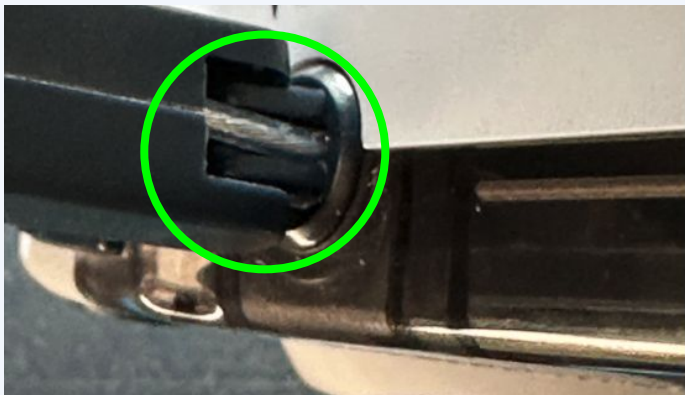


When I am having connectivity issues, what should I look out for?

To diagnose connectivity issues between your drone and controller, follow these steps:

1. **Test Signal Strength:** Pair your devices, navigate to the frequency screen, and walk away from the controller while holding the drone. Observe whether the connectivity drops significantly.
2. **Inspect the Controller:** Gently shake the controller to listen for any loose internal components.
 - **If you hear something loose:** Proceed to open the controller.
 - **If it sounds secure:** Focus your inspection on the drone instead.

Note on Antenna Damage: If your inspection reveals a broken antenna wire, the damage is irreversible, and the controller must be replaced.



Controller Handlebars

These components are durable and designed to resist breaking.

They typically only detach if the controller is dropped or if the handlebars are subjected to excessive, forceful pulling.

If a handle does detach, there is no need for concern; the accessory is optional, and your controller will remain fully functional without it. If you would prefer to replace a detached handle, individual replacements can be purchased by contacting our support team at support@robolink.com.



For JROTC Edition Drones ONLY

What Happened?

Thanks to feedback from our educator community, we identified an issue with the CoDrone EDU (JROTC edition). While this doesn't impact core flight or classroom use, it is an issue that comes up in scenarios when students execute a quick throttle input or maneuver immediately after takeoff, whether through a manual quick takeoff or the standard L1 takeoff. In these cases, drones may shoot upward until an emergency stop is executed. This is not up to our standards and certainly not up to yours

Solution:

We are offering free bottom piece replacements for the affected drones! Please reach out to support@robolink.com.

How do I know what is the correct bottom piece?

Missing Correct Bottom Piece:



Correct Bottom Piece:



Questions?





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Thank You

Let's stay in touch
@RobolinkInc



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