

Fly With Open Eyes

What you don't know will
hurt you

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The Accidental Aviator

- The UAS public safety field is predominately being filled with people who were not aviators to begin with.
- That doesn't mean the new pilots are bad, they just don't know what they don't know.
- New UAS pilots never had the experience of working with a flight instructor, hanging out with experienced pilots at the airport. As a manned airplane pilot I can assure you that hanging out at the airport teaches you so much as a new aviator.
- So what important lessons do we need to prioritize.



Important Facts You Need to Know

- The drones you are flying are not built to a standard higher than a toy. They have not been tested by the FAA for safety. The FAA has a process that aircraft have to pass and be awarded a Type Certificate that demonstrates the aircraft is airworthy. Airworthiness is the only way you can determine that a UAS is ready for Safe Operation.
- That's important to comply with FAR 107.15 – “No person may operate a civil small unmanned aircraft system unless it is in a condition for safe operation. Prior to each flight, the remote pilot in command must check the small unmanned aircraft system to determine whether it is in a condition for safe operation.”

So Why is It Important to Be Aware of This Stuff?



FAR 91.3 – “The pilot in command of an aircraft is directly responsible for, and is the final authority as to, the operation of that aircraft.”



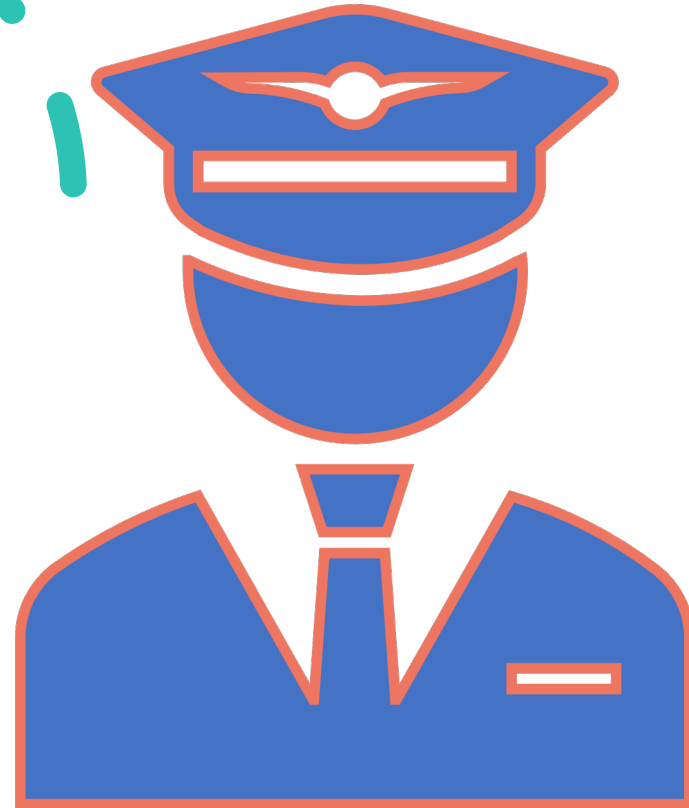
FAR 91.13 – “No person may operate an aircraft in a careless or reckless manner so as to endanger the life or property of another.”



Do these issues apply only to Part 107 pilots?

The Pilot of the Aircraft is Always Personally Liable

- Even if you fly under a COA, no department can shield you from your personal liability under the FARs.
- Each violation can be an \$11,000 fine.
- Not to mention the lawsuits from people that you might strike or damage their property.





COAs – A Cesspool of Liability



- I think a lot of people rushed to apply and fly for COAs without fully understanding the ramifications.
- COA agencies take on all the liability and responsibility that would otherwise be the role of the FAA. COA agencies also then take on the liability for not complying with all the required reporting and running their operation to the standards that would be required by a commercial flight operation.
- COA pilots need to demonstrate they have met or exceeded the same requirements that a Part 107 pilot must demonstrate.




More COA Landmines


If a COA agency adds an accessory component like a parachute on a UAS then it must certify the drone with the parachute has demonstrated airworthiness.

Not every flight by a COA pilot is covered. Approved flights are Public Aircraft Operations (PAO). But demonstration flights, some training flights, and flights for other departments probably do not qualify as a PAO. But a PAO can't be determined until the flight is completed.

Any flight conducted that is later determined not to be a PAO that is flown by a COA pilot without a Part 107 will be unlicensed flight.

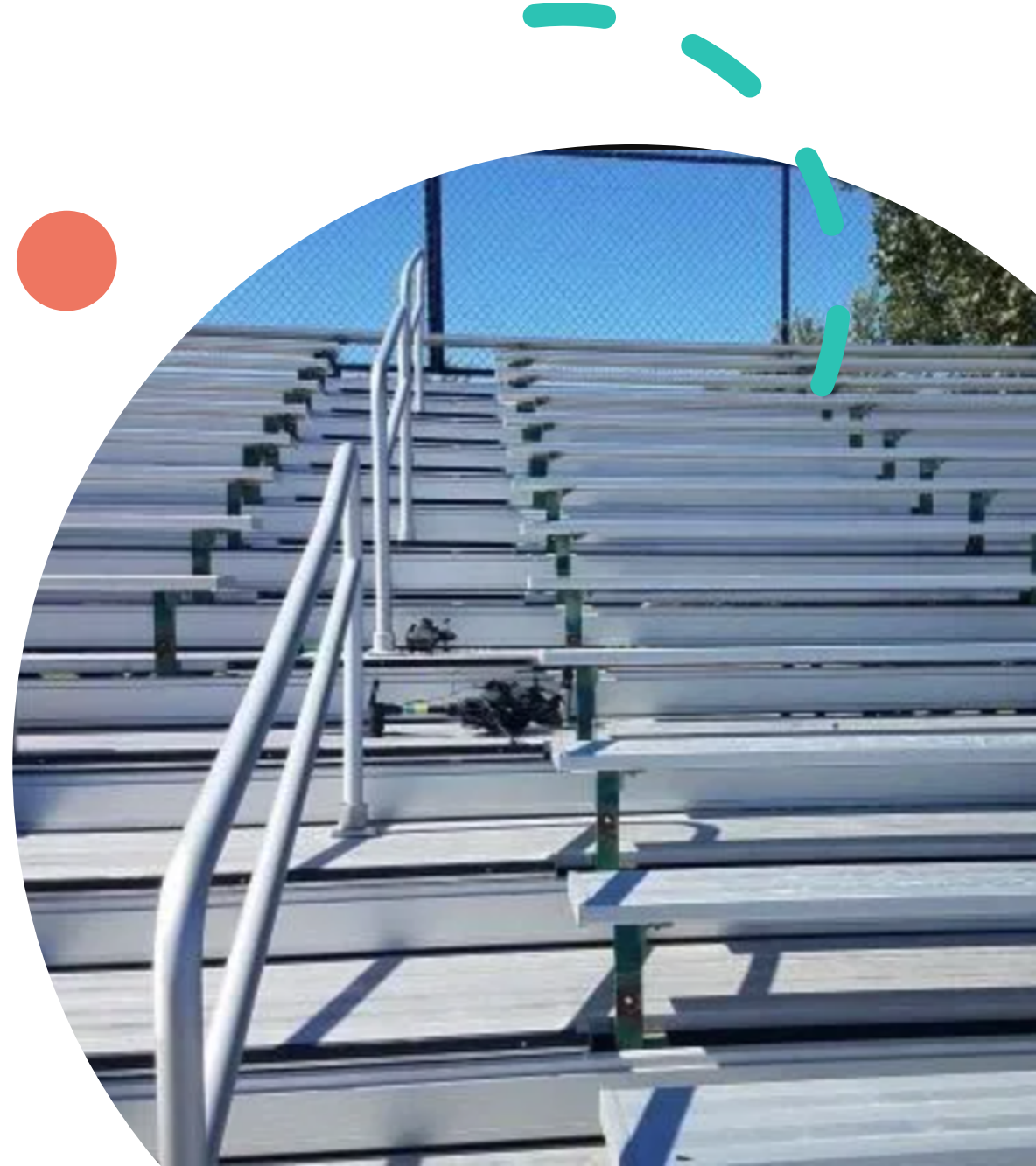


Understanding Liability Exposure is Important

- Drones crash every day.
 - I created ReportDroneAccident.com to track and analyze accidents.
 - Here are a couple of recent ones....
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Drone Collides With Bleachers


- A Matrice 210 was destroyed after take off during a training flight by a police department.
- 8 seconds after takeoff the Matrice took off and accelerated to 49 MPH. 4 seconds later it struck the empty bleachers at the fairground. It stuck with 10 times the kinetic energy to fracture a skull.
- The Z30 and thermal cameras were destroyed as well.



Parachute Leads to Loss of Drone

- A public safety agency added a parachute to a Matrice 200 to be able to fly over people.
- The parachute incorrectly activated, ejected the batteries on the aircraft, and struck the ground before the parachute could slow descent enough.



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- A pilot in the UK had their Inspire 2 fall out of the air and land on a parked car leading to damage of the vehicle and “disintegration” of the UAS.
 - Inspire battery failure during flight and aircraft is lost.
 - Parrot Anafi begins twitching after takeoff, control was lost and it crashed with substantiable damage.
 - A leading drone integrator said that 10% of the new drones they received had defects.
 - Battery problems are common.



More
Accidents



But Wait.
There is More.

Good news is coming.

Type certified drones are coming.

Drones that have been tested to be safe to fly are coming.

But while we wait we have to deal with...

Trouble Areas



GPS Signal Interference – There is a real possibility that GPS signal interference will become a reality if the FCC and military can't come to a better understanding on bandwidth.



Remote Controllers – We need to get away from radio remote control and let 5G cellular provide our control channels.



Energy Management – Better batteries and power sources are coming that will extend flight times.



Contact Me

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