

ASRS Database Report Set

Unmanned Aircraft Systems (UAS) Reports

Report Set Description.....Reports involving Unmanned Aircraft Systems (UAS)
events reported by operators of manned or unmanned
aircraft.

Update Number.....14

Date of UpdateNovember 17, 2021

Number of Records in Report Set.....50

Records within this Report Set have been screened to assure their relevance to the topic.

National Aeronautics and
Space Administration

Ames Research Center
Moffett Field, CA 94035-1000



TH: 262-7

MEMORANDUM FOR: Recipients of Aviation Safety Reporting System Data

SUBJECT: Data Derived from ASRS Reports

The attached material is furnished pursuant to a request for data from the NASA Aviation Safety Reporting System (ASRS). Recipients of this material are reminded when evaluating these data of the following points.

ASRS reports are submitted voluntarily. The existence in the ASRS database of reports concerning a specific topic cannot, therefore, be used to infer the prevalence of that problem within the National Airspace System.

Information contained in reports submitted to ASRS may be amplified by further contact with the individual who submitted them, but the information provided by the reporter is not investigated further. Such information represents the perspective of the specific individual who is describing their experience and perception of a safety related event.

After preliminary processing, all ASRS reports are de-identified and the identity of the individual who submitted the report is permanently eliminated. All ASRS report processing systems are designed to protect identifying information submitted by reporters; including names, company affiliations, and specific times of incident occurrence. After a report has been de-identified, any verification of information submitted to ASRS would be limited.

The National Aeronautics and Space Administration and its ASRS current contractor, Booz Allen Hamilton, specifically disclaim any responsibility for any interpretation which may be made by others of any material or data furnished by NASA in response to queries of the ASRS database and related materials.

A handwritten signature in cursive script, appearing to read "B. Hooley".

Becky L. Hooley, Director
NASA Aviation Safety Reporting System

CAVEAT REGARDING USE OF ASRS DATA

Certain caveats apply to the use of ASRS data. All ASRS reports are voluntarily submitted, and thus cannot be considered a measured random sample of the full population of like events. For example, we receive several thousand altitude deviation reports each year. This number may comprise over half of all the altitude deviations that occur, or it may be just a small fraction of total occurrences.

Moreover, not all pilots, controllers, mechanics, flight attendants, dispatchers or other participants in the aviation system are equally aware of the ASRS or may be equally willing to report. Thus, the data can reflect **reporting biases**. These biases, which are not fully known or measurable, may influence ASRS information. A safety problem such as near midair collisions (NMACs) may appear to be more highly concentrated in area “A” than area “B” simply because the airmen who operate in area “A” are more aware of the ASRS program and more inclined to report should an NMAC occur. Any type of subjective, voluntary reporting will have these limitations related to quantitative statistical analysis.

One thing that can be known from ASRS data is that the number of reports received concerning specific event types represents the **lower measure** of the true number of such events that are occurring. For example, if ASRS receives 881 reports of track deviations in 2010 (this number is purely hypothetical), then it can be known with some certainty that at least 881 such events have occurred in 2010. With these statistical limitations in mind, we believe that the **real power** of ASRS data is the **qualitative information** contained in **report narratives**. The pilots, controllers, and others who report tell us about aviation safety incidents and situations in detail – explaining what happened, and more importantly, **why** it happened. Using report narratives effectively requires an extra measure of study, but the knowledge derived is well worth the added effort.

Report Synopses

ACN: 1824677 *(1 of 50)*

Synopsis

UAS pilot flew in Class D airspace without authorization.

ACN: 1824343 *(2 of 50)*

Synopsis

UAS had a lost link occur during flight. Pilot regained link with UAS and used manual control to recover the UAS.

ACN: 1823392 *(3 of 50)*

Synopsis

UAS flight crew operating at an uncontrolled airport had a near miss with a helicopter.

ACN: 1821768 *(4 of 50)*

Synopsis

Recreational/hobby UAS pilot checked and used an app created by the manufacturer of the UAS being flown. The app has several no-fly areas listed but did not list the Class D airspace of a nearby airport. The UAS was flown within the Class D airspace without proper authorization.

ACN: 1821478 *(5 of 50)*

Synopsis

Multi person UAS flight crew was conducting a crew swap while UAS was flying near weather and building clouds. After crew swap the UAS was flown inadvertently into icing conditions and was able to exit.

ACN: 1820785 *(6 of 50)*

Synopsis

Hobbyist UAS pilot was distracted by an animal while flying. The UAS flew into an area with high winds and the UAS pilot was unable to maintain control of the UAS which crashed a short time later.

ACN: 1819468 *(7 of 50)*

Synopsis

Air taxi flight crew noticed a UAS pass 2 feet over the wing during descent and notified ATC.

ACN: 1818330 *(8 of 50)*

Synopsis

Air carrier flight crew climbing through 13,000 feet reported a near miss with a UAS approximately 200 feet below the aircraft. ATC was notified.

ACN: 1817997 *(9 of 50)*

Synopsis

UAS encountered wind shear and was unable to maintain altitude. Flight crew was able to regain control of the UAS and return to previous altitude.

ACN: 1817312 *(10 of 50)*

Synopsis

Passenger on an air carrier flight was looking through the window while the aircraft was on approach. The passenger saw a large UAS approximately 150 feet away. The UAS began to climb and the passenger was unable to inform the flight crew.

ACN: 1817230 *(11 of 50)*

Synopsis

Air carrier flight crew established on an ILS approach noticed they flew past a UAS on the left side of their aircraft. Crew notified ATC.

ACN: 1816745 *(12 of 50)*

Synopsis

Part 107 pilot was conducting a recreational proficiency flight. The flight occurred during the hours of dusk and winds were starting to increase. The pilot noticed difficulty controlling the UAS near 400 feet therefore descended to a lower altitude to regain control of the UAS.

ACN: 1816005 *(13 of 50)*

Synopsis

Air carrier flight crew descending via a STAR procedure experienced a near miss with a UAS passing approximately 10-30 feet below. Flight crew notified ATC.

ACN: 1815943 *(14 of 50)*

Synopsis

Helicopter pilot on final approach into Class D airport took evasive action to avoid a collision with a UAS. The pilot notified ATC.

ACN: 1815850 *(15 of 50)*

Synopsis

Air carrier flight crew was descending into a Class B airport on a STAR. At approximately 6,000 feet they had a near miss with a UAS and advised ATC.

ACN: 1815722 *(16 of 50)*

Synopsis

Part 107 UAS pilot conducted an inspection over private property. After the flight, ground staff learned the flight took place within Class D airspace.

ACN: 1814773 *(17 of 50)*

Synopsis

Part 107 pilot was flying UAS when a lost link occurred. Pilot was unable to reconnect to the UAS and it was lost/unrecoverable.

ACN: 1814090 *(18 of 50)*

Synopsis

General aviation pilot struck a UAS while on approach. After landing and during inspection of the aircraft the pilot found damage to the wing of the aircraft.

ACN: 1813818 *(19 of 50)*

Synopsis

UAS pilot was unable to maintain control of the UAS due to equipment malfunctions and gusty winds. The UAS crashed in an area of dry grass where the Pilot was able to recover the UAS with exception of the battery.

ACN: 1813541 *(20 of 50)*

Synopsis

Part 107 UAS pilot used the LAANC system to request authorization for a flight within controlled airspace. The request was not approved and the pilot continued with the flight in controlled airspace.

ACN: 1813523 *(21 of 50)*

Synopsis

Pilot reported a near miss with a UAS.

ACN: 1813302 *(22 of 50)*

Synopsis

Air carrier flight crew was given a traffic alert from air traffic control about a UAS near the final approach path. At 3,500 feet and near the final approach fix the flight crew saw a UAS pass 50 feet away. Aircraft landed without incident.

ACN: 1812712 *(23 of 50)*

Synopsis

A VFR pilot in cruise flight at 15,500 feet noticed a small UAS about 1000 feet below them flying in the opposite direction.

ACN: 1812556 *(24 of 50)*

Synopsis

Air carrier flight crew was on an IFR flight, cruising at 5,000 feet. The pilot received a Traffic Alert and noticed an object directly ahead of them. Without time to react and after passing the object the pilot noticed they had a near miss with a multi-rotor UAS.

ACN: 1811687 *(25 of 50)*

Synopsis

Air carrier flight crew was on a final for an ILS approach when they came within 50F ft. of a large sized UAS. Crew notified ATC and landed safely.

ACN: 1811646 *(26 of 50)*

Synopsis

A fixed wing pilot had a near miss with a UAS during cruise flight.

ACN: 1811318 *(27 of 50)*

Synopsis

Pilot noticed fatigue cracks in post flight inspection of UAS.

ACN: 1811317 *(28 of 50)*

Synopsis

Pilot noticed the battery on the UAS became dislodged during the flight.

ACN: 1811005 *(29 of 50)*

Synopsis

An air carrier flight crew on visual approach to a Class B airport observed a drone pass along the aircraft at 5,000 feet. Crew notified ATC.

ACN: 1810373 *(30 of 50)*

Synopsis

Part 107 crew had a lost link with the UAS. After attempting a return to home (RTH) function the Crew was unable to regain control of the UAS which crashed shortly after.

ACN: 1809433 *(31 of 50)*

Synopsis

An eyewitness saw two UAS flying within a Special Air Traffic Rule (SFAR) area close to numerous operating fixed wing and rotor wing aircraft.

ACN: 1809244 *(32 of 50)*

Synopsis

An air carrier flight crew was on final approach descending past 3,000 feet when they noticed a UAS above them and notified ATC.

ACN: 1809236 *(33 of 50)*

Synopsis

Air carrier flight crew had a near miss with a UAS while on approach.

ACN: 1809084 *(34 of 50)*

Synopsis

Air Carrier Captain reported a near miss with a UAS while on approach.

ACN: 1808986 *(35 of 50)*

Synopsis

Recreational Drone Pilot reported inadvertently flying within Class B airspace from the parking lot of a stadium complex. The Pilot was unaware of the incursion until advised by security personnel.

ACN: 1808729 *(36 of 50)*

Synopsis

UAS crew failed to obtain LAANC authorization prior to UAS flight.

ACN: 1808344 *(37 of 50)*

Synopsis

Air carrier flight crew was flying a published SID and climbing above 10,000 feet when an object, possibly a UAS, passed by the aircraft.

ACN: 1808197 *(38 of 50)*

Synopsis

Commercial UAS pilot realized after several flights they had been flying with an expired Part 107 license.

ACN: 1808150 *(39 of 50)*

Synopsis

Air taxi flight crew was on a descent when they noticed a small UAS within 50-100 feet of their flight path. Crew notified ATC.

ACN: 1807875 *(40 of 50)*

Synopsis

Commercial UAS crew operating a UAS exceeded authorized altitude during climb while in close proximity to Class C airspace.

ACN: 1807874 *(41 of 50)*

Synopsis

Commercial UAS operator reported flying a UAS near a Class B airport without authorization.

ACN: 1807873 *(42 of 50)*

Synopsis

There was an eyewitness of a UAS operating at a University. The eyewitness believed the UAS was flying at an unsafe altitude due to the proximity of a nearby airport.

ACN: 1807834 *(43 of 50)*

Synopsis

The pilot of a small aircraft reported a near miss with a large UAS while flying on an IFR flight plan. The pilot was able to see and avoid it in time.

ACN: 1806950 *(44 of 50)*

Synopsis

Remote pilot was flying a UAS 100 ft. below a charted Alert Area when a fast moving military jet was flying the same vicinity. The remote pilot recognized the conflict and landed the UAS to avoid collision.

ACN: 1806949 *(45 of 50)*

Synopsis

Remote pilot was conducting a photo flight near an uncontrolled airport. The remote pilot was unaware the Class E airspace extended to the surface where they were flying.

ACN: 1806478 *(46 of 50)*

Synopsis

Corporate flight crew was in cruise flight at 16,000 feet when they noticed a UAS about 500 feet below them and notified ATC.

ACN: 1805793 *(47 of 50)*

Synopsis

Air carrier flight crew noticed and came within 10 feet of a UAS while at 6,000 feet.

ACN: 1803127 *(48 of 50)*

Synopsis

Hobbyist drone pilot was unaware he was flying in controlled airspace until approached by a public official.

ACN: 1802595 *(49 of 50)*

Synopsis

Helicopter Single Pilot reported a near miss with a drone at 1,200 ft.

ACN: 1798401 *(50 of 50)*

Synopsis

Part 107 pilot was flying in an area they believed to be available for UAS operations. After further review the pilot learned they were in fact in airspace not available to UAS operations which was not noted by any of the UAS apps.

Report Narratives

Time / Day

Date : 202106
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : AZO.Tower
State Reference : MI
Relative Position.Distance.Nautical Miles : 3.7
Altitude.AGL.Single Value : 107

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling : CLR

Aircraft

Reference : X
Aircraft Operator : Commercial Operator (UAS)
Make Model Name : Small UAS (At or above 0.55 lbs and less than 55 lbs)
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 107
Flight Plan : None
Mission : Utility / Infrastructure
Flight Phase : Takeoff / Launch
Flight Phase : Landing
Flight Phase : Hovering (UAS)
Flight Phase : Cruise
Route In Use : None
Airspace.Class D : ZZZ
Operating Under Waivers / Exemptions / Authorizations (UAS) : N
Weight Category (UAS) : Small
Configuration (UAS) : Multi-Rotor
Flight Operated As (UAS) : VLOS
Flight Operated with Visual Observer (UAS) : N
Control Mode (UAS) : Manual Control
Flying In / Near / Over (UAS) : Private Property
Flying In / Near / Over (UAS) : People / Populated Areas
Type (UAS) : Purchased
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person : Outdoor / Field Station (UAS)
Reporter Organization : Commercial Operator (UAS)
Function.Flight Crew : Remote PIC (UAS)
Function.Flight Crew : Person Manipulating Controls (UAS)
Qualification.Flight Crew : Remote Pilot (UAS)

Experience.Flight Crew.Total : 0.0
Experience.Flight Crew.Total (UAS) : 16
Experience.Flight Crew.Last 90 Days (UAS) : 4.5
Experience.Flight Crew.Type (UAS) : 16
ASRS Report Number.Accession Number : 1824677
Human Factors : Training / Qualification

Events

Anomaly.Airspace Violation : All Types
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Other Person
When Detected.Other
Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

Did not check airspace prior to take off. Flew drone over dwelling for roof inspection without prior authorization from AZO. Management discovered airspace incursion during monthly flight reviews. I shall always include airspace checks prior to every flight.

Synopsis

UAS pilot flew in Class D airspace without authorization.

Time / Day

Date : 202106
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Altitude.AGL.Single Value : 10

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling : CLR

Aircraft

Reference : X
Aircraft Operator : Government
Make Model Name : Skydio 2
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 107
Flight Plan : None
Mission : Utility / Infrastructure
Flight Phase : Cruise
Flight Phase : Return to Home (UAS)
Flight Phase : Hovering (UAS)
Route In Use : None
Operating Under Waivers / Exemptions / Authorizations (UAS) : Y
Waivers / Exemptions / Authorizations (UAS) : 107.31
Weight Category (UAS) : Small
Configuration (UAS) : Multi-Rotor
Flight Operated As (UAS) : BVLOS
Flight Operated with Visual Observer (UAS) : N
Control Mode (UAS) : Manual Control
Flying In / Near / Over (UAS) : Critical Infrastructure
Type (UAS) : Purchased
Number of UAS Being Controlled (UAS).Number of UAS : 1

Component : 1

Aircraft Component : Receiver (UAS)
Manufacturer : Skydio
Aircraft Reference : X
Problem : Malfunctioning

Component : 2

Aircraft Component : Transmitter (UAS)
Manufacturer : Skydio
Aircraft Reference : X
Problem : Malfunctioning

Person

Location Of Person : Outdoor / Field Station (UAS)
Reporter Organization : Government
Function.Flight Crew : Remote PIC (UAS)
Function.Flight Crew : Person Manipulating Controls (UAS)
Qualification.Flight Crew : Remote Pilot (UAS)
Experience.Flight Crew.Total (UAS) : 50
Experience.Flight Crew.Last 90 Days (UAS) : 10
Experience.Flight Crew.Type (UAS) : 25
ASRS Report Number.Accession Number : 1824343
Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Critical
Detector.Person : UAS Crew
When Detected : In-flight
Result.Flight Crew : Regained Aircraft Control
Result.Aircraft : Lost Link (UAS)
Result.Aircraft : Automated Return to Home (UAS)

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

The RPIC was standing near the lateral middle of the bridge and flew the Skydio 2 under the deck to inspect the underside. When the drone was well under the bridge, lost link occurred. The drone initiated an RTH but was unable to find a path home, so it maintained a static hover under the bridge. The RPIC moved to the side of the bridge and regained link and then safely returned the aircraft. Flight mode was manual (no 3d scan or autonomous flight plan). Operations were discontinued after this incident.

Synopsis

UAS had a lost link occur during flight. Pilot regained link with UAS and used manual control to recover the UAS.

Time / Day

Date : 202107
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 3000

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.CTAF : ZZZ
Aircraft Operator : Military
Make Model Name : Large UAS (At or above 1320 lbs)
Crew Size.Number Of Crew : 3
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Training
Flight Phase : Takeoff / Launch
Route In Use : None
Airspace.Class G : ZZZ
Airspace Authorization Provider (UAS) : FAA Authorization
Operating Under Waivers / Exemptions / Authorizations (UAS) : Y
Waivers / Exemptions / Authorizations (UAS).Other
Weight Category (UAS) : Large
Configuration (UAS) : Fixed Wing
Flight Operated with Visual Observer (UAS) : Y
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Flying In / Near / Over (UAS) : Aircraft / UAS
Number of UAS Being Controlled (UAS).Number of UAS : 1

Aircraft : 2

Reference : Y
Make Model Name : Helicopter
Airspace.Class G : ZZZ

Person

Location Of Person.Aircraft : X
Reporter Organization : Military
Function.Flight Crew : Instructor
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Flight Instructor
Experience.Flight Crew.Total : 700

Experience.Flight Crew.Total (UAS) : 700
ASRS Report Number.Accession Number : 1823392
Human Factors : Time Pressure

Events

Anomaly.Conflict : NMAC
Detector.Person : Visual Observer (UAS)
Miss Distance.Horizontal : 0
Miss Distance.Vertical : 100
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Primary Problem : Ambiguous

Narrative: 1

During takeoff at ZZZ we were conducting a training flight using a [large] unmanned aircraft under a military COA (Certificate Of Authority). Immediately after takeoff on upwind runway XX our chase aircraft, notified us to immediately level off due to a potential collision with a Helicopter. The Helicopter flew directly over our departure end of runway at approx. 300 feet narrowly missing us on upwind by approx. 100 feet.

Synopsis

UAS flight crew operating at an uncontrolled airport had a near miss with a helicopter.

Time / Day

Date : 202106
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZZZ.Tower
State Reference : US
Relative Position.Distance.Nautical Miles : 1
Altitude.AGL.Single Value : 400

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Dusk
Ceiling : CLR

Aircraft

Reference : X
Aircraft Operator : Recreational / Hobbyist (UAS)
Make Model Name : DJI Mavic Air 2
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Recreational Operations / Section 44809 (UAS)
Flight Plan : None
Mission : Photo Shoot / Video
Flight Phase : Hovering (UAS)
Airspace.Class D : ZZZ
Operating Under Waivers / Exemptions / Authorizations (UAS) : N
Airworthiness Certification (UAS) : Special Authorization / Section 44807
Weight Category (UAS) : Small
Configuration (UAS) : Multi-Rotor
Flight Operated As (UAS) : VLOS
Flight Operated with Visual Observer (UAS) : N
Control Mode (UAS) : Manual Control
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Passenger Capable (UAS) : N
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person : Outdoor / Field Station (UAS)
Reporter Organization : Recreational / Hobbyist (UAS)
Function.Flight Crew : Remote PIC (UAS)
Function.Flight Crew : Person Manipulating Controls (UAS)
Experience.Flight Crew.Total : 0
Experience.Flight Crew.Total (UAS) : 30
Experience.Flight Crew.Last 90 Days (UAS) : 10
Experience.Flight Crew.Type (UAS) : 30
ASRS Report Number.Accession Number : 1821768
Human Factors : Situational Awareness
Human Factors : Training / Qualification

Events

Anomaly.Airspace Violation : All Types
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Other Person
When Detected : In-flight
Result.General : Police / Security Involved
Result.Flight Crew : Exited Penetrated Airspace

Assessments

Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : Chart Or Publication
Contributing Factors / Situations : Software and Automation
Contributing Factors / Situations : Procedure
Primary Problem : Ambiguous

Narrative: 1

UAS was being flown for photographing the sunset under section 44807 for recreational use. The app used for controlling UAS and verifying an appropriate flying location was the DJI Fly app. The DJI Fly app has geofencing capabilities and has shown on multiple occasions that certain areas are restricted and will prevent the user from taking off and flying in restricted areas. I did not know at the time that this app does not restrict flying in certain areas that require authorization to fly in. At this particular location the altitude restriction on the app is set to 400 feet, there were several "altitude zones" and restricted areas nearby that limited altitude and the geofencing software would stop the UAS from entering these areas and I avoided them. While the UAS was around 400ft altitude and 300 feet away, maintaining VLOS, I noticed a vehicle approaching my location. They informed me that they were contacted by Naval Air Station about an unauthorized UAS flying in their airspace and requested that I not fly at this location. The location in question, I found out later is Class D airspace with a grid altitude of 0 feet. The DJI app was in conflict with this information saying it was 400 feet. Following the incident I spoke with the FAA in order to find an appropriate location to fly my UAS and was informed about completing TRUST training, using the B4UFly app, and not relying on geofencing from the DJI Fly app.

Synopsis

Recreational/hobby UAS pilot checked and used an app created by the manufacturer of the UAS being flown. The app has several no-fly areas listed but did not list the Class D airspace of a nearby airport. The UAS was flown within the Class D airspace without proper authorization.

Time / Day

Date : 202106
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Altitude.MSL.Single Value : 27000

Environment

Flight Conditions : VMC
Weather Elements / Visibility : Cloudy
Weather Elements / Visibility : Icing
Weather Elements / Visibility : Thunderstorm
Weather Elements / Visibility.Visibility : 10
Light : Daylight

Aircraft

Reference : X
Aircraft Operator : Military
Make Model Name : UAV: Unpiloted Aerial Vehicle
Crew Size.Number Of Crew : 3
Operating Under FAR Part : Public Aircraft Operations (UAS)
Flight Plan : IFR
Mission : Training
Flight Phase : Cruise
Route In Use : Vectors
Airspace.Class A : ZZZ
Airspace Authorization Provider (UAS) : FAA Authorization
Operating Under Waivers / Exemptions / Authorizations (UAS) : Y
Airworthiness Certification (UAS) : Special
Weight Category (UAS) : Large
Configuration (UAS) : Fixed Wing
Flight Operated As (UAS) : BVLOS
Control Mode (UAS) : Autonomous / Fully Automated
Flying In / Near / Over (UAS).Other
Passenger Capable (UAS) : N
Type (UAS) : Purchased
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person : Indoor / Ground Control Station (UAS)
Reporter Organization : Military
Function.Flight Crew : Remote PIC (UAS)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Flight Instructor
Experience.Flight Crew.Total : 7000

Experience.Flight Crew.Total (UAS) : 3500
Experience.Flight Crew.Last 90 Days (UAS) : 100
Experience.Flight Crew.Type (UAS) : 1000
ASRS Report Number.Accession Number : 1821478
Human Factors : Situational Awareness
Human Factors : Communication Breakdown
Human Factors : Confusion
UAS Communication Breakdown.Party1 : Remote PIC
UAS Communication Breakdown.Party2 : Person Manipulating Controls

Events

Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : UAS Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Requested ATC Assistance / Clarification

Assessments

Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Contributing Factors / Situations : Weather
Primary Problem : Ambiguous

Narrative: 1

I was doing student training in the vicinity of ZZZ at FL270. The clouds were building in the area and climbing up through our flight level in a relatively short amount of time. The ATCAA (ATC-assigned Airspace) was just south of our position and went hot while we in the area. Center restricted our working airspace clearance to remain north of the ZZZ airport and we accepted. The weather and high clouds were just a few miles north of ZZZ and started to severely limit our maneuvering airspace and we were getting boxed in between staying out of the weather and complying with the airspace clearance.

During crew swap, I briefed the incoming pilot about the weather/high clouds and the requirements to stay north of the ATCAA. I also advised him that it was probably time to depart the area as it was becoming unworkable due to the building weather. I showed him that my student was currently on a heading that was pointing in the direction of the weather (approximately 040 heading) and he would need to turn south before the aircraft entered the cloud and possibly picked up ice. I did not specify, but I intended for the turn to be made to the right where there was still clear air. It also should have been a manual bank heading to steepen the bank angle enough to avoid flying into the ATCAA. I assumed he understood what I wanted him to do, but I did not get any communication from him that he was confused about my instructions. He said he's got it and then proceeded with the crew swap and dismissed my student from the flight controls. After the incoming pilot sat down, he commanded a left turn with the autopilot (14 degrees of bank) and turned right into the clouds. The aircraft began picking up icing and he [contacted] Center to avoid flying into more weather/icing. Upon my student exiting the ground control station, I

began talk to him about his handover briefing and I did not notice the aircraft turning left until it was already in the weather.

I debriefed with the incoming pilot later and he told me at the time of the crew swap, he had no idea where the clear air was and therefore was forced to exit the area immediately which resulted in him eventually [contacting] Center in order to get clear of the weather.

Synopsis

Multi person UAS flight crew was conducting a crew swap while UAS was flying near weather and building clouds. After crew swap the UAS was flown inadvertently into icing conditions and was able to exit.

Time / Day

Date : 202107

Local Time Of Day : 0601-1200

Place

Relative Position.Distance.Nautical Miles : 1.5

Altitude.AGL.Single Value : 30

Environment

Flight Conditions : VMC

Weather Elements / Visibility : Turbulence

Weather Elements / Visibility.Visibility : 10

Work Environment Factor : Excessive Wind (UAS)

Light : Daylight

Ceiling : CLR

Aircraft

Reference : X

Aircraft Operator : Recreational / Hobbyist (UAS)

Make Model Name : Micro UAS, Multirotor

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Recreational Operations / Section 44809 (UAS)

Mission : Recreational / Hobbyist (UAS)

Flight Phase : Cruise

Operating Under Waivers / Exemptions / Authorizations (UAS) : N

Weight Category (UAS) : Micro

Configuration (UAS) : Fixed Wing

Flight Operated As (UAS) : VLOS

Flight Operated with Visual Observer (UAS) : N

Control Mode (UAS) : Manual Control

Flying In / Near / Over (UAS) : Private Property

Flying In / Near / Over (UAS) : People / Populated Areas

Flying In / Near / Over (UAS) : Open Space / Field

Passenger Capable (UAS) : N

Type (UAS) : Purchased

Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person : Outdoor / Field Station (UAS)

Reporter Organization : Recreational / Hobbyist (UAS)

Function.Flight Crew : Remote PIC (UAS)

Qualification.Flight Crew : Private

Qualification.Flight Crew : Remote Pilot (UAS)

Experience.Flight Crew.Total : 145

Experience.Flight Crew.Total (UAS) : 150

Experience.Flight Crew.Last 90 Days (UAS) : 5

Experience.Flight Crew.Type (UAS) : 1

ASRS Report Number.Accession Number : 1820785

Human Factors : Distraction

Events

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Ground Event / Encounter : Loss Of VLOS (UAS)

Anomaly.Inflight Event / Encounter : Weather / Turbulence

Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control

Detector.Person : UAS Crew

When Detected : In-flight

Result.Flight Crew : Took Evasive Action

Result.Aircraft : Lost / Unrecoverable (UAS)

Assessments

Contributing Factors / Situations : Environment - Non Weather Related

Contributing Factors / Situations : Weather

Primary Problem : Ambiguous

Narrative: 1

Flying a 0.055 lbs fixed wing RC in an open park space in early morning. An unleashed dog came running up and created a distraction for a few seconds, at which time the aircraft drifted about 200 yards downwind over nearby residential area. Steered the aircraft back, but at one point the wind and turbulence became too much and the aircraft went down over the residential area. It has so far not been relocated. The winds were much too close to the limits for such a light aircraft.

Synopsis

Hobbyist UAS pilot was distracted by an animal while flying. The UAS flew into an area with high winds and the UAS pilot was unable to maintain control of the UAS which crashed a short time later.

Time / Day

Date : 202106
Local Time Of Day : 1201-1800

Place

Locale Reference.Navaid : ZZZ.VOR
State Reference : US
Relative Position.Distance.Nautical Miles : 3.9
Altitude.MSL.Single Value : 7000

Environment

Flight Conditions : VMC

Aircraft : 1

Reference : X
Aircraft Operator : Air Taxi
Make Model Name : Medium Transport, Low Wing, 2 Turboprop Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 135
Flight Plan : IFR
Mission : Cargo / Freight / Delivery
Nav In Use : FMS Or FMC
Nav In Use : GPS
Flight Phase : Descent
Airspace.Class B : ZZZZ

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Airspace.Class B : ZZZZ
Flying In / Near / Over (UAS) : Aircraft / UAS
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Taxi
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Commercial
ASRS Report Number.Accession Number : 1819468
Human Factors : Situational Awareness

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : NMAC
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Flight Crew
Miss Distance.Vertical : 2
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification

Assessments

Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Primary Problem : Ambiguous

Narrative: 1

At 7,000 feet approximately 4.5 miles of the ZZZ VOR, pilots observed a large two piece drone, black in color, with camera equipment at 11 o'clock fly over the wing, clearing the aircraft's wing by what seemed like 1-2 feet. No evasive action was taken as pilots had no time to react. ATC was immediately notified and advised of drone's altitude, position and description. Flight continued to ZZZZ without incident. As soon as drone was spotted. Drone being flown on active airway. Advised ATC of description and location of drone activity. Suggestion: Drones not being flown in areas of heavy aircraft traffic.

Synopsis

Air taxi flight crew noticed a UAS pass 2 feet over the wing during descent and notified ATC.

Time / Day

Date : 202106
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZNY.ARTCC
State Reference : NY
Altitude.MSL.Single Value : 13000

Environment

Flight Conditions : VMC

Aircraft : 1

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : Large Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Climb

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Flying In / Near / Over (UAS) : Aircraft / UAS
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 326
Experience.Flight Crew.Last 90 Days : 135
Experience.Flight Crew.Type : 326
ASRS Report Number.Accession Number : 1818330
Human Factors : Distraction

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : NMAC

Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Flight Crew
Miss Distance.Vertical : 200
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

While climbing northeast bound toward GREKI and passing through approx 13,000 feet the FO (First Officer, Pilot Flying) looked out his side window and said we had just passed over a drone by approximately 200 feet. We reported this to ATC who queried us on its color (green), size (approx 3FT by 3FT), altitude (approx 12,800 feet), and direction of flight (apparently south).

Synopsis

Air carrier flight crew climbing through 13,000 feet reported a near miss with a UAS approximately 200 feet below the aircraft. ATC was notified.

Time / Day

Date : 202106
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Relative Position.Distance.Nautical Miles : 16
Altitude.MSL.Single Value : 12500

Environment

Flight Conditions : VMC
Weather Elements / Visibility : Turbulence
Weather Elements / Visibility : Windshear
Weather Elements / Visibility.Visibility : 10
Work Environment Factor : Excessive Wind (UAS)
Light : Daylight
Ceiling.Single Value : 20000

Aircraft

Reference : X
Aircraft Operator : Government
Make Model Name : Medium UAS (At or above 55 lbs and less than 1320 lbs)
Crew Size.Number Of Crew : 3
Operating Under FAR Part : Public Aircraft Operations (UAS)
Flight Plan : None
Mission : Surveying / Mapping (UAS)
Flight Phase : Cruise
Airspace.TFR : ZZZ
Airspace Authorization Provider (UAS) : Authorized Third Party
Operating Under Waivers / Exemptions / Authorizations (UAS) : Y
Airworthiness Certification (UAS) : Special
Weight Category (UAS) : Medium
Configuration (UAS) : Hybrid
Flight Operated As (UAS) : BVLOS
Flight Operated with Visual Observer (UAS) : Y
Control Mode (UAS) : Autonomous / Fully Automated
Flying In / Near / Over (UAS) : Natural Disaster
Flying In / Near / Over (UAS) : Aircraft / UAS
Passenger Capable (UAS) : N
Type (UAS) : Purchased
Number of UAS Being Controlled (UAS).Number of UAS : 1

Component

Aircraft Component : Communication Systems
Aircraft Reference : X
Problem : Malfunctioning
Problem : Failed

Person : 1

Location Of Person : Indoor / Ground Control Station (UAS)
Reporter Organization : Government
Function.Flight Crew : Person Manipulating Controls (UAS)
Qualification.Flight Crew : Private
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 300
Experience.Flight Crew.Total (UAS) : 2600
Experience.Flight Crew.Last 90 Days (UAS) : 10
Experience.Flight Crew.Type (UAS) : 100
ASRS Report Number.Accession Number : 1817997

Person : 2

Location Of Person : Indoor / Ground Control Station (UAS)
Reporter Organization : Government
Qualification.Flight Crew : Remote Pilot (UAS)
Qualification.Flight Crew : Private
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 300
Experience.Flight Crew.Total (UAS) : 2600
Experience.Flight Crew.Last 90 Days (UAS) : 10
Experience.Flight Crew.Type (UAS) : 10
ASRS Report Number.Accession Number : 1817998
Human Factors : Human-Machine Interface
Human Factors : Confusion
Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Regained Aircraft Control
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Weather
Primary Problem : Ambiguous

Narrative: 1

While level at altitude we experienced wind shear the aircraft dropped 2,300 ft. We tried to communicate the radio did not work. We got a back up radio. Received a call and made the launch recovery zone back hot. Recovered altitude and continued the mission. We also record a link hit at the same time.

Narrative: 2

Due to what we believe to be strong wind shear we were unable to maintain our altitude above 10,000 feet. We began troubleshooting and attempted to communicate, but were unable to get through on our radios due to malfunction and had to grab a backup handheld. By this point we had descended roughly 2,500 feet when we established communication, at which point we made the mission hot again. We were then able to establish a climb and continue our mission.

Synopsis

UAS encountered wind shear and was unable to maintain altitude. Flight crew was able to regain control of the UAS and return to previous altitude.

Time / Day

Date : 202106

Place

Locale Reference.Airport : EWR.Airport

State Reference : NJ

Altitude.AGL.Single Value : 0

Environment

Flight Conditions : Mixed

Aircraft : 1

Reference : X

Aircraft Operator : Air Carrier

Make Model Name : Commercial Fixed Wing

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Passenger

Nav In Use : FMS Or FMC

Nav In Use : GPS

Flight Phase : Final Approach

Airspace.Class B : EWR

Aircraft : 2

Reference : Y

Make Model Name : UAV: Unpiloted Aerial Vehicle

Flight Plan : None

Flight Phase : Climb

Airspace.Class B : EWR

Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport

Flying In / Near / Over (UAS) : Aircraft / UAS

Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person.Facility : x

Location In Aircraft : General Seating Area

Function.Other

ASRS Report Number.Accession Number : 1817312

Events

Anomaly.Airspace Violation : All Types

Anomaly.Conflict : NMAC

Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Deviation / Discrepancy - Procedural : FAR

Detector.Person : Passenger

Miss Distance.Horizontal : 150

Were Passengers Involved In Event : N
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

I was seated at XX on approach to EWR. We were going in and out of large clouds. I saw what at first appeared to be a balloon just to the left, under wing level. I watched as it climbed. I could see that it was not a balloon, but a large drone. We were under 10,000 feet, as the captain had signaled such. The drone was yellow and black, black rotors. I estimate that it was 50-75 yards away. I took a time stamp on my phone about 10 seconds later. It was XX37Hrs Eastern Time. The pilots had left the aircraft before I could make my way to the front of the plane.

Synopsis

Passenger on an air carrier flight was looking through the window while the aircraft was on approach. The passenger saw a large UAS approximately 150 feet away. The UAS began to climb and the passenger was unable to inform the flight crew.

Time / Day

Date : 202106
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : MCO.TOWER
State Reference : FL

Environment

Flight Conditions : VMC

Aircraft : 1

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : Large Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Nav In Use : GPS
Nav In Use.Localizer/Glideslope/ILS : 18R
Flight Phase : Final Approach
Airspace.Class B : MCO

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Airspace.Class B : MCO
Configuration (UAS) : Multi-Rotor
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Flying In / Near / Over (UAS) : Aircraft / UAS

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
ASRS Report Number.Accession Number : 1817230
Human Factors : Workload
Human Factors : Situational Awareness
Human Factors : Distraction

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : NMAC
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Flight Crew
Miss Distance.Horizontal : 50
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

On approach on the ILS for 18R at 1,500 feet we passed a drone hovering about 50-100 feet off the left side of the aircraft. We did not have to deviate to avoid it, but it was close by. It was black and white with four propellers. It did not move over as we went by. It just hovered in the same spot. We notified ATC tower controller. Upon landing the controller asked us more in depth questions about the drone. Being on localizer and glide slope was key here because a deviation to the left may have hit the drone. Suggestions: Not sure what to do to stop this action, except for strict enforcement of the law when these operators are caught. Had I been left of course a bit a half dot, this could have been worse.

Synopsis

Air carrier flight crew on an established ILS approach noticed they flew past a UAS on the left side of their aircraft. Crew notified ATC.

Time / Day

Date : 202106
Local Time Of Day : 1801-2400

Place

Altitude.AGL.Single Value : 385

Environment

Flight Conditions : VMC
Work Environment Factor : Excessive Wind (UAS)
Light : Dusk
Ceiling : CLR

Aircraft

Reference : X
Aircraft Operator : Recreational / Hobbyist (UAS)
Make Model Name : Small UAS (At or above 0.55 lbs and less than 55 lbs)
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Recreational Operations / Section 44809 (UAS)
Flight Plan : None
Mission : Recreational / Hobbyist (UAS)
Flight Phase : Cruise
Operating Under Waivers / Exemptions / Authorizations (UAS) : N
Weight Category (UAS) : Small
Configuration (UAS) : Multi-Rotor
Flight Operated As (UAS) : VLOS
Flight Operated with Visual Observer (UAS) : N
Control Mode (UAS) : Manual Control
Flying In / Near / Over (UAS) : Open Space / Field
Passenger Capable (UAS) : N
Type (UAS) : Purchased
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person : Outdoor / Field Station (UAS)
Reporter Organization : Recreational / Hobbyist (UAS)
Function.Flight Crew : Person Manipulating Controls (UAS)
Function.Flight Crew : Remote PIC (UAS)
Qualification.Flight Crew : Private
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Remote Pilot (UAS)
Experience.Flight Crew.Total : 1250
Experience.Flight Crew.Total (UAS) : 70
Experience.Flight Crew.Last 90 Days (UAS) : 3
Experience.Flight Crew.Type (UAS) : 3
ASRS Report Number.Accession Number : 1816745
Human Factors : Time Pressure
Human Factors : Training / Qualification

Human Factors : Workload
Human Factors : Situational Awareness

Events

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Detector.Person : UAS Crew
When Detected : In-flight
Result.Flight Crew : Became Reoriented

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Weather
Primary Problem : Ambiguous

Narrative: 1

Have been a 107 UAS pilot since 2016 - haven't flown in 3 years. New drone. Recently updated 107 recency; now current. Flying at dusk and tiring of practice getting manipulation skill back, decided to site see thinking I could maintain VLOS (Visual Line of Sight) further with lights.

Lost situational awareness - gone further than I realized and unfamiliar with new software program map as I had only flown for getting manipulation skill back (requires tap to open and change to orientation from thumbnail map. Started getting high wind warning. Tried a different direction, and still high wind. Saw a ball field that I thought was close to house on video screen - it was the High School. Fumbled with map enough to get orientation and dropped to 200 feet to avoid high wind at 400 feet (was very little wind at ground level).

Personal assessment - I was stupid to push the VLOS via lights. Training said stay closer at night, but range of drone was tempting to see. Secondly, storms coming in later so higher wind at altitude could've likely been seen if I'd looked at the weather. But weather was still and pretty on the ground. I will be back to my smaller world of VLOS without aid of aircraft lights. Truly frustrated with my normally disciplined self.

Synopsis

Part 107 pilot was conducting a recreational proficiency flight. The flight occurred during the hours of dusk and winds were starting to increase. The pilot noticed difficulty controlling the UAS near 400 feet therefore descended to a lower altitude to regain control of the UAS.

Time / Day

Date : 202106
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : M98.TRACON
State Reference : MN
Altitude.MSL.Single Value : 8300

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : M98
Aircraft Operator : Air Carrier
Make Model Name : Medium Transport, Low Wing, 2 Turboprop Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Flight Phase : Descent
Route In Use.STAR : BAINY

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Configuration (UAS) : Multi-Rotor
Flying In / Near / Over (UAS) : Aircraft / UAS

Person

Function.Air Traffic Control : Approach
Qualification.Air Traffic Control : Fully Certified
Experience.Air Traffic Control.Radar : 10
Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 10
ASRS Report Number.Accession Number : 1816005
Human Factors : Distraction
Human Factors : Situational Awareness

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : NMAC
Anomaly.Deviation / Discrepancy - Procedural : FAR
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Detector.Person : Flight Crew
Miss Distance.Vertical : 10
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Issued Advisory / Alert
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Environment - Non Weather Related

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

Narrative: 1

Air carrier descending via BAINY STAR, at apx. 8,300 feet reported near collision with a drone over the downtown Minneapolis area. Pilot estimated drone passed overhead by about 10-30 feet. Pilot stated it was a quadcopter type with red lights. 4 or 5 other aircraft passed through the same area over the next half hour but no other sightings reported.

Synopsis

Air carrier flight crew descending via a STAR procedure experienced a near miss with a UAS passing approximately 10-30 feet below. Flight crew notified ATC.

Time / Day

Date : 202106
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : OSU.Tower
State Reference : OH
Relative Position.Angle.Radial : 090
Relative Position.Distance.Nautical Miles : .25
Altitude.AGL.Single Value : 600

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight

Aircraft : 1

Reference : X
Aircraft Operator : Air Taxi
Make Model Name : Helicopter
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 135
Flight Plan : VFR
Mission : Ambulance
Flight Phase : Final Approach
Route In Use : Visual Approach
Airspace.Class D : OSU

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Airspace.Class D : OSU
Flying In / Near / Over (UAS) : Aircraft / UAS
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Corporate
Function.Flight Crew : Single Pilot
Function.Flight Crew : Captain
Qualification.Flight Crew : Rotorcraft
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 6700
Experience.Flight Crew.Last 90 Days : 25
Experience.Flight Crew.Type : 1100

ASRS Report Number.Accession Number : 1815943
Human Factors : Distraction

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : NMAC
Anomaly.Deviation / Discrepancy - Procedural : FAR
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Detector.Person : Flight Crew
Miss Distance.Horizontal : 200
Miss Distance.Vertical : 0
When Detected : In-flight
Result.Flight Crew : Diverted
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Requested ATC Assistance / Clarification

Assessments

Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Ambiguous

Narrative: 1

Was on final approach into OSU landing to runway 27L. On final at less than .25 NM from end of runway, encountered a drone approximately 1 foot X 1 foot at same altitude and had to veer to right to avoid strike. As soon as I realized what it was, I contacted tower and notified them of location and all data that I could pass on incident.

Synopsis

Helicopter pilot on final approach into Class D airport took evasive action to avoid a collision with a UAS. The pilot notified ATC.

Time / Day

Date : 202106
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : N90.TRACON
State Reference : NY
Altitude.MSL.Single Value : 6000

Environment

Flight Conditions : VMC

Aircraft : 1

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : Large Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Nav In Use : GPS
Flight Phase : Descent
Route In Use.STAR : PHLBO 3
Airspace.Class B : EWR

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Airspace.Class B : EWR
Flying In / Near / Over (UAS) : Aircraft / UAS
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
ASRS Report Number.Accession Number : 1815850
Human Factors : Situational Awareness
Human Factors : Distraction

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : NMAC
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Flight Crew
Miss Distance.Horizontal : 100
Miss Distance.Vertical : 200
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification

Assessments

Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

On PHLBO 3 arrival to EWR, approximately 5 to 10 miles south of PHLBO, level at 6,000 feet, 250 KIAS. Saw a bright yellow drone off the left side of the aircraft, maybe 200 feet below our altitude and 100 feet lateral. Reported the drone sighting to ATC, New York Approach Control on 120.15.

Synopsis

Air carrier flight crew was descending into a Class B airport on a STAR. At approximately 6,000 feet they had a near miss with a UAS and advised ATC.

Time / Day

Date : 202105
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.Tower
State Reference : US
Relative Position.Distance.Nautical Miles : 3.6
Altitude.AGL.Single Value : 101

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling : CLR

Aircraft

Reference : X
Aircraft Operator : Commercial Operator (UAS)
Make Model Name : DJI Mavic 2 Zoom
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 107
Flight Plan : None
Mission : Surveying / Mapping (UAS)
Flight Phase : Takeoff / Launch
Flight Phase : Landing
Flight Phase : Hovering (UAS)
Flight Phase : Cruise
Airspace.Class D : ZZZ
Operating Under Waivers / Exemptions / Authorizations (UAS) : N
Weight Category (UAS) : Small
Configuration (UAS) : Multi-Rotor
Flight Operated As (UAS) : VLOS
Flight Operated with Visual Observer (UAS) : N
Control Mode (UAS) : Manual Control
Flying In / Near / Over (UAS) : Private Property
Flying In / Near / Over (UAS) : People / Populated Areas
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Type (UAS) : Purchased
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person : Outdoor / Field Station (UAS)
Reporter Organization : Commercial Operator (UAS)
Function.Flight Crew : Remote PIC (UAS)
Function.Flight Crew : Person Manipulating Controls (UAS)
Qualification.Flight Crew : Remote Pilot (UAS)
Experience.Flight Crew.Total : 0
Experience.Flight Crew.Total (UAS) : 14.5

Experience.Flight Crew.Last 90 Days (UAS) : 2
Experience.Flight Crew.Type (UAS) : 14.5
ASRS Report Number.Accession Number : 1815722
Human Factors : Training / Qualification

Events

Anomaly.Airspace Violation : All Types
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Ground Personnel
When Detected.Other
Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : Company Policy
Contributing Factors / Situations : Human Factors
Primary Problem : Ambiguous

Narrative: 1

I received an invite to fly my drone over the residential property to determine damage to the roof of the detached garage. I normally check Airmap in order to determine airspace before flying. I did not check airspace before this flight. My Manager upon doing reviews, determined that I flew in a Class D of ZZZ Airport without prior authorization. Future flights, I shall check airspace before flying my drone and obtain authorization prior to flying in controlled airspace.

Synopsis

Part 107 UAS pilot conducted an inspection over private property. After the flight, ground staff learned the flight took place within Class D airspace.

Time / Day

Date : 202106

Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.TRACON

State Reference : US

Relative Position.Distance.Nautical Miles : 1.76

Altitude.AGL.Single Value : 357

Environment

Flight Conditions : VMC

Weather Elements / Visibility : Cloudy

Weather Elements / Visibility.Visibility : 3

Light : Daylight

Ceiling : CLR

Aircraft

Reference : X

Aircraft Operator : Commercial Operator (UAS)

Make Model Name : DJI Mavic 2 Pro

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 107

Flight Plan : None

Mission : Photo Shoot / Video

Flight Phase : Cruise

Route In Use : None

Weight Category (UAS) : Micro

Configuration (UAS) : Multi-Rotor

Flight Operated As (UAS) : VLOS

Flight Operated with Visual Observer (UAS) : N

Control Mode (UAS) : Manual Control

Flying In / Near / Over (UAS) : Private Property

Flying In / Near / Over (UAS) : Open Space / Field

Type (UAS) : Purchased

Number of UAS Being Controlled (UAS).Number of UAS : 1

Component : 1

Aircraft Component : Transmitter (UAS)

Manufacturer : DJI

Aircraft Reference : X

Problem : Malfunctioning

Problem : Failed

Component : 2

Aircraft Component : Active Tracking Follow Mode & Safety Features (UAS)

Manufacturer : DJI

Aircraft Reference : X

Problem : Malfunctioning
Problem : Failed

Person

Location Of Person : Outdoor / Field Station (UAS)
Reporter Organization : Commercial Operator (UAS)
Function.Flight Crew : Remote PIC (UAS)
Function.Flight Crew : Person Manipulating Controls (UAS)
Qualification.Flight Crew : Remote Pilot (UAS)
Experience.Flight Crew.Total (UAS) : 3
Experience.Flight Crew.Last 90 Days (UAS) : 3
Experience.Flight Crew.Type (UAS) : .25
ASRS Report Number.Accession Number : 1814773
Human Factors : Troubleshooting
Analyst Callback : Attempted

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Anomaly.Inflight Event / Encounter : Fly Away (UAS)
Detector.Person : UAS Crew
When Detected : In-flight
Result.Aircraft : Lost Link (UAS)
Result.Aircraft : Lost / Unrecoverable (UAS)

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Software and Automation
Primary Problem : Ambiguous

Narrative: 1

I performed my pre-flight check before flying the Mavic 2 Pro drone. My mission was to capture photos from each corner of the property and over the swimming pool area. My usual pre-flight check list before every flight is:

1. Check for any airspace restrictions, TFR, NFLZ, any max altitude requirements, etc.
2. Request approval with FAA if my location would be in any controlled airspace (my location was not in controlled airspace).
3. Be sure all 4 propellers are secure and not damaged.
4. Battery is fully charged.
5. Check for any magnetic interference.
6. Set my RTH.
7. Make sure drone is connected to controller.
8. Be sure my remote pilot license and current certificates are on or next to me before flying.
9. Take off and hover drone to about 5 feet and check that all controls are functioning.
10. Fly mission.

I recalibrate the drone after about every 6 to 8 flights. This was my 6th flight before I would recalibrate again before the next flight or two. Before taking off, the property manager and I had people that were swimming in the pool move to a covered area temporarily for their safety. The property manager was not part of the mission and not a VO (Visual Observer). I performed my pre-flight check, and I began my mission and captured a couple of photos of the swimming pool area first at 380 feet or 116 meters directly above the pool. I was controlling the drone from the ground inside the pool area.

Next, I flew the drone South to the back of the property to take pictures of the playground area. As I was flying the drone to where I wanted to go, the property manager watched over my shoulder at my controller screen to see the view of the property. Once I flew over the playground, I yawed the drone 180 degrees to frame up the playground in my camera with the rest of the property. At this point, the drone was hovering at 357 feet (109 meters) above a wide open area of land with trees with the camera pointing North West. I took my photos, then I yawed to face the camera West and began flying to the next corner of the property to where I would yaw to point the camera North East for the photos. (The pool area would be the far North East corner where I was controlling the drone from this angle when I would take the photos.)

About 5 seconds into this direction (West), my controller beeped, and I looked down. The property manager was still watching the controller. We saw the camera on the drone flip up at the propellers and the app froze. The Kittyhawk app (now called Aloft) displayed "Drone Disconnected" at the top of the screen. I quickly hit the RTH button on the controller, but the app was still displaying "Drone Disconnected" and the RTH button would not activate. At this time, I looked up to find the drone, but I could not see it anymore. Since the controller disconnected from the drone, I presumed the drone fell to the ground, and the property manager and I (and two of her maintenance workers) performed a search where we thought the drone may have crash landed in the fields.

We notified the owner of the land where we were searching as well as a restaurant closest to the fields and asked them to be aware of a possible drone on the ground or in the trees and to notify us if they find it. I also tried connecting the controller to the drone while we searched, but it would never reconnect. The weather was partly cloudy, 92 degrees, and Wind 7 mph during the flight. Further south where I took pictures from the playground area were two towers, but the drone was nowhere near them.

The drone did not log the duration of flight, but it was about three or four minutes into the flight when the malfunction occurred.

Synopsis

Part 107 pilot was flying UAS when a lost link occurred. Pilot was unable to reconnect to the UAS and it was lost/unrecoverable.

Time / Day

Date : 202106
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Distance.Nautical Miles : .25
Altitude.MSL.Single Value : 3000

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 10000

Aircraft : 1

Reference : X
Aircraft Operator : Personal
Make Model Name : Small Aircraft, Low Wing, 1 Eng, Fixed Gear
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Personal
Flight Phase : Final Approach
Route In Use : None
Airspace.Class G : ZZZ

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Airspace.Class G : ZZZ
Flying In / Near / Over (UAS) : Aircraft / UAS
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 525
Experience.Flight Crew.Last 90 Days : 20
Experience.Flight Crew.Type : 100
ASRS Report Number.Accession Number : 1814090
Human Factors : Distraction
Human Factors : Confusion
Analyst Callback : Completed

Events

Anomaly.Airspace Violation : All Types
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Anomaly.Inflight Event / Encounter : Aircraft
Detector.Person : Flight Crew
Miss Distance.Horizontal : 0
Miss Distance.Vertical : 0
When Detected : In-flight
Result.General : Maintenance Action
Result.Aircraft : Aircraft Damaged

Assessments

Contributing Factors / Situations : Airport
Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : Human Factors
Primary Problem : Ambiguous

Narrative: 1

Aircraft was in the traffic pattern at ZZZ, downwind leg turning to base, approximate altitude 3,000 ft MSL, 90 MPH. Approximately .25 mile from the approach end of RUNWAY. A small impact was heard and felt by the pilot. There was nothing observed by the pilot, no evasive action taken. There were no control issues with the aircraft, initial thoughts were that a bird strike had occurred. After parking in the hangar, the aircraft was inspected. Damage from impact with a solid object was found on the underside of the right wing, outboard wing panel and wing tip. There were scratches on the paint and a slight crease in a wing skin. There was no structural damage and the aircraft is airworthy. The damage was consistent with a hard object with a width of at least 18 inches, and suggested that the impact was with a drone. Within the traffic pattern and at pattern elevation of an airport is not an appropriate area for drone operation.

Callback: 1

Callback completed and pilot was able to confirm impact was most likely from a quad style type drone due to damage and scratches to aircraft.

Synopsis

General aviation pilot struck a UAS while on approach. After landing and during inspection of the aircraft the pilot found damage to the wing of the aircraft.

Time / Day

Date : 202106
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Relative Position.Distance.Nautical Miles : 4.00
Altitude.AGL.Single Value : 50

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 9
Work Environment Factor : Excessive Wind (UAS)
Light : Daylight
Ceiling : CLR

Aircraft

Reference : X
Aircraft Operator : Commercial Operator (UAS)
Make Model Name : DJI Phantom 4 Pro
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 107
Flight Plan : None
Mission : Utility / Infrastructure
Flight Phase : Takeoff / Launch
Operating Under Waivers / Exemptions / Authorizations (UAS) : N
Weight Category (UAS) : Small
Configuration (UAS) : Multi-Rotor
Flight Operated As (UAS) : VLOS
Flight Operated with Visual Observer (UAS) : N
Control Mode (UAS) : Transitioning Between Modes
Flying In / Near / Over (UAS) : Open Space / Field
Flying In / Near / Over (UAS) : Critical Infrastructure
Type (UAS) : Purchased
Number of UAS Being Controlled (UAS).Number of UAS : 1

Component : 1

Aircraft Component : Gimbal (UAS)
Manufacturer : DJI
Aircraft Reference : X
Problem : Malfunctioning
Problem : Failed

Component : 2

Aircraft Component : Collision Avoidance System (UAS)
Manufacturer : DJI
Aircraft Reference : X

Problem : Malfunctioning
Problem : Failed

Component : 3

Aircraft Component : Positional / Directional Sensing
Manufacturer : DJI
Aircraft Reference : X
Problem : Malfunctioning

Person

Location Of Person : Outdoor / Field Station (UAS)
Reporter Organization : Commercial Operator (UAS)
Function.Flight Crew : Person Manipulating Controls (UAS)
Function.Flight Crew : Remote PIC (UAS)
Qualification.Flight Crew : Remote Pilot (UAS)
ASRS Report Number.Accession Number : 1813818
Human Factors : Troubleshooting
Human Factors : Situational Awareness

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Inflight Event / Encounter : Fly Away (UAS)
Anomaly.Inflight Event / Encounter : Weather / Turbulence
Anomaly.Inflight Event / Encounter : Object
Detector.Person : UAS Crew
When Detected : In-flight
Result.Aircraft : Aircraft Damaged

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Weather
Primary Problem : Aircraft

Narrative: 1

I, RPIC (Remote Pilot in Command), was tasked with conducting cell tower inspections in the greater pacific northwest area for the drone company. I was using a drone that had known issues with camera gimbal yet with no other options or support from the company, I had to continue to fly with this drone. This drone was known for its gimbal locking and or becoming unresponsive to the drone's heading when flown. Problems with this drone were brought to my attention by my flight trainer prior to me taking over the drone, and I had also informed my mission coordinator of the problems with the gimbal after I had taken over the drone to continue the operation.

Upon take off, I encountered the gimbal lock again. Before I could land and calibrate the gimbal, a substantial gust overcame my area of operation from the West/Southwest. As a reactionary response, I pushed the right stick forward (into the Southern Direction) to send the drone away from the traffic behind me, to the North. The gusts appeared to be above the operational limits of the drone and I adjusted the right and left stick to aim into the wind. I looked back up in the air to find the drone to evaluate if it was safe to do an emergency landing into the grand land, or to find a safe descend path. With the gimbal unresponsive to the drone's heading, I was unable to correctly judge the drone's flight

path which was directly into an oncoming tree. This tree was outside my operational area, and therefore was above my MOCA (Minimum Obstacle Clearance Avoidance). It was not my intent to fly beyond my operational area, but as an inadvertent contingency for safety of those on the road, the safest area for an emergency landing was beyond the grounds of the tower. My thought was that the grass seed would have been a suitable/softer area to land, versus the hard gravel of the maintenance road, or induce the hazardous possibility of a highway incursion with highway traffic.

The justification for my flight response is that by flying towards the grass seed land, I would have absolutely mitigated the risk of causing serious injury or death, and or substantial damage by causing an aviation accident with the highway or any case that could have been defined by the 49 CFR 830. By the time I reacted to the tree being in frame of my camera, my counter maneuvers did not prevent the drone from colliding with the tree. The anti-collision sensors of the drone also did not prevent the drone from colliding with the tree. The drone has and always was in Position Hold mode and was not deviated from. Even with the wind gusts pushing the drone to its limit, the anti-collision sensors should have detected the tree and stopped the aircraft from colliding with the tree or at least assisted my counter maneuvers in preventing the accident. In response to the weather, my anemometer was reading 2-9 mph on the ground. This wave of gusts was unexpected and arbitrary to the regular wind speeds I had been enduring for the entire site audit. To the Southwest, I did notice very dark cumulonimbus clouds which may have been a severe thunderstorm forming, which may have caused instability upwind.

I was able to find the drone near the tree in the grass seed bush. The camera has completely broken off, the landing gear had sustained fractures, the main profile has been disconnected, and one propeller was broken. This drone is not safe to fly in its current state and will need repair from manufacturer. In this flyaway accident, there was no serious injury, death, or substantial damage that occurred beyond the aircraft and the surrounding environment. I wanted to bring this accident to light because of the post crash situation. The drone was lost in grass seed bushes that were at least 4-5ft tall. I had to walk through the bush with my best guesses to where the drone was actually at. Since the drone battery had disconnected with the drone, I was not able to use the GPS homing software on the tablet to find where the drone was. After some time searching, I eventually found the drone and the camera. But I have yet to find the battery. From my understanding of the DJI drones, if the battery is disconnected while it is in the "on" mode, the battery will continue to discharge. After some time, the LiPO battery will eventual become depleted and not pose as a threat to the grass seed bushes. However, in any case that the battery should still pose a threat to the grass seed bushes, I think a contingency should be put in place with modern commercial drones that would benefit and promote safety in post crash events.

My thought is that audible micro speakers could be places with the intelligent flight batteries that will sound an alarm if the battery is armed and not in a fixed / connected position with the aircraft. It is the same principles as black boxes for manned aviation. In this scenario, this battery is lost in some field of very high and very dense bush that does not allow me to find the battery without extra aid from more people, metal detectors, or other mechanical means of detection. But, that some chime or sound be presented by an improperly disengaged "on" battery, I would have been able to find and locate nearly all components of the air craft swiftly and with haste. The fact that even with me scanning a 50ft radius of the crash site and I could not find the most critical and unsafe component to

the drone raises the question of "how can we improve post commercial drone crashes." I think by having some alarm attached to the battery would aid in the post crash finding time and recovery. Even with the battery discharged, it may still pose a threat to the field, making it unsafe for its presence to be there. In theory, by attaching a speaker to the battery, you would add a safety system is another line of defense in protecting the crash scene environment from future substantial damages.

Contributing factors are company's lack of critical response for repairs or replacements of a commercial aircraft, extreme weather phenomena changes, hardware failure in the anti collision sensors, and hardware failure in the main visual optical sensor.

Synopsis

UAS pilot was unable to maintain control of the UAS due to equipment malfunctions and gusty winds. The UAS crashed in an area of dry grass where the Pilot was able to recover the UAS with exception of the battery.

Time / Day

Date : 202106
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Relative Position.Distance.Nautical Miles : 1.75
Altitude.AGL.Single Value : 90

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling : CLR

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Commercial Operator (UAS)
Make Model Name : Small UAS, Multi Rotor
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 107
Flight Plan : None
Mission : Photo Shoot / Video
Flight Phase : Takeoff / Launch
Airspace.Class D : ZZZ
Operating Under Waivers / Exemptions / Authorizations (UAS) : N
Weight Category (UAS) : Small
Configuration (UAS) : Multi-Rotor
Flight Operated As (UAS) : VLOS
Flight Operated with Visual Observer (UAS) : N
Control Mode (UAS) : Manual Control
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Type (UAS) : Purchased
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person : Outdoor / Field Station (UAS)
Reporter Organization : Commercial Operator (UAS)
Function.Flight Crew : Remote PIC (UAS)
Function.Flight Crew : Person Manipulating Controls (UAS)
Qualification.Flight Crew : Remote Pilot (UAS)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1813541
Human Factors : Training / Qualification
Human Factors : Time Pressure

Human Factors : Situational Awareness
Human Factors : Confusion

Events

Anomaly.Airspace Violation : All Types
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Flight Crew
Were Passengers Involved In Event : N
When Detected.Other
Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Airport
Contributing Factors / Situations : Chart Or Publication
Contributing Factors / Situations : Software and Automation
Contributing Factors / Situations : Procedure
Contributing Factors / Situations : Human Factors
Primary Problem : Ambiguous

Narrative: 1

Myself, acting as RPIC was conducting an equipment test flight to ascertain if UAS was locked out due to software limitations inside Class D at ZZZ. This airspace based on manufacturer Self Unlocking is classified as an Enhanced Warning Zone. I had filed an authorization request through LAANC on Day 0 for a commercial flight on Day 4 for real estate photo of a residence which was cancelled automatically by Aloft 24 hours before the proposed start time as no definitive response was received from the FAA. I was not totally familiar with LAANC procedures with certain airspace's requiring a manual FAA review as opposed to real time authorization. I have now totally reviewed these procedures to avoid a subsequent occurrence.

RPIC for this flight operated within the Enhanced Warning Zone at ZZZ without proper authorization for a real estate photo shoot. I had filed a request for this flight on Day 0 which was subsequently cancelled by Aloft on Day 3 for "no definitive response received from FAA." I then filed a request through Drone Zone hoping I would get approval on Day 4 which I received [days later]. This was wishful thinking and poor judgement on my part and I should have rescheduled this job until I had authorization in hand. I have also thoroughly re familiarized myself on the procedures for airspace authorization with Aloft.

Synopsis

Part 107 UAS pilot used the LAANC system to request authorization for a flight within controlled airspace. The request was not approved and the pilot continued with the flight in controlled airspace.

Time / Day

Date : 202106
Local Time Of Day : 0601-1200

Place

Relative Position.Angle.Radial : 290
Relative Position.Distance.Nautical Miles : 17
Altitude.MSL.Single Value : 4000

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Ceiling.Single Value : 4000

Aircraft : 1

Reference : X
Aircraft Operator : Personal
Make Model Name : Small Aircraft
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Training
Flight Phase : Cruise
Route In Use : None
Airspace.Class E : ZZZ

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Flight Plan : None
Airspace.Class E : ZZZ
Flying In / Near / Over (UAS) : Aircraft / UAS
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Function.Flight Crew : Instructor
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Flight Instructor
Experience.Flight Crew.Total : 1040
Experience.Flight Crew.Last 90 Days : 200
Experience.Flight Crew.Type : 50
ASRS Report Number.Accession Number : 1813523
Human Factors : Distraction

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : NMAC

Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Flight Crew
Miss Distance.Horizontal : 20
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Human Factors

Narrative: 1

Aircraft and Drone in-flight near miss. Drone appeared off my left wing moving behind aircraft heading south east Drone heading north west

Synopsis

Pilot reported a near miss with a UAS.

Time / Day

Date : 202106

Place

Locale Reference.ATC Facility : ZZZ.Tower
State Reference : US
Altitude.MSL.Single Value : 3500

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : Large Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : GPS
Nav In Use : FMS Or FMC
Nav In Use.Localizer/Glideslope/ILS : ILS
Flight Phase : Final Approach
Flight Phase : Landing
Airspace.Class B : ZZZ

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Flight Plan : None
Airspace.Class B : ZZZ
Flying In / Near / Over (UAS) : Aircraft / UAS
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 198.20

Experience.Flight Crew.Last 90 Days : 98.12
Experience.Flight Crew.Type : 198.20
ASRS Report Number.Accession Number : 1813302
Human Factors : Distraction

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : NMAC
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Automation : Air Traffic Control
Detector.Person : Flight Crew
Miss Distance.Horizontal : 50
When Detected : In-flight
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

I was the pilot monitoring and my captain was the pilot flying. The aircraft in front of us reported a drone at about 4,200 ft on final landing on into ZZZ. ATC told us about the possible drone on final. At about 3,500 ft at almost the final approach fix we see a drone pass off the right side maybe within 50 ft of us. The drone was silver in color and looked to be heading back to the coast. Upon landing, ATC gave us the number for the tower to call and give details on the drone.

Synopsis

Air carrier flight crew was given a traffic alert from air traffic control about a UAS near the final approach path. At 3,500 feet and near the final approach fix the flight crew saw a UAS pass 50 feet away. Aircraft landed without incident.

Time / Day

Date : 202106
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Altitude.MSL.Single Value : 15500

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Corporate
Make Model Name : Beechcraft Twin Piston Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Surveying / Mapping (UAS)
Flight Phase : Cruise
Airspace.Class E : ZZZ

Aircraft : 2

Reference : Y
Make Model Name : Small UAS, Multi Rotor
Flight Plan : None
Airspace.Class E : ZZZ
Weight Category (UAS) : Small
Configuration (UAS) : Multi-Rotor
Flying In / Near / Over (UAS) : Aircraft / UAS
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Corporate
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 3400
Experience.Flight Crew.Last 90 Days : 75
Experience.Flight Crew.Type : 2000
ASRS Report Number.Accession Number : 1812712
Human Factors : Distraction

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Flight Crew
Miss Distance.Vertical : 1000
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification

Assessments

Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Human Factors

Narrative: 1

While flying a survey mission over the area at 15,500 ft VFR we saw a small drone flying below us at about 14,500 ft. The drone was about the size of DJI drone and gray in color. It was moving south as we were going north, so we didn't have much time to make out the exact size. We immediately reported to TRACON. For the remaining two hours of our survey mission we did not see it again.

Synopsis

A VFR pilot in cruise flight at 15,500 feet noticed a small UAS about 1000 feet below them flying in the opposite direction.

Time / Day

Date : 202106
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Altitude.MSL.Single Value : 5000

Environment

Flight Conditions : VMC

Aircraft : 1

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : Cessna Aircraft Undifferentiated or Other Model
Crew Size.Number Of Crew : 1
Flight Plan : IFR
Mission : Passenger
Nav In Use : GPS
Nav In Use : FMS Or FMC
Flight Phase : Cruise
Airspace.Class B : ZZZ

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Airspace.Class B : ZZZ
Configuration (UAS) : Multi-Rotor
Flying In / Near / Over (UAS) : Aircraft / UAS
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person.Aircraft : X
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 1812556
Human Factors : Distraction
Human Factors : Confusion

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : NMAC

Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Automation : Aircraft TA
Detector.Person : Flight Crew
Miss Distance.Vertical : 25
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification

Assessments

Contributing Factors / Situations : Chart Or Publication
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Human Factors

Narrative: 1

Shortly after reaching cruising altitude of 5000 ft. MSL I was just about to cancel my IFR clearance and proceed to ZZZ1 with VFR advisories with a decent to 3500 ft MSL. After leaving the ZZZ Class B. I received a Traffic Alert on the Garmin 430 showing a target less than 1 mile and at 12 o'clock but with no altitude beside it. This prompted me to immediately look up and scan for traffic, I noticed a light almost immediately and directly ahead of me, seconds later, I passed beneath the drone by approximately 25 feet. In that moment I was able to determine it was a white, 4 bladed drone, approximately the size of a microwave. The light I had seen appeared to be just that, or a possible camera that the sun was reflecting off of. There was not enough time to react, due to this, I continued on my IFR clearance for a few more miles, while I reported the incident to ATC. After the report to ATC, I notified [company] of the event and asked them to issue a PIREP for those heading into ZZZ. There was one passenger onboard, however, they were unaware of this incident. The flight concluded safely with no aircraft damage. Cause: Unauthorized drone activity.

Synopsis

Air carrier flight crew was on an IFR flight, cruising at 5,000 feet. The pilot received a Traffic Alert and noticed an object directly ahead of them. Without time to react and after passing the object the pilot noticed they had a near miss with a multi-rotor UAS.

Time / Day

Date : 202105

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Altitude.MSL.Single Value : 5300

Environment

Flight Conditions : VMC

Aircraft : 1

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : B737 Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Nav In Use : GPS
Nav In Use.Localizer/Glideslope/ILS : ILS
Flight Phase : Final Approach
Airspace.Class B : ZZZ

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Airspace.Class B : ZZZ
Configuration (UAS) : Multi-Rotor
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Flying In / Near / Over (UAS) : Aircraft / UAS

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 3327.22
Experience.Flight Crew.Last 90 Days : 98.58
Experience.Flight Crew.Type : 832.35
ASRS Report Number.Accession Number : 1811687
Human Factors : Distraction

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : NMAC
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Flight Crew
Miss Distance.Horizontal : 50
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification

Assessments

Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Human Factors

Narrative: 1

While on approach into ZZZ, we were descending from 6,000 ft to 5,000 ft on the runway localizer tracking inbound to runway, and were cleared for the ILS. While descending through approximately 5,300 ft, on the Localizer, a larger sized, square "Quad-Copter" drone suddenly went past our right wing, (from aircraft front to back) missing the right wingtip by, in my estimations, about 50 ft. The event happened so quickly that there was no manual reaction to the event (autopilot / auto-throttles stayed engaged, etc). I immediately told my Captain that we just had a near miss with a drone since he did not see it, and we immediately notified Air Traffic Control as to the exact location, altitude, and description of the drone/event. We proceeded on the ILS as normal, for landing. The Captain contacted the Chief Pilot once parked at the gate to report the matter.

Synopsis

Air carrier flight crew was on a final for an ILS approach when they came within 50 ft. of a large sized UAS. Crew notified ATC and landed safely.

Time / Day

Date : 202105
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZJX.ARTCC
State Reference : FL
Relative Position.Angle.Radial : 021
Relative Position.Distance.Nautical Miles : 5
Altitude.MSL.Single Value : 7000

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Ceiling.Single Value : 12000

Aircraft : 1

Reference : X
Aircraft Operator : Personal
Make Model Name : Small Aircraft
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Personal
Flight Phase : Cruise
Route In Use.Airway : V541
Airspace.Class E : OCF

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Airspace.Class E : OCF
Flying In / Near / Over (UAS) : Aircraft / UAS
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 450
Experience.Flight Crew.Last 90 Days : 18
Experience.Flight Crew.Type : 425
ASRS Report Number.Accession Number : 1811646
Human Factors : Situational Awareness

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : NMAC
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Flight Crew
Miss Distance.Horizontal : 500
Miss Distance.Vertical : 0
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

While approaching the OCF VORTAC station I witnessed what looked like some sort of drone at 7,000 ft. MSL. The object looked like cylinder about a foot and half long, with thick ends rotating around rapidly at a 45 degree angle. It did not appear to be moving laterally at all. It was black and a hazard to navigation.

Synopsis

A fixed wing pilot had a near miss with a UAS during cruise flight.

Time / Day

Date : 202105

Environment

Flight Conditions : VMC

Light : Daylight

Ceiling : CLR

Aircraft

Reference : X

Aircraft Operator : Recreational / Hobbyist (UAS)

Make Model Name : DJI Mavic Air 2

Operating Under FAR Part : Recreational Operations / Section 44809 (UAS)

Flight Plan : None

Mission : Recreational / Hobbyist (UAS)

Operating Under Waivers / Exemptions / Authorizations (UAS) : N

Airworthiness Certification (UAS) : Standard

Weight Category (UAS) : Small

Configuration (UAS) : Multi-Rotor

Flight Operated As (UAS) : VLOS

Flight Operated with Visual Observer (UAS) : N

Control Mode (UAS) : Manual Control

Type (UAS) : Purchased

Number of UAS Being Controlled (UAS).Number of UAS : 1

Component

Aircraft Component : Motor Mount (UAS)

Manufacturer : DJI

Aircraft Reference : X

Problem : Design

Person

Location Of Person.Aircraft : X

Reporter Organization : Recreational / Hobbyist (UAS)

Function.Flight Crew : Person Manipulating Controls (UAS)

Experience.Flight Crew.Total (UAS) : 13

Experience.Flight Crew.Last 90 Days (UAS) : 3

Experience.Flight Crew.Type (UAS) : 13

ASRS Report Number.Accession Number : 1811318

Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Less Severe

Detector.Person : UAS Crew

When Detected : Routine Inspection

Result.Aircraft : Aircraft Damaged

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

I'm writing because I have concern over the quality of the DJI Mavic Air 2. During my post flight inspection of my drone, I noticed fatigue cracking in the body of the UAV. The cracking is right around the pilot point for the front motor supports. I've done some research online and noticed that this apparently is a common problem among other DJI Mavic Air 2 operators. I did some digging and I noticed that the FAA currently doesn't regulate small UAVs, and I have concerns over the process to close any safety concerns with these manufacturers. There seems to be a gap as the FAA really would like to regulate the operations of the vehicle, but they currently don't have standards in place for the certification of the vehicles. From my perspective there needs to be some sort of regulations in place to ensure the UAVs will operate safely and the burden of airworthiness should not be bore solely by the operator, but OEMs need to take responsibility for their equipment as well. Note, that I did land without any incident, and have reached out to DJI on the matter and I will not be flying until the issue is resolved.

Synopsis

Pilot noticed fatigue cracks in post flight inspection of UAS.

Time / Day

Date : 202105
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Distance.Nautical Miles : 15
Altitude.AGL.Single Value : 20

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling : CLR

Aircraft

Reference : X
Aircraft Operator : Commercial Operator (UAS)
Make Model Name : DJI Mavic 2 Pro
Operating Under FAR Part : Part 107
Flight Plan : None
Mission : Photo Shoot / Video
Flight Phase : Landing
Airspace.Class G : ZZZ
Operating Under Waivers / Exemptions / Authorizations (UAS) : N
Airworthiness Certification (UAS) : Standard
Weight Category (UAS) : Small
Configuration (UAS) : Multi-Rotor
Flight Operated As (UAS) : VLOS
Flight Operated with Visual Observer (UAS) : N
Control Mode (UAS) : Manual Control
Flying In / Near / Over (UAS) : Private Property
Type (UAS) : Purchased
Number of UAS Being Controlled (UAS).Number of UAS : 1

Component

Aircraft Component : Battery Mount (UAS)
Manufacturer : DJI
Aircraft Reference : X
Problem : Malfunctioning
Problem : Design

Person

Location Of Person : Outdoor / Field Station (UAS)
Reporter Organization : Commercial Operator (UAS)
Function.Flight Crew : Remote PIC (UAS)
Qualification.Flight Crew : Remote Pilot (UAS)
Experience.Flight Crew.Total (UAS) : 900

Experience.Flight Crew.Last 90 Days (UAS) : 20
Experience.Flight Crew.Type (UAS) : 500
ASRS Report Number.Accession Number : 1811317
Human Factors : Troubleshooting

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Person : UAS Crew
Result.Flight Crew : Overcame Equipment Problem

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

Upon safely landing I noticed that the battery had become partially dislodged during flight. Using Google search words of "dji mavic pro 2 battery popping up" I found that multiple people have had problems and crashes due to the batteries coming out during flight. I believe this is a design flaw in the battery attachment method that could easily be corrected if the battery clip design was changed slightly, such that it provided a more captive interlocking engagement. I believe that a crash during flight, which according to various forums many people have had as a result of a battery becoming dislodged, represents a significant design safety flaw that should be corrected.

Synopsis

Pilot noticed the battery on the UAS became dislodged during the flight.

Time / Day

Date : 202105
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : PHL.TRACON
State Reference : PA
Altitude.MSL.Single Value : 5000

Environment

Flight Conditions : VMC
Light : Dusk
Ceiling : CLR

Aircraft : 1

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : Medium Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Nav In Use : GPS
Flight Phase : Initial Approach
Route In Use : Visual Approach
Airspace.Class B : PHL

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Airspace.Class B : PHL
Flying In / Near / Over (UAS) : Aircraft / UAS
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Commercial
ASRS Report Number.Accession Number : 1811005
Human Factors : Distraction

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 1811006
Human Factors : Distraction

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification

Assessments

Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

While being vectored for the visual approach to runway XX at PHL the captain noticed a white drone pass along the left side of the aircraft. Captain observed drone pass the left side of aircraft. Unknown person operating drone near aircraft. Notified ATC. Suggestions: More closely monitor the position of drones in relation to aircraft.

Narrative: 2

On Approach to XX in PHL a drone flew past the aircraft. It was at 5,000 feet, straight and level and heading westbound. I saw it pass off the left side of the aircraft. It didn't cause us to change course or altitude. Suggestions: Be aware of drones by airports. Second trip in a row now.

Synopsis

An air carrier flight crew on visual approach to a Class B airport observed a drone pass along the aircraft at 5,000 feet. Crew notified ATC.

Time / Day

Date : 202105
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Distance.Nautical Miles : 20
Altitude.MSL.Single Value : 120

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Ceiling : CLR

Aircraft

Reference : X
Aircraft Operator : Commercial Operator (UAS)
Make Model Name : DJI Mavic 2 Pro
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 107
Flight Plan : None
Mission : Photo Shoot / Video
Flight Phase : Return to Home (UAS)
Flight Phase : Climb
Airspace.Class G : ZZZ
Weight Category (UAS) : Small
Configuration (UAS) : Multi-Rotor
Flight Operated As (UAS) : VLOS
Flight Operated with Visual Observer (UAS) : Y
Control Mode (UAS) : Manual Control
Flying In / Near / Over (UAS) : Private Property
Flying In / Near / Over (UAS) : People / Populated Areas
Passenger Capable (UAS) : N
Type (UAS) : Purchased
Number of UAS Being Controlled (UAS).Number of UAS : 1

Component : 1

Aircraft Component : Transmitter (UAS)
Manufacturer : DJI
Aircraft Reference : X
Problem : Malfunctioning

Component : 2

Aircraft Component : Receiver (UAS)
Manufacturer : DJI
Aircraft Reference : X
Problem : Malfunctioning

Person

Location Of Person : Outdoor / Field Station (UAS)
Reporter Organization : Commercial Operator (UAS)
Function.Flight Crew : Person Manipulating Controls (UAS)
Qualification.Flight Crew : Remote Pilot (UAS)
Experience.Flight Crew.Total : 700
Experience.Flight Crew.Total (UAS) : 7
ASRS Report Number.Accession Number : 1810373
Human Factors : Human-Machine Interface
Human Factors : Troubleshooting
Human Factors : Confusion

Events

Anomaly.Aircraft Equipment Problem : Critical
Anomaly.Inflight Event / Encounter : Object
Anomaly.Inflight Event / Encounter : Loss Of Aircraft Control
Anomaly.Inflight Event / Encounter : Fly Away (UAS)
Detector.Person : UAS Crew
When Detected : In-flight
Result.Aircraft : Automated Return to Home (UAS)
Result.Aircraft : Lost Link (UAS)
Result.Aircraft : Lost / Unrecoverable (UAS)

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Software and Automation
Contributing Factors / Situations : Equipment / Tooling
Primary Problem : Ambiguous

Narrative: 1

Loss of signal - return to home initiated - drifted further away - regained controlled - next thing I know it crashes down - lands on building roof - no injuries no damage to property

Synopsis

Part 107 crew had a lost link with the UAS. After attempting a return to home (RTH) function the Crew was unable to regain control of the UAS which crashed shortly after.

Time / Day

Date : 202105
Local Time Of Day : 1201-1800

Place

Locale Reference.Navaid : DWG.TACAN
State Reference : FL
Relative Position.Angle.Radial : 180
Relative Position.Distance.Nautical Miles : 4
Altitude.AGL.Single Value : 200

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 20
Ceiling : CLR

Aircraft : 1

Reference : X
Make Model Name : UAV: Unpiloted Aerial Vehicle
Airspace.Class D : VPS
Configuration (UAS) : Multi-Rotor
Flying In / Near / Over (UAS) : People / Populated Areas
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Flying In / Near / Over (UAS) : Aircraft / UAS

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Airspace.Class D : VPS
Configuration (UAS) : Multi-Rotor
Flying In / Near / Over (UAS) : People / Populated Areas
Flying In / Near / Over (UAS) : Aircraft / UAS
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport

Person

Location Of Person.Facility : VPS Airport
Function.Other
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 14500
Experience.Flight Crew.Last 90 Days : 10
ASRS Report Number.Accession Number : 1809433
Human Factors : Training / Qualification

Events

Anomaly.Airspace Violation : All Types
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR

Detector.Person : Other Person
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

Witnessed from the surface 2 different quadcopter UAS operating at the above location most likely without ATC authorization. Within the SFAR 93 area close to single engine seaplane and helicopter tour operators near Destin airport and directly over persons in the open. There should be some type of warning or NOTAM put out that in the vicinity of Destin in the area of Crab Island this is a common occurrence. Most likely unlicensed UAS operators who don't know and don't care about the rules who are doing this and should be held liable for the airspace violation.

Synopsis

An eyewitness saw two UAS flying within a Special Air Traffic Rule (SFAR) area close to numerous operating fixed wing and rotor wing aircraft.

Time / Day

Date : 202105
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.Tower
State Reference : US
Altitude.MSL.Single Value : 2900

Aircraft : 1

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : Embraer Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Nav In Use : GPS
Flight Phase : Final Approach
Airspace.Class B : ZZZ

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Airspace.Class B : ZZZ
Flying In / Near / Over (UAS) : Aircraft / UAS
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : First Officer
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
ASRS Report Number.Accession Number : 1809244
Human Factors : Situational Awareness
Human Factors : Distraction

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : NMAC
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Flight Crew
Miss Distance.Horizontal : 0
Miss Distance.Vertical : 50
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification

Assessments

Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

During our landing, about 1-2 miles from the FAF (final approach fix), we were at 2900 ft I noticed a drone flying above us. It was close to us, seemed like 50 ft above. It was hard to tell if it was flying to the opposite direction or just standing. Any way we passed below it. I immediately informed ZZZ tower about it. We continued and landed at the destination.

Synopsis

An air carrier flight crew was on final approach descending past 3,000 feet when they noticed a UAS above them and notified ATC.

Time / Day

Date : 202105
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : CLT.Airport
State Reference : NC
Altitude.MSL.Single Value : 2700

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.Tower : CLT
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Approach
Route In Use : Vectors
Airspace.Class B : CLT

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Airspace.Class B : CLT
Configuration (UAS) : Multi-Rotor
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Flying In / Near / Over (UAS) : Aircraft / UAS

Person : 1

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 5600
ASRS Report Number.Accession Number : 1809236
Human Factors : Situational Awareness

Person : 2

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : First Officer
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 1809238
Human Factors : Situational Awareness

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Flight Crew
When Detected : In-flight

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

Turning onto the LOC on 36R in CLT a drone passed extremely close to our aircraft. Same altitude heading the opposite direction. We both saw what we thought was a bird but as drone passed by the First Officer side he saw the propellers of the drone and confirmed that it was a drone. It was black in color. Continued on the approach.

Narrative: 2

Encountered a UAV drone at 2,700 feet while flying an intercept to the 36R localizer between LANSR and CIKDU for a visual approach to 36R at CLT. Originally thought it was a bird, then noticed the propellers and finer details on the drone. It was a black quadcopter. Someone was flying a drone close to the ILS flight path, co altitude, for 36R at CLT. I originally called out "bird 12 o clock," then it maneuvered to our right, where I watched it pass off of our right wing, co altitude. I notified the Captain it was a drone, and we immediately made a PIREP to CLT 36R Tower. Notify other pilots and attempt to inform the general, drone flying public how dangerous and illegal it is operate drones in Class B airspace.

Synopsis

Air carrier flight crew had a near miss with a UAS while on approach.

Time / Day

Date : 202105
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : N90.TRACON
State Reference : NY
Altitude.MSL.Single Value : 3500

Environment

Flight Conditions : VMC

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : N90
Aircraft Operator : Air Carrier
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Flight Phase : Initial Approach
Airspace.Class B : LGA

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Airspace.Class B : LGA
Flying In / Near / Over (UAS) : Aircraft / UAS
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
ASRS Report Number.Accession Number : 1809084
Human Factors : Time Pressure
Human Factors : Situational Awareness

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : NMAC
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Flight Crew
Miss Distance.Horizontal : 100
When Detected : In-flight
Result.General : Police / Security Involved
Result.Flight Crew : Requested ATC Assistance / Clarification

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

Flew Korry 4 arrival and proceeding visually up the Hudson River at 4,000 feet. Cleared to descend to 3,000 feet. Descending out of 3,500 feet about abeam the museum, noticed an object at our 12 o'clock, flying very stable, and appeared to be flying towards us, at the time our speed was 250 knots. We made no corrective action with our aircraft and continued on descent and heading as there was very little time for it to come and go. It passed approximately 100 feet under the aircraft and was flat oval in shape and a very shiny black in color. I have seen many Mylar Balloons and it definitely wasn't one of them. It had the appearance and actions of a DRONE. We immediately reported it to Air Traffic Control and followed up with law enforcement.

We were at the end of a 4 leg day all flown in high density airspace of DCA and LGA. Luckily it was a beautiful weather day and we were both looking out the window at the river and city when the flying object appeared and flashed under the nose. Vigilance is always required as is protection of airspace.

Synopsis

Air Carrier Captain reported a near miss with a UAS while on approach.

Time / Day

Date : 202105
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.Tower
State Reference : US

Environment

Flight Conditions : VMC
Light : Daylight
Ceiling : CLR

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Recreational / Hobbyist (UAS)
Make Model Name : DJI Mavic Mini
Operating Under FAR Part : Recreational Operations / Section 44809 (UAS)
Flight Plan : None
Mission : Recreational / Hobbyist (UAS)
Flight Phase : Hovering (UAS)
Route In Use : None
Airspace.Class B : ZZZ
Operating Under Waivers / Exemptions / Authorizations (UAS) : N
Weight Category (UAS) : Micro
Flight Operated As (UAS) : VLOS
Flight Operated with Visual Observer (UAS) : N
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Flying In / Near / Over (UAS).Other
Passenger Capable (UAS) : N
Type (UAS) : Purchased
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person : Outdoor / Field Station (UAS)
Reporter Organization : Recreational / Hobbyist (UAS)
Function.Flight Crew : Person Manipulating Controls (UAS)
Function.Other.Other
Qualification.Flight Crew : Private
ASRS Report Number.Accession Number : 1808986
Human Factors : Training / Qualification

Events

Anomaly.Airspace Violation : All Types
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Other Person

Result.General : Police / Security Involved
Result.Flight Crew : Returned to Home (UAS)

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

With the purpose of recreational flying with my DJI Mini 2 (drone), I took off from the parking lot [of a sports stadium] where I knew there would be a great deal of open space (parking lots) and could see cool visuals of the stadium in flight. I do not have any form of business or social media channel that would make me a business in my drone use. Being new to recreational drone use I was unaware of authorization requirements in the area of both being near the ZZZ airport as well as the stadiums. Thankfully security staff from [security company] were swift to detect my mistake and find me in person to instruct me to land my drone immediately to avoid any punishment. Limiting my total fly time, thankfully, to 11 minutes. All of which were kind in our conversation as I landed my drone and they instructed me not to do this again as this is within Class B airspace (ZZZ) and Authorization Zones specific to the stadiums as well. They ensured me I was not in trouble, as this was a warning, if done again than punishment is likely. Representatives from the stadium [and security company] took photo of my driver's license as well as the staffer from the stadium in order to have on file if I were to attempt to fly in their area again. We then all left to go on with our days. I was very thankful we had a pleasant exchange as they quickly made me realize my mistake and brought the drone down. I hope my forward thinking in reporting this and my transparency are taken into consideration as to any pending fine/threats/warnings that may take place due to this incident. This was certainly a learning experience and I am already looking further into educating myself about drone regulations further before flying again as further corrective action.

Synopsis

Recreational Drone Pilot reported inadvertently flying within Class B airspace from the parking lot of a stadium complex. The Pilot was unaware of the incursion until advised by security personnel.

Time / Day

Date : 202105
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Relative Position.Distance.Nautical Miles : 4.6
Altitude.AGL.Single Value : 225

Environment

Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling : CLR

Aircraft

Reference : X
Aircraft Operator : Government
Make Model Name : DJI Matrice 600 Pro
Crew Size.Number Of Crew : 4
Operating Under FAR Part : Part 107
Mission : Surveying / Mapping (UAS)
Flight Phase.Other
Airspace.Class C : ZZZ
Operating Under Waivers / Exemptions / Authorizations (UAS) : N
Weight Category (UAS) : Small
Configuration (UAS) : Multi-Rotor
Flight Operated As (UAS) : VLOS
Flight Operated with Visual Observer (UAS) : Y
Control Mode (UAS) : Waypoint Flying
Flying In / Near / Over (UAS) : Critical Infrastructure
Type (UAS) : Purchased
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person : Outdoor / Field Station (UAS)
Reporter Organization : Government
Function.Flight Crew : Person Manipulating Controls (UAS)
Function.Flight Crew : Remote PIC (UAS)
Qualification.Flight Crew : Remote Pilot (UAS)
Experience.Flight Crew.Total : 0
Experience.Flight Crew.Total (UAS) : 29.5
Experience.Flight Crew.Last 90 Days (UAS) : 14.25
Experience.Flight Crew.Type (UAS) : 14.25
ASRS Report Number.Accession Number : 1808729
Human Factors : Workload
Human Factors : Training / Qualification

Events

Anomaly.Airspace Violation : All Types
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : UAS Crew
When Detected.Other
Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

This was purely human error. I flew previously at this location several times, and obtained the proper LAANC (Low Altitude Authorization and Notification Capability) authorization via AIRMAP. On this date I was too wrapped up in the ground control logistics, and neglected to file the flight with AIRMAP. Going forward, I will be using a checklist which does include filing the flight and obtaining proper authorization. Note that this flight took place with three visual observers, and we had clear line-of-sight visibility of the UAV at all times. The flight occurred around a [processing plant], and I had full permission from the plant supervisor to fly there.

Synopsis

UAS crew failed to obtain LAANC authorization prior to UAS flight.

Time / Day

Date : 202105
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.TRACON
State Reference : US
Altitude.MSL.Single Value : 13500

Environment

Flight Conditions : VMC

Aircraft : 1

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : Large Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Nav In Use : GPS
Flight Phase : Climb
Route In Use.SID : ZZZZZ2
Airspace.Class E : ZZZ

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Flying In / Near / Over (UAS) : Aircraft / UAS

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
ASRS Report Number.Accession Number : 1808344
Human Factors : Situational Awareness
Human Factors : Distraction

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : NMAC

Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Deviation / Discrepancy - Procedural : FAR

Detector.Person : Flight Crew

Were Passengers Involved In Event : N

When Detected : In-flight

Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Environment - Non Weather Related

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Procedure

Primary Problem : Ambiguous

Narrative: 1

FO (First Officer) observed a black and white object roughly 2 feet in diameter passed extremely close to aircraft left during climb passing 13,500 feet on the ZZZZZ2 [SID] prior to ZZZZZ [fix]. The object was close enough that he expected an impact. As Pilot Monitoring, I was heads down attending to FMS programming and did not see the object. FO did not see wings or recognize the object as a balloon, nor could he confirm the object to be a drone.

Synopsis

Air carrier flight crew was flying a published SID and climbing above 10,000 feet when an object, possibly a UAS, passed by the aircraft.

Time / Day

Date : 202011
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Distance.Nautical Miles : 18
Altitude.AGL.Single Value : 200

Environment

Weather Elements / Visibility.Visibility : 6
Light : Daylight
Ceiling : CLR

Aircraft

Reference : X
Aircraft Operator : Commercial Operator (UAS)
Make Model Name : DJI Mavic Pro
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 107
Flight Plan : None
Mission : Photo Shoot / Video
Flight Phase : Takeoff / Launch
Airspace.Class G : ZZZ
Operating Under Waivers / Exemptions / Authorizations (UAS) : N
Weight Category (UAS) : Small
Configuration (UAS) : Multi-Rotor
Flight Operated As (UAS) : VLOS
Flight Operated with Visual Observer (UAS) : Y
Control Mode (UAS) : Autonomous / Fully Automated
Flying In / Near / Over (UAS) : Open Space / Field
Type (UAS) : Purchased
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person : Outdoor / Field Station (UAS)
Reporter Organization : Commercial Operator (UAS)
Function.Flight Crew : Remote PIC (UAS)
Function.Flight Crew : Person Manipulating Controls (UAS)
Qualification.Flight Crew : Remote Pilot (UAS)
Experience.Flight Crew.Total (UAS) : 59
Experience.Flight Crew.Last 90 Days (UAS) : 13
Experience.Flight Crew.Type (UAS) : 23
ASRS Report Number.Accession Number : 1808197
Human Factors : Training / Qualification

Events

Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)

Anomaly.Deviation / Discrepancy - Procedural : FAR

Detector.Person : UAS Crew

When Detected.Other

Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Human Factors

Primary Problem : Human Factors

Narrative: 1

Flew on a stale license starting on Date with additional flights on Dates. I did not become aware until today. My license certificate with expiration date is in my office which has been closed due to the pandemic. I only noticed my expiration when logging into my FAA account. The physical FAA license (which I do carry on my person) does not have this expiration information printed on it. This can be prevented in the future by keeping a photo of the completion certificate in my wallet.

Synopsis

Commercial UAS pilot realized after several flights they had been flying with an expired Part 107 license.

Time / Day

Date : 202105
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Altitude.MSL.Single Value : 8000

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Corporate
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 135
Flight Plan : IFR
Mission : Ferry / Re-Positioning
Flight Phase : Descent
Route In Use.STAR : ZZZZZ3
Airspace.Class B : ZZZ

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Airspace.Class B : ZZZ
Flying In / Near / Over (UAS) : Aircraft / UAS
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Corporate
Function.Other.Other
ASRS Report Number.Accession Number : 1808150
Human Factors : Situational Awareness

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : NMAC
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR

Detector.Person : Flight Crew
Miss Distance.Horizontal : 50
Miss Distance.Vertical : 50
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification

Assessments

Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

Aircraft X was arriving in from the northeast of ZZZ, was cleared for the ZZZZZ3 arrival, and had been cleared direct to ZZZZZ intersection at 8,000 feet. Company aircraft was at 8,000 feet when a small drone passed on left side just below the left wing. Pilot did report it to ZZZ Center, just prior to being handed off to Approach. The drone appeared to have four greenish colored lights on it and was maybe 50 feet to 100 feet below aircraft.

Synopsis

Air taxi flight crew was on a descent when they noticed a small UAS within 50-100 feet of their flight path. Crew notified ATC.

Time / Day

Date : 202105
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.Tower
State Reference : US
Relative Position.Distance.Nautical Miles : 4
Altitude.AGL.Single Value : 450

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling : CLR

Aircraft

Reference : X
Aircraft Operator : Commercial Operator (UAS)
Make Model Name : DJI Inspire 2
Crew Size.Number Of Crew : 5
Operating Under FAR Part : Part 107
Flight Plan : None
Mission : Photo Shoot / Video
Flight Phase : Climb
Airspace.Class C : ZZZ
Operating Under Waivers / Exemptions / Authorizations (UAS) : Y
Weight Category (UAS) : Small
Configuration (UAS) : Multi-Rotor
Flight Operated As (UAS) : VLOS
Control Mode (UAS) : Manual Control
Flying In / Near / Over (UAS) : People / Populated Areas
Type (UAS) : Purchased
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person : Outdoor / Field Station (UAS)
Reporter Organization : Commercial Operator (UAS)
Function.Flight Crew : Remote PIC (UAS)
Function.Flight Crew : Person Manipulating Controls (UAS)
Qualification.Flight Crew : Remote Pilot (UAS)
Experience.Flight Crew.Total (UAS) : 1200
Experience.Flight Crew.Last 90 Days (UAS) : 35
Experience.Flight Crew.Type (UAS) : 800
ASRS Report Number.Accession Number : 1807875
Human Factors : Time Pressure
Human Factors : Situational Awareness

Events

Anomaly.Airspace Violation : All Types
Anomaly.Deviation - Altitude : Overshoot
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Anomaly.Ground Event / Encounter : Loss Of VLOS (UAS)
Detector.Person : UAS Crew
When Detected : In-flight
Result.Flight Crew : Became Reoriented

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

Breached 400 ft. ceiling in airspace authorization. Was on a very fast climb and was keeping VLOS (Visual Line of Sight) of the UAS in order to see and avoid all aircraft. RPIC (Remote Pilot in Command) was monitoring altitude by briefly breaking VLOS to look at GCS (Ground Control Station) screen. RPIC was briefly distracted by a member of the flight crew and the interval between checking the GCS screen exceeded anticipated amount of time. When RPIC saw the UAS exceeding altitude, RPIC immediately stopped and began descending. RPIC should have crew member read off altitude during fast climb.

Synopsis

Commercial UAS crew operating a UAS exceeded authorized altitude during climb while in close proximity to Class C airspace.

Time / Day

Date : 202105
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : CLT.Tower
State Reference : NC
Relative Position.Distance.Nautical Miles : 10
Altitude.AGL.Single Value : 150

Environment

Flight Conditions : VMC
Light : Daylight
Ceiling : CLR

Aircraft

Reference : X
Aircraft Operator : Commercial Operator (UAS)
Make Model Name : DJI Mavic 2 Pro
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 107
Flight Plan : None
Mission : Photo Shoot / Video
Flight Phase : Hovering (UAS)
Airspace.Class B : KCLT
Operating Under Waivers / Exemptions / Authorizations (UAS) : N
Weight Category (UAS) : Small
Configuration (UAS) : Multi-Rotor
Flight Operated As (UAS) : VLOS
Flight Operated with Visual Observer (UAS) : Y
Control Mode (UAS) : Manual Control
Flying In / Near / Over (UAS) : Moving Vehicles
Type (UAS) : Purchased
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person : Outdoor / Field Station (UAS)
Reporter Organization : Commercial Operator (UAS)
Function.Flight Crew : Person Manipulating Controls (UAS)
Function.Flight Crew : Remote PIC (UAS)
Qualification.Flight Crew : Remote Pilot (UAS)
Experience.Flight Crew.Total : 49
Experience.Flight Crew.Total (UAS) : 35
Experience.Flight Crew.Last 90 Days (UAS) : 2
Experience.Flight Crew.Type (UAS) : 12
ASRS Report Number.Accession Number : 1807874
Human Factors : Training / Qualification
Human Factors : Situational Awareness

Events

Anomaly.Airspace Violation : All Types

Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Deviation / Discrepancy - Procedural : FAR

Detector.Person : Other Person

When Detected.Other

Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Human Factors

Contributing Factors / Situations : Software and Automation

Primary Problem : Human Factors

Narrative: 1

I was flying for a video mission, circling a gasoline station at no greater than 150 ft., in an area that I thought was not regulated for altitudes less than 250 ft. I had consulted with my insurance coverage app and the DJI app in order to make sure the area was not regulated for the operation of my drone under VLOS and less than 250 ft. I was asked to report when admin within the company realized that the flying location was under regulations for no flight i.e. Class B [airspace]. I was in error by not consulting the B4ufly app to determine that my location was inside a no fly zone.

Synopsis

Commercial UAS operator reported flying a UAS near a Class B airport without authorization.

Time / Day

Date : 202104
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.Tower
State Reference : US
Altitude.AGL.Single Value : 275

Environment

Flight Conditions : VMC
Light : Daylight
Ceiling : CLR

Aircraft

Reference : X
Aircraft Operator : Recreational / Hobbyist (UAS)
Make Model Name : Small UAS, Multi Rotor
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Recreational Operations / Section 44809 (UAS)
Mission : Recreational / Hobbyist (UAS)
Flight Phase : Hovering (UAS)
Airspace.Class D : ZZZ
Weight Category (UAS) : Small
Configuration (UAS) : Multi-Rotor
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Flying In / Near / Over (UAS).Other

Person

Function.Other
Qualification.Flight Crew : Remote Pilot (UAS)
Experience.Flight Crew.Total (UAS) : 0
Experience.Flight Crew.Last 90 Days (UAS) : 0
Experience.Flight Crew.Type (UAS) : 0
ASRS Report Number.Accession Number : 1807873

Events

Anomaly.Airspace Violation : All Types
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Other Person
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

I am a university student who is taking some drone classes, but am not an aviation student. I was walking by [a] school building (275 ft) and saw a two person UAS crew operating a small UAS below. As a licensed Remote Pilot, I stopped to look for the drone out of interest, and only saw it for a brief moment before it disappeared. I am far sighted and was concerned that the drone was being flown out of the pilot's VLOS. I assumed that they were a UAS instructor and student and did not say anything to the crew. While I have my Remote Pilot's License, I have yet to fly any missions and was not sure how high the legal limit of 400 ft. actually looks like. I brought up the occurrence to some aviation major friends and was immediately concerned to find out that the building they were flying near was 275 ft. This put things into perspective for me and I now believe they were flying well over 400 ft. AGL. I talked to my UAS professor who informed me that because our campus is in the landing pattern for ZZZ airport, the ceiling for drones is actually 100 ft. He also said that permission from the tower only grants you to fly up to 300 ft. I am reporting this because the pilot was flying the UAV at what I believe to be an illegal height in the traffic pattern for an airport that has a lot of traffic due to University's flight training.

Synopsis

There was an eyewitness of a UAS operating at a University. The eyewitness believed the UAS was flying at an unsafe altitude due to the proximity of a nearby airport.

Time / Day

Date : 202104
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.ARTCC
State Reference : US
Relative Position.Angle.Radial : 295
Relative Position.Distance.Nautical Miles : 11.5
Altitude.MSL.Single Value : 10000

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 100
Light : Daylight
Ceiling.Single Value : 12000

Aircraft : 1

Reference : X
ATC / Advisory.Center : ZZZ
Aircraft Operator : Personal
Make Model Name : Small Aircraft, Low Wing, 1 Eng, Retractable Gear
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Training
Nav In Use : FMS Or FMC
Nav In Use : GPS
Flight Phase : Cruise
Route In Use : Direct
Airspace.Class E : ZZZ

Aircraft : 2

Reference : Y
ATC / Advisory.Center : ZZZ
Aircraft Operator : Military
Make Model Name : Large UAS (At or above 1320 lbs)
Flight Phase : Cruise
Airspace.Class E : ZZZ
Weight Category (UAS) : Large
Configuration (UAS) : Fixed Wing
Flying In / Near / Over (UAS) : Aircraft / UAS

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Instructor
Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Flight Instructor
Experience.Flight Crew.Total : 2900
Experience.Flight Crew.Last 90 Days : 80
Experience.Flight Crew.Type : 200
ASRS Report Number.Accession Number : 1807834
Human Factors : Situational Awareness

Events

Anomaly.ATC Issue : All Types
Anomaly.Conflict : NMAC
Anomaly.Deviation - Altitude : Excursion From Assigned Altitude
Detector.Automation : Aircraft TA
Detector.Person : Flight Crew
Miss Distance.Horizontal : 225
Miss Distance.Vertical : 0
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Ambiguous

Narrative: 1

While on an IFR training flight from ZZZ to ZZZ1 we were on an IFR flight plan at 10,000 ft. and in VMC conditions. ATC called a drone and chase plane at 11'clock and ten miles crossing our path left to right at the same altitude. We thought the drone and chase plane were moving back into the military airspace to the north. At five miles, the drone and chase plane turned directly into us at our altitude. The TA (Traffic Alert) warning lit up on our G1000 NXi and we visually identified the drone at our 12 o'clock at the same altitude. We disconnected the autopilot and made a gentle turn and dive to the left. The drone passed so close to our right we asked our passenger to take a picture of it, but she did not have time. I could easily identify the drone as about the same size as our aircraft. The chase plane passed above us to the left. After we got back on our course and altitude, I reported on frequency, "Center, Aircraft X, we got a pretty good look at that drone." ATC came back and said he was, "trying to get them to turn several miles back". We were exactly where we should have been on an IFR flight plan. Without our action, we would have had a mid-air collision.

Synopsis

The pilot of a small aircraft reported a near miss with a large drone while flying on an IFR flight plan. The pilot was able to see and avoid it in time.

Time / Day

Date : 202105
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : LUF.Airport
State Reference : AZ
Relative Position.Distance.Nautical Miles : 10
Altitude.AGL.Single Value : 400

Environment

Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling : CLR

Aircraft : 1

Reference : X
Aircraft Operator : Commercial Operator (UAS)
Make Model Name : DJI Phantom 4 Pro
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 107
Flight Plan : None
Mission : Surveying / Mapping (UAS)
Flight Phase : Hovering (UAS)
Operating Under Waivers / Exemptions / Authorizations (UAS) : N
Weight Category (UAS) : Small
Configuration (UAS) : Multi-Rotor
Flight Operated As (UAS) : VLOS
Control Mode (UAS) : Manual Control
Flying In / Near / Over (UAS) : Open Space / Field
Flying In / Near / Over (UAS) : Aircraft / UAS
Flying In / Near / Over (UAS).Other
Type (UAS) : Purchased
Number of UAS Being Controlled (UAS).Number of UAS : 1

Aircraft : 2

Reference : Y
Aircraft Operator : Military
Make Model Name : Fighter
Mission : Training
Airspace.Special Use : ALERT AREA A-231

Person

Location Of Person : Outdoor / Field Station (UAS)
Reporter Organization : Commercial Operator (UAS)
Function.Flight Crew : Person Manipulating Controls (UAS)
Function.Flight Crew : Remote PIC (UAS)
Qualification.Flight Crew : Remote Pilot (UAS)
Experience.Flight Crew.Total : 0

Experience.Flight Crew.Total (UAS) : 25.5
Experience.Flight Crew.Last 90 Days (UAS) : 25.5
Experience.Flight Crew.Type (UAS) : 10.25
ASRS Report Number.Accession Number : 1806950
Human Factors : Situational Awareness
Human Factors : Training / Qualification
Human Factors : Confusion

Events

Anomaly.Conflict : Airborne Conflict
Detector.Person : UAS Crew
Miss Distance.Horizontal : 500
Miss Distance.Vertical : 500
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : Chart Or Publication
Contributing Factors / Situations : Human Factors
Primary Problem : Ambiguous

Narrative: 1

I was on a mapping mission for a housing development at this [location]. As I was beginning to take the photographs and was hovering at 400 ft. AGL I noticed a fighter jet performing a banked turn just beyond my UAV. I am not sure whether it knew I was flying there or not. It showed up on my photo so I knew it had to be pretty close. Based on my sectional chart I did not believe I was in Lake AFB SATR (Special Air Traffic Rules). I immediately descended and landed my aircraft to avoid any other conflict in the area.

Synopsis

Remote pilot was flying a UAS 100 ft. below a charted Alert Area when a fast moving military jet was flying the same vicinity. The remote pilot recognized the conflict and landed the UAS to avoid collision.

Time / Day

Date : 202105
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Relative Position.Distance.Nautical Miles : 1.25
Altitude.AGL.Single Value : 150

Environment

Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling : CLR

Aircraft

Reference : X
Aircraft Operator : Commercial Operator (UAS)
Make Model Name : DJI Phantom 3 Professional
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 107
Flight Plan : None
Mission : Photo Shoot / Video
Flight Phase : Takeoff / Launch
Airspace.Class E : ZZZ
Operating Under Waivers / Exemptions / Authorizations (UAS) : N
Weight Category (UAS) : Small
Configuration (UAS) : Multi-Rotor
Flight Operated As (UAS) : VLOS
Control Mode (UAS) : Manual Control
Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport
Type (UAS) : Purchased
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person : Outdoor / Field Station (UAS)
Reporter Organization : Commercial Operator (UAS)
Function.Flight Crew : Person Manipulating Controls (UAS)
Function.Flight Crew : Remote PIC (UAS)
Qualification.Flight Crew : Remote Pilot (UAS)
Experience.Flight Crew.Total : 3
Experience.Flight Crew.Total (UAS) : 200
Experience.Flight Crew.Last 90 Days (UAS) : 15
Experience.Flight Crew.Type (UAS) : 80
ASRS Report Number.Accession Number : 1806949
Human Factors : Training / Qualification
Human Factors : Confusion

Events

Anomaly.Airspace Violation : All Types
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : UAS Crew
When Detected.Other
Result.General : None Reported / Taken

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Human Factors

Narrative: 1

While visiting out west, I planned a short, low altitude flight for a view of the lake, and to take some footage and photos. It was sunny, no clouds. A resident agreed to let me take off and land. From the takeoff location, I called Leidos Flight Service to get a flight briefing and asked about weather conditions and for any TFRs. Everything seemed in order for a flight, although he did suggest calling the airport. I said we should not call anymore, that if it was in such an area they now have LAANC (Low Altitude Authorization and Notification Capability). He said he was not sure, that they keep changing the procedure. About the same time, I checked my EFB, iFly GPS, which has a Quick View Popup window with advisories for an immediate location. The controlled airspace advisory button was dimmed, but I clicked it anyway to be sure and it said "No Airspaces found here". I took that to mean no controlled airspace was where I was, at my AGL (0 ft). I should have checked against the LAANC system. I am sorry about that. The iFly GPS sectional also referenced svc times for the surface extension, which was confusing to me, since the popup window said no controlled airspaces were found. I should have spent more time pouring over the sectional and have recognized the meaning of the magenta dashed lines. Although I also found out today they are on reduced service hours, so not sure if this applies. But I should have been aware. It was not until today, that I happened upon the LAANC for the area. Recommendation: To avoid this, remote pilots should always check against the LAANC system for controlled air space, especially if relatively unfamiliar with an area, as I was. Remote pilots should not rely on general aviation EFBs that may or may not call out things that are significant to remote pilots. I have taken some manned pilot flying lessons. Again, I am sorry. I am definitely going to be more diligent, and take extra precautions in unfamiliar situations to watch for controlled air space. I will pore over the sectional closer, and check the LAANC system. Thanks.

Synopsis

Remote pilot was conducting a photo flight near an uncontrolled airport. The remote pilot was unaware the Class E airspace extended to the surface where they were flying.

Time / Day

Date : 202105
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZDC.ARTCC
State Reference : VA
Relative Position.Distance.Nautical Miles : 11
Altitude.MSL.Single Value : 16000

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.Center : ZDC
Aircraft Operator : Corporate
Make Model Name : Commercial Fixed Wing
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 135
Flight Plan : IFR
Mission : Passenger
Nav In Use : GPS
Nav In Use : FMS Or FMC
Flight Phase : Cruise
Airspace.Class A : ZZZ

Aircraft : 2

Reference : Y
Make Model Name : UAV: Unpiloted Aerial Vehicle
Airspace.Class A : ZDC
Configuration (UAS) : Multi-Rotor
Flying In / Near / Over (UAS) : Aircraft / UAS
Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Corporate
Function.Flight Crew : Captain
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 11853
Experience.Flight Crew.Last 90 Days : 91

Experience.Flight Crew.Type : 5972
ASRS Report Number.Accession Number : 1806478
Human Factors : Situational Awareness

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : NMAC
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Flight Crew
Miss Distance.Vertical : 500
Were Passengers Involved In Event : N
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification

Assessments

Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Human Factors

Narrative: 1

On our flight to ZZZ1 from ZZZ we just crossed the shore of the Delaware Bay from ZZZ, about 11 nm east of DONIL intersection at 16,000ft, XA: 30, we flew past a drone that appeared to be stationary. The drone, quad type, looked to be approximately 500 feet below our left wing. The encounter was reported to Washington Center.

Synopsis

Corporate flight crew was in cruise flight at 16,000 feet when they noticed a UAS about 500 feet below them and notified ATC.

Time / Day

Date : 202105

Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZZZ.TRACON

State Reference : US

Altitude.MSL.Single Value : 6000

Environment

Flight Conditions : VMC

Weather Elements / Visibility : Cloudy

Weather Elements / Visibility.Visibility : 10

Aircraft : 1

Reference : X

Aircraft Operator : Air Carrier

Make Model Name : Small Transport

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 121

Flight Plan : IFR

Mission : Cargo / Freight / Delivery

Flight Phase : Climb

Aircraft : 2

Reference : Y

ATC / Advisory.TRACON : ZZZ

Make Model Name : UAV: Unpiloted Aerial Vehicle

Configuration (UAS) : Multi-Rotor

Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport

Flying In / Near / Over (UAS) : Aircraft / UAS

Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Air Carrier

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

Qualification.Flight Crew : Commercial

ASRS Report Number.Accession Number : 1805793

Events

Anomaly.Airspace Violation : All Types

Anomaly.Conflict : NMAC

Anomaly.Deviation / Discrepancy - Procedural : FAR

Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Detector.Person : Flight Crew
Miss Distance.Horizontal : 10
When Detected : In-flight
Result.General : Police / Security Involved
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Air Traffic Control : Provided Assistance

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

As I was leveling off at my assigned altitude of 6,000 ft just above the base of a scattered layer of clouds I saw a large black and silver object in my peripheral vision. I was able to catch a quick look at the object as it passed off my left wing. I would estimate the distance as having been approximately 10 ft from my wingtip. I had just exited a cloud when the object appeared, so there would have been extremely little time to take evasive action if it had been a bit further to my right. The object appeared to be a quad-copter style drone, and as previously mentioned it was black and silver/chrome. I immediately reported the object to ATC, and a nearby law enforcement aircraft went to investigate the area. The object did not strike my aircraft and the flight was completed with no further issues. Recommendation: Stricter enforcement of drone operation rules, perhaps drone manufacturers should include a pamphlet in each box describing the dangers associated with busy airspace.

Synopsis

Air carrier flight crew noticed and came within 10 feet of a UAS while at 6,000 feet.

Time / Day

Date : 202104

Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : SAN.Tower

State Reference : CA

Relative Position.Distance.Nautical Miles : 2.5

Environment

Weather Elements / Visibility.Visibility : 10

Light : Daylight

Ceiling : CLR

Aircraft

Reference : X

Aircraft Operator : Recreational / Hobbyist (UAS)

Make Model Name : DJI Undifferentiated

Operating Under FAR Part : Recreational Operations / Section 44809 (UAS)

Flight Plan : None

Mission : Recreational / Hobbyist (UAS)

Flight Phase : Return to Home (UAS)

Route In Use : None

Airspace.Class B : SAN

Operating Under Waivers / Exemptions / Authorizations (UAS) : N

Weight Category (UAS) : Micro

Configuration (UAS) : Multi-Rotor

Flight Operated As (UAS) : VLOS

Flight Operated with Visual Observer (UAS) : N

Control Mode (UAS) : Waypoint Flying

Flying In / Near / Over (UAS) : People / Populated Areas

Flying In / Near / Over (UAS) : Open Space / Field

Flying In / Near / Over (UAS) : Airport / Aerodrome / Heliport

Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Location Of Person : Outdoor / Field Station (UAS)

Reporter Organization : Recreational / Hobbyist (UAS)

Function.Flight Crew : Person Manipulating Controls (UAS)

Experience.Flight Crew.Total : 0

Experience.Flight Crew.Total (UAS) : 107

Experience.Flight Crew.Last 90 Days (UAS) : 66

Experience.Flight Crew.Type (UAS) : 25

ASRS Report Number.Accession Number : 1803127

Human Factors : Confusion

Human Factors : Situational Awareness

Human Factors : Training / Qualification

Events

Anomaly.Airspace Violation : All Types
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Other Person
When Detected.Other
Result.General : Police / Security Involved
Result.Flight Crew : Exited Penetrated Airspace

Assessments

Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : Software and Automation
Contributing Factors / Situations : Chart Or Publication
Primary Problem : Ambiguous

Narrative: 1

I was flying my DJI aircraft recreationally at XA: 15 at the San Diego Harbor during my DJI drone's flight on its Return To Home automation when a public official asked me for my license and registration. I told him that I was a recreational pilot on site and had a self unlocking license from DJI Fly app to fly at San Diego Intl Area. He told me that I was too close to the airport (2.5 miles away) and that I didn't have permission from the tower or a permit from the harbor. He also told me that I need to have my DJI aircraft registered and displayed at all times and gave a me a ticket for not complying with FAA registration. He notified me later that I needed a 107 license and that my DJI aircraft needed to be registered and displayed correctly on the drone at all times. I am self reporting because I was unaware and believed at the time that I had acquired all measures I need to fly there. I aim to always fly safely and share the skies responsibly. I was unaware that I had missed steps to safely and legally fly over the water in that area.

Synopsis

Hobbyist drone pilot was unaware he was flying in controlled airspace until approached by public official.

Time / Day

Date : 202104

Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZZZ.TRACON

State Reference : US

Relative Position.Angle.Radial : 145

Relative Position.Distance.Nautical Miles : 20

Altitude.MSL.Single Value : 1550

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft : 1

Reference : X

Aircraft Operator : Personal

Make Model Name : Bell Helicopter Textron Undifferentiated or Other Model

Crew Size.Number Of Crew : 1

Operating Under FAR Part : Part 91

Flight Plan : None

Mission : Personal

Flight Phase : Cruise

Route In Use : None

Airspace.Class G : ZZZ

Aircraft : 2

Reference : Y

Make Model Name : UAV: Unpiloted Aerial Vehicle

Airspace.Class G : ZZZ

Configuration (UAS) : Multi-Rotor

Flying In / Near / Over (UAS) : Aircraft / UAS

Person

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Personal

Function.Flight Crew : Single Pilot

Function.Flight Crew : Flight Engineer / Second Officer

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Flight Engineer

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Multiengine

Qualification.Flight Crew : Air Transport Pilot (ATP)

Experience.Flight Crew.Total : 38800

Experience.Flight Crew.Last 90 Days : 42

Experience.Flight Crew.Type : 150

ASRS Report Number.Accession Number : 1802595
Human Factors : Distraction

Events

Anomaly.Airspace Violation : All Types
Anomaly.Conflict : NMAC
Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)
Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy
Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Flight Crew
Miss Distance.Horizontal : 30
Miss Distance.Vertical : 100
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

I was in a slow circle over a landmark when I saw what I thought was a bird slightly above and to my right. I dropped collective to about 1,200 ft. and watched the object pass to my right and above. The object appeared to be a drone with 4 rotors. I made a wide circle in an attempt to see who or where the drone operator was but was unable to locate.

Synopsis

Helicopter Single Pilot reported a near miss with a drone at 1,200 ft.

Time / Day

Date : 202103

Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZOA.ARTCC

State Reference : CA

Altitude.AGL.Single Value : 100

Environment

Flight Conditions : VMC

Weather Elements / Visibility.Visibility : 10

Light : Dusk

Ceiling.Single Value : 10000

Aircraft

Reference : X

Aircraft Operator : Commercial Operator (UAS)

Make Model Name : Autel Robotics Evo II

Operating Under FAR Part : Part 107

Flight Plan : None

Mission : Photo Shoot / Video

Flight Phase : Hovering (UAS)

Airspace.Class G : ZOA

Weight Category (UAS) : Small

Configuration (UAS) : Multi-Rotor

Type (UAS) : Purchased

Number of UAS Being Controlled (UAS).Number of UAS : 1

Person

Reporter Organization : Commercial Operator (UAS)

Function.Flight Crew : Remote PIC (UAS)

Qualification.Flight Crew : Remote Pilot (UAS)

Qualification.Flight Crew : Instrument

Qualification.Flight Crew : Commercial

Qualification.Flight Crew : Rotorcraft

Experience.Flight Crew.Total : 250

Experience.Flight Crew.Last 90 Days : 5

Experience.Flight Crew.Total (UAS) : 10

Experience.Flight Crew.Type (UAS) : 10

ASRS Report Number.Accession Number : 1798401

Human Factors : Confusion

Human Factors : Situational Awareness

Human Factors : Training / Qualification

Events

Anomaly.Airspace Violation : All Types

Anomaly.Deviation / Discrepancy - Procedural : Unauthorized Flight Operations (UAS)

Anomaly.Deviation / Discrepancy - Procedural : Published Material / Policy

Anomaly.Deviation / Discrepancy - Procedural : FAR
Detector.Person : Other Person
Result.General : Police / Security Involved
Result.Flight Crew : Exited Penetrated Airspace

Assessments

Contributing Factors / Situations : Airspace Structure
Contributing Factors / Situations : Chart Or Publication
Contributing Factors / Situations : Software and Automation
Contributing Factors / Situations : Human Factors
Primary Problem : Ambiguous

Narrative: 1

I am reporting this in the interest of flight safety and for the furtherance of drone operations in the NAS (National Airspace System). For experience in the hours to clarify I went to flight school and earned a PPL (Private Pilot License) and have roughly X00 hours flight in helicopters combined with instrument and commercial type training, along with XX hours of fixed wing flight experience. 10 hours in drones however that is measured in flight logs stored within the aircraft flight logs and is subject to some error like all things are. The issue was that I was hired to film [an event] that was not permitted (something I did not know). The other issue was that the area I was operating in [an area] on the San Francisco sectional chart as no flight below 1,000 ft. AGL. I was aware of this area and knew approximately where it was but at the time believed it to be much farther north. The issue with drone operations vs. commercial manned aircraft operations is that the infrastructure is built around manned flight and to precisely pinpoint a physical address on a sectional is quite cumbersome. For the most part a sectional is helpful for areas in general but you could literally find yourself operating inside a hole within several boundaries. This is where applications such as Airmap, B4uFly, and UASidekick can be a huge help in checking and re-checking an area. I do understand the responsibility falls onto the PIC in this case and that I should have been more diligent and this is a lesson learned. But I cannot imagine that professional operators would be pulling out plotters for every address they fly at to pinpoint the coordinates. My concern lies with the applications accuracy not that the developers do not try but 4 of the top applications did not alert me to an airspace issue, this along with my presumed thought that the restriction was much farther north let me to believe I had the all clear. As drone operators the only official source we have is one that is geared towards manned flight and as usage continues to grow my fear is that a more serious incursion is inevitable. Helicopters operators have a chart that is most helpful to them when operating at low level, and this is very helpful as I have used these to navigate Los Angeles and San Francisco class B. Drones are an emerging business and as a responsible operator I am always concerned about flight safety. But usage is only increasing, something as simple as doing a roof inspection of a residential home reduces risk increases productivity and improves the accuracy and level of service. Drones may be small but they are making a huge impact.

Synopsis

Part 107 pilot was flying in an area they believed to be available for UAS operations. After further review the pilot learned they were in fact in airspace not available to UAS operations which was not noted by any of the UAS apps.