ASRS Database Report Set

Unmanned Aerial Vehicle (UAV) Reports

Report Set Description	A sampling of reports involving Unmanned Aerial Vehicle (UAV) events.
Update Number	13
Date of Update	February 27, 2019
Number of Records in Report Set	50
Number of New Records in Report Set	49
Type of Records in Report Set	For each update, new records received at ASRS will displace a like number of the oldest records in the Report Set, with the objective of providing the fifty most recent relevant ASRS Database records. 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.

B Hooey

Becky L. Hooey, 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: 1605225 *(1 of 50)*

Synopsis
C-172 pilot reported sighting a drone close by during cruise flight.

ACN: 1600739 *(2 of 50)*

Synopsis
737-800 captain reported a UAV at 2500 ft. (MSL).

ACN: 1600215 *(3 of 50)*

Synopsis
C172 Flight Instructor reported an airborne conflict with a UAV in the airport traffic pattern.

ACN: 1600211 *(4 of 50)*

Synopsis
A UAS operator reported taking evasive action to avoid traffic at a non towered airport.

ACN: 1599969 *(5 of 50)*

Synopsis
An EMS Helicopter pilot reported many hospital heliports are not in the FAA Airport database provided to drone operators to use to avoid the airspace.

ACN: 1599671 *(6 of 50)*

Synopsis
Remote pilot reported the UAV was flown to an altitude that was likely in excess of the 400 FT AGL limitation specified within FAR Part 107. Pilot states telemetry data on display was set to metric.

ACN: 1598849 *(7 of 50)*

Synopsis
Military helicopter instructor reported a NMAC with a UAV in a military training area.

ACN: 1595651 *(8 of 50)*

Synopsis
First Officer reported sighting a drone while on initial approach to SAN, which caused a distraction and possible track deviation.

ACN: 1595573 *(9 of 50)*

Synopsis
Air Carrier flight crew reported an NMAC with a drone while on final approach to LAX.

ACN: 1593299 *(10 of 50)*

Synopsis
EMB-175 Captain reported a drone sighting after departure.

ACN: 1592641 *(11 of 50)*

Synopsis
Approach Controller reported airborne conflict between UAV and commercial aircraft being vectored for approach.

ACN: 1592543 *(12 of 50)*

Synopsis
Air carrier Captain reported airborne conflict with a UAV on base leg into BOS.

ACN: 1591597 *(13 of 50)*

Synopsis
Drone operator reported penetrating Class D airspace.

ACN: 1591241 *(14 of 50)*

Synopsis
Departure Controller reported an airborne conflict between a manned aircraft and a flight of two UAVs.

ACN: 1591153 *(15 of 50)*

Synopsis
Light Sport pilot encountered a UAV near a MOA.

ACN: 1591117 *(16 of 50)*

Synopsis
UAV operator reported that the UAV suffered a complete loss of power during flight despite indications of sufficient battery time remaining.

ACN: 1590911 *(17 of 50)*

Synopsis
Air carrier flight crew reported a conflict with a Drone on approach to DEN.

ACN: 1589922 *(18 of 50)*

Synopsis
UAS operator reported a conflict with a taxiing aircraft just prior to launch from an airport taxiway. The operation was published informing all users of the airport of the planned UAS operation.

ACN: 1589625 *(19 of 50)*

Synopsis
UAV pilot reported being unaware the flight conducted was in controlled airspace.

ACN: 1588688 *(20 of 50)*

Synopsis
UAV operator reported possible operation in Class C airspace.

ACN: 1588430 *(21 of 50)*

Synopsis
UAV operator reported being advised by local FSDO that an investigation of recent operations of his UAV in the vicinity of an airport was being initiated.

ACN: 1588041 *(22 of 50)*

Synopsis
Air Carrier Captain reported a NMAC with a Drone on a four mile final to JFK.

ACN: 1587432 *(23 of 50)*

Synopsis
PA-38 pilot reported an encounter with a drone at 150 feet off the aircraft wing tip.

ACN: 1586244 *(24 of 50)*

Synopsis
UAV pilot reported he was contacted by the FAA for a possible violation of FAR 107.39. Operating around a 0 AGL area.

ACN: 1584220 *(25 of 50)*

Synopsis

Cessna 182 pilot reported airborne conflict with UAV.

ACN: 1583855 *(26 of 50)*

Synopsis
Cessna 172 pilot reported a NMAC with a drone at a distance of 0 feet vertical and 400 feet lateral.

ACN: 1583538 *(27 of 50)*

Synopsis
Air Carrier Captain reported an airborne conflict with UAV during approach.

ACN: 1582733 *(28 of 50)*

Synopsis
757 Captain reported the flight crew observed a UAV at their same altitude.

ACN: 1580222 *(29 of 50)*

Synopsis
Helicopter pilot reported a NMAC with drone.

ACN: 1578620 *(30 of 50)*

Synopsis
Indianapolis Center Controller reported an NMAC between a Piper and a drone, and also failure on Controller's report to broadcast for 15 minutes afterward.

ACN: 1578002 *(31 of 50)*

Synopsis
A General Aviation pilot reported an NMAC with a drone at approximately 500 feet altitude.

ACN: 1577960 *(32 of 50)*

Synopsis
UAV pilot reported temporarily losing line-of-sight with drone.

ACN: 1577881 *(33 of 50)*

Synopsis
Gulfstream pilot reported, while on initial approach, sighting a drone 500 feet above the aircraft.

ACN: 1574558 *(34 of 50)*

Synopsis
A R44 Pilot reported an encounter with a UAV just before liftoff.

ACN: 1573395 *(35 of 50)*

Synopsis
Air carrier Captain reported a small white drone pass under his aircraft flying in the opposite direction.

ACN: 1573186 *(36 of 50)*

Synopsis
Flight instructor reported sighting a drone while on an instructional flight at 4500 feet.

ACN: 1571254 *(37 of 50)*

Synopsis
Citation Captain reported a NMAC with a drone while on approach to Runway 24L at LAX.

ACN: 1570720 *(38 of 50)*

Synopsis
B737 Captain reported sighting a drone 400 feet below and just to the right of final approach fix to Runway 12R at STL.

ACN: 1568419 *(39 of 50)*

Synopsis
B-777 flight crew reported passing over a drone by 1000 feet while at 4000 feet on the HYPER 7 ARRIVIAL into IAD.

ACN: 1568336 *(40 of 50)*

Synopsis
B737 Captain reported sighting a drone while flying a visual approach to runway 27 at SAN and then again hovering over a parked airplane upon landing.

ACN: 1566714 *(41 of 50)*

Synopsis
Air Carrier Captain reported sighting a quadcopter drone at approximately 4000 feet while flying the STYCK6 departure out of IAH.

ACN: 1562358 *(42 of 50)*

Synopsis
ZOA Center Controllers reported a loss of separation between a UAV and a Small Transport.

ACN: 1562024 *(43 of 50)*

Synopsis
B737 First Officer reported an NMAC with a drone during approach to BOS.

ACN: 1561883 *(44 of 50)*

Synopsis
C172 pilot reported a NMAC with a drone while descending into SBP.

ACN: 1561479 *(45 of 50)*

Synopsis
A330 Captain reported they lost communication with ATC and did not realize it until they observed unidentifiable traffic near their aircraft.

ACN: 1561264 *(46 of 50)*

Synopsis
An airport worker at CXP reported a midair collision between a helicopter and a drone.

ACN: 1561150 *(47 of 50)*

Synopsis
ERJ-190 flight crew reported a NMAC with a Drone during the descent phase of flight.

ACN: 1559150 *(48 of 50)*

Synopsis
CRJ-200 First Officer reported a UAV in close proximity to the aircraft.

ACN: 1558327 *(49 of 50)*

Synopsis
C-172 pilot reported a NMAC with a drone while on final approach to Ann Arbor Municipal Airport.

ACN: 1549645 *(50 of 50)*

Synopsis

Helicopter pilot reported a NMAC with a quadcopter drone at approximately 650 feet MSL while inbound for landing.

Report Narratives

ACN: 1605225 *(1 of 50)*

Time / Day

Date : 201812
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZJX.ARTCC
State Reference : FL
Altitude.MSL.Single Value : 4500

Environment

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

Aircraft : 1

Reference : X
Aircraft Operator : Personal
Make Model Name : Skyhawk 172/Cutlass 172
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Personal
Flight Phase : Cruise
Airspace.Class E : ZJX

Aircraft : 2

Make Model Name : UAV - Unpiloted Aerial Vehicle
Crew Size.Number Of Crew : 0
Operating Under FAR Part.Other
Flight Phase : Cruise
Airspace.Class E : ZJX

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 153
Experience.Flight Crew.Last 90 Days : 19
Experience.Flight Crew.Type : 12
ASRS Report Number.Accession Number : 1605225
Human Factors : Situational Awareness

Events

Anomaly.Conflict : NMAC
Detector.Person : Flight Crew
Miss Distance.Horizontal : 150
Miss Distance.Vertical : 25
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

We encountered a drone at our cruise altitude of 4500 feet. It was clearly identifiable as an unmanned aerial vehicle with a white/red top and black bottom. No evasive action taken because the time between seeing the drone and the drone passing about 150 feet from our left wing was too short (estimate between 0.5 and 1 second).

Synopsis

C-172 pilot reported sighting a drone close by during cruise flight.

ACN: 1600739 *(2 of 50)*

Time / Day

Date : 201812
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 2500

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B737-800
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 : Climb
Airspace.Class B : ZZZ

Aircraft : 2

Make Model Name : UAV - Unpiloted Aerial Vehicle
Airspace.Class B : ZZZ

Person

Reference : 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 : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 1600739
Human Factors : Situational Awareness

Events

Anomaly.Conflict : Airborne Conflict
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

Flight encountered a drone passing 2500 ft (MSL). The drone was at our 9-O'clock position. ATC notified.

Synopsis

737-800 captain reported a UAV at 2500 ft. (MSL).

ACN: 1600215 *(3 of 50)*

Time / Day

Date : 201812
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 200

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.CTAF : ZZZ
Aircraft Operator : Personal
Make Model Name : Skyhawk 172/Cutlass 172
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Training
Flight Phase : Final Approach
Route In Use : Visual Approach
Airspace.Class G : ZZZ

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Instructor
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Flight Instructor
ASRS Report Number.Accession Number : 1600215
Human Factors : Situational Awareness

Events

Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew
Miss Distance.Vertical : 800
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

My student and I were on short final for Runway 10 at ZZZ when we each observed an unmanned aircraft operating directly above the airport at what appeared to be pattern altitude or possibly lower. It was difficult to gauge the size of the drone from our perspective but I would say at least 6 feet from wingtip to wingtip. We landed normally--we had been planning to fly the closed traffic pattern for a few circuits at ZZZ but quickly decided after seeing the drone to depart the area for the day, which we did without seeing the drone again. We had been monitoring the CTAF since 15 miles out and had communicated our position and intentions for a straight-in approach several times, starting at 8 miles away. No one else had made radio transmissions at ZZZ the whole time. After landing back at [home airport] and concluding the flight, we spoke on the phone to someone at an FBO listed at ZZZ. He said "the drone people had been asking (him) earlier that morning if (he) could hear them on the frequency," and he said he hadn't been able to hear them. Obviously we could not either. He suggested we file [this] report.

Synopsis

C172 Flight Instructor reported an airborne conflict with a UAV in the airport traffic pattern.

ACN: 1600211 *(4 of 50)*

Time / Day

Date : 201812
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 400

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 3200

Aircraft

Reference : X
ATC / Advisory.CTAF : ZZZ
Aircraft Operator : Personal
Make Model Name : UAV - Unpiloted Aerial Vehicle
Flight Plan : None
Mission : Test Flight
Flight Phase : Cruise
Route In Use : None
Airspace.Class G : ZZZ

Person

Reference : 1
Location Of Person : Gate / Ramp / Line
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
ASRS Report Number.Accession Number : 1600211
Human Factors : Situational Awareness
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew
Miss Distance.Horizontal : 500
Miss Distance.Vertical : 400
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Executed Go Around / Missed Approach

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Company Policy
Contributing Factors / Situations : Human Factors
Primary Problem : Human Factors

Narrative: 1

An unmanned aircraft was operating in the vicinity of ZZZ under a FAA 333 exemption authority. The aircraft was positioned about 1000 feet north of the runway flying parallel to the runway at 400 feet. At this time, a manned aircraft made a radio call that they were on "short final for runway ..." No prior radio call was made by the manned aircraft as they approached the area. The first radio call was made while the manned aircraft was approximately one mile from the approach end of runway. The UAS operator immediately commanded the aircraft to return to the south of the airfield where the ground control station was located in order to avoid the landing traffic. A radio call was also made by the UAS operator identifying the position of the unmanned aircraft but no reply was heard from the manned aircraft. As the manned aircraft crossed the threshold of the runway, the UAS was south of the runway by approximately 500 feet and maintaining 400 feet. The manned aircraft did not take any evasive maneuvers to avoid the unmanned aircraft and proceeded to do a touch and go. Several radio calls were made by the UAS operator but no replies were heard. While the unmanned aircraft was established in an orbit south of the runway, the manned aircraft made left traffic and climbed above pattern altitude and departed the area to the west. The manned aircraft made a final radio call indicating they had seen the UAS but did not acknowledge any radio calls by the UAS operator.

Synopsis

A UAS operator reported taking evasive action to avoid traffic at a non towered airport.

ACN: 1599969 *(5 of 50)*

Time / Day

Date : 201812
Local Time Of Day : 1801-2400

Aircraft

Reference : X
Make Model Name : Helicopter
Flight Phase : Cruise
Flight Phase : Takeoff
Flight Phase : Descent
Flight Phase : Landing
Flight Phase : Climb

Person

Reference : 1
Location Of Person.Aircraft : X
Reporter Organization : Personal
Function.Flight Crew : Other / Unknown
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 5210
ASRS Report Number.Accession Number : 1599969
Analyst Callback : Completed

Events

Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Other Person
When Detected : Routine Inspection

Assessments

Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Procedure
Contributing Factors / Situations : Company Policy
Primary Problem : Company Policy

Narrative: 1

In conducting research in regard to the accuracy of the FAA's Airport Master Record (5010) database system significant discrepancies have been discovered. While auditing four different states for hospital heliports; Ohio, Indiana, Wisconsin and Tennessee, numerous hospital heliports were found to be unaccounted for. Ohio-44, Indiana-36, Wisconsin-42 and Tennessee-38. Given these numbers it is estimated upwards of 2,000 hospital heliports may be unaccounted for in the U.S. The criticality of this is based on the fact that the FAA has provided UAS and Drone operators with the B4UFLY application to alert them when they are in proximity of any airports. Since the B4UFLY application, as does every other aviation database and GPS, pulls its information directly from the FAA Airport Master Record Database, any facility not identified in that system will not appear in the B4UFLY, hence the UAS or Drone pilot would never know these facilities existed and would not know to avoid the area or to alert the hospitals of their operation as required by Part-107. The primary reasons identified for this lack of information are the fact that hospital

heliports are qualified as "private" facilities, even though commercial operations are performed at these locations, and the FAA has never been given any legal jurisdiction or authority over private facilities and cannot enforce compliance. With the continually increasing number of UAS and Drone operations being conducted in the U.S., the risk exposure for a potential incident continues to climb every day.

Synopsis

An EMS Helicopter pilot reported many hospital heliports are not in the FAA Airport database provided to drone operators to use to avoid the airspace.

ACN: 1599671 *(6 of 50)*

Time / Day

Date : 201812
Local Time Of Day : 0601-1200

Place

Altitude.AGL.Single Value : 490

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 2000

Aircraft

Reference : X
Aircraft Operator : Government
Make Model Name : UAV - Unpiloted Aerial Vehicle
Crew Size.Number Of Crew : 1
Flight Plan : None
Mission : Photo Shoot
Flight Phase : Climb

Person

Reference : 1
Location Of Person : Hangar / Base
Reporter Organization : Government
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 1100
Experience.Flight Crew.Last 90 Days : 10
Experience.Flight Crew.Type : 75
ASRS Report Number.Accession Number : 1599671
Human Factors : Human-Machine Interface

Events

Anomaly.Airspace Violation : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : FAR
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Exited Penetrated Airspace

Assessments

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

Narrative: 1

While collecting photo/video data, the UAS was flown to an altitude that was likely in excess of the 400 FT AGL limitation specified within FAR Part 107. Remote Pilot in Command (RPIC) holds both Part 61 (manned) certificate and Part 107 (remote) certificate. A Visual Observer (VO), also a Part 61 & Part 107 pilot, was also scanning for traffic and other potential hazards in and around the planned operating environment. The crew had an aviation-band transceiver available to monitor the local airport's CTAF frequency, a small untowered/uncontrolled GA airport located approximately 1 nm away. No manned aircraft were heard (over the radio or via engine noise) or visually observed during the entirety of the day's flights and the UAS was not within the airport's approach/departure paths. The RPIC had eyes on the UAS while maneuvering to ensure UAS did not fly close to obstacles (primarily trees & power lines when closer to ground) or over areas that may have contained nonparticipants (yards, roads). The planned route was chosen to be free from most factors, with the few road crossings performed safely when there was no vehicular traffic in the vicinity (RPIC and Visual Observer both verbally verify prior to crossing). After all obstacles were well cleared and the UAS was maneuvered into position and had begun data collection, the RPIC checked the display and noticed the flight display software's telemetry data had been reset to display metric and was indicating approximately 150 meters. Knowing the metric equivalent of 400 FT is approximately 122m, the RPIC initiated an immediate descent. Contributing Factors: RPIC's focus on ensuring the UAS was not flown near obstacles or over people, coupled with the delayed awareness of the software displaying telemetry information in metric units. Corrective Actions (real-time): Upon noticing an indicated altitude in excess of 400 FT AGL, the RPIC immediately descended the UAS below 400 FT (122m) AGL indicated. Corrective Actions (future procedures): In the future, pre-flight checklist will include verification that software units are displayed in feet (not metric) and the software-based altitude limit is enabled and properly set (when able). RPIC will also refer to flight display more frequently as the aircraft is climbing (assuming safe to do so) and call out altitudes passing through during major ascents/descents. Additionally, when the flight profile allows, RPIC will de-couple climbs/descents from horizontal maneuvering, particularly if the UAS is approaching the altitude limit or may be operating in the vicinity of other considerations (obstacles, roads, nonparticipants, etc.) which may take attention away from altitude awareness.

Synopsis

Remote pilot reported the UAV was flown to an altitude that was likely in excess of the 400 FT AGL limitation specified within FAR Part 107. Pilot states telemetry data on display was set to metric.

ACN: 1598849 *(7 of 50)*

Time / Day

Date : 201811
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 200

Environment

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

Aircraft : 1

Reference : X
ATC / Advisory.Military Facility : ZZZ
Aircraft Operator : Military
Make Model Name : Jet/Long Ranger/206
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Training
Flight Phase : Taxi
Airspace.Special Use : MILITARY AIRSPACE

Aircraft : 2

Reference : Y
ATC / Advisory.Military Facility : ZZZ
Make Model Name : UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part : Part 91
Flight Phase : Cruise

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Military
Function.Flight Crew : Instructor
Function.Flight Crew : Pilot Not Flying
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 3000
Experience.Flight Crew.Last 90 Days : 120
Experience.Flight Crew.Type : 2300
ASRS Report Number.Accession Number : 1598849
Human Factors : Situational Awareness

Events

Anomaly.Conflict : NMAC
Detector.Person : Flight Crew
When Detected : Taxi
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

While hover taxiing at a [military] training field a quadcopter drone (app. 2ft by 2ft) flew overhead of my helicopter at roughly 200 ft AGL. The training field is 1 square mile. My aircraft was in the southeast corner of the field. The drone flew over my aircraft then to the northwest until it eventually exited the training environment. There were 9 other helicopters at the field during this time. The drone flew overhead at least 3 other aircraft that were doing hover training during its transit across the field. [Military] operating altitude at this outlying field is 650 ft AGL and below. I made a call over our common training frequency to alert the other aircraft and also had the field duty officer file a report with local law enforcement.

Synopsis

Military helicopter instructor reported a NMAC with a UAV in a military training area.

ACN: 1595651 *(8 of 50)*

Time / Day

Date : 201811

Place

Locale Reference.ATC Facility : SCT.TRACON
State Reference : CA
Altitude.MSL.Single Value : 7000

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : SCT
Aircraft Operator : Air Carrier
Make Model Name : B737 Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Mission : Passenger
Flight Phase : Initial Approach
Route In Use.STAR : LUCKI 4
Airspace.Class B : SCT

Aircraft : 2

Reference : Y
ATC / Advisory.TRACON : SCT
Make Model Name : UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part : Part 91
Airspace.Class B : SCT

Person

Reference : 1
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)
ASRS Report Number.Accession Number : 1595651
Human Factors : Distraction

Events

Anomaly.Deviation - Track / Heading : All Types
Anomaly.Deviation - Procedural : Clearance
Anomaly.Inflight Event / Encounter : Other / Unknown
Detector.Person : Flight Crew
When Detected : In-flight
Result.Air Traffic Control : Issued New Clearance

Assessments

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

Narrative: 1

While on LUCKI 4 Arrival to SAN, we were distracted by an odd aircraft close to our track. It looked like a large drone. We were distracted discussing this aircraft and possibly missed something. Soon after ATC made an odd query as to our position as if we were tracking incorrectly, asked if we had the field in sight. I replied that we did and ATC cleared us for a visual approach. After landing they gave a phone number to call for possible deviation. SoCal implied we were off course/asked if field in sight/cleared us for a visual approach. I am unsure what was wrong. Need better communication with ATC.

Synopsis

First Officer reported sighting a drone while on initial approach to SAN, which caused a distraction and possible track deviation.

ACN: 1595573 *(9 of 50)*

Time / Day

Date : 201811
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : LAX.Airport
State Reference : CA
Altitude.MSL.Single Value : 2500

Environment

Weather Elements / Visibility.Visibility : 2
Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : B787 Dreamliner Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Final Approach
Route In Use.Other
Airspace.Class B : ZZZ

Aircraft : 2

Reference : Y
ATC / Advisory.TRACON : ZZZ
Make Model Name : UAV - Unpiloted Aerial Vehicle
Airspace.Class B : ZZZ

Person : 1

Reference : 1
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 : Multiengine
Qualification.Flight Crew : Instrument
ASRS Report Number.Accession Number : 1595573

Person : 2

Reference : 2
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 : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Instrument
ASRS Report Number.Accession Number : 1595575

Events

Anomaly.Conflict : NMAC
Detector.Person : Flight Crew
Miss Distance.Horizontal : 300
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

A large drone (approximately 2 feet high) passed the right wing during approach to LAX at glideslope intercept. Distance estimated to be about 100 meters. Reported to ATC.

Narrative: 2

A large drone passed the right wing during approach at glideslope intercept. Reported to ATC. The drone was a barrel shape, cylinder-looking type, black cylinder 2 to 3 ft height. Red light and some rotors at the top. It appeared to be as close as 100 meters from the wing of the aircraft. Seemed stationary and did not appear to react to the aircraft approaching. It appeared to be hovering.

Synopsis

Air Carrier flight crew reported an NMAC with a drone while on final approach to LAX.

ACN: 1593299 *(10 of 50)*

Time / Day

Date : 201811
Local Time Of Day : 1201-1800

Place

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

Environment

Flight Conditions : VMC

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : ZZZ
Aircraft Operator : Air Carrier
Make Model Name : EMB ERJ 170/175 ER/LR
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Climb
Airspace.Class B : ZZZ

Aircraft : 2

Reference : Y
ATC / Advisory.TRACON : ZZZ
Make Model Name : UAV - Unpiloted Aerial Vehicle
Airspace.Class B : ZZZ

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 1593299

Events

Anomaly.Inflight Event / Encounter : Other / Unknown
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

On departure while level at 8000 feet I saw what appeared to be a drone at approximately 8500 feet about a mile to our left. It appeared to be somewhat large, dark in color and looked to have two propellers. The First Officer (FO) did not see it. I notified ATC and we continued the flight with no issues.

Synopsis

EMB-175 Captain reported a drone sighting after departure.

ACN: 1592641 *(11 of 50)*

Time / Day

Date : 201811
Local Time Of Day : 1201-1800

Place

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

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : ZZZ
Make Model Name : UAV - Unpiloted Aerial Vehicle
Flight Plan : IFR
Flight Phase : Descent
Route In Use : Vectors
Airspace.Class E : ZZZ

Aircraft : 2

Reference : Y
ATC / Advisory.TRACON : ZZZ
Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer
Flight Plan : IFR
Flight Phase : Final Approach
Route In Use : Vectors
Airspace.Class E : ZZZ

Aircraft : 3

Reference : Z
ATC / Advisory.TRACON : ZZZ
Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer
Operating Under FAR Part : Part 121
Flight Plan : IFR
Route In Use : Vectors
Airspace.Class E : ZZZ

Aircraft : 4

Reference : A
ATC / Advisory.TRACON : ZZZ
Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer
Operating Under FAR Part : Part 121
Flight Plan : IFR
Route In Use : Vectors
Airspace.Class E : ZZZ

Person

Reference : 1
Function.Air Traffic Control : Approach

Qualification.Air Traffic Control : Fully Certified
ASRS Report Number.Accession Number : 1592641
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : ATC
Communication Breakdown.Party2 : Ground Personnel

Events

Anomaly.ATC Issue : All Types
Anomaly.Conflict : Airborne Conflict
Anomaly.Inflight Event / Encounter : VFR In IMC
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Air Traffic Control : Separated Traffic

Assessments

Contributing Factors / Situations : Company Policy
Contributing Factors / Situations : Procedure
Primary Problem : Ambiguous

Narrative: 1

Unmanned MQ9s file IFR and depart to the resticted area, and then return, cancel IFR and land. Today low ceilings moved in after they departed, and they had to come back early. They had NO plan on what to do if they cannot cancel IFR, and they were flying around looking for a hole in the clouds to get down. They conflicted with the three IFR inbounds that I was vectoring. They also stated if they couldn't get below the clouds, that they would land. Ultimately they did find a hole in the clouds after getting 45 degrees left and right of course, causing a conflict with a northbound aircraft on the localizer at 4000. I then had to vector the MQ9s at this point to follow one of the aircraft. Something needs to be done to alleviate a situation from happening in the future. I have heard that this has happened multiple times. This is adding inherent risk to the NAS that doesn't need to. It just seems that the [drone operators] says we will fly, and if bad weather happens, then we can do whatever we want.

Synopsis

Approach Controller reported airborne conflict between UAV and commercial aircraft being vectored for approach.

ACN: 1592543 *(12 of 50)*

Time / Day

Date : 201811
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : BOS.Airport
State Reference : MA
Altitude.MSL.Single Value : 3000

Environment

Flight Conditions : VMC
Light : Daylight

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
Flight Phase : Initial Approach

Aircraft : 2

Reference : Y
Make Model Name : UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part : Part 91
Flight Phase : Cruise

Person

Reference : 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
ASRS Report Number.Accession Number : 1592543

Events

Anomaly.Conflict : NMAC
Anomaly.Inflight Event / Encounter : Object
Detector.Person : Flight Crew
When Detected : In-flight

Assessments

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

Narrative: 1

On arrival into BOS, on what was effectively base leg prior to turning final for Runway 22L, just as we were beginning a descent out of 3000 feet, I saw a blue and white UAV pass directly under the nose of the aircraft. I would estimate the distance below us to have been 300 feet. The encounter lasted less than 2-3 seconds from initial sighting to the UAV passing out of sight beneath our aircraft. Blue and white and 4-rotor, I think, though I only caught the brief glimpse of it. No action was taken on our part as the device was gone before we could do anything. I notified ATC of the encounter. I transferred control of the aircraft briefly to the First Officer so I could concentrate on the communication as any danger was past. The First Officer had been "heads down" for that brief moment "sequencing the approach", so she never saw anything. Her first knowledge of the event was when I started talking to ATC. The controller asked the usual questions, and then cleared us for the approach. Normal approach and landing. Taxied to the gate. No further action was taken. Neither the First Officer nor I had any contact with anyone other than company people about the incident. An idiot with a drone. Nothing we could have done. No way for the ATC people to know about it. Ban all drone use within 50 miles of any airport. Arrest and jail anyone caught violating this rule.

Synopsis

Air carrier Captain reported airborne conflict with a UAV on base leg into BOS.

ACN: 1591597 *(13 of 50)*

Time / Day

Date : 201809
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 75

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft

Reference : X
Make Model Name : UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part.Other
Flight Plan : VFR
Mission : Photo Shoot
Airspace.Class D : ZZZ

Person

Reference : 1
Location Of Person : Company
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 30
Experience.Flight Crew.Last 90 Days : 2
Experience.Flight Crew.Type : 30
ASRS Report Number.Accession Number : 1591597
Human Factors : Confusion

Events

Anomaly.Airspace Violation : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - 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

Looked at airspace on the morning and saw Temporary flight restrictions and was notified the temporary restriction was removed early that morning. Later when flights were reviewed it appears I penetrated controlled airspace in my inspection without prior

authorization. In review with drone coordinator, it appears I confused the TFR with the Class D Controlled Airspace for ZZZ. I have updated my airspace software to prevent from future incursions.

Synopsis

Drone operator reported penetrating Class D airspace.

ACN: 1591241 *(14 of 50)*

Time / Day

Date : 201811
Local Time Of Day : 1201-1800

Place

Altitude.MSL.Single Value : 15000

Aircraft : 1

Reference : X
ATC / Advisory.Center : ZZZ
Make Model Name : UAV - Unpiloted Aerial Vehicle
Flight Plan : IFR
Flight Phase : Cruise
Airspace.Special Use : ZZZ

Aircraft : 2

Reference : Y
ATC / Advisory.Center : ZZZ
Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer
Flight Phase : Cruise
Airspace.Special Use : ZZZ

Person

Reference : 1
Function.Air Traffic Control : Departure
Qualification.Air Traffic Control : Fully Certified
ASRS Report Number.Accession Number : 1591241
Human Factors : Confusion
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : ATC
Communication Breakdown.Party2 : Ground Personnel

Events

Anomaly.ATC Issue : All Types
Anomaly.Conflict : Airborne Conflict
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

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

Narrative: 1

I climbed a flight of 2 Hawks to 150 southbound and handed the flight off to [another sector]. An aircraft was southwest bound at 135/VFR. I performed an automated pointout of this aircraft to [the other sector controller] and handed the flight off. After attempting to

hand off the aircraft to [the other sector], I performed other duties while my D-side attempted to establish communication. I shipped the aircraft and after he left my frequency, the flight of Hawks squawked 1200 and descended just in front of the aircraft. We informed [the next controller] of the flight of Hawks descending in front of the aircraft, so that a traffic alert could be provided. My mains/standby frequency was released and I was on a back-up frequency. This may have attributed to me not being able to hear the flight of Hawks read back the frequency change or the multiple attempts to cancel IFR.

Synopsis

Departure Controller reported an airborne conflict between a manned aircraft and a flight of two UAVs.

ACN: 1591153 *(15 of 50)*

Time / Day

Date : 201810
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : LHW.Airport
State Reference : GA
Relative Position.Angle.Radial : 180
Relative Position.Distance.Nautical Miles : 15
Altitude.MSL.Single Value : 4500

Environment

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

Aircraft : 1

Reference : X
Aircraft Operator : Personal
Make Model Name : Light Sport Aircraft
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Personal
Flight Phase : Cruise

Aircraft : 2

Reference : Y
Aircraft Operator : Military
Make Model Name : UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part : Part 91
Flight Phase : Cruise

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Sport / Recreational
Experience.Flight Crew.Total : 510
Experience.Flight Crew.Last 90 Days : 30
Experience.Flight Crew.Type : 510
ASRS Report Number.Accession Number : 1591153

Events

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

Anomaly.Inflight Event / Encounter : Object
Detector.Person : Flight Crew
When Detected : Routine Inspection
Result.Flight Crew : Became Reoriented

Assessments

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

Narrative: 1

Flying south of Midcoast Regional airport, [I] saw a drone believed military less than 1 mile from my heading, it then turned north and was gone. On my part better monitoring of MOA space was needed.

Synopsis

Light Sport pilot encountered a UAV near a MOA.

ACN: 1591117 *(16 of 50)*

Time / Day

Date : 201811
Local Time Of Day : 1201-1800

Place

Altitude.AGL.Single Value : 100

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 3900

Aircraft

Reference : X
Aircraft Operator.Other
Make Model Name : UAV - Unpiloted Aerial Vehicle
Flight Plan : VFR
Flight Phase.Other

Component

Aircraft Component : Electrical/Electronic Panel & Parts
Aircraft Reference : X
Problem : Failed

Person

Reference : 1
Location Of Person : Company
Reporter Organization : Corporate
Function.Flight Crew : Other / Unknown
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 15
Experience.Flight Crew.Last 90 Days : 8
Experience.Flight Crew.Type : 15
ASRS Report Number.Accession Number : 1591117

Events

Anomaly.Aircraft Equipment Problem : Critical
Detector.Person : Other Person
When Detected : In-flight
Result.Aircraft : Aircraft Damaged

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

While performing an inspection of a building, a brand new DJI M-210 aircraft suffered a complete loss of power during flight, despite indications that there was sufficient battery time still remaining. The resulting aircraft fell directly to the ground due to the immediate loss of lift with the remote pilot unable to control its subsequent flight path. The small unmanned aircraft was damaged upon impact, with insignificant damage done to the property. The aircraft firmware was updated prior to the flight and new batteries were being used at the time of the incident.

Synopsis

UAV operator reported that the UAV suffered a complete loss of power during flight despite indications of sufficient battery time remaining.

ACN: 1590911 *(17 of 50)*

Time / Day

Date : 201811
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : DEN.Airport
State Reference : CO
Altitude.MSL.Single Value : 10000

Environment

Flight Conditions : VMC

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : D01
Aircraft Operator : Air Carrier
Make Model Name : A320
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Final Approach
Route In Use : Visual Approach
Airspace.Class B : DEN

Aircraft : 2

Reference : Y
Make Model Name : UAV - Unpiloted Aerial Vehicle
Flight Phase : Cruise

Person : 1

Reference : 1
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 : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Type : 548
ASRS Report Number.Accession Number : 1590911

Person : 2

Reference : 2
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 : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
ASRS Report Number.Accession Number : 1590917

Events

Anomaly.Conflict : Airborne Conflict
Detector.Person : Flight Crew
Miss Distance.Horizontal : 1000
Miss Distance.Vertical : 500
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

A drone passed us about 500-700 feet below us and about 1000 feet to the aircraft's right as we were doing a visual approach.

Narrative: 2

While approaching DEN from the SE, on a right base for Runway 35L, we saw what appeared to be a drone approximately 500 feet below and to our right. We were level at 11,000 feet. The drone appeared to be in the shape of an octahedron, approximately two feet by two feet in size, and was heading east. We reported it to ATC.

Synopsis

Air carrier flight crew reported a conflict with a Drone on approach to DEN.

ACN: 1589922 *(18 of 50)*

Time / Day

Date : 201810
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 0

Environment

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

Aircraft : 1

Reference : X
ATC / Advisory.UNICOM : ZZZ
Aircraft Operator : Government
Make Model Name : UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Training
Flight Phase : Parked
Route In Use.Other

Aircraft : 2

ATC / Advisory.UNICOM : ZZZ
Make Model Name : SR22
Operating Under FAR Part : Part 91
Flight Phase : Taxi

Person

Reference : 1
Location Of Person : Company
Reporter Organization : Government
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Multiengine
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 6200
Experience.Flight Crew.Last 90 Days : 40
Experience.Flight Crew.Type : 2
ASRS Report Number.Accession Number : 1589922
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Flight Crew

Events

Anomaly.Conflict : Ground Conflict, Less Severe
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew
Miss Distance.Horizontal : 200
Miss Distance.Vertical : 0
When Detected : Taxi
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

This report pertains to a situation involving an hq-90b UAS and a Cirrus SR22. We operated a transponder and ADS-B equipped hq-90b UAS. This aircraft is certified for operation under a certificate of waiver or authorization. A NOTAM was filed and was accessible by normal means. TRACON was informed of UAS operation prior to launching operation. We have VHF communications and we were close to launching the VTOL fixed wing aircraft from taxiway Bravo. The Cirrus approached from the ramp toward the taxiway. For safety reasons for all involved, one of my air vehicle operator ground team members, wearing a fluorescent shirt, gave a stop hand signal to the approaching Cirrus pilot to make him aware of the UAS that was sitting on the taxiway and which was ready to launch. The Cirrus pilot stopped and got on the radio (UNICOM) to inquire about why a lineman was stopping him. I politely told him my n-number and explained that we are a UAS that was about to depart for a local flight. The Cirrus pilot used unprofessional phraseology to assert his dissatisfaction. I explained that we will be in the air in less than 1 minute and out of his way. He then went on a lecture about the lack of a NOTAM. I politely explained that a NOTAM was filed. I made my call for our aircraft to launch and we got it into a stable orbit at 400 ft AGL away from all runways and well inside and below the normal traffic pattern. As the Cirrus was taxiing to the runway, I made a call on UNICOM, indicating that we are in a stable left hand orbit, clear and south of both runways at 400 AGL (1100 MSL). The Cirrus pilot kept making a number of additional, very unprofessional calls indicating his dissatisfaction. In one call, he asked if he was going to hit the UAV. I am not sure if I replied but I think I simply stated that we were orbiting south of both runways. This pilot clearly did not read the pertinent NOTAMS as required by 91.103 because he should have found it without problem under the UAS section. As both a manned and unmanned operator and as a researcher who is focused on developing means to integrate UAS safely into US airspace, I can understand that some people who are unfamiliar with UAS may have questions or concerns. Our UAS is not a small UAS, it is a 100-lb aircraft with sophisticated capabilities such as VTOL, long endurance, transponder, dual data link, etc. The operation is performed under the umbrella of a coa (Certificate of Authorization) with significant oversight from the FAA. The learning point from this encounter with an unprofessional pilot is that we cannot assume that NOTAMs for UAS operations are being found or read. It would be good to have a way to put a short audible into the ASOS voice loop about this. At the same time, we should be able to rely on other pilots to refrain from unprofessional phraseology which has no place in aircraft radio transmissions and that safety should be the overriding concern at all times. Road rage like behavior and bullying is not a suitable mental state for operators of any aircraft.

Synopsis

UAS operator reported a conflict with a taxiing aircraft just prior to launch from an airport taxiway. The operation was published informing all users of the airport of the planned UAS operation.

ACN: 1589625 *(19 of 50)*

Time / Day

Date : 201808
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : FNL.Airport
State Reference : CO
Relative Position.Angle.Radial : 062
Relative Position.Distance.Nautical Miles : 5.4
Altitude.AGL.Single Value : 75

Environment

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

Aircraft

Reference : X
ATC / Advisory.CTAF : FNL
Aircraft Operator : Corporate
Make Model Name : UAV - Unpiloted Aerial Vehicle
Crew Size.Number Of Crew : 1
Operating Under FAR Part.Other
Flight Plan : None
Mission.Other
Flight Phase.Other
Route In Use : None
Airspace.Class E : D01

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft.Other
Reporter Organization : Corporate
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 8
Experience.Flight Crew.Last 90 Days : 1
Experience.Flight Crew.Type : 8
ASRS Report Number.Accession Number : 1589625
Human Factors : Training / Qualification
Human Factors : Situational Awareness

Events

Anomaly.Airspace Violation : All Types
Anomaly.Deviation - Procedural : FAR
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Other Person
Detector.Person : Flight Crew

When Detected.Other
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

I thought I was in uncontrolled airspace. I later found out that I was 3 blocks into it. Now that LANC [Low Altitude Authorization and Notification Capability] is fully functional, I will get familiar with it and be sure to use it when doing inspections.

Synopsis

UAV pilot reported being unaware the flight conducted was in controlled airspace.

ACN: 1588688 *(20 of 50)*

Time / Day

Date : 201810
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 100

Environment

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

Aircraft

Reference : X
Aircraft Operator : Personal
Make Model Name : UAV - Unpiloted Aerial Vehicle
Flight Plan : VFR
Mission : Personal
Route In Use : Visual Approach
Airspace.Class C : ZZZ

Person

Reference : 1
Location Of Person : Hangar / Base
Reporter Organization : Personal
Function.Flight Crew : Pilot Not Flying
ASRS Report Number.Accession Number : 1588688
Human Factors : Situational Awareness

Events

Anomaly.Airspace Violation : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : FAR
Detector.Person : Other Person
When Detected : Routine Inspection
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

This pertains to a small UAV flight near [the] State University. We took all usual protocols & procedures to check airspace and confirm we are clear to safely fly. For this particular flight, we checked to confirm we were outside of the Class C airspace of ZZZ Airport and

checked for TFR's in the area - all came back clear. However, we may have flown in or near the Class C airspace during this brief flight and it was discovered after flight was over. Moving forward, we will use https://skyvector.com/ and https://uas-faa.opendata.arcgis.com/ to check instead of B4UFly app.

Synopsis

UAV operator reported possible operation in Class C airspace.

ACN: 1588430 *(21 of 50)*

Time / Day

Date : 201810
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 20

Aircraft

Reference : X
Aircraft Operator : Personal
Make Model Name : UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part.Other
Flight Plan : None
Mission : Personal
Flight Phase : Cruise
Airspace.Class G : ZZZ

Person

Reference : 1
Location Of Person : Hangar / Base
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Type : 50
ASRS Report Number.Accession Number : 1588430

Events

Anomaly.ATC Issue : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : FAR
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : Procedure
Primary Problem : Procedure

Narrative: 1

I was operating a DJI Mavic 2 in Class G airspace in the vicinity of ZZZ airport. All operations were conducted in coordination with the pilot of a manned aircraft on the taxiway and the runway. All operations were conducted in accordance with 14CFR107 and no regulations were broken, nor any safety risk or interference created by the operation of

the UAS in Class G airspace to the best of my knowledge. The local airport manager did approach me and asked me to land the UAS as he stated it was illegal to operate near an airport, and I did land and attempted to contact the local FSDO by phone. Later the airport manager made contact with the local [FAAST Program Manager] at the FSDO who stated by phone it was "illegal to operate a drone within 5nm of an airport". Despite that not being true under 14CFR107, we did not operate the UAS further, and left the airport. [Local] FSDO emailed me stating "I am attempting to contact you regarding UAS (drone) operation at the ZZZ airport yesterday. I have some questions I need to ask of you." FSDO requested the registration for the UAS I regularly fly and inquired if I had ever operated over people. I replied I had not ever operated over people and have always conducted operations in accordance with 14CFR107. FSDO responded: "I have been assigned by the office to conduct an investigation into the operation of your drone at the ZZZ Airport." At no point was any part of 14CFR107 violated, however, it is clear that local FSDO offices have inconsistencies in knowledge of 14CFR, and inspectors do not appear to be complying with FAA Order 8900.1.

Synopsis

UAV operator reported being advised by local FSDO that an investigation of recent operations of his UAV in the vicinity of an airport was being initiated.

ACN: 1588041 *(22 of 50)*

Time / Day

Date : 201810
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : JFK.Airport
State Reference : NY
Altitude.MSL.Single Value : 1600

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.Tower : JFK
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
Nav In Use.Localizer/Glideslope/ILS : Runway 22R
Flight Phase : Initial Approach
Airspace.Class B : JFK

Aircraft : 2

Reference : Y
Make Model Name : UAV - Unpiloted Aerial Vehicle
Airspace.Class B : JFK

Person

Reference : 1
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)
ASRS Report Number.Accession Number : 1588041
Human Factors : Situational Awareness

Events

Anomaly.Conflict : NMAC
Detector.Person : Flight Crew
Miss Distance.Vertical : 200
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

On approach in JFK for ILS 22R (may have been 22L), just past the Outer Marker (probably MATTR) I saw something small that didn't appear to be moving up ahead in the windscreen. We were descending on the glideslope. Once I determined the object appeared mostly stationary, while staying at the same altitude, I didn't feel that a course change or attitude change was necessary. I also only had several seconds to identify the object, determine its size, and even consider evasive action. The object appeared to be a small, quad-copter drone. It was grey in color with the rectangular body that seems ubiquitous to many designs. It appeared to fly 100 to 200 feet above our altitude of 1600 feet MSL. We were on about a 4-mile final. I don't think the First Officer (Pilot Monitoring) ever saw it. We immediately reported it to ATC. We gave JFK Ground a more exact description than Tower received. If I had been scanning the flight instruments rather than looking outside, then I may have never seen the drone. There was nothing we could have done differently. Perhaps drone sightings and suggested procedures could be mentioned in one of the manuals.

Synopsis

Air Carrier Captain reported a NMAC with a Drone on a four mile final to JFK.

ACN: 1587432 *(23 of 50)*

Time / Day

Date : 201810
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 3500

Environment

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

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Personal
Make Model Name : PA-38 Tomahawk
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Personal
Flight Phase : Cruise
Route In Use : Direct
Airspace.Class C : ZZZ

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 375
Experience.Flight Crew.Last 90 Days : 1
Experience.Flight Crew.Type : 252
ASRS Report Number.Accession Number : 1587432
Human Factors : Situational Awareness
Human Factors : Distraction

Events

Anomaly.Conflict : NMAC
Detector.Person : Passenger
Detector.Person : Flight Crew
Miss Distance.Horizontal : 150
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

Before entering ZZZ Class C airspace, I was instructed by ZZZ ATC to remain at or above 2500 feet. During level cruise at 3500 ft., flying from north to south on approximate heading of 150 degrees, a four rotor drone with amber lights was sighted flying south to north off the right wing at the same altitude. The drone was sighted by the pilot and then witnessed by the passenger. The drone was flying to the north of but near the intersection of [two freeways]. I immediately reported the sighting to ZZZ ATC who commented that nothing showed on radar. Upon arrival at ZZZ1 I was asked by ZZZ1 Tower to call ZZZ ATC to discuss the situation further.

Synopsis

PA-38 pilot reported an encounter with a drone at 150 feet off the aircraft wing tip.

ACN: 1586244 *(24 of 50)*

Time / Day

Date : 201810

Place

Altitude.AGL.Single Value : 0

Environment

Light : Daylight

Aircraft

Reference : X
Aircraft Operator : Personal
Make Model Name : UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part.Other
Mission : Photo Shoot
Flight Phase : Cruise

Person

Reference : 1
Location Of Person.Aircraft : X
Reporter Organization : Personal
Qualification.Flight Crew : Commercial
ASRS Report Number.Accession Number : 1586244
Human Factors : Situational Awareness
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Other

Events

Anomaly.Airspace Violation : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : FAR
Detector.Person : Other Person
When Detected : Routine Inspection
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

I was contacted by [an] FAA Aviation Safety Technician that he received a report of my UAS possibly involved in 107 violations from an anonymous report. Upon [the technician's] review of my videos on my [social media] account and website, he informed me of violations of section 107.39 being displayed in my [social media] account for operation over human beings and for operations within a 0 AGL area around [a National Park]. Over the phone I stated that my interpretation of the rule is you must get an FAA waiver for those operations unless you had consent of the parties you flew over. I thought

participating in the operation of the UAS was meaning the individuals were will participants in the event or filming. I have violated this for non-paid work I do to promote veterans causes and initiatives being a veteran myself and still active member of the Army Reserve. Specifically, at the request of the [local] Fire Department and Police Department I operated my UAS above them in a standing formation. I also operated my UAS above [military] Recruiters working with local high school students at a leadership camp where they pushed a Humvee underneath a hovering UAS about 50-75 feet above them. I did not maliciously intend to violate the rule. [The technician] also mentioned my flight over a moving vehicle violated this rule as well. Additionally, I knew you could not operate a UAS on National Park Lands or boundaries from my study for my 107 license in 2016. After talking with [the technician] informing me of a 0 AGL ban at the [National Park] grounds and my since research, I understand I cannot fly at all above the area. I operated a drone with line of sight from outside the NPS boundaries but crossed over them to film a shot of the [monument] from a side profile. I have since removed the video from my feed on Instagram after initially being contacted by [the FAA] in reference to it. My 107 certificate expired within the last month. I plan to retake and certify the 107 test once I return from military duty. I have also enrolled with [pilot organization] for UAS resources and training since being full time military I fly so infrequently to ensure I stay abreast of changes to airspace rules concerning UAS safety and operation. In my reading of FAA literature, it seems there is a new safety training program called SMS I can also take, but I am unable to locate how to do so online. Any information for this training would be appreciated.

Synopsis

UAV pilot reported he was contacted by the FAA for a possible violation of FAR 107.39. Operating around a 0 AGL area.

ACN: 1584220 *(25 of 50)*

Time / Day

Date : 201810
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : N90.TRACON
State Reference : NY
Altitude.MSL.Single Value : 6500

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 30
Light : Daylight

Aircraft

Reference : X
ATC / Advisory.TRACON : N90
Aircraft Operator : Personal
Make Model Name : Skylane 182/RG Turbo Skylane/RG
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Personal
Flight Phase : Cruise
Route In Use : Direct

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 2400
Experience.Flight Crew.Last 90 Days : 30
Experience.Flight Crew.Type : 400
ASRS Report Number.Accession Number : 1584220
Human Factors : Situational Awareness

Events

Anomaly.Conflict : Airborne Conflict
Detector.Person : Flight Crew
Miss Distance.Horizontal : 200
Miss Distance.Vertical : 100

Assessments

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

Narrative: 1

Flight conducted VFR GPS Direct to [destination] with VFR Advisories along entire route. Drone sighted on right side side of aircraft at designated location and seen by both passenger and pilot. Drone was a black quadcopter. Sighting reported to NY approach. Flight condition was VFR on top above a solid overcast at 3500 FT.

Synopsis

Cessna 182 pilot reported airborne conflict with UAV.

ACN: 1583855 *(26 of 50)*

Time / Day

Date : 201810
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.MSL.Single Value : 2500

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 6000

Aircraft

Reference : X
ATC / Advisory.Tower : ZZZ
Aircraft Operator : Personal
Make Model Name : Skyhawk 172/Cutlass 172
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Personal
Flight Phase : Cruise
Route In Use : Direct
Airspace.Class G : ZZZ

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 1500
Experience.Flight Crew.Last 90 Days : 4
Experience.Flight Crew.Type : 1200
ASRS Report Number.Accession Number : 1583855
Human Factors : Situational Awareness
Human Factors : Distraction

Events

Anomaly.Conflict : NMAC
Detector.Person : Flight Crew
Miss Distance.Horizontal : 400
Miss Distance.Vertical : 0

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

Assessments

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

Narrative: 1

Approximately 7 miles east of ZZZ under control of tower, I was approaching ZZZ at 2500 MSL cruise. Directly into hazy sunset. I noticed traffic at 2 o'clock at my altitude. I couldn't immediately make out the type aircraft or distance because of unfamiliar shape of craft. I then noticed that it appeared to be not moving (hovering) as I passed it. Then I realized it appeared to have LED NAV lights visible. Then I also realized that it was likely a drone because it didn't look like an airplane or a rotor craft. Then I realized that it was very close because I began to perceive its relative size. I immediately reported it to Tower and asked if he saw a drone at my 5 o'clock position. He said no. I wrongly reported it was about 400 yards off my wing. It was more like 400 feet off my wing. I lost track of it as I passed it but I think it was rather large, most likely a commercial size drone. I verified my reporting time by reviewing the transmission recording on ATC-Live on the internet and recorded the time and estimated the distance by the fact that I checked on at about 10 miles out and reported 2 minutes later. I would like to know the results of this investigation should there be one. I believe that if this object had been at 12 o'clock instead of 2... I might not have seen it in the glare of the sun until it was too late and that would likely have been catastrophic based on my estimate of its size.

Synopsis

Cessna 172 pilot reported a NMAC with a drone at a distance of 0 feet vertical and 400 feet lateral.

ACN: 1583538 *(27 of 50)*

Time / Day

Date : 201810
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : MMU.Airport
State Reference : NJ
Relative Position.Distance.Nautical Miles : 10
Altitude.MSL.Single Value : 6000

Environment

Flight Conditions : VMC
Light : Night

Aircraft

Reference : X
ATC / Advisory.TRACON : N90
Aircraft Operator : Air Carrier
Make Model Name : Widebody Transport
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Flight Phase : Final Approach
Airspace.Class B : EWR

Person

Reference : 1
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)
Experience.Flight Crew.Total : 12711
Experience.Flight Crew.Last 90 Days : 240
Experience.Flight Crew.Type : 7401
ASRS Report Number.Accession Number : 1583538
Human Factors : Situational Awareness

Events

Anomaly.Conflict : Airborne Conflict
Anomaly.Inflight Event / Encounter : Object
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

At 6,000 feet night VMC. About 10NM South of Morristown Airport. I noticed a possible drone about 500 to 750 feet above us moving in the opposite direction. It was very fast and I just noticed this off the corner of my left peripheral vision. There was no TCAS identification. We reported to NY Approach a possible drone sighting.

Synopsis

Air Carrier Captain reported an airborne conflict with UAV during approach.

ACN: 1582733 *(28 of 50)*

Time / Day

Date : 201810
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : NCT.TRACON
State Reference : CA
Altitude.MSL.Single Value : 12200

Environment

Flight Conditions : VMC

Aircraft

Reference : X
ATC / Advisory.TRACON : NCT
Aircraft Operator : Air Carrier
Make Model Name : B757 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
Flight Phase : Climb
Route In Use : Vectors
Route In Use.SID : TRUKN2
Airspace.Class E : NCT

Person

Reference : 1
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)
Experience.Flight Crew.Last 90 Days : 140
Experience.Flight Crew.Type : 1485
ASRS Report Number.Accession Number : 1582733
Human Factors : Situational Awareness

Events

Anomaly.Conflict : Airborne Conflict
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

On a vector on TRUKN2 [SID] just north of fix COSMC passing 12,000 FT, I noticed target off nose and about a mile, small but big enough to spot, of unusual shape. It passed to our right at approximately 12,200 FT co-altitude, 2-3,000 feet laterally. Copilot had better look and had high confidence it was a drone due to odd flat shape and distinguishable protrusions downward. ATC notified of details. We were on a 040-degree vector north of SID, estimating 2-4 NM north of COSMC.

Synopsis

757 Captain reported the flight crew observed a UAV at their same altitude.

ACN: 1580222 *(29 of 50)*

Time / Day

Date : 201809
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : FSD.Airport
State Reference : SD
Relative Position.Angle.Radial : 015
Relative Position.Distance.Nautical Miles : 5
Altitude.MSL.Single Value : 2500

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 20
Light : Daylight
Ceiling.Single Value : 12000

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : FSD
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 : Cruise
Route In Use : Direct
Airspace.Class E : FSD

Aircraft : 2

Reference : Y
Make Model Name : UAV - Unpiloted Aerial Vehicle
Airspace.Class E : FSD

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Taxi
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 7150
Experience.Flight Crew.Last 90 Days : 80
Experience.Flight Crew.Type : 3000

ASRS Report Number.Accession Number : 1580222
Human Factors : Situational Awareness

Events

Anomaly.Conflict : NMAC
Detector.Person : Flight Crew
Miss Distance.Horizontal : 200
Miss Distance.Vertical : 0
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

While in cruise profile approximately 5NM N-NE of FSD, crew identified a blue & red drone passing by the right side of the aircraft. Aircraft Radar Altimeter was indicating 1100 [AGL]. Drone passed within [estimated] 200 feet of the aircraft at the same altitude. No previous recognition of the drone and no evasive action was initiated. Event reported to FSD TRACON and subsequent followup with FSD ATCT personnel. No further information available to the crew.

Synopsis

Helicopter pilot reported a NMAC with drone.

ACN: 1578620 *(30 of 50)*

Time / Day

Date : 201809
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : ZID.ARTCC
State Reference : IN
Altitude.MSL.Single Value : 21000

Aircraft : 1

Reference : X
ATC / Advisory.Center : ZID
Make Model Name : PA-46 Malibu/Malibu Mirage/Malibu Matrix
Operating Under FAR Part : Part 91
Flight Plan : IFR
Flight Phase : Cruise
Airspace.Class A : ZID

Aircraft : 2

Reference : Y
Make Model Name : UAV - Unpiloted Aerial Vehicle
Crew Size.Number Of Crew : 0
Airspace.Class A : ZID

Person

Reference : 1
Location Of Person.Facility : ZID.ARTCC
Reporter Organization : Government
Function.Air Traffic Control : Enroute
Qualification.Air Traffic Control : Fully Certified
Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 13
ASRS Report Number.Accession Number : 1578620
Human Factors : Training / Qualification
Human Factors : Situational Awareness

Events

Anomaly.ATC Issue : All Types
Anomaly.Conflict : NMAC
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : FAR
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

Aircraft X was level at FL210 and asked me if there was any known drone activity in the area. I responded, "Negative, why?" His response was, "We just went right by one. It was big and black". I asked the pilot if it was the type with 4 rotors to which he responded affirmative. I had an aircraft climbing in that same general area so I reported it to him two times. Upon leaving my sector the climbing aircraft said he never saw it. I immediately reported it to the FLM [Front Line Manager] and he proceeded to do his checklist and paperwork. Approximately 5 min after the incident the FLM had me ask the pilot if he could tell what direction the UAV was traveling and if he considered it to be a near miss. The pilot said it appeared to be hovering in one spot and that he came within approximately 50 feet of it, and he definitely considered it a near miss. I looked the situation up in the 7110.65 later and discover that advisories are supposed to be broadcast every 4 min after the last report, similar to a laser event. We have not had proper training on UAV activity so I was unaware of this requirement. [Recommend] proper training on unauthorized UAV activity.

Synopsis

Indianapolis Center Controller reported an NMAC between a Piper and a drone, and also failure on Controller's report to broadcast for 15 minutes afterward.

ACN: 1578002 *(31 of 50)*

Time / Day

Date : 201809
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 500

Environment

Flight Conditions : VMC
Light : Daylight
Ceiling : CLR

Aircraft : 1

Reference : X
ATC / Advisory.CTAF : ZZZ
Aircraft Operator : FBO
Make Model Name : Single Engine Turboprop Undifferentiated
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 137
Mission : Agriculture
Flight Phase : Cruise
Airspace.Class G : ZZZ

Aircraft : 2

Reference : Y
Make Model Name : UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part.Other
Flight Phase : Cruise
Airspace.Class G : ZZZ

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : FBO
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 10000
Experience.Flight Crew.Last 90 Days : 350
Experience.Flight Crew.Type : 4000
ASRS Report Number.Accession Number : 1578002

Events

Anomaly.Conflict : NMAC
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

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

Narrative: 1

On an 8 mile ferry back to my airstrip I suddenly had a windshield full of a drone. I immediately banked 90 to the right and then instantly back hard left to try to reacquire the drone. It was at that point I saw a van parked in the S.E. corner of a potato field. As I circled the van I noticed the shadow of the drone again as it landed. I noted my altimeter at 550 ft. When I asked the drone company about this I was told the drone operator climbed to avoid me. I don't believe this is true because I didn't notice anyone standing outside the van and I'm certain no one observed me approaching. This incident was 1.7 nm from my airstrip. This is the 3rd close call with a drone belonging to this company. This summer with either my airplane or the other airplane we operate we had had 3 close calls. My competitor has had 2 in the 300 ft - 400 ft range.

Synopsis

A General Aviation pilot reported an NMAC with a drone at approximately 500 feet altitude.

ACN: 1577960 *(32 of 50)*

Time / Day

Date : 201809
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport
State Reference : US
Altitude.AGL.Single Value : 130

Environment

Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 10000
RVR.Single Value : 10000

Aircraft

Reference : X
Aircraft Operator : Personal
Make Model Name : UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part.Other
Flight Plan : VFR
Mission : Personal
Flight Phase : Cruise
Route In Use : Visual Approach
Airspace.Class G : ZZZ

Person

Reference : 1
Location Of Person : Hangar / Base
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 410
Experience.Flight Crew.Last 90 Days : 10
Experience.Flight Crew.Type : 380
ASRS Report Number.Accession Number : 1577960
Human Factors : Situational Awareness

Events

Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : FAR
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

Temporary loss of line-of-sight with drone. Shooting a video of skydiver. Although drone pilot and skydiver determined safest position for drone to hover, in GPS lock, was just above the tree that I (the pilot) was positioned underneath, I did not have line of sight of the drone while the skydiver landed in the open area.

Synopsis

UAV pilot reported temporarily losing line-of-sight with drone.

ACN: 1577881 *(33 of 50)*

Time / Day

Date : 201809
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : HPN.Airport
State Reference : NY
Altitude.MSL.Single Value : 4000

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Dusk
Ceiling.Single Value : 1000

Aircraft

Reference : X
ATC / Advisory.TRACON : N90
Aircraft Operator : Corporate
Make Model Name : Gulfstream Jet Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 91
Flight Plan : IFR
Mission : Passenger
Flight Phase : Initial Approach
Route In Use.STAR : BOUNO4
Airspace.Class B : LGA

Person

Reference : 1
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 : Multiengine
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 9000
Experience.Flight Crew.Last 90 Days : 60
Experience.Flight Crew.Type : 300
ASRS Report Number.Accession Number : 1577881
Human Factors : Distraction
Human Factors : Situational Awareness

Events

Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew

Miss Distance.Horizontal : 0
Miss Distance.Vertical : 500
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

On BOUNO4 arrival traveling westbound on track Bridgeport (BDR) to ALIXX intersection, I spotted a small black drone roughly 500 ft directly above us roughly 2 miles east of ALIXX intersection. It appeared to moving slowly eastbound. I reported it to the New York Tracon. They notified the aircraft behind us who was also on the BOUNO4 arrival.

Synopsis

Gulfstream pilot reported, while on initial approach, sighting a drone 500 feet above the aircraft.

ACN: 1574558 *(34 of 50)*

Time / Day

Date : 201809
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : BWI.Airport
State Reference : MD
Altitude.AGL.Single Value : 0

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 3600

Aircraft : 1

Reference : X
ATC / Advisory.Tower : BWI
Aircraft Operator : Air Taxi
Make Model Name : Robinson R44
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 135
Flight Plan : SVFR
Mission : Passenger
Flight Phase : Landing
Route In Use : None
Airspace.Class B : BWI

Aircraft : 2

Reference : Y
Aircraft Operator : Personal
Make Model Name : UAV - Unpiloted Aerial Vehicle
Mission : Photo Shoot
Flight Phase : Climb
Airspace.Class B : BWI

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Taxi
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 2039
Experience.Flight Crew.Last 90 Days : 178
Experience.Flight Crew.Type : 538

ASRS Report Number.Accession Number : 1574558
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Other

Events

Anomaly.Conflict : NMAC
Detector.Person : Flight Crew
Miss Distance.Horizontal : 10
Miss Distance.Vertical : 0
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

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

Narrative: 1

I was dropping off a groom and his best man for a wedding at a venue with a tight landing area. It was a short flight, and after communicating with Tower I began my high recon of the landing area. I had done both a satellite imagery review and a site visit prior to the landing, but there was a new obstacle I had not expected to encounter. One of the groom's friends had a drone that he was hovering in the parking lot. Not 100% sure of the type but it was a small four rotor system similar to DJI Phantom with a camera underneath. I had not thought to communicate to the groom ahead of time of the need to keep any small UAS on the ground during the landing. I did say to the groom during the flight, "He needs to keep the drone on the ground." As I shifted my focus back down to the ground I saw the UAS was in his hand and it looked like he was walking it back to his trunk. At the same time the groom was on the phone and I heard him say "the pilot said to keep it on the ground." I decided at that time to continue the approach, and conducted a steep approach into the landing area to remain clear of the trees and obstacles in the area. After landing, I rolled down the throttle to bring rotor RPM to idle and had the groom and his best man exit out of the helicopter walking forward of the helicopter. When I shifted my attention back forward I saw the drone back in the air, about 10 feet in front of me at or slightly above my rotor system. I leaned my head out of the aircraft and made eye contact with the operator while pointing at him, then the drone. I made a hand signal to back away from the aircraft, and the drone moved away from the helicopter and back down to a one foot hover before setting back down on the ground. At that point I contacted tower for takeoff clearance, brought my RPM back up to flight and exited the landing area using a max performance takeoff.

It is possible communication with the groom prior to the event to keep any aerial videographers on the ground during the landing and takeoff would have prevented the occurrence, but it is possible the drone operator never communicated his intent to film the landing to the groom. What would have been far more effective would have been to have ground personnel there for the landing to directly communicate with the operator and stress the importance of keeping the drone on the ground to prevent either a mid-air collision or the drone being thrown by the rotor wash into people or objects. However, we had limited staffing due to the holiday weekend and all available company personnel were tasked. I have no way of determining if the operator was licensed, I consider it a high probability the individual was a friend who flew for hobby. A factor in my assessment of

this probability is the hope that a licensed UAS operator would know better than flying a UAS two miles from a class B Airport off the departure end of the runway.

Synopsis

A R44 Pilot reported an encounter with a UAV just before liftoff.

ACN: 1573395 *(35 of 50)*

Time / Day

Date : 201808
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : DFW.Airport
State Reference : TX
Altitude.AGL.Single Value : 200

Environment

Flight Conditions : VMC

Aircraft

Reference : X
ATC / Advisory.Tower : DFW
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
Flight Phase : Initial Approach
Airspace.Class B : DFW

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Total : 25000
ASRS Report Number.Accession Number : 1573395
Human Factors : Situational Awareness

Events

Anomaly.Conflict : NMAC
Detector.Person : Flight Crew
Miss Distance.Vertical : 125
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

On short final to RWY 18R at DFW at 200 ft AGL I saw a small white drone pass under our nose flying in the opposite direction. We took no action since it didn't pose as a threat. It was maybe 100-150 ft below us. It appeared to be flying over the construction area near the approach end of RWY 18R. I advised ATC and they had the next few aircraft land on RWY 18L.

Synopsis

Air carrier Captain reported a small white drone pass under his aircraft flying in the opposite direction.

ACN: 1573186 *(36 of 50)*

Time / Day

Date : 201808
Local Time Of Day : 1201-1800

Place

Altitude.MSL.Single Value : 4500

Environment

Flight Conditions : VMC
Weather Elements / Visibility : Haze / Smoke
Weather Elements / Visibility.Visibility : 30
Light : Daylight
Ceiling.Single Value : 25000

Aircraft

Reference : X
Aircraft Operator : Personal
Make Model Name : Skyhawk 172/Cutlass 172
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Training
Flight Phase : Cruise

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Instructor
Qualification.Flight Crew : Commercial
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Total : 8000
ASRS Report Number.Accession Number : 1573186
Human Factors : Situational Awareness

Events

Anomaly.Inflight Event / Encounter : Other / Unknown
Detector.Person : Flight Crew
Miss Distance.Horizontal : 2000
Miss Distance.Vertical : 200
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

We saw a medium sized object perhaps 100-300 feet below us; we were at 4,500 feet MSL too small to be a plane. At first we thought balloons, but that didn't make sense with its track over the ground. It was headed into the wind fairly quickly. My student and I believed it was a drone of some type. There are no current [UAV] NOTAMS in the area we were operating. It was green, black, and silver in color. It had the appearance of a quad copter.

Synopsis

Flight instructor reported sighting a drone while on an instructional flight at 4500 feet.

ACN: 1571254 *(37 of 50)*

Time / Day

Date : 201808
Local Time Of Day : 1801-2400

Place

Locale Reference.Airport : LAX.Airport
State Reference : CA
Altitude.MSL.Single Value : 2500

Environment

Flight Conditions : Marginal
Light : Dusk

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : SCT
Aircraft Operator : Air Taxi
Make Model Name : Cessna Citation Undifferentiated or Other Model
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 135
Mission : Passenger
Flight Phase : Initial Approach
Airspace.Class B : LAX

Aircraft : 2

Reference : Y
Make Model Name : UAV - Unpiloted Aerial Vehicle
Flight Plan : None
Airspace.Class B : LAX

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Taxi
Function.Flight Crew : Pilot Not Flying
Function.Flight Crew : Captain
ASRS Report Number.Accession Number : 1571254
Human Factors : Situational Awareness

Events

Anomaly.Conflict : NMAC
Detector.Person : Flight Crew
Miss Distance.Horizontal : 25
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

On approach to Runway 24R at LAX, approximately 2.9 miles from JETSA at 2500 ft we encountered a drone at our altitude. The drone passed approximately 25ft on the right wing of the aircraft, slightly above the wing but at our altitude. We immediately notified ATC and provided a description of the drone and the approximate location and altitude. We did not have time to deviate and only saw the drone at the last second. Passengers were unaware and the flight landed normally.

Synopsis

Citation Captain reported a NMAC with a drone while on approach to Runway 24L at LAX.

ACN: 1570720 *(38 of 50)*

Time / Day

Date : 201808
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : STL.Airport
State Reference : MO
Altitude.MSL.Single Value : 2400

Environment

Flight Conditions : Mixed
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 3000

Aircraft : 1

Reference : X
ATC / Advisory.Tower : STL
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
Flight Phase : Final Approach
Airspace.Class B : STL

Aircraft : 2

Reference : Y
Make Model Name : UAV - Unpiloted Aerial Vehicle
Flight Plan : None
Flight Phase : Cruise
Airspace.Class B : STL

Person

Reference : 1
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)
ASRS Report Number.Accession Number : 1570720

Events

Anomaly.Conflict : NMAC
Detector.Person : Flight Crew
Miss Distance.Vertical : 400

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

Assessments

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

Narrative: 1

When crossing the final approach fix to Runway 12R at 2400 ft on a visual approach, we spotted a black colored drone hovering approximately 400 ft below us and just to the right of our approach path. We then reported it to the STL Tower Controller upon landing.

Synopsis

B737 Captain reported sighting a drone 400 feet below and just to the right of final approach fix to Runway 12R at STL.

ACN: 1568419 *(39 of 50)*

Time / Day

Date : 201808
Local Time Of Day : 0601-1200

Place

Locale Reference.ATC Facility : PCT.TRACON
State Reference : VA
Altitude.MSL.Single Value : 4000

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : PCT
Aircraft Operator : Air Carrier
Make Model Name : B777 Undifferentiated or Other Model
Crew Size.Number Of Crew : 4
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Flight Phase : Initial Approach
Route In Use.STAR : HYPER7
Airspace.Class B : IAD

Aircraft : 2

Make Model Name : UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part.Other
Flight Phase : Cruise
Airspace.Class B : IAD

Person : 1

Reference : 1
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)
Experience.Flight Crew.Total : 9656
Experience.Flight Crew.Last 90 Days : 94
Experience.Flight Crew.Type : 674
ASRS Report Number.Accession Number : 1568419
Human Factors : Situational Awareness

Person : 2

Reference : 2
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)
Experience.Flight Crew.Total : 4516
Experience.Flight Crew.Type : 1553
ASRS Report Number.Accession Number : 1568407
Human Factors : Situational Awareness

Events

Anomaly.Conflict : Airborne Conflict
Detector.Person : Flight Crew
Miss Distance.Vertical : 1000
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

Hyper 7 RNAV (STAR) over YACKK @ 4,000 ft. First Officer stated as he was looking forward/down and something caught his attention. He stated "as we passed over it, looking down at approximately 1,000 ft below us" it appeared to be a drone. This was reported to Approach Control. After landing RWY 1R, IAD Tower requested a verbal description and the First Officer described seeing the cross pattern of the drone from above, half mile north of YACKK.

Narrative: 2

I was pilot flying approximately 1/2 mile N of YACKK fix on Hyper 7 Arrival. Saw what I thought was a small balloon just to the right of our flight path and below us approximately 1/4 mile ahead. I leaned forward to get a better view of the balloon as it passed below us and it was clearly a drone. I saw the X pattern and white fuselage that looked to me like a DJI Phantom drone (I fly drones and am familiar). The drone was below our flight path but MUCH higher than the 400 ft altitude restriction on them. I am just estimating but believe it was at approximately 2500-3000 ft. I could be off on altitude somewhat but it was well above 400 ft. The other pilots did not see the drone. By the time I realized what it was it was passing below us.

Synopsis

B-777 flight crew reported passing over a drone by 1000 feet while at 4000 feet on the HYPER 7 ARRIVIAL into IAD.

ACN: 1568336 *(40 of 50)*

Time / Day

Date : 201808
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : SAN.Airport
State Reference : CA

Environment

Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.Tower : SAN
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
Flight Phase : Taxi
Flight Phase : Final Approach
Airspace.Class B : SAN

Aircraft : 2

Reference : Y
Make Model Name : UAV - Unpiloted Aerial Vehicle
Flight Phase : Cruise
Airspace.Class B : SAN

Person

Reference : 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 : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Last 90 Days : 249
ASRS Report Number.Accession Number : 1568336
Human Factors : Situational Awareness
Analyst Callback : Attempted

Events

Anomaly.Conflict : Ground Conflict, Less Severe
Anomaly.Conflict : Airborne Conflict
Detector.Person : Flight Crew
When Detected : In-flight
When Detected : Taxi
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

We were on short final for 27 in SAN. A military aircraft seemed to be hovering one or two miles south of our path. I was hand flying the approach when the F/O (First Officer) mentioned that the craft could be a drone. It was, and therefore much closer to our path that what we originally believed. It stayed at a fairly safe distance and I refocused on landing the aircraft. An aircraft was cleared for immediate takeoff and separation was tight. During the landing roll, the drone reappeared in my peripheral vision as it passed us on the taxiway. When we cleared the runway, it was now hovering over an (other carrier) aircraft in our 12 o'clock position at [the] Terminal. I advised the Tower of the encounter and its present location. The drone was black, probably two or three feet wide. It was being flown in a very skilled way. The hovering and flight path was precise. It was a professional instrument, not a toy. In my opinion, the intent was commercial; perhaps filming. That is where I would lead an investigation.

This encounter highlights a safety issue of the highest level. A drone that size can be used in a terminal area of a major US airport without the knowledge of ATC. One or more can be used to cause catastrophic damage to commercial aircraft. The skill level of drone operators as well as the maneuverability capability can be the greatest hazard we face. The same event at night would have been unknown from anyone. This is an eye opener. It needs to be addressed.

Synopsis

B737 Captain reported sighting a drone while flying a visual approach to runway 27 at SAN and then again hovering over a parked airplane upon landing.

ACN: 1566714 *(41 of 50)*

Time / Day

Date : 201808
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : I90.TRACON
State Reference : TX
Altitude.MSL.Single Value : 5000

Environment

Flight Conditions : VMC

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : I90
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
Nav In Use : FMS Or FMC
Flight Phase : Climb
Route In Use.SID : STYCK6
Airspace.Class B : IAH

Aircraft : 2

Reference : Y
Make Model Name : UAV - Unpiloted Aerial Vehicle
Airspace.Class B : IAH

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Air Carrier
Function.Flight Crew : Captain
Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1566714

Events

Anomaly.Conflict : Airborne Conflict
Anomaly.Inflight Event / Encounter : Other / Unknown
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

During our climb out of IAH on the STYCK 6 departure our cockpit jumpseater said that we overflew a black quad copter drone. Our altitude was about five thousand feet and climbing, and we estimated that the drone altitude was about 3500-4000 feet. We reported this to ATC and continued on to our destination.

Synopsis

Air Carrier Captain reported sighting a quadcopter drone at approximately 4000 feet while flying the STYCK6 departure out of IAH.

ACN: 1562358 *(42 of 50)*

Time / Day

Date : 201807
Local Time Of Day : 1801-2400

Place

Locale Reference.ATC Facility : ZOA.ARTCC
State Reference : CA
Altitude.MSL.Single Value : 25000

Aircraft : 1

Reference : X
ATC / Advisory.Center : ZOA
Aircraft Operator : Corporate
Make Model Name : Small Transport
Operating Under FAR Part : Part 91
Flight Plan : IFR
Flight Phase : Climb
Airspace.Class A : ZOA

Aircraft : 2

Reference : Y
ATC / Advisory.Center : ZOA
Aircraft Operator : Government
Make Model Name : UAV - Unpiloted Aerial Vehicle
Flight Plan : IFR
Mission : Tactical
Flight Phase : Cruise

Person : 1

Reference : 1
Location Of Person.Facility : ZOA
Reporter Organization : Government
Function.Air Traffic Control : Enroute
Qualification.Air Traffic Control : Fully Certified
Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 3
ASRS Report Number.Accession Number : 1562358
Human Factors : Confusion
Human Factors : Human-Machine Interface
Human Factors : Situational Awareness
Human Factors : Training / Qualification
Human Factors : Distraction

Person : 2

Reference : 2
Location Of Person.Facility : ZOA
Reporter Organization : Government
Function.Air Traffic Control : Instructor
Function.Air Traffic Control : Enroute
Qualification.Air Traffic Control : Fully Certified

Experience.Air Traffic Control.Time Certified In Pos 1 (yrs) : 6
ASRS Report Number.Accession Number : 1562806
Human Factors : Training / Qualification
Human Factors : Situational Awareness
Human Factors : Distraction
Human Factors : Human-Machine Interface

Events

Anomaly.ATC Issue : All Types
Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Air Traffic Control
When Detected : In-flight

Assessments

Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Procedure

Narrative: 1

I was working the R-side at Sector XX. I climbed Aircraft X and had a J-ring on Aircraft Y. At the time when I climbed Aircraft X I thought I had enough room to climb him with no problem. Aircraft Y was headed in a different direction. I got busy descending aircraft for ZZZ and ZZZ1. Training was going on at the D-side position and the trainee was having a hard time keeping up so I was doing a lot of the entries and telling the trainee what to do. I feel like if I had a CPC D side or someone more experienced helping it would have been easier to track everything. Aircraft Y was in a area of high traffic volume and density. Possibly traffic with ZZZ2 arrivals and departures and overflights in that area. Also with him maneuvering there in the future I will use vertical separation and assign a heading to Aircraft Y. My comfort level with Aircraft Y is low and thought he would be able to turn faster.

Narrative: 2

I was an instructor training on the Radar Associate (D-side) position of the sector. The R-side had been making some unusual and not very effective moves which made his workload much harder than it already was. There was weather deviations, and slow performing aircraft mixed in with his traffic. Aircraft Y was flying much of the middle portion of the sector at FL260. Aircraft X was climbing eastbound from the western part of the sector. The R-side had traffic for Aircraft X at FL250 and asked the pilot if he was able to climb to FL270, in which the pilot concurred. My trainee and I were discussing a lot of different things since there was much going on in the sector, and my trainee may have been doing landline coordination when the R-side gave the clearance to climb Aircraft X. Aircraft Y had been orbiting the sector for some time, and the R-side did not recognize Aircraft Y making the maneuver and turned into Aircraft X as it climbed. Conflict alert activated which prompted the R-side to execute turns, but I believe the two aircraft still lost proper enroute separation. With the advances in technology and having ERAM and DATACOMM, maybe we should be able to be given the option to change data block colors to distinguish it more from others, or maybe at least the new characters that surround the data block for datacomm (IE point outs, VCI, etc.). Most of what happened was strictly the R-side's own doing, but maybe it would've helped him more if the slow orbiting Aircraft Y in the middle of his sector stood out all the time from the rest of his data blocks.

Synopsis

ZOA Center Controllers reported a loss of separation between a UAV and a Small Transport.

ACN: 1562024 *(43 of 50)*

Time / Day

Date : 201807
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : BOS.Airport
State Reference : MA
Altitude.AGL.Single Value : 200

Environment

Light : Daylight

Aircraft : 1

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : B737-700
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Flight Phase : Landing

Aircraft : 2

Reference : Y
Make Model Name : UAV - Unpiloted Aerial Vehicle
Flight Phase : Cruise

Person

Reference : 1
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 : Instrument
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Multiengine
Experience.Flight Crew.Last 90 Days : 513
Experience.Flight Crew.Type : 1985
ASRS Report Number.Accession Number : 1562024
Human Factors : Distraction

Events

Anomaly.Conflict : NMAC
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew
Miss Distance.Horizontal : 150

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

Assessments

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

Narrative: 1

Aircraft X had near miss with a small drone off right wing about 150 feet away at 200 feet AGL parallel to Runway 32 and the shore line.

Synopsis

B737 First Officer reported an NMAC with a drone during approach to BOS.

ACN: 1561883 *(44 of 50)*

Time / Day

Date : 201807
Local Time Of Day : 0601-1200

Place

Locale Reference.Airport : SBP.Airport
State Reference : CA
Altitude.MSL.Single Value : 2500

Environment

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

Aircraft : 1

Reference : X
ATC / Advisory.TRACON : SBA
Aircraft Operator : Personal
Make Model Name : Skyhawk 172/Cutlass 172
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Personal
Flight Phase : Descent
Airspace.Class D : SBP

Aircraft : 2

Reference : Y
Make Model Name : UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part.Other
Flight Phase : Cruise
Airspace.Class D : SBP

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Single Pilot
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 242
Experience.Flight Crew.Last 90 Days : 14
Experience.Flight Crew.Type : 103
ASRS Report Number.Accession Number : 1561883
Human Factors : Situational Awareness

Events

Anomaly.Conflict : NMAC
Anomaly.Inflight Event / Encounter : Other / Unknown
Detector.Person : Flight Crew
Miss Distance.Horizontal : 50
Miss Distance.Vertical : 50
When Detected : In-flight

Assessments

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

Narrative: 1

While descending towards San Luis Obispo, I noticed a drone pass over my left wing within 100 feet. I was descending through 2500 feet at the time, near Cal Poly University, roughly 4nm north of the San Luis airport. I only spotted the drone for a second before it disappeared past my wing and thus did not have enough time to maneuver away from it.

Synopsis

C172 pilot reported a NMAC with a drone while descending into SBP.

ACN: 1561479 *(45 of 50)*

Time / Day

Date : 201807
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : LIMM.ARTCC
State Reference : FO
Altitude.MSL.Single Value : 34000

Environment

Flight Conditions : VMC

Aircraft : 1

Reference : X
ATC / Advisory.Center : LIMM
Aircraft Operator : Air Carrier
Make Model Name : A330
Crew Size.Number Of Crew : 4
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use : FMS Or FMC
Flight Phase : Cruise

Aircraft : 2

Reference : Y
ATC / Advisory.Center : LIMM
Make Model Name : Any Unknown or Unlisted Aircraft Manufacturer

Person

Reference : 1
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 : Multiengine
Qualification.Flight Crew : Air Transport Pilot (ATP)
Qualification.Flight Crew : Instrument
Experience.Flight Crew.Total : 20000
ASRS Report Number.Accession Number : 1561479
Human Factors : Situational Awareness
Human Factors : Distraction
Human Factors : Communication Breakdown
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : ATC

Events

Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Inflight Event / Encounter : Other / Unknown
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification
Result.Flight Crew : Overcame Equipment Problem
Result.Air Traffic Control : Issued Advisory / Alert

Assessments

Contributing Factors / Situations : ATC Equipment / Nav Facility / Buildings
Contributing Factors / Situations : Environment - Non Weather Related
Contributing Factors / Situations : Human Factors
Primary Problem : Environment - Non Weather Related

Narrative: 1

Enroute, at 34000 feet flying up the Italian peninsula in Italian airspace we were having great difficulty hearing center because of background noise. As Pilot Flying, I was helping the Pilot Monitoring by inserting new frequencies. There was much chatter on guard frequency. Guard frequency was so distracting both pilots were turning off the receiver for guard to better hear Center. All of us discussed the communication threat we were experiencing. I took a 10-minute break. The fourth pilot was in my seat and the First Officer remained working the radios.

When I returned and was getting briefed, I noted what I first thought were balloons, then drones or possibly UAV's. They did not appear on TCAS. They came from below and passed below our left wing. While considering what this was, the Pilot monitoring realized the guard frequency had not been regained contact with ATC. They said we had been intercepted.

After we regained contact, the two objects I had seen before were now off our left wing, and they peeled off in descending turns away from the aircraft. It is difficult to estimate how distant they were. We had no ACARS message or SATCOM call alerting us to our loss of communication. I estimate our loss of communication was about 10 minutes. No aircraft used ICAO procedures for intercept. It is possible the targets I saw were fighters who were observing our flight. ATC radio was difficult to hear and congestion on 121.5 caused both pilots to silence 121.5 to hear center. I suggest expand the use of CPDLC (Controller Pilot DataLink Communication).

Synopsis

A330 Captain reported they lost communication with ATC and did not realize it until they observed unidentifiable traffic near their aircraft.

ACN: 1561264 *(46 of 50)*

Time / Day

Date : 201807
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : CXP.Airport
State Reference : NV

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft : 1

Reference : X
ATC / Advisory.CTAF : CXP
Aircraft Operator.Other
Make Model Name : Eurocopter AS 350/355/EC130 - Astar/Twinstar/Ecureuil
Operating Under FAR Part.Other
Airspace.Class G : CXP

Aircraft : 2

Reference : Y
Make Model Name : UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part.Other
Flight Phase : Cruise
Airspace.Class G : CXP

Person

Reference : 1
Location Of Person : Hangar / Base
Function.Ground Personnel : Airport Personnel
ASRS Report Number.Accession Number : 1561264
Analyst Callback : Completed

Events

Anomaly.Inflight Event / Encounter : Object
Detector.Person : Flight Crew
Miss Distance.Horizontal : 0
Miss Distance.Vertical : 0
When Detected : In-flight
Result.General : Flight Cancelled / Delayed
Result.General : Maintenance Action
Result.General : Police / Security Involved
Result.Flight Crew : Landed As Precaution
Result.Aircraft : Aircraft Damaged

Assessments

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

Narrative: 1

Aircraft X, (AS350) Eurocopter experienced a drone strike approximately 1 nm south of CXP. Altitude unknown. Pilot in command (PIC) reported thought it was a bird strike, but did not find evidence of bird. Reported sound of an object striking the aircraft and subsequent vibration in tail section. PIC made an immediate landing on the CXP south ramp. Follow-up inspection by company mechanic reported bent trim tab and located dings on fuselage where object struck the aircraft. Repair conducted over next two days. Aircraft departed CXP after two days. FAA FSDO (RNO) notified on morning after two days. I was instructed to contact Carson City Sheriff's Office and request deputy to take a police report.

Callback: 1

Reporter reiterated details contained in original report and stated that the helicopter landed on the east circular landing zone on the south ramp at Carson City Airport (CXP).

Synopsis

An airport worker at CXP reported a midair collision between a helicopter and a drone.

ACN: 1561150 *(47 of 50)*

Time / Day

Date : 201807
Local Time Of Day : 1201-1800

Place

Locale Reference.ATC Facility : ZBW.ARTCC
State Reference : NH
Altitude.MSL.Single Value : 19200

Environment

Flight Conditions : VMC
Light : Night

Aircraft : 1

Reference : X
ATC / Advisory.Center : ZBW
Aircraft Operator : Air Carrier
Make Model Name : EMB ERJ 190/195 ER/LR
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 : ORW7
Airspace.Class A : ZBW

Aircraft : 2

Make Model Name : UAV - Unpiloted Aerial Vehicle
Flight Plan : None
Airspace.Class A : ZBW

Person : 1

Reference : 1
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)
ASRS Report Number.Accession Number : 1561150
Human Factors : Distraction

Person : 2

Reference : 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)
ASRS Report Number.Accession Number : 1561153
Human Factors : Distraction

Events

Anomaly.Conflict : NMAC
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : FAR
Detector.Person : Flight Crew
Miss Distance.Horizontal : 0
Miss Distance.Vertical : 20
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

While descending through 19,200 feet MSL on the ORW7 arrival into BOS, I saw what I thought was a balloon coming towards our aircraft. A few seconds later as we flew directly under it, missing it by about 10-20 feet, we noticed it was a drone. It was directly above my windshield (the FO side) and probably about 2 feet wide. We were approx 24NM west of PVD VOR. I immediately notified BOS center and they proceeded to vector other aircraft away from that area. BOS center gave us their number to call them on the ground for further information. I called and spoke with BOS center managent and provided the information [they] requested in addition to my contact information.

Narrative: 2

We were flying the Norwich 7 (ORW7) arrival into BOS and we were approximately 24 miles west of PVD on the arrival near the OUTTT intersection. I was the Pilot Flying but was heads down at the moment while I was giving a PA announcement to the passengers. As we were passing through FL192 in the descent I looked up and saw what appeared to be a black drone directly in front of us at the same altitude. I saw the drone out of the FO's windshield and it quickly passed over the top of us. It appeared to be 18-24 inch in diameter, oval shaped, solid black in color, and I believe it missed our aircraft by about 20-50 feet.

The FO was certain it was a drone. She reported to me that she saw what appeared to be a propeller on the top of it and something else hanging below it (possibly a camera). We reported this to BOS ARTCC who immediately began to vector other aircraft away from that area. The FO had a much better and longer visual look at the object and was certain it was a drone. BOS ARTCC asked us to call them on the phone after landing which we did. They said a report would be filed on their end. I also reported this to the Chief Pilot. Possibly a high altitude drone.

Synopsis

ERJ-190 flight crew reported a NMAC with a Drone during the descent phase of flight.

ACN: 1559150 *(48 of 50)*

Time / Day

Date : 201807
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ORD.Airport
State Reference : IL
Altitude.AGL.Single Value : 1700

Environment

Flight Conditions : VMC
Light : Daylight

Aircraft : 1

Reference : X
Aircraft Operator : Air Carrier
Make Model Name : Regional Jet 200 ER/LR (CRJ200)
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Flight Phase : Initial Approach

Aircraft : 2

Reference : Y
Aircraft Operator : Personal
Make Model Name : UAV - Unpiloted Aerial Vehicle

Person

Reference : 1
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
ASRS Report Number.Accession Number : 1559150
Human Factors : Distraction

Events

Anomaly.Conflict : NMAC
Detector.Person : Flight Crew
Miss Distance.Horizontal : 200
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

On final for Runway 28C in Chicago, at approximately 1700 feet and 5 DME from the localizer, we came in close proximity to a drone just south of the approach course. Drone appeared to be within about 200 feet of the aircraft. We did not have to take evasive action and landed without incident. Reported the drone to Tower who we then contacted via phone after arrival at the gate.

Synopsis

CRJ-200 First Officer reported a UAV in close proximity to the aircraft.

ACN: 1558327 *(49 of 50)*

Time / Day

Date : 201807
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ARB.Airport
State Reference : MI
Altitude.AGL.Single Value : 200

Environment

Flight Conditions : VMC
Weather Elements / Visibility.Visibility : 40
Light : Daylight
Ceiling : CLR
RVR.Single Value : 10000

Aircraft : 1

Reference : X
ATC / Advisory.Tower : ARB
Aircraft Operator : Personal
Make Model Name : Skyhawk 172/Cutlass 172
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : VFR
Mission : Personal
Flight Phase : Final Approach
Airspace.Class D : ARB

Aircraft : 2

Reference : Y
Make Model Name : UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part.Other
Flight Plan : None
Flight Phase : Cruise
Airspace.Class D : ARB

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Private
Experience.Flight Crew.Total : 500
Experience.Flight Crew.Last 90 Days : 3
Experience.Flight Crew.Type : 400
ASRS Report Number.Accession Number : 1558327
Human Factors : Situational Awareness

Events

Anomaly.Conflict : NMAC
Detector.Person : Flight Crew
Miss Distance.Horizontal : 100
Miss Distance.Vertical : 20
When Detected : In-flight
Result.General : None Reported / Taken

Assessments

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

Narrative: 1

On final approach to ARB runway 24 flying a Cessna C172 I noticed initially at 1:00 o'clock position (horizontal) a bright "candy apple red and bright chrome" 4 engine drone. Continued on final approach passing drone. Drone remained stationary in 3D space as we passed. Notified ARB tower of drone hovering on ARB final approach.

Synopsis

C-172 pilot reported a NMAC with a drone while on final approach to Ann Arbor Municipal Airport.

ACN: 1549645 *(50 of 50)*

Time / Day

Date : 201806
Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : HIO.Airport
State Reference : OR
Relative Position.Angle.Radial : 068
Relative Position.Distance.Nautical Miles : 4
Altitude.MSL.Single Value : 650

Environment

Flight Conditions : VMC
Weather Elements / Visibility : Haze / Smoke
Weather Elements / Visibility.Visibility : 10
Light : Daylight
Ceiling.Single Value : 5000

Aircraft : 1

Reference : X
ATC / Advisory.Tower : HIO
Aircraft Operator : Personal
Make Model Name : Helicopter
Crew Size.Number Of Crew : 1
Operating Under FAR Part : Part 91
Flight Plan : None
Mission : Passenger
Flight Phase : Initial Approach
Route In Use : Direct
Airspace.Class D : HIO

Aircraft : 2

Reference : Y
Make Model Name : UAV - Unpiloted Aerial Vehicle
Flight Phase : Cruise
Airspace.Class D : HIO

Person

Reference : 1
Location Of Person.Aircraft : X
Location In Aircraft : Flight Deck
Reporter Organization : Personal
Function.Flight Crew : Pilot Flying
Function.Flight Crew : Single Pilot
Qualification.Flight Crew : Flight Instructor
Qualification.Flight Crew : Instrument
Qualification.Flight Crew : Commercial
Experience.Flight Crew.Total : 2219
Experience.Flight Crew.Last 90 Days : 131

Experience.Flight Crew.Type : 255
ASRS Report Number.Accession Number : 1549645

Events

Anomaly.Conflict : NMAC
Anomaly.Inflight Event / Encounter : Other / Unknown
Detector.Person : Flight Crew
Miss Distance.Horizontal : 100
Miss Distance.Vertical : 50
When Detected : In-flight
Result.Flight Crew : Took Evasive Action

Assessments

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

Narrative: 1

After being cleared into Class Delta airspace for landing at HIO, and instructed to descend below 700 feet MSL, I had a near miss with a drone over highway 26, 4nm ENE of HIO. I was at approximately 650 feet MSL and the drone was above me, just to the right of my 12 o'clock. I turned left upon seeing it and got a good look at it. It appeared to be grey in color and possibly of the DJI Phantom type of quadcopter. I have seen plenty of these and it looked to be that style. I immediately reported to the Tower that I had a near miss at the edge of their airspace and gave them approximate location, altitude, and description of the UAV. I was traveling approximately 120 KTS IAS, with light winds and good visibility other than light smoke in the area from prescribed burns. I had two passengers on board, one in the front with me and one directly behind that passenger.

Synopsis

Helicopter pilot reported a NMAC with a quadcopter drone at approximately 650 feet MSL while inbound for landing.