ASRS Database Report Set

Unmanned Aerial Vehicle (UAV) Reports

Report Set Description...........................................A sampling of reports involving Unmanned Aerial Vehicle (UAV) events.

Update Number....................................................11.0

Date of Update....................................................August 31, 2017

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

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

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.
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.

Linda J. Connell, 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
<table>
<thead>
<tr>
<th>ACN: 1456998</th>
<th>(1 of 50)</th>
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<tbody>
<tr>
<td><strong>Synopsis</strong></td>
<td>Corporate jet instructor pilot reported a close UAS encounter at about 7,000 ft near the LOOSN waypoint on the LAS SITEE 1 RNAV Arrival.</td>
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<thead>
<tr>
<th>ACN: 1456110</th>
<th>(2 of 50)</th>
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<tbody>
<tr>
<td><strong>Synopsis</strong></td>
<td>BE35 pilot reported sighting a UAV (drone) near UGN in very close proximity to his aircraft requiring evasive action.</td>
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<thead>
<tr>
<th>ACN: 1455899</th>
<th>(3 of 50)</th>
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<tbody>
<tr>
<td><strong>Synopsis</strong></td>
<td>Air carrier flight crew reported sighting a UAV while conducting the ILS Runway 6 at RSW. The drone was estimated to be within 100 ft of the aircraft, however no evasive action was required.</td>
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<tr>
<th>ACN: 1452924</th>
<th>(4 of 50)</th>
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<tbody>
<tr>
<td><strong>Synopsis</strong></td>
<td>Air carrier Captain reported a UAV flying near the final approach path to PHX Runway 8.</td>
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<thead>
<tr>
<th>ACN: 1452404</th>
<th>(5 of 50)</th>
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<tbody>
<tr>
<td><strong>Synopsis</strong></td>
<td>D10 TRACON Controller reported an aircraft they were vectoring reported a near miss with a drone. The drone distraction and added coordination were cited as contributing to another airborne conflict between two manned aircraft.</td>
</tr>
</tbody>
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<thead>
<tr>
<th>ACN: 1450927</th>
<th>(6 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
<td>UAV pilot reported running into a crane while filming a sunrise over city center.</td>
</tr>
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<thead>
<tr>
<th>ACN: 1450400</th>
<th>(7 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
<td>Air carrier flight crew reported neglect to note the 250 knot speed restriction on the SID and accelerated to 280 knots without being cleared to do so. Reporters cited being distracted by a drone while on climbout as contributing factor.</td>
</tr>
</tbody>
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<thead>
<tr>
<th>ACN: 1449311</th>
<th>(8 of 50)</th>
</tr>
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<tbody>
<tr>
<td><strong>Synopsis</strong></td>
<td></td>
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</table>
A law enforcement UAV pilot reported operating a drone after civil twilight in violation of FAR 107.29. He and a fellow UAV operator were both night qualified and operating in support of an active law enforcement action.

<table>
<thead>
<tr>
<th>ACN: 1448987 (9 of 50)</th>
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<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>CRJ First Officer reported a NMAC while departing LGA airport with what he suspected was a UAV.</td>
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<tr>
<th>ACN: 1448959 (10 of 50)</th>
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<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>A319 Captain reported sighting a possible UAV on descent into LAX in the vicinity of CLIFY intersection.</td>
</tr>
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<tr>
<th>ACN: 1446843 (11 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>PA-32 pilot reported a NMAC with a UAV at 3300 MSL 20 miles south of TKI.</td>
</tr>
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<tr>
<th>ACN: 1446808 (12 of 50)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>DA40 pilot reported his passenger noticed a UAV operating in close proximity to their aircraft at 6500 MSL in the vicinity of WVI airport.</td>
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<thead>
<tr>
<th>ACN: 1446467 (13 of 50)</th>
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<tbody>
<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>UAV operator reported he may have operated within 5 miles of PHX airport at an altitude of 60 feet AGL.</td>
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<tr>
<th>ACN: 1445520 (14 of 50)</th>
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<tbody>
<tr>
<td><strong>Synopsis</strong></td>
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<tr>
<td>Helicopter pilot reported a UAV operator stated he was interfering with his commercial business along a boardwalk.</td>
</tr>
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<tr>
<th>ACN: 1445423 (15 of 50)</th>
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<tr>
<td><strong>Synopsis</strong></td>
</tr>
<tr>
<td>CRJ-700 First Officer reported a NMAC with a UAV while on approach to SLC.</td>
</tr>
</tbody>
</table>

| ACN: 1442691 (16 of 50) |
Synopsis
C172 instructor pilot reported having to take evasive action to avoid an object near BVU. He described the object as either another aircraft, a hang glider, or a drone.

ACN: 1442369 (17 of 50)

Synopsis
B737 Captain reported sighting a large drone while being vectored for an instrument approach near ONT.

ACN: 1441495 (18 of 50)

Synopsis
C172 pilot reported a UAS near miss at 3,200 ft southeast of PHX.

ACN: 1441349 (19 of 50)

Synopsis
Corporate jet Captain reported a near miss with a UAV on approach to TEB Runway 6 at 2000 ft.

ACN: 1440775 (20 of 50)

Synopsis
A private pilot observed a UAV pilot operating his drone in the vicinity of SGS airport.

ACN: 1440287 (21 of 50)

Synopsis
A320 Captain reported a NMAC with a UAV while on the ILS Runway 8R at IAH.

ACN: 1438773 (22 of 50)

Synopsis
A320 flight crew reported sighting a UAV in the vicinity of TEB at 3,300 feet.

ACN: 1437292 (23 of 50)

Synopsis
Corporate jet pilot reported a near miss with a UAS while on a vector east of SUA.

ACN: 1435712 (24 of 50)

Synopsis
A UAS pilot knowingly flew his aircraft to an altitude of 60 feet within 5 miles of DOV.
**ACN: 1435461 (25 of 50)**

**Synopsis**
A UAS pilot flying his aircraft low near his home realized it was in PDK Class D airspace. He was uncertain what action he should take to notify ATC about his intended flight.

**ACN: 1432422 (26 of 50)**

**Synopsis**
UAV pilot requested FAA authorization before a commercial video operation. After an extended delay, the FSS issued a NOTAM about the operation at the pilot's request which was then completed safely.

**ACN: 1431903 (27 of 50)**

**Synopsis**
B737 flight crew reported sighting a drone in close proximity to their aircraft while on approach to SJC near KLIDE.

**ACN: 1430016 (28 of 50)**

**Synopsis**
A commercial pilot instructing a UAS ground school class at 3G3 Airport (Wadsworth, OH) was confronted by an aircraft pilot who accused him of flying in Class D airspace. His UAS flew below CLE Class B and outside CAK Class C.

**ACN: 1425793 (29 of 50)**

**Synopsis**
UAV Operator reported losing control input to the UAV which crashed in a wooded area.

**ACN: 1424345 (30 of 50)**

**Synopsis**
Air carrier First Officer reported being distracted by a reported UAV in the area of Runway 31L at DAL, missed setting flaps 30 and received a "Too Low Flaps" alert. Crew set flaps and landed uneventfully.

**ACN: 1424281 (31 of 50)**

**Synopsis**
PA28 instructor pilot reported a near miss with a drone while on approach to DWH.

**ACN: 1417908 (32 of 50)**

**Synopsis**
A UAS pilot operating near LUF realized he was flying in Alert Area A-231, but thought it was legal below 500 feet. He later discovered he may have been operating in the Special Air Traffic Rules Area within A-231 which requires prior communication with ATC.

**ACN: 1416218 (33 of 50)**

**Synopsis**
A UAS pilot discovered during a postflight FAR review that his takeoffs, landings, and hover flight near a private uncontrolled airport may have violated FAR 101.41(e).

**ACN: 1415607 (34 of 50)**

**Synopsis**
DJI Phantom 3 UAS pilot flying at sunset discovered he launched near an airport when he viewed the airport through his UAS video camera.

**ACN: 1410141 (35 of 50)**

**Synopsis**
Drone pilot operating under FAR part 107 reported a NMAC with a C172 at about 400 feet AGL. Evasive action was taken by the drone operator while the C172 pilot apparently did not detect the drone.

**ACN: 1410133 (36 of 50)**

**Synopsis**
UAV pilot reported flying his UAV at 200 feet AGL at what he believed was beyond 5 NM from CLE. An evasive descent was initiated when a helicopter was sighted in the area, but no actual conflict existed. Later he discovered the distance to be 4.5 NM from CLE and inside the Class B.

**ACN: 1409198 (37 of 50)**

**Synopsis**
CRJ-200 Captain reported an airborne object, either a balloon or UAS, near 10,000 feet while departing MSP.

**ACN: 1407744 (38 of 50)**

**Synopsis**
An air carrier First Officer reported a NMAC with a drone while on short final at SEA.

**ACN: 1407417 (39 of 50)**

**Synopsis**
A pilot on approach to SJC Runway 30L near KLIDE at 6,000 ft was told by his passenger their aircraft was passed by a UAS traveling north.

### ACN: 1405965 (40 of 50)

**Synopsis**
A UAS pilot reported that he discovered after his flight that a nearby TFR had been expanded to include the area of his previous operation.

### ACN: 1405192 (41 of 50)

**Synopsis**
DA20 instructor pilot reported a NMAC with a UAV east of ROA at 3000 feet. No evasive action was required.

### ACN: 1402826 (42 of 50)

**Synopsis**
Helicopter pilot reported a UAV in his path on short final to a helipad. The UAV pilot maneuvered away before the helicopter pilot could and was not seen again.

### ACN: 1400261 (43 of 50)

**Synopsis**
UAS pilot, operating legally near JFK after filing a flight plan and NOTAM for the flight, was approached by a law enforcement helicopter. The pilot landed the UAV to avoid airborne conflict then cancelled his flight after discussions with authorities.

### ACN: 1398838 (44 of 50)

**Synopsis**
UAV pilot reported going to the FAA UAV waiver website and completing the information required for a Class D airspace waiver then operating his UAV in Class D as planned. Later they learned that a response from the FAA was required before conducting such flights.

### ACN: 1398214 (45 of 50)

**Synopsis**
A319 flight crew reported sighting a UAV below and to the left of their aircraft while descending through 7000 feet on the ROBUC2 arrival to BOS.

### ACN: 1398198 (46 of 50)

**Synopsis**
CRJ-900 First Officer reported sighting a UAV at 8000 feet near DREMS on the MILTON4 Arrival to LGA. No evasive action was taken, but the UAV passed within 75 feet of the aircraft.

**ACN: 1396916 (47 of 50)**

**Synopsis**
Tower Controller reported a UAV landed and was taxiing off the runway. The Controller cleared the next aircraft for departure then noticed the UAV may not be completely clear of the runway. The Controller canceled the takeoff clearance, sees the UAV moving, and says disregard. The aircraft departing advised they were aborting departure.

**ACN: 1395951 (48 of 50)**

**Synopsis**
A UAS operator reported registering under FAR part 107 as a recreational operator instead of a commercial operator. After reviewing an FAA webinar on part 107 he realized his error and corrected it.

**ACN: 1394042 (49 of 50)**

**Synopsis**
A DJI Phantom UAS pilot launched after checking diligently for TFR and controlled airspace. However, after takeoff his DJI phone app alerted his aircraft proximity to SLC Class B. The UAS flight was aborted.

**ACN: 1392486 (50 of 50)**

**Synopsis**
Denver Center Controller reported of miscommunication and a lack of communication with a UAV pilot. The Controller was advised of a special request in which was not valid. The Operations Manager advised the Controller of what needed to be done.
Report Narratives
ACN: 1456998

Time / Day
Date: 201706
Local Time Of Day: 1801-2400

Place
Locale Reference: Airport: LAS.Airport
State Reference: NV
Altitude: MSL. Single Value: 7000

Environment
Flight Conditions: VMC
Light: Daylight

Aircraft: 1
Reference: X
ATC / Advisory: TRACON: L30
Aircraft Operator: Corporate
Make Model Name: Small Transport, Low Wing, 2 Turbojet Eng
Crew Size: Number Of Crew: 2
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Training
Nav In Use: FMS Or FMC
Nav In Use: GPS
Flight Phase: Initial Approach
Route In Use: STAR: SITEE1
Airspace: Class B: LAS

Aircraft: 2
Reference: Y
Aircraft Operator: Personal
Make Model Name: UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part: Other
Flight Phase: Cruise
Airspace: Class B: LAS

Person
Reference: 1
Location Of Person: Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Corporate
Function: Flight Crew: Captain
Function: Flight Crew: Instructor
Function: Flight Crew: Pilot Not Flying
Qualification: Flight Crew: Air Transport Pilot (ATP)
Qualification: Flight Crew: Flight Instructor
Qualification. Flight Crew: Multiengine
Qualification. Flight Crew: Instrument
Experience. Flight Crew. Total: 3000
Experience. Flight Crew. Last 90 Days: 85
Experience. Flight Crew. Type: 180
ASRS Report Number. Accession Number: 1456998
Human Factors: Time Pressure
Human Factors: Workload
Human Factors: Distraction

Events
Anomaly. Airspace Violation: All Types
Anomaly. Conflict: Airborne Conflict
Anomaly. Deviation - Procedural: Published Material / Policy
Anomaly. Deviation - Procedural: FAR
Detector. Person: Flight Crew
Miss Distance. Horizontal: 500
Miss Distance. Vertical: 50
When Detected: In-flight
Result. Flight Crew: Requested ATC Assistance / Clarification

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

Narrative: 1
Close encounter with UAS. I was heads down programming a newly assigned STAR into the FMS when I saw an object that I assumed to be a helium balloon whiz by the left side of the wing in my peripheral vision. The private pilot I was instructing immediately exclaimed "that was close!" He stated that the object was some sort of multi rotor drone with a center unit around the size of a beer can and had nearly hit us. I immediately reported the incident to ATC.

Synopsis
Corporate jet instructor pilot reported a close UAS encounter at about 7,000 ft near the LOOSN waypoint on the LAS SITEE 1 RNAV Arrival.
**Time / Day**
- Date: 201706
- Local Time Of Day: 1201-1800

**Place**
- Locale Reference.Airport: UGN.Airport
- State Reference: IL
- Relative Position.Angle.Radial: 95
- Relative Position.Distance.Nautical Miles: 6
- Altitude.MSL.Single Value: 8500

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

**Aircraft : 1**
- Reference: X
- ATC / Advisory.TRACON: MKE
- Aircraft Operator: Corporate
- Make Model Name: Bonanza 35
- Crew Size.Number Of Crew: 1
- Operating Under FAR Part: Part 91
- Flight Plan: None
- Mission: Passenger
- Flight Phase: Cruise
- Route In Use: Direct
- Airspace.Class E: C90

**Aircraft : 2**
- Reference: Y
- Make Model Name: UAV - Unpiloted Aerial Vehicle
- Operating Under FAR Part: Other
- Flight Phase: Cruise
- Airspace.Class E: C90

**Person**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Corporate
- Function.Flight Crew: Pilot Flying
- Function.Flight Crew: Single Pilot
- Qualification.Flight Crew: Instrument
- Qualification.Flight Crew: Private
- Experience.Flight Crew.Total: 3300
- Experience.Flight Crew.Last 90 Days: 30
- Experience.Flight Crew.Type: 3250
ASRS Report Number: Accession Number: 1456110
Human Factors: Distraction

Events
Anomaly.Conflict: Airborne Conflict
Anomaly.Conflict: NMAC
Detector.Person: Flight Crew
Miss Distance.Horizontal: 10
Miss Distance.Vertical: 5
When Detected: In-flight
Result.Flight Crew: Took Evasive Action

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

Narrative: 1
Passed by a quad copter drone off right wing tip. In sight for roughly two seconds. Amazed to see one at this altitude. Was monitoring Chicago approach but changed frequency to Milwaukee approach to report this as Chicago radio was far too busy in my estimation. One passenger (of two) on board also saw this briefly but was not sure what he saw as he observed it after I had snapped off the autopilot and turned left briefly. Distance estimated based on object observed, four horizontal props, long silver and dark body with camera mounted on end facing our opposite direction. Observation time was very brief. No aircraft hit, no injuries. Just a tad alarming.

Synopsis
BE35 pilot reported sighting a UAV (drone) near UGN in very close proximity to his aircraft requiring evasive action.
**Time / Day**

Date : 201706
Local Time Of Day : 0601-1200

**Place**

Locale Reference.Airport : RSW.Airport
State Reference : FL
Altitude.MSL.Single Value : 1500

**Environment**

Flight Conditions : VMC
Light : Daylight

**Aircraft : 1**

Reference : X
ATC / Advisory.Tower : RSW
Aircraft Operator : Air Carrier
Make Model Name : Large Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew : 2
Operating Under FAR Part : Part 121
Flight Plan : IFR
Mission : Passenger
Nav In Use.Localizer/Glideslope/ILS : Runway 6
Flight Phase : Final Approach
Airspace.Class C : RSW

**Aircraft : 2**

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

**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)
Experience.Flight Crew.Type : 573
ASRS Report Number.Accession Number : 1455899
Human Factors : Distraction
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 : Captain
Function.Flight Crew : Pilot Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Type : 1625
ASRS Report Number.Accession Number : 1455919
Human Factors : Distraction
Human Factors : Situational Awareness

Events
Anomaly.Conflict : NMAC
Detector.Person : Flight Crew
Miss Distance.Horizontal : 100
Miss Distance.Vertical : 0
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification

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

Narrative: 1
I was pilot monitoring and was looking for nearby VFR traffic indicated about 800 feet below our flight path while we were on final approach to Runway 06 at RSW. As I was searching for aircraft traffic, I noticed a large drone operating at approximately our altitude, not far from our left wingtip (less than 100 ft away). The Captain did not see the drone and continued the approach normally and we were able to land without any evasive maneuvers. I reported the drone to the RSW tower controller who asked for additional details about the drone after we taxied to the gate. The drone was a large, quad copter-type drone.

Narrative: 2
I was the flying pilot conducting the ILS Runway 6 in VMC. As we passed the FAF and received landing clearance the First Officer stated she saw a drone off of our left wing tip within 100 feet at our altitude. She reported the incident to the tower. We landed uneventfully in Fort Myers with no evasive maneuvers required. The Tower controllers got information on the drone from the FO upon landing and I notified the Chief Pilot of the event. As pilot flying I did not see the drone.

Synopsis
Air carrier flight crew reported sighting a UAV while conducting the ILS Runway 6 at RSW. The drone was estimated to be within 100 ft of the aircraft, however no evasive action was required.
ACN: 1452924 (4 of 50)

**Time / Day**
- Date: 201705
- Local Time Of Day: 0601-1200

**Place**
- Locale Reference.Airport: PHX.Airport
- State Reference: AZ
- Altitude.MSL.Single Value: 2500

**Environment**
- Flight Conditions: VMC
- Light: Daylight

**Aircraft : 1**
- Reference: X
- ATC / Advisory.Tower: PHX
- Aircraft Operator: Air Carrier
- Make Model Name: Large Transport, Low Wing, 2 Turbojet Eng
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Passenger
- Flight Phase: Final Approach
- Route In Use: Visual Approach
- Airspace.Class B: PHX

**Aircraft : 2**
- Reference: Y
- Make Model Name: UAV - Unpiloted Aerial Vehicle
- Operating Under FAR Part.Other
- Flight Phase: Cruise
- Airspace.Class B: PHX

**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)
- ASRS Report Number.Accession Number: 1452924
- Human Factors: Distraction
- Human Factors: Situational Awareness

**Events**
- Anomaly.Conflict: Airborne Conflict
- Anomaly.Inflight Event / Encounter: Other / Unknown
Detector.Person: Flight Crew
When Detected: In-flight
Result.General: Police / Security Involved
Result.Flight Crew: Requested ATC Assistance / Clarification

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

Narrative: 1
While on a visual approach to Runway 08 at PHX approximately a 4 mile final at approximately 2500 feet MSL at our 3 o'clock position the FO reported a drone to the tower. FO gave the tower the color, altitude, and position of the drone. After arrival at the terminal we gave the same information to the PHX airport police. I never saw the drone myself and no evasive action was taken or needed.

More information should be made available to the public on the hazards of flying drones in close proximity of airports.

Synopsis
Air carrier Captain reported a UAV flying near the final approach path to PHX Runway 8.
ACN: 1452404 (5 of 50)

**Time / Day**
- Date: 201705
- Local Time Of Day: 0001-0600

**Place**
- Locale Reference
  - ATC Facility: D10.TRACON
- State Reference: TX
- Altitude.MSL.Single Value: 4000

**Environment**
- Flight Conditions: VMC
- Light: Daylight

**Aircraft : 1**
- Reference: X
- ATC / Advisory
  - TRACON: D10
- Aircraft Operator: Corporate
- Make Model Name: Light Transport, Low Wing, 2 Turboprop Eng
- Operating Under FAR Part: Part 91
- Flight Plan: IFR
- Flight Phase: Descent
- Route In Use: Vectors
- Airspace.Class B: DFW

**Aircraft : 2**
- Reference: Y
- ATC / Advisory
  - TRACON: D10
- Aircraft Operator: Corporate
- Make Model Name: Light Transport, Low Wing, 2 Turbojet Eng
- Operating Under FAR Part: Part 91
- Flight Plan: IFR
- Mission: Passenger
- Flight Phase: Initial Approach
- Route In Use: Vectors
- Airspace.Class B: DFW

**Aircraft : 3**
- Reference: Z
- Make Model Name: UAV - Unpiloted Aerial Vehicle
- Airspace.Class B: DFW

**Person**
- Reference: 1
- Location Of Person
  - Facility: D10.TRACON
- Reporter Organization: Government
- Function.Air Traffic Control: Approach
- Qualification.Air Traffic Control: Fully Certified
- ASRS Report Number
  - Accession Number: 1452404
Human Factors: Confusion
Human Factors: Situational Awareness
Human Factors: Workload
Human Factors: Distraction

Events
Anomaly.Airspace Violation: All Types
Anomaly.ATC Issue: All Types
Anomaly.Conflict: Airborne Conflict
Anomaly.Conflict: NMAC
Anomaly.Deviation - Procedural: Published Material / Policy
Anomaly.Deviation - Procedural: FAR
Detector.Person: Air Traffic Control
When Detected: In-flight
Result.Air Traffic Control: Issued New Clearance
Result.Air Traffic Control: Separated Traffic

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

Narrative: 1
I was working the final in a south flow. Aircraft X reported a near miss with a drone passing 100 feet above him on the downwind into the airport. Aircraft Y was on a downwind and slightly behind and to the east. In dealing with the supervisor and trying to spread the word about the drone inside the class B airspace in a place that multiple sectors can use through pre-arranged coordination. I thought that I had descended Aircraft X to 3000 feet, I turned Aircraft Y westbound to base leg behind Aircraft X. I in fact did not descend Aircraft X, I left him at 4000 feet. When I noticed what had happened I descended and turned both aircraft away from each other. Both landed without incident.

Make flying a drone in controlled airspace stricter penalties. Had the drone not been there my workload would not have gone through the roof trying to keep aircraft away from the area.

Synopsis
D10 TRACON Controller reported an aircraft they were vectoring reported a near miss with a drone. The drone distraction and added coordination were cited as contributing to another airborne conflict between two manned aircraft.
Time / Day
Date: 201705
Local Time Of Day: 0601-1200

Place
Locale Reference:Airport: ZZZ.Airport
State Reference: US
Altitude.AGL.Single Value: 350

Environment
Flight Conditions: VMC
Light: Dawn

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

Person
Reference: 1
Location Of Person: Gate / Ramp / Line
Reporter Organization: Personal
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Instrument
Qualification.Flight Crew: Commercial
ASRS Report Number.Accession Number: 1450927
Human Factors: Situational Awareness
Human Factors: Training / Qualification

Events
Anomaly.Deviation - Procedural: Other / Unknown
Anomaly.Inflight Event / Encounter: Object
Detector.Person: Flight Crew
When Detected: In-flight
Result.Aircraft: Aircraft Damaged

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

Narrative: 1
I was filming the sunrise over the buildings with my "DJI Mavic Pro" drone over downtown, at about 350 ft AGL. To capture the shot, I had the drone flying sideways for roughly a hundred feet or so. Prior to the shot I turned the drone to the direction of flight to ensure that nothing was in the drone's path, and there wasn't, and the drone performed the maneuver as planned. The next planned maneuver was to rotate the drone 180 degrees, and capture the same shot while traversing the same horizontal track in the other direction. Unfortunately, when I made my turn, I ended up a few degrees shy of exactly 180, which made my return track not perfectly parallel with my original track, and the drone drifted into a construction crane.

I guess I would say the problem was caused by me not realizing that my horizontal track wasn't exactly the same as the first. To prevent this in the future I will use a waypoint mode to program and define preset GPS points along a predetermined route that are known to be obstacle free. Or a "track" mode, that will "fix" the compass heading so that no deviation is possible. That way the drone can fly the route, allowing the operator to work the camera with confidence that the drone won't hit anything.

The only other thing that could have prevented this would be additional obstacle avoidance sensors installed on the drone. The drone has obstacle avoidance sensors facing forward, and downward only. If there were sensors on the sides, rear, and top as well, theoretically, it would be impossible to crash into anything. In this instance, a sideways facing obstacle avoidance sensor would have detected the crane as an obstacle and stopped the drone, preventing the crash.

Synopsis

UAV pilot reported running into a crane while filming a sunrise over city center.
ACN: 1450400 (7 of 50)

**Time / Day**
- Date: 201705
- Local Time Of Day: 0601-1200

**Place**
- Locale Reference.Airport: BUR.Airport
- State Reference: CA
- Altitude.AGL.Single Value: 800

**Environment**
- Light: Daylight

**Aircraft: 1**
- Reference: X
- ATC / Advisory.Tower: BUR
- Aircraft Operator: Air Carrier
- Make Model Name: Large Transport, Low Wing, 2 Turbojet Eng
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Passenger
- Nav In Use: GPS
- Nav In Use: FMS Or FMC
- Flight Phase: Initial Climb
- Airspace.Class C: BUR

**Aircraft: 2**
- Reference: Y
- Make Model Name: UAV - Unpiloted Aerial Vehicle
- Operating Under FAR Part: Other
- Flight Phase: Cruise
- Airspace.Class C: BUR

**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 Flying
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- Experience.Flight Crew.Type: 8000
- ASRS Report Number.Accession Number: 1450400
- Human Factors: Distraction
- Human Factors: Communication Breakdown
- Communication Breakdown.Party1: ATC
**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 Not Flying
Qualification.Flight Crew : Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days : 123
ASRS Report Number.Accession Number : 1450351
Human Factors : Communication Breakdown
Human Factors : Distraction

**Events**

Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation - Speed : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew
Detector.Person : Air Traffic Control
When Detected : In-flight
Result.Flight Crew : Returned To Clearance
Result.Air Traffic Control : Issued New Clearance

**Assessments**

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

**Narrative: 1**

The SID had a 250 knot restriction which neither of us caught when briefing the departure (I read the points from CDU), FO verified on SID plate. Passing 12,000 ft, I gradually increased speed to 280. We began discussing the drone I had sighted immediately after getting airborne (drone was 1/4 mile away at approximately 800 ft AGL). During climbout, we reported it to ATC Departure, which is why I delayed the speed increase at 10,000 ft. We were given a step climb at which time I heard ATC say, "normal speed."

ATC was stepping us up under another aircraft. ATC began asking the other aircraft about its speed. I suspected a problem and began slowing the aircraft and asked FO about "normal speed" and he told me it was "expect normal speed." It was then I realized I had missed the speed restriction and part of the radio transmission. FO realized at same time. Shortly thereafter, ATC queried us about our speed which was slowing through 270 and we responded with current speed and that we were slowing. We maintained 250 for several minutes which allowed other aircraft to open up to a 12 mile separation lead at higher altitude.

**Narrative: 2**

[Report narrative contained no additional information.]

**Synopsis**

Air carrier flight crew reported neglect to note the 250 knot speed restriction on the SID and accelerated to 280 knots without being cleared to do so. Reporters cited being distracted by a drone while on climbout as contributing factor.
ACN: 1449311 (8 of 50)

Time / Day
Date: 201704
Local Time Of Day: 1801-2400

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

Environment
Flight Conditions: VMC
Weather Elements / Visibility. Visibility: 10
Light: Night
Ceiling. Single Value: 1500

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

Person
Reference: 1
Location Of Person: Gate / Ramp / Line
Reporter Organization: Government
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Instrument
Qualification.Flight Crew: Commercial
Qualification.Flight Crew: Flight Instructor
Qualification.Flight Crew: Multiengine
Experience.Flight Crew.Total: 3500
Experience.Flight Crew.Last 90 Days: 20
Experience.Flight Crew.Type: 10
ASRS Report Number. Accession Number: 1449311
Human Factors: Situational Awareness
Human Factors: Time Pressure

Events
Anomaly.Deviation - Procedural: Published Material / Policy
Anomaly.Deviation - Procedural: FAR
Detector.Person: Flight Crew
Were Passengers Involved In Event: N
When Detected: In-flight
Result.General: None Reported / Taken
Assessments

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

Narrative: 1

At approximately XA:42, I arrived on location. Upon arrival, I performed sUAS operation in support of law enforcement officers under fire from the active shooter to provide over watch of the scene until sunset. The following information was used to evaluate the decision to continue operations beyond evening Civil Twilight at XF:20 hours: a fellow sUAS pilot and myself were within night currency on all aircraft flown (30 days), the area was flooded with light from three industrial flood lights and lights from responding armored vehicles, the aircraft met the lighting standard necessary under 14 CFR Part 107, assisting law enforcement agency had an operational night waiver under their Certificate of Authorization (COA), I have extensive education and experience in operating manned aircraft at night, and finally, the night operation did not significantly increase our Risk Assessment (RA) factor over our daytime factor. In hindsight, I should have made an emergency (Special Government Interest) request to operate at night through the FAA's Regional Operation Center (ROC).

Synopsis

A law enforcement UAV pilot reported operating a drone after civil twilight in violation of FAR 107.29. He and a fellow UAV operator were both night qualified and operating in support of an active law enforcement action.
ACN: 1448987 (9 of 50)

Time / Day
Date: 201705
Local Time Of Day: 1801-2400

Place
Locale Reference.Airport: LGA.Airport
State Reference: NY
Altitude.MSL.Single Value: 1500

Environment
Flight Conditions: VMC
Light: Dusk

Aircraft: 1
Reference: X
ATC / Advisory.Tower: LGA
Aircraft Operator: Air Carrier
Make Model Name: Regional Jet CL65, Undifferentiated or Other Model
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Climb
Airspace.Class B: NYC

Aircraft: 2
Reference: Y
Make Model Name: UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part: Other
Flight Phase: Cruise
Airspace.Class B: NYC

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: 1448987
Human Factors: Situational Awareness

Events
Anomaly.Conflict: NMAC
Anomaly.Deviation - Procedural: Published Material / Policy
Anomaly.Deviation - Procedural: FAR
Detector.Person: Flight Crew
When Detected : In-flight
Result. Flight Crew : Requested ATC Assistance / Clarification

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

Narrative: 1
Shortly after takeoff from LGA RWY 04 and at 1,500 feet in a turn to 360 degrees, I noticed a rectangular object, believed to be a drone about the size of a lunchbox, pass within the distance of our wingtip, at our altitude, on the right hand side of our aircraft. It appeared to be traveling horizontally. A collision was not detected from the cockpit nor was there evidence of one following a post flight inspection by the Captain. I reported the sighting to LGA Tower and Departure. The sighting lasted about one second. No change to our flight path was initiated. The Captain was flying and did not notice our encounter. The current ATIS made note of unauthorized drone activity in the vicinity of the airport.

Synopsis
CRJ First Officer reported a NMAC while departing LGA airport with what he suspected was a UAV.
ACN: 1448959  (10 of 50)

Time / Day
Date: 201705  
Local Time Of Day: 0601-1200

Place
Locale Reference.Airport: LAX.Airport  
State Reference: CA  
Relative Position.Distance.Nautical Miles: 5  
Altitude.MSL.Single Value: 7000

Environment
Flight Conditions: Marginal  
Light: Daylight

Aircraft: 1
Reference: X  
ATC / Advisory.TRACON: SCT  
Aircraft Operator: Air Carrier  
Make Model Name: A319  
Crew Size.Number Of Crew: 2  
Operating Under FAR Part: Part 121  
Flight Plan: IFR  
Mission: Passenger  
Flight Phase: Descent  
Route In Use.STAR: IRNMN1  
Airspace.Class B: LAX

Aircraft: 2
Reference: Y  
Make Model Name: UAV - Unpiloted Aerial Vehicle  
Operating Under FAR Part.Other  
Flight Phase: Cruise  
Airspace.Class B: LAX

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)  
ASRS Report Number.Accession Number: 1448959  
Human Factors: Situational Awareness

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

Narrative: 1
On descent to LAX at approximately 7000 MSL near CLIFY intersection on the IRNMN 1 Arrival, I saw out of the corner of my left eye at an estimated 1000 ft below and in close proximity what appeared to be a "toy horse" shaped object which disappeared behind us. I mentioned the event to my First Officer and reported what I saw to SoCal Approach. At that altitude I do not believe it was debris of any kind and it was not balloon shaped. I reported the object to ATC as a possible drone.

Synopsis
A319 Captain reported sighting a possible UAV on descent into LAX in the vicinity of CLIFY intersection.
**ACN: 1446843** (11 of 50)

**Time / Day**
- Date: 201705
- Local Time Of Day: 1201-1800

**Place**
- Locale Reference.Airport: TKI.Airport
- State Reference: TX
- Relative Position.Distance.Nautical Miles: 20
- Altitude.MSL.Single Value: 3300

**Environment**
- Flight Conditions: VMC
- Weather Elements / Visibility.Visibility: 10
- Light: Daylight
- Ceiling.Single Value: 20000

**Aircraft : 1**
- Reference: X
- ATC / Advisory.TRACON: D10
- Aircraft Operator: Personal
- Make Model Name: PA-32 Cherokee Six/Lance/Saratoga/6X
- Crew Size.Number Of Crew: 1
- Operating Under FAR Part: Part 91
- Flight Plan: VFR
- Mission: Personal
- Flight Phase: Descent
- Route In Use: Vectors
- Airspace.Class E: D10

**Aircraft : 2**
- Reference: Y
- Make Model Name: UAV - Unpiloted Aerial Vehicle
- Operating Under FAR Part: Other
- Flight Phase: Cruise
- Airspace.Class E: D10

**Person**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Personal
- Function.Flight Crew: Single Pilot
- Qualification.Flight Crew: Instrument
- Qualification.Flight Crew: Commercial
- Experience.Flight Crew.Total: 850
- Experience.Flight Crew.Last 90 Days: 40
- Experience.Flight Crew.Type: 500
ASRS Report Number. Accession Number: 1446843
Human Factors: Situational Awareness

Events

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

Assessments

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

Narrative: 1

Event happened shortly after DFW Approach had issued instruction direct TKI from a position of approximately 5 miles NW of HQZ (visual), 20 miles S of TKI (GPS). At 3300 MSL, a red/silver drone was spotted just as it passed under right wing. Separation is estimated to have been 100 feet. We spotted it too late to take evasive action. Reported to ATC approximately 30 seconds after event when frequency congestion would allow.

Synopsis

PA-32 pilot reported a NMAC with a UAV at 3300 MSL 20 miles south of TKI.
**ACN: 1446808 (12 of 50)**

**Time / Day**
- Date: 201704
- Local Time Of Day: 1201-1800

**Place**
- Locale Reference. Airport: WVI.Airport
- State Reference: CA
- Relative Position. Angle. Radial: 270
- Relative Position. Distance. Nautical Miles: 3
- Altitude. MSL. Single Value: 6500

**Environment**
- Flight Conditions: VMC
- Light: Daylight

**Aircraft : 1**
- Reference: X
- ATC / Advisory. TRACON: NCT
- Aircraft Operator: Personal
- Make Model Name: DA40 Diamond Star
- Crew Size. Number Of Crew: 1
- Operating Under FAR Part: Part 91
- Flight Plan: VFR
- Mission: Personal
- Flight Phase: Cruise
- Airspace. Class E: NCT

**Aircraft : 2**
- Reference: Y
- Make Model Name: UAV - Unpiloted Aerial Vehicle
- Operating Under FAR Part. Other
- Flight Phase: Cruise
- Airspace. Class E: NCT

**Person**
- Reference: 1
- Location Of Person. Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: Personal
- Function. Flight Crew: Single Pilot
- Qualification. Flight Crew: Instrument
- Qualification. Flight Crew: Private
- Experience. Flight Crew. Last 90 Days: 27
- Experience. Flight Crew. Type: 37
- ASRS Report Number. Accession Number: 1446808
- Human Factors: Situational Awareness

**Events**
Anomaly.Conflict : NMAC
Detector.Person : Passenger
Miss Distance.Horizontal : 100
When Detected : In-flight
Result.General : None Reported / Taken

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

Narrative: 1
My passenger spotted a drone while we were in cruise flight near Monterey Bay, just west of Watsonville Airport. My passenger stated that it came "very close" to our plane, but I was unable to spot it before we had passed its location. I informed ATC, but due to frequency congestion I made my report after we had flown 2 miles north of where we encountered it. Upon landing, I reviewed the NOTAMs for my preflight briefing and was unable to find any for UAS activity at that altitude.

Synopsis
DA40 pilot reported his passenger noticed a UAV operating in close proximity to their aircraft at 6500 MSL in the vicinity of WVI airport.
Time / Day
Date: 201704
Local Time Of Day: 1201-1800

Place
Locale Reference.Airport: PHX.Airport
State Reference: AZ
Relative Position.Distance.Nautical Miles: 5
Altitude.AGL.Single Value: 60

Environment
Weather Elements / Visibility.Visibility: 20
Light: Daylight

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
Flight Phase: Climb
Flight Phase: Descent
Route In Use: None
Airspace.Class B: PHX

Person
Reference: 1
Location Of Person: Gate / Ramp / Line
Reporter Organization: Personal
Function.Flight Crew: Pilot Flying
Experience.Flight Crew.Total: 79
Experience.Flight Crew.Last 90 Days: 4
Experience.Flight Crew.Type: 79
ASRS Report Number.Accession Number: 1446467
Human Factors: Situational Awareness

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

Assessments
Contributing Factors / Situations: Human Factors
Primary Problem: Human Factors
**Narrative: 1**

I may have flown within a five mile radius of PHX while using a drone to look at damage to a friend's roof. I made certain, before flying, that the flight was not going to enter Class B airspace (and it did not come near Class B airspace). It wasn't until after the flight that I realized I may have flown, close to, or even within, the five mile radius of an airport with an operating control tower. The maximum altitude reached was 60 ft AGL.

**Synopsis**

UAV operator reported he may have operated within 5 miles of PHX airport at an altitude of 60 feet AGL.
ACN: 1445520 (14 of 50)

Time / Day
Date: 201704
Local Time Of Day: 1201-1800

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

Environment
Flight Conditions: VMC
Weather Elements / Visibility. Visibility: 10
Light: Daylight
Ceiling. Single Value: 20000

Aircraft: 1
Reference: X
ATC / Advisory.CTAF: ZZZ
Aircraft Operator: FBO
Make Model Name: Helicopter
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 91
Mission: Passenger
Flight Phase: Cruise
Airspace.Class G: ZZZ

Aircraft: 2
Reference: Y
Aircraft Operator: Corporate
Make Model Name: UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part.Other
Mission: Photo Shoot
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: Single Pilot
Qualification.Flight Crew: Commercial
Qualification.Flight Crew: Rotorcraft
Experience.Flight Crew.Total: 7970
Experience.Flight Crew.Last 90 Days: 25
Experience.Flight Crew.Type: 1650
ASRS Report Number.Accession Number: 1445520
Human Factors: Communication Breakdown
Human Factors: Training / Qualification
Human Factors : Situational Awareness
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Ground Personnel

Events
Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : FAR
Detector.Person : Ground Personnel
When Detected : In-flight
Result.General : None Reported / Taken

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

Narrative: 1

Individual claiming to be a commercial drone operator photographing a kite festival along the beach called the airport stating that I was violating his allowed 400 ft altitude while I was conducting a helicopter tour. I am well aware of the kite business on the boardwalk and always fly that location at 500 ft or above to avoid any kites. I did not see the drone that was apparently close to me and the individual would not give his name or any information to either the airport or to my employer. If the person was indeed an approved Part 107 operator I don't feel he is willing to work with aviation businesses in the area by refusing to identify himself and threatening established aviation business in the area. I don't really know what can be done with an individual like this that doesn't want to communicate or how to correct the situation. Seems to be more of a problem everywhere other than just here locally.

Synopsis
Helicopter pilot reported a UAV operator stated he was interfering with his commercial business along a boardwalk.
**Time / Day**
Date: 201705
Local Time Of Day: 1801-2400

**Place**
Locale Reference.Airport: SLC.Airport
State Reference: UT
Altitude.MSL.Single Value: 8500

**Environment**
Flight Conditions: VMC
Light: Dusk

**Aircraft: 1**
Reference: X
ATC / Advisory.TRCON: S56
Aircraft Operator: Air Carrier
Make Model Name: Regional Jet 700 ER/LR (CRJ700)
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Initial Approach
Airspace.Class B: SLC

**Aircraft: 2**
Reference: Y
Make Model Name: UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part: Other
Flight Phase: Cruise
Airspace.Class B: SLC

**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: First Officer
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1445423
Human Factors: Distraction
Human Factors: Situational Awareness

**Events**
Anomaly.Conflict: NMAC
Detector.Person: Flight Crew
When Detected: In-flight
Result: Flight Crew requested ATC assistance / clarification

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

Narrative: 1
We were on approach into SLC, I was the PF and currently hand flying the aircraft to a landing. At about 14.5 NM from the runway at 8500 ft, I noticed a small object appear in the flight path. The object, which appeared to be a drone as it got closer, passed over the top of the aircraft within 100 ft. The Captain notified ATC of what we saw. The approach continued to a normal landing. During the post flight walk around, no visual damage was found.

Someone was flying a drone where they were not supposed to be. People need to be better educated on the consequences of flying drones where they should not be.

Synopsis
CRJ-700 First Officer reported a NMAC with a UAV while on approach to SLC.
Time / Day

Date: 201704
Local Time Of Day: 0601-1200

Place

Locale Reference.Airport: BVU.Airport
State Reference: NV
Relative Position.Distance.Nautical Miles: 1
Altitude.MSL.Single Value: 4000

Environment

Flight Conditions: VMC
Light: Daylight

Aircraft: 1

Reference: X
ATC / Advisory.CTAF: BVU
Aircraft Operator: FBO
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
Route In Use: Direct
Airspace.Class E: L30

Aircraft: 2

Reference: Y
Make Model Name: Any Unknown or Unlisted Aircraft Manufacturer
Flight Phase: Cruise
Airspace.Class E: L30

Person

Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: FBO
Function.Flight Crew: Instructor
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Qualification.Flight Crew: Instrument
Qualification.Flight Crew: Flight Instructor
Qualification.Flight Crew: Multiengine
Experience.Flight Crew.Last 90 Days: 56
Experience.Flight Crew.Type: 745
ASRS Report Number.Accession Number: 1442691
Human Factors: Situational Awareness
Human Factors: Distraction
Human Factors: Confusion

Events
Anomaly.Conflict: NMAC
Detector.Person: Flight Crew
Miss Distance.Horizontal: 50
Miss Distance.Vertical: 10
When Detected: In-flight
Result.Flight Crew: Took Evasive Action

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

Narrative: 1
While flying back with a student we were transitioning from the Lake Mead area which is 20 miles east of LAS and just north of BVU down to the solar panel farm just south of BVU to cross over back to HND. While headed towards the BVU airport CTAF was tuned in to check for traffic and possible skydiving in action. On the trip north there had been skydiving in progress but this time no one had made any reports when we asked for advisory. Though we could see and hear helicopter traffic on the ground and low levels no one else fixed wing had reported. As we got about 2-3 miles to the north I could see what looked like a possible aircraft at the same altitude headed in an unknown direction but could not make a positive ID on them due to the size. It looked too small to be an airplane and was hard to keep an eye on. At that point I diverted to the right slightly to be safe. As we were headed SW to pass about a mile NW of the airport the target continued to get closer and we had yet to hear them report, I continued to turn right to remain clear. During this time I wanted to climb back up to get ready to cross the ridge but if so would not have been able to see as well due to the increased pitch so I was stuck at 4000 and since the 172 is a high wing plane I did not want to descend due to the loss of traffic visibility and having no idea of the other aircraft’s intentions. At this point I noticed the other Aircraft, hang glider or drone was only coming closer. I immediately made a descending left hand turn hoping that there would not be a collision. From our point of view it looked as if we came within 50 feet of each other. The closest I have ever come to anything so far with flying. I could not believe on a completely clear day with great weather that I would have a close of a call as this. I hope that the implementation of ADSB becomes mandatory as soon as possible. At least so one of the pilots has the ability to detect the other traffic. If neither of us would have seen each other today it could have ended up much worse.

Synopsis
C172 instructor pilot reported having to take evasive action to avoid an object near BVU. He described the object as either another aircraft, a hang glider, or a drone.
ACN: 1442369  (17 of 50)

Time / Day
Date: 201704
Local Time Of Day: 0601-1200

Place
Locale Reference.Airport: ONT.Airport
State Reference: CA
Altitude.MSL.Single Value: 6000

Environment
Light: Daylight

Aircraft: 1
Reference: X
ATC / Advisory.TRACON: SCT
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
Nav In Use: GPS
Nav In Use.Localizer/Glideslope/ILS: Runway 26R
Flight Phase: Initial Approach
Airspace.Class E: SCT

Aircraft: 2
Reference: Y
Make Model Name: UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part.Other
Flight Phase: Cruise
Airspace.Class E: SCT

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: 1442369
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: Human Factors
Primary Problem: Airspace Structure

Narrative: 1
While being vectored through ONT LOC 26R approach course for spacing from other airline traffic, a large drone was spotted in close proximity to our jet. We were heading roughly north at 6000 ft. The drone was about 500 feet below and 100 to 200 yards to our left. Looking on google map, it was approximately at the intersection of highway 215 and 10 near a golf course. This was immediately reported to ONT approach control (SOCAL). I was the only one that saw it from our cockpit. FO was flying. The drone was large, appeared to be a four or more engines, and about three feet in diameter. Looked like two tone dark and light color. Maybe blue and white or green and white. Watched for about 4 to 7 seconds as we passed it.

Synopsis
B737 Captain reported sighting a large drone while being vectored for an instrument approach near ONT.
**Time / Day**

Date: 201704
Local Time Of Day: 0601-1200

**Place**

Locale Reference.Airport: PHX.Airport
State Reference: AZ
Altitude.MSL.Single Value: 3200

**Environment**

Flight Conditions: VMC
Light: Daylight

**Aircraft : 1**

Reference: X
ATC / Advisory.TRACON: P50
Aircraft Operator: FBO
Make Model Name: Skyhawk 172/Cutlass 172
Crew Size.Number Of Crew: 1
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Training
Flight Phase: Descent
Route In Use: None
Airspace.Class E: P50

**Aircraft : 2**

Reference: Y
Aircraft Operator: Personal
Make Model Name: UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part: Other
Mission: Personal
Flight Phase: Cruise
Airspace.Class E: P50

**Person**

Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Personal
Function.Flight Crew: Single Pilot
Qualification.Flight Crew: Commercial
Experience.Flight Crew.Total: 251
Experience.Flight Crew.Last 90 Days: 25
Experience.Flight Crew.Type: 200
ASRS Report Number.Accession Number: 1441495
Human Factors: Confusion
Human Factors: Situational Awareness
Events
Anomaly.Airspace Violation : All Types
Anomaly.Conflict : NMAC
Anomaly.Deviation - Procedural : FAR
Detector.Person : Flight Crew
Miss Distance.Horizontal : 250
Miss Distance.Vertical : 200
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Requested ATC Assistance / Clarification

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

Narrative: 1
In a simulated engine failure, I was descending and circling over my point of intended landing when what appeared to be a white bird was in sight. Once I got closer it was clear that it was a drone flying well above the altitude requirements for Part 107 and far too close to our aircraft. The other pilot noticed the drone and pointed it out to me when we took evasive action and made a climbing left turn westbound to avoid any other conflict. We made a report with Approach.

Synopsis
C172 pilot reported a UAS near miss at 3,200 ft southeast of PHX.
Time / Day
Date: 201704
Local Time Of Day: 0601-1200

Place
Locale Reference.Airport: TEB.Airport
State Reference: NJ
Altitude.MSL.Single Value: 2000

Environment
Flight Conditions: VMC
Light: Daylight

Aircraft: 1
Reference: X
ATC / Advisory.Tower: TEB
Aircraft Operator: Fractional
Make Model Name: Medium Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Passenger
Nav In Use.Localizer/Glideslope/ILS: Runway 6
Flight Phase: Initial Approach
Airspace.Class B: NYC

Aircraft: 2
Reference: Y
Aircraft Operator: Personal
Make Model Name: UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part: Other
Mission: Personal
Flight Phase: Cruise
Airspace.Class B: NYC

Person
Reference: 1
Location Of Person.Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Fractional
Function.Flight Crew: Captain
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number.Accession Number: 1441349
Human Factors: Distraction
Human Factors: Situational Awareness
Human Factors: Workload

Events
Anomaly.Conflict : Airborne Conflict  
Anomaly.Deviation - Procedural : Published Material / Policy  
Anomaly.Deviation - Procedural : FAR  
Detector.Person : Flight Crew  
Detector.Person : Flight Attendant  
Miss Distance.Horizontal : 0  
Miss Distance.Vertical : 500  
When Detected : In-flight  
Result.Flight Crew : Requested ATC Assistance / Clarification

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

Narrative: 1
During approach to Teterboro on the ILS Runway 6 at approximately 2000 feet MSL in VMC just inside VINGS intersection, a large red drone crossed underneath the aircraft from left to right approximately 500-800 feet below. The flight crew barely noticed anything other than a brief flash of color in an area where there should not have been any aircraft and there was no TCAS traffic indicated. Shortly after landing, the flight attendant reported seeing a large red drone pass underneath the left wing, close enough to be able to see the rotors spinning on the drone. The flight attendant was located at Seat 5, mid-cabin on the left side of the aircraft and had a fairly good view of the area to the left and below the aircraft. Without knowing the size of the drone, it would be difficult to estimate the lateral and vertical separation from the target but it is fairly clear the drone was well above the 600 feet AGL limit. Teterboro ground was advised of the encounter during taxi which prompted a follow-up call to the flight crew from New York Approach Control Operations who took a report. Company was notified and an Operational Incident Report was filed.

As pilots, we have become quite accustomed to looking for conflicting FULL SIZED aircraft traffic and relying on TCAS to provide an additional layer of awareness and safety. In a large metro area, at relatively low altitude, close in to an airport, it is just not part of the normal traffic scan to be looking BELOW the aircraft unless helicopter traffic has been called or TCAS indicates a potential threat. The new reality is that low altitude drone aircraft are increasingly invading arrival and departure corridors around airports due to proliferation of the devices, lack of awareness or training of the operators, and lax oversight by the FAA that has ALLOWED the proliferation of these threats to aviation safety. Their small size, haphazard flight paths, and unregulated operations make them an extremely difficult threat to identify and mitigate while in flight. Greater vigilance is required by all participants in this issue.

Synopsis
Corporate jet Captain reported a near miss with a UAV on approach to TEB Runway 6 at 2000 ft.
**Time / Day**
- Date: 201704
- Local Time Of Day: 1201-1800

**Place**
- Locale Reference: Airport: SGS.Airport
- State Reference: MN
- Altitude.AGL.Single Value: 500

**Environment**
- Light: Daylight

**Aircraft**
- Reference: X
- Aircraft Operator: Personal
- Make Model Name: UAV - Unpiloted Aerial Vehicle
- Operating Under FAR Part: Other
- Mission: Personal
- Flight Phase: Cruise
- Airspace.Class G: SGS

**Person**
- Reference: 1
- Location Of Person: Gate / Ramp / Line
- Function: Other
- Qualification.Flight Crew: Private
- ASRS Report Number: Accession Number: 1440775
- Human Factors: Training / Qualification
- Human Factors: Situational Awareness

**Events**
- Anomaly.Deviation - Procedural: Published Material / Policy
- Anomaly.Deviation - Procedural: FAR
- Detector.Person: Observer
- 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**
Witnessed male operating UAV up to estimated 500 feet AGL in area of traffic pattern of SGS. Operator was frequently out of line of sight of UAV and was operating while talking on cell phone. Aircraft were using pattern at time.

**Synopsis**
A private pilot observed a UAV pilot operating his drone in the vicinity of SGS airport.
Time / Day
Date : 201704
Local Time Of Day : 1201-1800

Place
Locale Reference.Airport : IAH.Airport
State Reference : TX
Altitude.MSL.Single Value : 2000

Environment
Flight Conditions : VMC
Light : Daylight

Aircraft : 1
Reference : X
ATC / Advisory.Tower : IAH
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
Nav In Use.Localizer/Glideslope/ILS : Runway 8R
Flight Phase : Final Approach
Airspace.Class B : IAH

Aircraft : 2
Reference : Y
Make Model Name : UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part.Other
Flight Phase : Cruise
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)
Experience.Flight Crew.Total : 14337
Experience.Flight Crew.Last 90 Days : 380
Experience.Flight Crew.Type : 10098
ASRS Report Number.Accession Number : 1440287
Human Factors : Situational Awareness
Human Factors : Distraction

Events
Anomaly.Conflict : NMAC
Anomaly.Deviation - Procedural : Published Material / Policy
Detector.Person : Flight Crew
Miss Distance.Horizontal : 100
Miss Distance.Vertical : 0
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification

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

Narrative: 1
Approaching MATON intersection on the ILS 8R we came within 100 feet of a drone at our altitude. No green or red lights visible on drone; only a white light. Reported to ATC.

Synopsis
A320 Captain reported a NMAC with a UAV while on the ILS Runway 8R at IAH.
**ACN: 1438773** (22 of 50)

**Time / Day**
- **Date:** 201704
- **Local Time Of Day:** 0601-1200

**Place**
- **Locale Reference.Airport:** TEB.Airport
- **State Reference:** NJ
- **Altitude.MSL.Single Value:** 3300

**Environment**
- **Flight Conditions:** VMC
- **Light:** Daylight

**Aircraft : 1**
- **Reference:** X
- **ATC / Advisory.TRACON:** N90
- **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:** Initial Approach
- **Airspace.Class B:** NYC

**Aircraft : 2**
- **Reference:** Y
- **Aircraft Operator:** Personal
- **Make Model Name:** UAV - Unpiloted Aerial Vehicle
- **Operating Under FAR Part.Other:**
- **Mission:** Personal
- **Flight Phase:** Cruise
- **Airspace.Class B:** NYC

**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:** Captain
- **Qualification.Flight Crew:** Air Transport Pilot (ATP)
- **Experience.Flight Crew.Last 90 Days:** 150
- **ASRS Report Number.Accession Number:** 1438773
- **Human Factors:** Distraction

**Person : 2**
A320 flight crew reported sighting a UAV in the vicinity of TEB at 3,300 feet.
ACN: 1437292 (23 of 50)

Time / Day
Date: 201703
Local Time Of Day: 1201-1800

Place
Locale Reference: Airport: SUA.Airport
State Reference: FL

Environment
Flight Conditions: VMC
Light: Daylight

Aircraft: 1
Reference: X
ATC / Advisory: TRACON: PBI
Aircraft Operator: Air Taxi
Make Model Name: Light Transport, Low Wing, 2 Turbojet Eng
Crew Size: Number Of Crew: 2
Operating Under FAR Part: Part 135
Flight Plan: IFR
Mission: Passenger
Flight Phase: Initial Approach
Route In Use: Vectors
Airspace: Class E: PBI

Aircraft: 2
Reference: Y
Aircraft Operator: Personal
Make Model Name: UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part: Other
Mission: Personal
Flight Phase: Cruise
Route In Use: None
Airspace: Class E: PBI

Person
Reference: 1
Location Of Person: Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Taxi
Function: Flight Crew: Captain
Function: Flight Crew: Pilot Flying
Qualification: Flight Crew: Air Transport Pilot (ATP)
ASRS Report Number: Accession Number: 1437292
Human Factors: Distraction

Events
Anomaly.Airspace Violation : All Types
Anomaly.Conflict : NMAC
Anomaly.Deviation - Procedural : FAR
Detector.Person : Flight Crew
When Detected : In-flight
Result.Flight Crew : Requested ATC Assistance / Clarification

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

Narrative: 1
When vectored inbound to Stuart from the east, I observed a drone flying just off the left wing. We advised approach control and then tower at SUA of the placement and altitude of the drone and gave them a description.

Synopsis
Corporate jet pilot reported a near miss with a UAS while on a vector east of SUA.
ACN: 1435712 (24 of 50)

Time / Day
Date: 201703
Local Time Of Day: 1201-1800

Place
Locale Reference.Airport: DOV.Airport
State Reference: DE
Relative Position.Distance.Nautical Miles: 4
Altitude.AGL.Single Value: 60

Environment
Light: Daylight

Aircraft
Reference: X
Aircraft Operator: Government
Make Model Name: UAV - Unpiloted Aerial Vehicle
Crew Size.Number Of Crew: 1
Operating Under FAR Part.Other
Flight Plan: None
Mission: Training
Flight Phase.Other
Route In Use: None
Airspace.Class D: DOV

Person
Reference: 1
Location Of Person: Gate / Ramp / Line
Reporter Organization: Government
Function.Flight Crew: Pilot Flying
Experience.Flight Crew.Type: 1
ASRS Report Number.Accession Number: 1435712
Human Factors: Situational Awareness
Human Factors: Confusion

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.General: None Reported / Taken

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

Narrative: 1
[UAS] Operator was demonstrating equipment capabilities. Pilot self-identified this issue. Pilot was reminded of proper procedures. Pilot was using poor judgment.

**Synopsis**

A UAS pilot knowingly flew his aircraft to an altitude of 60 feet within 5 miles of DOV.
ACN: 1435461 (25 of 50)

Time / Day
Date: 201703
Local Time Of Day: 0601-1200

Place
Locale Reference.Airport: PDK.Airport
State Reference: GA
Relative Position.Angle.Radial: 180
Relative Position.Distance.Nautical Miles: 4.5
Altitude.AGL.Single Value: 200

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

Aircraft
Reference: X
Aircraft Operator: Personal
Make Model Name: UAV - Unpiloted Aerial Vehicle
Crew Size.Number Of Crew: 1
Operating Under FAR Part.Other: Personal
Mission: Personal
Flight Phase: Cruise
Airspace.Class D: PDK

Person
Reference: 1
Location Of Person: Gate / Ramp / Line
Reporter Organization: Personal
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Private
Qualification.Flight Crew: Instrument
Qualification.Flight Crew: Rotorcraft
Experience.Flight Crew.Total: 1250
Experience.Flight Crew.Last 90 Days: 150
Experience.Flight Crew.Type: 2
ASRS Report Number.Accession Number: 1435461
Human Factors: Communication Breakdown
Human Factors: Situational Awareness
Human Factors: Confusion
Communication Breakdown.Party1: Flight Crew
Communication Breakdown.Party2: ATC

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

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

Narrative: 1

I was flying a drone over my house and realized I was technically flying in Class D with no permission to fly there. Drones create a new and unknown area of operations as this case demonstrates. I was well far from the airport (almost at the lateral Class D limits), and I was flying very low, so I was not endangering any traffic. However, it has been bugging me that I did fly in Class D without permission. I have been thinking about what I would do differently. For example, perhaps I would try to contact the tower with my hand-held radio. This would be difficult because I am not high enough to get a good signal to the airport. Should I have given them a call to let them know? Would they think I was nuts if I called them about a little drone that would not have an effect on their operations? These questions do need to be answered, and it is not clear to me where the line is drawn. For example, it would be too conservative to suggest that I could not fly the drone 4 feet above the ground, or even up to roof top level. I felt compelled to write this not only to admit I may have done something I should not have, but also to spur the conversation of what should and should not be done with drones in technically controlled airspace.

Note: this was the third or so occurrence of this operation in the past couple weeks, and the reported date only reflects the most recent occurrence.

Synopsis

A UAS pilot flying his aircraft low near his home realized it was in PDK Class D airspace. He was uncertain what action he should take to notify ATC about his intended flight.
**ACN: 1432422 (26 of 50)**

**Time / Day**
- Date: 201703
- Local Time Of Day: 1801-2400

**Place**
- Locale Reference.Airport: ZZZ.Airport
- State Reference: US
- Altitude.AGL.Single Value: 150

**Environment**
- Flight Conditions: VMC
- Weather Elements / Visibility.VISIBILITY: 10
- Light: Daylight
- Ceiling.Single Value: 20000

**Aircraft**
- Reference: X
- ATC / Advisory.CTAF: ZZZ
- Aircraft Operator: Personal
- Make Model Name: UAV - Unpiloted Aerial Vehicle
- Operating Under FAR Part.Other
- Flight Plan: VFR
- Mission: Photo Shoot
- Flight Phase: Cruise
- Flight Phase: Descent
- Flight Phase: Climb
- Airspace.Class E: ZZZ

**Person**
- Reference: 1
- Location Of Person: Gate / Ramp / Line
- Reporter Organization: Personal
- Function.Flight Crew: Pilot Flying
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- Qualification.Flight Crew: Multiengine
- Qualification.Flight Crew: Instrument
- Experience.Flight Crew.Total: 5400
- Experience.Flight Crew.Last 90 Days: 15
- Experience.Flight Crew.Type: 25
- ASRS Report Number.Accession Number: 1432422
- Human Factors: Communication Breakdown
- Human Factors: Situational Awareness
- Human Factors: Troubleshooting
- Human Factors: Confusion
- Communication Breakdown.Party1: Flight Crew
- Communication Breakdown.Party2: ATC

**Events**
Assessments

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

Narrative: 1

Pilot sUAS operating under 107 with a registered sUAS in the Class E airspace SW of an airport. Have filed for the Airspace Waiver Authorization for operation at the location and had not heard back if the application was approved. Spoke with two FAA personnel that were in town that day and requested guidance on how to acquire access to create the video footage for my client. Talked with FAA FDSO Frontline Manger, his colleague, FSS and ATC. Requested to have a NOTAM published for the specific time of operation. One was created. Operation was not over people. The flight occurred during daylight hours and 30 min after sunset.

The area of difficulty is the current FAA application process requesting airspace waiver authorization, processing time is too long to meet production company work schedule, and there is no point of emirate contact under current rules! Pilot was monitoring CTAF for traffic, utilized additional "spotter", and was in contact with FSS. Under what authorization can this type of operation be conducted within the FAA Airspace frame work? I trusted the NOTAM to be the correct tool for the job. We have to do something to get the job done when the Authorization for Airspace Waiver is none responsive!

The two local FAA personnel on the field this day complimented me for having followed the proper channels and done all that I could in the interest of public safety to get the job done. The question I personally have is, what documentation do I have for accepting "clearance" or "authorization" to operate legally under Part 107 in the airspace I need to work? ATC? FSS? FAA? I need to know, I need to follow the framework we have in place for our National Airspace Classifications and also get my job done for my client.

Synopsis

UAV pilot requested FAA authorization before a commercial video operation. After an extended delay, the FSS issued a NOTAM about the operation at the pilot's request which was then completed safely.
**ACN: 1431903 (27 of 50)**

**Time / Day**
- Date: 201703
- Local Time Of Day: 0601-1200

**Place**
- Locale Reference.Airport: SJC.Airport
- State Reference: CA
- Altitude.MSL.Single Value: 2300

**Environment**
- Flight Conditions: VMC
- Light: Daylight

**Aircraft : 1**
- Reference: X
- ATC / Advisory.TRACON: NCT
- 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: Initial Approach
- Route In Use.Other
- Airspace.Class E: NCT

**Aircraft : 2**
- Reference: Y
- Make Model Name: UAV - Unpiloted Aerial Vehicle
- Flight Phase: Cruise
- Airspace.Class E: NCT

**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 Flying
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- Experience.Flight Crew.Last 90 Days: 154
- ASRS Report Number.Accession Number: 1431903
- Human Factors: Confusion
- Human Factors: Distraction

**Person : 2**
Reference: 2
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)
ASRS Report Number.Accession Number: 1431922
Human Factors: Confusion
Human Factors: Distraction

Events
Anomaly.Conflict: NMAC
Anomaly.Inflight Event / Encounter: Other / Unknown
Detector.Person: Flight Crew
Miss Distance.Horizontal: 150
Miss Distance.Vertical: 0
When Detected: In-flight
Result.Flight Crew: Requested ATC Assistance / Clarification

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

Narrative: 1
On approach to SJC the Captain pointed out a drone that was in very close proximity to the aircraft. As I glanced out the right window I could see the drone maneuvering as the sun reflected off of its surface in rapid motion.

This is a systemic problem in the National Airspace System with potentially tragic results should an individual, or group, choose to use a drone as a weapon against an aircraft. I can only speculate but it would not seem to take too much effort by a motivated party to intentionally impact an aircraft during the landing or takeoff phase of a flight. Based on my limited knowledge of the guidance of said drones, I can only speculate as what sort of technology could thwart this threat outside of some type of frequency band jamming.

Narrative: 2
We were talking with NorCal approaching the KLIDE intersection. The aircraft in front of us was on approach and had reported that he had a near miss with a drone. We were on the final approach for Runway 30L when I looked to the right side of the aircraft and saw the drone about 30 to 50 yards. I reported it to the Tower after we landed we had him call NorCal so that he would know that the drone was still in that area.

Synopsis
B737 flight crew reported sighting a drone in close proximity to their aircraft while on approach to SJC near KLIDE.
**ACN: 1430016 (28 of 50)**

**Time / Day**
Date: 201703  
Local Time Of Day: 1201-1800

**Place**
Locale Reference. Airport: 3G3. Airport  
State Reference: OH  
Altitude. AGL. Single Value: 10

**Environment**
Flight Conditions: VMC  
Weather Elements / Visibility. Visibility: 10  
Light: Daylight  
Ceiling. Single Value: 12000

**Aircraft: 1**
Reference: X  
ATC / Advisory. CTAF: 3G3  
Aircraft Operator: Personal  
Make Model Name: UAV - Unpiloted Aerial Vehicle  
Operating Under FAR Part. Other  
Flight Plan: VFR  
Mission: Training  
Flight Phase: Landing  
Airspace. Class G: 3G3

**Aircraft: 2**
Reference: Y  
ATC / Advisory. CTAF: 3G3  
Aircraft Operator: Personal  
Make Model Name: PA-28 Cherokee/Archer/Dakota/Pillan/Warrior  
Crew Size. Number Of Crew: 1  
Operating Under FAR Part: Part 91  
Mission: Personal  
Flight Phase: Landing

**Person**
Reference: 1  
Location Of Person: Gate / Ramp / Line  
Reporter Organization: Personal  
Function. Flight Crew: Pilot Flying  
Qualification. Flight Crew: Commercial  
Experience. Flight Crew. Total: 1250  
Experience. Flight Crew. Last 90 Days: 200  
Experience. Flight Crew. Type: 10  
ASRS Report Number. Accession Number: 1430016  
Human Factors: Communication Breakdown  
Human Factors: Confusion  
Human Factors: Situational Awareness
Communication Breakdown. Party1: Flight Crew
Communication Breakdown. Party2: Flight Crew

Events
Anomaly. Deviation - Procedural: Other / Unknown
Detector. Person: Flight Crew
When Detected: Aircraft In Service At Gate
Result. Flight Crew: Became Reoriented

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

Narrative: 1
After doing a day long course on Part 107 and FAA exam prep, I acted as a RPIC (Remote Pilot in Command) and another RPIC were demonstrating to our class the safe operation of Drones. A pilot in a Cherokee PA-28 landed and a plane was on final. We were well off of any runway and safely conducted our demonstration. As the aircraft was clearing the runway we put both Drones on the Ground. We were not near the aircraft and we were far away from the runway safely demonstrating on the far west taxiway of the apron. The pilot in the Cherokee started accusing myself and the other RPIC for illegal flying a drone in class D airspace. We cordially told him we were in Class G airspace and flying pursuant to Part 107. He kept saying that we were not and were operating illegally. We then informed our class of the misunderstanding of the regulations and how Part 91 pilots and Part 107 share the NAS and how we need to work to educate each other and effectively communicate with each other.

Synopsis
A commercial pilot instructing a UAS ground school class at 3G3 Airport (Wadsworth, OH) was confronted by an aircraft pilot who accused him of flying in Class D airspace. His UAS flew below CLE Class B and outside CAK Class C.
ACN: 1425793

Time / Day
Date: 201702
Local Time Of Day: 1201-1800

Environment
Flight Conditions: VMC
Light: Daylight

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

Component
Aircraft Component: FCU (Flight Control Unit)
Aircraft Reference: X
Problem: Failed

Person
Reference: 1
Location Of Person: Gate / Ramp / Line
Reporter Organization: Personal
Function. Flight Crew: Pilot Flying
Qualification. Flight Crew: Private
ASRS Report Number. Accession Number: 1425793
Analyst Callback: Completed

Events
Anomaly. Inflight Event / Encounter: Loss Of Aircraft Control
Detector. Person: Flight Crew
Were Passengers Involved In Event: N
When Detected: In-flight
Result. General: None Reported / Taken

Assessments
Contributing Factors / Situations: Aircraft
Primary Problem: Aircraft

Narrative: 1
Unmanned aircraft lost connection and flew away.

Callback: 1
Operator stated that control of the small UAV was lost while it was within control range and at less than 200 feet altitude. The UAV crashed into a wooded area.
Synopsis

UAV Operator reported losing control input to the UAV which crashed in a wooded area.
Time / Day
Date: 201702
Local Time Of Day: 1801-2400

Place
Locale Reference.Airport: DAL.Airport
State Reference: TX
Altitude.MSL.Single Value: 1300

Environment
Flight Conditions: VMC
Light: Night

Aircraft: 1
Reference: X
ATC / Advisory.Tower: DAL
Aircraft Operator: Air Carrier
Make Model Name: Large Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Final Approach
Route In Use: Visual Approach
Airspace.Class B: DAL

Aircraft: 2
Reference: Y
Make Model Name: UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part: Other
Airspace.Class B: DAL

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 Flying
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Last 90 Days: 151
ASRS Report Number.Accession Number: 1424345
Human Factors: Distraction
Human Factors: Situational Awareness
Analyst Callback: Attempted

Events
We were cleared for a visual to 31L off a right downwind. Preceding aircraft reported a very near miss with a drone at 500 AGL on 31L. We were intently looking for the drone. First error was lining up on 31R. Tower queried us about our alignment at four miles and we sidestepped to 31L. We continued to configure while looking for the drone. I called for flaps 30. PM set flaps 25. We were both outside looking for the drone below 1000 ft. "Too Low Flaps" alert. We configured flaps 30 and landed.

Synopsis

Air carrier First Officer reported being distracted by a reported UAV in the area of Runway 31L at DAL, missed setting flaps 30 and received a "Too Low Flaps" alert. Crew set flaps and landed uneventfully.
ACN: 1424281 (31 of 50)

Time / Day
Date: 201702

Place
Locale Reference Airport: DWH. Airport
State Reference: TX
Altitude MSL Single Value: 2000

Environment
Flight Conditions: VMC
Light: Daylight

Aircraft: 1
Reference: X
ATC / Advisory TRACON: I90
Aircraft Operator: Personal
Make Model Name: PA-28 Cherokee/Archer/Dakota/Pillan/Warrior
Crew Size Number Of Crew: 2
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Personal
Nav In Use: GPS
Flight Phase: Initial Approach
Route In Use Other
Airspace Class E: I90

Aircraft: 2
Reference: Y
Make Model Name: UAV - Unpiloted Aerial Vehicle
Flight Phase: Cruise
Airspace Class E: I90

Person
Reference: 1
Location Of Person Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Personal
Function Flight Crew: Instructor
Qualification Flight Crew: Instrument
Qualification Flight Crew: Commercial
Qualification Flight Crew: Flight Instructor
Qualification Flight Crew: Multiengine
Experience Flight Crew Total: 700
Experience Flight Crew Last 90 Days: 130
ASRS Report Number Accession Number: 1424281
Human Factors: Distraction

Events
Anomaly.Conflict : Airborne Conflict  
Detector.Person : Flight Crew  
Miss Distance.Horizontal : 15  
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 : Human Factors

**Narrative: 1**

Almost hit a drone while executing an RNAV approach into DWH.

**Synopsis**

PA28 instructor pilot reported a near miss with a drone while on approach to DWH.
ACN: 1417908 (32 of 50)

Time / Day
Date: 201701
Local Time Of Day: 0601-1200

Place
Locale Reference.Airport: LUF.Airport
State Reference: AZ
Relative Position.Angle.Radial: 040
Relative Position.Distance.Nautical Miles: 9
Altitude.AGL.Single Value: 100

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

Aircraft
Reference: X
Aircraft Operator: Corporate
Make Model Name: UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part.Other
Flight Plan: None
Mission: Photo Shoot
Flight Phase: Cruise
Route In Use: None
Airspace.Special Use: A-231

Person
Reference: 1
Location Of Person: Gate / Ramp / Line
Reporter Organization: Corporate
Function.Flight Crew: Single Pilot
Qualification.Flight Crew: Air Transport Pilot (ATP)
Qualification.Flight Crew: Flight Instructor
Qualification.Flight Crew: Multiflame
Qualification.Flight Crew: Instrument
Experience.Flight Crew.Total: 7138
Experience.Flight Crew.Last 90 Days: 179
Experience.Flight Crew.Type: 4
ASRS Report Number.Accession Number: 1417908
Human Factors: Training / Qualification
Human Factors: Confusion
Human Factors: Situational Awareness
Human Factors: Communication Breakdown
Communication Breakdown.Party1: Flight Crew
Communication Breakdown.Party2: ATC

Events
Anomaly.Airspace Violation : All Types
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : FAR
Anomaly.Deviation - Procedural : Clearance
Detector.Person : Flight Crew
When Detected : Routine Inspection
Result.Flight Crew : Became Reoriented

Assessments

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

Narrative: 1

I was operating my drone under part 107 during an aerial photography mission. On initial setup I checked the FAA B4UFLY app and noticed that the area I was currently in was restricted. Once I checked under the reasons why it informed me that it was due to Alert Area A-231. I then checked my terminal area chart on Foreflight to see what the restrictions were for A-231 and found out that it was from 500 AGL to 6500 MSL. The operation I intended to perform was only going to be up to 100 AGL and I quickly glanced to make sure I was not in conflict with any other airspace and under the B shelf. Having done most of my flight training in Phoenix I felt that I was certain that it was acceptable to operate my drone. After no conflicts and completing the flight, then proceeded to another property located a street over. Again I was prompted that flight was restricted due to A-231, again I continued to proceed cautiously. After performing 3 operations all within the same area I stopped for the day.

Later that evening it bothered me that I didn't understand why I was getting a restricted message and I looked at the terminal chart once again. I then noticed that next to the A-231 boundary there is an SATR (Special Air Traffic Rules) starting at the surface and up to 4000. The SATR states that all aircraft need to establish two-way communication with and maintain communication with LUKE APP while operating in the airspace. It is then, that I realized that I may have been in conflict with this SATR and right on the border of the defining limits. My previous flight experience in the area lead me into a trap of not checking the airspace as closely as I should have because the SATR is new since I last operated flights in the area. Going further, I need to pay extra caution to all available information including the B4UFLY app to avoid any further conflicts.

Synopsis

A UAS pilot operating near LUF realized he was flying in Alert Area A-231, but thought it was legal below 500 feet. He later discovered he may have been operating in the Special Air Traffic Rules Area within A-231 which requires prior communication with ATC.
**ACN: 1416218 (33 of 50)**

**Time / Day**
- Date: 201701
- Local Time Of Day: 1201-1800

**Place**
- Locale Reference.Airport: ZZZ.Airport
- State Reference: US
- Relative Position.Distance.Nautical Miles: 4
- Altitude.AGL.Single Value: 100

**Environment**
- Flight Conditions: VMC
- Weather Elements / Visibility.Visibility: 20
- Light: Daylight
- Ceiling.Single Value: 10000

**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
- Route In Use: None
- Airspace.Class G: ZZZ

**Person**
- Reference: 1
- Location Of Person: Gate / Ramp / Line
- Reporter Organization: Personal
- 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: 14000
- Experience.Flight Crew.Last 90 Days: 150
- ASRS Report Number.Accession Number: 1416218
- Human Factors: Situational Awareness
- Human Factors: Confusion

**Events**
- Anomaly.ATC Issue: All Types
- Anomaly.Deviation - Procedural: Published Material / Policy
- Anomaly.Deviation - Procedural: FAR
- Detector.Person: Flight Crew
- When Detected: Routine Inspection
- Result.General: None Reported / Taken
Assessments
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Human Factors

Narrative: 1
After thorough review of new Part 107 I believed that no notification of uncontrolled airports was required. I reviewed charts and knew I was well away from B, C, D and E airspace and solidly within Class G. No people were around and no aircraft were anywhere to be seen. I did a few takeoffs and landings and hovering at low altitude. Only after later reading online blogs and further review did I understand that my operation had probably been under Part 101 and that prior notification had been required. Some parts of the FAA website are clearer than others. On the FAA.gov website I saw that no pilot license was required for recreational drone flying. And I reviewed the airspace requirements on the FAA summary of Part 107. I had registered and marked my drone with my UAS Certificate number.

Synopsis
A UAS pilot discovered during a postflight FAR review that his takeoffs, landings, and hover flight near a private uncontrolled airport may have violated FAR 101.41(e).
ACN: 1415607

**Time / Day**
- Date: 201601
- Local Time Of Day: 1201-1800

**Place**
- Locale Reference.Airport: OCH.Airport
- State Reference: TX
- Altitude.AGL.Single Value: 350

**Environment**
- Flight Conditions: VMC
- Light: Dusk

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

**Person**
- Reference: 1
- Location Of Person: Gate / Ramp / Line
- Reporter Organization: Personal
- Function.Flight Crew: Single Pilot
- Experience.Flight Crew.Total: 0.5
- ASRS Report Number.Accession Number: 1415607
- Human Factors: Situational Awareness
- Human Factors: Confusion

**Events**
- Anomaly.Airspace Violation: All Types
- Anomaly.Deviation - Procedural: FAR
- Anomaly.Deviation - Procedural: Published Material / Policy
- Detector.Person: Flight Crew
- When Detected: In-flight
- Result.Flight Crew: Became Reoriented
- Result.Flight Crew:Exited Penetrated Airspace
- Result.Flight Crew: Took Evasive Action

**Assessments**
- Contributing Factors / Situations: Human Factors
- Contributing Factors / Situations: Procedure
- Primary Problem: Human Factors

**Narrative: 1**
In Nacogdoches County Texas, I was mistakenly piloting an UAV in class G air space. I was flying at approximately 350 ft AGL taking photography of the sunset off the treetops. I noticed an airstrip in the distance and immediately grounded the aircraft. I researched my location and realized I am within 5 miles of Mangham Jr. Regional Airport in Nacogdoches, TX.

I assumed Angelina county airport was the only airport in the area. I will make every effort to familiarize myself with local airspace with sectional charts prior to flying. I will also make contact with ATC in controlled airspace prior to flying.

**Synopsis**

DJI Phantom 3 UAS pilot flying at sunset discovered he launched near an airport when he viewed the airport through his UAS video camera.
ACN: 1410141

Time / Day
Date: 201612
Local Time Of Day: 0601-1200

Place
Locale Reference.Airport: BTR.Airport
State Reference: LA
Relative Position.Distance.Nautical Miles: 15
Altitude.AGL.Single Value: 375

Environment
Flight Conditions: VMC
Weather Elements / Visibility. Visibility: 10
Light: Daylight
Ceiling. Single Value: 18000

Aircraft: 1
Reference: X
ATC / Advisory.CTAF: ZZZ
Aircraft Operator: Corporate
Make Model Name: UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part.Other
Flight Plan: VFR
Mission: Utility
Flight Phase: Cruise
Route In Use: None
Airspace.Class E: BTR

Aircraft: 2
Reference: Y
Make Model Name: Skyhawk 172/Cutlass 172
Operating Under FAR Part: Part 91
Mission: Utility
Flight Phase: Cruise
Airspace.Class E: BTR

Person
Reference: 1
Location Of Person: Hangar / Base
Reporter Organization: Corporate
Function.Flight Crew: Pilot Flying
Qualification.Flight Crew: Student
Experience.Flight Crew.Total: 60
Experience.Flight Crew.Last 90 Days: 40
Experience.Flight Crew.Type: 25
ASRS Report Number. Accession Number: 1410141
Human Factors: Situational Awareness

Events
Anomaly.Conflict : NMAC
Detector.Person : Flight Crew
Miss Distance.Horizontal : 350
Miss Distance.Vertical : 75
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Landed As Precaution

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

Narrative: 1
I was operating a drone under Part 107 collecting aerial photographs of a timber harvest area. I had filed a UAS operating area report with Flight Services in an effort to warn air traffic I would be operating in the area, the altitude I would be at, and the exact times of operation. We also had a hand held VHF aviation radio turned on and operating on 122.9 frequency. A visual observer was also on site and fully briefed.

Approximately 15 SM [from] BTR the drone was operating at 375 ft AGL flying a grid pattern over [area we were to photograph]. I was facing south maintaining visual contact with the drone, my visual observer was facing north in my blind spot, the drone was 692 ft laterally from my location. The visual observer yelled out an aircraft sighting report, I turned to look and saw a Cessna 172 flying at approximately the same altitude as the drone on what appeared to be a collision course approximately .4-.25 miles from the drones position. The Cessna pilot did not seem to see the drone, he was operating at or below 500 ft in my estimation, and was obscured from view on the ground behind a tree line until he cleared the trees. We did not hear his engine until after he cleared the trees. I immediately took evasive action, reducing done altitude to ground level as fast as possible (cut the engines). The drone crash landed and did not visibly impact the Cessna, the Cessna continued on without visible deviation from its flight route. It is my belief that the Cessna was operating as a pipeline patrol aircraft since a pipeline was in close proximity and the pilot was at such a low altitude.

This was a VERY high potential near miss. While I was able to see and avoid the Cessna it is debatable if he was able to see my drone. If the Cessna pilot had filed a flight plan or called flight services I feel he should have had ample warning of my intended area of operation and flight level. As a licensed sUAS operator and a current student pilot I can see conflicts between low flying aircraft and drones outside controlled airspace becoming more common, especially in cases like my experience. There needs to be a better way to freely communicate drone activities with pilots and more emphasis given to pilots to check UAS operating areas before they fly, especially when flying below or near 400 ft AGL.

Synopsis
Drone pilot operating under FAR part 107 reported a NMAC with a C172 at about 400 feet AGL. Evasive action was taken by the drone operator while the C172 pilot apparently did not detect the drone.
ACN: 1410133 (36 of 50)

Time / Day
- Date: 201612
- Local Time Of Day: 1201-1800

Place
- Locale Reference.Airport: CLE.Airport
- State Reference: OH
- Relative Position.Distance.Nautical Miles: 4.5
- Altitude.AGL.Single Value: 200

Environment
- Flight Conditions: VMC
- Weather Elements / Visibility.Visibility: 10
- Light: Daylight
- Ceiling.Single Value: 7000

Aircraft: 1
- 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
- Route In Use: None
- Airspace.Class B: CLE

Aircraft: 2
- Reference: Y
- ATC / Advisory.Tower: CLE
- Make Model Name: Helicopter
- Crew Size.Number Of Crew: 1
- Flight Phase: Cruise
- Airspace.Class B: CLE

Person
- Reference: 1
- Location Of Person: Hangar / Base
- Reporter Organization: Personal
- Function.Flight Crew: Pilot Flying
- Qualification.Flight Crew: Private
- Experience.Flight Crew.Last 90 Days: 3
- ASRS Report Number.Accession Number: 1410133
- Human Factors: Situational Awareness

Events
Anomaly.Airspace Violation : All Types
Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation - Procedural : FAR
Detector.Person : Ground Personnel
Miss Distance.Horizontal : 500
Miss Distance.Vertical : 800
When Detected : In-flight
Result.Flight Crew : Took Evasive Action
Result.Flight Crew : Landed As Precaution

Assessments

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

Narrative: 1

UAV was being flown over parent's home and surrounding neighborhood within visual line of sight. At time of incident, UAV was being flown at approximately 200 ft AGL. Upon hearing an approaching helicopter, UAV was immediately commanded to descend and land as quickly as possible. While UAV was descending, helicopter entered view of pilot on the ground and helicopter flew overhead of UAV without altering flight path. UAV was never in the direct path of helicopter.

It was originally assumed operation was conducted outside of Class B due to distance to CLE being greater than 5 statute miles. Upon review after the incident, operation was only 4.5 nautical miles from CLE and within the Class B.

Synopsis

UAV pilot reported flying his UAV at 200 feet AGL at what he believed was beyond 5 NM from CLE. An evasive descent was initiated when a helicopter was sighted in the area, but no actual conflict existed. Later he discovered the distance to be 4.5 NM from CLE and inside the Class B.
Time / Day
Date: 201612
Local Time Of Day: 1201-1800

Place
Locale Reference.Airport: MSP.Airport
State Reference: MN
Altitude.MSL.Single Value: 10000

Environment
Light: Daylight

Aircraft: 1
Reference: X
ATC / Advisory.TRACON: M98
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
Mission: Passenger
Nav In Use: FMS Or FMC
Flight Phase: Climb
Airspace.Class E: ZMP

Aircraft: 2
Reference: Y
Make Model Name: UAV - Unpiloted Aerial Vehicle
Flight Phase: Cruise
Airspace.Class E: ZMP

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)
ASRS Report Number.Accession Number: 1409198
Human Factors: Distraction
Human Factors: Workload

Events
Anomaly.Conflict: Airborne Conflict
Anomaly.Deviation - Track / Heading: All Types
Detector.Person: Flight Crew
When Detected: In-flight
Result: Flight Crew: Became Reoriented
Result: Flight Crew: Returned To Clearance
Result: Flight Crew: Took Evasive Action
Result: Air Traffic Control: Issued Advisory / Alert

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

Narrative: 1
Climbing through about 10,000 ft to a cleared altitude of 17,000 ft we encountered a small fast moving object could have been a balloon or a RC drone a few hundred feet above us and to the right moving in the opposite direction (so it had appeared at the time). The controller asked us if we were in the turn to the waypoint to which cleared to a few moments before, I said yes we are in the turn now and explained I had delayed the turn for a few seconds to ensure the object passed and was ensuring visual separation and enhancing flight safety to attempt to actually acquire what the conflict was. The object could have been a balloon as well but the shape was more consistently that of a RC drone.

If it was a drone maybe the FAA should not have allowed the use of them into the national airspace without proper certificated training of the user to force the importance of safety of all those that use the airspace system, and lobbying for the manufacturing companies to physically restrict their ability to operate under the devices own power from altitudes greater than 300 ft and within a certain radius from known airports (especially in the Class B and C airspace lateral boundaries).

Synopsis
CRJ-200 Captain reported an airborne object, either a balloon or UAS, near 10,000 feet while departing MSP.
ACN: 1407744 (38 of 50)

Time / Day
Date: 201612
Local Time Of Day: 1201-1800

Place
Locale Reference.Airport: SEA.Airport
State Reference: WA
Altitude.AGL.Single Value: 1300

Environment
Flight Conditions: VMC

Aircraft: 1
Reference: X
ATC / Advisory.Tower: SEA
Aircraft Operator: Air Carrier
Make Model Name: Large Transport
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Final Approach
Airspace.Class B: SEA

Aircraft: 2
ATC / Advisory.Tower: SEA
Make Model Name: UAV - Unpiloted Aerial Vehicle
Airspace.Class B: SEA

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)
Experience.Flight Crew.Last 90 Days: 200
Experience.Flight Crew.Type: 1802
ASRS Report Number.Accession Number: 1407744
Human Factors: Situational Awareness

Events
Anomaly.Conflict: NMAC
Detector.Person: Flight Crew
When Detected: In-flight

Assessments
Contributing Factors / Situations: Aircraft
Contributing Factors / Situations: Airport
Primary Problem: Aircraft

Narrative: 1

On short final we encountered a drone approximately 1300 feet AGL just to the right of the runway centerline. I was the pilot monitoring and the flight operated normally up to the final approach fix. The Captain Pilot Flying (PF) had just directed gear down, full flaps just prior to the encounter. I saw out of the corner of my eye a dark object just [to] the right of the aircraft, but perceived it to be either a reflection (the sun was to our left and behind a little), or possibly a balloon. I initially dismissed it, until the aircraft in front of us began talking to tower about a drone on short final at approximately 1000 feet. I estimate the drone was 2-3 feet in diameter, dark in color, and roughly 30-50 feet right and slightly above our position on final. We reported our encounter to Tower after landing.

Synopsis

An air carrier First Officer reported a NMAC with a drone while on short final at SEA.
ACN: 1407417 (39 of 50)

**Time / Day**
- Date: 201612
- Local Time Of Day: 1201-1800

**Place**
- Locale Reference.Airport: SJC.Airport
- State Reference: CA
- Relative Position.Distance.Nautical Miles: 16
- Altitude.MSL.Single Value: 6000

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

**Aircraft : 1**
- Reference: X
- ATC / Advisory.TRACON: NCT
- Aircraft Operator: Personal
- Make Model Name: Small Transport
- Crew Size.Number Of Crew: 1
- Operating Under FAR Part: Part 91
- Flight Plan: IFR
- Mission: Passenger
- Nav In Use: FMS Or FMC
- Nav In Use: GPS
- Nav In Use.Localizer/Glideslope/ILS: Runway 30L
- Flight Phase: Initial Approach
- Airspace.Class E: ZOA

**Aircraft : 2**
- Reference: Y
- Make Model Name: UAV - Unpiloted Aerial Vehicle
- Flight Phase: Cruise
- Airspace.Class E: ZOA

**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: Sea
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- Qualification.Flight Crew: Multimengine
- Qualification.Flight Crew: Instrument
- Qualification.Flight Crew: Rotorcraft
Experience.Flight Crew.Total : 3110
Experience.Flight Crew.Last 90 Days : 35
Experience.Flight Crew.Type : 880
ASRS Report Number.Accession Number : 1407417
Human Factors : Workload
Human Factors : Distraction

Events
Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation - Procedural : Published Material / Policy
Anomaly.Deviation - Procedural : FAR
Detector.Person : Passenger
Miss Distance.Horizontal : 600
Miss Distance.Vertical : 0
When Detected : In-flight
Result.General : None Reported / Taken

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

Narrative: 1
Adult passenger (non-pilot) in co-pilot seat reported to me that a small drone passed by our aircraft on the starboard side (the drone was heading in a northerly direction). Distance was uncertain. No report of drone was heard while monitoring ATC.

Synopsis
A pilot on approach to SJC Runway 30L near KLIDE at 6,000 ft was told by his passenger their aircraft was passed by a UAS traveling north.
**Time / Day**
- Date: 201611
- Local Time Of Day: 0601-1200

**Place**
- Locale Reference.Airport: ZZZ.Airport
- State Reference: US
- Altitude.AGL.Single Value: 144

**Environment**
- Flight Conditions: VMC
- Light: Daylight

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

**Person**
- Reference: 1
- Location Of Person: Hangar / Base
- Reporter Organization: Personal
- Function.Flight Crew: Single Pilot
- Qualification.Flight Crew: Private
- Experience.Flight Crew.Total: 120
- Experience.Flight Crew.Last 90 Days: 2
- Experience.Flight Crew.Type: 30
- ASRS Report Number.Accession Number: 1405965

**Events**
- Anomaly.Airspace Violation: All Types
- Anomaly.Deviation - Procedural: FAR
- Detector.Person: Flight Crew
- When Detected: Routine Inspection
- Result.General: None Reported / Taken

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

**Narrative:** 1
I performed an unmanned aircraft operation lasting 4 minutes and 46 seconds reaching a maximum altitude of 144 feet AGL travelling a maximum distance of 800 ft. The purpose of the flight was to survey damage to our second residence. Prior to travelling to the area, I had checked for a TFR and found one active in the area with a 5 NM radius. My planned area of flight was approximately 2 NM outside of the published TFR map and not within the vicinity of any active firefighting activities as they had moved back into the area. After completing the flight and returning home, I was self-debriefing and discovered the TFR had been expanded to cover the area of my operation just prior to my flight. Since no firefighting or emergency response activities were occurring in the area at the time of the flight, I had no reason to believe the original TFR was not still valid. Due to the lack of cellular data service in the area, I would not have been able to access updated TFR information prior to the operation. No conflicts or accidents occurred as a result of my operation.

Synopsis

A UAS pilot reported that he discovered after his flight that a nearby TFR had been expanded to include the area of his previous operation.
**Time / Day**
- Date: 201611
- Local Time Of Day: 1201-1800

**Place**
- Locale Reference.Airport: ROA.Airport
- State Reference: VA
- Relative Position.Angle.Radial: 090
- Relative Position.Distance.Nautical Miles: 4.8
- Altitude.MSL.Single Value: 3000

**Environment**
- Flight Conditions: VMC
- Weather Elements / Visibility.Visibility: 10
- Light: Dusk
- Ceiling.Single Value: 5000

**Aircraft : 1**
- Reference: X
- ATC / Advisory.Tower: ROA
- Aircraft Operator: FBO
- Make Model Name: DA20 Undifferentiated
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 91
- Flight Plan: VFR
- Mission: Training
- Flight Phase: Cruise
- Route In Use: None
- Airspace.Class C: ROA

**Aircraft : 2**
- Reference: Y
- Make Model Name: UAV - Unpiloted Aerial Vehicle
- Flight Phase: Cruise
- Airspace.Class C: ROA

**Person**
- Reference: 1
- Location Of Person.Aircraft: X
- Location In Aircraft: Flight Deck
- Reporter Organization: FBO
- Function.Flight Crew: Pilot Not Flying
- Function.Flight Crew: Instructor
- Qualification.Flight Crew: Instrument
- Qualification.Flight Crew: Commercial
- Qualification.Flight Crew: Flight Instructor
- Experience.Flight Crew.Total: 4600
- Experience.Flight Crew.Last 90 Days: 130
Experience.Flight Crew.Type : 150
ASRS Report Number.Accession Number : 1405192

Events
Anomaly.Conflict : NMAC
Detector.Person : Flight Crew
Miss Distance.Horizontal : 200
Miss Distance.Vertical : 100
When Detected : In-flight
Result.General : None Reported / Taken

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

Narrative: 1
Flight departed Runway 06 at ROA. Initial heading was 070 with a climb to our requested VFR altitude. A few minutes later, ROA Tower cleared us on course (south). After leveling at 3000 feet MSL, we observed what appeared to be a small unmanned aircraft of moderate size (3 feet or less), possibly a quadcopter approximately 100 feet above and 200 feet to our left (east). It appeared to be maneuvering but not converging with us. We continued on our heading and altitude and informed Tower of the sighting.

Synopsis
DA20 instructor pilot reported a NMAC with a UAV east of ROA at 3000 feet. No evasive action was required.
ACN: 1402826 (42 of 50)

**Time / Day**
Date: 201611

**Place**
Locale Reference: Airport: ATL.Airport
State Reference: GA
Altitude: AGL. Single Value: 500

**Environment**
Flight Conditions: VMC
Light: Daylight

**Aircraft: 1**
Reference: X
ATC / Advisory: CTAF: ZZZ
Aircraft Operator: Air Taxi
Make Model Name: Helicopter
Crew Size: Number Of Crew: 1
Operating Under FAR Part: Part 135
Flight Plan: VFR
Mission: Passenger
Flight Phase: Final Approach
Route In Use: Visual Approach
Airspace: Class E: A80

**Aircraft: 2**
Reference: Y
Make Model Name: UAV - Unpiloted Aerial Vehicle
Flight Phase: Cruise
Airspace: Class E: A80

**Person**
Reference: 1
Location Of Person: Aircraft: X
Location In Aircraft: Flight Deck
Reporter Organization: Air Taxi
Function: Flight Crew: Single Pilot
Function: Flight Crew: Pilot Flying
Qualification: Flight Crew: Commercial
Qualification: Flight Crew: Rotorcraft
Qualification: Flight Crew: Instrument
ASRS Report Number: Accession Number: 1402826
Human Factors: Situational Awareness

**Events**
Anomaly: Conflict: NMAC
Detector: Person: Flight Crew
Miss Distance: Horizontal: 150
Miss Distance.Vertical : 100
When Detected : In-flight
Result.General : None Reported / Taken

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

Narrative: 1
Flying into [a helicopter pad in Atlanta] on short final we encountered a drone on our
direct flight path for landing. I announced to crew I was taking evasive action, before I
could initiate evasive action the drone dropped down and to the right out of our flight
path. It was not seen again.

Synopsis
Helicopter pilot reported a UAV in his path on short final to a helipad. The UAV pilot
maneuvered away before the helicopter pilot could and was not seen again.
ACN: 1400261 (43 of 50)

**Time / Day**
- Date: 201611
- Local Time Of Day: 0601-1200

**Place**
- Locale Reference: Airport: JFK.Airport
- State Reference: NY
- Altitude.AGL.Single Value: 200

**Environment**
- Flight Conditions: VMC
- Weather Elements / Visibility: Visibility: 10
- Light: Daylight
- Ceiling.Single Value: 12000

**Aircraft : 1**
- Reference: X
- ATC / Advisory: Tower: JFK
- Aircraft Operator: Personal
- Make Model Name: UAV - Unpiloted Aerial Vehicle
- Operating Under FAR Part: Other
- Mission: Personal
- Flight Phase: Cruise
- Route In Use: None
- Airspace.Class B: JFK

**Aircraft : 2**
- Reference: Y
- ATC / Advisory: Tower: JFK
- Aircraft Operator: Government
- Make Model Name: Helicopter
- Crew Size.Number Of Crew: 1
- Operating Under FAR Part: Part 91
- Flight Phase: Cruise
- Airspace.Class B: JFK

**Person**
- Reference: 1
- Location Of Person: Hangar / Base
- Reporter Organization: Personal
- Function: Flight Crew: Single Pilot
- Qualification: Flight Crew: Private
- Experience: Flight Crew.Total: 750
- Experience: Flight Crew.Last 90 Days: 30
- Experience: Flight Crew.Type: 30
- ASRS Report Number: Accession Number: 1400261
- Human Factors: Communication Breakdown
- Human Factors: Confusion
Communication Breakdown.Party1 : Flight Crew
Communication Breakdown.Party2 : Other

Events
Anomaly.Conflict : Airborne Conflict
Anomaly.Deviation - Procedural : Other / Unknown
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Flight Cancelled / Delayed
Result.General : Police / Security Involved
Result.Flight Crew : Landed As Precaution

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

Narrative: 1
While operating a sUAS in Class G airspace, under a JFK NOTAM for almost 2 minutes in flight, UAS pilot noticed a law enforcement helicopter approaching sUAS in flight hovering within the airspace described below, between the surface and 400 feet AGL.

KJFK JOHN F KENNEDY INTL
-AIRSPACE UAS WI AN AREA DEFINED AS 1NM RADIUS OF XXX/XX SFC-400FT AGL.

I, the sUAS remote pilot, had filed said NOTAM to operate safely in the stated confines. As per the FARs, I lowered and safely landed the sUAS and yielded to the manned law enforcement aircraft that was operating at approximately 200 feet AGL. I then called JFK Tower and alerted the controller that I was operating within the confines of an active NOTAM and to communicate that message with the law enforcement Aviation Unit. Uniformed police officers arrived and were shown the NOTAM and recorded my identification information. After speaking with the Officers, I agreed not to relaunch the sUAS. I felt I had taken precautionary actions to fly safely and legally in this airspace. The flight launched and landed in vacant public land with no spectators/uninvolved persons in sight.

In the future, both sides exchanged telephone numbers and we agreed to open a direct line of communication with the law enforcement Aviation Unit, even while flying in Class G Airspace.

Synopsis
UAS pilot, operating legally near JFK after filing a flight plan and NOTAM for the flight, was approached by a law enforcement helicopter. The pilot landed the UAV to avoid airborne conflict then cancelled his flight after discussions with authorities.
ACN: 1398838

Time / Day
Date: 201609
Local Time Of Day: 1201-1800

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

Environment
Weather Elements / Visibility: Visibility: 10
Light: Daylight

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
Route In Use: None
Airspace.Class D: ZZZ

Person
Reference: 1
Location Of Person: Hangar / Base
Reporter Organization: Personal
Function.Flight Crew: Pilot Flying
Function.Flight Crew: Single Pilot
Experience.Flight Crew.Total: 350
Experience.Flight Crew.Last 90 Days: 30
Experience.Flight Crew.Type: 150
ASRS Report Number: Accession Number: 1398838
Human Factors: Training / Qualification

Events
Anomaly.Airspace Violation: All Types
Anomaly.Deviation - Procedural: FAR
Detector.Person: Flight Crew
When Detected: Routine Inspection
Result.Flight Crew: Became Reoriented

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

Narrative: 1
While operating a UAV under a part 107 license I may have flown into controlled airspace without authorization. Prior to beginning a series of short flight(s) that took place [in September], I went to the FAA UAV waiver website and completed the information required for an airspace waiver allowing me to fly within Class D controlled airspace. I was under the mistaken impression that authorization was granted upon the completion of the online form and I could commence the flight(s). However, I later learned that it may take up to 90 days to receive the requested authorization. Although I requested multiple COAs under a 333 exemption almost a year ago and have made multiple "requests" for Class D waivers recently none of these have been granted yet to my knowledge and therefore several of my recent flights may have been made in Class D airspace without authorization. However, all flights were at or below tree top level and in no circumstances exceeded 200 ft AGL within at least 2 miles of an airport, they were conducted without incident, and did not interfere with the operation of a manned aircraft in any way whatsoever.

Synopsis

UAV pilot reported going to the FAA UAV waiver website and completing the information required for a Class D airspace waiver then operating his UAV in Class D as planned. Later they learned that a response from the FAA was required before conducting such flights.
ACN: 1398214 (45 of 50)

**Time / Day**
Date: 201610
Local Time Of Day: 0601-1200

**Place**
Locale Reference.Airport: BOS.Airport
State Reference: MA
Altitude.MSL.Single Value: 7000

**Environment**
Flight Conditions: VMC
Light: Daylight

**Aircraft : 1**
Reference: X
ATC / Advisory.TRACON: A90
Aircraft Operator: Air Carrier
Make Model Name: A319
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Nav In Use: FMS Or FMC
Nav In Use: GPS
Flight Phase: Initial Approach
Route In Use.STAR: ROBUC2
Airspace.Class E: A90

**Aircraft : 2**
Reference: Y
Make Model Name: UAV - Unpiloted Aerial Vehicle
Flight Phase: Cruise
Airspace.Class E: A90

**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)
Experience.Flight Crew.Type: 420
ASRS Report Number.Accession Number: 1398214
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: Pilot Flying
Function.Flight Crew: Captain
Qualification.Flight Crew: Air Transport Pilot (ATP)
Experience.Flight Crew.Type: 5266
ASRS Report Number.Accession Number: 1398222

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

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

Narrative: 1
While descending through 7,000 feet between BEREI and BBOGG intersection on the ROBUC2 STAR into BOS, the captain reported to me that he saw a silver and white colored drone 1,000 feet below our aircraft and approximately 500 feet off our 8 o’clock position. The sighting was reported to BOS Approach Control.

Narrative: 2
[Report narrative contained no additional information.]

Synopsis
A319 flight crew reported sighting a UAV below and to the left of their aircraft while descending through 7000 feet on the ROBUC2 arrival to BOS.
ACN: 1398198 (46 of 50)

**Time / Day**
- Date: 201610
- Local Time Of Day: 0601-1200

**Place**
- Locale Reference.Airport: LGA.Airport
- State Reference: NY
- Altitude.MSL.Single Value: 8000

**Environment**
- Flight Conditions: VMC
- Light: Daylight

**Aircraft : 1**
- Reference: X
- ATC / Advisory.TRACON: N90
- Aircraft Operator: Air Carrier
- Make Model Name: Regional Jet 900 (CRJ900)
- Crew Size.Number Of Crew: 2
- Operating Under FAR Part: Part 121
- Flight Plan: IFR
- Mission: Passenger
- Nav In Use: FMS Or FMC
- Nav In Use: GPS
- Flight Phase: Initial Approach
- Route In Use.STAR: MILTON4
- Airspace.Class E: N90

**Aircraft : 2**
- Reference: Y
- Make Model Name: UAV - Unpiloted Aerial Vehicle
- Flight Phase: Cruise
- Airspace.Class E: N90

**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 Flying
- Qualification.Flight Crew: Air Transport Pilot (ATP)
- ASRS Report Number.Accession Number: 1398198
- Human Factors: Situational Awareness

**Events**
- Anomaly.Conflict: NMAC
- Detector.Person: Flight Crew
Miss Distance.Horizontal : 75
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
Spotted a drone during turn from DREMS intersection to APPLE intersection at 8000 feet. Silver drone, size of maybe a small bag was about 50-100 feet on the starboard side same altitude moving east to West. No evasive action was necessary. Flight continued normally.

Informed approach control. After landing ground control gave us a phone number. Provided all the information to this number and they said they will put in a report. After arriving at hotel contacted chief pilot and informed him of what happened also.

Synopsis
CRJ-900 First Officer reported sighting a UAV at 8000 feet near DREMS on the MILTON4 Arrival to LGA. No evasive action was taken, but the UAV passed within 75 feet of the aircraft.
ACN: 1396916 (47 of 50)

Time / Day
Date: 201610
Local Time Of Day: 1801-2400

Place
Locale Reference.ATC Facility: ZZZ.Tower
State Reference: US
Altitude.AGL.Single Value: 0

Environment
Light: Dusk

Aircraft: 1
Reference: X
ATC / Advisory.Tower: ZZZ
Aircraft Operator: Military
Make Model Name: UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part: Part 91
Flight Plan: IFR
Flight Phase: Taxi
Route In Use: None

Aircraft: 2
Reference: Y
ATC / Advisory.Tower: ZZZ
Aircraft Operator: Air Carrier
Make Model Name: Medium Transport, Low Wing, 2 Turbojet Eng
Crew Size.Number Of Crew: 2
Operating Under FAR Part: Part 121
Flight Plan: IFR
Mission: Passenger
Flight Phase: Takeoff
Route In Use: None

Person
Reference: 1
Location Of Person.Facility: ZZZ.Tower
Reporter Organization: Government
Function.Air Traffic Control: Local
Qualification.Air Traffic Control: Fully Certified
Experience.Air Traffic Control.Time Certified In Pos 1 (yrs): 1
ASRS Report Number.Accession Number: 1396916
Human Factors: Distraction
Human Factors: Situational Awareness
Human Factors: Time Pressure
Human Factors: Confusion

Events
Anomaly.ATC Issue : All Types
Anomaly.Conflict : Ground Conflict, Less Severe
Anomaly.Deviation - Procedural : Clearance
Detector.Person : Air Traffic Control
Detector.Person : Flight Crew
When Detected : Taxi
Result.Flight Crew : Rejected Takeoff
Result.Air Traffic Control : Issued New Clearance

Assessments
Contributing Factors / Situations : Aircraft
Contributing Factors / Situations : Equipment / Tooling
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Aircraft

Narrative: 1
Aircraft X just landed and slow taxied off the runway. Then, from my perspective, it appeared Aircraft X was clear of the active runway, so I cleared my next departure for takeoff. During my continual runway scan, I noticed that Aircraft X appeared not to be moving, and due to the time of night, size/shape of the UAV, and my prior understanding of the excessively slow taxi speeds of Aircraft X, doubt started to surface in my mind whether or not Aircraft X was clear of the runway. I continued to monitor the movement of Aircraft X until its stationary position made me uncomfortable enough to begin a transmission that would have cancelled my departure's takeoff clearance. However, just as I keyed up, Aircraft X began moving again, and I finished the transmission with "DISREGARD". Nonetheless, the departing pilot advised that they were aborting takeoff. I continued to watch Aircraft X slowly taxi into their parking ramp as I instructed my departure to exit the runway.

My first issue with this event is the lack of training I have received in reference to handling unmanned aircraft. I was advised by another controller that the procedures for working UAVs had been ironed out the same night despite the aircraft already having flown for a few months. Management has provided little to no training on procedures to work these aircraft who require special handling because they are unmanned. This lack of training is mostly due, in my estimation, to poor staffing and poor management. Had the shift been staffed properly, controllers wouldn't be placed in situations such as these where we're on position for extended periods of time, forced to take shortened breaks, etc. Moreover, I believe the Supervisor in charge of the shift and responsible for preparing the control position rotation was negligent creating an unnecessarily strenuous rotation straining controller's abilities. Poor management is a systemic problem, and it must be addressed immediately. Until that happens, situations such as these will continue to happen as good controllers are put in unfortunate situations causing a threat to the safety of the National Airspace System.

Synopsis
Tower Controller reported a UAV landed and was taxiing off the runway. The Controller cleared the next aircraft for departure then noticed the UAV may not be completely clear of the runway. The Controller canceled the takeoff clearance, sees the UAV moving, and says disregard. The aircraft departing advised they were aborting takeoff.
This submission is due to my misunderstanding of the UAS registration process. I had registered my UAS earlier this year, but prior to the online process now available to Part 107 commercial operators. Between utilizing a 3rd party company to apply for my 333 Exemption, the recreational and the new Part 107 rules, I inadvertently registered my UAS under the recreational option. Since then, I have used my UAS for commercial use (1 time), believing to be in full compliance. Once the error was recognized, I immediately registered my UAS for commercial use. This occurred in October 2016, when it was used
for aerial photography. All other provisions were complied with, NOTAM published, local airport personnel notified, even the local air ambulance company was notified.

The error was identified while reviewing a FAA webinar from a FAAST team leader, and I would suggest recommending that video be reviewed by all commercial UAS operators, especially those new to UAS operations. It is titled FAA Webinar 9-28-16 Part 1, and is an extensive overview of the Part 107 rules.

**Synopsis**

A UAS operator reported registering under FAR part 107 as a recreational operator instead of a commercial operator. After reviewing an FAA webinar on part 107 he realized his error and corrected it.
ACN: 1394042 (49 of 50)

Time / Day
Date: 201610
Local Time Of Day: 0601-1200

Place
Locale Reference.Airport: SLC.Airport
State Reference: UT
Altitude.AGL.Single Value: 6

Environment
Flight Conditions: VMC
Weather Elements / Visibility: Visibility: 10
Light: Daylight
Ceiling.Single Value: 20000

Aircraft
Reference: X
Aircraft Operator: Personal
Make Model Name: UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part: Other
Mission: Personal
Flight Phase: Cruise
Route In Use: None
Airspace.Class B: SLC

Person
Reference: 1
Location Of Person: Gate / Ramp / Line
Reporter Organization: Personal
Function.Flight Crew: Single Pilot
Experience.Flight Crew.Type: 20
ASRS Report Number.Accession Number: 1394042
Human Factors: Situational Awareness

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

Assessments
Contributing Factors / Situations: Chart Or Publication
Contributing Factors / Situations: Human Factors
Primary Problem: Human Factors
Narrative: 1

Preflighted the area that day, looking for active TFRs or controlled airspace. The area I wanted to fly at looked clear of SLC or any TFRs. I went to fly low level over a pond at Memory Grove Park, UT (2-10AGL). I took off, hovering at 6 ft AGL, and my phone provided an alert I may be close to a caution area (DJI APP Notification). I was 5 miles East of SLC, I opened my phone to pull up the SLC VFR TAC, and noticed I was closer than expected to the border of the SLC Class B shelf. I immediately landed the aircraft from the 10 ft AGL altitude. The duration of the flight was around 1 minute.

From now on, I'll always use the GPS in Garmin Pilot in correlation with the VFR Sectional, VFR TAC, and continue checking for active TFRs before I fly at the exact location. As Small drone operating systems are becoming more complex and user friendly, I'd be good for them to incorporate the VFR Sectionals and TAC into the operating system to make pilots fully aware of their location in relation to airspace around them.

Synopsis

A DJI Phantom UAS pilot launched after checking diligently for TFR and controlled airspace. However, after takeoff his DJI phone app alerted his aircraft proximity to SLC Class B. The UAS flight was aborted.
Time / Day
Date: 201610
Local Time Of Day: 0601-1200

Place
Locale Reference: ATC Facility: ZDV.ARTCC
State Reference: CO
Altitude MSL: Single Value: 50000

Environment
Light: Daylight

Aircraft
Reference: X
ATC / Advisory Center: ZDV
Aircraft Operator: Government
Make Model Name: UAV - Unpiloted Aerial Vehicle
Operating Under FAR Part: Part 91
Flight Plan: IFR
Mission: Utility
Flight Phase: Cruise
Airspace: Class A: ZDV

Person
Reference: 1
Location Of Person: Facility: ZDV.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): 2
ASRS Report Number: Accession Number: 1392486
Human Factors: Workload
Human Factors: Communication Breakdown
Human Factors: Confusion
Human Factors: Situational Awareness
Human Factors: Time Pressure
Human Factors: Distraction
Communication Breakdown: Party1: ATC
Communication Breakdown: Party2: Flight Crew
Communication Breakdown: Party2: ATC

Events
Anomaly: ATC Issue: All Types
Anomaly: Deviation - Procedural: Published Material / Policy
Detector: Person: Flight Crew
When Detected: In-flight
Result: Flight Crew: Requested ATC Assistance / Clarification
Result: Air Traffic Control: Issued Advisory / Alert
Assessments
Contributing Factors / Situations : Human Factors
Contributing Factors / Situations : Procedure
Primary Problem : Procedure

Narrative: 1

Aircraft X (a drone) was being switched to my frequency as I was getting a relief briefing. The previous sector was having difficulty switching the aircraft, and after he was about 10 miles into our airspace, he finally checked on. The briefing I was given was the pilot was supposed to give me a 10 min warning before he started dropping buoys out of his airplane, and that he needed a 20 mile radius with no airplanes. Aircraft X then asked to start dropping the buoys in 3 min (not the 10 min warning I was briefed) and that he wanted the 20 mile radius. As I tried to get more information on the buoys, size, shape, how many, if they go all the way to the ground, the only information the pilot was able to tell me was that he wanted to drop one every 10 min. I told him he was not authorized to drop at that moment, that I had to move airplanes out of his way and that I would let him know when he could drop the first one. I moved the airplanes, and tried to call him up and I did not receive a response. I tried him three more times and let the CIC know what was going on (although, he heard me and already had an idea of what was going on). He got the OM (Operations Manager) involved, who then called to the pilot on the phone. The pilot said that he was having communication issues. Once the pilot reported back on my frequency, I informed him that I had built him the 20 mile hole that he had requested, but that I could not get ahold of him. If he requests to be dropping things out of the airplane with a 20 mile sterilized airspace, then he has to be in communication with me and monitoring the frequency. I authorized the first drop and switched him to the next sector. As I went to get the call sign, a different OM was working the desk and I explained the situation. He told me that they don't need 20 miles, he has no idea where that came from, and that they are authorized to drop the buoys out of the airplane. The 10 min warning is just as a heads up and he is responsible solely for the release of the instruments. The buoys are small and if they run into another airplane, no harm will come to them. He then proceeded to tell me that I had no authority to tell the pilot that he could not drop the buoys. He pulled up the section of the 7110.65 and showed it to me. That is all great and wonderful, but that information would have served me and the drone pilot much better prior to this incident. Regardless of the rules and regulations, the pilot must be able to communicate with ATC if he is going to be flying.

TRAINING! Controllers need to be made aware of the situation fully, not just an "Oh by the way" moment. No one in my area, including the CIC or OM, had any idea how to handle the situation. Even if there was no time to give a formal briefing to everyone that could be working that aircraft, information could have been properly given to the controllers immediately before the aircraft checked on the frequency. The OM that I had spoken to after the incident was annoyed that I didn't know that it was ok for a drone to throw things out of his airplane. And that it was ridiculous that I was trying to clear a 20 mile hole for the aircraft. That he had no idea where I had been given that information from. He was shocked to hear that the pilot of the aircraft was asking for it and that I should have known better than to give it to him.

Synopsis
Denver Center Controller reported of miscommunication and a lack of communication with a UAV pilot. The Controller was advised of a special request in which was not valid. The Operations Manager advised the Controller of what needed to be done.