

Consolidated Drone/Balloon/Model/Unknown Object Summary Sheet for UKAB Meeting on 14th September 2022

Total	Risk A	Risk B	Risk C	Risk D	Risk E
12	3	2	7	0	0

Airprox Number	Date Time (UTC)	Aircraft (Operator)	Object	Location ¹ Description Altitude	Airspace (Class)	Pilot/Controller Report Reported Separation Reported Risk	Comments/Risk Statement	ICAO Risk
2022122	2 Jul 22 1656	B757 (CAT)	Drone	5327N 00228W Irlam 7500ft	Manchester TMA (A)	<p>The B757 pilot reports in the climb in IMC passing FL75 when they saw what was first thought to be balloons. As the black object passed down the right-hand side it looked like a drone.</p> <p>Reported Separation: 0ft V/50m H Reported Risk of Collision: Low</p> <p>The Manchester controller reports that when the B757 was approximately at XUMAT, at FL70, they reported a drone passing down the right-hand side, later reported as black, figure 8 shaped and about 200m distant. Other controllers were informed, and subsequent traffic told of the drone sighting.</p>	<p>In the Board's opinion the description of the object was sufficient to indicate that it could have been a drone.</p> <p>Applicable Contributory Factors: 1, 2, 3, 4, 5</p> <p>Risk: The Board considered that the pilot's overall account of the incident portrayed a situation where although safety had been reduced, there had been no risk of collision.</p>	C
2022129	05 Jul 22 0755	A320 (CAT)	Drone	5114N 00051E 20NM W DVR VOR FL160	London TMA (A)	<p>The A320 pilot reports that climbing through FL160 in the London TMA on radar heading 095°, the PM spotted unidentified flying object coming towards them. The PF observed the same object moments before it passed directly underneath the aircraft with <100ft clearance. Nothing was detected by TCAS. The PM reported drone sighting and near miss to London Control, advising that the object was seen approximately 20NM West of DVR VOR. The object was black, spherical in shape, and was large enough to make out details of a framed structure at its base. After passing details to London Control, climb was continued to cruise. The remainder of the flight was uneventful.</p> <p>The London controller reports that the A320 pilot reported a very close encounter with a drone. Position given as 20NM west of DVR at approx FL160. The pilot described the drone as black and</p>	<p>In the Board's opinion the reported altitude and/or description of the object were sufficient to indicate that it could have been a drone.</p> <p>Applicable Contributory Factors: 1, 2, 3, 4, 7</p> <p>Risk: The Board considered that the pilot's overall account of the incident portrayed a situation where providence had played a major part in the incident and/or a definite risk of collision had existed.</p>	A

¹ Latitude and Longitude are usually only estimates that are based on the reported time of occurrence mapped against any available radar data for the aircraft's position at that time. Because such reported times may be inaccurate, the associated latitudes and longitudes should therefore not be relied upon as precise locations of the event.

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						<p>cylindrical and passed within 10ft of the aircraft. They thought they heard a thud and were concerned they had hit it. Information was passed to TC SE and the aircraft continued to climb before being transferred to Maastricht.</p> <p>A NATS Investigation reports that the pilot reported the incident on frequency "<i>Going through FL160 we very nearly just hit a drone. We're talking less than ten feet.</i>" The pilot also stated on the frequency, "<i>We don't think we've hit it, there was a bit of a thud, we'll come back to you.</i>" No further details were given. As a precaution, Safety Investigations notified the Air Accident Investigation Branch (AAIB) of this report. Further information from the operator had been subsequently received, the Captain reported '<i>I can confirm we did not hit the drone. It passed very close underneath the aircraft, but we discussed that the thud the First Officer heard was likely from the cabin. I completed a walk around in [destination] and confirmed no damage and no maintenance action was required.</i>' The AAIB were given a further update and stated that they would not be investigating.</p>		
2022132	10 Jul 22 1555	B737 (CAT)	Unk Obj	5319N 00220W 1NM NE Knutsford ~1500ft	Manchester CTR (D)	<p>The B737 pilot reports that on departure, at approximately 3NM and 1500ft they looked up and saw a small drone passing down the left side of the aircraft. At the point they saw it, which was quite late, the drone was just coming alongside the aircraft. It was clear there was no risk of a collision, and no action was taken. The sighting was reported to Manchester Tower when workload permitted.</p> <p>Reported Separation: 50ft V/36m H Reported Risk of Collision: Medium</p> <p>The Manchester Tower controller reports that the [B737] departed 23L and shortly after departure the pilot reported a possible drone off to their left-hand side. They were about 3NM out and said the drone was at approximately 1500ft. Subsequent departures warned for the next 30min and the police were informed. No traffic was delayed.</p>	<p>In the Board's opinion the reported altitude and/or description of the object were such that they were unable to determine the nature of the unknown object.</p> <p>Applicable Contributory Factors: 4, 5</p> <p>Risk: The Board considered that the pilot's overall account of the incident portrayed a situation where although safety had been reduced, there had been no risk of collision.</p>	C

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2022135	10 Jul 22 1914	A320 (CAT)	Unk Obj	5111N 00027E 5.5NM SW Maidstone FL148	London TMA (A)	<p>The A320 pilot reports that, passing FL100 in the climb, London warned them of drone activity between DET and DVR at approximately FL150. They left the 'seat belts' sign on and performed a climb at 250kt to give them the maximum chance to see the drone. Passing FL148 in the climb, the drone was seen for approximately 1sec as it passed down the left-hand side of the aircraft within 100ft. There was insufficient time to try to avoid it. London was informed immediately of the drone position, size, colour and that it was at FL148. It looked like a spinning polished silver football approximately 2ft in diameter. More specifically, it looked like one of the rotating silver cylinders seen on the top of a chimney pot to extract air up a chimney with lift provided by the rotating fan (no propellers were seen). Their guess is that it was flown at them, with the intention to just avoid, but in the climb at 3000fpm and 250kt it was only by luck that it missed them. The Captain was confident it did not hit the aircraft, but as a precaution asked a crew member to look down the left wing and at the engine. Nothing was seen.</p> <p>Reported Separation: 0ft V/ <100ft H Reported Risk of Collision: NR</p> <p>The NATS Swanwick controller reports that, at approximately 1916 the [A320] pilot reported a drone Airprox and passed details of the drone's appearance. Subsequent DET/DVR departures were advised of the drone activity, but no other aircrews were able to obtain visual contact with any drones.</p> <p>Analysis of the radar by NATS Safety Investigations indicated that there were no associated primary or secondary contacts visible on radar at the approximate time of the event</p>	<p>In the Board's opinion the reported altitude and/or description of the object were such that they were unable to determine the nature of the unknown object.</p> <p>Applicable Contributory Factors: 4, 6</p> <p>Risk: The Board considered that the pilot's overall account of the incident portrayed a situation where providence had played a major part in the incident and/or a definite risk of collision had existed.</p>	A

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2022143	17 Jul 22 0945	B737 (Civ Comm)	Drone	5153N 00016W Stevenage 1400ft	Luton CTR (D)	<p>The B737 pilot (First Officer) reports descending on the glidepath on the ILS RW25 at Luton. They called for gear and the Captain started to read the checklist when they asked them to wait because they had noticed a small white, stationary object in front of the aircraft, slightly off to the right, just north of the extended centreline. As the white object got closer the First Officer identified it as a white drone with a small black fan at each corner. They watched the drone pass under the aircraft's right engine. The Captain informed ATC.</p> <p>Reported Separation: 150ft V/50m H Reported Risk of Collision: High</p> <p>The Luton controller reports the B737 pilot reported seeing a small, white drone 500ft beneath them at 4 mile final. ATC, Police and Airfield Manager were informed. Subsequent inbound was warned and did not report seeing the drone. Inbound aircraft warned for 30min.</p>	<p>In the Board's opinion the reported description of the object was sufficient to indicate that it could have been a drone.</p> <p>Applicable Contributory Factors: 1, 2, 3, 4, 5</p> <p>Risk: The Board considered that the pilot's overall account of the incident portrayed a situation where although safety had been reduced, there had been no risk of collision.</p>	C
2022144	19 Jul 22 1253	Chinook (JHC)	Drone	5421N 00154W IVO Catterick 600ft	London FIR (G)	<p>The Chinook pilot reports that the Chinook formation was transiting prior to conducting a simulated recce task ivo Kirby Lonsdale. As the formation initiated a tac descent once clear to the west of Catterick range, one crew member of the No2 Chinook, the student NHP located in the jump seat, spotted what was described as a "black circular object with a light" in the 12 o'clock at range of several hundred metres. As the aircraft closed with the object, the student HP in the RHS also confirmed that it appeared to be a drone, particularly due to the light that appeared to be located on the top of it. The crew continued the tac descent to the left away from the object, and it passed down the right-hand side of the aircraft around 100m away, at what was assessed to be around 600ft agl. The crew maintained good lookout throughout whilst descending into low-level, marked the location and continued en-route with no further incident.</p> <p>Reported Separation: 50-100m H Reported Risk of Collision: Low</p>	<p>In the Board's opinion the reported altitude and/or description of the object were sufficient to indicate that it could have been a drone.</p> <p>Applicable Contributory Factors: 1, 2, 4, 5</p> <p>Risk: The Board considered that the pilot's overall account of the incident portrayed a situation where although safety had been reduced, there had been no risk of collision.</p>	C

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2022148	11 Jul 22 1944	B737 (CAT)	Unk Obj	5151N 00006E 2NM SW of Bishops Stortford 4000ft	London TMA (A)	<p>The B737 pilot reports that, after departure from STN and during the climb, following the NUGBO 1R SID, they crossed a drone passing left of the aircraft at about 20m from the wing.</p> <p>Reported Separation: 100ft V/20m H Reported Risk of Collision: NR</p> <p>The NATS Group Supervisor Airports reports that the SS INT controller had a report from the departing [B737 pilot] at 4000ft in the climb-out of a drone encounter in the vicinity of Much Hadnam, west of Bishops Stortford. The report was 20m from the aircraft, dark colour and fast-moving from north-to-south. The Tower controller and airport police were informed, and Traffic Information passed on the ATIS. No further departures were affected.</p> <p>Analysis of the radar by NATS Safety Investigations indicated that there were no associated primary or secondary contacts visible on radar at the approximate time of the event.</p>	<p>In the Board's opinion the reported altitude and/or description of the object were such that they were unable to determine the nature of the unknown object.</p> <p>Applicable Contributory Factors: 4, 5</p> <p>Risk: The Board considered that the pilot's overall account of the incident portrayed a situation where although safety had been reduced, there had been no risk of collision.</p>	C
2022149	24 Jul 22 1538	A320 (CAT)	Drone	5128N 00025W 1NM final RW27L Heathrow 300ft	London CTR (D)	<p>The A320 pilot reports that they were on short final RW27L at Heathrow at approximately 300ft. Smoke from a wildfire south of the airfield blowing across the final approach track had reduced visibility down to a few miles. The FO spotted a drone at 300ft agl passing abeam the aircraft to the left (south) at the same height and within a few hundred metres. Due to the smoke and reduced visibility drone was only sighted as it passed abeam and was not seen by the captain who was flying. The drone was black in appearance, from the side profile it appeared as a horizontal line with a spherical ball hanging beneath the centre.</p> <p>There was no collision and no time to take evasive action. Heathrow Tower was notified at the time and the police were given a statement once on stand. They informed them that another police team was also taking a statement from another aircraft regarding a similar drone sighting.</p> <p>Reported Separation: NR Reported Risk of Collision: NR</p>	<p>In the Board's opinion the reported altitude and/or description of the object were sufficient to indicate that it could have been a drone.</p> <p>Applicable Contributory Factors: 1, 3, 4, 5</p> <p>Risk: The Board considered that the pilot's overall account of the incident portrayed a situation where although safety had been reduced, there had been no risk of collision.</p>	C

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						The Heathrow Tower Controller reports that the [the A320 pilot] reported a drone, 50ft above their left wing, at the time they were approximately 1.5NM from touchdown. They acknowledged the call and reported it to the supervisor who called the police. The aircraft landed safely.		
2022155	30 Jul 22 1319	B737 (CAT)	Drone	5503N 00135W 1NM W Seghill 1000ft	Newcastle CTR (D)	<p>The B737 pilot reports that at approximately 3NM / 1000ft on ILS 25 NCL, in the corner of their eye they saw something quite large flash by underneath on the left-hand side. Asking their colleague if they saw birds, they replied that they hadn't seen anything. Engine parameters were normal, and the approach continued uneventfully.</p> <p>As the passengers were disembarking a passenger asked to speak to the flight crew. The passenger was a general aviation pilot who operates out of NCL airport. They asked if they [the flight crew] had seen the large drone that passed by, extremely close on the left-hand side, at roughly the same time they had seen something.</p> <p>ATC were contacted on the ground and informed regarding the possible drone near miss.</p> <p>Reported Separation: 30ft V/30m H</p> <p>The Newcastle ATC report that they have listened to the recording, and nothing was passed to ATC.</p>	<p>In the Board's opinion the reported altitude and/or description of the object were sufficient to indicate that it could have been a drone.</p> <p>Applicable Contributory Factors: 1, 2, 3, 4, 7</p> <p>Risk: The Board considered that the pilot's overall account of the incident portrayed a situation where providence had played a major part in the incident and/or a definite risk of collision had existed.</p>	A
2022156	16 Jul 22 1757	A320 (CAT)	Unk Obj	5146N 00010W 2NM E of Hatfield FL80	London TMA (A)	<p>The A320 pilot reports that whilst following the MATCH 3Y SID they were given a climb now clearance to FL80. They climbed and levelled out at FL80. Approximately between Hatfield and Broxbourne, whilst in level flight, both the FO and Captain noticed an object pass within 100-200ft below their aircraft. They described the object as grey/silver in colour and about the size of a large drone or balloon. It was almost shiny in appearance. Both pilots commented on the object they had just seen. This object passed directly beneath their aircraft. There was nothing on TCAS. It came into view quickly and there was no time to react. The FO was PF and guarded the side stick ready to make inputs if needed. It was agreed to inform London ATC of the near-miss as this took place on the SID for which other aircraft may have a similar situation.</p>	<p>In the Board's opinion the reported altitude and/or description of the object were such that they were unable to determine the nature of the unknown object.</p> <p>Applicable Contributory Factors: 4, 6</p> <p>Risk: The Board considered that the pilot's overall account of the incident portrayed a situation where safety had been much reduced below the norm to the extent that safety had not been assured.</p>	B

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						<p>No NOTAMs were found for the area in question. They had been advised by ATC of parachute jumpers prior to their arrival.</p> <p>Reported Separation: 100-200ft V/ 0m H Reported Risk of Collision: NR</p> <p>Analysis of the radar by NATS Safety Investigations indicated that there were no associated primary or secondary contacts visible on radar at the approximate time of the event.</p>		
2022164	5 Aug 22 1900	A400 (HQ Air Ops)	Drone	5NM NE Northolt 5138N 00013W 2500ft	London TMA (A)	<p>The A400 pilot reports that the aircraft was wings level approaching the centreline at RAF Northolt conducting a radar to visual approach. The Co-pilot, acting as PF, spotted a 'bird' passing a good distance from the wing. The other crew members recognised it as a small UAV, appearing to remain static. The aircraft maintained course and passed well clear of the UAV. The severity of the incident initially deemed too low to contact ATC during a high workload period, so the crew elected to submit Airprox post event.</p> <p>Reported Separation: 0ft V/ 500m H Reported Risk of Collision: Low</p> <p>The Northolt controller reports that while acting as ATCO & Approach controller at Northolt Radar an A400 had an Airprox with a drone. The air system was handed over from Brize, under a Traffic Service and was vectored to approximately the 8NM mile point for a visual recovery to RW25. It was a very quiet evening and they did not have to pass any Traffic Information. They did not notice any primary contact/radar returns anywhere close to Northolt. From their perspective the short sortie was straightforward and simply executed. They were made aware of the Airprox 4 days after the event as no mention of a drone or Airprox was reported on frequency.</p>	<p>In the Board's opinion the reported altitude and/or description of the object were sufficient to indicate that it could have been a drone.</p> <p>Applicable Contributory Factors: 1, 2, 3, 4, 5</p> <p>Risk: The Board considered that the pilot's overall account of the incident portrayed a situation where although safety had been reduced, there had been no risk of collision.</p>	C

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2022172	3 Jul 22 1641	A319 (CAT)	Drone	5125N 00001W Beckenham ~4500ft	London TMA (A)	<p>The A319 pilot reports that during radar vectoring to the final ILS for RW27R at Heathrow they crossed a white/red drone which flew very close to them.</p> <p>Reported Separation: 20m V/100m H Reported Risk of Collision: High</p> <p>The Heathrow radar controller reports that the [A319] was on a base leg from the south when the pilot reported seeing a red and white drone a few metres beneath them, around 4000ft.</p> <p>NATS Safety Investigations reviewed the radar at the time the pilot of [the A319] reported the sighting, however, no radar contacts were visible.</p>	<p>In the Board's opinion the reported altitude and/or description of the object were sufficient to indicate that it could have been a drone.</p> <p>Applicable Contributory Factors: 1, 2, 3, 4, 7</p> <p>Risk: The Board considered that the pilot's overall account of the incident portrayed a situation where safety had been much reduced below the norm to the extent that safety had not been assured.</p>	B

Relevant Contributory Factor (CF) Table

CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
Flight Elements				
• Regulations, Processes, Procedures and Compliance				
1	Human Factors	• Flight Crew ATM Procedure Deviation	An event involving the drone operator deviating from applicable Air Traffic Management procedures	The drone operator did not comply with regulations by flying above 400ft and/or in controlled airspace/FRZ without clearance
• Tactical Planning and Execution				
2	Human Factors	• Action Performed Incorrectly	Events involving the drone operator performing the selected action incorrectly	The drone operator was flying above 400ft without clearance.
3	Human Factors	• Airspace Infringement	An event involving an infringement / unauthorized penetration of a controlled or restricted airspace	The drone pilot was flying in controlled airspace/FRZ without clearance.
• Situational Awareness of the Conflicting Aircraft and Action				
4	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, generic, or late Situational Awareness
• See and Avoid				
5	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft
• Outcome Events				
6	Contextual	• Near Airborne Collision with Other Airborne Object	An event involving a near collision by an aircraft with an unpiloted airborne object (unknown object or balloon)	
7	Contextual	• Near Airborne Collision with RPAS	An event involving a near collision with a remotely piloted air vehicle (drone or model aircraft)	