

## Consolidated Drone/Balloon/Model/Unknown Object Summary Sheet for UKAB Meeting on 14<sup>th</sup> October 2020

Total	Risk A	Risk B	Risk C	Risk D	Risk E
10	4	1	4	0	1

Airprox Number	Date Time (UTC)	Aircraft (Operator)	Object	Location <sup>1</sup> Description Altitude	Airspace (Class)	Pilot/Controller Report Reported Separation Reported Risk	Comments/Risk Statement	ICAO Risk
2020105	1 Sep 20 2213Z	B737 (CAT)	Unk Obj	3.4NM SE Leeds Airport 1800ft alt	Leeds CTR (D)	<p><b>The B737 pilot</b> reports that they were conducting a standard approach into LBA, the FO was flying. It was calm conditions with good visibility. At about 3.4NM from the runway both pilots suddenly saw a bright light and an object which appeared to be moving toward the aircraft, almost head on, slightly up and to the left. The object appeared without warning and there was no time to act. The matter was reported straight away, and a normal landing conducted. On taxiing in ATC informed them that the police helicopter had earlier observed lanterns in the area. Neither of the pilots believed what they saw was a lantern.</p> <p><b>Reported Separation:</b> 10ft V/ 5m H <b>Reported Risk of Collision:</b> High</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><b>Applicable Contributory Factors:</b> 4, 5</p> <p><b>Risk:</b> 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

<sup>1</sup> 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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2020108	4 Sep 20 1424	A320 (CAT)	Drone	5327N 00225W Manchester FL80	Manchester TMA (A)	<p><b>The A320 pilot</b> reports that, on initial departure on the SONEX 1R SID and turning right onto 115°, both PM and PF saw a large drone pass very close to the aircraft windscreen on the First Officer's side. The drone was blue, about 0.5m length and at the same level. The sighting was approximately 7NM to the NE of Manchester Airport (around Ashton) and looked to be a large drone probably weighing at least 10kg. It narrowly missed the nose/windscreen of the aircraft.</p> <p><b>Reported Separation:</b> 0ft V/ 0m H <b>Reported Risk of Collision:</b> High</p> <p><b>The Prestwick controller reports</b> that the A320 pilot reported seeing a drone at 8000ft, which passed close to the First Officer's windscreen. The drone was described as being approximately half a metre in size, probably about 10kg, and blue in colour. The controller informed, amongst others, Manchester Departures.</p> <p><b>The NATS investigation</b> found no primary or secondary radar returns in the vicinity of the Airprox that could have been a drone.</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><b>Applicable Contributory Factors:</b> 1, 2, 3, 4, 6</p> <p><b>Risk:</b> 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
2020110	27 Jul 20 1715	A319 (CAT)	Drone	5128N 00018W 5.1NM W Heathrow 1600ft	London CTR (D)	<p><b>The A319 pilot</b> reports that they were 5.1NM on final for Heathrow RW27 when they passed a red quadcopter type drone. There was no time to take avoiding action. The drone was reported to Heathrow Tower.</p> <p><b>Reported Separation:</b> 30ft V/ 10m H <b>Reported Risk of Collision:</b> Medium</p> <p><b>The Heathrow controller reports</b> that the A319 pilot reported a drone passing down the right-hand side of the aircraft when 5NM final for RW27 at 1600ft. The police were informed and a broadcast made on ATIS.</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><b>Applicable Contributory Factors:</b> 1, 2, 3, 4, 6</p> <p><b>Risk:</b> 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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2020113	6 Sep 20 1512	EC135 (HEMS)	Drone	5706N 00207W Aberdeen 2300ft	Aberdeen CTR (D)	<p><b>The EC135 pilot</b> reports turning final for the ILS RW34 at Aberdeen when a drone was sighted approximately 0.5NM away and moving across the aircraft's flightpath from right-to-left and approximately 300-400ft below. The aircraft was manoeuvred to remain well clear and the drone passed down the port side of the aircraft at approximately 0.5NM. It was metallic and glinting but no other major details could be seen. The ILS was completed without issue and ATC was informed.</p> <p><b>Reported Separation:</b> 300-400ft V/0.5NM H <b>Reported Risk of Collision:</b> NR</p> <p><b>The Aberdeen controller</b> reports that, in the vicinity of the ATF NDB, the EC135 pilot reported seeing a drone at 2000ft passing behind them by 1/2 mile. The EC135 was descending through 2300ft at the time and on a closing heading for the ILS. The EC135 went through the localiser to provide distance from the drone and subsequently was turned to establish on the ILS from the right. The drone was described as being larger than a toy but smaller than a large commercial drone. It was metallic in colour and was seen manoeuvring towards the south. Subsequent aircraft were informed and the next inbound elected to land on RW16.</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><b>Applicable Contributory Factors:</b> 1, 2, 3, 4, 7</p> <p><b>Risk:</b> 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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2020118	11 Sep 20 1559	B737 (CAT)	Balloon	5326N 00204W 9NM NE Manchester 2900ft	Manchester CTR (D)	<p><b>The B737 pilot</b> reports that on approach to RW23R at Manchester, at 10NM final, they spotted an object ahead. At first it was thought to be a large bird, but by 9NM and at 2600ft the object was seen to be a long red cylindrical shaped balloon-like object. It was around 1-2m in length. At 8.5NM the object passed to the left of the aircraft, less than 50m from the left wing. The incident was reported to Manchester ATC.</p> <p><b>Reported Separation:</b> ~0ft V/50m H <b>Reported Risk of Collision:</b> NR</p> <p><b>The Manchester controller</b> reports that the B737 had been vectored onto the 23R ILS. Shortly before transfer to the tower, the crew reported that they had just passed a red balloon "about one hundred feet off our left wing". The crew confirmed that it was a toy-type balloon, no larger than 1m. At that point the aircraft had been 9NM final and descending through 2900ft. There was some primary clutter on the radar screen, although nothing in the reported location of the balloon. The crew of the following aircraft was informed and reported happy to continue, all aircraft in the following sequence were warned and each one subsequently reported no sighting when passing through the area.</p>	<p>In the Board's opinion the reported altitude or description of the object were sufficient to indicate that it was probably a balloon.</p> <p><b>Applicable Contributory Factors:</b> 4, 5</p> <p><b>Risk:</b> 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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2020123	15 Sep 20 1603	Apache (HQ JHC)	Drone	5154N 00015E Stansted Airport 1200ft	Stansted CTR (D)	<p><b>The Apache pilot</b> reports leading a pair of Apache helicopters, with the No.2 in trail on the left, when the front seat occupant saw an airborne object in the 12 o'clock at the same height and called to the HP to turn left to avoid. The HP notified the No.2 while making an avoiding left turn of about 15°. The No.2 confirmed what appeared to be a drone passing down the right-hand side of the formation at the same level. The sighting of a suspected drone about 1000ft above the eastern threshold of the active runway was reported to Essex Radar, and assistance sought.</p> <p>The formation lead offered the option to turn back and confirm the sighting; No.2 remained clear to the north. The drone was again identified, and a grid was sent to Essex Radar. Essex Radar requested them to remain on scene with freedom of manoeuvre to provide assistance to the police in finding and tracking the object. He remained visual in a right-hand orbit and climbed up through the level to 500ft above. The drone remained largely static, climbing to about 2500ft and moving away slowly to the South East towards Great Dunmow. The lead Apache remained on scene for about 30min until the object was assessed clear of the runway.</p> <p><b>Reported Separation:</b> 0ft V/ 50m H <b>Reported Risk of Collision:</b> 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><b>Applicable Contributory Factors:</b> 1, 2, 3, 4, 6</p> <p><b>Risk:</b> 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
2020125	15 Sep 20 0926	FR20 (Civ Com)	Drone	5126N 00011E London City 3600ft	London TMA (A)	<p><b>The FR20 pilot</b> reports that they were on the ILS for RW09, descending from 4000ft to 2000ft. On passing 3600ft they saw a black drone, approximately 20-30cm diameter pass along the RH winglet. At its closest point it was less than 10m. Thames director was informed.</p> <p><b>Reported Separation:</b> 10ft V/ 0m H <b>Reported Risk of Collision:</b> High</p> <p><b>The Thames Director</b> reports that the FR20 was on approach to RW09 at London City. At 0926, when approximately 10NM SE of London City, the pilot reported that a black drone passed close to the aircraft.</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><b>Applicable Contributory Factors:</b> 1, 2, 3, 4, 6</p> <p><b>Risk:</b> 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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2020128	6 Sep 20 1419	B737 (CAT)	Unk Obj	5232N 00145W 5NM N of BHX 2000ft	Birmingham CTR (D)	<p><b>The B737 pilot</b> reports that a drone was spotted by the flight deck shortly after departing BHX RW33. The aircraft was climbing through approximately 4000ft on the ADMEX 1M departure during the initial right-hand turn. The crew estimated the white-coloured drone to be approximately 2000ft altitude (about 2000ft below aircraft altitude) and 0.5NM to the south. It was of no threat to the aircraft and no avoiding action was necessary. The drone was reported to London ATC.</p> <p><b>Reported Separation:</b> 2000ft V/0.5NM H <b>Reported Risk of Collision:</b> None</p> <p><b>The TC London Watch Supervisor</b> reports that the B737 pilot reported an encounter with a drone departing Birmingham Airport. There was no further impact on ATC operations.</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><b>Applicable Contributory Factors:</b> 4, 8</p> <p><b>Risk:</b> The Board considered that the pilot's overall account of the incident portrayed a situation where normal procedures and/or safety standards had applied.</p>	E
2020130	17 Sep 20 1244	A319 (CAT)	Drone	5120 00036W 5NM W OCK FL065	London TMA (A)	<p><b>The A319 pilot</b> reports that they had just left the OCK beacon for an approach into Heathrow and were on a 290° heading descending to 4000ft. The workload was not high, the flight crew were comfortable and familiar with the area, aircraft and arrival procedures as it was their home base. The First Officer, flying from the right seat, happened to look out the window towards west London and LHR, and caught sight of the object. It was a very quick event, and he estimated that he probably saw it for 1sec. It seemed very close and it seemed to go underneath a right wingtip fence. The suspected drone seemed to be in a bank, yellow in colour, about 1-2ft wide, and looked like a yellow brick. It appeared to have two internally fitted rotors and no lights. ATC was notified, a safety report was filled out on the ground, and the police were notified (presumably by ATC) so they were interviewed on arrival.</p> <p><b>Reported Separation:</b> 50ft V/ 75m H <b>Reported Risk of Collision:</b> Medium</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><b>Applicable Contributory Factors:</b> 1, 2, 3, 4, 6</p> <p><b>Risk:</b> 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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2020131	17 Sep 20 1002	PA28 (Civ FW)	Drone	5130N 00047W White Waltham 1200ft	White Waltham ATZ (G)	<p><b>The PA28 pilot</b> reports re-joining overhead White Waltham from the NW at 1200ft QFE for the RW07 right-hand circuit. As the student positioned to join, they sighted an object moving at their 12 o'clock, moving right and down the right side of the aircraft at their level of 1200ft and about 50-100m laterally. Waltham radio was informed of the occurrence and that it was approximately 0.5NM NW of RW07 threshold. As they flew downwind they could still see the drone stationary, in approximately the same position.</p> <p><b>Reported Separation:</b> 0ft V/ 50-100m H <b>Reported Risk of Collision:</b> 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><b>Applicable Contributory Factors:</b> 1, 2, 3, 4, 7</p> <p><b>Risk:</b> 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

## Relevant Contributory Factor (CF) Table

CF	Factor	Description	Amplification
	<b>Flight Elements</b>		
	<b>• Regulations, Processes, Procedures and Compliance</b>		
1	Human Factors	• Flight Crew ATM Procedure Deviation	The drone operator did not comply with regulations due to flying above 400ft and/or in controlled airspace/FRZ without clearance.
	<b>• Tactical Planning and Execution</b>		
2	Human Factors	• Action Performed Incorrectly	The drone operator was flying above 400ft without clearance.
3	Human Factors	• Airspace Infringement	The drone pilot was flying in controlled airspace/FRZ without clearance.
	<b>• Situational Awareness of the Conflicting Aircraft and Action</b>		
4	Contextual	• Situational Awareness and Sensory Events	Pilot had no, or generic, or late Situational Awareness.
	<b>• See and Avoid</b>		
5	Contextual	• Near Airborne Collision with Other Airborne Object	An Airprox involving an unknown object or balloon.
6	Contextual	• Near Airborne Collision with RPAS	An Airprox involving a drone or model aircraft.
7	Human Factors	• Perception of Visual Information	Pilot was concerned by the proximity of the other aircraft.
8	Human Factors	• Monitoring of Other Aircraft	Sighting report.