

## Consolidated Drone/Balloon/Model/Unknown Object Report Sheet for UKAB Meeting on 8<sup>th</sup> November 2017

Total	Risk A	Risk B	Risk C	Risk D	Risk E
14	2	4	6	2	0

Airprox Number	Date Time (UTC)	Aircraft (Operator)	Object	Location Description Altitude	Airspace (Class)	Pilot/Controller Report Reported Separation Reported Risk	Cause/Risk Statement	ICAO Risk
2017187	7 Aug 17 1534	B757 (CAT)	Drone	5334N 00214W 5nm N MCT 5000ft	Man TMA (A)	<p><b>The B757 pilot</b> reports that he was right-hand downwind, on the MCT 005 radial at 5nm when a drone passed directly overhead by approx 50ft. He opined that he had no doubt that a collision would have occurred had the drone been any lower. MAN ATC were informed.</p> <p><b>Reported Separation:</b> 50ft V/0m H <b>Reported Risk of Collision:</b> NK</p>	<p><b>Cause:</b> The drone was being flown beyond practical VLOS limits and was endangering other aircraft at that location and altitude. The Board agreed that the incident was therefore best described as the drone was flown into conflict with the B757.</p> <p><b>Risk:</b> The Board considered that the pilot's estimate of separation, allied to his overall account of the incident and his inability to avoid the object portrayed a situation where providence had played a major part in the incident and/or a definite risk of collision had existed.</p>	A
2017216	6 Sep 17 0750	EMB170 (CAT)	Drone	5136N 00010E Hornchurch 3000ft	London TMA (A)	<p><b>The EMB170 pilot</b> reports on departure from London/City on the CLN1A SID at a point between LCN01 &amp; LCN02. Two passengers, seated very near the front of the passenger cabin, saw a white/yellow drone that they described as helicopter-like in shape and about 40/50cm in diameter. They stated that the drone passed within an estimated 30m/100ft horizontally of the aircraft and at the same level. London ATC was advised of a drone Airprox. The cabin crew carried out a discrete damage inspection; nothing was seen on leading edges or engine housings. Systems checks were carried out and a decision made to continue to destination. An engineering visual inspection was carried out on landing with no damage found.</p> <p><b>Reported Separation:</b> 0ft V/30m H <b>Reported Risk of Collision:</b> High</p>	<p><b>Cause:</b> The drone was being flown beyond practical VLOS limits and was endangering other aircraft at that location and altitude. The Board agreed that the incident was therefore best described as the drone was flown into conflict with the EMB170.</p> <p><b>Risk:</b> The Board considered that the pilot's estimate of separation, allied to his overall account of the incident and his inability to avoid the object 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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2017217	6 Sep 17 1840	EMB190 (CAT)	Drone	5138N 00000W NE LCY 3000ft	London TMA (A)	<p><b>The EMB190 pilot</b> reports that he was northeast of London city at 3000ft when he saw a red and black drone pass to the right and 200ft below the aircraft in the opposite direction. The drone was reported to ATC and the Police; the flight continued as normal.</p> <p><b>Reported Separation:</b> 200ft V/0m H <b>Reported Risk of Collision:</b> Medium</p>	<p><b>Cause:</b> The drone was being flown beyond practical VLOS limits and was endangering other aircraft at that location and altitude. The Board agreed that the incident was therefore best described as the drone was flown into conflict with the EMB190.</p> <p><b>Risk:</b> The Board considered that the pilot's estimate of separation, allied to his overall account of the incident and his inability to avoid the object portrayed a situation where safety had been much reduced below the norm to the extent that safety had not been assured.</p>	B
2017219	8 Sep 17 1015	DH8 (CAT)	Drone	5550N 00428W WSW Glasgow 1040ft	Glasgow CTR (D)	<p><b>The DH8 pilot</b> reports that he was on departure from Glasgow, during the acceleration he noticed a small black object moving towards the aircraft. As it got closer he could see it was a drone; it was black and had an object or device attached below. In the space of about 3 seconds they had narrowly missed it, there was no time to take avoiding action. At the same time a TCAS indication appeared on the MFD, however there was no TA or RA.</p> <p><b>Reported Separation:</b> 100ft V/15m H <b>Reported Risk of Collision:</b> High</p>	<p>Due to the absence of TCAS compatible electronic conspicuity fitted to the drone, the Board thought it extremely unlikely that it caused the TCAS indication, and concluded that it was probably another aircraft above or below the DH8, which would explain the lack of a TA/RA.</p> <p><b>Cause:</b> The drone was being flown in the vicinity of an airfield departure lane such that it was endangering other aircraft at that location and altitude. The Board agreed that the incident was therefore best described as the drone was flown into conflict with the DH8.</p> <p><b>Risk:</b> The Board considered that the pilot's estimate of separation, allied to his overall account of the incident and his inability to avoid the drone 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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2017222	6 Sep 17 1740	DHC8 (CAT)	Drone	5132N 00001W Stratford 3000ft	London TMA (A)	<p><b>The DHC8 pilot</b> reports that he was on departure from London/City, midway between LCW01 and LCN02 on the EKNIV1A SID, when the 3<sup>rd</sup> pilot, seated in the observer position, saw a 'DJI Mavic' type drone. It was pointed out to, and seen by, the Captain and Co-pilot. No avoiding action was required as the drone was below the aircraft. The drone was reported to the Thames Director.</p> <p><b>Reported Separation:</b> 100ft V/30-100m H <b>Reported Risk of Collision:</b> Low</p>	<p><b>Cause:</b> The drone was being flown beyond practical VLOS limits and was endangering other aircraft at that location and altitude. The Board agreed that the incident was therefore best described as the drone was flown into conflict with the DHC8.</p> <p><b>Risk:</b> The Board considered that the pilot's estimate of separation, allied to his overall account of the incident portrayed a situation where although safety had been reduced, there had been no risk of collision.</p>	C
2017223	11 Sep 17 1410	FA20 (Civ Comm)	Drone	5433N 00121W NE Durham Tees Valley 1460ft	DTV CTR (D)	<p><b>The FA20 pilot</b> reports that he was flying a straight-in recovery to Durham Tees Valley, in good VMC. When approx 3.7nm from the airfield and passing 1460ft, the EWO spotted a drone in the 3 o'clock position. After the internal information call, the FO also then sighted it. The drone was 'spindly' in design and relatively large, although its size and scale were difficult to assess in such a fleeting moment. The Captain, who was flying, did not see the drone and no avoiding action was taken. The drone was reported to ATC and another aircraft on recovery adjusted its flight path to avoid the area.</p> <p><b>Reported Separation:</b> 'slightly lower' /100-200m H <b>Reported Risk of Collision:</b> Medium</p>	<p><b>Cause:</b> The drone was being flown at or beyond practical VLOS limits and was endangering other aircraft at that location and altitude. The Board agreed that the incident was therefore best described as the drone was flown into conflict with the FA20.</p> <p><b>Risk:</b> The Board considered that the pilot's estimate of separation, allied to his overall account of the incident portrayed a situation where although safety had been reduced, there had been no risk of collision.</p>	C
2017227	19 Sep 19 2105	A321 (CAT)	Drone	5327N 00158W Manchester 3500ft	Manchester CTR (D)	<p><b>The A321 pilot</b> reports on left base for RW23R at Manchester, just before localiser capture, when a large black x-shaped drone was seen in close proximity and level with the flight deck. There was no time to avoid the drone, which was reported to Manchester ATC.</p> <p><b>Reported Separation:</b> 0ft V/30ft H <b>Reported Risk of Collision:</b> NK</p>	<p><b>Cause:</b> The drone was being flown in the vicinity of an airfield approach path and beyond practical VLOS limits such that it was endangering other aircraft at that location and altitude. The Board agreed that the incident was therefore best described as the drone was flown into conflict with the A321.</p> <p><b>Risk:</b> The Board considered that the pilot's estimate of separation, allied to his overall account of the incident and his inability to avoid the object 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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2017228	17 Sep 17 1730	A321 (CAT)	Unknown Object	5202N 00121W Nr Banbury FL180	Daventry CTA (A)	<p><b>The A321 pilot</b> reports approximately 5 nm north of EMKUK climbing through FL180 on a heading 155°. A white or light grey object was spotted in the aircraft's 1 o'clock at apparently the same level. It flew past and continued into the 5 o'clock position. It was suspected to be a drone. A TCAS intruder (white empty diamond) appeared briefly in a position equivalent to that of the object, with no height information. ATC were informed.</p> <p><b>The Swanwick controller</b> reports that the A321 was departing from Birmingham when the pilot enquired whether he could see anything on radar in their position. When the controller confirmed nothing was there, the pilot reported passing a drone.</p> <p><b>Reported Separation:</b> NK <b>Reported Risk of Collision:</b> Low</p>	<p><b>Cause:</b> The Board could not conclude that the object was a drone and, therefore being an unknown object, the Board agreed that the incident was best described as a conflict in Class A.</p> <p><b>Risk:</b> The Board considered that the pilot's description of the event was such that there was insufficient information to make a sound judgement of risk.</p>	D
2017229	30 Aug 17 1120	A319 (CAT)	Drone	5315N 00255W Helsby/Frodsham 2500ft	Liverpool CTR (D)	<p><b>The A319 pilot</b> reports downwind left hand for the RW27 ILS at Liverpool when the PM saw what he believed to be a drone pass beneath the right side of the aircraft.</p> <p><b>Reported Separation:</b> NK <b>Reported Risk of Collision:</b> None</p>	<p><b>Cause:</b> The drone was being flown in the vicinity of an airfield approach path and beyond practical VLOS limits such that it was endangering other aircraft at that location and altitude. The Board agreed that the incident was therefore best described as the drone was flown into conflict with the A319.</p> <p><b>Risk:</b> The Board considered that the pilot's description of the event was such that there was insufficient information to make a sound judgement of risk.</p>	D

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2017232	21 Sep 17 1230	Hawk (RN)	Balloon	5015N 00508W 1nm SW Truro 10,000ft	London FIR (G)	<p><b>The Hawk pilot</b> reports that he was on the climb out to the northeast from RNAS Culdrose when he passed a Balloon. He noticed it in his 10 o'clock at approximately 200m as he passed 10000ft. He suspects it was a MET balloon as it was white and about 2m in diameter with an orange/red cylinder hanging immediately beneath it, although it was a late sighting his flight path was clear and he did not take any avoiding action. He notified Plymouth Military of the sighting. The sortie was completed without incident.</p> <p><b>Reported Separation:</b> 0ft V/200m H <b>Reported Risk of Collision:</b> Medium</p>	<p>There were no reports of Met balloons being launched in the area at or near the time of the Airprox.</p> <p><b>Cause:</b> Being an un-tethered and unmanned balloon, the Board agreed that it was not under direct control and that the incident was therefore best described as a conflict in Class G.</p> <p><b>Risk:</b> The Board considered that the pilot's estimate of separation, allied to his overall account of the incident portrayed a situation where although safety had been reduced, there had been no risk of collision.</p>	C
2017236	23 Sep 17 1650	FA20 (Civ Comm)	Drone	5504N 00127W St Mary's Bait Island 2000ft	Newcastle CTA (D)	<p><b>The FA20 pilot</b> reports that he was in a left bank turn to intercept final to Newcastle RW25 at 8nm (which is just at the coastline) when he saw a drone passing about 300ft to the right and about 100ft below his altitude of 2000ft. He immediately informed ATC about the drone.</p> <p><b>Reported Separation:</b> 100ft V/100m H <b>Reported Risk of Collision:</b> Medium</p>	<p><b>Cause:</b> The drone was being flown beyond practical VLOS limits such that it was endangering other aircraft at that location and altitude. The Board agreed that the incident was therefore best described as the drone was flown into conflict with the FA20.</p> <p><b>Risk:</b> The Board considered that the pilot's estimate of separation, allied to his overall account of the incident and his ability/inability to avoid the object portrayed a situation where although safety had been reduced, there had been no risk of collision.</p>	C
2017239	5 Oct 17 1619	Voyager (HQ Air Ops)	Drone	5142N 00137W Brize Norton 3400ft	Brize CTR (D) London FIR (G)	<p><b>The Voyager pilot</b> reports recovering to Brize Norton, overhead the BZ NDB and descending to 2800ft when both the Captain and Co-pilot saw what they both thought to be a large bird in the 1 o'clock position at about the same height. As the aircraft flew just south of the BZ and began a left turn onto a vector of 090°, the object was seen to pass down the right side of the aircraft and above. As the object got closer it was noted that it was a drone and not a bird but it passed without incident. The pilot noted that the drone was circular, black or blue in colour and was considered large in size for a drone. The object was immediately reported to Brize Director.</p> <p><b>Reported Separation:</b> ~200ft V/~90m H <b>Reported Risk of Collision:</b> Medium</p>	<p><b>Cause:</b> The drone was being flown beyond practical VLOS limits and was endangering other aircraft at that location and altitude. The Board agreed that the incident was therefore best described as the drone was flown into conflict with the Voyager.</p> <p><b>Risk:</b> The Board considered that the pilot's estimate of separation, allied to his 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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2017240	01 Oct 17 1603	A320 (CAT)	Drone	5138N 00005E 2nm west LAM FL90	London TMA (A)	<p><b>The A320 pilot</b> reports that he was exiting the LAM hold when he saw a drone. There was no time for avoiding action.</p> <p><b>Reported Separation:</b> 300ft V/NK H <b>Reported Risk of Collision:</b> Medium</p>	<p><b>Cause:</b> The drone was being flown beyond practical VLOS limits and was endangering other aircraft at that location and altitude. The Board agreed that the incident was therefore best described as the drone was flown into conflict with the A320.</p> <p><b>Risk:</b> The Board considered that the pilot's estimate of separation, allied to his overall account of the incident and his inability to avoid the object portrayed a situation where although safety had been reduced, there had been no risk of collision.</p>	C
2017249	16 Oct 17 1655	A320 (CAT)	Drone	5143N 00032W BNN Hold FL85	London TMA (A)	<p><b>The A320 pilot</b> reports that he noticed what he initially thought was a helicopter heading towards them, he thought it must be 1000ft below them as it looked close. He looked to see if anything was showing on TCAS but there wasn't. He looked back outside and saw it was passing underneath them and off to the right, opposite direction. Due to their speed and the lighting and position of the sun, it was difficult to obtain a detailed description, but it was a drone like rotorcraft, possibly dark in colour with what seemed to be a light on the top of it. He is confident it was a drone and not a balloon, so he reported it to ATC.</p> <p><b>Reported Separation:</b> 200ft V/200m H <b>Reported Risk of Collision:</b> Medium</p>	<p><b>Cause:</b> The drone was being flown beyond practical VLOS limits and was endangering other aircraft at that location and altitude. The Board agreed that the incident was therefore best described as the drone was flown into conflict with the A320.</p> <p><b>Risk:</b> The Board considered that the pilot's estimate of separation, allied to his overall account of the incident and his inability to avoid the object portrayed a situation where although safety had been reduced, there had been no risk of collision.</p>	C