

Use of Drones and Lasers near Airports

What this paper is about

This paper summarises the extent of the problem in the UK with regard to the use of drones near airports and laser strikes on aircraft and provides an update on the work of the Government and industry.

Points for Discussion

- Delegates to share any initiatives being pursued by their airport community in tackling the problem of drones and laser strikes at their airports
- Whether there is a role for ACCs in helping to keep local communities informed and raising awareness of the risks involved, of the authorisations needed to operate drones as well as being the eyes and ears for the local police in respect of inappropriate use of lasers.

Possible Action

Dependent on the discussion at the meeting.

Background

1. Pilots used to worry most about bad weather and bird strikes. Now, drones and lasers are on the list of flying risks too. Incidents involving drones and laser strikes on aircraft are on the increase across the globe and the aviation industry is working with governments and authorities to tackle this serious problem.

2. This paper summarises the extent of the problem in the UK and the work of the Government and industry.

Use of Drones near airports

3. Airproxes involving drones (a situation in which, in the opinion of a pilot or air traffic services personnel, the distance between aircraft as well as their relative positions and speed have been such that the safety of the aircraft involved may have been compromised) are on the increase. The UK Airprox Board meets once a month and between January 2015 – February 2016 30 Airproxes involving drones were discussed. The incidents took place in all classes of UK Airspace, involving both commercial and GA aircraft at a variety of heights from 20ft – 8000ft.

4. A number of member ACCs have discussed this serious issue with their airports. Delegates will be aware of the correspondence the Manchester ACC has had with the Secretary of State for Transport about the potential disruption, dangers and risks arising from the flying of drones in the vicinity of an airport (previously circulated to member ACCs). Manchester ACC was concerned that any improper operation, particularly near to airports, could pose a threat to aircraft and nearby residents and hoped that the Government could address this problem through enhanced legislation and/or regulation in order to ensure a safe and controlled environment for drone flying. The response of the Minister for Aviation, Robert Goodwill MP, is reproduced in the Appendix. Leeds Bradford ACC has also shared with the UKACCs Secretariat a presentation that was recently given at its meeting giving details of the current situation in relation to drones and lasers. A copy of that presentation has been circulated by email with the papers for the Annual Meeting as way of background information.

5. The British Airline Pilots' Association (BALPA) has been particularly active in its campaign to the Government and the CAA to seek tighter regulation and enforcement and warned that a collision with a passenger jet or helicopter could be "catastrophic". The group has called for the UK to follow the US and introduce stricter rules and a registration system so that drone operators can be traced and prosecuted. The announcement in the Queen's Speech (May 2016) that the Government will introduce new regulations on drones in a forthcoming Modern Transport Bill to bring forward drone legislation is to be welcomed. The industry is continuing work with the DfT and the CAA in developing and refining new regulations before the bill is laid before Parliament. It is acknowledged however that better and safer regulation is not the complete answer and it is vital that the hobbyist drone user is educated about the rules, and understands his or her responsibilities, particularly the importance of keeping away from commercial air traffic.

6. The CAA has dedicated pages on its website giving advice about the operation of drones¹. The CAA also published last year guidance on the operation of drones. Below are two links which provide helpful information about the current position:

- A press release issued by the CAA on 22 July giving guidance on the operation of drones and welcoming moves by drone manufacturers to build in 'geo-fencing' capabilities into their products
<http://www.caa.co.uk/application.aspx?catid=14&pagetype=65&appid=7&newstype=n&mode=detail&nid=2468>
- CAP722 referred to in MACC letter to the Secretary of State for Transport <https://www.caa.co.uk/application.aspx?catid=33&pagetype=65&appid=11&mode=detail&id=415>

¹ <http://www.caa.co.uk/Consumers/Model-aircraft-and-drones/The-Dronecode/>

7. In addition to this, the insurance industry is also alive to the issue and dedicated drone insurance policies are available.

Laser Strikes

8. Laser illumination of aircraft continues to be a significant threat to aviation. Lasers have been a problem for pilots for a number of years but as more powerful devices have become easier to buy online the number of incidents have increased significantly. The table below gives a monthly breakdown of the most frequent laser incident locations in the UK for 2015. As can be seen a total of 882 incidents were reported.

Monthly Breakdown of the Most Frequent Laser Incident Locations UK 2015 upto Qtr 3*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
EGLL (LHR): London/Heathrow	18	8	8	7	5	2	8	17	10	0	0	0	83
EGBB (BHX): Birmingham	6	4	8	3	9	7	4	13	9	0	0	0	63
EGCC (MAN): Manchester/Intl	4	4	4	5	5	2	7	13	4	0	0	0	48
EGNM (LBA): Leeds Bradford	5	4	6	4	4	4	9	9	3	0	0	0	48
EGNT (NCL): Newcastle	7	1	2	4	0	5	8	13	5	0	0	0	45
EGKK (LGW): London/Gatwick	8	0	3	2	7	3	4	2	1	0	0	0	30
EGLC (LCY): London city	6	3	12	0	0	0	0	5	3	0	0	0	29
EGGW (LTN): London/Luton	1	5	3	2	6	1	2	5	2	0	0	0	27
EGNX (EMA): Nottingham East Midlands	3	1	4	2	0	6	3	6	1	0	0	0	26
EGPH (EDI): Edinburgh	4	3	0	3	1	1	5	8	1	0	0	0	26
EGGD (BRS): Bristol/Lulsgate	1	6	1	3	1	0	7	6	1	0	0	0	26
EGGP (LPL): Liverpool	2	1	3	1	4	1	5	5	2	0	0	0	24
EGPF (GLA): Glasgow	3	0	3	6	1	0	3	4	4	0	0	0	24
EGAA (BFS): Belfast/Aldergrove	1	3	3	0	2	1	2	10	0	0	0	0	22
All other UK Locations total	38	43	30	25	17	25	52	80	51	0	0	0	361
Grand total	107	86	90	67	62	58	119	196	97	0	0	0	882

9. BALPA is working with a number of agencies (including the CAA, the UK Flight Safety Committee and the Police) to address this issue but it is extremely concerned that there are still incidents in the UK involving lasers being directed at aircraft, both fixed wing and rotary, during all phases of flight. Laser illumination of an aircraft will inevitably startle and dazzle the pilots and may result in significant pilot distraction. There is now a widely held concern that a laser illumination event may result in a serious injury being sustained by a pilot during flight, with the associated erosion of flight safety margins. Delegates will recall recent press coverage of the laser strike on the Virgin Atlantic flight that had to return to Heathrow Airport as a "precautionary measure" after the co-pilot reported feeling unwell following the laser strike.

10. The National Police Air Service (NPAS) has also reported that the severity of the incidents has increased on its aircraft as more powerful lasers become available. NPAS is on the multi-agency UK Government's laser working group, which is pushing for stronger legislation around the purchase and use of laser devices. NPAS wants to bring the UK in line with countries such as Australia, New Zealand and the USA where laser attacks are federal offences and attract stiff penalties.

Local Action

11. It is acknowledged that strengthening legislation and enforcement is needed and the efforts of the industry and the Government is welcomed. However, the incidents are usually as a result of the actions of the general public and it is questioned whether more can be done to raise awareness amongst the wider community around airports about the potential serious consequences of the inappropriate use of drones and laser near airports. A number of member ACCs have already discussed the problems with their airport management and it would be helpful to learn whether there are any initiatives being pursued by member ACC airports and their local police that could assist other airports in tackling the problem. Delegates are asked to share their experience at the meeting.



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Dear Mr Flynn,

Thank you for your letter of 28 July to Patrick McLoughlin, about the operations of drones near to Airports. I am replying as Minister responsible for this issue.

With the recent growth of the number of relatively inexpensive drones, a set of new users (hobbyists) has been created who may not immediately link the fact that their 'new small unmanned aircraft' could pose a risk to other aircraft. For this group of people that have caused some concern around airports, as identified in your letter, we feel that publicity and education (regarding the basic safety requirements) are the quickest and most effective methods to address this issue in the short term. Once the link to a collision risk with other aircraft is made, people should be sufficiently aware and hence be expected to behave in a responsible manner.

Some additional technical solutions are already available, although we must also be aware that this is an international issue due to the fact that most of these products are manufactured overseas. For example, DJI, the Chinese manufacturer of the world's most popular 'drone' (the Phantom), already employs a GPS derived 'geofence' system within its software which prevents flight within 1.5nm of the main airports in the world (28 of these are in the UK) and has recently also set a default height limit of 400ft. This is clearly a positive step, but other manufacturers may not be so 'forward thinking' and thus we still need operators to be aware and act responsibly.

I can also confirm that officials from my department are currently in discussions with the Home Office and Police with regards to the policing and monitoring of such vehicles. The department also hosts a regular cross government working group on Remotely Piloted Aircraft Systems (RPAS) and

drones, which has a work stream focused on looking at threats and risks. The department has been in discussions with the British Airline Pilots Association (BALPA) who have raised concerns about the risks to pilots, which are being carefully considered.

Further to this the department will be launching a series of public dialogues, to be followed by a public consultation which will, along with the other work streams mentioned, inform a Government strategy to be published in 2016. This public dialogue and consultation will give the general public an opportunity to express their views about the use and operation of drones in the UK and the laws governing the use / misuse of drones.

Yours sincerely

A handwritten signature in black ink, appearing to be 'R. Goodwill', written over a circular scribble.

ROBERT GOODWILL