

## Follow-up Action on Occurrence Report

### ACCIDENT TO HAWKER HUNTER T7, G-BXFI, NEAR SHOREHAM AIRPORT, WEST SUSSEX, ON 22 AUGUST 2015

<b>CAA FACTOR NUMBER</b>	:	F1/2019
<b>FACTOR PUBLICATION DATE</b>	:	16 May 2019
<b>TYPE OF FLIGHT</b>	:	Aerial Display
<b>CAA OCCURRENCE NUMBER</b>	:	201511517
<b>AAIB ACCIDENT REPORT</b>	:	1/2017
<b>AAIB SPECIAL BULLETIN</b>	:	S1/2016

#### **SYNOPSIS**

From the AAIB report

The aircraft was taking part in an air display at Shoreham Airport during which it conducted a manoeuvre with both a vertical and rolling component, at the apex of which it was inverted. Following the subsequent descent, the aircraft did not achieve level flight before it struck the westbound carriageway of the A27.

This FACTOR updates the CAA's responses for Safety Recommendations 2016-037 and 2016-038, for which responses were initially provided in two separate FACTOR publications, as referenced below.

#### **FOLLOW UP ACTION**

##### **Recommendation 2016-037**

It is recommended that the Civil Aviation Authority require that displaying aircraft are separated from the public by a sufficient distance to minimise the risk of injury to the public in the event of an accident to the displaying aircraft.

**Extract from FACTOR F4/2016, published 09 June 2016**

##### **CAA Response**

The CAA understands that this recommendation relates to members of the public attending a flying display. The CAA accepts this recommendation. The MAA has commissioned an independent study into crowd separation distances. This research is ongoing and should report in 2017.

As the MAA research is ongoing, the CAA decided in its review of UK civil air displays that, as an interim measure, where current MAA crowd separation distances are higher it would align with them. The increased distances were announced in April this year in the final report of the CAA's Review of UK Civil Air Displays. The CAA will confirm crowd separation distances after the independent study commissioned by the MAA into crowd separation distances reports in 2017.

### **Recommendation 2016-038**

It is recommended that the Civil Aviation Authority specify the minimum separation distances between secondary crowd areas and displaying aircraft before issuing a Permission under Article 162 of the Air Navigation Order.

### **Extract from FACTOR F4/2016, published 09 June 2016**

The CAA does not accept this recommendation. It is the responsibility of the flying display organiser and FDD to identify all the risks to which the public may be exposed, from wherever they may choose to view the air display, and to mitigate or manage those risks. Details of how the flying display organiser and FDD have identified the risks and then intend to mitigate or manage them must be set out in the risk assessment they submit to the CAA when requesting Permission to hold an air display.

### **Subsequently, FACTOR F4/2016 Issue 2 was published on 24 January 2017 providing a revised update for both Safety Recommendations**

#### **Extract:**

Note: Following discussions between AAIB and CAA it was agreed for the CAA's updated response to recommendations 2016-037 and 2016-038 to be combined as detailed below.

The CAA will conduct a review, within six months of publication by the MAA of a study by Frazer-Nash, to consider whether any changes are required to the minimum distance that display aircraft are to be separated from the public (primary and secondary crowds) to effectively minimise the risk of injury to the public in the event of an accident to the displaying aircraft. In the event that this study does not deliver a clear output or is terminated, for any reason, the CAA will consider what additional work will be needed to resolve this Recommendation. Subject to the findings of the study and the outcome of the review, the CAA shall make any necessary revisions to the application process for Permissions granted under Article 86 of the Air Navigation Order 2016.

### **Update May 2019**

The combined response above contained in FACTOR F4/2016 Issue 2 was assessed by AAIB as 'Adequate-Closed' in 'Aircraft Accident Report (AAR) 1/2017 – G-BXFI'.

Since the January 2017 update, the CAA has:

- Further reviewed the analysis contained in the 1993 Cranfield Report into Airshow Separation Distances.
- Conducted a review of the MAA's own Study into Air Display Crowd Distances (Frazer-Nash), to consider whether any changes were required to the minimum distance that (civil) display aircraft are to be separated from the public

- Incorporated actions to prevent the gathering of secondary crowds to protect third parties into CAP 403: Flying Displays and Special Events: Safety and Administrative Requirements and Guidance.

Whilst the Frazer-Nash study is concerned with display distances from the primary crowd, there remains a requirement to ensure that displaying aircraft are suitably separated from any secondary crowds or third parties. To ensure that aircraft do not pose a risk to secondary crowds, CAP 403: Flying Displays and Special Events: Safety and Administrative Requirements and Guidance has been updated to incorporate a number of changes that achieve this. The amendments include:

- The designing of a display area prior to the event within which non-essential personnel are not permitted.
- The identification and management of areas of potential secondary spectator build up, along with actions that can be put in place to help prevent such gatherings.
- Highlighting any specific areas of concern such as major / minor roads, adjacent congested / built up areas, likely areas for gatherings of secondary spectators, terrain, etc. Once identified these issues will assist in the production of the Flying Display Risk Assessment and help define appropriate mitigating actions.
- The prevention of Display Pilots performing over any building, vessel or vehicle which the commander has reason to believe is occupied by non-essential personnel or known secondary spectator crowds.

Therefore, the analysis conducted by both the MAA and CAA does not indicate that separation distances should be revised. It determined that moving the display line closer to the crowd would increase the risk to the public.

The CAA considers that it would be beneficial to conduct further analysis of the aircraft in the Light Aircraft category to establish whether exemptions issued inside 150m require revision. The CAA believes there are no safety concerns arising from the existing protocols for applying separation distances in this category.

**Therefore, the CAA will not change the minimum distance that display aircraft are to be separated from the public and continue to use the extant display distances.**

As such there is no requirement for the CAA to revise the application process for Permissions granted under Article 86 of the Air Navigation Order 2016.

**CAA Status – Closed**