

Follow-up Action on Occurrence Report

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

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| CAA FACTOR NUMBER | : | F4/2016 Issue 2 |
| FACTOR PUBLICATION DATE | : | 24 January 2017 |
| TYPE OF FLIGHT | : | Air Display |
| CAA OCCURRENCE NUMBER | : | 201511517 |
| AAIB SPECIAL BULLETIN | : | S1/2016 |

SYNOPSIS

From AAIB Special Bulletin S1/2016

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. Fourteen Safety Recommendations were made and responded to in the original issue of this FACTOR dated 09 June 2016. Issue 2 of this FACTOR addresses amendments and evolutions where the CAA has felt it appropriate as a result of further review and ongoing liaison with AAIB.

Recommendations where the CAA response is unchanged from the original FACTOR are not included in this issue. Therefore, Issue 2 should be read in conjunction with the original FACTOR response to provide the complete suite of responses to the seven Safety Recommendations. The amendments and evolutions in this revision completely supersede the original responses to the referenced Safety Recommendations.

Reference Material:

1. **Special Bulletin S3/2015** was published by the AAIB on 4 September 2015 to provide preliminary information about the accident gathered from ground inspection, radar data, recorded images and other sources.
2. CAA FACTOR F1/2016 was published on 8 April 2016 and was in response to the AAIB's **Special Bulletin S4/2015**, which was published by the AAIB on 21 December 2015. This Special Bulletin highlighted findings of the AAIB investigation regarding ejection seat safety and the maintenance of ex-military jet aircraft, and to assist the Civil Aviation Authority in its 'Review of UK Civil Air Displays' announced on 9 September 2015.

FOLLOW UP ACTION

Recommendation 2016-031

It is recommended that the Civil Aviation Authority review and publish guidance that is suitable and sufficient to enable the organisers of flying displays to manage the associated risks, including the conduct of risk assessments.

CAA Response

The CAA will review the findings contained in the HSL reports on the management of risk, in conjunction with the conclusions of its post-implementation review of UK Civil Air Displays.

The CAA will complete this review and publish any updated guidance by April 2017.

CAA Status – Open

Recommendation 2016-033

It is recommended that the Civil Aviation Authority introduces a process to ensure that the organisers of flying displays have conducted suitable and sufficient risk assessments before a Permission to hold such a display is granted under Article 162 of the Air Navigation Order.

CAA Response

The CAA has already introduced enhanced risk assessment guidance to assist event organisers when conducting such risk assessments. The CAA cannot carry out its own risk assessments in respect of every application for a display (and so cannot “ensure” that suitable and sufficient risk assessments have been carried out) and has introduced a process so that, when considering an application for a Permission to hold a display under Article 86 of the Air Navigation Order 2016 (previously Article 162 of the Air Navigation Order 2009), the CAA considers whether the application aligns with the CAA’s guidance.

The CAA intends also to review the findings of the HSL reports in conjunction with the conclusions of the CAA’s own post-implementation review of UK Civil Air Displays in order to consider whether any updated guidance on the management of risk is necessary (see FACTOR response to Safety Recommendation 2016-031 above).

The CAA will clarify the responsibilities of organisers / FDDs in this respect during this review and complete and publish any updated guidance by April 2017.

For the 2017/2018 seasons the CAA will review each risk assessment submitted with an application for a display against the specified criteria notified in CAP 403. Where those criteria are not met, the CAA will request further information from the applicant or, where necessary, not grant a permission for that display.

CAA Status – Open

Recommendation 2016-034

It is recommended that the Civil Aviation Authority specify the information that the commander of an aircraft intending to participate in a flying display must provide the organiser, including the sequence of manoeuvres and the ground area over which the pilot intends to perform them, and require that this is done in sufficient time to enable the organiser to conduct and document an effective risk assessment.

CAA Response

The risk assessment conducted by the FDD is required to be informed by and take account of both the manoeuvres intended to be flown and the area of ground over which they will be flown.

The CAA has amended CAP 403 Appendix B "Certificate to be supplied to the event organiser by a pilot participating in a flying display", to specify the information that the commander of the aircraft intending to participate in a flying display must provide to an organiser in advance of a display, including the manoeuvres intended to be flown. Appendix B must be supplied in sufficient time to enable the event organiser to conduct a risk assessment for the display. The risk assessment (to be submitted with the application for a Permission) must also take account of the ground area over which the display will be performed, which in turn will enable the CAA to specify the boundaries of a flying display within which any permission applies.

The CAA has introduced a requirement, in CAP 403 for any pilot intending to fly aerobatic manoeuvres to notify the FDD of the series of the linked manoeuvres that they intend to perform at least one day prior to a display. If the information is not provided, the FDD must not allow the pilot to fly in the display. This information, together with the prior notification of a defined area within which the permission applies, will support the implementation of an effective risk assessment.

CAP 403 was amended in June 2016. Completed.

CAA Status – Closed

Recommendation 2016-036

It is recommended that the Civil Aviation Authority remove the general exemptions to flight at minimum heights issued for Flying Displays, Air Races and Contests outlined in Official Record Series 4-1124 and specify the boundaries of a flying display within which any Permission applies.

CAA Response

The CAA has removed the general exemption to flight at minimum heights issued for civil air displays, air races and contests, outlined in Official Record Series 4-1124. Display Permissions granted by CAA under Article 86 of the Air Navigation Order 2016 now specify the boundaries of a flying display within which the permission applies.

CAA Status – Closed

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.

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.

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.CAA Response

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.

CAA Status – Open

Recommendation 2016-041

It is recommended that the Civil Aviation Authority require a Display Authorisation to be renewed for each class or type of aircraft the holder intends to operate during the validity of that renewal.

CAA Response

The CAA will review the list of different categories of aircraft relevant to pilot Display Authorisation renewal and assess the impact of operating differences between each category. The CAA will expand this work to include a study of the potential for inappropriate transfer of behaviours between aircraft types. The CAA will consider introducing any relevant findings into the ongoing training and assessment requirements for display pilots, including the requirements for Display Authorisation renewal.

The CAA will conclude this review and publish its findings by April 2018.

CAA Status – Open

Recommendation 2016-044

It is recommended that the Civil Aviation Authority establish and publish target safety indicators for United Kingdom civil display flying.

CAA Response

The CAA will undertake a study to identify and publish meaningful safety indicators for civil display flying.

The CAA will conclude this study and publish safety indicators by September 2017.

CAA Status – Open