

## Follow-up Action on Occurrence Report

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*ACCIDENT TO HAWKER HURRICANE MK XII (IIB), G-HURR, AT NEAR SHOREHAM AIRPORT, SUSSEX ON 15 SEPTEMBER 2007*

**CAA FACTOR NUMBER** : F10/2009 (as revised)  
**FACTOR PUBLICATION DATE** : 9 April 2010  
**OPERATOR** : Private  
**CAA OCCURRENCE NUMBER** : 2007/08986  
**AAIB REPORT** : AAR 6/2009

#### SYNOPSIS

From AAIB Report:

The Hurricane aircraft was taking part in a flying display and was following another Hurricane in a tail chase. Both aircraft flew past the spectators along the display line at a height of approximately 200ft before tracking to the north-west and climbing. The lead Hurricane climbed to approximately 1,000ft above ground level (agl), pitched nose-up about 45deg and rolled to the left through 270deg, before pulling into a right turn to rejoin the display line. The second Hurricane, which was approximately 700ft agl, pitched nose-up about 15deg before rolling to the left. As it reached the inverted position, the roll stopped, the nose dropped and the aircraft entered a steep dive. It struck the ground, fatally injuring the pilot. The aircraft was destroyed by ground impact and subsequent fire.

The pilot appeared to have attempted to follow the manoeuvre flown by the landing pilot. Although the airspeed was adequate, the aircraft had insufficient nose-up pitch attitude at the point of entry to ensure safe execution of the manoeuvre in the height available. When the aircraft was inverted, the roll stopped, the nose dropped and insufficient height was available to recover from the dive.

As a result of this accident six Safety Recommendations are made.

#### FOLLOW UP ACTION

The six Safety Recommendations made by the AAIB following their investigation are reproduced below together with the CAA's responses.

*The original version of this FACTOR F10/2009 was issued on 20 October 2009. The FACTOR has been updated to include new CAA responses for Recommendations 2009-052, 2009-054 and 2009-057.*

#### Recommendation 2009-052 (revised 9 April 2010)

It is recommended that the UK Civil Aviation Authority requires that the sequence of manoeuvres for a flying display is clearly specified in advance of the display and provided to the display organiser and that the sequence is practised prior to displaying to the public.

## **CAA Response**

The CAA accepts this Recommendation. CAP 403 (Eleventh Edition - dated 1 April 2009) requires that:

- a) the Flying Display Director during the planning phase of the event will be required to consider and manage pilot display programmes.
- b) the Flying Display Director ensures that pilots do not carry out any form of impromptu display.
- c) participants remain aware that the impromptu, ad hoc, unrehearsed or unplanned should never be attempted.
- d) the Flying Display Director is charged with circulating, prior to the event a written brief to all participants which will include details of manoeuvres to be flown at the event that are known and have been practised (including bad weather 'flat-shows').
- e) pilots are required to have flown or practised at least three full display sequences (at least one of which was flown or practised on the aircraft type to be utilised in the display) in the 90 days preceding the event.
- f) on the day of the event, no pilot may take part in the event unless he has participated in the formal Flying Display briefing, either in person or telephonically (if he is not landing at the flying display site).

**CAA Status - Closed**

## **Recommendation 2009-053**

It is recommended that the UK Civil Aviation Authority amend the Display Authorisation process to identify the level of aerobatic manoeuvres a pilot is permitted to perform when leading or flying as a member of a tail chase.

## **CAA Response**

The CAA accepts this Recommendation. An amended process is now in place. Display Authorisations issued to pilots who are not allowed to perform aerobatic manoeuvres during tail chases now make this clear. Some 30 pilots who already held Display Authorisations but were not allowed to fly aerobatics during tail chases have had new Display Authorisations issued.

**CAA Status - Closed**

## **Recommendation 2009-054 (revised 9 April 2010)**

It is recommended that the UK Civil Aviation Authority introduce a recurrent programme of Human Factors training for display pilots. The training should specifically address human performance and its limitations when undertaking display flying and should form part of the display authorisation process.

## **CAA Response**

The CAA accepts this Recommendation. CAA Document 743 "Civil Air Displays, A Guide For Pilots", which is available on the CAA website, contains Human Factors advice in "plain English". The application procedure for a Display Authorisation requires a Display Evaluator to cover Human Factors in the form of personal limitations and the applicant's mental attitude to display flying. Further recurrent training for Human Factors was discussed at the 2009 Display Authorisation Evaluator's Seminar held in November 2009. An amendment has been made to CAP 403 "Flying Displays and Special Events: A Guide to Safety and Administrative Arrangements" to include a Human Factors reference in the Application Forms.

**CAA Status - Closed**

## **Recommendation 2009-055**

It is recommended that the UK Civil Aviation Authority should amend CAP 403 to require a pilot to demonstrate competence in each aircraft category to be flown and the level of aerobatic manoeuvres to be performed in the specific flying display discipline (solo, formation, tail chase) for which the Display Authorisation is being sought.

## **CAA Response**

The CAA accepts this Recommendation in so far as it is already a requirement in CAP 403, at Ch 6, for a pilot to complete a Display Authorisation flight each time he changes aircraft category. During that flight any specific flying display discipline that the pilot has not previously been authorised to perform will be required to be flown. However, for example, where the pilot has already been granted a DA for formation flying in one category and is an experienced formation pilot, then it might not be considered necessary for his ability to fly in formation in a new category to be demonstrated during a DA flight. Instead the flight would be used to demonstrate his ability to operate the new category of aircraft safely at display heights while performing the manoeuvres included in the display sequence. CAP 403 also covers the requirement for DA renewal on multiple categories of aircraft. However, if the intent of the Recommendation is that the pilot should be required to demonstrate all flying display disciplines that are to be flown in the new category of aircraft irrespective of his previous experience, then the CAA does not accept the Recommendation as it believes that previous experience should be taken into account.

**CAA Status - Closed**

## **Recommendation 2009-056**

It is recommended that the UK Civil Aviation Authority (CAA) remind CAP 632 operators of the need to clearly identify in the Organisational Control Manual the level of initial and recurrent training required and that the CAA should ensure compliance with those requirements.

## **CAA Response**

The CAA accepts this Recommendation. This requirement is in place and is covered in the annual audit of CAP 632 operators.

**CAA Status - Closed**

## **Recommendation 2009-057 (revised 9 April 2010)**

It is recommended that the UK Civil Aviation Authority conduct periodic reviews of the current operating requirements to ensure that they provide adequate safety for display flying.

## **CAA Response**

The CAA accepts this Recommendation. CAP 403 was reviewed in 2008/9 and the 11th edition was published on 1st April 2009. A further review of current operating requirements was undertaken during the 2009 Display Authorisation Evaluator's Seminar held in November 2009 and it was concluded that the current operating requirements were satisfactory. Future seminars will include a review of operating requirements as a standing agenda item. CAP 403 was further reviewed and updated to Edition 12 as of 1 March 2010.

**CAA Status - Closed**