

Hawker Hunter T7,
G-BXFI

Near Shoreham Airport,
West Sussex

22 August 2015

Accident

Safety Recommendation 2015-041

It is recommended that the Civil Aviation Authority require operators of ex-military aircraft fitted with ejection seats or other pyrotechnic devices operating in the United Kingdom, to ensure that hazard information is readily available which includes contact details of a competent organisation or person able to make the devices safe following an accident.

Date Safety Recommendation made:

22 December 2015

LATEST RESPONSE

Response received:

8 April 2016

The CAA accepts this recommendation. To ensure that hazard information is readily available for aircraft participating in flying displays, the CAA will amend the certificate supplied to the Flight Display Director by a pilot participating in a flying display to identify the pyrotechnic devices fitted to the aircraft and the contact details of a competent organisation or person able to make the devices safe (or advise on doing so) following an accident. The revised form will be published before the end of April 2016 as part of an amendment to CAP 403.

The CAA is currently reviewing how best to ensure that the same information is readily available for aircraft not participating in flying displays. This review will be completed before the end of June 2016.

AAIB Assessment – Adequate - Closed

RESPONSE HISTORY

N/A

Safety Recommendation 2015-042

It is recommended that the Civil Aviation Authority review the guidance in CAP 632 with respect to ejection seats and the means by which operators of ex-military aircraft equipped with them comply with this guidance. This review should include:

- The benefits and hazards of aircrew escape systems in civilian operated aircraft
- The use of time-expired components
- The availability of approved spares
- The seat manufacturer's guidance on deactivating its historic products
- Adoption of a dedicated Maintenance Approval for persons or organisations competent to perform ejection seat maintenance

Date Safety Recommendation made:

22 December 2015

LATEST RESPONSE

Response received:

8 April 2016

The CAA accepts this recommendation and is undertaking a review of ejection seat safety as part of the Air Display Review. This review includes consideration of each of the specific points highlighted by this recommendation and will be completed before the end of December 2016.

AAIB Assessment – Adequate - Closed

RESPONSE HISTORY

N/A

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Safety Recommendation 2015-043

It is recommended that the Civil Aviation Authority promote a process for the effective dissemination of ex-military jet aircraft experience and type-specific knowledge between individual maintenance organisations.

Date Safety Recommendation made:

22 December 2015

LATEST RESPONSE

Response received:

8 April 2016

The CAA accepts this recommendation. By December 2016, the CAA will establish and promote a process for the more effective dissemination of ex-military jet aircraft experience and type-specific knowledge between individual maintenance organisations.

AAIB Assessment – Adequate - Closed

RESPONSE HISTORY

N/A

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Safety Recommendation 2015-044

It is recommended that the Civil Aviation Authority establish a minimum amendment standard for the technical publications for each ex-military jet aircraft operated on the United Kingdom civil register.

Date Safety Recommendation made:

22 December 2015

LATEST RESPONSE

Response received:

8 April 2016

The CAA does not accept this recommendation. Each ex-military aircraft accepted by the CAA is on the basis of its individual build and modification standards and as such, examples of the same type may be operated and maintained to different manual amendments perfectly justifiably – it may not be desirable or even possible to establish a minimum standard for each publication.

However, the sharing of information at type or class forums and the review of maintenance programmes mentioned in the Air Display Review may result in some aircraft adopting a later standard of publication, where appropriate.

AAIB Assessment – Not Adequate - Open

RESPONSE HISTORY

N/A

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Safety Recommendation 2015-045

It is recommended that the Civil Aviation Authority require that the maintenance programme relating to an ex-military jet aircraft is transferred with the aircraft when it moves to another maintenance organisation to ensure continuity of the aircraft's maintenance.

Date Safety Recommendation made:

22 December 2015

LATEST RESPONSE

Response received:

8 April 2016

The CAA does not accept this recommendation. The maintenance programme for an individual aircraft is customised to the particular operation of the aircraft at a given time so continuity may not always be appropriate. This is not unique to the ex-military aircraft community but is common across the aviation industry.

The maintenance programme is the proprietary information of its author(s), though an organisation may opt to transfer it with an aircraft. The owner and maintenance organisation to which an aircraft is transferred are required to establish a maintenance programme that is suitable for the aircraft, with consideration to its operation and previous maintenance history, which is recorded in the logbooks and technical records that are transferred upon a change of ownership and/or maintenance organisation. The CAA considers that this facilitates an appropriate level of continuity of the aircraft's maintenance, where appropriate.

AAIB Assessment – Not Adequate - Open

RESPONSE HISTORY

N/A

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Safety Recommendation 2015-046

It is recommended that the Civil Aviation Authority review the effectiveness of all approved Alternative Means of Compliance to Mandatory Permit Directive 2001-001.

Date Safety Recommendation made:

22 December 2015

LATEST RESPONSE

Response received:

8 April 2016

The CAA does not accept this recommendation. There have been no changes to the design of the engine, nor any inadequacy in the effectiveness of associated inspection and monitoring methods identified.

AAIB Assessment – Not Adequate - Open

RESPONSE HISTORY

N/A

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Safety Recommendation 2015-047

It is recommended that the Civil Aviation Authority review its procedures to ensure that a 'Permit to Fly-Certificate of Validity' is valid when it is issued.

Date Safety Recommendation made:

22 December 2015

LATEST RESPONSE

Response received:

8 April 2016

The CAA does not accept this recommendation. The procedure to ensure that a 'Permit to Fly-Certificate of Validity' is valid when issued sits with the approved organisation as set out below. Where a Certificate of Validity is recommended by such an organisation for issue by the CAA, the CAA conducts a quality check to verify the technical and editorial content of the Certificate in accordance with the supporting information provided by the applicant.

An organisation approved by the CAA to conduct an airworthiness review on such aircraft is granted the privilege, under its approval, to declare to the CAA that a particular aircraft complies with the requirements of BCAR Section A Chapter A3-7, which includes completing a physical survey of the aircraft and a documented review of its records to determine its airworthiness status. The CAA, under the current oversight regime, is not required to validate the work carried out under this approval before a Certificate of Validity is issued.

An organisation's compliance with these requirements, including the adequacy of declarations, is audited as part of CAA's continued surveillance activity.

The current process is consistent with that in place for both National and EASA aircraft operating under a Certificate of Airworthiness.

AAIB Assessment – Not Adequate - Open

RESPONSE HISTORY

N/A

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Safety 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.

Date Safety Recommendation made:

10 March 2016

LATEST RESPONSE

Response received:

9 June 2016

The CAA has accepted the recommendation that it should review its guidance. It remains the responsibility of the organisers of flying displays to follow this guidance and conduct risk assessments that are suitable and sufficient to manage the risks associated with the air displays that they are organising.

The CAA reviewed its guidance and published updated guidance on 3 May 2016 in an updated version of the CAA's document 'Flying displays and special events: A guide to safety and administrative arrangements'.

AAIB Assessment – Partially Adequate - Open

RESPONSE HISTORY

N/A

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Safety Recommendation 2016-032

It is recommended that the Civil Aviation Authority specify the safety management and other competencies that the organiser of a flying display must demonstrate before obtaining a Permission under Article 162 of the Air Navigation Order.

Date Safety Recommendation made:

10 March 2016

LATEST RESPONSE

Response received:

9 June 2016

The CAA accepts this recommendation.

The CAA will specify the safety management and other competencies that the organiser of a flying display must demonstrate before obtaining a Permission under Article 162 of the Air Navigation Order. This will be completed by the end of March 2017.

AAIB Assessment – Adequate - Closed

RESPONSE HISTORY

N/A

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Safety 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.

Date Safety Recommendation made:

10 March 2016

LATEST RESPONSE

Response received:

9 June 2016

The CAA accepts this recommendation that organisers of flying displays must conduct suitable and sufficient risk assessments.

It remains the responsibility of organisers of flying displays to conduct suitable and sufficient risk assessments. The CAA has introduced a new risk assessment process for display applications together with a new risk assessment template and a revised display application form. These are designed to make it clearer to organisers of flying displays the nature of the risk assessment that must be completed. The revised process was published alongside the guidance 'Flying displays and special events: A guide to safety and administrative arrangements' in March 2016.

AAIB Assessment – Not Adequate - Open

RESPONSE HISTORY

N/A

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Safety 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 be done in sufficient time to enable the organiser to conduct and document an effective risk assessment.

Date Safety Recommendation made:

10 March 2016

LATEST RESPONSE

Response received:

9 June 2016

The CAA understands the intent here is to define the area of ground over which the commander of an aircraft will be permitted to display that aircraft. This can be done in a number of ways. The CAA does not accept that it should specify information in the manner set out in the recommendation. The CAA has concluded that the FDD's risk assessment should be informed by and take account of both the manoeuvres to be flown and the area of ground over which they will be flown.

The CAA now requires pilots to confirm to the FDD well in advance of the display briefing that their air display conforms to the air display permission granted by the CAA. If the series of linked manoeuvres or the area of ground over which the aircraft will fly is outside the areas already risk assessed by the FDD, the FDD will be able to take this into account in their risk assessment and document it accordingly.

It remains the responsibility of the organisers of flying displays to follow this guidance and conduct risk assessments that are suitable and sufficient to manage the risks associated with the air displays that they are organising.

AAIB Assessment – Not Adequate - Open

RESPONSE HISTORY

N/A

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Safety Recommendation 2016-035

It is recommended that the Civil Aviation Authority require operators of Permit to Fly aircraft participating in a flying display to confirm to the organiser of that flying display that the intended sequence of manoeuvres complies with the conditions placed on their aircraft's Permit to Fly.

Date Safety Recommendation made:

10 March 2016

LATEST RESPONSE

Response received:

9 June 2016

The CAA accepts this recommendation. The CAA now requires operators of Permit to Fly aircraft participating in a flying display to confirm to the organiser of that flying display that the intended sequence of manoeuvres complies with the conditions placed on their aircraft's Permit to Fly.

As set out in the March 2016 edition of the CAA's guidance "Flying displays and special events: A guide to safety and administrative arrangements", all pilots participating in a flying display must supply the FDD of the air display with a certificate confirming that the display that they intend to perform complies with the conditions placed on the aircraft's Certificate of Airworthiness and Permit to Fly. A template for the certificate is at Appendix B of the guidance.

AAIB Assessment – Adequate - Closed

RESPONSE HISTORY

N/A

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Safety 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.

Date Safety Recommendation made:

10 March 2016

LATEST RESPONSE

Response received:

9 June 2016

The CAA accepts the recommendation to remove the general exemptions to flight at minimum heights issued for Flying Displays, Air Races and Contests outlined in Official Record Series 4-1124. The CAA has removed the general exemptions.

Official Record Series 4-1124 was removed on 6 June 2016.

The AAIB recommends also that the CAA specify the boundaries of a flying display within which any Permission applies. The CAA does not accept this recommendation. The CAA currently specifies a display line or display area in Section 1 of each Permission that it issues. This means that while the pilot is flying on the specified display line or within the specified display area the rules of the Permission apply. When the pilot is not flying on the specified display line or within the specified display area then the normal rules of the air apply.

AAIB Assessment – Partially Adequate - Open

RESPONSE HISTORY

N/A

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Safety 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.

Date Safety Recommendation made:

10 March 2016

LATEST RESPONSE

Response received:

9 June 2016

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.

AAIB Assessment – Not Adequate - Open

RESPONSE HISTORY

N/A

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Safety 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.

Date Safety Recommendation made:

10 March 2016

LATEST RESPONSE

Response received:

9 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.

AAIB Assessment – Not Adequate - Open

RESPONSE HISTORY

N/A

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Safety Recommendation 2016-039

It is recommended that the Civil Aviation Authority require the organisers of flying displays to designate a volume of airspace for aerobatics and ensure that there are no non-essential personnel, or occupied structures, vehicles or vessels beneath it.

Date Safety Recommendation made:

10 March 2016

LATEST RESPONSE

Response received:

9 June 2016

The CAA does not accept this recommendation.

The CAA expects the organisers of flying displays and in collaboration with FDDs to identify and then mitigate or manage all the risks to the public arising from their air display. It is for the organiser of the display and the FDD to decide what course of action is necessary and how they will implement it. Furthermore the pilot is responsible for performing their display in accordance with the Permission granted under Article 162 of the Air Navigation Order and their own display authorisation.

AAIB Assessment – Superseded - closed

RESPONSE HISTORY

N/A

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Safety Recommendation 2016-040

It is recommended that the Civil Aviation Authority require Display Authorisation Evaluators to have no conflicts of interest in relation to the candidates they evaluate.

Date Safety Recommendation made:

10 March 2016

LATEST RESPONSE

Response received:

9 June 2016

The CAA does not accept this recommendation as it is impractical to achieve in the relatively small air display community and maintain a working display evaluation system.

The CAA believes that it is better to identify any potential conflicts of interest, such as personal or commercial connections, and manage them. In its Action Report of its Review of UK Civil Air Displays, published in January 2016, the CAA strengthened the display authorisation process by requiring, after the first two years, a pilot holding a display authorisation to be revalidated by a different DAE, selected by the CAA. The CAA believes this will reduce the risks of conflicts of interest.

AAIB Assessment – Partially Adequate - Closed

RESPONSE HISTORY

N/A

Safety 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.

Date Safety Recommendation made:

10 March 2016

LATEST RESPONSE

Response received:

9 June 2016

The CAA does not accept this recommendation.

From January 2016 the CAA has required that, display pilots authorised to perform above standard level aerobatics in more than one aircraft category must renew the display authorisation in each category, rather than type.

In the action report the CAA set out the six categories for renewal purposes:

- Jet powered aircraft;
- Turboprop;
- Multi-engine piston (MEP);
- Single-engine piston (SEP);
- Helicopters; and
- Others.

In the final report of its Review of UK Civil Air Displays, published in April 2016, the CAA further strengthened the requirements placed on display pilots authorised to perform standard level aerobatics. Display pilots authorised to perform standard level aerobatics in multiple categories, including jet powered and helicopter categories, must now renew in those categories at least every two years. Where that authorisation also includes one or more turboprop, MEP or SEP categories they must rotate their renewal across those categories year on year. The CAA retains the right to specify the type of aircraft within a category that a pilot is permitted to renew on.

AAIB Assessment – Not Adequate - Open

RESPONSE HISTORY

N/A

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Safety Recommendation 2016-042

It is recommended that the Civil Aviation Authority publish a list of occurrences at flying displays, such as 'stop calls', that should be reported to it, and seek to have this list included in documentation relevant to Regulation (EU) No 376/2014.

Date Safety Recommendation made

10 March 2016

LATEST RESPONSE

Response received:

9 June 2016

The CAA does not accept this recommendation.

The CAA is developing a positive reporting culture - a Just Culture – for the air display community. Within the air display sector the CAA believes that this is the most effective way to identify and address potential safety issues before they lead to accidents.

In support of this, from April this year the CAA required all event organisers and FDDs to submit, within seven days, a post-air display report to the CAA. This report must include what went well at the display, as well as information on any lapses or breaches from the required standards. Pilots must also report any aspect of their display that could have caused a significant safety risk. The CAA will record all this information. Key information will be shared with the civil air display community through briefings, the pre- and post-season seminars that the CAA jointly hosts with BADA and the MAA, and the annual seminar that the CAA organises for DAEs.

AAIB Assessment – Partially Adequate - Closed

RESPONSE HISTORY

N/A

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Safety Recommendation 2016-043

It is recommended that the Civil Aviation Authority introduce a process to immediately suspend the Display Authorisation of a pilot whose competence is in doubt, pending investigation of the occurrence and if appropriate re-evaluation by a Display Authorisation Evaluator who was not involved in its issue or renewal.

Date Safety Recommendation made

10 March 2016

LATEST RESPONSE

Response received:

9 June 2016

The CAA accepts this recommendation.

In its final report of its Review of UK Civil Air Displays, published in April 2016, the CAA announced that where a stop is called because an FDD, or member of the Flight Control Committee, has reason to doubt the fitness or competence of a pilot that pilot will be subject to a provisional suspension of their display authorisation pending an investigation by the CAA of the circumstances leading to the stop being called. In its investigation, the CAA will determine whether the suspension of the display authorisation should be withdrawn or further regulatory enforcement action taken against the pilot concerned.

AAIB Assessment – Adequate - Closed

RESPONSE HISTORY

N/A

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Safety Recommendation 2016-044

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

Date Safety Recommendation made:

10 March 2016

LATEST RESPONSE

Response received:

9 June 2016

The CAA does not accept this recommendation. The CAA does not believe that a safety target for UK civil display flying is appropriate.

Air display flying carries inherent risks. The purpose of the CAA's comprehensive review of UK civil air displays has been to assess whether it is possible to minimise further the risks at and around civil air displays in the UK. The series of improvements that the CAA has put in place as a result of its review of UK civil air displays will further enhance public safety.

AAIB Assessment – Not Adequate - Open

RESPONSE HISTORY

N/A