

Australian Government Australian Transport Safety Bureau

# Collision with terrain involving Extra EA 300-LT, VH-XKW

about 10 km west-south-west of Bathurst Airport, New South Wales on 13 October 2024



ATSB Transport Safety Report Aviation Occurrence Investigation (Short) AO-2024-052 Final – 10 April 2025 Cover photo: YouTube modified by the ATSB

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Published by:	Australian Transport Safety Bureau
Postal address:	GPO Box 321, Canberra, ACT 2601
Office:	12 Moore Street, Canberra, ACT 2601
Telephone:	1800 020 616, from overseas +61 2 6257 2463
	Accident and incident notification: 1800 011 034 (24 hours)
Email:	atsbinfo@atsb.gov.au
Website:	www.atsb.gov.au

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#### Addendum

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# **Investigation summary**

## What happened

On 13 October 2024, an Extra EA 300-LT aircraft, registered VH-XKW, with a single pilot on board, departed from Bathurst Airport to conduct a trophy delivery at the annual Bathurst 1000 motor race, at the Mount Panorama circuit, about 10 km west-south-west of the airport. After landing on Mountain Straight (the location of the trophy handover), the aircraft collided with a concrete barrier. Following the trophy handover, the aircraft departed overhead spectator stands with a damaged tailplane.

# What the ATSB found

The ATSB found that in preparing for the event, the pilot planned to land and take-off over a designated NO FLY AREA occupied by spectators, which did not comply with the Civil Aviation Safety Authority's (CASA) required spectator safety heights and distances for an air display. The aircraft struck a barrier after landing on Mountain Straight during a reversal turn resulting in damage to the tailplane. However, following advice of the impact from a media helicopter, the pilot did not conduct an external inspection and subsequently departed overhead a spectator NO FLY AREA.

The ATSB also found that the CASA inspector approved the pilot's application to land and take-off from Mountain Straight, despite limited information from the applicant and the published safety constraints of the NO FLY AREAs surrounding the planned landing area.

## Safety message

The CASA-published Advisory Circular 91-21 describes the safety requirements for air displays and provides the guidance for completing air display applications. As expressed in AC 91-21, while the level of risk for air display participants may be elevated, the displays must be planned and conducted such that they do not increase the level of risk for spectators and other uninvolved parties.

All air display personnel, such as the organiser, air/ground coordinator(s) and participant(s), should ensure that air displays are not only planned to be in compliance with those requirements, but that they are also conducted in a way that is consistent with the approved arrangements.

# The investigation

Decisions regarding the scope of an investigation are based on many factors, including the level of safety benefit likely to be obtained from an investigation and the associated resources required. For this occurrence, a limited-scope investigation was conducted in order to produce a short investigation report, and allow for greater industry awareness of findings that affect safety and potential learning opportunities.

## The occurrence

At 0953 local time on 13 October 2024, an Extra EA 300-LT aircraft, registered VH-XKW, with a single pilot on board, departed from Bathurst Airport to conduct a trophy delivery at the annual Bathurst 1000 car race. Recorded data indicated that after take-off, the aircraft proceeded to a holding area where it arrived at 0956. After completing a left and right orbit, the aircraft left the holding area in the company of a media helicopter filming the trophy delivery event. The aircraft then commenced a left hand circuit to line-up for a landing in the southerly direction on the Mountain Straight section of the Mount Panorama motor racing circuit, about 10 km west-south-west of the airport, where the trophy was to be delivered (Figure 1).





Source: Pilot's OzRunways data and Google Earth, annotated by the ATSB

At 1003, the aircraft lined up on a 1 NM final approach at an altitude of about 2,900 ft. At this time, Bathurst Airport recorded a wind velocity of 7 kt from 071° True (T) after a peak of 13 kt from 048° T at 0959. The pilot reported there was a crosswind from the left and a small tailwind component on final, but that they were within the aircraft limits and there were no wind gusts. The aircraft arrived overhead the start of Mountain Straight at an altitude of about 2,402 ft (50 ft above ground level) with a groundspeed of 89 kt, after passing overhead spectators on short final, before landing on the grass to the left of the bitumen. The pilot then manoeuvred the aircraft to the right from the grass onto the bitumen as it continued to slow while travelling uphill along the straight.

The racetrack barriers on either side of Mountain Straight narrowed in the southerly direction and the pilot reported that in the narrower section the aircraft would need the additional space of a

driveway entrance to turn around.<sup>1</sup> After manoeuvring the aircraft onto the bitumen, the pilot decided to turn the aircraft around before the narrow section and attempted what they described as an 'aggressive' turn, which was a right turn followed by a left reversal turn.

Footage and recorded data of the landing indicated that the left wheel moved off the left edge of the bitumen at a groundspeed of about 27 kt just before the aircraft veered right and traversed the bitumen track from left to right. The aircraft slowed to about 13 kt groundspeed when the right wheel exited the bitumen onto the grass on the right side of the track. The aircraft then spun around about 90° to the left before the right rear corner of the tailplane impacted the concrete track barrier and stopped the aircraft. At the time, the aircraft was about 530 m along the straight from the 50 ft threshold height. Engine power then increased, and the aircraft moved away from the barricade, completed the left reversal turn and taxied down the straight, in the opposite direction to the landing, to the location of the trophy delivery, with damage to the right rear corner of the tailplane (Figure 2).

#### Figure 2: Tailplane damage after collision



Source: YouTube, modified and annotated by the ATSB

The camera operator in the media helicopter saw the aircraft's tail impact the barrier during the turn and immediately reported this to the media helicopter pilot. The media helicopter pilot in turn immediately informed the incident pilot of the collision over the radio and recommended the pilot check the aircraft's tail before take-off. The pilot contacted their team member at the track via radio, but reported at interview that the team member could not observe the collision. The pilot also reported that they did not feel the contact with the barrier, and that after the trophy was delivered, a full control check was conducted on the ground as well as a visual check of the tail from their cockpit seated position, with no control problems or visible damage identified.

The pilot then taxied the aircraft back uphill along Mountain Straight, turned around to line-up in the northerly direction (opposite to the landing direction), and departed overhead the spectators to return to Bathurst Airport. After arrival at the airport, the pilot saw the damage to the tailplane and contacted the Civil Aviation Safety Authority (CASA) in response to a request for information about the incident.

<sup>&</sup>lt;sup>1</sup> According to the Bathurst Regional Council website, the Mount Panorama circuit is a public road subject to track closures with private residences located inside and outside the track.

# Context

## Pilot information

The pilot held a recreational pilot licence (aeroplane), issued by CASA in January 2019, with the required ratings and endorsements to operate the Extra EA 300-LT and a current class 2 aviation medical certificate. The pilot's last flight review in May 2023 included an activity endorsement to conduct aerobatics to a lower limit of 500 ft above ground level. The pilot reported that they had accumulated about 800 hours of flying experience, which included 320 hours operating the Extra. The pilot provided a fatigue self-assessment score of '1 – fully alert' for the time of the accident.

## Meteorological information

The 1000 METAR<sup>2</sup> for Bathurst Airport, which has an elevation of 2,435 ft, provided a wind velocity of 10 kt from 050° T, visibility greater than 10 km, cloud base broken at 2,900 ft above the airport elevation, temperature of 15°C and QNH<sup>3</sup> of 1026 hPa. This resulted in a pressure altitude of 2,001 ft and density altitude of 2,476 ft for the start of Mountain Straight. The 1-minute wind data recordings for the period 0945–1015 indicated the wind direction varied from 016°–077° T, and the speed varied from 7–13 kt. At the time of the aircraft's final approach and landing between 1003 and 1004, the recorded wind velocities at Bathurst Airport were 071° at 7 kt (1003) and 050° at 7 kt (1004).

## Mountain Straight

Mountain Straight is oriented 190° T / 010° T and is about 1,111 m in length from the northern end at Hell Corner, just after Pit Straight, to the first turn at Griffins Bend.<sup>4</sup> It climbs in a southerly direction towards Griffins Bend, with an average gradient of about 5.4% (Figure 3). The northern (lower) half of the straight is about 20 m wide between the western edge of the bitumen track and the barriers on the eastern side of the track. The width reduces to about 8–10 m for the southern (upper) half of the straight, starting about 585 m from the northern end, where there is trackside tree coverage and co-located infrastructure leading to Griffins Bend.

<sup>&</sup>lt;sup>2</sup> METAR: a routine aerodrome weather report issued at routine times, hourly or half-hourly.

<sup>&</sup>lt;sup>3</sup> QNH: the altimeter barometric pressure subscale setting used to indicate the height above mean seal level.

<sup>&</sup>lt;sup>4</sup> Naming convention according to the Bathurst Regional Council website.

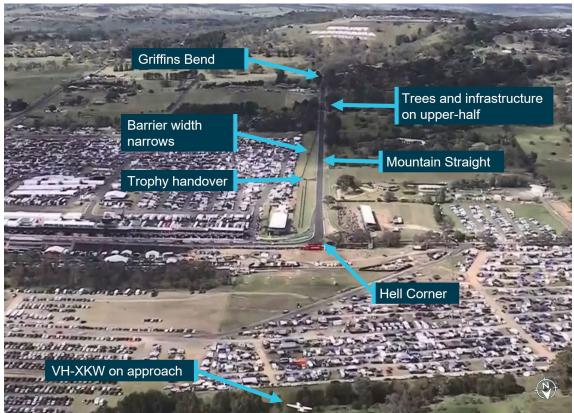


Figure 3: View of Mountain Straight looking to the south with VH-XKW on approach

Source: YouTube, annotated by the ATSB

## Aircraft information

#### General information

The Extra Flugzeugproduktions – und Vertriebs EA 300-LT aircraft was a tandem, 2-seat aerobatic monoplane with the rear seat instrumented for the pilot. It was built with a steel-tube construction and composite material for the wings, empennage and landing gear, designed for unlimited acrobatics up to +/-10 G and was operated under a special certificate of airworthiness in the experimental category.

#### Performance information

The pilot operating handbook indicated that the aircraft's final approach speed in the lower weight category of 820 kg (single-pilot using centre fuel tank) was 79 kt indicated airspeed. The calculated landing distance over a 50 ft obstacle at 79 kt on a concrete runway with maximum braking was 591 m at 2,000 ft pressure altitude and a temperature of 15°C, with a 193 m landing roll. The landing roll increased by 15% on dry grass due to the reduced braking efficiency, which increased the landing distance to 620 m.

The performance tables did not provide a correction factor for an upslope landing or a tailwind and therefore, the actual landing distance required on the day could not be determined. The performance tables also did not provide a correction factor for a downslope landing. However, an increase of 5% to the landing distance for each 1% of the average slope (5.4%) would result in a downslope landing distance of 751 m with maximum braking on bitumen.<sup>5</sup>

<sup>&</sup>lt;sup>5</sup> European Union Aviation Safety Agency acceptable means of compliance (AMC2 CAT.POL.A.330 Landing – dry runways): Unless otherwise specified in the AFM, or other performance or operating manuals from the manufacturer, the landing distances required should be increased by 5% for each 1% of downslope.

## Practice day

The pilot was provided a practice opportunity for the air display on 10 October, which included a practice landing and take-off from Mountain Straight. The pilot conducted the practice landing onto the bitumen, which required an approach over a tree on the western side of the track, near the northern end of the straight, and a rollout along the upper narrow section of track to a driveway for the turnaround. On 12 October, the pilot re-inspected Mountain Straight on the ground and decided to modify the approach and touchdown to land on the grass on the eastern side of the bitumen to be closer to the northern end of the straight and the location of the trophy handover.

## Air display applications and approvals

#### Applications

Prior to conducting an air display, the organiser, who can be the pilot conducting the display, must apply to CASA with supporting attachments (CASR form 91.180) for approval to conduct the display. To assist in the preparation of the supporting attachments, CASA published advisory circular AC 91-21 *Air displays* in November 2022 and the circular was referenced in CASR form 91.180 wherever an attachment was required. Several sections of AC 91-21 were relevant to the pilot's application for Bathurst including:

3.4 Events that organisers are planning for the first time

3.4.4 For an air display approval, CASA's test of safety is that the display will result in the preservation of a level of aviation safety that is at least acceptable given the circumstances. CASA acknowledges that the level of risk for some air displays, for the persons onboard the aircraft, is elevated compared to more routine private operations. However, air displays are to be planned to not increase the level of risk for uninvolved parties, such as spectators, compared to routine private operations.

#### 5.3 Display Coordinator

5.3.1 The display coordinator is appointed by, and responsible to, the display organiser. The display coordinator controls the actual flying program and assumes overall responsibility for the airborne component and safety of the display event.

5.3.2 The documentation submitted to CASA for an air display approval must include the details of the display coordinator.

#### 5.6 Ground Control Coordinator

5.6.1 The ground control coordinator is an essential component of a fly-in, competition or air display. The ground control coordinator should have a considerable and verifiable aviation background, commensurate with the planned event, that enables them to identify aviation ground-based hazards and their impact on persons and property during the event and are responsible to the Display Organiser.

#### 9.3 Manoeuvring limitations

9.3.1 Aircraft used in an air display are subject to the following manoeuvring limitations:

- except where specifically requested as part of the program of events and then part of the approval, an aircraft in flight below 1 500 ft AGL must not:
  - $\circ$  track or manoeuvre towards spectators within a horizontal distance of 500 m; or
  - o pass within 200 m horizontal distance from spectators.

#### 9.7 Weather minima

9.7.1 Minimum weather conditions must be determined by the display organiser in advance of the air display, published in the display instructions and strictly observed. This makes the decision to cancel the display in the event of bad weather less subjective and minimises pressure on the display organiser to proceed with the display in less than favourable conditions.

### Approvals

The CASA air display application form CASR 91.180 (with any applicable attachments) was to be submitted to CASA Regulatory Services, who allocated assessment of the application to a CASA team in the region where the air display was planned to occur. The task was then allocated to a Flight Operations Inspector (FOI) who had completed the CASA training course for air displays. The FOI was required to assess the application guided by a CASA worksheet (OPS.25) and to communicate with the applicant to seek more information if required or to challenge the application's compliance with the requirements of AC 91-21. The FOI was required to record the answers to the worksheet's questions as well as their assessment decision with their reasoning. If the FOI recommended approval of the air display application, CASA subsequently sent the applicant their instrument to conduct the air display.

## Pilot's air display applications

Prior to the Bathurst event, the pilot submitted 2 air display applications in 2024 for motor racing events, with a planned landing and take-off on the racetrack for events in Perth in May (Barbagallo racetrack) and Melbourne in September (Sandown racetrack).

### Perth SuperSprint – May 2024

The initial application for the Perth event was submitted by a third party on behalf of the pilot and included a landing on the Barbagallo racetrack back straight on 17 May followed by a take-off from the main (front) straight on 18 May. The application's appended risk assessment included the landing and take-off area dimensions and a crosswind limit of 12 kt for the landing and was otherwise consistent with the sample risk assessment in appendix C of AC 91-21. However, it did not address the AC 91-21 manoeuvring limitation safety distances for spectators for the proposed landing and take-off. The risk assessment included the presence of an 'air-boss' who could call STOP DISPLAY, a ground observer who could call STOP DISPLAY and a display coach who would provide 'go / no-go authority'. The initial display diagram in the application did not identify the landing and take-off areas.

When the initial application was received, CASA assigned the assessment task to an FOI who contacted the pilot via email on 5 April, to introduce themselves and provide a list of questions and items that needed rectification. The following requests for clarification from the first review were of relevance to the Bathurst incident:

- If the pilot is the organiser and will be flying, who will be handed control of the event when the pilot is in the air?
- For the landing and take-off, CASA needed to see the area in person to ensure conformance with reg 91.410 of CASR 1998, AMC/GM 91.410 and AC 91-02 Guidelines for aeroplanes with MTOW not exceeding 5700kg suitable places to take-off and land.
- The Display Lines and AXIS diagrams needed to clearly show the requirements of section 9.3 [Manoeuvring limitations] and 9.4 [Display lines] of AC 91-21 Air Displays.
- The identities of the personnel linked to the display, including the air boss, were required on the application.

The documents were resubmitted, and after a second review, CASA sent the pilot another email on 16 April. This reiterated a number of their initial concerns plus additional items that needed to be addressed, which included prohibiting use of the front straight for take-off and confirmation that the aircraft would not be manoeuvred towards spectators in accordance with the limits in AC 91-21.

On 8 May, the FOI sent another email to the pilot after completing a third review of the submission and suggested a telecommunications meeting to help resolve the outstanding matters. The subsequent revisions to the display diagram identified the relevant straights for the planned landing, taxi and take-off along with the spectator areas and display box. Two CASA inspectors then attended the racetrack on 10 May to inspect the suitability of the back straight for a landing and take-off. The display application was subsequently approved on 13 May. Throughout their correspondence, the FOI repeatedly requested the pilot address the spectator safety distances in AC 91-21 in their application.

The completed OPS.25 worksheet included several restrictions that had been imposed as part of the application review process, including restricting the landing and take-off to the back straight. In their reason for recommendation, the FOI noted that the assessment took longer than usual but was treated as educational as they expected an increase in display applications from the pilot in the future.

### Sandown 500 Supercars Championship – September 2024

On 21 August, the pilot applied to CASA Regulatory Services for an air display approval for the Sandown event in Melbourne. The application included a display summary attachment which indicated a proposed landing and take-off from the Sandown track main straight on 15 September for a trophy handover and noted that there would be an experienced aerobatics pilot at the track acting as the display coordinator for the event. However, the display diagram did not identify the approach and departure or spectator NO FLY AREAs. The only recorded risk in the application associated with the trophy handover was 'Landing with people on track' and there was no information about the suitability of the main straight for landing and take-off despite this being a source of concern for CASA during the application process for the Perth event.

On 3 September, the CASA FOI who was assigned the task sent the pilot their first round of feedback to the application. The first item listed was that CASA would not issue a display approval while it included a landing and take-off from the main straight as it did not meet the manoeuvring limitations for operations towards, and parallel to, spectators. They also highlighted the need for the display axis in the display diagram to provide adequate safety margins from spectators and populous areas.

On 4 September, the track landing was removed from the display summary and resubmitted to CASA. On 5 September, the FOI requested a copy of the pilot's updated display diagram, to which the pilot responded with a proposed display axis that crossed the main straight and spectator stands. The FOI then sent the pilot a Google Earth image with a 500 m arc depicting the area where the pilot could not fly towards the spectator stands and a 200 m line depicting the minimum distance the display axis needed to be from the spectator stands in accordance with AC 91-21. The pilot then submitted an updated display diagram that complied with the requirements. CASA issued the pilot with the instrument to conduct the air display on 9 September.

The OPS.25 worksheet included the restriction that there was to be no landing and take-off operations at the Sandown track. Within their reason for recommending approval, the FOI reported that the plan to land on the main straight was 'rejected as not meeting air display regulatory requirements', that the display axis was changed to meet the 'air display requirements in relation to spectators' and that 'the applicant was receptive and cooperative during the lengthy assessment process.'

#### Bathurst 1000 – October 2024

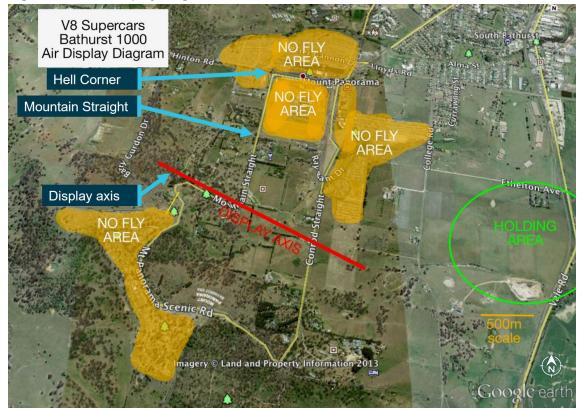
On 30 August, the pilot submitted an air display application for the 2024 Bathurst 1000 motor racing event. The application named the same display coordinator as for the Sandown air display event and included a landing and take-off from Mountain Straight on 13 October and aerobatic displays on 11 and 12 October. The display coordinator was also identified as the 'ground-boss' for the display and was:

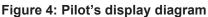
- responsible for clearing the pilot for the landing and take-off from the track
- responsible for monitoring other traffic during the aerobatics displays
- a member of the emergency response plan and had STOP DISPLAY responsibilities within the risk assessment.

Despite being assigned these responsibilities, the nominated display coordinator reported to the ATSB that, while they agreed to support the Sandown event, they were not at the Bathurst event and were unaware they had been nominated by the pilot on the Bathurst display application submitted to CASA.

The display diagram in the application included the pilot's aerobatic display axis and the spectator NO FLY AREAs, located inside and outside of the track (Figure 4). The northern end of Mountain Straight was surrounded by NO FLY AREAs but the display diagram did not include the planned approach and departure paths over those areas. Similar to the Sandown risk assessment, the only risk associated with the trophy handover was 'Landing with people on track'.

There was no information about the dimensions and suitability of the proposed landing area, spectator safety distances or weather limits. The pilot advised the ATSB that the race organisers had a spare trophy at the track if the landing had to be aborted and an off-track parking location if the aircraft became unserviceable after landing. These measures were in place to mitigate the pressure to land and take-off in unfavourable circumstances but were not included in the risk assessment.





Source: Civil Aviation Safety Authority, annotated by the ATSB

On 5 September, CASA acknowledged receipt of the pilot's application by email, and provided the pilot with the contact details of the FOI assigned to assess the request. The FOI reported to the ATSB that on review of the application, they assumed the pilot would comply with the NO FLY AREAs on the display diagram and that they were unaware of the topography of Mountain Straight.

The FOI did not review any of the pilot's previous applications and therefore was not aware of the requests to conduct landings and take-offs at the Barbagallo and Sandown racetracks. On 6 September, the FOI issued the display approval without any requests for information or clarification from the pilot and without completing the required OPS.25 worksheet.

# Safety analysis

The pilot submitted an air display application with a proposed landing and take-off from Mountain Straight for a trophy handover and a display diagram with NO FLY AREAs annotated surrounding the northern end of Mountain Straight. The pilot marked the display diagram with their proposed aerobatic display axis and submitted this to CASA, which indicated the pilot was aware of the NO FLY AREAs surrounding the track. However, they did not include their approach and departure flightpaths on their display diagram or display summary. The pilot subsequently reported at interview that it was their plan to land uphill and take-off downhill. This needed to be conducted at the northern end of Mountain Straight due to the obstructions alongside the southern end. However, this plan breached the spectator safety distances in AC 91-21, which CASA had brought to the pilot's attention during interactions as part of their previous track landing applications.

After a practice flight and landing, the pilot moved the touchdown point from the bitumen to the grass, in order to shorten the backtrack for the trophy handover. However, on the day, there was a tailwind component for the landing, which resulted in the aircraft approaching the narrower upper-half section of track before the pilot was able to reduce the groundspeed sufficiently to control their reversal turn. This contributed to the tailplane impacting the concrete barrier during the turn. While crosswind and tailwind were reportedly within the allowable aircraft limits, the pilot acknowledged the approach should not have been conducted with a tailwind component. The absence of any weather limits for the landing in the display application, or provided by the pilot at interview, indicated the decision to conduct the approach with a tailwind was likely the result of inadequate planning.

The landing and impact with the barrier were captured live by a media helicopter crew, who immediately reported the collision to the incident pilot with a recommendation to inspect the tailplane before take-off. However, the pilot elected not to shutdown the aircraft and exit for an external inspection, or request their team member conduct an inspection, and instead departed overhead the crowd with a damaged tailplane. The pilot had nominated an experienced aerobatic pilot as the display coordinator with authority to stop the display. However, this person was not at the event and was not aware they had been nominated. Therefore, they were unable to challenge the planning or exercise their authority to stop the display after the media helicopter pilot alerted the incident pilot to the collision over the radio.

Air displays are subject to CASA approval, which can include conditions on the display, and in the past CASA had modified or rejected the pilot's applications to land on a track. This included the Perth SuperSprint event, where the pilot was prohibited from taking off from the front straight, and the Sandown Supercars event where the pilot was prohibited from conducting a track landing due to the elevated risk to those on the ground and co-located infrastructure on the main straight.

The pilot's Bathurst display application did not include how the landing and take-off would be conducted without breaching the NO FLY AREAs. While the FOI was reportedly unaware of the topography of Mountain Straight, they assumed the pilot would comply with the NO FLY AREAs and that the nominated display coordinator would be in attendance. Consequently, the FOI did not question the pilot's planning or check the topography, either one of which would have revealed that the spectator safety distance could not be met while landing on the proposed section of the racetrack. In addition, a check of the pilot's previous air display applications would have revealed they had a history of difficulty applying the requirements of AC 91-21 to their display planning.

# Findings

ATSB investigation report findings focus on safety factors (that is, events and conditions that increase risk). Safety factors include 'contributing factors' and 'other factors that increased risk' (that is, factors that did not meet the definition of a contributing factor for this occurrence but were still considered important to include in the report for the purpose of increasing awareness and enhancing safety). In addition, 'other findings' may be included to provide important information about topics other than safety factors.

These findings should not be read as apportioning blame or liability to any particular organisation or individual.

From the evidence available, the following findings are made with respect to the collision with terrain involving Extra EA 300-LT, VH-XKW, about 10 km west-south-west of Bathurst Airport, New South Wales on 13 October 2024.

## Contributing factors

- The pilot planned to land and take-off over a NO FLY AREA occupied by spectators, which breached the required air display spectator safety heights and distances.
- The aircraft struck a barrier during a reversal turn after landing on Mountain Straight, resulting in damage to the tailplane. Following advice of the impact, the pilot did not conduct an external inspection and subsequently departed overhead a spectator NO FLY AREA.
- The Civil Aviation Safety Authority's inspector approved the pilot's application to land and take-off from Mountain Straight despite limited information from the applicant and the constraints of the NO FLY AREAs surrounding Mountain Straight.

# **General details**

## Occurrence details

Date and time:	13 October 2024 – 1004 Eastern Daylight-saving Time		
Occurrence class:	Serious incident		
Occurrence categories:	Collision with terrain		
Location:	9.6 km 249° from Bathurst Airport		
	Latitude: 33.4407° S	Longitude: 149.5560° E	

# Aircraft details

Manufacturer and model:	EXTRA FLUGZEUGPRODUKTIONS - UND VERTRIEBS - GMBH EA 300/LT		
Registration:	VH-XKW		
Operator:	HP AUTOMOTIVE PTY LTD		
Serial number:	LT001		
Type of operation:	Part 91 General operating and flight rules-Other		
Activity:	General aviation / Recreational-Sport and pleasure flying-Other sport and pleasure flying		
Departure:	Bathurst Airport, New South Wales		
Destination:	Bathurst Airport, New South Wales		
Persons on board:	Crew – 1	Passengers – 0	
Injuries:	Crew – 0	Passengers – 0	
Aircraft damage:	Minor		

# **Sources and submissions**

## **Sources of information**

The sources of information during the investigation included:

- Bathurst Regional Council website
- Civil Aviation Safety Authority
- European Union Aviation Safety Agency website
- Google Earth
- OzRunways recorded data from incident pilot
- the involved pilot
- the pilot of the media helicopter
- the nominated display coordinator
- witness video footage and reports
- YouTube.

## References

Civil Aviation Safety Authority (2024) *Air displays* (Advisory Circular 91-21, v2.2), October 2024, Canberra.

European Union Aviation Safety Agency (2023) *Easy access rules for air operations* (IR & AMC/GM & CS/GM), retrieved from <u>Easy Access Rules for Air Operations - Revision 21</u>, <u>September 2023 | EASA</u>

# **Submissions**

Under section 26 of the *Transport Safety Investigation Act 2003*, the ATSB may provide a draft report, on a confidential basis, to any person whom the ATSB considers appropriate. That section allows a person receiving a draft report to make submissions to the ATSB about the draft report.

A draft of this report was provided to the following directly involved parties:

- the involved pilot
- Civil Aviation Safety Authority.
- A submission was received from:
- Civil Aviation Safety Authority.

The submission was reviewed and, where considered appropriate, the text of the report was amended accordingly.

# Australian Transport Safety Bureau

## About the ATSB

The ATSB is an independent Commonwealth Government statutory agency. It is governed by a Commission and is entirely separate from transport regulators, policy makers and service providers.

The ATSB's purpose is to improve the safety of, and public confidence in, aviation, rail and marine transport through:

- independent investigation of transport accidents and other safety occurrences
- safety data recording, analysis and research
- fostering safety awareness, knowledge and action.

The ATSB is responsible for investigating accidents and other transport safety matters involving civil aviation, marine and rail operations in Australia, as well as participating in overseas investigations involving Australian-registered aircraft and ships. It prioritises investigations that have the potential to deliver the greatest public benefit through improvements to transport safety.

The ATSB performs its functions in accordance with the provisions of the *Transport Safety Investigation Act 2003* and Regulations and, where applicable, international agreements.

### Purpose of safety investigations

The objective of a safety investigation is to enhance transport safety. This is done through:

- identifying safety issues and facilitating safety action to address those issues
- providing information about occurrences and their associated safety factors to facilitate learning within the transport industry.

It is not a function of the ATSB to apportion blame or provide a means for determining liability. At the same time, an investigation report must include factual material of sufficient weight to support the analysis and findings. At all times the ATSB endeavours to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, in a fair and unbiased manner. The ATSB does not investigate for the purpose of taking administrative, regulatory or criminal action.

## **Terminology**

An explanation of terminology used in ATSB investigation reports is available on the ATSB website. This includes terms such as occurrence, contributing factor, other factor that increased risk, and safety issue.