



Accident to the MORANE SAULNIER MS733
registered **F-AZXU**
on Friday 6 June 2025
near Rochefort - Charente-Maritime airport

Time	Around 14:20 ¹
Operator	Private
Type of flight	Airshow
Persons on board	Pilot
Consequences and damage	Pilot fatally injured, aeroplane destroyed
This is a courtesy translation by the BEA of the Final Report on the Safety Investigation. As accurate as the translation may be, the original text in French is the work of reference.	

**Unintentional start of spin, collision with ground,
during an airshow**

1 HISTORY OF THE FLIGHT

Note: the following information is principally based on statements, radiocommunication recordings and a video taken by the airshow organizers.

The pilot took off from runway 30 at Rochefort - Charente-Maritime airport at 14:16 to carry out a display flight. He carried out three passes, one after the other, on the display line represented by the runway centreline.

At 14:21, after an “S” pass on centreline 12, the pilot carried out a right-hand breakaway before closing the turn by the left.

During this last turn to intercept the display line, the aeroplane entered an asymmetric stall and left-hand spin from which it briefly recovered before entering a secondary right-hand spin until the collision with the ground.

2 ADDITIONAL INFORMATION

2.1 Aircraft information

The Morane Saulnier MS 733 is an all-metal construction with low wings, equipped with a three-blade propeller and a Potez 6D engine providing 240 hp. Its maximum take-off weight is 1.67 t. Designed in France and manufactured in the 1950s, it was mainly used as a training aeroplane for the French Air Force and Navy.

¹ Except where otherwise indicated, the times in this report are in local time.

It holds a Restricted Certificate of Airworthiness for Vintage Aircraft (CNRAC). F-AZXU was maintained by its owner and had undergone an airworthiness review for the renewal of its Certificate of Airworthiness on 6 May 2025.

The aeroplane flight manual indicates that the aeroplane spins remarkably well, nose to the ground, and loses around 200 m per turn. It also specifies that the spin instantly stops as soon as the pilot puts his foot back to neutral. The flight manual does not contain additional information about exiting a spin. A MS733 pilots and mechanics association² produced an operating manual for the aeroplane which specifies the actions to be carried out to exit the spin (see **Figure 1**).

SORTIE DE VRILLE

- Puissance.....	Ralenti
- Direction.....	Sens opposé
- Manche.....	Au neutre
- Volets.....	0°
Rotation stoppé	
- Direction.....	Neutre
- Profondeur.....	Ressource souple

Figure 1: procedure to exit spin (source: APA MS733 operating manual)

2.2 Site and wreckage information

The wreckage was lying in a field situated outside the airport grounds, at around 370 m from the runway 30 threshold. It was complete and grouped together.



Figure 2: position of wreckage east of the airport (source: IGN, annotations BEA)

² APA, Association pour le Patrimoine Aéronautique

The aeroplane struck the ground with a very steep nose-down attitude and a left-hand bank. The energy of the impact caused the airframe to bounce. It then came to a stop around ten metres behind the first contact with the ground.



Figure 3: drone view of accident site (source: BEA)

The flaps and the landing gear were retracted at the time of the collision with the ground. The examinations found that the rudder, aileron and elevator control linkages were continuous before the accident.

They also found evidence that the engine was transmitting torque at the time of the collision with the ground.

On the flap control linkage, on the left-hand side under the Karman fillet, a rupture showing a two-colour fracture surface was identified on a rod which was removed for examination by the BEA laboratory. Progressive fatigue cracking in this rod was observed. The examinations were not able to determine if the final rupture of this part occurred in flight or during the collision with the ground.

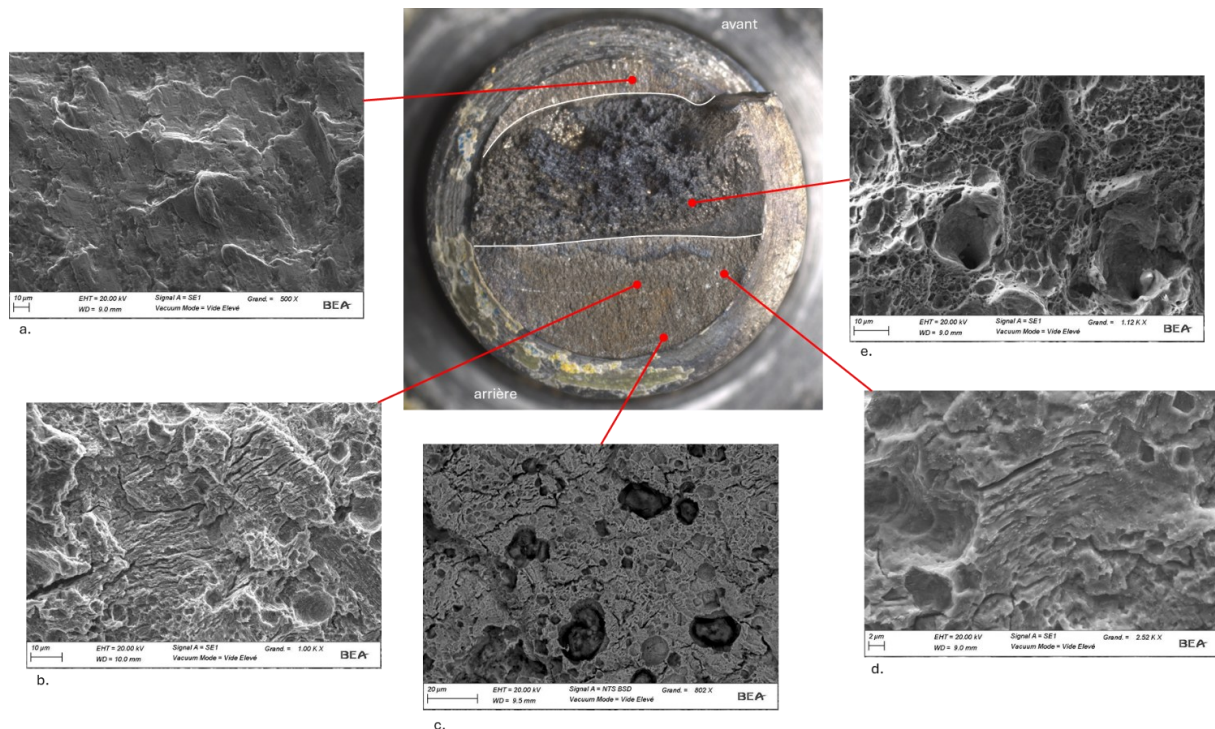


Figure 4: SEM images of the rupture surface - buttering (a.), dimples (e.), fatigue striations (b. and d.), presence of oxides (c.) (source: BEA)

The results of the examination of this rupture were shared during the investigation with the DSAC which gave rise to an information bulletin being produced, BI 2025-07, including, in particular, a recommendation to implement an inspection of this flap control rod. BI 2025-07 was published by the DSAC in August 2025³ and also distributed to the ICAO contracting states.

The possibility of this rod having ruptured in flight and thus freeing the flaps of the left-hand wing was studied. By design, when in the retracted position and in flight, the flaps cannot rise under the effect of lift as they are tight against the fillet. However, if this rod should rupture, a downwards deflection is mechanically possible.

Such a configuration can lead to aerodynamic asymmetry, resulting in, notably, a difference in lift between the right and left wings and a yaw imbalance. In this case, the controllability of the aircraft can be more or less severely degraded according to the resulting flap deflection and the ground speed.

Calculations carried out by an aerodynamics expert and the BEA were not able to exclude the partial extension of the flaps on the left-hand side of the aircraft. The extension of the left-hand flaps cannot be seen on the video taken during the airshow.

2.3 Airshow information

Air Base 721 (BA721) is a training base incorporating the Air and Space Force non-commissioned officer and non-commissioned personnel schools (ESOMAAE) and the Air and Space Force non-commissioned officer training school (EFSOAAE). It uses a runway shared with Rochefort - Charente-Maritime airport.

³ <https://documentation.osac.aero/view/296014>

Once a year, the command staff organizes a military graduation ceremony for the 800 students and their families. This ceremony is accompanied by an airshow.

A letter of intent for a public airshow had been submitted to the administrative authorities (DSAC SW, Prefecture), and the organization of the event had begun accordingly, notably with the appointment of a Flying Display Director (FDD). The administrative authorities (DSAC SW), noting that the conditions for organizing a public airshow were not met (not open to general public, spectator capacity less than 5,000 per day), requested that the public airshow be reclassified as an other than public airshow which was not subject to prefectural authorization⁴.

The experience conditions for carrying out a display flight are different according to whether the pilot is participating in a public airshow or other than public airshow. In order to take part in a public airshow, the pilot must be able to show more than 200 flight hours, at least three take-offs and landings as well as at least three repetitions of the display programme on the aircraft type used, within the last three months. Other conditions must also be met by the pilot so that he can substantiate his level of competency. One of these conditions is to have followed theoretical training within the last 60 months.

For an other than public airshow, the pilot is solely required to comply with the safety instructions defined by the organizer.

Following this reclassification of the airshow, the initially appointed FDD then took on the duties of Air Safety Coordinator (ASC) in compliance with the requirements of the DSAC guide. The ASC's responsibilities include defining all the detailed information that the pilots and drone pilots participating in the aerial figures are required to transmit to him and the deadline he deems sufficient to receive this information.

The airshow was to comprise a flying display by three biplanes (SE5, Kiebitz and Bücker 131), a display by the Morane Saulnier 733, a parachute drop, followed by a flying display by a Noratlas and then a formation of two Rafales.

Following the accident, the airshow was stopped.

The layout of the airshow, produced by the ASC, is provided in **Figure 5** below.

⁴ [DSAC guide for airshows](#) page 75

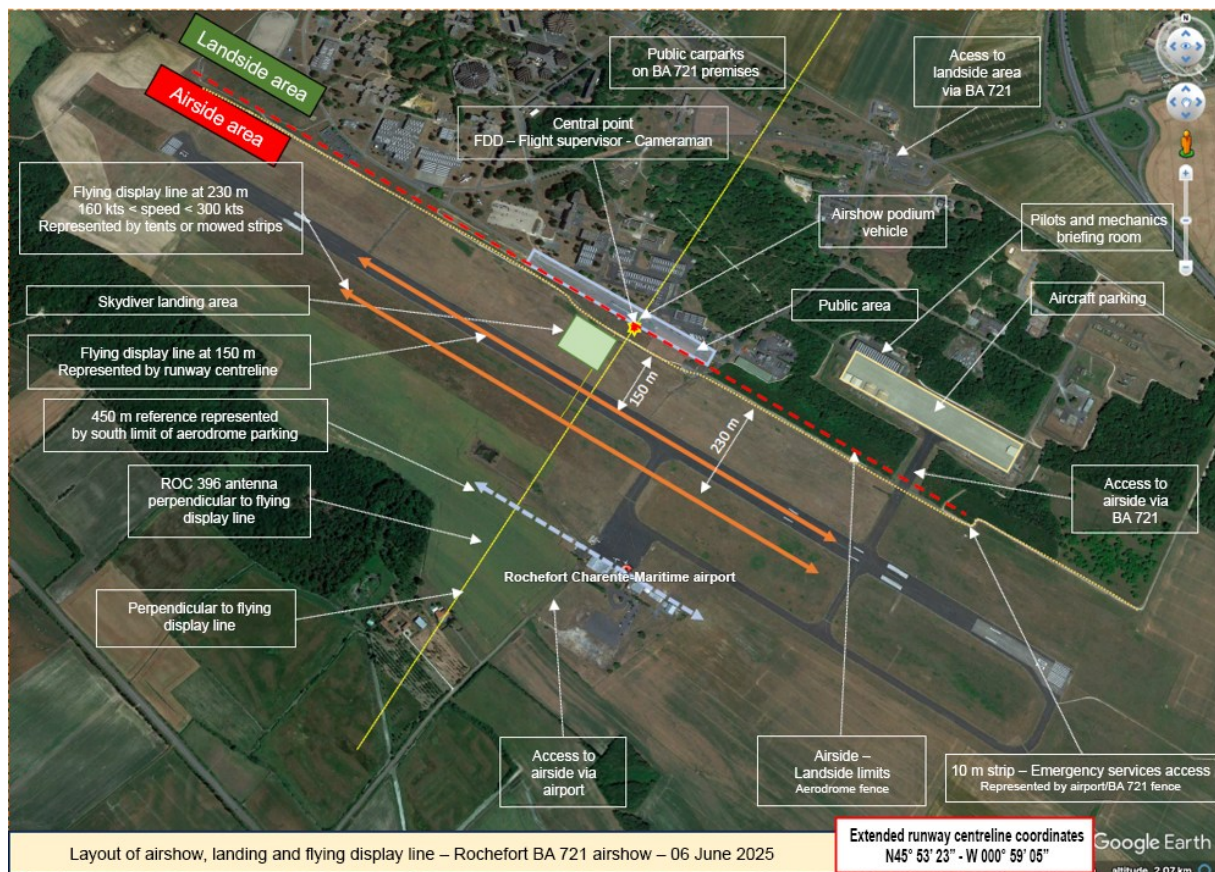


Figure 5: layout of airshow (source: air safety coordinator)

2.4 Air Safety Coordinator (ASC) information

The ASC is a civilian, reservist and meeting expert for the Air and Space Force General Staff. He had participated in 174 meetings over the last 22 years, including 55 as FDD and the others as military delegate to the airshow, expert or ASC.

Following the reclassification to an other than public airshow, the ASC decided to organize the airshow as if it was a public airshow and held the role of FDD by taking on the associated tasks, notably with respect to the radio.

He first called all the pilots to make their acquaintance. According to his statement, the pilot of the MS733 had appeared to be curious and enthusiastic, had asked a lot of questions notably about the airshow legislation and the possibility of carrying out the initial theoretical training required to participate in a public airshow (see paragraph 2.3). The ASC refused this request as it was not the subject of this airshow.

The ASC asked the pilots to complete a public airshow participation form where information about the aeroplane (type, model, equipment, crew, etc.), the pilot (licence, total flight hours and flight hours on type, number of training sessions for the display programme) and the flying display programme (duration, maximum and minimum level, limitations, etc.) was specified. This form was accompanied by a sheet detailing the pilot's planned sequence of figures (see paragraph 2.6).

The ASC indicated that he had not known that this was the first time that the pilot was going to fly in an airshow.

The morning of the airshow, before the rehearsal, the ASC gave a briefing to the crews, specifying the airshow layout, the display lines, the weather conditions and the logistical and operational organization. He also gave information about the 2021 order⁵, with particular emphasis on the requirements applicable to the other than public airshow. Lastly, he insisted on the expected behaviour during the flying displays, specifically that, according to his statement:

- timing is a secondary concern, pilots are to take the time to do things properly and without stress including the preparation of the aircraft on the ground, even if they are running late. The public will not see this and it will give the commentator time to talk about aviation;
- as ASC, he would be acting as FDD on the radio (minimum number of messages as possible) and discussions, if necessary, will take place on the ground.

During the airshow, the ASC was situated at the central point (see **Figure 5**), level with the public and was in contact with the aircraft on a dedicated frequency with the call sign "DV". He used the AFIS as a relay for masked positions. Following the accident, he contacted the AFIS and the gendarmerie and had the airshow cancelled.

2.5 Meteorological information

Before take-off, the weather information transmitted to the pilot by the AFIS officer indicated wind from 230° of 10 kt, visibility greater than 10 km, few clouds at 2,100 ft and scattered clouds at 3,000 ft, temperature 20°C and QNH 1017 hPa.

According to Météo-France and the data from Saint-Agnant weather station, adjacent to the airport, the weather conditions at the time of the accident were wind from 240° of a mean speed of 10 kt with gusts of 15 kt, visibility greater than 10 km, light rain, a cumulus cloud layer (4 to 5/8) at around 2,000 ft and a stratocumulus cloud layer (7/8) at around 4,000 ft.

According to the statements made by the pilots who had flown before F-AZXU and the display video, there was a crosswind associated with turbulence during the Morane Saulnier's flying display.

2.6 Pilot information

The 53-year-old pilot held an aeroplane Private Pilot Licence (PPL(A)) issued in 1996 along with the SEP rating. He started flying in 1991 but he then had various breaks up until 2009 when he resumed flying on a regular basis up until 2025.

According to his log book, he had totalled 418 flight hours, including 23 microlight flight hours and approximately 6 hours in the last three months. The flight hours indicated by the pilot on his airshow participation form were 543 hours.

He started piloting the MS733 in May 2021 at the time of its acquisition and had totalled 58 flight hours on this aeroplane.

⁵ [French decree of 10 November 2021 with respect to air shows](#)

According to the statements collected from the pilot's family and friends, he was a real enthusiast and maintained his aeroplane himself. He was very motivated about participating in airshows and particularly wanted to show the aeroplane at Rochefort. He had carried out the three training flights required by the ASC before this display.

The passenger on the positioning flight to Rochefort the day before the airshow, indicated that during this flight, the pilot had experienced difficulties in landing at Rochefort due to the crosswind.

Pilots taking part in the airshow indicated that their impression was of a pilot with little experience on the Morane Saulnier, who was not used to carrying out this type of flight, did not discuss his experience of airshows and was trying to obtain the initial theoretical training in order to participate in a public airshow as a display pilot.

A rehearsal took place the day of the accident after a briefing carried out by the ASC. The pilot was able to carry out all of his display flight and was satisfied with his performance.

2.7 Pilot's planned programme for flying display

On his display sheet, the pilot planned to carry out a ten-minute flight without aerobatic figures, between 500 and 1,500 ft agl, in accordance with the programme below:

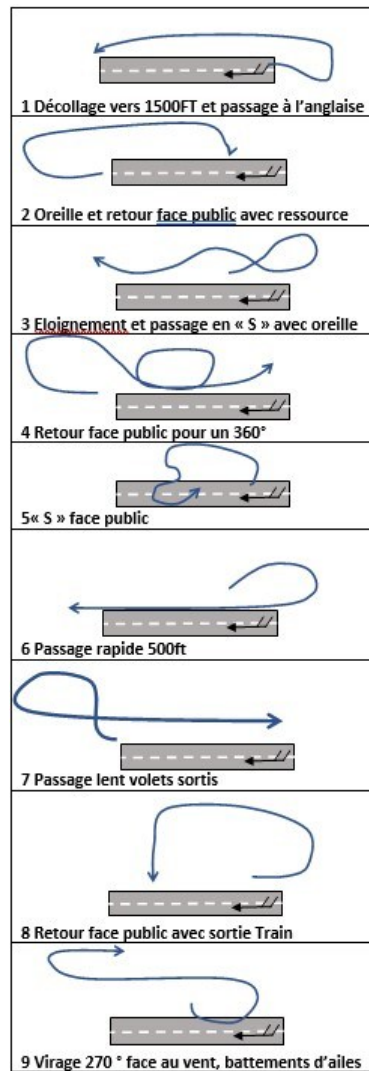


Figure 6: flying programme planned by pilot of F-AZXU (source: ASC)

At the end of the third figure, instead of turning right to return to the runway to start the fourth figure, the pilot turned left as indicated below:

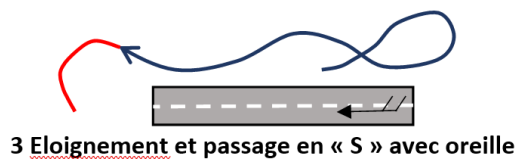


Figure 7: in red, the flight path taken by the pilot after the third figure

2.8 AFIS information

Two officers were in position during the airshow. They saw the Morane Saulnier display and estimated that he was at a height of around 600 ft at the end of the downwind leg where he carried out a two-stage turn to intercept the display line before the left wing stalled.

They considered that it was good practice to have two officers in position to absorb the workload in the event of an accident.

2.9 Video analysis

The airshow organizers provided a video recording of the display by F-AZXU taken from the central point. This video, although it could not be used to model the flight path of the aeroplane due to the zoom setting and the absence of ground references, did allow a qualitative and partial analysis of the flight path and the position of the control surfaces.

The video shows in chronological order, at the end of the third figure of his programme:

- the start of a left-hand turn, in the presence of a tailwind, followed by a large input on the left-hand pedal implying a sideslip and then an increase in pitch attitude and therefore angle of attack;
- an asymmetric stall followed by entry into a left-hand spin;
- an input on the right-hand roll control in the opposite direction to the spin, holding of a large nose-up input;
- after one spin turn, an input on the right-hand pedal allowing the aircraft to exit the spin followed by the start of a secondary right-hand spin with an input on the left-hand roll control in the opposite direction to the spin, holding of a large nose-up input, until collision with the ground.

3 CONCLUSIONS

The conclusions are solely based on the information which came to the knowledge of the BEA during the investigation.

Scenario

On Friday 6 June at around 09:30, the air safety coordinator gave a briefing to the crews recalling the organisation, weather and safety points. All the pilots then took part in a rehearsal which proceeded without incident.

At 14:16, the pilot of the Morane Saulnier took off from runway 30 in the presence of a wind from 230 of 10 to 15 kt. This crosswind, close to the take-off limit for the MS 733, associated with turbulence, may have increased the difficulty of the flying display for the pilot. The latter started the display in accordance with his programme. At the end of his third figure, an “S” pass, the pilot continued to a point close to the end of the downwind leg where, unlike his programme, he started a left-hand turn. This turn left him with less room to return to the display line, represented by the runway centreline.

During this turn with a tailwind, the pilot probably wanted to reduce the turn radius so as not to exceed the display line. For this reason, he probably paid attention to the management of the flight path to the detriment of monitoring the flight parameters. The inputs on the controls resulted in a sideslip followed by the progressive increase in pitch attitude and thus angle of attack. The aeroplane entered a left-hand spin, then after one and a half turns, the aeroplane exited the spin. It then entered a secondary right-hand spin until the ground.

During these two spins, the pilot held a nose-up input and reacted by a roll input in the opposite direction to the spin. These inappropriate inputs maintained the spin until the ground. The low flight height left the pilot little time to recover control of the aeroplane.

The investigation was not able to exclude the possibility of a mid-air rupture of the flap control rod. This type of rupture may result in a partial extension of the left wing flaps, which, having become free, may create a lift asymmetry conducive to a loss of control.

The BEA investigations are conducted with the sole objective of improving aviation safety and are not intended to apportion blame or liabilities.