Final Report

On the accident on 23rd June, 2024

to the **XK A800**

registered **RCHF-8**

operated by **NorthEast Airlines**

NEA 001 Duke of Connaught Airport – Duke of Connaught Airport

Catopolis
Agency for
Transportation
Safety

Safety Investigations

The CATS is the Catopolis Agency for Transportation Safety. Its investigations are conducted with the sole objective of improving aviation safety and are not intended to apportion blame or liability.

CATS investigations are independent, separate and conducted without prejudice to any judicial or administrative action that may be taken to determine blame or liability.

Update: 23rd June, 2024

Table of Contents

GLOSSARY

ATC	Air Traffic Control
CATS	Catopolis Agency for Transportation Safety
CBA	Catopolis Board for Aviation
CRM	Crew Resource Management
CVR	Cockpit Voice Recorder
SAR	Search And Rescue

SYNOPSIS

Date of accident:

23 June, 2024 at 10 – 11 hours

Site of accident:

Duke of Connaught Airport

Type of flight: Experimental

test flight **Aircraft:**

XK A800 registered RCHF-8

Owner:

NorthEast

Airlines

Operator:

NorthEast

Airlines

Persons on board:

Flight crew: 0

Cabin crew: 0

Passengers: 0

On 23rd May, 2024, the XK A800 flight NEA 001 took off from Duke of Connaught Airport bound for Duke of Connaught Airport and was in contact with the Duke of Connaught Airport ATC.

Immediately after takeoff, the crew encountered a malfunction with the elevators. This caused the elevators' default position to be up. The aircraft started an uncontrollable climb reaching around 70-80° nose up. The crew used the full capacity of the ailerons to pitch down, resulting in a steady, but very fast, dive of around 10° nose down. The crew also made a turn likely to avoid hitting a residential area.

Shortly after this dive was initiated, the aircraft impacted the ground.

The accident resulted due to the following succession of events:

1. The malfunction with the elevators,
2. The sudden change in direction,
3. The uncontrollable dive in attempt to stop the pitch up, and
4. The crew's failure to properly slow the aircraft and land it in a controlled way.

ORGANISATION OF INVESTIGATION

On 23rd June, 2024 at around 10 – 11 hours, the CATS was notified by the Duke of Connaught Airport control centre about the accident. After this, the CATS initiated an investigation team to conduct an investigation of the crash.

The CATS Investigator-in-charge had organised the following areas to be investigated:

1. Ground searches
2. Maintenance,
3. Operations,
4. Systems and equipment.

The investigation crew worked onwards of 23rd June, 2024 to investigate these areas.

The ground searches retrieved the aircraft, which had had the nose fall off, but was connected by loose wiring. The battery and the cockpit window had been ejected from the aircraft and were found shortly after. During the transport of the aircraft, the loose wiring holding the nose to the rest of the aircraft broke.

These areas of information were completed in a short time which resulted in the publication of the Final Report being on the 23rd June, 2024.

1 – FACTUAL INFORMATION

1.1 History of Flight

On 23rd June, 2024, the A800 was planned to make an experimental test flight operated by NorthEast Airlines between Duke of Connaught Airport and Duke of Connaught Airport. The aircraft was controlled remotely, and, as such did not have any persons on board.

At around 10 – 11 hours, the aircraft was cleared by the Duke of Connaught Airport ATC for takeoff. The captain was pilot flying, and the first officer was pilot monitoring.

There is no available CVR recording, and as such, all quotes mentioned are provided by the flight crew.

Shortly after takeoff, the captain made the remark *"It's climbing too much!"* and *"What's up with the elevators?"* as the aircraft pitched up with around 80°. He then pitched the aircraft down with the full capacity of the ailerons.

During this time, the aircraft was still relatively close to the ground and because of the full downward force of the ailerons, the aircraft was now pitching down with a very high speed. Due to the pitch down and the high speed, the aircraft was now heading towards a residential area and the captain made a sharp right turn to avoid hitting houses.

After the sharp turn, the aircraft was now pitching down even more, and with no time to react, the aircraft impacted the ground which caused the nose of the aircraft to fall off, but still connected by loose wiring. The impact had also caused the cockpit window and the battery to be ejected from the aircraft.

The crew had sent an emergency message, and the aircraft was found shortly after.

1.2 Killed and Injured

Injuries	Crew Members	Passengers	Others
Fatal	-	-	-
Serious	-	-	-
Light/none	-	-	-

1.3 Damage to Aircraft

The aircraft's nose was detached, still connected to the rest of the aircraft by loose wiring. The battery and cockpit window were ejected from the aircraft. The engine was broken and was deemed unfixable.

1.4 Other Damage

Not applicable.

1.5 Personnel Information

At the time of the event, this was both the first officer and the captain's first flight on the A800.

1.5.1 Flight Crew

1.5.1.1 Captain

Male, aged [redacted]

Experience:

Total: 0 flying hours, of which 0 as Captain

Hours on type: 0

All as Captain in the previous six months: 0 hours, 0 landings, 0 take-offs

the previous three months: 0 hours, 0 landings, 0 take-offs

In the previous 30 days: 0 hours, 0 landings, 0 take-offs

The captain had spent lots of time in the simulator, of which the exact amount is unknown.

He had received an experimental pilot license one hour prior to the accident flight.

1.5.1.2 First Officer

Male, aged [redacted]

Experience:

Total: 0 flying hours, of which 0 as First Officer

Hours on type: 0

All as First Officer in the previous six months: 0 hours, 0 landings, 0 take-offs

In the previous three months: 0 hours, 0 landings, 0 take-offs

In the previous 30 days: 0 hours, 0 landings, 0 take-offs

The first officer's time in the simulator is not known.

He had received an experimental pilot license one hour prior to the accident flight.

1.6 Aircraft Information

NorthEast Airlines had owned the aircraft since a few weeks before the accident. It was delivered new.

1.6.1 Airframe

Manufacturer	XK
Type	A800
Serial Number	0001
Registration	RCHF-1
Entry into service	23rd June, 2024
Certificate of Airworthiness	N°000001/1 dated 22nd June 2024 issued by the CATS
Airworthiness examination certificate	2024/000001/1 valid until 23/6/2025
Utilisation as of 23rd June, 2024	0 flying hours and 0 cycles

1.6.2 Engine(s)

Manufacturer: XK

Type: Unknown

	Engine 1
Serial number	000001
Installation date	Unknown
Total running time	Approximately 1 minute

The engines were shown to be operating normally at full power.

1.6.3 Weight and Balance

The aircraft left the stand with an unknown weight and as such, the balance is not known.

1.6.4 Condition of Aircraft Before Departure

There were no recorded issues with this particular A800 before departure.

1.6.5 Maintenance Operations Follow-Up

There were no maintenance operations completed as the aircraft was brand new.

1.7 Meteorological Conditions

1.7.1 Meteorological Situation

On the 23rd June, 2024, the weather was cloudy with a small amount of rain. These conditions had no impact on the accident.

1.8 Flight Recorders

There were no flight recorders present for this flight.

1.9 Wreckage and Impact Information

The CATS Investigation team retrieved all parts of the aircraft, including:

1. The aircraft body,
2. The aircraft's nose,
3. The cockpit window, and
4. The aircraft battery

They were identified by:

1. Looking at the parts, it was of little difficulty to tell which part was which

1.10 Fire

There was no evidence of fire or explosions.

1.11 Information on Organisations and Management

1.11.1 Organisation of NorthEast Airlines

At the time of the accident, NorthEast Airlines had an active AOC, which was issued on the 22nd June, 2024, valid until 29th of February, 2027.

1.11.1.1 Training at NorthEast Airlines

1.11.1.1.1 CRM Training

CRM is defined as the utilisation in the cockpit of all available resources: equipment, procedures and people, to ensure the safety and efficiency of flights.

Training in this field is governed by a regulatory framework: the directive of 22nd June, 2024, accompanied by a guide and the recommended practices drawn up by the authority.

The aim of CRM is to develop effective cross-checking and support capabilities between the members of the crew. Crews are evaluated using four behavioural indicators: ability to cooperate, management and leadership, situational awareness, and decision-making. In addition, the ability to cooperate, or work as a team requires that the Captain has effective management and leadership qualities. Working as a team increases the crew's ability to solve problems in degraded situations.

The crew must use resources such as:

1. Communication, monitoring and information retrieval skills,
2. Technical expertise,
3. A willingness to succeed.

Certain organisational or personal factors could adversely affect the operator's CRM performance:

1. Company culture,
2. The belief that the crew's actions and decisions are correct, even though they deviate from the standards,
3. Effects of fatigue and the lack of corrective measures to address the issue and to restore vigilance levels, or
4. A certain reticence to accept that CRM issues can play a key role in the occurrence of accidents.

At the time of the accident, NorthEast Airlines met all the stipulated requirements from the CATS regarding CRM training.

1.11.1.1.2 NorthEast Airlines' Safety Management Process

NorthEast Airlines met all the requirements stipulated by the CATS regarding safety management.

1.12 Additional Information

1.12.1 Information on the Uncontrollable Pitch Up

It was shown that during maintenance of the aircraft before the flight, that when the aircraft was to be turned on, the elevators would stay in the up position with no way to get it down. This was resolved by manually pushing the elevators into the correct position, which had worked up until the accident.

1.13 Testimony

During the previous descriptions of the flight, as there were no cameras, cockpit voice recorder or flight data recorder, all descriptions were either from outside viewers or from the words of the pilots.

2 – ANALYSIS

2.1 Accident Scenario

This section is mainly based off of information provided by the pilots and conclusions made by the investigators.

2.1.1 Takeoff

The takeoff of the aircraft was relatively stable up until the point where the force of the elevators acted on the aircraft. The pitch up likely caused a startle to the pilots and a loss of situational awareness.

2.1.2 Reaction to Sudden Pitch Up

The pilots reacted to this pitch up by using the full force of the ailerons to pitch down. The usage of the ailerons caused a pitch down and the aircraft had started to go towards a residential area.

2.1.3 Reaction to Aircraft Heading to Residential Area

The pilots reacted by making a sharp right turn instead of using less aileron force. It is evident that the pilots had further loss of situational awareness. After the sharp turn, the aircraft had pitched down significantly more which resulted in an unrecoverable dive, after which the aircraft impacted the ground.

2.2 Lessons Learnt from the Wreckage of

NorthEast Airlines Flight 001

The events of NorthEast Airlines flight 001 demonstrated that it is important to maintain spatial awareness and react properly to a situation.

3 – CONCLUSION

3.1 Findings

1. The crew possessed the licenses required to undertake this flight
2. The aircraft had a valid Certificate of Airworthiness but had not been maintained in accordance with regulations
3. The aircraft had taken off from Duke of Connaught Airport without any issue until the force of the elevators had started to act on the aircraft
4. The composition of the crew was in accordance with regulations
5. The meteorological situation at Duke of Connaught Airport was within the limits of satisfaction for flights
6. The aircraft's movements were consistent with the position of the flight control surfaces.

3.2 Causes of the Accident

The accident of NorthEast Airline flight 001 was found to be caused by:

1. Improper maintenance on the elevators,
2. The pilots' loss of spatial awareness, and
3. Inappropriate response to certain situations

4 – SAFETY RECOMMENDATIONS

On the basis of the first findings from the investigation, the CATS issued the following recommendations.

4.1 Training

It is recommended that training in situations such as the occurrences on this flight is increased.

4.2 Maintenance

It is recommended that maintenance of the aircraft is conducted more strictly.

It is recommended that maintenance of the aircraft is handled in a more proper manner.

It is recommended that the workers who maintain and repair the aircraft undergo more training.

5 – CHANGES MADE FOLLOWING THE ACCIDENT

5.1 NorthEast Airlines

5.1.1 Maintenance

The NorthEast Airlines maintenance sector will now more strictly maintain the aircraft and will not tolerate improper maintenance procedures.

5.1.2 Training

Pilots at NorthEast Airlines will now undergo more training regarding the events of this flight, as well as other areas.