

民航意外調查機構

AAIA

Air Accident Investigation Authority



Evacuation (EVAC)

**Accident Investigation
Preliminary Report and
Public Notice**

**Boeing 777-300ER, B-KPQ,
Hong Kong International Airport
24 June 2023**

03-2023

1. Purposes

- (1) This preliminary report provides factual information established in the investigation's early evidence collection phase. Its purpose is to provide timely information to both the aviation industry and the general public.
- (2) This report is released in accordance with the Hong Kong Civil Aviation (Investigation of Accidents) Regulations (Cap. 448B) and the requirements of Annex 13 to the Convention on International Civil Aviation – Aircraft Accident and Incident Investigation (ICAO Annex 13).
- (3) The Air Accident Investigation Authority (AAIA)'s understanding of the accident will be enhanced as the investigation progresses and potential new evidence becomes available. As such, no analysis or findings are included in this report.
- (4) Should safety recommendations be considered necessary during the course of the investigation, they will be promulgated to the parties concerned immediately before a final Investigation Report is published.
- (5) The Investigation Report will be released at the conclusion of the investigation, which will provide a comprehensive overview of the accident, its causes, and any recommendations to improve air safety.

2. General Details

2.1 Occurrence details

Date and time:	24 June 2023, 0022 hours
Occurrence category:	Accident
Primary occurrence type:	Evacuation (EVAC)
Location:	Hong Kong International Airport (VHHH)
Position:	22.31261°N, 113.93454°E

2.2 Pilot in Command details

Licence details:	Hong Kong Airline Transport Pilot's Licence (Aeroplanes)
Medical certificate:	Class 1
Type ratings:	B777
Aeronautical experience:	23,187 hours
Command time on type (B777-300ER)	8,780 hours

2.3 Aircraft details

Manufacturer and model:	Boeing 777-300ER	
Registration:	Hong Kong, B-KPQ	
Serial number:	36162	
Year of Manufacture:	2010	
Number and type of engines:	Two General Electric GE90-115B turbo-fan engines	
Operator:	Cathay Pacific Airways	
Type of Operation:	Scheduled Public Transport of Passenger	
Departure:	Hong Kong International Airport (VHHH)	
Destination:	Los Angeles International Airport (KLAX)	
Persons on board:	Crew – 4 + 13	Passengers – 293
Injuries:	Crew – 0	Passengers – 11 (including 2 with serious injuries)
Aircraft damage:	Tire explosive deflation	

Note: All times are local Hong Kong time that is Coordinated Universal Time (UTC) plus eight hours.

3. Synopsis

- (1) The accident involved a Cathay Pacific Airways (ICAO¹ code: CPA / IATA² code: CX) Boeing 777-300ER (Flight CX880, aircraft registration B-KPQ) from Hong Kong to Los Angeles on 24 June 2023. The aircraft was carrying a total of 310 persons, including 293 passengers and 17 crew members (4 flight crew and 13 cabin crew).
- (2) Preliminary investigation has revealed that the flight rejected takeoff due to a discrepancy with the airspeed indication in the flight deck. The rejected take-off (RTO) was initiated by the Captain of CX880 at 145 kts, which was below the V_1 speed³ of 164 kts.
- (3) As the aircraft taxied back to its parking stand, the crew observed an increasing temperature in the left and right main landing gear brakes, accompanied by progressive deflation of the tires. While waiting for the airbridge to connect to the aircraft, an explosive sound was heard and severe vibration were felt by the occupants on board. Concurrently, the crew observed a fire at the left main landing gear (aft position) via the Ground Maneuver Camera System (GMCS)⁴. Passenger evacuation was initiated via five aircraft emergency slides and the airbridge subsequently connected to the L1 door.
- (4) Immediately after the fire was observed by the crew, they alerted the Air Traffic Control (ATC) and requested assistance. The ATC activated the crash alarm and notified the Airport Fire Contingent, who responded to the emergency.
- (5) 11 passengers were injured during the evacuation, including 2 passengers who were seriously injured and required hospitalisation.

¹ ICAO – International Civil Aviation Organization

² IATA – International Air Transport Association

³ V_1 is the maximum speed at which a rejected takeoff can be safely initiated, in the event of an emergency. Initiation of rejected take-off procedure at or before V_1 should result in a complete stop within the remaining runway length.

⁴ Ground Maneuver Camera System (GMCS) assists the pilot in ground maneuvering of the Boeing 777-300/300ER with camera views of the nose gear and main gear areas. The cameras are on the leading edge of the left and right horizontal stabilizers and the underside of the fuselage and are used during ground maneuvering. The images are displayed at the Multi-Functional Display positions in the flight deck in a three-way split format.

4. Order of Investigation

- (1) The AAIA received an Aircraft Accident / Incident Reporting Form from the operator on 24 June 2023. After validating the collected information, the Chief Inspector (CI) of AAIA classified this occurrence as an Accident, and ordered an investigation into its circumstances, causes and contributing factors, in accordance with Cap. 448B and the requirements of ICAO Annex 13.
- (2) The National Transportation Safety Board (NTSB) of the United States of America, being the investigating authority representing the State of Design and the State of Manufacture of the aircraft, was notified and has nominated an Accredited Representative to participate in the investigation of AAIA.
- (3) The ICAO was also notified of this accident.

5. Investigation Progress

- (1) To date, the AAIA has:
 - completed the inspection of the aircraft conditions and secured all relevant photo evidences;
 - downloaded the data from the onboard Digital Flight Data Recorder (DFDR) and Cockpit Voice Recorder (CVR);
 - retrieved airport's closed-circuit television (CCTV) footage;
 - collected ATC operational records;
 - collected witnesses' videos / images;
 - interviewed the flight crew, cabin crew and the key ground support / maintenance personnel;
 - initiated technical investigation of the relevant aircraft components; and
 - initiated collation of other relevant information from the operator.
- (2) As the investigation progresses, AAIA will:
 - analyse all relevant operational safety risks subsequent to the high speed RTO of CX880, including the assessment of the escalating fire risk associated with the aircraft's main landing gear section, as well as other safety hazards that could pose risks to the ground support / maintenance personnel due to overheating brakes;

- conduct an in-depth examination of the retained aircraft components, with some components dispatched to overseas testing facility for detailed examination and testing;
 - review the operator's emergency procedures and practices;
 - review the operator's procedures and crew actions from a human factors perspective, including crew resource management procedures and practices; and
 - review passenger injuries in connection to the evacuation.
- (3) The detailed analysis of the data and information collected will enable the investigation team to determine the circumstances, causes and contributing factors of this accident. It will also aid in identifying areas that need further investigation and/or lines of investigation to be pursued.

6. Public Notice

This Report also serves as a public notice under Regulation 10(1) of Cap. 448B. Any person who wishes to make representation as to the circumstances or causes of the accident should do so by letter, facsimile, telephone, or email to the Chief Inspector (Address: Air Accident Investigation Authority, Level G, Facility Building, 1 Tung Fai Road, Hong Kong International Airport, Lantau, Hong Kong; Telephone: (+852) 2910 6079; Facsimile: (+852) 2910 6049 (local), (+852) 3912 4848 (international); or Email: ACCID@tlb.gov.hk) within 14 days of this notice.

24 July 2023

K. C. MAN

Chief Inspector

About the Air Accident Investigation Authority

The AAIA is an independent investigation authority formed under the Transport and Logistics Bureau (TLB) of the Government of the Hong Kong Special Administrative Region of the People's Republic of China.

The AAIA is established in compliance with the Standards and Recommended Practices (SARPs) of ICAO Annex 13 requiring Contracting States to set up an independent investigation authority to ensure the independence and impartiality of the investigations.

The AAIA is responsible for the investigation of civil aircraft accidents and incidents in Hong Kong in accordance with Hong Kong Civil Aviation (Investigation of Accidents) Regulations (Cap. 448B) and the SARPs of ICAO Annex 13.

The sole objective of the investigation shall be the prevention of accidents and incidents. It is not the purpose of this activity to apportion blame or liability.

Check the AAIA website for information, reports and updates:

<https://www.tlb.gov.hk/aaia/eng/index.html>

The AAIA 24/7 Duty Investigator Hotline:

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