

Preliminary Report

**Air India's B787-8 aircraft bearing registration VT-ANB
at Ahmedabad on 12 June 2025**

Government of India

Ministry of Civil Aviation

Aircraft Accident Investigation Bureau

FOREWORD

This document has been prepared based on the preliminary facts and evidence collected during the investigation. The information is preliminary and subject to change

In accordance with Annex 13 to the Convention on International Civil Aviation Organization (ICAO) and Rule 3 of Aircraft (Investigation of Accidents and Incidents), Rules 2017, the sole objective of the investigation of an Accident/Incident shall be the prevention of accidents and incidents and not to apportion blame or liability. The investigation conducted in accordance with the provisions of the above said rules shall be separate from any judicial or administrative proceedings to apportion blame or liability.

Consequently, the use of this report for any purpose other than for the prevention of future accidents or incidents could lead to erroneous interpretations.

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1. General Information

1.	Aircraft	Type	Boeing 787-8
		Nationality	Indian
		Registration	VT-ANB
2.	Owner and Operator		Air India
3.	Pilot		ATPL Holder
	Extent of Injuries		Fatal
4.	Co Pilot		CPL Holder
	Extent of Injuries		Fatal
5.	No. of Persons on board		230 passengers, 10 Cabin Crew and 02 Flight Crew
6.	Date & Time of Accident		12 June 2025, 0809 UTC (13:39 IST)
7.	Place of Accident		Ahmedabad
8.	Co-ordinates of Accident Site		23°03'17.8"N 72°36'43.6"E
9.	Last point of Departure		Sardar Vallabhbhai Patel International Airport (VAAH)
10.	Intended landing place		London Gatwick Airport (EGKK)
11.	Type of Operation		Scheduled Passenger
12.	Phase of operation		Initial Climb

2. Background

On 12 June 2025, AAIB was notified of an accident involving Air India's B787 aircraft bearing registration VT-ANB at Ahmedabad. As per the notification, the aircraft was operating Flight AI171 from Ahmedabad to Gatwick and crashed at about 0809 UTC immediately after take-off. The notification was received from the Airport Authority of India and the Airline Operator.

On receipt of the notification, a team of five officers from AAIB including DG, AAIB reached Ahmedabad on the same day. Another three officers from DGCA's Air Safety Directorate arrived from Mumbai to assist in the accident site activities and were put up at disposal of the DG, AAIB. The efforts at the site were led by the DG, AAIB and evidence collection and other site activities were carried out.

The Initial notification of the accident as per ICAO Annex 13 was sent to National Transportation Safety Board (NTSB), USA which represented the State of Design & Manufacture. As per the information notified to AAIB, the fatalities amongst passengers also included citizens from United Kingdom, Portugal and Canada. The initial notification of the accident as per ICAO Annex 13 was also sent the AAIB-UK, GPIAAF-Portugal and Transportation Safety Board (TSB)-Canada which represented the other States whose citizens suffered fatalities in the accident.

NTSB, USA appointed an Accredited Representative and Technical Advisers from Boeing, GE and the Federal Aviation Administration (FAA) to assist in this Investigation. A team led by the NTSB Accredited Representative comprising of representatives from Boeing, GE and FAA arrived at Ahmedabad on 15.06.2025 and participated in the Investigation. A team of officials from AAIB, UK also arrived at Ahmedabad and visited the site with DG, AAIB.

The DG-AAIB, in exercise of power conferred to him by the Rule 11 (1) of the Aircraft (Investigation of Accidents and Incidents) Rules 2017, appointed Investigation team

comprising Mr. Sanjay Kumar Singh as Investigator-in-Charge, Mr. Jasbir Singh Larhga as Chief Investigator and, Mr. Vipin Venu Varakoth, Mr. Veeraragavan K and Mr. Vaishnav Vijayakumar as Investigators.

Experienced Pilots, Engineers, Aviation Medicine Specialist, Aviation Psychologist and Flight Recorder Specialists have been taken on board as Subject Matter Experts (SMEs) to assist the Investigation in the area of their domain expertise.

3. Injuries to persons

Injuries	Crew	Passengers	Others
Fatal	12	229	19
Serious	NIL	1	67
Minor/None	NIL	NIL	

4. Aircraft Information

Aircraft Model	Boeing 787-8
Aircraft Sr. No.	36279
Year of Manufacturer of Aircraft	2013
Name of Owner	Air India Limited
Certificate of Registration	4475/4
Certificate of Airworthiness	6584 valid subject to the validity of Airworthiness Review Certificate (ARC)
Last ARC issued on	22 May 2025
ARC valid up to	23 May 2026
Category	Normal (Passenger/Mail/Goods)
Total Aircraft Hours	41868
Engine Type Left Hand (LH)	GEEx-1B70/75/P2
Date of Manufacture of Engine (LH)	20 May 2012
Engine Sl. No. (LH)	956174
Total Engine Hours/Cycles (LH)	27791:43/4298
Engine Type Right Hand (RH)	GEEx-1B70/P2
Date of Manufacture of Engine (RH)	21 Jan 2013
RH Engine Sl. No. (RH)	956235
Total Engine Hours / Cycles (RH)	33439:30/ 6202

The last major line maintenance check as per the Aircraft Maintenance Program was L1-1 and L1-2 check carried out at 38504:12 Hrs and 7255 cycles. The next major check (D Check) was due on the aircraft in Dec 2025.

The LH Engine with ESN956174 was installed on 01 May 2025 and the RH Engine with ESN956235 was installed on the aircraft on 26 Mar 2025.

There were four CAT 'C' Minimum Equipment List (MEL) items active on aircraft as of 12.06.2025. These MELs were invoked on 09.06.2025 and validity of these MEL were till

19.06.2025. These MEL were for flight deck door visual surveillance, airport map function, core network, FD printer.

There was a CAT A MEL active w.r.t. Nitrogen generation performance, which was valid till 20.06.2025. There were other Category D MELs/NEFs on the aircraft related to cabin and cargo, the validity of these MELs were also within the due date.

All applicable Airworthiness Directives and Alert Service Bulletins were complied on the aircraft as well as engines.

The FAA issued Special Airworthiness Information Bulletin (SAIB) No. NM-18-33 on December 17, 2018, regarding the potential disengagement of the fuel control switch locking feature. This SAIB was issued based on reports from operators of Model 737 airplanes that the fuel control switches were installed with the locking feature disengaged. The airworthiness concern was not considered an unsafe condition that would warrant airworthiness directive (AD) by the FAA. The fuel control switch design, including the locking feature, is similar on various Boeing airplane models including part number 4TL837-3D which is fitted in B787-8 aircraft VT-ANB. As per the information from Air India, the suggested inspections were not carried out as the SAIB was advisory and not mandatory. The scrutiny of maintenance records revealed that the throttle control module was replaced on VT-ANB in 2019 and 2023. However, the reason for the replacement was not linked to the fuel control switch. There has been no defect reported pertaining to the fuel control switch since 2023 on VT-ANB.

5. Damages

The Aircraft was destroyed due to impact with the buildings on the ground and subsequent fire. A total of five buildings shown in the figure below were impacted and suffered major structural and fire damages.



Figure 1 Accident Site with respect to airport (left) and debris field

6. Wreckage and Impact

After takeoff, the aircraft impacted the BJ Medical College hostel which is 0.9 NM from the departure end of Runway 23. The Emergency Locator Transmitter (ELT) was not activated during this event. The wreckage, from the first impact point till the last identified aircraft item, was distributed in an area of approx. 1000 ft * 400 ft. A layout of the crash site has been given in Fig. 2 indicating the significant parts of the aircraft. The buildings at the wreckage site have been labelled alphabetically from A-F in the layout for easy reference.



Figure 2 Wreckage layout

As the aircraft was losing altitude, it initially made contact with a series of trees and an incineration chimney inside the Army Medical Corps compound before impacting the northeast wall of the Building A. The distance between the tree on which the aircraft made its initial contact and the point on the Building A where the aircraft impacted is 293 ft. As the

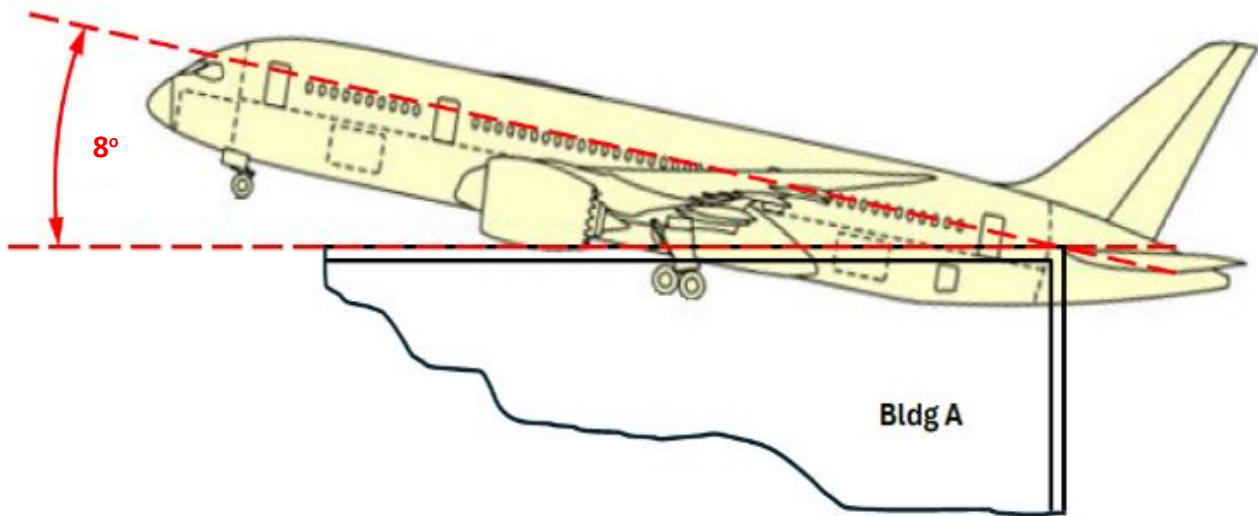


Figure 3 Aircraft attitude at the time of impact with Building A

aircraft moved forward, it continued fragmenting and collided with other structures and vegetation. The impact witness marks on the building and airplane indicated a likely nose-up attitude (about 8°) and wings level.



Figure 4 Tail section & RH MLG embedded in the building A

The vertical stabilizer (*fig. 5*) separated from the aft fuselage and came to rest about 200 feet south of the initial point of contact with the Building A. The tail section and the RH Main Landing Gear (MLG) of the aircraft were found embedded in the northeast wall of the Building A while the rest of the airplane continued its forward movement.



Figure 5 Vertical Stabilizer adjacent to Building A

As the airplane continued its path across the roof of the Building A the right engine (*fig. 6*) struck the concrete water tank structure, separated from the airplane and rested underneath the water tank structure facing a heading of approx. 226 degrees near south-west wall of the Building A.



Figure 6 RH Engine

The inboard parts of the right wing were found in Buildings A & B and the areas surrounding the buildings.



Figure 7 : RH Wing Outboard

The right-wing mid-section and the outboard section (*fig.7*) was about 280 feet and 520 feet southwest respectively from the initial point of contact with the Building A.

The left main landing gear (LH MLG) and left wing outboard and middle section struck building C, came to rest approx. 345 feet south from the initial point of contact. (*fig. 8*). The left wing middle section of the wing was stuck in the north corner of the fourth floor of the Building C while the left wing inboard section was lying about 670 feet southwest of the initial point of contact with the Building A. (*fig. 8*).

The nose landing gear (NLG) (*fig. 9*) was found on the ground about 307 feet southwest from the initial point of contact with Building A.

The left engine (*fig.8*) got separated from the airplane and struck the north corner of Building D at the ground level where it remained and was roughly perpendicular to the right engine resting position, at heading of approx. 326 degrees. The wall was pushed into the

building and the northwest building column was damaged such that portions of the concrete

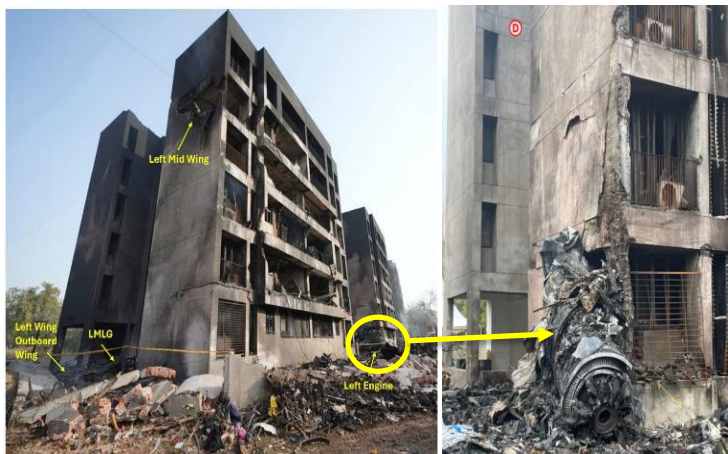


Figure 8 LH Engine



Figure 9 Nose Landing Gear

were missing and exposing the internal metal rebar. The engine, remaining portions of attached cowling, and the surrounding area were heavily damaged by fire.

After the tail section was brought down, the APU was inspected and found intact inside the APU compartment. The APU air inlet door (*fig. 10*), which was intact, was found open.

The fuselage fragmented and sustained thermal damage as it traveled along the northwest faces of Buildings C, D, E, and F with the furthest debris observed at about 765 feet southwest from the initial point of contact with building A. The flight deck area and windshield support structure came to rest at about 650 feet southwest from the initial point of contact with Building A.



Figure 10 APU Air Inlet Door



Figure 11 Flap Handle Lever



Figure 12 Landing Gear Lever Module



The flap handle assembly (*fig.11*) sustained significant thermal damage. The handle was found to be firmly seated in the 5-degree flap position, consistent with a normal takeoff flap setting. The position was also confirmed from the EAFR data. The landing gear lever was in “DOWN” position. (*fig.12*)

The thrust lever quadrant sustained significant thermal damage. Both thrust levers were found near the aft (idle) position. However, the EAFR data revealed that the thrust levers remained forward (takeoff thrust) until the impact. Both fuel control switch were found in the “RUN” position. (*fig.13*) The reverser levers were bent but were in the “stowed” position. The wiring from the TO/GA switches and autothrottle disconnect switches were visible, but heavily damaged.



Figure 13 Thrust Lever Quadrant & Fuel Control Switch

7. Personnel Information

Age/Gender	56/ Male	32/Male
License	ATPL License holder	CPL License holder
Date of Issue of License	14-May-2021	26-Sept-2020
Validity of License	14-May-2026	26-Sept-2025
Type Endorsements	PIC: TB 20, BE, C152, A310, B787, B777	PIC: C172, PA-34 Co-Pilot: A320, B787
Date of Class I Medical Exam	05 Sept 2024	04 Feb 2025
Total Flying Experience	15638:22 Hrs	3403:12 Hrs.
Total Flying Experience on Type	8596:43 Hrs	1128:14 Hrs
Total Flying Experience as PIC on Type	8260:43 Hrs	0 Hrs
Total Flying Experience during last 180 days	262:58 Hrs	233:07 Hrs
Total Flying Experience during last 30 days	56:58 Hrs	66:24 Hrs
Total Flying Experience during last 07 days	07:12 Hrs	06:10 Hrs
Total Flying Experience during last 24 hours	00:00 Hrs	00:00 Hrs

8. Meteorological Information:

The weather as per the Meteorological office at SVPI Airport, Ahmedabad at the time of the accident was as follows:

Time (UTC)	Wind (degrees/Kts)	Visibility (m)	Wx	Cloud	Temp (°C)	QNH (hPa)	Trend
0730	240/06	6000	-	NSC	36	1001	Not Significant
0800	250/07	6000	-	NSC	37	1001	Not Significant
0830	240/03	6000	-	NSC	37	1000	Not Significant
0900	260/06	6000	-	NSC	38	0999	Not Significant

9. Aerodrome

Sardar Vallabhbhai Patel International Airport, Ahmedabad is a DGCA licensed airport having a license valid up to 09/06/2028. The ARFF category at the airport as per the AIP is Category 9. The runway details are as below:

Runway Orientation	Length (m)	Width (m)	Surface Type	Strength	Remarks
05-23	3505	45	Asphalt	100/F/B/W/T	RWY 05 – Non precision approach RWY 23 – ILS CAT-1

10. Communications

After the accident the ATC data was preserved. The replay of ATC recordings data was conducted. Summary of events based on the replay is as below:

Time (in UTC)	Event
07:43:00	The aircraft requested pushback and startup.
07:43:13	ATC approved pushback.
07:46:59	ATC approved Start up.
07:49:12	ATC queried if the aircraft required full length of the runway. The aircraft confirmed requirement of full length of RUNWAY 23.
07:55:15	The aircraft requested taxi clearance, which was granted by ATC.
08:02:03	The aircraft was transferred from Ground to Tower Control.
08:03:45	The aircraft was instructed to line up on the Runway 23.
08:07:33	The aircraft was cleared for Take-Off from Runway 23, Wind 240°/06 Kts.
08:09:05	MAYDAY call was made by AI171.

11. Flight Recorders

The aircraft is equipped with two Enhanced Airborne Flight Recorders (EAFR) part number 866-0084-102. The EAFR are fitted at two locations, one in the tail section at STA 1847 and other in the forward section at STA 335. The two EAFRs are similar in construction and record a combined data stream of digital flight data and cockpit voice information, with both stored on the same device.

The aft EAFR receives electrical power from the aircraft's main electrical system. The forward EAFR contains an additional power source from the Recorder Independent Power Supply (RIPS), a system that provides electrical power to the forward EAFR in the event of a power or bus loss on the aircraft. This allows the forward EAFR to continue to record available digital flight data, and voice data from the Cockpit Area Microphone (CAM), even after power is lost to other aircraft systems.



Figure 14 EAFR AFT & FWD

The aft EAFR was located on the roof top of Building A on 13th June 2025. The EAFR had impact and thermal damages to the housing. The wires were protruding from the housing and the connectors were burnt.

The forward EAFR was located on 16th June 2025 from the wreckage debris besides the Building F. The EAFR was burnt and covered in soot. The EAFR was still attached to the

equipment shelf with part of the connector melted but still connected. The ULB was still connected to the housing and the lithium battery was also attached to the equipment shelf, which was removed later prior to transportation.

Both EAFRs were transported from Ahmedabad to AAIB's facility at New Delhi on 24th June 2025. Like various other cases where the data from damaged flight recorders was downloaded by AAIB after sourcing 'Golden Chassis' and relevant download cables from the DGCA and other Accident Investigation Authorities, in this case the 'Golden Chassis' (Identical EAFR unit) and Download cables required to download data from EAFR were sourced from NTSB, USA. The items arrived on 23rd June 2025.

The download from the FWD EAFR was attempted at the AAIB Lab on 24th June 2025. The CPM was retrieved from the EAFR and found to be in good condition. The CPM was mounted on the Golden Chassis and the raw data was downloaded from the EAFR.

The downloaded flight data contained approximately 49 hours of flight data and 6 flights, including the event flight. The recovered audio was two hours in length and captured the event. Initial Analysis of the recorded audio and flight data has been done.

The aft EAFR was substantially damaged and could not be downloaded through conventional means. The CPM was opened to inspect the memory card. The damage was extensive.

12. Accident Flight

On 12th June 2025, Air India's B787-8 aircraft bearing registration VT-ANB arrived at Ahmedabad airport operating flight AI423 from Delhi. The aircraft touched down at 05:47 UTC (11:17 IST) and was parked at the bay 34.

The crew of the previous flight (AI423) had made Pilot Defect Report (PDR) entry for status message "*STAB POS XDCR*" in the Tech Log. The troubleshooting was carried out as per FIM by Air India's on duty AME, and the aircraft was released for flight at 0640 UTC.

The aircraft was scheduled to operate flight AI171 from Ahmedabad to Gatwick with ETD 07:40 UTC (13:10 IST). The flight was to be operated by the flight crew comprising an ATPL holder PIC, a CPL holder Co-pilot along with ten cabin crew. Both pilots were based at Mumbai and had arrived at Ahmedabad on the previous day. They had adequate rest period prior to operating the said flight. The co-pilot was Pilot Flying (PF), and the PIC was Pilot Monitoring (PM) for the flight.

The crew of flight AI171 arrived at the airport and underwent preflight Breath Analyzer test at 06:25 UTC and were found fit to operate the flight. The crew is seen arriving at the boarding gate in the CCTV recording at about 07:05 UTC (12:35 IST).

There were 230 passengers on board, out of which 15 passengers were in business class and 215 passengers were in economy class including two infants.

Fuel on board was 54,200 Kgs and as per the load and trim sheet of the flight, the Take-off Weight was 2,13,401 Kgs (Max. allowed - 2,18,183 Kgs). The take-off weight was within allowable limits for the given conditions. There was no 'Dangerous Goods' on the aircraft.

The calculated V speeds with available conditions at Take-Off were V_1 - 153 Kts, V_r - 155 Kts, V_2 - 162 Kts.

The A-SMGCS replay of the flight was also carried out after the accident. The aircraft was observed departing from the bay 34 at 07:48:38UTC. The taxi clearance was received at 07:55:15 UTC and the aircraft taxied from the bay at 07:56:08 UTC. The aircraft taxied to Runway 23 via Taxiway R4, backtracked and lined up. The take-off clearance was issued at 08:07:33 UTC. The aircraft started rolling at 08:07:37 UTC.

As per the EAFR data, the aircraft crossed the take-off decision speed V_1 and achieved 153 kts IAS at 08:08:33 UTC. The V_r speed (155 kts) was achieved as per the EAFR at 08:08:35 UTC. The aircraft air/ground sensors transitioned to air mode, consistent with liftoff at 08:08:39 UTC.

The aircraft achieved the maximum recorded airspeed of 180 Knots IAS at about 08:08:42 UTC and immediately thereafter, the Engine 1 and Engine 2 fuel cutoff switches transitioned from RUN to CUTOFF position one after another with a time gap of 01 sec. The Engine N1 and N2 began to decrease from their take-off values as the fuel supply to the engines was cut off.

In the cockpit voice recording, one of the pilots is heard asking the other why did he cutoff. The other pilot responded that he did not do so.

The CCTV footage obtained from the airport showed Ram Air Turbine (RAT) getting deployed during the initial climb immediately after lift-off (*fig. 15*). No significant bird activity is observed in the vicinity of the flight path. The aircraft started to lose altitude before crossing the airport perimeter wall.

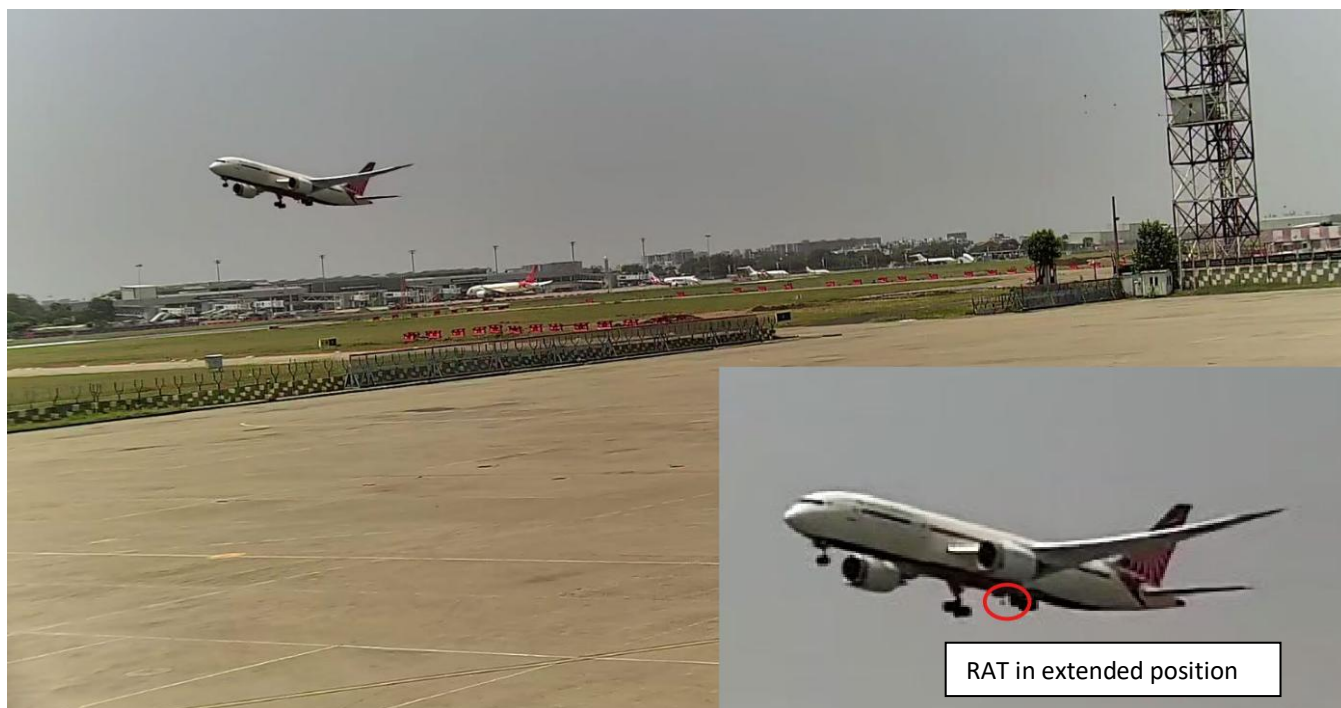


Figure 15 CCTV screenshot of RAT Deployment

As per the EAFR data both engines N2 values passed below minimum idle speed, and the RAT hydraulic pump began supplying hydraulic power at about 08:08:47 UTC.

As per the EAFR, the Engine 1 fuel cutoff switch transitioned from CUTOFF to RUN at about 08:08:52 UTC. The APU Inlet Door began opening at about 08:08:54 UTC, consistent with the APU Auto Start logic. Thereafter at 08:08:56 UTC the Engine 2 fuel cutoff switch also transitions from CUTOFF to RUN. When fuel control switches are moved from CUTOFF to RUN while the aircraft is inflight, each engines full authority dual engine control (FADEC) automatically manages a relight and thrust recovery sequence of ignition and fuel introduction.

The EGT was observed to be rising for both engines indicating relight. Engine 1's core deceleration stopped, reversed and started to progress to recovery. Engine 2 was able to relight but could not arrest core speed deceleration and re-introduced fuel repeatedly to increase core speed acceleration and recovery. The EAFR recording stopped at 08:09:11 UTC

At about 08:09:05 UTC, one of the pilots transmitted "MAYDAY MAYDAY MAYDAY". The ATCO enquired about the call sign. ATCO did not get any response but observed the aircraft crashing outside the airport boundary and activated the emergency response.

At 08:14:44 UTC, Crash Fire Tender left the airport premises for Rescue and firefighting. They were joined by Fire and Rescue services of Local Administration.

13. Progress of Investigation

- The wreckage site activities including Drone photography/videography have been completed, and the wreckage has been moved to a secure area near the airport.
- Both Engines were retrieved from the wreckage site and quarantined at a hangar in the airport.
- Components of interest for further examinations have been identified and quarantined.
- Fuel samples taken from the bowzers and tanks used to refuel the aircraft were tested at the DGCA's Lab and found satisfactory.
- Very limited amount of fuel samples could be retrieved from the APU filter and Refuel/Jettison valve of left wing. The testing of these samples will be done at a suitable facility capable of carrying out the test with the limited available quantity.
- The EAFR data downloaded from forward EAFR is being analyzed in detail.
- The statement of the witnesses and the surviving passenger have been obtained by the Investigators.
- Complete analysis of postmortem reports of the crew and the passengers is being undertaken to corroborate aeromedical findings with the engineering appreciation.
- Additional details are being gathered based on the initial leads.
- At this stage of investigation, there are no recommended actions to B787-8 and/or GE GENx-1B engine operators and manufacturers.
- Investigation is continuing and the investigation team will review and examine additional evidence, records and information that is being sought from the stakeholders.

***** END OF REPORT *****