UNITED REPUBLIC OF TANZANIA

MINISTRY OF TRANSPORT



AIRCRAFT ACCIDENT INVESTIGATION UNIT (AAIU)

TANZANIA

PRELIMINARY REPORT

Accident No. CAV/ACCID/2/26

Aircraft registration and type:	5H-KIH, Embraer EMB-120 (E120)
Date of Occurrence:	21 August 2026
Time of Occurrence:	Approx. 1450 UTC (touchdown)
Place:	Runway 18, AAKIA (HTZA), Zanzibar. **Latitude:** S06°13.40' **Longitude:** E039°13.40' **Elevation:** 54 feet
Type of flight:	Scheduled domestic flight
Owner/ Operator:	Unity Air
Numbers on board:	**Crew:** 3 **Passengers:** 21
Fatalities / Injuries:	NIL/NIL
Damage to aircraft:	Substantially Damaged
Commander's age and License*:*	33 years, ATPL
Commander's total flying experience:	5,689.05 hours, of which 5,541.6 hours on the type
Investigator-in-Charge:	Redemptus Peter Bugomola

IMPRINT

Written Preliminary Report
This written Preliminary Report is issued pursuant to Regulation 17 of the Civil Aviation (Aircraft Accident and Incident Investigation) Regulations, 2017, as amended by the Civil Aviation (Aircraft Accident and Incident Investigation) (Amendment) Regulations, 2026, and Recommendation 5.4.6 of Annex 13 to the Convention on International Civil Aviation (13th Edition). It has been approved by the Investigator-in-Charge on behalf of the Chief Investigator.

This written Preliminary Report contains the facts ascertained up to the date of publication and is intended to provide information on the progress of the safety investigation into the accident involving Embraer EMB-120 aircraft 5H-KIH on 21 August 2026 at Abeid Amani Karume International Airport, Zanzibar. The information contained in this report may be incomplete, may change in the course of the investigation, or new relevant facts may become known that have not yet been taken into account.

In accordance with Regulation 4(3)(f) of the Regulations, as amended, this report forms part of the timely, public dissemination of factual information. In accordance with Regulation 4(2) of the Regulations, this investigation is not conducted with a view to apportioning blame or liability, and, in accordance with Regulation 22(4), no safety recommendation contained in this report shall create a presumption of blame or liability for the accident.

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This investigation is not conducted to apportion blame or liability. Pursuant to regulation 4(2) and regulation 22(4) of the Regulations, the findings, causes, contributing factors and any safety recommendations contained in this report shall not create a presumption of blame or liability for the accident, and shall not be used for any purpose other than accident and incident prevention.

Non-disclosure of underlying investigation records — including statements, cockpit voice recordings and transcripts, and communications referred to in regulation 29(2) of the Regulations — is maintained in accordance with regulation 29. The information provided in this report is limited to that which may properly be made public at this stage of the investigation.

Foreword

The safety investigation is carried out in accordance with the Civil Aviation Act (Cap. 80) and the Civil Aviation (Aircraft Accident and Incident Investigation) Regulations, 2017 (GN. No. 58), as amended by the Civil Aviation (Aircraft Accident and Incident Investigation) (Amendment) Regulations, 2026 (GN. No. 36).

The sole purpose of the safety investigation is the prevention of future accidents and incidents. In accordance with Regulation 4(2) of the Regulations, the investigation is not conducted with a view to apportioning blame or liability, and the determination of causes and contributing factors does not imply the assignment of fault or the determination of administrative, civil or criminal liability.

The regulations cited in this written Preliminary Report refer to the version applicable at the time of the occurrence on 21 August 2026, unless expressly stated otherwise.

The extent of the safety investigation and the procedure to be followed in conducting it are determined by the Chief Investigator, taking into account the objective of the investigation, the lessons expected to be drawn from the accident for the improvement of aviation safety, and the complexity of the investigation (Regulation 15(2)).

In accordance with Recommendation 5.4.6 of Annex 13 to the Convention on International Civil Aviation, in the version of the 13th Edition that entered into force on 28 November 2024, the responsible investigation authority should publish a preliminary report (“Written Preliminary Report”) in the event of accidents or incidents that attract increased public interest, in which the facts ascertained and the progress of the investigation are presented. In accordance with this Recommendation, the Chief Investigator publishes the present report pursuant to regulation 17 of the Regulations.

Unless stated otherwise, the safety recommendations in this report are addressed to those bodies in a position to implement them by suitable action. In accordance with Regulation 22(3) of the Regulations, any person or authority to whom a recommendation is communicated shall, without delay, take the recommendation into consideration and, where appropriate, act upon it, and shall send to the Chief Investigator either full details of the measures taken or proposed, with the schedule for implementation, or a full explanation as to why no measures are to be taken.

So far as consistent with the factual content necessary to understand the investigation, care has been taken to protect personal and other sensitive information of the kind referred to in Regulation 29(2) of the Regulations.

All times given in this report are stated in 24-hour format. At the time of the occurrence, local time in the United Republic of Tanzania (East Africa Time) was UTC + 3 hours.

LIST OF ABBREVIATIONS

Abbreviation	Meaning
AAKIA	Abeid Amani Karume International Airport
AFM	Aircraft Flight Manual
AGL	Above Ground Level
AIP	Aeronautical Information Publication
AMM	Aircraft Maintenance Manual
ARFFS	Aerodrome Rescue and Fire Fighting Service
ATC	Air Traffic Control
ATD	Actual Time of Departure
ATPL	Airline Transport Pilot Licence
AWU	Aural Warning Unit
CFIT	Controlled Flight Into Terrain
CPL	Commercial Pilot Licence
CVR	Cockpit Voice Recorder
ECG	Electrocardiogram
EMB-120 / E120	Embraer EMB-120, twin-turboprop regional aircraft type
(E)GPWS	(Enhanced) Ground Proximity Warning System
ETA	Estimated Time of Arrival
FDR	Flight Data Recorder
F/O	First Officer
FOD	Foreign Object Debris
GPS	Global Positioning System
LDA	Landing Distance Available
MAC	Mean Aerodynamic Chord
MAP	Multiple Alarm Panel
MEL	Minimum Equipment List
METAR	Meteorological Aerodrome Report (aviation routine weather report)
PIC	Pilot-in-Command
QNH	Altimeter sub-scale setting giving elevation above mean sea level at the aerodrome
QRH	Quick Reference Handbook
RFFS	Rescue and Fire Fighting Service
RWY	Runway
TCAA	Tanzania Civil Aviation Authority
THR	Runway threshold
TMA	Tanzania Meteorological Authority
TODA	Take-off Distance Available

TWR	Air Traffic Control Tower
TWY	Taxiway
UTC	Coordinated Universal Time
VHF	Very High Frequency
VMC	Visual Meteorological Conditions

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1. SYNOPSIS

On 21 August 2026, aircraft 5H-KIH, an Embraer EMB-120 operated by Unity Air, departed Mtemere Airstrip on a charter flight to Abeid Amani Karume International Airport (AAKIA), Zanzibar, with 24 persons on board (21 passengers and 3 crew). While attempting to land on Runway 18, after having been cleared for a short approach, it was observed that during the landing flare both propellers and the aircraft tail contacted the runway surface resulting in sparks. The crew initiated a recovery, became briefly airborne, then lowered the landing gear and landed the aircraft safely at 1451 UTC. There were no injuries to any of the 24 occupants. The aircraft sustained damage to the nacelle flaps, inboard flaps, propellers and underside of the center and rear sections of the fuselage. Also, the skin on the starboard side of the fuselage was punctured by propeller blade debris that lodged in the cabin wall. The runway was closed to all arrivals and departures for approximately 48 minutes while debris caused by impact of propeller strike was located and removed, disrupting multiple inbound and outbound flights.

This preliminary report details factual information established in the investigation’s early evidence collection phase, and has been prepared to provide timely information to the industry and public.

2. FACTUAL INFORMATION

2.1 HISTORY OF THE FLIGHT

5H-KIH was being flown by the Pilot-in-Command (PIC) and the First Officer (F/O), on a scheduled flight from Mtemere Airstrip to AAKIA, Zanzibar. The aircraft departed Mtemere at 1720 local (ATD) with an estimated time of arrival of 1750 local / 1450 UTC, carrying 24 souls on board including three crew.

At 1439:10 UTC the aircraft established contact with Zanzibar Tower and was initially cleared to descend to 7,000 ft and subsequently to 2,000 ft via approach fix IMVIV, with the field to be reported visual. The crew requested a right-base short approach for Runway 18; Tower advised that traffic was backtracking the full runway length and that a short approach would be advised once available. At 1446:41 UTC Tower approved the short approach and instructed the crew to report final. At 1448:13 UTC Tower issued a landing clearance for Runway 18 (surface wind 150°/17 kt), which the crew acknowledged at 1448:19 UTC.

At approximately 1450 UTC the aircraft was observed to be touching down on Runway 18 prior to the intersection with Taxiway B. Sparks were observed emerging from behind the aircraft. The flight crew reported that during the landing flare they realised that both propellers and the aircraft tail had contacted the runway surface. The crew made a quick recovery, becoming airborne again for a few seconds (the sparks ceased at this point), then selected the landing gear down and landed the aircraft safely at 1451 UTC. The aircraft vacated the runway via Taxiway C to the apron; the aircraft reached the apron without further incident and parked at Stand 15.

Following the event, Tower suspended all departures and arrivals due to suspected FOD generated by the aircraft. At 1453 UTC the RFFS was instructed to conduct a runway inspection. Debris consistent with the propeller blades fragments were found scattered in the touchdown zone of Runway 18 prior to the Taxiway B intersection.

2.1.1 PILOTS POST-OCCURRENCE INTERVIEW ACCOUNT

During a post-occurrence interview, Pilots gave the following account of the approach and landing configuration, and of the actions taken once the propeller strike was recognized. This account has not yet been cross-checked against CVR/FDR data, or maintenance records, and is presented here for completeness; it should be treated as preliminary and subject to verification during the full investigation (see Sections 5.1 and 6).

During approach

I. **Airspeed at 150 kts, selected Flaps 25 (approach configuration) and Condition lever to MAX:** At Flaps 25, no aural warning was heard by the crew; a blinking visual warning indication was observed.

II. **Cancellation:** The crew cancelled the blinking indication.

III. **Airspeed below 140kts, Flaps 45 were selected (landing configuration, before-landing checklist):** At Flaps 45, the crew completed the Before Landing checklist; the landing gear indicator was looked at, but the **crew did not confirm whether it was illuminating "all green."**
IV. **Caution indication:** A configuration caution light illuminated and was treated by the crew as normal.

The PIC described the following sequence of actions taken immediately after realising the propellers had struck the runway:

I. Power applied to 100% torque
II. Engine temperature indications checked.
III. The aircraft became airborne to approximately 50 ft above ground level.
IV. The landing gear lever was selected to down position.
V. The aircraft was flared abeam Taxiway B.
VI. The aircraft touched down again after passing Taxiway E.
VII. The runway was vacated via Taxiway C.
VIII. A quick taxi was carried out with no brakes applied.
IX. The aircraft cabin was checked for smoke and fire; none was found.
X. The aircraft was parked at Stand 15.

2.2 INJURIES TO PERSON

Injuries	Crew	Passengers	Others
Fatal	Nil	Nil	Nil
Serious	Nil	Nil	Nil
Minor	Nil	Nil	Nil
None	3	21	—

Table 1 — Injuries to Persons (Section 2.2)

2.3 DAMAGE TO AIRCRAFT

A detailed physical damage survey was conducted on the aircraft, and identified damages covering the propellers (2.3.1), the fuselage skin (2.3.2), the trailing-edge flight control surfaces (2.3.3), the VHF-2 antenna (2.3.4), the left main landing gear door (2.3.5), the left engine nacelle (2.3.6), and the underside of the fuselage centre and rear sections (2.3.7). These findings are set out in the subsections below.

The aircraft sustained **Substantial Damage** due to the torn and delaminated inboard flap trailing edge with exposed rib structure and a missing panel section (2.3.3), which is a

damage to a flight control surface. This level of damage further classifies this occurrence as an **Accident**. This classification is preliminary and remains subject to revision should further evidence come to light during the full investigation.

2.3.1 DETAILED SITE DAMAGE SURVEY- PROPELLER BLADES

A physical damage survey conducted at the aircraft on the apron recorded the following technical details in respect of the propeller installation and the extent of blade damage sustained during the runway contact.

I. 5H-KIH (EMB-120) is powered by two Pratt & Whitney Canada PW115 turboprop engines, each rated at 1,500 hp, driving Hamilton Standard 14RF-9 four-blade, constant-speed, reversible-pitch, fully-feathering propellers of 10.5 ft (3.2 m / 126 inches) total diameter.

II. Following the occurrence, the remaining propeller diameter was measured at 110 inches on both the port and starboard propellers- a reduction of approximately 16 inches (≈0.41 m) from the nominal 126-inch (10.5 ft) diameter, consistent with the tips of all blades on both propellers being worn/fractured away by contact with the runway surface during the flare.

Reason for Damage: Both propellers struck the runway surface during the landing flare because the landing gear was not extended at the point of initial ground contact (see Sections 2.1 and 5). With the propellers still turning under power at touchdown, the rotating blade tips were repeatedly abraded and fractured by direct contact with the runway surface, accounting for the reduced overall diameter measured on both the port and starboard propellers.



Figure 1 — Starboard propeller blade, tip fractured and delaminated by runway contact.



Figure 2 — Close-up of a damaged blade tip



Figure 3 — Close view of the bent and shortened blade



Figure 4 — Further close view of propeller blade damage.



Figure 5 — Fragments of propeller blade recovered at the strike location.

2.3.2 DETAILED SITE DAMAGE SURVEY— FUSELAGE SKIN (STARBOARD SIDE)

Skin damage was found on the starboard side of the fuselage, below the window line, resulting from impact by a liberated piece of propeller blade material during the occurrence.

- Hole damage dimensions: length = 23cm (9.05 inches); width = 15.2cm (5.98 inches).
- The damage was caused by a fragment of propeller blade striking the skin; the fragment penetrated the fuselage skin and continued through to the cabin (sidewall) interior.

Reason for Damage: A fragment of propeller blade material, liberated when the rotating blades struck the runway, was thrown outward with sufficient energy to strike the starboard fuselage skin below the window line, puncturing the panel and lodging in the cabin sidewall cavity behind it.



Figure 6 — Puncture hole in the starboard fuselage skin caused by propeller blade debris; insulation blanket and cabin trim visible through the opening.

2.3.3 DETAILED SITE DAMAGE SURVEY— TRAILING-EDGE FLIGHT CONTROL SURFACES (INBOARD DOUBLE-SLOTTED FLAPS AND NACELLE "FLAPETTE")

The EMB-120 wing trailing edge is fitted with inboard and outboard double-slotted flaps; a small fixed-travel fairing panel known as the nacelle "flapette" is mounted over each engine nacelle between the inboard flap sections and moves in unison with the main flaps to preserve aerodynamic continuity across the nacelle gap. The site survey identified damage to the trailing edge of the inboard flap and nacelle flapette assemblies on both

sides, consistent with these surfaces dragging along the runway surface during the tail-low ground contact.

- The trailing-edge closure (composite/fabric-reinforced skin wedge) of the flap has been torn and delaminated away from the rear spar over a significant span, exposing the internal rib structure and leaving a hollow cavity where the trailing-edge fairing was ground away by abrasive contact with the runway.
- Fraying and shredding of the fabric/composite skin plies is visible along the torn edge, with the rivet line of the rear spar/rib attachment exposed - consistent with sustained frictional (grinding) contact rather than a single point impact.
- A section of the flap trailing edge is missing outright, leaving an open cavity between the upper and lower skins at the tip of the panel.
- Secondary, lighter damage was also noted at the aft-outboard corner of an adjacent flap panel- a small chip/crack in the skin and edge trim near the trailing edge - consistent with minor abrasion or debris contact during the same event. Surrounding paint degradation on this panel is pre-existing weathering and is not attributed to the occurrence.

Reason for Damage: With the landing gear retracted and flaps extended, the aircraft settled lower than normal during the landing flare, bringing the inboard flap and nacelle flap trailing edges into direct frictional contact with the runway surface. Sustained grinding contact during this phase of the landing roll abraded and tore away the trailing-edge skin before the crew recovered, extended the landing gear, and completed the subsequent safe landing.



Figure 7 — Trailing edge of the nacelle"flapette", showing delamination and abrasion of the composite skin along the rear spar.



Figure 8 — Close-up of the frayed/shredded trailing-edge skin plies and exposed rivet line at the flap corner.



Figure 9 — Upper surface of the inboard flap in the stowed position, viewed from the wing root toward the nacelle; edge damage visible at the lower left corner.



Figure 10 — Adjacent flap panel showing chip/crack damage at the aft-outboard corner near the trailing edge.

2.3.4 DETAILED SITE DAMAGE SURVEY — VHF-2 ANTENNA (FUSELAGE UNDERSURFACE BETWEEN FRAMES 17 –18)

The VHF-2 blade antenna, mounted on the underside of the fuselage between frames 17 and 18, was found damaged during the post-occurrence site survey.

- The leading edge and tip of the antenna blade are chipped and fractured, with the surface coating/paint cracked and flaking away around the damaged area, exposing the underlying laminate.
- The location and nature of the damage are consistent with impact from debris (propeller fragments) thrown up during the ground-contact sequence described in Section 2.1.

Reason for Damage: The VHF-2 antenna, protruding from the fuselage underside between frames 17 and 18, was struck by debris thrown up when the propellers and lower fuselage/nacelle structure contacted the runway surface during the landing flare, chipping and cracking the antenna blade.



Figure 11 — VHF-2 antenna on the fuselage underside (between frames 17 and 18), showing chipped/fractured leading edge and cracked surface coating.

2.3.5 DETAILED SITE DAMAGE SURVEY — LANDING GEAR DOOR (LEFT/PORT MAIN GEAR)

The left (port) main landing gear door/fairing was found damaged in the vicinity of the wheel well during the post-occurrence site survey.

- A section of the door's lower leading edge is gouged and torn away, exposing bare metal and the underlying structure.
- Scoring and scuff marks are visible on the door skin adjacent to the damaged area, consistent with abrasive contact rather than a single sharp impact.

Reason for Damage: With the landing gear not extended at the point of initial ground contact, the left main landing gear door was exposed to contact with the runway surface during the ground-contact sequence, gouging and scoring its lower leading edge before the gear was subsequently extended.



Figure 12 — Left (port) main landing gear door, showing a gouged and torn lower leading edge adjacent to the main wheel bay.

2.3.6 DETAILED SITE DAMAGE SURVEY — ENGINE NACELLE (LEFT/PORT)

The lower surface of the left (port) engine nacelle was found damaged during the post-occurrence site survey.

- Extensive bright-metal scoring and scuffing is visible across the lower nacelle skin, consistent with sustained abrasive contact with the runway surface.
- A nacelle skin seam is torn and displaced, exposing the underlying structure, with an associated bent metal strip (fairing/drain mast edge) protruding from the joint.

Reason for Damage: With the landing gear not extended, the lower surface of the left engine nacelle contacted the runway during the ground-contact sequence, producing sustained abrasive scoring and tearing of the nacelle skin before the crew recovered and extended the landing gear.



Figure 13 — Lower surface of the left (port) engine nacelle, showing abrasive scoring and a torn/displaced skin seam.

2.3.7 DETAILED SITE DAMAGE SURVEY — FUSELAGE CENTER AND REAR SECTIONS (UNDERSIDE)

The walk-around revealed substantial damage to the underside of the fuselage centre section and fuselage rear section.

- The ventral centreline seam/fairing at the tail cone is torn open and frayed, exposing fibrous/composite backing material beneath the skin.
- Heavy black scorch/abrasion streaking runs aft along the keel on both sides of the tear, consistent with sustained frictional contact rather than a single localised impact.
- The damage pattern is consistent with the tail-strike account at Sections 2.1 and 5 - the aircraft tail contacting the runway surface during the landing flare.

Reason for Damage: With the landing gear not extended at the point of initial ground contact, the rear section was the lowest point of the airframe and dragged directly on the runway surface during the flare. Sustained grinding contact tore and frayed the ventral fairing/seam and produced the associated scorch/abrasion marks before the crew recovered, extended the landing gear, and completed the subsequent safe landing.



Figure 14 — Fuselage centre section underside, showing the torn/frayed ventral seam and scorch/abrasion streaking from sustained runway contact.



Figure 15 — Closer view of the tail cone tear, showing exposed frayed backing material at the ventral seam.

2.4 OTHER DAMAGE

Other than the aircraft damage, there was a runway pavement damage of approximately 61m and debris that originated from the propeller and tail strike scattered across the Runway 18 touchdown zone prior to the Taxiway B intersection, necessitating runway closure and inspection (see Section 2.8).

2.4.1 DETAILED SITE DAMAGE SURVEY — PROPELLER STRIKE MARKS ON RUNWAY 18 PAVEMENT

Following the occurrence, the propeller strike left **scarring marks** on the Runway 18 pavement. Recording of the GPS-tagged positions at the start of each row of marks (and at the end of the right-hand row), together with a manual count of the number of individual marks in each row and the average spacing between consecutive marks were conducted.

- Two parallel rows of short, light-coloured abrasion/scuff marks run along the pavement either side of the runway centreline for the length of the propeller-strike zone, tapering in the direction of the landing roll - consistent with the tips of the two rotating propeller blades repeatedly striking the runway surface.
- Left-hand row: 86 individual marks recorded, with a measured spacing of 63.8 cm (2.09ft) between consecutive marks.
- Right-hand row: 101 individual marks recorded, with a measured spacing of 54.9 cm (1.8 ft) between consecutive marks.
- Handheld-GPS position fixes (stated accuracy ±4–10 m) were taken at the start of each row and at the end of the right-hand row; see table below.

Point	Latitude	Longitude	Altitude (a.s.l.)	GPS Accuracy	Marks Recorded
Left row — start	S 6°12'53.01" (-6.214726)	E 39°13'26.93" (39.224147)	15 m (49.2 ft)	±4 m	86
Right row — start	S 6°12'53.09" (-6.214746)	E 39°13'26.87" (39.224132)	15 m (49.2 ft)	±4 m	101
Right row — end	S 6°12'55.01" (-6.215282)	E 39°13'27.00" (39.224167)	15 m (49.2 ft)	±10 m	—

Table 2 — Propeller Strike Marks on Runway 18 Pavement — GPS Survey Points (Section 2.4.1)

Calculated length of the marked damage on the runway surface:

- Left row: 85 intervals × 0.638 m = 54.2 m (177.82 ft).
- Right row: 100 intervals × 0.549 m = 54.9 m (180.1 ft).
- The two rows' start points lie only 2.8 m (9.19 ft) apart laterally and essentially abeam one another at the start of the strike zone.

Reason for Damage: With the landing gear not extended at the point of initial ground contact, both propellers continued turning under power as their blade tips repeatedly struck the runway pavement during the landing flare and initial roll, scoring the two parallel rows of marks either side of the centreline; the marks end where the crew's recovery lifted the aircraft briefly clear of the surface, before the gear was extended and the subsequent safe landing was completed.

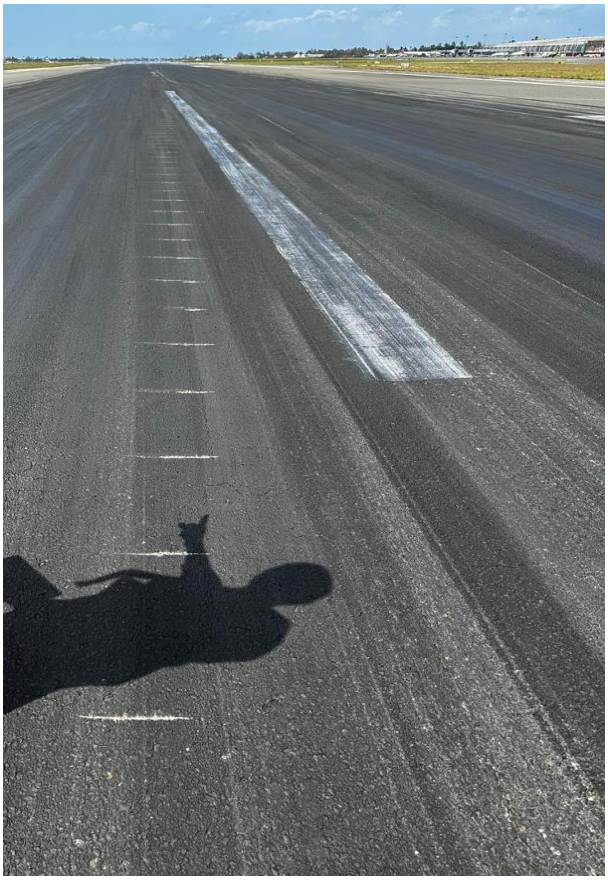


Figure 16 — Right-hand row of propeller strike marks (left of frame) alongside the adjacent tyre/rubber deposit band, looking along Runway 18 in the direction of the landing roll.

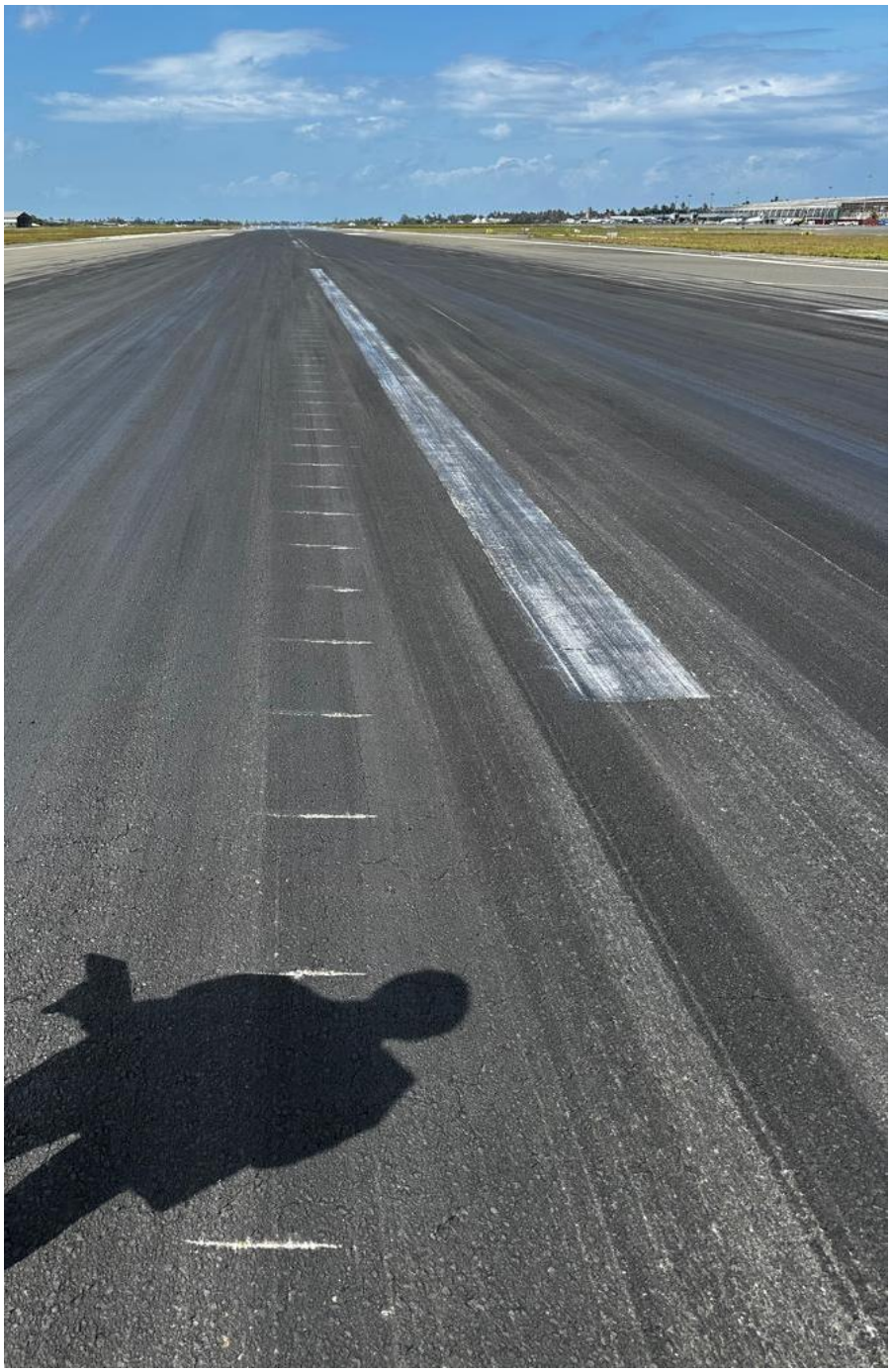


Figure 17 — Second view of the propeller strike marks on Runway 18, showing the regular spacing of individual marks tapering into the distance.

The HTZA (AD 2, Abeid Amani Karume International Airport) gives Runway 18/36 with 3,022 m x 45 m, true bearings 174°/354° (magnetic 176°/356°, variation 1.9°W), with threshold coordinates of 06°12'39.58"S 039°13'25.62"E (THR18, elevation 54 ft) and 06°14'17.03"S 039°13'35.39"E (THR36, elevation 44 ft).

The start of the propeller strike marks (Point 1, first contact) lies 418 m (1371.4 ft) from the Runway 18 threshold, essentially on the runway centreline (2 m offset), and the point where the marks end (Point 2, aircraft airborne again) lies 479 m (1571.5 ft) from the threshold (5 m offset).

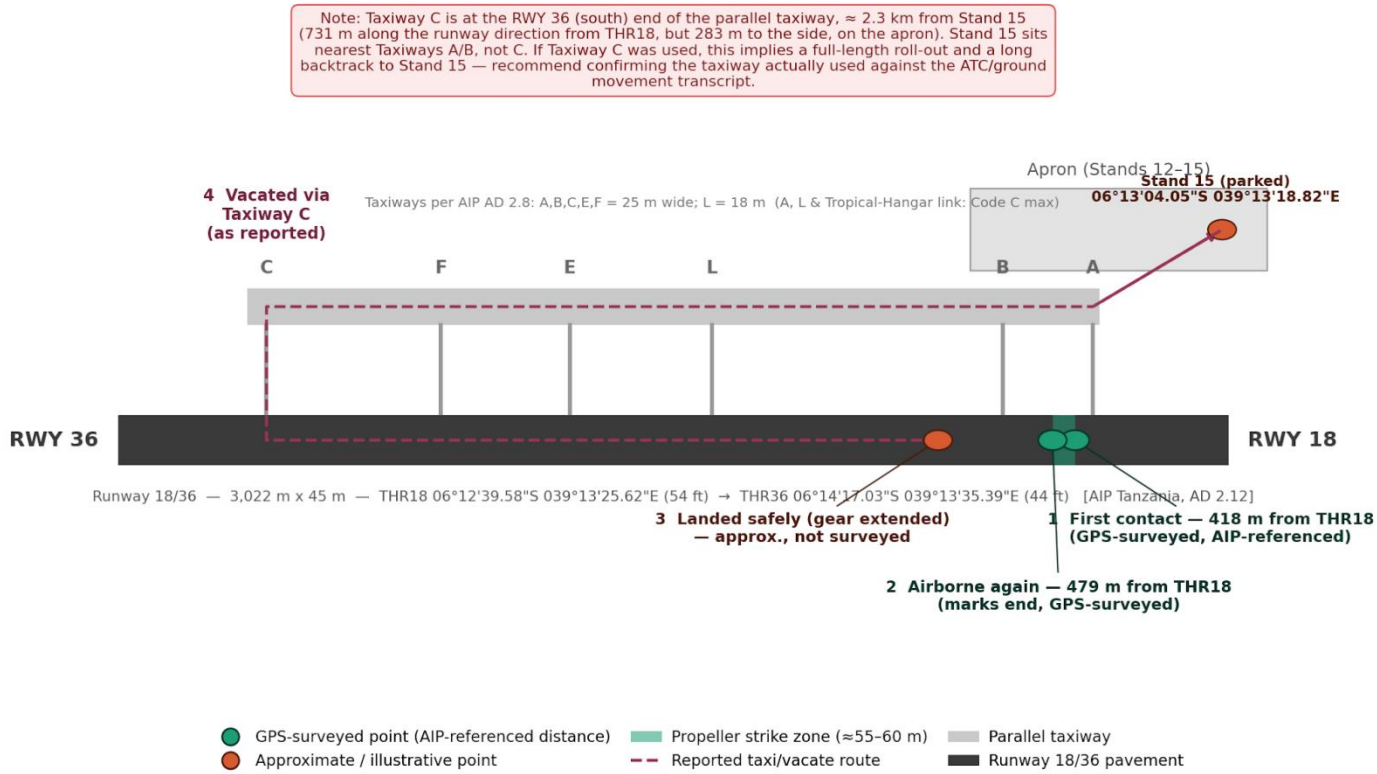


Figure 18 — HTZA Runway 18/36 and taxiway layout (Tanzania AIP, AD 2.7/2.9/2.12), annotated with the occurrence sequence: (1) first contact/start of propeller marks, 418 m(1371.4 ft) from THR18; (2) aircraft airborne again as the marks end, 479 m (1571.5 ft) from THR18; (3) the subsequent safe landing with gear extended (approximate — not GPS-surveyed); and (4) the reported vacation via Taxiway C to Stand 15 on the apron (Stand 15 position per AIP sheet HTZA 2-9). Points 1 and 2 combine the on-site GPS survey with the AIP-surveyed threshold; Point 3's position and the routing shown for Point 4 remain illustrative only.

2.5 PERSONNEL INFORMATION

2.5.1 PILOT-IN-COMMAND — LICENCE, MEDICAL, TRAINING AND RECENCY RECORDS REVIEWED

Age	33 years
Licence Validity	April 2027
IF Rating Validity	May 2027
Mandatory Checks	OK
Type Rating	E120
Flying Experience (on type)	24 hr: 2.8 | 7 days: 7.9 | 90 days: 166 | Total: 5,541.6 hrs

Table 3 — Pilot-in-Command — Licence, Medical, Training and Recency Summary (Section 2.5.1)

The Pilot-in-Command (PIC) was the pilot monitoring at the time of the occurrence. He held a valid Tanzanian Airline Transport Pilot Licence (ATPL(A)) issued by the Tanzania Civil Aviation Authority, with ratings for Aeroplane Single-Engine Land and Aeroplane Multi-Engine Land, type ratings including the Embraer EMB-120, and an Instrument Rating. The licence carried a Class 1 medical certificate and Level 6 language proficiency, with no limitation endorsed.

The PIC's medical certificate was valid and recorded no limitations.

Recurrent type training on the EMB-120 was completed in January 2026, approximately seven months before the occurrence, and remained current under the operator's 12-month recurrent training cycle.

A base competency check completed in May 2026, approximately three months before the occurrence, confirmed the PIC met the required standard across the assessed technical-knowledge and flight-test items.

The PIC's flying records show a consistent pattern of short-sector, multi-engine domestic operations in the weeks preceding the occurrence, consistent with routine line flying for the operator. Total flying experience was 5,689.05 hours, of which 5,541.6 hours were on the EMB-120, including 4,403.15 hours as pilot-in-command on multi-engine aircraft.

2.5.2 CO-PILOT / FIRST OFFICER — LICENCE, MEDICAL, TRAINING AND RECENCY RECORDS REVIEWED

Licence Validity	January 2027
IF Rating Validity	July 2027
Mandatory Checks	OK
Flying Experience (on type)	24 hr: 4 | 7 days: 7 | 90 days: 112 | Total: 888 hrs

Table 4 — First Officer — Licence, Medical, Training and Recency Summary (Section 2.5.2)

The Co-pilot was the pilot flying at the time of the occurrence and held a Tanzanian Commercial Pilot Licence (CPL(A)), issued by the Tanzania Civil Aviation Authority on the strength of a previously held Philippine Commercial Pilot Licence. The Tanzanian licence carried ratings for Aeroplane Multi-Engine Land and Aeroplane Single-Engine Land, held in the capacity of pilot-in-command, together with a type rating on the Embraer EMB-120 held in the capacity of co-pilot. The licence recorded Class 1 medical fitness and Level 5 language proficiency, with no limitations endorsed.

The co-pilot's medical certificate was valid and recorded no limitations.

The co-pilot satisfactorily completed a route proficiency check and a base competency check in March 2026, approximately five months before the occurrence, both of which remained valid at the time of the occurrence. Assessed items were within the required standards.

The Co-pilot's flying records show a consistent pattern of short-sector, multi-engine domestic operations in the weeks preceding the occurrence, including recent operating experience on the occurrence aircraft. Total flying experience was 1,095.7 hours, of which 888 hours were on the EMB-120.

2.5.3 CABIN CREW IN CHARGE — LICENCE, MEDICAL, TRAINING AND RECENCY RECORDS REVIEWED

Licence Validity	January 2027
Ratings	BCS3, E120 (Embraer 120)
Recurrent Training Due	≈ November 2026
Flying/Duty Experience	24 hr: 4 | 7 days: 10 | 90 days: 94 | Total: 108 hrs

Table 5 — Cabin Crew in Charge — Licence, Medical, Training and Recency Summary (Section 2.5.3)

The cabin crew member in charge held a Tanzania Civil Aviation Authority (TCAA) Cabin Crew Member Certificate with ratings for the BCS3 and Embraer 120, and a valid Class

2 medical certificate recording no limitations, examined in December 2025 and valid to December 2027.

Training records reviewed show the cabin crew member completed initial cabin crew training and type-specific EMB-120 training, and the most recent recurrent refresher training was done in November 2025 — approximately nine months before the occurrence. Training remained current under the operator's 12-month recurrent-training cycle, with the next refresher due in November 2026.

Other persons involved: Nil.

2.6 AIRCRAFT INFORMATION

Airworthiness Certificate	Yes — valid to 16 September 2026
Certificate of Release to Service	Yes — valid to 19 March 2027
Last Maintenance / Repairs	20 March 2026
Defects Deferred for Flight	Nil
Defects Reported During Flight	Nil
Mass at Take-off	10,847 kg
Centre of Gravity at Take-off	32% MAC

Table 6 — Aircraft Information Summary (Section 2.6)

2.6.1 AIRCRAFT SYSTEMS - EMB-120 WARNING AND ALERT SYSTEM (LANDING GEAR AURAL/VISUAL WARNING)

The EMB-120 is fitted with an integrated Warning System (Aircraft Maintenance Manual chapter 31-50-00) comprising a Multiple Alarm Panel (MAP) of forty backlit legends, discrete alarm/indication lights distributed around the cockpit, red/amber Master Warning and Master Caution lights on the glareshield (one pair for each pilot), and an Aural Warning Unit (AWU, chapter 31-53-00) that generates voice messages and discrete tones through two loudspeakers and the audio system. The system classifies every alert into one of four priority levels- EMERGENCY, ABNORMAL, ADVISORY and INFORMATION - each with a distinct visual and aural signature, and each with different rules for whether and how the crew can cancel it.

Alerts classed as ABNORMAL (e.g. general system cautions shown on the MAP) illuminate the amber Master Caution light, generate a single "Attention" chime repeated every five seconds, and are readily cancelled by either of the two ALARM CANCEL switches on the glareshield; once cancelled, the MAP legend remains illuminated steadily but the flashing/chime stops. A fresh amber (abnormal) fault occurring while an earlier one is still active is not re-announced by the AWU, though it is still shown on the MAP.

The Landing Gear alert, by contrast, is classed as an EMERGENCY (Priority 1) alert. Per the type's Aural Warning System description, it activates the red Master Warning light, the "LANDING GEAR" voice message preceded by an Attention level-3 triple-chime, and the corresponding MAP legend, whenever the landing gear is not locked down and gear manual cancel has not been activated, and either the engine power levers are retarded or the flaps are extended beyond the aircraft's maximum approach flap position.

Critically, this specific aural callout is listed among the alerts that are not cancellable by the ALARM CANCEL switches when triggered by the flap condition: once activated, the voice message repeats continuously (approximately once per second) until the landing gear is extended and locked down, or the flaps are raised back above the trigger threshold - pressing ALARM CANCEL does not silence it. The alert is automatically inhibited above an airspeed of 158 ± 8 kt, and for a short period immediately after take-off, but is not otherwise suppressible in the landing configuration.

This system logic offers a possible explanation for the sequence described, though it is preliminary and remains to be confirmed:

(i) At Flaps 25 - below the flap setting associated with the "beyond maximum approach position" trigger - an unrelated ABNORMAL (amber, single-chime, cancellable) caution may have been the indication the crew observed and cancelled, which would be an unremarkable and correctly handled event on its own.

(ii) At Flaps 45 (the landing flap setting) with the gear still not locked down, the type's warning logic indicates that the continuous, non-cancellable "LANDING GEAR" aural callout and the red Master Warning light should have activated and continued repeating throughout the approach and flare. The PIC's account - describing only "a caution light" that "came" and "was treated as normal" - does not describe this specific emergency-level aural callout being heard or consciously actioned. This apparent gap between the alert the system is designed to generate and the alert the crew has described is addressed further in the analysis at Section 5.1.

2.6.2 AIRCRAFT SYSTEMS- GROUND PROXIMITY WARNING SYSTEM (GPWS) AND PILOT- REPORTED SERVICEABILITY

In addition to the dedicated Landing Gear aural/visual warning system described at Section 2.6.1 (AMM 31-50-00/31-53-00), the EMB-120 type is separately equipped with a Ground Proximity Warning System (GPWS), per AMM chapter 34-44-00. This is a functionally independent system, with its own computer, sensors and warning logic, providing an additional and separate layer of protection against Controlled Flight Into Terrain (CFIT) and against landing with the gear not extended.

Of the GPWS system's several operating modes, Mode 4 ("Terrain Clearance"/"Unsafe Terrain Clearance") is the mode directly relevant to this occurrence. Sub-mode 4A provides a "TOO LOW GEAR" aural callout, accompanied by illumination of the GPWS warning light, whenever the aircraft descends below a threshold radio altitude with the landing gear not down and locked, the callout repeating (approximately once every 0.75 seconds, until the condition is corrected. Mode 4A "TOO LOW GEAR" threshold is defined by radio altitude together with airspeed or Mach number (for example, below approximately 500 ft AGL at low airspeed).

Critically, the Mode 4A "TOO LOW GEAR" callout is generated independently of flap position and power lever position, and is therefore a separate and independent detection path from the Landing Gear aural warning described at Section 2.6.1, which is instead triggered by power-lever and flap-position logic. A serviceable GPWS would accordingly be expected to have generated its own, independent "TOO LOW GEAR" aural and visual alert as the aircraft descended through the applicable height/airspeed threshold on approach to Runway 18, regardless of whether the separate Landing Gear aural warning system operated as described by the crew.

PIC account of GPWS serviceability: The PIC account stated that the **GPWS installed on 5H-KIH was inoperative at the time of the occurrence,** and that he had previously reported this defect verbally to the management on an earlier occasion, but had not entered the defect (snag) in the aircraft's Technical/Journey Logbook. This account has not yet been corroborated against maintenance records, or the aircraft's Technical Log, and is presented here as reported by the PIC; it should be treated as preliminary and subject to verification during the full investigation (see Section 6).

If confirmed, this account would indicate that the aircraft continued to be dispatched and operated with a known defect affecting a safety-critical system, without that defect having been formally recorded or processed through the operator's defect-reporting/Minimum Equipment List (MEL) procedures, and that the independent Mode 4A "TOO LOW GEAR" protection referred to above was therefore unavailable to the crew during the approach and landing. This is addressed further in the analysis at Section 5.2.

2.6.3 BACK-UP AND EMERGENCY POWER SYSTEM AND ITS RELATIONSHIP TO AWS/GPWS/MAP

During the investigation there was identified a practice reportedly followed across the EMB-120 fleet: the BACK-UP BATTERY switch was deliberately selected to OFF in flight in order to suppress what crews perceived as nuisance aural alerts associated with horizontal stabilizer trim and AWS. The flight and maintenance personnel stated their understanding that the BACK-UP BATT switch functions as a master inhibit for the aircraft's entire aural and visual alerting suite — AWS, GPWS, and MAP alike — and on that basis believed, in good faith, that selecting the switch OFF accounted for the complete absence of both aural and visual annunciation during the event.

This theory has been studied against the approved EMB-120 Aircraft Maintenance Manual (AMM 24-33-00, 31-53-00, 34-44-00) wiring and this investigation **finds the theory is not supported by the aircraft's actual systems architecture.**

The Back-up and Emergency Power System (AMM 24-33-00) is a contingency system, not the aircraft's normal electrical supply. It exists to protect voltage-sensitive equipment and to supply the standby attitude indicator for approximately 30 minutes during a total electrical emergency — defined as the simultaneous loss of both main generators, both auxiliary generators, the APU starter generator, and the main battery. The system comprises the emergency battery, the back-up power box, the Voltage Sensor Unit (VSU) and the 3-position BACK-UP BATT switch (OFF / ARM / TEST) on the main instrument panel.

The Aural Warning Unit (AWU) and the GPWS computer are each independently wired into the aircraft's normal DC/AC distribution system, but their relationship to the back-up battery differs fundamentally:

- AWU — a dual-channel unit; one channel is fed from DC BUS 1 (normal, primary), the second channel from BACK-UP BATTERY DC BUS 1 as a redundant back-up only, the two-diode cross-linked “to provide power supply redundancy and to prevent aural warning unit restart should one of the sets fail” (AMM 31-53-00 §3.B(3), Figure 2).
- GPWS — fed exclusively from the aircraft's normal 115 VAC ESS or DC BUS 1 supply. No wiring path from the back-up battery system exists in any GPWS variant (AMM 34-44-00, Figure 5).
- Multiple Alarm Panel (MAP) — powered from EMERG DC BUS 1, a normal aircraft essential bus, not from the back-up/emergency battery (AMM 31-53-00, Figure 3).

The aural-cancel function is performed exclusively by the ALARM CANCEL switches (AMM 31-53-00 §2.C, consistent with Section 2.6.1); the BACK-UP BATT switch has no documented function as an aural-warning inhibit or cancel control for AWS, GPWS or MAP. Because AWS, GPWS and MAP are each independently, and in the case of AWS redundantly, powered, a genuine simultaneous loss of all three cannot be explained by

the BACK-UP BATT switch position alone. **The only single-bus failure capable of silencing both the AWU's primary channel and the GPWS computer together is a loss of DC BUS 1**; a loss of MAP indication would additionally require an independent loss of EMERG DC BUS 1. Per AMM 31-53-00 §7, a dual-channel AWU failure (both channels failing self-test) causes the unit to fully disconnect, though a caution alert should still appear on the MAP, provided the MAP itself remains powered.

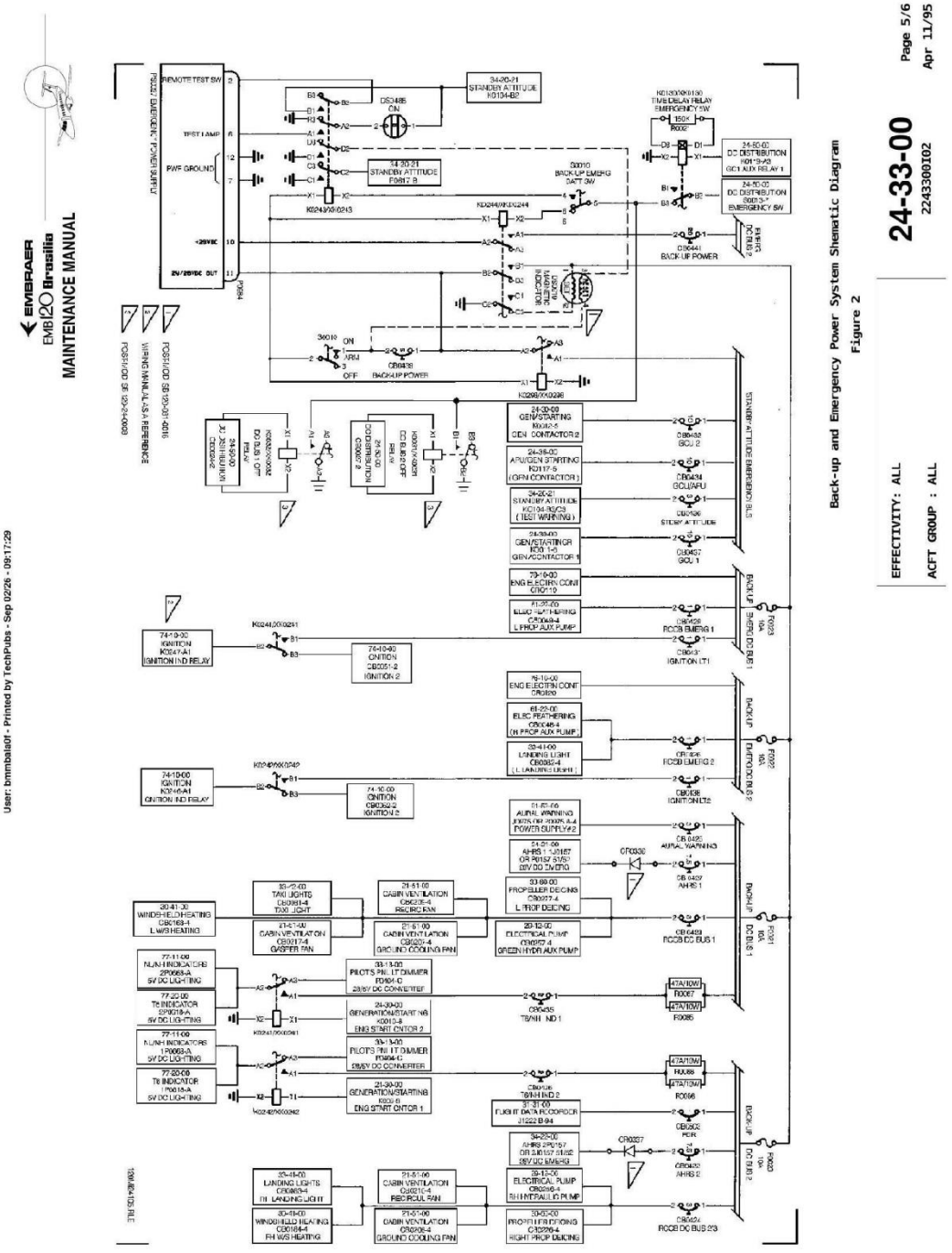
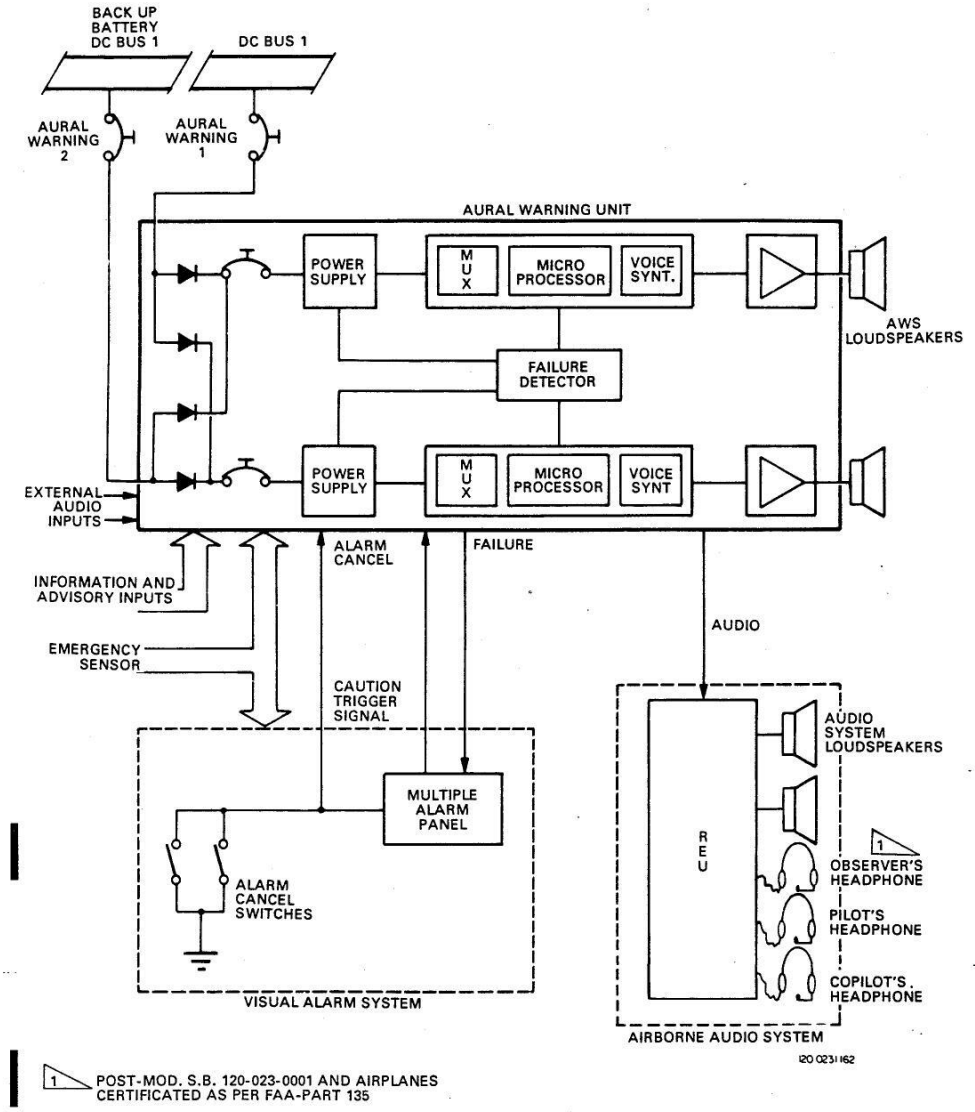


Figure 19 — AMM 24-33-00: Back-up and Emergency Power System Schematic Diagram (Section 2.6.3)

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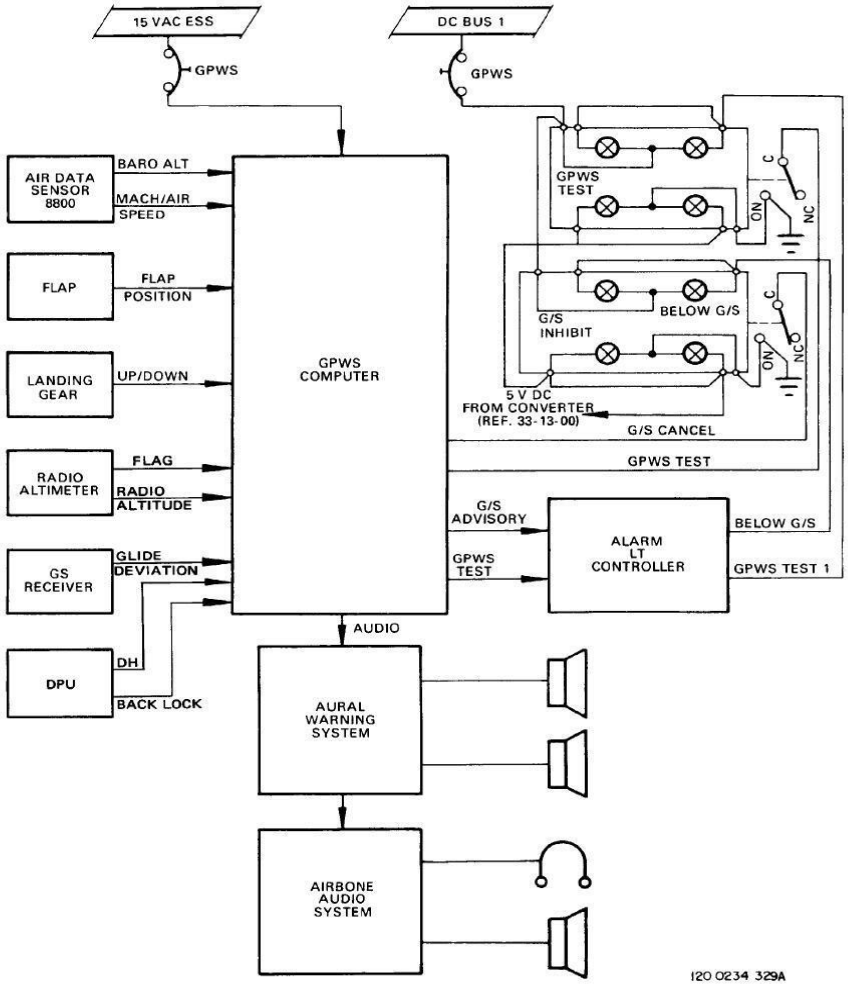


Aural Warning System - Block Diagram

Figure 2

Figure 20 — AMM 31-53-00: Aural Warning System Block Diagram, showing dual power inputs "BACK UP BATTERY DC BUS 1" and "DC BUS 1" (Section 2.6.3)

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GPWS - Schematic Diagram
Figure 5

Figure 21 — AMM 34-44-00: GPWS (MK VI) Schematic, showing power sources 15 VAC ESS and DC BUS 1 only (Section 2.6.3)

2.7 METEOROLOGICAL INFORMATION

The Tanzania Meteorological Authority (TMA) Weather Summary for AAKIA, 1200–1600 UTC on 21 August 2026, records conditions as generally fair to partly cloudy with good visibility throughout and no significant weather reported:

Parameter	Conditions, 1200–1600 UTC
Weather	No significant weather / rain reported
Visibility	≥10 km throughout
Wind	Predominantly SE, 120°–140°, decreasing from 12–14 kt to 7 kt
Cloud	FEW 2,200 ft initially; later SCT/BKN around 1,800–2,000 ft; SCT 8,000 ft
Temperature	Decreased from 30°C to 26°C
Dew Point	21–22°C
QNH	1016–1017 hPa

Table 7 — Meteorological Conditions, 1200–1600 UTC (Section 2.7)

METARs observed at AAKIA (HTZA) bracketing the occurrence time (≈ 1450–1451 UTC) were:

- HTZA 211430Z 12008KT 090V150 9999 SCT018 27/22 Q1016 NOSIG
- HTZA 211500Z 14008KT 100V160 9999 SCT018 26/22 Q1017 NOSIG

These indicate, at the approximate time of the occurrence: wind from approximately 120–140° at 8 kt, visibility 10 km or greater, scattered cloud at 1,800 ft (SCT018), temperature 26–27°C, dew point 22°C, and QNH 1016–1017 hPa. The occurrence took place during daylight hours (day/VMC).

2.8 AERODROME INFORMATION AND IMPACT ON OPERATIONS

Following the occurrence, Tower closed Runway 18 to all arrivals and departures pending an FOD inspection. Debris was located in the touchdown zone before the Taxiway B intersection. After consultation with the Airport Authority, the runway threshold was displaced with a reduced Landing Distance Available / Take-off Distance Available (LDA/TODA) of 2,050 metres to accommodate certain aircraft, including single-engine aircraft, restricted to day operations only, while the inspection and clean-up continued.

Eight aircraft were holding in the air awaiting landing, with others holding on the ground awaiting departure, including:

- FLZ 110 (Registration. 5Y-IAI, type DH8C) — HTAR to HTZA
- 5H-IHN (type E120) — HTBG to HTZA
- 5H-LUF (type E120) — HTAR to HTZA
- 5H-HAD (type E120) — HTAR to HTZA
- ETH 801 (Registration. ET-AUB, type A359) — HAAB to HTZA
- ATC 158 (Registration. 5H-TCK, type DH8D) — HTAR to HTZA
- 5H-AMI (type ATR45) — HTTE to HTZA
- 5H-FOD (type ATR45) — HTTE to HTZA
- ATC 233 (Registration. 5H-TCD, type DH8D) — HTZA to HTDA

The runway was declared serviceable at 1538 UTC following removal of all FOD. ETH 801 (originally estimating 1515) landed at 1544 UTC. Total runway closure duration was approximately 48 minutes (1450–1538 UTC).

2.9 COMMUNICATIONS (ZANZIBAR TOWER- SELECTED ATC TRANSCRIPT EXTRACTS)

Time (UTC)	Unit	Transmission (summary)
14:39:10	5H-KIH	Initial contact with Zanzibar Tower
14:39:16–22	TWR / 5H-KIH	Released down to 7,000 ft, then cleared to 2,000 ft via IMVIV, field visual to be reported
14:44:36	5H-KIH	Field in sight; requested right-base short approach
14:44:39–45	TWR	Route via IMVIV; traffic backtracking full length; short approach to be advised
14:46:41	TWR	Short approach for final approved; report final
14:48:13	TWR	5H-KIH cleared to land RWY 18, surface wind 150°/17 kt
14:48:19	5H-KIH	Clear to land 18, acknowledged
≈ 14:50	—	Aircraft observed touching down before TWY B intersection; sparks observed; aircraft briefly airborne again (rejected landing)
14:50:51	TWR	All departures on standby; runway inspection required — landing traffic “slightly did not retract” on landing

14:51 (approx.)	5H-KIH	Landed safely; vacated via Taxiway C to apron
14:53–15:37	TWR / RFFS	Runway inspection and FOD/debris recovery in progress; multiple aircraft advised to hold / orbit
15:38	TWR	Runway declared serviceable
15:44	ETH 801	Landed (ETA had been 1515)

Table 8 — Zanzibar Tower — Selected ATC Transcript Extracts (Section 2.9)
Note: transcript timings above are extracted/summarised from the full tower transcript; times are in UTC.

2.10 SURVIVAL ASPECTS

Evacuation and rescue considerations were assessed as normal-as there was no emergency evacuation, and no injuries or failures of seats/seatbelts were reported. All 24 occupants remained on board through to a safe landing and normal disembarkation at the apron.

3. AERODROME RESCUE AND FIRE FIGHTING SERVICE (ARFFS) RESPONSE

Zanzibar Tower radioed ARFFS to report that an aircraft had experienced a malfunction on Runway 18. A fire vehicle and an SMZ ambulance moved to the standby staging area , then proceeded to the aircraft after it had parked in the apron. The ARFFS located and recovered the propeller debris on the runway. Debris recovery was completed by 1534 UTC, with the crew departing the scene at 1537 UTC after confirming the runway was safe.

4. SAFETY ACTION TAKEN

I. The runway was closed to all arrivals and departures immediately following the occurrence pending inspection.
II. ARFFS conducted a runway inspection and recovered FOD/propeller debris from the touchdown zone before Runway 18/Taxiway B.
III. In consultation with the Airport Authority, the runway threshold was temporarily displaced, reducing LDA/TODA to 2,050 m, with operations restricted to certain aircraft (including single-engine types) for day operations only, pending full runway clearance.
IV. The runway was declared serviceable at 1538 UTC and normal operations resumed.

5. ANALYSIS (PRELIMINARY)

During the landing flare on Runway 18, both propellers and the underside of the aft and center fuselage contacted the runway surface over a distance of approximately 61 metres (measured between the point of first contact and the point at which the aircraft became airborne again — Section 2.1). **Available evidence indicates that the landing gear had not been extended for the approach and landing**. On recognising the ground contact, the flight crew rejected the landing, initiated a recovery, extended the landing gear, and completed a subsequent uneventful landing.

The circumstances surrounding the approach and landing-gear configuration — including human factors, checklist and landing-procedure discipline, approach configuration, and any related equipment or procedural considerations — are being examined as part of the ongoing investigation. The findings in this report are preliminary and subject to revision as further evidence — including flight data recorder and cockpit voice recorder data, maintenance records, and crew interviews — is obtained and analysed.

5.1 WARNING SYSTEM RECOGNITION AND CREW RESPONSE (PRELIMINARY)

The Pilots post-occurrence interview account (Section 2.1.1), read together with the EMB-120 warning system logic described at Section 2.6.1, points to a preliminary - and as yet unconfirmed - explanation **centred on recognition of, and response to, the aircraft's landing gear warning, rather than on a simple absence of any warning at all.**

At Flaps 25, the visual indication the crew observed and cancelled was, on system logic, most likely an ABNORMAL-class caution unrelated to the landing gear, and its cancellation would not by itself have been an inappropriate action. However, if the crew's cancellation of an early, unrelated caution contributed to an expectation that any

subsequent indication would likewise be a routine, cancellable caution, this could have primed the crew to **under-read the significance of a later indication** — a form of expectation or normalisation bias that is a recognised human-factors contributor in warning-response failures generally, though its role here has not been established and is noted only as a line of enquiry for the full investigation.

At Flaps 45, with the landing gear not locked down, the type's warning logic indicates the continuous, non-cancellable "LANDING GEAR" aural callout and the red Master Warning light should have been active throughout the Before Landing checklist and the approach to touchdown. The PIC's account that the crew "looked at the landing gear indication " during the checklist but "did not confirm" the "three greens," and that "a caution light came but was treated as normal," is consistent with at least one of the following possibilities, none of which can be distinguished on the evidence currently available:

(a) System non-activation — the aural warning unit and/or the landing-gear-not-locked sensing did not operate as designed on this occasion ;

(b) Recognition failure — the aural and visual warnings activated as designed, but were not correctly identified by the crew as the emergency-level, non-cancellable Landing Gear alert — for example, being perceived instead as a routine caution of the kind already cancelled once during the approach;

(c) Threshold not yet reached — the aircraft had not yet reached the flap angle at which the Landing Gear alert's "beyond maximum approach position" logic triggers at the point in the approach being described, so that the alert had not yet activated when the crew's attention moved on to other checklist items.

The before-landing checklist itself calls for the crew to positively verify three green landing-gear-down indications; the PIC's account that this was not confirmed indicates that the **standard cross-check which is specifically designed to catch an unsafe gear configuration was not completed, independently of whichever of (a)-(c) above proves to be the case.** This is noted as a preliminary finding of the investigation and is not, at this stage, a determination of cause.
Resolution of items (a)-(c) requires evidence which will be obtained in the course of full investigation, principally CVR data, a detailed serviceability/functional check of the AWU and MAP.

5.2 GPWS SERVICEABILITY AND DEFECT-REPORTING (PRELIMINARY)

Because the GPWS Mode 4A "TOO LOW GEAR" alert and the dedicated Landing Gear aural warning system (Section 2.6.1) are functionally independent, with separate sensors and activation logic. An inoperative GPWS would not on its own account for the apparent absence of the continuous, non-cancellable "LANDING GEAR" callout that the type's

warning logic indicates should have been active at Flaps 45 with the gear not locked down.

It would, however, if confirmed, account for the absence of any supplementary Mode 4A "TOO LOW GEAR" aural callout or associated GPWS light as the aircraft descended through the applicable height/airspeed threshold (500 ft Radio Altitude), removing what would otherwise have been a second, independent barrier available to alert the crew to the unsafe landing-gear configuration before touchdown.

Separately from the question of whether the GPWS was in fact unserviceable, the PIC's account that a safety-relevant defect was reported verbally to the Director of Flight Operation and not entered in the Technical/Journey Logbook **raises a preliminary concern regarding defect-reporting and maintenance-release discipline**. If confirmed, this would mean the aircraft was dispatched and continued in service with a known, unrectified defect affecting a safety-critical system without that defect being formally processed under the operator's defect-reporting or Minimum Equipment List (MEL) procedures, so that neither maintenance nor subsequent flight crews would have had visibility of the aircraft's actual dispatch status in respect of this system.

The system-architecture review at Section 2.6.3 reveals that GPWS has no electrical connection to the back-up battery system in any variant, and only a loss of DC BUS 1 (or, for an MK II installation, the AC ESS bus) would remove its supply outright.

This is noted as a preliminary line of enquiry only. It does not, at this stage, establish whether the unserviceability of GPWS was a causal or contributory factor in the non-extension of the landing gear, or whether the reporting chain described by the PIC reflects an isolated lapse or a broader pattern. These matters are fully investigated.

5.3 HUMAN FACTORS (PRELIMINARY)

Beyond the specific enquiries addressed at Section 5.1 (recognition of, and response to, the landing-gear warning) and Section 5.2 (GPWS serviceability and defect-reporting), a number of related human-factors threads emerge from the evidence currently available. None of these has been confirmed as causal; they are set out as complementary, preliminary enquiries that will be tested against CVR/FDR data, and the full investigation.

I. **Expectation / normalisation bias —** The crew's cancellation of an early, most-likely-unrelated ABNORMAL-class caution (Section 5.1), at Flaps 25 may have shaped their expectation of how to interpret the subsequent indication at Flaps 45. If a benign, correctly-cancelled early caution created an expectation that further indications would likewise be routine and cancellable, this could have primed the crew to under-read the significance of the non-cancellable Landing Gear alert that

the type's warning logic indicates should have been active at that point. This form of expectation, or normalisation, bias is a recognised contributor in warning-response failures generally, though its role in this occurrence remains unconfirmed.

II. **Completion of checklist and verification —** Also addressed at Section 5.1, the crew “looked at” the landing gear indicator during the Before Landing checklist but did not confirm the “three greens” indication. This reflects, at minimum, a gap between physically running the checklist and completing the positive verification that item is designed to enforce. Because the before-landing gear check exists specifically as a barrier against an unsafe configuration that is independent of the warning system, a lapse at this step removes a safeguard regardless of whether the warning system itself functioned correctly.

III. **Safety-reporting procedures —** Separately from whether the GPWS was in fact unserviceable (Section 5.2), the PIC's account that a safety-relevant defect was reported verbally to the Director of Flight Operation but not entered in the Technical/Journey Logbook introduces a human-factor that extends beyond the individual flight crew into the operator's reporting culture. Verbal, undocumented defect reporting bypasses the formal system designed to ensure a known defect is tracked, assessed, and made visible to subsequent crews and maintenance. If confirmed at the end of full investigation, it points to a systemic rather than purely individual contributor.

IV. **Workload and attention during a compressed configuration sequence —** The ATC communication shows that although the crew reported the field in sight and requested a right-base short approach at 1444:36, Tower did not confirm the short approach until 1446:37–41 — having first advised, at 1444:39–45, that traffic was backtracking the full runway length and that the request would be advised once available, and having in the intervening two minutes worked another inbound aircraft's descent clearance (1445:37) and cleared a departing aircraft for take-off on Runway 18 (1446:27–34). The short approach was accordingly granted to 5H-KIH only some three to four minutes before the aircraft touched down at approximately 1450 UTC, compressing the crew's final-approach segment relative to a full-length pattern and leaving a shorter interval in which to complete the Flaps 25/Flaps 45 configuration changes, respond to the cautions observed, and run the Before Landing checklist.

The crew's own transmission acknowledging the approval — an informal remark about making good time onward to Pemba — is also consistent with a **degree of self-generated time pressure to expedite the approach**, which may have

reinforced the effect of the compressed sequence, although this remains an inference rather than an established fact.

Whether workload or time pressure played a specific, quantifiable role in the checklist and warning-response lapses discussed above are being investigated.

6. SAFETY RECOMMENDATIONS

The findings set out in Sections 2, 4 and 5 above, though preliminary, point to specific safety issues that need not await completion of the full investigation. The following interim safety recommendations are made in accordance with regulation 22 of the Civil Aviation (Aircraft Accident and Incident Investigation) Regulations. They are made without prejudice to any further recommendations that may arise as the investigation proceeds, and their issuance does not represent a finding of cause.

6.1 The operator should:

6.1.1 Reinforce, through recurrent training, line checks and standard operating procedure guidance, the crew's positive verification of the “three greens” landing-gear-down indication as a mandatory, independently confirmed item of the Before Landing checklist, with particular emphasis on short or compressed approaches.

6.1.2 Review and reinforce defect-reporting procedures so that any defect (snag) reported by a pilot, including one reported verbally, is entered in the aircraft's Technical/Journey Logbook without delay and processed through the operator's Minimum Equipment List (MEL) procedures; conduct a fleet-wide audit of recent verbal-reporting practice to identify any other unrecorded defects.

6.1.3 Conduct an immediate functional check of the GPWS installed on 5H-KIH, and a fleet-wide serviceability check of the same system on other EMB-120 aircraft, and ensure any aircraft with an unserviceable ground-proximity warning system is operated, if at all, strictly in accordance with the approved MEL.

6.1.4 Conduct a serviceability and self-test/fault-history check of the Aural Warning Unit (AWU) and Multiple Alarm Panel (MAP) on 5H-KIH to confirm correct activation of the Landing Gear (EMERGENCY-level) aural and visual warning logic described at Section 2.6.1.

6.1.5 Review training and briefing material for EMB-120 flight crews to reinforce recognition of, and the mandated response to, the type's tiered

(EMERGENCY/ABNORMAL/ADVISORY/INFORMATION) warning system, with particular emphasis on distinguishing the non-cancellable Landing Gear alert from routine, cancellable cautions.

6.1.6 Amend EMB-120 Operations Manual and standard operating procedures to expressly prohibit selection of the BACK-UP BATT switch to off position in flight except where directed by a specific, published step of the applicable AFM/QRH abnormal or emergency checklist. The amended procedures should state in unambiguous terms that the switch performs no alert-cancellation or annunciator-related function, and that it must not be selected in response to, or as an attempted resolution of, any EMERGENCY, ABNORMAL, ADVISORY, or INFORMATION-tier alert. This restriction should be incorporated into the EMB-120 fleet-wide refresher training.

6.2 The Civil Aviation Authority should:

6.2.1 Require Unity Air to demonstrate, fleet-wide, that all EMB-120 aircraft have serviceable GPWS installations and that no verbally-reported defects remain outstanding and unrecorded in the Technical/Journey Log.

6.2.2 Review Unity Air's defect-reporting and MEL-compliance procedures as part of continuing oversight of the operator's Air Operator Certificate, in light of the reporting-chain concern raised at Section 5.2.

6.3 The Zanzibar Airport Authority should:

6.3.1 Repair the approximately 61 m of runway pavement damage identified at Section 2.4 and confirm pavement serviceability before the temporary LDA/TODA restriction on Runway 18 is lifted.