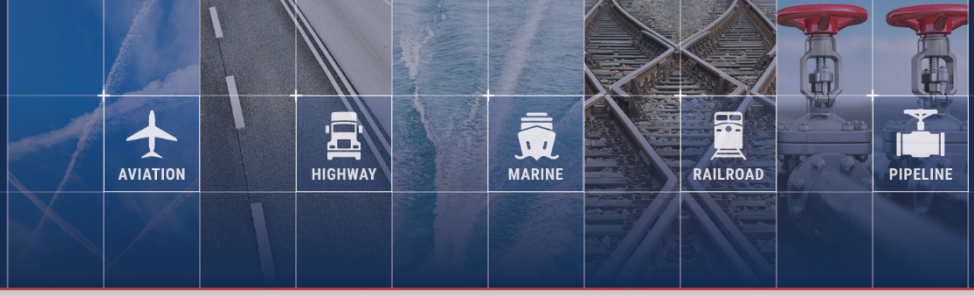


# Aviation Investigation Final Report

| | | | |
|---|---|---|---|
| **Location:** | Los Angeles, California | **Accident Number:** | DCA18CA283 |
| **Date & Time:** | August 13, 2018, 04:45 Local | **Registration:** | N204HA |
| **Aircraft:** | Airbus A321-271N | **Aircraft Damage:** | Substantial |
| **Defining Event:** | Abnormal runway contact | **Injuries:** | 197 None |
| **Flight Conducted Under:** | Part 121: Air carrier - Scheduled | | |

## Analysis

On August 13, 2018, about 1645 pacific daylight time, Hawaiian Airlines flight 56, an Airbus A321, N204HA, experienced a tail strike during landing at Los Angeles International Airport (KLAX), Los Angeles, California. There were no injuries to the 197 passengers and crew onboard. The airplane sustained substantial damage. The domestic passenger flight was operating under 14 *Code of Federal Regulations* Part 121 from Kahului Airport (PHOG), Kahului, Hawaii, to KLAX.

The first officer (FO) was the pilot flying and the captain was the pilot monitoring. According to the flight crew, they received a GPWS Fail message on the electronic centralized alert monitoring (ECAM) at about 1,500 feet altitude above the ground (agl) after the airplane was established on the ILS 6R approach. The flight crew conducted the appropriate ECAM actions, which only required them to turn off the ground proximity warning system (GPWS) and continued the approach. As the airplane descended through about 50 feet agl, the FO realized the electronic automatic altitude callouts were not being provided by the airplane system but did not have time to react. The airplane touched down firmly, bounced, and the pitch attitude increased before it was arrested by the FO, resulting in the tail section contacting the runway. Post flight examination of the airplane found damage to the aft lower skin, as well as several deformed stringers, tie clips, and frames. During the approach, the crew did not receive any automated altitude callouts that are determined by the radio altimeter (RA). The crew only received the “100 above” and “minimums” callouts, both of which are based on barometric altitude. Visual meteorological conditions prevailed with light winds at the time of the approach resulting in the airplane descending over calm water. In February 2018 (updated on August 6, 2018) the manufacturer released a Flight Operations Transmission (FOT) and an Operations Engineering Bulletin in July 2018 referencing “No RA Available During Approach Over Water”. The FOT indicated that a new RA had abnormal behavior if the airplane approach is over a flat-water area and may not be available. Subsequent to the accident, the operator issued a Memorandum to Pilots that described the circumstances of the accident and the FOT and issued an Operations Engineering Bulletin, which detailed the required procedures if no RA is available.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:

a tailstrike caused by inappropriate recovery technique after a bounced landing. Contributing to the accident was the failure of the radio altimeter, caused by the approach being over calm/flat water, that was not recognized by the flight crew.

### Findings

| | |
|---|---|
| **Aircraft** | Central warning - Failure |
| **Personnel issues** | Delayed action - Flight crew |
| **Aircraft** | Landing flare - Not attained/maintained |

# Factual Information

## History of Flight

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|---|---|
| **Landing-flare/touchdown** | Abnormal runway contact (Defining event) |

## Pilot Information

| | | | |
|---|---|---|---|
| **Certificate:** | Airline transport | **Age:** | 28,Male |
| **Airplane Rating(s):** | Multi-engine land | **Seat Occupied:** | Left |
| **Other Aircraft Rating(s):** | None | **Restraint Used:** | 5-point |
| **Instrument Rating(s):** | Airplane | **Second Pilot Present:** | Yes |
| **Instructor Rating(s):** | Airplane single-engine | **Toxicology Performed:** | No |
| **Medical Certification:** | Class 1 Without waivers/limitations | **Last FAA Medical Exam:** | August 6, 2018 |
| **Occupational Pilot:** | Yes | **Last Flight Review or Equivalent:** | |
| **Flight Time:** | 3562 hours (Total, all aircraft), 169 hours (Total, this make and model), 1058 hours (Pilot In Command, all aircraft), 126 hours (Last 90 days, all aircraft), 60 hours (Last 30 days, all aircraft) | | |

## Co-pilot Information

| | | | |
|---|---|---|---|
| **Certificate:** | Airline transport | **Age:** | 45,Male |
| **Airplane Rating(s):** | Single-engine land; Multi-engine land | **Seat Occupied:** | Right |
| **Other Aircraft Rating(s):** | None | **Restraint Used:** | 5-point |
| **Instrument Rating(s):** | Airplane | **Second Pilot Present:** | Yes |
| **Instructor Rating(s):** | None | **Toxicology Performed:** | No |
| **Medical Certification:** | Class 1 Without waivers/limitations | **Last FAA Medical Exam:** | April 18, 2018 |
| **Occupational Pilot:** | Yes | **Last Flight Review or Equivalent:** | |
| **Flight Time:** | 12700 hours (Total, all aircraft), 200 hours (Total, this make and model), 7700 hours (Pilot In Command, all aircraft) | | |

## Aircraft and Owner/Operator Information

| | | | |
|---|---|---|---|
| **Aircraft Make:** | Airbus | **Registration:** | N204HA |
| **Model/Series:** | A321-271N No Series | **Aircraft Category:** | Airplane |
| **Year of Manufacture:** | | **Amateur Built:** | |
| **Airworthiness Certificate:** | Transport | **Serial Number:** | 7959 |
| **Landing Gear Type:** | Retractable - Tricycle | **Seats:** | 200 |
| **Date/Type of Last Inspection:** | | **Certified Max Gross Wt.:** | 207014 lbs |
| **Time Since Last Inspection:** | | **Engines:** | 2 Turbo fan |
| **Airframe Total Time:** | | **Engine Manufacturer:** | Pratt & Whitney |
| **ELT:** | | **Engine Model/Series:** | PW1133GA-JM |
| **Registered Owner:** | | **Rated Power:** | 33000 Lbs thrust |
| **Operator:** | | **Operating Certificate(s) Held:** | Flag carrier (121), Supplemental |

## Meteorological Information and Flight Plan

| | | | |
|---|---|---|---|
| **Conditions at Accident Site:** | Visual (VMC) | **Condition of Light:** | Night/dark |
| **Observation Facility, Elevation:** | 1 ft msl | **Distance from Accident Site:** | |
| **Observation Time:** | | **Direction from Accident Site:** | |
| **Lowest Cloud Condition:** | Scattered | **Visibility** | 10 miles |
| **Lowest Ceiling:** | None | **Visibility (RVR):** | |
| **Wind Speed/Gusts:** | / | **Turbulence Type Forecast/Actual:** | / |
| **Wind Direction:** | | **Turbulence Severity Forecast/Actual:** | / |
| **Altimeter Setting:** | 29.98 inches Hg | **Temperature/Dew Point:** | 21°C / 18°C |
| **Precipitation and Obscuration:** | | | |
| **Departure Point:** | Maui, HI (PHOG) | **Type of Flight Plan Filed:** | IFR |
| **Destination:** | Los Angeles, CA (KLAX) | **Type of Clearance:** | IFR |
| **Departure Time:** | 20:48 Local | **Type of Airspace:** | Unknown |

## Airport Information

| | | | |
|---|---|---|---|
| **Airport:** | Los Angeles International LAX | **Runway Surface Type:** | Concrete |
| **Airport Elevation:** | 128 ft msl | **Runway Surface Condition:** | Dry |
| **Runway Used:** | 06R | **IFR Approach:** | Unknown |
| **Runway Length/Width:** | 10885 ft / 150 ft | **VFR Approach/Landing:** | Full stop |

## Wreckage and Impact Information

| | | | |
|---|---|---|---|
| **Crew Injuries:** | 7 None | **Aircraft Damage:** | Substantial |
| **Passenger Injuries:** | 190 None | **Aircraft Fire:** | None |
| **Ground Injuries:** | | **Aircraft Explosion:** | None |
| **Total Injuries:** | 197 None | **Latitude, Longitude:** | 33.941387,-118.40833(est) |

## Administrative Information

| | | | |
|---|---|---|---|
| **Investigator In Charge (IIC):** | Lovell, John | | |
| **Additional Participating Persons:** | | | |
| **Original Publish Date:** | June 3, 2021 | **Investigation Class:** | 4 |
| **Note:** | This accident report documents the factual circumstances of this accident as described to the NTSB. | | |
| **Investigation Docket:** | https://data.ntsb.gov/Docket?ProjectID=98238 | | |