



Aviation Short Investigation Final Report

**SCF-NP: System/Component Failure or
Malfunction (None Power plant)**

EMBRAER: ERJ 190-100 IGW

N273JB

NASSAU, NEW PROVIDENCE, Bahamas, on March 25th 2016

AAID Aviation Occurrence Investigation

AO-16-001208

Final – March 25th, 2016

The Air Accident Investigation Department (AAID)

The Air Accident Investigation Department (AAID) is the independent accident investigation department under the Bahamas Ministry of Tourism and Aviation (MOTA) charged with the responsibility of investigating all aviation accidents and incidents in the Bahamas.

The AAID's function is to promote and improve safety and public confidence in the aviation industry through excellence in:

- Independent investigation of aviation accidents and other safety occurrences
- Safety data recording, analysis and research
- Fostering safety awareness, knowledge and action.

The AAID does not investigate for the purpose of apportioning blame or to provide a means for determining liability. At the same time, an investigation report must include factual material of sufficient weight to support the analysis and findings. At all times the AAID endeavors to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, in a fair and unbiased manner.

The AAID performs its functions in accordance with the provisions of the Bahamas Civil Aviation Act 2016, Civil Aviation (Investigations of Air Accidents and Incidents) Regulations and Amendment Regulations 2017, International Civil Aviation Organization (ICAO) Annex 13 (Eleventh edition, July 2016 – latest revision) and, where applicable, relevant international agreements.

The Air Accident Investigation Department is mandated by the Ministry of Tourism and Aviation to investigate air transportation accidents and incidents, determine probable causes of accidents and incidents, issue safety recommendations, study transportation safety issues and evaluate the safety effectiveness of agencies and stakeholders involved in air transportation. The objective of a safety investigation is to identify and reduce safety-related risk. AAID investigations determine and communicate the safety factors related to the transport safety matter being investigated.

The AAID makes public its findings and recommendations through accident reports, safety studies, special investigation reports, safety recommendations and safety alerts. Unless otherwise indicated, recommendations in this report are addressed to the regulatory authorities of the State having responsibility for the matters with which the recommendation is concerned. It is for those authorities to decide what action is taken. When the AAID issues a safety recommendation, the person, organization or agency is required to provide a written response without delay. The response shall indicate whether the person, organization or agency accepts the recommendation, any reasons for not accepting part or all of the recommendation(s), and details of any proposed safety action(s) resulting from the recommendation(s) issued.

Official Copies of accident reports can be obtained by contacting:

Air Accident Investigation Department
2nd Floor, Manx Corporate Center
#45 West Bay Street
P. O. Box CB-11702
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Additional copies of the reports can be viewed on the AAID's website at: <http://www.baaid.org> or requested by email: baaid@bahamas.gov.bs.

**AIR ACCIDENT
INVESTIGATION DEPARTMENT**

Registered Owner: Jet Blue

Manufacturer: Embraer

Aircraft Type: ERJ 190-100

Nationality: United States of America

Registration: N273JB

Place of Accident: Nassau Bahamas, Lynden Pindling International Airport (MYNN)

Date and Time: 25th March 2017, approximately 4:30pm

Notification: BCAA, NTSB, FAA, EMB, Cenipa-Brazil

Investigating Authority: Air Accident Investigation Department,
Ministry of Tourism and Aviation

Investigator in Charge: Mr. Delvin R. Major

Accredited Representatives:

Technical Advisors: Martin Mueller
Liebherr Aerospace

Releasing Authority: Air Accident Investigation Department

**Date of Draft Final
Report Publication:** 30th April, 2019

What Happened?

On 25th March, 2016 at approximately 4:30pm local time, an Embraer 190-100 aircraft registration N273JB inbound from Washington, DC had experience a System/Component failure or malfunction (SCF-NP) at LPIA, Nassau, Bahamas ATC was notified. The pilots acknowledge the nose landing gear was not fully extended, then performed a go around maneuver and made numerous attempts to lower the gear (as per emergency checklist). The decision was then made by flight crew to land the aircraft in the configuration that it was jammed in (two green-both mains down and locked, nose gear no green- in transit). The aircraft slid down runway 14 coming to rest on the center line near intersection Bravo, the nearby awaiting fire trucks foamed the aircraft and its underbelly to prevent any post-crash fire

Investigation Findings

The aircraft nose gear was found jammed in the wheel bay. According to the flight crew the aircraft nose gear made an unusual sound when the gear handle was placed in the extend position. Main gears showed down and locked. Nose gear showed in transit. The aircraft circled for a while to burn off the excess fuel; upon landing the under lying nose structure was damage.

Analysis

In support of this investigation, a detailed components and system examination was carried out by the aircraft manufacturer, Embraer also collaborating with the NTSB. After analysis and examinations the following was issued due to findings:

Service Bulletins for Performed Rigging, Service Bulletin to modify NWSCW, as well as software upgrades.



Crew Experience

Pilot

PIC- Airline Transport Pilot, US Citizen,
F/O US Citizen.

The Aircraft

The airplane seats 100 in a two class configuration or 124 in a single class high density configuration. It has a wing span of 94ft 3in. Operated by two General Electric CF34-10E turbo

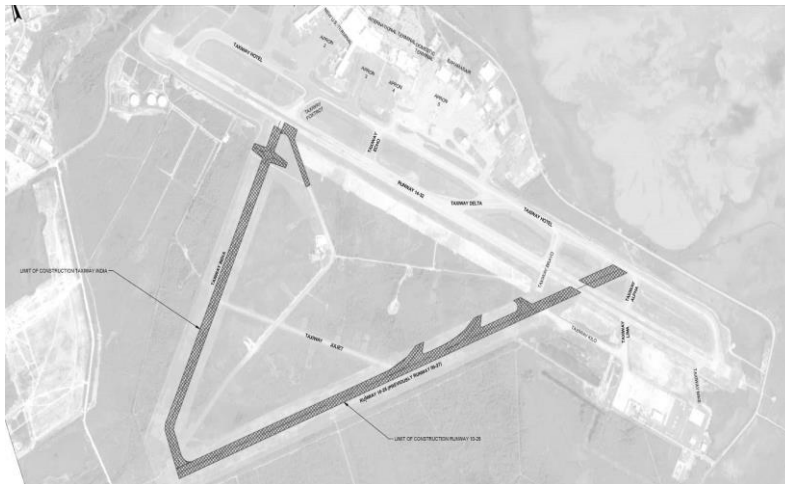
fan engines creating 20,000 lbf (84kN) of thrust per engine that allows this aircraft to cruise at 447kn/ 515mph/ 829km/h and a ceiling of 41,000ft (12,000m).

This airplane is certified in the normal category. In the normal category all aerobatic maneuvers including spins are prohibited. The airplane is approved for day and night VFR/IFR operations when equipped in accordance with US Code of Federal Aviation Regulations (FAR) Part 91 or FAR Part 135.

Airport Information

The Lynden Pindling International Airport (MYNN) is a government owned aerodrome situated on the island of New Providence. It is controlled and operates from sunrise to sunrise. The air field has two runways; 14/32 that extends 11,017ft/3,358m and runway 09/27 length 8,323ft/2,537m.

The aerodrome elevation is 16ft. and airspace classification is E. Only VFR traffic is permitted and communication is carried out via UNICOM frequency 122.8 MHz and Nassau Radio is available via frequency 128.0 MHz.



Weather was determined not to be a factor in this accident.

Safety Action

Whether or not the AAID identifies safety issues in the course of an investigation, relevant organizations may proactively initiate safety action in order to reduce their safety risk.

Conclusion

The Air Accident Investigation Department has determined the probable cause of this accident to be system component failure or malfunction within the nose landing gear operating system. Analysis conducted uncovered that the nose gear was not centered during its transit to the down position, causing the gear to become jammed and never fully extended.

Safety Message

Every investigation undertaken by the AAID is intended to have the effect of advancing the safety of aviation in some way, shape, or form. Usually, this would be accomplished via the issuance of safety recommendations that were developed in the aftermath or during the process of an accident/incident investigation. However, the dynamic nature of aviation makes each accident scenario unique, and as such, each occurrence must be evaluated on its own merit and a determination made as to the method by which safety can be promoted.

With regard to this particular occurrence, the AAID deems it unnecessary to issue associated safety recommendation(s) as there already existed, processes to mitigate against such accidents in the form of Service Bulletin 170-32-0076; SB 190-32-0063 – Rigging (nose steering) and Service Bulletin 170-32-0082; SB 190-32-0070 – to modify Nose Wheel Sensor Control Module.

Therefore, it is incumbent upon the AAID to instead, reiterate and stress the importance of owners and operators adhering to **ALL** applicable service bulletins, airworthiness directives, orders and other industry best practices that lessens the likelihood of their aircraft being involved in an accident or incident.

Although adhering to the above may not provide an absolute panacea against accidents and incidents, it does lessen the probability of such occurrences which bodes well for all stakeholders.

About this report

Decisions regarding whether to conduct an investigation, and the scope of an investigation, are based on many factors, including the level of safety benefit likely to be obtained from an investigation. For this occurrence, a limited-scope, fact-gathering investigation was conducted in order to produce a summary report, and allow for greater industry awareness of potential safety issues and possible safety actions.
By the Air Accident Investigation Department