



Aviation Investigation Final Report

Location:	ST. PETERSBURG, Florida	Incident Number:	MIA94IA183
Date & Time:	July 24, 1994, 17:48 Local	Registration:	N318AB
Aircraft:	CESSNA 402C	Aircraft Damage:	Minor
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Positioning		

Analysis

AFTER TOUCHDOWN DURING THE LANDING ROLL, THE RIGHT MAIN LANDING GEAR COLLAPSED. THE ACTUATOR AND MICROSWITCH WERE TESTED AND NO FAILURE WAS NOTED WITH EITHER COMPONENT. SEVERAL DISCREPANCIES WERE NOTED WITH THE ACTUATOR. THE SERIAL NUMBER OF THE ACTUATOR COULD NOT BE POSITIVELY DETERMINED. THE ACTUATOR WAS BELIEVED TO BE OVERHAULED IN JULY 1992 AND INSTALLED ON THE AIRPLANE 1 MONTH LATER. NO DETERMINATION COULD BE MADE AS TO THE REASON FOR THE COLLAPSE OF THE RIGHT MAIN LANDING GEAR.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be: COLLAPSE OF THE RIGHT MAIN LANDING GEAR DURING THE LANDING ROLL FOR UNDETERMINED REASONS.

Findings

Occurrence #1: MAIN GEAR COLLAPSED
Phase of Operation: LANDING - ROLL

Findings

1. (C) LANDING GEAR - UNDETERMINED

Factual Information

On July 24, 1994, about 1748 eastern daylight time, a Cessna 402C, N318AB, registered to Tropical Transport Services, Ltd., operated by Air Sunshine, Inc., experienced collapse of the right main landing gear during the landing roll at the St. Petersburg/Clearwater International Airport, St. Petersburg, Florida. The flight was conducted under 14 CFR Part 91 as a positioning flight and the operator is a certificated commuter air carrier operating under 14 CFR Part 135. Visual meteorological conditions prevailed at the time and no flight plan was filed. The airplane sustained minor damage and the airline transport-rated pilot, the sole occupant, was not injured. The flight originated from the Sarasota/Bradenton International Airport, about 1735.

The pilot stated that he extended the landing gear selector handle when the flight was on a 8-mile final for a straight in approach and three green lights were illuminated indicating that the gear was down and locked. After a normal touchdown during the landing roll, the right main landing gear collapsed. The airplane veered off the right side of the runway and came to rest on grass.

A representative of the operator presented to the NTSB a landing gear actuator which was reportedly from the right main landing gear of the incident airplane. The actuator did not have a data plate nor were any markings observed. The representative first stated that the serial number of the actuator was 3767 but it was determined later by the manufacturer's facility that the suspect actuator was not serial number 3767. An actuator, serial number 3368A had been overhauled on July 30, 1992, and according to the director of maintenance for the operator, was installed on the airplane on August 30, 1992. Review of the aircraft maintenance log entry for this date does not indicate replacement of the right main landing gear actuator.

Examination and operational testing of the suspect actuator at a facility of the manufacturer revealed no evidence of failure however several discrepancies were noted. The micro switch was removed for further examination which revealed no evidence of failure or malfunction.

The actuator was released to the FAA on October 28, 1994.

Pilot Information

Certificate:	Airline transport; Flight instructor	Age:	36, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical—no waivers/lim.	Last FAA Medical Exam:	June 2, 1994
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	7800 hours (Total, all aircraft), 4500 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	Registration:	N318AB
Model/Series:	402C 402C	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal; Provisional (Special)	Serial Number:	402C0318
Landing Gear Type:	Retractable - Tricycle	Seats:	10
Date/Type of Last Inspection:	July 9, 1994 AAIP	Certified Max Gross Wt.:	7210 lbs
Time Since Last Inspection:	46 Hrs	Engines:	2 Reciprocating
Airframe Total Time:	13816 Hrs	Engine Manufacturer:	CONTINENTAL
ELT:	Installed, not activated	Engine Model/Series:	TSIO-520-VB
Registered Owner:	TROPICAL TRANSPORT SVCS, LTD.	Rated Power:	325 Horsepower
Operator:	AIR SUNSHINE, INC.	Operating Certificate(s) Held:	Commuter air carrier (135)
Operator Does Business As:		Operator Designator Code:	RSHA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	PIE ,11 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	17:50 Local	Direction from Accident Site:	360°
Lowest Cloud Condition:	Unknown	Visibility	7 miles
Lowest Ceiling:	Broken / 3000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	180°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	26°C / 23°C
Precipitation and Obscuration:	Light - Showers - Rain		
Departure Point:	SARASOTA , FL (SRQ)	Type of Flight Plan Filed:	Company VFR
Destination:		Type of Clearance:	None
Departure Time:	17:35 Local	Type of Airspace:	Class D

Airport Information

Airport:	ST PETERSBURG-CLEARWATER PIE	Runway Surface Type:	Asphalt
Airport Elevation:	11 ft msl	Runway Surface Condition:	Dry
Runway Used:	35R	IFR Approach:	None
Runway Length/Width:	8500 ft / 150 ft	VFR Approach/Landing:	Full stop;Straight-in

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Minor
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	Monville, Timothy
Additional Participating Persons:	DONALD J HAGER; DES PLAINES , IL DAVID A HILL; FREEPORT , IL JEFFERY C MORRIS; REDMOND , WA CHARLENE E PAGAN; RENTON , WA
Original Publish Date:	January 25, 1995
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=37442

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).