



# National Transportation Safety Board Aviation Accident Final Report

---

<b>Location:</b>	Albuquerque, NM	<b>Accident Number:</b>	CEN11LA173
<b>Date &amp; Time:</b>	02/03/2011, 0840 MST	<b>Registration:</b>	N5802C
<b>Aircraft:</b>	CESSNA 402	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Landing gear collapse	<b>Injuries:</b>	1 None
<b>Flight Conducted Under:</b>	Part 135: Air Taxi & Commuter - Non-scheduled		

---

## Analysis

Shortly after takeoff, the hydraulic pressure caution light illuminated and the nose gear failed to retract when the pilot attempted to raise the gear. The pilot accomplished the appropriate emergency procedure checklists and unsafe gear indications remained. Following an approved flyover of the tower to verify gear position, the pilot performed a precautionary landing. During the landing the right main landing gear collapsed, resulting in substantial damage. Subsequent examination of the airplane and related hydraulic system components revealed no anomalies and the landing gear system operated normally during functional testing. The reason for the landing gear's failure could not be determined.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure of the landing gear system for undetermined reasons.

## Findings

---

<b>Aircraft</b>	Gear extension and retract sys - Failure (Cause) Main landing gear - Damaged/degraded
-----------------	--

## Factual Information

On February 3, 2011, at 0840 mountain standard time, a Cessna 402C airplane, N5802C, was substantially damaged during landing at Albuquerque International Sunport Airport (ABQ), Albuquerque, New Mexico, following a hydraulic malfunction and subsequent collapse of the right main landing gear. The airline transport rated pilot was not injured. The non-scheduled cargo flight was being conducted under the provisions of 14 Code of Federal Regulations Part 135 with a visual flight rules (VFR) flight plan. The flight originated at ABQ, with Las Vegas Municipal Airport (LVS), Las Vegas, New Mexico, as the intended destination. Visual meteorological conditions prevailed at the time of the accident.

The pilot stated that following gear retraction on initial takeoff from ABQ, the hydraulic pressure caution light illuminated and the nose landing gear failed to retract. The pilot accomplished the HYD PRESSURE LIGHT ILLUMINATED AFTER GEAR CYCLE and the LANDING GEAR WILL NOT EXTEND HYDRAULICALLY checklists and was left with unsafe gear indications. He performed an approved fly over of the ABQ tower and landed after tower personnel reported the gear appeared to be down. During the landing the right main landing gear collapsed, resulting in substantial damage to the right aileron.

The airplane was examined by Federal Aviation Administration inspectors and the airplane's operator the day following the accident. The airplane was placed on jacks and the landing gear was functionally tested. The landing gear system was cycled and no anomalies were noted. The hydraulic control valve and the landing gear hydraulic shuttle valve were removed for functional testing and to check for contaminants. No anomalies were found with either unit.

## History of Flight

Initial climb	Sys/Comp malf/fail (non-power)
Landing-landing roll	Landing gear collapse (Defining event)

## Pilot Information

Certificate:	Airline Transport	Age:	55, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 2 With Waivers/Limitations	Last Medical Exam:	10/18/2010
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	08/24/2010
Flight Time:	15000 hours (Total, all aircraft), 8000 hours (Total, this make and model), 14000 hours (Pilot In Command, all aircraft), 84 hours (Last 90 days, all aircraft), 29 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Manufacturer:	CESSNA	Registration:	N5802C
Model/Series:	402 C	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	402C0047
Landing Gear Type:	Retractable - Tricycle	Seats:	2
Date/Type of Last Inspection:	01/25/2011, AAIP	Certified Max Gross Wt.:	7210 lbs
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:	25079 Hours	Engine Manufacturer:	CONTINENTAL
ELT:	Installed, not activated	Engine Model/Series:	TSIO520
Registered Owner:	South Aero Inc	Rated Power:	325 hp
Operator:	South Aero Inc	Air Carrier Operating Certificate:	On-demand Air Taxi (135)

## Meteorological Information and Flight Plan

Observation Facility, Elevation:	ABQ, 5352 ft msl	Observation Time:	0856 MST
Distance from Accident Site:	0 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:		Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	-18° C / -24° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	6 knots, 10°	Visibility (RVR):	
Altimeter Setting:	30.63 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:			
Departure Point:	Albuquerque, NM (ABQ)	Type of Flight Plan Filed:	VFR
Destination:	Las Vegas, NM (LVS)	Type of Clearance:	VFR
Departure Time:	0840 MST	Type of Airspace:	

## Airport Information

Airport:	Albuquerque Intl Sunport Arpt (ABQ)	Runway Surface Type:	Concrete
Airport Elevation:	5355 ft	Runway Surface Condition:	Dry
Runway Used:	03	IFR Approach:	Visual
Runway Length/Width:	10000 ft / 150 ft	VFR Approach/Landing:	Precautionary Landing; Traffic Pattern

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	N/A	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	
<b>Total Injuries:</b>	1 None		

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Daniel Baker	<b>Adopted Date:</b>	08/22/2011
<b>Additional Participating Persons:</b>	Donald Halbert; FAA; Albuquerque, NM		
<b>Publish Date:</b>	08/22/2011		
<b>Investigation Docket:</b>	<a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=78281">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=78281</a>		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report.