



Aviation Investigation Final Report

Location:	Crystal River, Florida	Accident Number:	MIA04LA036
Date & Time:	December 21, 2003, 13:00 Local	Registration:	N5811M
Aircraft:	Cessna 310P	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The pilot stated that during takeoff/initial climb, at an altitude of about 500 feet, he placed the landing gear handle in the "UP" position, and during retraction, heard a loud bang, and the rudder pedals shuttered. He said he lowered the gear handle, and received a green light indication only the main gear. He then retarded the throttle levers to check for the landing gear warning horn, but the horn did not activate. He said he then performed the emergency gear extension procedure, but the nose gear did not extend. During subsequent landing rollout, as the airspeed decreased the nose gear collapsed, and the airplane skidded to a halt on the runway. Examination of the airplane's maintenance records showed that maintenance had been performed on the airplane's nose gear 11 hours prior to the accident, and 5 hours prior to the accident the airplane had received an annual inspection. Postaccident examination of the airplane's nose landing gear revealed that the damage was consistent with the nose gear strut not receiving proper service, having deflated, and being out of alignment.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Inadequate maintenance by company maintenance personnel, which resulted in operation of the airplane with a deflated nose landing gear strut, which resulted in the nose gear failing to lock in position, gear collapse, and damage to the airplane during landing rollout.

Findings

Occurrence #1: GEAR COLLAPSED

Phase of Operation: LANDING - ROLL

Findings

1. (C) MAINTENANCE,SERVICE OF AIRCRAFT/EQUIPMENT - INADEQUATE - COMPANY MAINTENANCE PERSONNEL
2. LANDING GEAR,NOSE GEAR STRUT - LOW PRESSURE
3. LANDING GEAR,NOSE GEAR - UNLOCKED

Factual Information

On December 21, 2003, about 1300 eastern standard time, a Cessna 310P, N5811M, registered to and operated by Crystal Aero Group Inc., as a Title 14 CFR Part 91 instructional flight, had the nose gear collapse while landing at Crystal River Airport, Crystal River, Florida. Visual meteorological conditions prevailed, and no flight plan was filed. The commercial-rated flight instructor and dual student were not injured, and the airplane incurred substantial damage. The flight originated minutes before the accident.

The pilot stated that during takeoff/initial climb, at an altitude of about 500 feet, he placed the landing gear handle in the "UP" position, and during retraction, heard a loud bang, and the rudder pedals shuttered. He said he lowered the gear handle, and received a green light indication only the main gear. He then retarded the throttle levers to check for the landing gear warning horn, but the horn did not activate. He said he then performed the emergency gear extension procedure, but the nose gear did not extend, so he performed a low altitude "fly-by" to permit observers on the ground to visually examine the landing gear. According to the pilot, the observers reported to him that the nose gear appeared to be "down." The pilot said he then made a normal approach to land, and the landing rollout, as the airspeed decreased the nose gear collapsed, and the airplane skidded to a halt on the runway.

Examination of the airplane's maintenance records showed that maintenance had been performed on the airplane's nose gear 11 hours prior to the accident, and 5 hours prior to the accident the airplane had received an annual inspection.

Postaccident examination of the airplane's nose landing gear by an FAA licensed mechanic who had not previously maintained the airplane, revealed that the damage was consistent with the nose gear strut not receiving proper service, having deflated, and being out of alignment.

Flight instructor Information

Certificate:	Airline transport; Flight instructor	Age:	67, Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	No
Medical Certification:	Class 2 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	September 8, 2003
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	September 16, 2003
Flight Time:	10300 hours (Total, all aircraft), 400 hours (Total, this make and model), 10000 hours (Pilot In Command, all aircraft), 31 hours (Last 90 days, all aircraft), 1 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	Flight instructor	Age:	Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):		Restraint Used:	
Instrument Rating(s):		Second Pilot Present:	Yes
Instructor Rating(s):	Airplane single-engine	Toxicology Performed:	No
Medical Certification:		Last FAA Medical Exam:	
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N5811M
Model/Series:	310P	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	310P0111
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	November 12, 2003 100 hour	Certified Max Gross Wt.:	5200 lbs
Time Since Last Inspection:	5 Hrs	Engines:	2 Reciprocating
Airframe Total Time:	5504 Hrs at time of accident	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	IO-470-VO
Registered Owner:	Crystal Aero Group Inc.,	Rated Power:	260 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	BKV,80 ft msl	Distance from Accident Site:	24 Nautical Miles
Observation Time:	12:53 Local	Direction from Accident Site:	160°
Lowest Cloud Condition:	Clear	Visibility	10 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	9 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	30°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.43 inches Hg	Temperature/Dew Point:	16°C / 2°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Crystal River, FL (CGC)	Type of Flight Plan Filed:	None
Destination:	(CGC)	Type of Clearance:	Unknown
Departure Time:	13:00 Local	Type of Airspace:	Class E

Airport Information

Airport:	Crystal River Airport CGC	Runway Surface Type:	Asphalt
Airport Elevation:	9 ft msl	Runway Surface Condition:	Dry
Runway Used:	9	IFR Approach:	None
Runway Length/Width:	4555 ft / 75 ft	VFR Approach/Landing:	Traffic pattern

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 None	Latitude, Longitude:	28.867776,-82.574447

Administrative Information

Investigator In Charge (IIC): Lovell, John

Additional Participating Persons: Linda Nevin; FAA FSDO; Tampa, FL

Original Publish Date: October 27, 2005

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.ntsb.gov/Docket?ProjectID=58554>

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](#).