Aviation Investigation Final Report

Location:	Mokuleia, Hawaii	**Accident Number:**	LAX08LA060
Date & Time:	February 14, 2008, 12:45 Local	**Registration:**	N473GF
Aircraft:	Cessna 305-A	**Aircraft Damage:**	Substantial
Defining Event:	Landing gear collapse	**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Glider tow		

Analysis

The pilot observed that the windsocks located at each end of runway indicated tailwinds of about 10 knots in either direction. The midfield sock indicated a direct crosswind from the north. The pilot elected to approach the east runway, and touched down abeam the midfield windsock. Upon touchdown the airplane encountered a left-to-right crosswind, and as the airplane decelerated, the pilot noticed the wind shift to a quartering right tailwind. He elected to abort the landing. As he advanced the throttle the engine sputtered, the left main gear collapsed, and the airplane ground looped as it approached the runway's edge. Examination of the left main landing gear spring strut revealed that the strut separated where the wheel bolts to the strut. The fracture face of the strut was granular in texture and uniform matte gray in color. The fracture surface for the section of landing gear strut that remained attached to the wheel was closely examined, and it was noted that the fracture surface had an approximate 1/16 inch flat dark triangular section at the corner of the mounting bolt hole. The Safety Board Materials Laboratory examination confirmed the presence of a 0.072 inch fatigue crack at this location that would be sufficient to cause a failure of the strut.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure of the left main landing gear strut due to fatigue. Contributing to the failure was the side load placed on the landing gear while making a crosswind landing.

Findings

Environmental issues	Crosswind - Not specified
Aircraft	Main gear strut/axle/truck - Failure
Aircraft	Main gear strut/axle/truck - Fatigue/wear/corrosion
Environmental issues	(general) - Not specified

Factual Information

History of Flight

Landing	Landing gear collapse (Defining event)
Landing	Runway excursion

On February 16, 2008, at 1245 Hawaiian standard time, a Cessna 305-A, N473GF, experienced a left main landing gear collapse during a crosswind landing at Dillingham Airfield, Mokuleia, Hawaii. The airplane was operated by the Honolulu Soaring Club under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The airline transport certificated pilot was not injured, and the airplane was substantially damaged. Visual meteorological conditions prevailed, and no flight plan had been filed. The local flight originated at Dillingham Airfield at 1230.

The pilot reported that he observed the windsocks at each end of runway 8/26, and both indicated tail winds of about 10 knots in either direction. The midfield windsock indicated a direct crosswind from the north. He elected to approach runway 8 and touched down abeam the midfield windsock. Upon touchdown the airplane experienced a left-to-right crosswind, and as the airplane decelerated, the pilot noticed the wind shift to a quartering right tail wind. He elected to execute a go-around. As he advanced the throttle, the engine sputtered, the left main landing gear collapsed, and the airplane ground looped to the left as it approached the runway's edge.

A Federal Aviation Administration inspector examined the left main landing gear spring strut and found that the strut separated where the wheel bolts to the strut. The fracture face of the strut was granular in texture and uniform matte gray in color. When the fracture surface of the landing gear strut section that remained attached to the wheel was more closely examined, it exhibited an approximate 1/16 inch flat dark triangular section at the corner of the mounting bolt hole. The Safety Board Materials Laboratory examination confirmed the presence of a 0.072 inch fatigue crack at this location.

Pilot Information

Certificate:	Airline transport	**Age:**	47,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Center
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1	**Last FAA Medical Exam:**	December 1, 2007
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	14000 hours (Total, all aircraft), 6 hours (Total, this make and model), 140 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N473GF
Model/Series:	305-A	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Utility	**Serial Number:**	2018
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	100 hour	**Certified Max Gross Wt.:**	2100 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	10000 Hrs	**Engine Manufacturer:**	Teledyne Continental Motors
ELT:	Installed, not activated	**Engine Model/Series:**	O-470
Registered Owner:	Honolulu Soaring Club	**Rated Power:**	230 Horsepower
Operator:	Honolulu Soaring Club	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	PHHI,837 ft msl	**Distance from Accident Site:**	12 Nautical Miles
Observation Time:	11:55 Local	**Direction from Accident Site:**	210°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	Overcast / 3000 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	190°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.04 inches Hg	**Temperature/Dew Point:**	23°C / 18°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Mokuleia, HI (PHDH)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	12:30 Local	**Type of Airspace:**	

Airport Information

Airport:	Dillingham Airfield PHDH	**Runway Surface Type:**	Asphalt
Airport Elevation:		**Runway Surface Condition:**	Dry
Runway Used:	8	**IFR Approach:**	None
Runway Length/Width:	9000 ft / 150 ft	**VFR Approach/Landing:**	Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	21.579444,-158.197219

Administrative Information

Investigator In Charge (IIC):	McKenny, Van
Additional Participating Persons:	Warren F Hann; Federal Aviation Administration; Honolulu, HI
Original Publish Date:	August 28, 2008
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=67535