Aviation Investigation Final Report

Location:	LONG BEACH, California	**Accident Number:**	LAX98LA074
Date & Time:	January 16, 1998, 15:25 Local	**Registration:**	N4498C
Aircraft:	Cessna 195	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported that he landed on runway 30 and suddenly felt a 'bump.' The pilot further reported that at that time the aircraft began an uncommanded yaw to the left and he noted that the right main landing gear had separated from the aircraft. The aircraft came to rest on its side. An immediate inspection of the accident site yielded no sign of debris or potholes on the runway surface. An on-site examination of the aircraft found that the bolt which attached the landing gear spring to the fuselage had been bent, fractured, and distorted at an approximate 45-degree angle, and the support assembly had also been fractured. The bolt and a portion of the separated support assembly from the right main landing gear were sent to the Safety Board Materials Laboratory for testing. Details of the examination showed that the fracture surface on the bolt revealed no evidence of progressive cracking or preexisting defects. All fracture features and deformation on the bolt pieces were consistent with an overstress under bending/tension loading conditions. Examination of the bracket for the support assembly was conducted with the aid of a binocular microscope and disclosed the fracture features typical of a direct shear overstress separation.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain directional control during the landing, which led to a ground loop and a resultant overload failure of the right main landing gear attach points.

Findings

Occurrence #1: LOSS OF CONTROL - ON GROUND/WATER
Phase of Operation: LANDING - ROLL

Findings
1. WEATHER CONDITION - CROSSWIND
2. (F) COMPENSATION FOR WIND CONDITIONS - INADEQUATE - PILOT IN COMMAND
3. (C) DIRECTIONAL CONTROL - NOT MAINTAINED - PILOT IN COMMAND
4. GROUND LOOP/SWERVE - NOT CORRECTED - PILOT IN COMMAND

Occurrence #2: GEAR COLLAPSED
Phase of Operation: LANDING - ROLL

Findings
5. LANDING GEAR,MAIN GEAR ATTACHMENT - OVERLOAD

Factual Information

On January 16, 1998, at 1525 hours Pacific standard time, a Cessna 195, N4498C, ground looped on landing at the Long Beach, California, airport. The aircraft sustained substantial damage and the pilot/owner, the sole occupant, was not injured. Visual meteorological conditions prevailed at the time of the accident and an IFR flight plan was on file. The personal flight originated from the Porterville, California, airport at 1420 and was terminating at the time of the accident.

A Federal Aviation Administration (FAA) inspector from the Long Beach Flight Standards District Office conducted an on-site investigation of the aircraft and spoke to the pilot. The pilot reported that he landed on runway 30, remained on the centerline, and suddenly felt a "bump." The pilot further reported that at that time the aircraft began an uncommanded yaw to the left and he noted that the right main landing gear had separated from the aircraft. The aircraft came to rest on its side. The FAA inspector also found that the bolt which attached the landing gear spring to the fuselage had been bent, fractured, and distorted at an approximate 45-degree angle, and the support assembly had also been fractured.

In a telephone interview with the Safety Board, the superintendent of airport operations at the Long Beach airport reported that he responded to the accident site immediately. He stated that he checked all points on the runways for debris or potholes or nicks in the runway surface; the only debris found was that left by the accident aircraft.

The bolt and a portion of the separated support assembly from the right main landing gear were sent to the Safety Board Materials Laboratory for testing. The report of the examination showed that the fracture surface on the bolt revealed no evidence of progressive cracking or preexisting defects. All fracture features and deformation on the bolt pieces were consistent with an overstress under bending/tension loading conditions. Examination of the bracket for the support assembly was conducted with the aid of a binocular microscope and disclosed the fracture features typical of a direct shear overstress separation.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	60,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	March 11, 1997
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	3759 hours (Total, all aircraft), 2300 hours (Total, this make and model), 3650 hours (Pilot In Command, all aircraft), 29 hours (Last 90 days, all aircraft), 7 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N4498C
Model/Series:	195 195	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	16082
Landing Gear Type:	Tailwheel	**Seats:**	5
Date/Type of Last Inspection:	August 1, 1997 Annual	**Certified Max Gross Wt.:**	3300 lbs
Time Since Last Inspection:	35 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	3900 Hrs	**Engine Manufacturer:**	Jacobs
ELT:		**Engine Model/Series:**	R755-B2
Registered Owner:	ALBERT MICHAEL CLEARMAN	**Rated Power:**	275 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	LGB ,57 ft msl	**Distance from Accident Site:**	
Observation Time:	15:42 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	4 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	200°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	19°C / 16°C
Precipitation and Obscuration:	N/A - None - Haze		
Departure Point:	PORTERVILLE , CA (PTV)	**Type of Flight Plan Filed:**	IFR
Destination:	(LGB)	**Type of Clearance:**	IFR
Departure Time:	14:20 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	LONG BEACH LGB	**Runway Surface Type:**	Asphalt
Airport Elevation:	57 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	30	**IFR Approach:**	ILS
Runway Length/Width:	10000 ft / 200 ft	**VFR Approach/Landing:**	Full stop

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:**	33.810054,-118.18058(est)

Administrative Information

Investigator In Charge (IIC):	Rich, Jeff
Additional Participating Persons:	PAUL FOSTER; LONG BEACH , CA
Original Publish Date:	February 15, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=30022