Aviation Investigation Final Report

Location:	WELLINGTON, Colorado	**Accident Number:**	FTW95LA279
Date & Time:	July 8, 1995, 13:30 Local	**Registration:**	N57669
Aircraft:	BELLANCA 8GCBC	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation		

Analysis

DURING TOUCHDOWN FOR LANDING AT THE COMPLETION OF A GLIDER TOW FLIGHT, THE LEFT MAIN LANDING GEAR SEPARATED FROM THE AIRCRAFT, JUST OUTBOARD FROM THE FUSELAGE ATTACH POINT. EXAMINATION OF THE FRACTURE AREA REVEALED THAT THE SPRING GEAR HAD FAILED FROM FATIGUE. THERE WAS EVIDENCE THAT GRINDING HAD BEEN PERFORMED ON THE SPRING GEAR (DURING MAINTENANCE), WHICH RESULTED IN OVERHEATING OF THE STEEL AND SUBSEQUENT CHANGES IN ITS MICROSTRUCTURE.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: FATIGUE FAILURE OF THE LEFT MAIN LANDING GEAR (SPRING STRUT), DUE TO THE IMPROPER MAINTENANCE (GRINDING) BY UNKNOWN MAINTENANCE PERSONNEL.

Findings

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

Findings
1. (C) MAINTENANCE - IMPROPER - OTHER MAINTENANCE PERSONNEL
2. (C) LANDING GEAR,MAIN GEAR STRUT - FATIGUE

Factual Information

On July 8, 1995, at 1330 mountain daylight time, a Bellanca 8GCBC, N57669, sustained substantial damage when the left main landing gear failed during landing roll at Owl Canyon Glider Park, Wellington, Colorado. The commercial pilot was not injured. Visual meteorological conditions prevailed for this local area glider tow flight operating under Title 14 CFR Part 91. The flight originated at 1320 and a flight plan was not filed.

According to the pilot, his landing sequence following the glider release contained "a mild bounce." The pilot said he added power for the second touch down and when touch down occurred the left main landing gear separated from the aircraft.

Examination of the aircraft by the investigator-in-charge provided evidence that the landing gear was of the spring steel type. Separation occurred just outboard of the fuselage attach point and during the ground excursion following the separation, the left wing, wing strut, left elevator, wind screen, left side window and propeller sustained damage.

Examination of the fracture surface by the NTSB Metallurgical Laboratory provided evidence of a fatigue failure and evidence that the landing gear spring steel had been ground at some point in time which caused overheating of the steel and subsequent changes in the microstructure. It was the metallurgist's evaluation, that the grinding initiated the fatigue. The metallurgist's report is attached.

Pilot Information

Certificate:	Commercial	**Age:**	49,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):	Glider	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	February 14, 1995
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	1113 hours (Total, all aircraft), 207 hours (Total, this make and model), 1056 hours (Pilot In Command, all aircraft), 32 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	BELLANCA	**Registration:**	N57669
Model/Series:	8GCBC 8GCBC	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	2-74
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	June 7, 1995 Annual	**Certified Max Gross Wt.:**	2150 lbs
Time Since Last Inspection:	35 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	4692 Hrs	**Engine Manufacturer:**	LYCOMING
ELT:	Not installed	**Engine Model/Series:**	O-360-C2E
Registered Owner:	COLORADO SOARING ASSOCIATION	**Rated Power:**	180 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:	FNL ,5525 ft msl	**Distance from Accident Site:**	15 Nautical Miles
Observation Time:	12:35 Local	**Direction from Accident Site:**	180°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	6 knots / 15 knots	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	10°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	32°C / 3°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(4CO2)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	13:20 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	OWL CANYON GLIDER PARK 4C02	**Runway Surface Type:**	Grass/turf
Airport Elevation:	5545 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	1	**IFR Approach:**	None
Runway Length/Width:	2000 ft / 40 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:**	40.699756,-105.000328(est)

Administrative Information

Investigator In Charge (IIC):	Wiemeyer, Norman
Additional Participating Persons:	DON BORDONARO; DENVER , CO
Original Publish Date:	January 29, 1996
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=19482