Aviation Investigation Final Report

Location:	Amarillo, Texas	**Accident Number:**	FTW04LA049
Date & Time:	December 20, 2003, 16:00 Local	**Registration:**	N6850D
Aircraft:	Cessna 195B	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 Serious
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The 1,073-hour pilot reported that during his preflight inspection prior to the accident flight, he observed a red fluid seeping from the belly of the aircraft. The pilot stated this was "becoming a common occurrence, requiring him to fill the brake reservoir frequently." The pilot checked the brakes prior to starting the engine and had no problems holding the airplane still with brakes during the engine run up. Unsatisfied with the landing on runway 20 (a 5,500-foot long and 124-foot wide turf runway), the pilot decided to make a touch-n-go landing without the use of the brakes. During the second landing, "all was well until the ground roll, at an approximate speed of 50 miles per hour." The aircraft started to veer to the right, and the pilot applied left brake. As the speed reduced, the aircraft began to ground loop, shearing off the left landing gear at the fuselage. Examination of the aircraft brake system by the pilot revealed hydraulic fluid was leaking the reservoir cap on the left brake master cylinder (Cessna Aircraft Illustrated Parts Catalog Part Number 0411302-21) in the area where the mounting lug (Part Number 0411302-8) bolts onto the reservoir cap.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The leakage of the left brake master cylinder cap, which resulted in the loss of hydraulic fluid and the failure of the left brake.

Findings

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

Findings
1. BRAKES(NORMAL) - UNAVAILABLE - PILOT IN COMMAND
2. (C) HYDRAULIC SYSTEM - LEAK
3. MAINTENANCE - NOT PERFORMED
4. GROUND LOOP/SWERVE - ENCOUNTERED - PILOT IN COMMAND

Factual Information

On December 20, 2003, approximately 1600 central standard time, a Cessna 195B tailwheel equipped single-engine airplane, N6850D, was substantially damaged when it ground looped during landing roll at the Buffalo Airport (1E7), near Amarillo, Texas. The private pilot, sole occupant of the airplane, sustained serious injuries. The airplane was registered to and operated by the pilot. Visual meteorological conditions prevailed, and a flight plan was not filed for the 14 Code of Federal Regulations Part 91 personal flight. The round robin flight departed 1E7 destined for the Tucumcari Municipal Airport, near Tucumcari, New Mexico, at approximately 1400 and returned to 1E7.

The 1,073-hour pilot reported in the Pilot/Operator Aircraft Accident Report (NTSB Form 6120.1/2) that during his preflight inspection prior to the accident flight, he observed a "red fluid seeping from the belly of the aircraft." He stated this was "becoming a common occurrence, requiring him to fill the brake reservoir frequently." He checked the brakes prior to starting the engine and noted no problems holding the airplane still with the brakes during the engine run up.

Unsatisfied with the landing to runway 20 (a 5,500-foot long and 124-foot wide turf runway), the pilot decided to execute a touch-n-go landing without the use of brakes. During the second landing, "all was well until the ground roll, at an approximate speed of 50 miles per hour." The aircraft started to veer to the right, and he applied left brake. As the airspeed reduced, the aircraft began to ground loop, shearing off the left landing gear at the fuselage. The aircraft came to an "abrupt halt" in an upright position.

The pilot stated in the NTSB Form 6120.1/2 under the Recommendation (How This Accident Could Have Been Prevented) section: "By proper preflight of brakes prior to flight. Attention to the tell-tale signs of red fluid leaking down the aircraft belly."

Examination of the airplane by the Federal Aviation Administration (FAA) inspector, who responded to the accident site revealed, the outboard three feet of the left wing was bent upward approximately 45 degrees. The fuselage was wrinkled approximately four feet aft of the cabin area, and the left main landing gear was separated from the fuselage.

Examination of the aircraft brake system by the pilot revealed hydraulic fluid was leaking the reservoir cap on the left brake master cylinder (Cessna Aircraft Illustrated Parts Catalog Part Number 0411302-21) in the area where the mounting lug (Part Number 0411302-8) bolts onto the reservoir cap.

Pilot Information

Certificate:	Private	**Age:**	79,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	June 27, 2003
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	June 17, 2003
Flight Time:	1073 hours (Total, all aircraft), 667 hours (Total, this make and model), 1033 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N6850D
Model/Series:	195B	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	16026
Landing Gear Type:	Tailwheel	**Seats:**	4
Date/Type of Last Inspection:	April 8, 2003 Annual	**Certified Max Gross Wt.:**	3350 lbs
Time Since Last Inspection:	19 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2420 Hrs at time of accident	**Engine Manufacturer:**	Jacobs
ELT:	Installed, not activated	**Engine Model/Series:**	R755-82
Registered Owner:	On file	**Rated Power:**	275 Horsepower
Operator:	On file	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	AMA,3607 ft msl	**Distance from Accident Site:**	13 Nautical Miles
Observation Time:	15:53 Local	**Direction from Accident Site:**	45°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	13 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	210°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.94 inches Hg	**Temperature/Dew Point:**	19°C / -6°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Amarillo, TX (1E7)	**Type of Flight Plan Filed:**	None
Destination:	Amarillo, TX (1E7)	**Type of Clearance:**	None
Departure Time:	14:00 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	Buffalo Airport 1E7	**Runway Surface Type:**	Grass/turf
Airport Elevation:	3640 ft msl	**Runway Surface Condition:**	Dry;Rough
Runway Used:	20	**IFR Approach:**	None
Runway Length/Width:	5500 ft / 124 ft	**VFR Approach/Landing:**	Full stop

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Serious	**Latitude, Longitude:**	35.064998,-101.879165

Administrative Information

Investigator In Charge (IIC):	Sauer, Aaron
Additional Participating Persons:	Juan Rivera; Lubbock FSDO; Lubbock, TX
Original Publish Date:	March 30, 2004
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=58536