



Aviation Investigation Final Report

Location:	Choteau, Montana	Accident Number:	SEA02LA138
Date & Time:	July 29, 2002, 07:20 Local	Registration:	N2802J
Aircraft:	Cessna T188C	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 137: Agricultural		

Analysis

The pilot departed his airport of origination approximately 0500 in the Cessna T188C "Ag Husky" with 52 gallons of usable fuel and flew 56 nautical miles to his first agricultural spray site. After dispensing insecticide he proceeded 29 nautical miles on to the next dispensing site and then flew 16 nautical miles to his next intended refueling point. On short final the engine lost power and the pilot executed a hard forced landing short of runway 23 approximately 0720. Post-crash examination by FAA inspectors revealed a total of 7-8 ounces of fuel aboard the aircraft. Specifications within the T188C Information Manual indicated that the range of the aircraft at 6,500 feet above sea level and 75% power is 250 miles or 2.1 hours.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Fuel exhaustion as a result of the pilot's inattention to fuel consumption (flight duration) which resulted in a total loss of power and subsequent hard landing.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: APPROACH - VFR PATTERN - BASE TURN

Findings

1. (C) FLUID,FUEL - EXHAUSTION
2. (C) FUEL CONSUMPTION CALCULATIONS - INATTENTIVE - PILOT IN COMMAND

Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Occurrence #3: HARD LANDING
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings
3. TERRAIN CONDITION - GROUND

Factual Information

On July 29, 2002, approximately 0720 mountain daylight time a Cessna T188C "Ag Husky," N2802J, registered to Taylor Aviation, Inc., and being flown by a commercial pilot, sustained substantial damage during a hard landing following a loss of power while turning base at the Choteau airport, Choteau, Montana. The pilot was uninjured. Visual meteorological conditions prevailed and no flight plan had been filed. The flight, which was engaged in dispensing insecticide, was operated under 14 CFR 137, and originated from Fort Benton, Montana, approximately 0500.

The operator reported that he and the pilot of N2802J departed Fort Benton about dawn in separate Cessna 188 aircraft with full fuel tanks. The two aircraft flew to Fairfield, Montana, to execute a spray mission (approximately 56 nautical miles) and then to the west side of Bynum Reservoir, Montana, to execute their final spray mission (approximately 29 nautical miles). They then proceeded to Choteau (approximately 16 nautical miles) with the operator leading and N2802J slightly behind (refer to CHART I).

The pilot reported that while turning base for runway 23 he lost power. He activated the emergency boost pump and regained partial power briefly before losing all power. During his forced landing he touched down hard and crossed a road before coming to rest approximately 1,000 feet short of the threshold for runway 23.

The pilot later reported (refer to NTSB Form 6120.1/2) that he departed with full fuel tanks (54 gallons). The Cessna T188C Information Manual indicates that there is one gallon of unusable fuel in each of the two fuel tanks and the Performance Specifications page (refer to Attachment FI-I) indicates that the range of the aircraft at 6,500 feet above sea level and 75% power is 250 miles or 2.1 hours.

An Inspector assigned to the Federal Aviation Administration's Helena, Montana, Flight Standards District Office examined the aircraft shortly after the accident and found no fuel at either wing tank's quick drain. Two additional inspectors examined the aircraft in greater detail the day following the accident and reported extracting a total of approximately 7-8 ounces of fuel from the aircraft's fuel tanks and fuel system (refer to Attachment IS-I).

Pilot Information

Certificate:	Commercial; Private	Age:	26, Male
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	Seat Occupied:	Front
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 2 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	February 28, 2002
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	May 4, 2002
Flight Time:	1350 hours (Total, all aircraft), 165 hours (Total, this make and model), 1215 hours (Pilot In Command, all aircraft), 123 hours (Last 90 days, all aircraft), 65 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N2802J
Model/Series:	T188C	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Restricted (Special)	Serial Number:	T18803515T
Landing Gear Type:	Tailwheel	Seats:	1
Date/Type of Last Inspection:	February 3, 2002 Annual	Certified Max Gross Wt.:	4400 lbs
Time Since Last Inspection:	241 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	8089 Hrs	Engine Manufacturer:	Continental
ELT:	Not installed	Engine Model/Series:	TSIO-520-T
Registered Owner:	Taylor Aviation, Inc.	Rated Power:	300 Horsepower
Operator:		Operating Certificate(s) Held:	
Operator Does Business As:		Operator Designator Code:	QTLG

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	GTF,3677 ft msl	Distance from Accident Site:	38 Nautical Miles
Observation Time:	07:55 Local	Direction from Accident Site:	107°
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:	29.9 inches Hg	Temperature/Dew Point:	21°C / 9°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Ft. Benton, MT (79S)	Type of Flight Plan Filed:	None
Destination:	(CII)	Type of Clearance:	None
Departure Time:	05:00 Local	Type of Airspace:	Class G

Airport Information

Airport:	Choteau CII	Runway Surface Type:	Asphalt
Airport Elevation:	3949 ft msl	Runway Surface Condition:	Unknown
Runway Used:	23	IFR Approach:	None
Runway Length/Width:	3800 ft / 60 ft	VFR Approach/Landing:	Forced landing

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:	47.828609,-112.156944

Administrative Information

Investigator In Charge (IIC):	McCreary, Steven A.
Additional Participating Persons:	Rick Koffman; FAA Helena FSDO; Helena, MT
Original Publish Date:	May 30, 2003
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=55322

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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](#).