Aviation Investigation Final Report

Location:	Bishop, Texas	**Accident Number:**	DFW06LA122
Date & Time:	May 8, 2006, 19:56 Local	**Registration:**	N5021M
Aircraft:	Beech C23	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 Serious
Flight Conducted Under:	Part 91: General aviation - Flight test		

Analysis

The owner of the airplane reported a test flight was required due to the re-installation of the O-360-A4J engine following a major overhaul. The airplane was operated several times after the engine was installed and all the adjustments were made. The aircraft was topped off with a full load of fuel prior to the test flight. The owner of the airplane reported that he was the pilot-in-command of the flight; however, he was occupying the right front seat of the airplane. The left seat was being occupied by another pilot, who was also an airframe and powerplant (A&P) mechanic who performed the engine overhauled and signed off the annual inspection. The mechanic also held an FAA inspection authorization (IA). On the day of the accident, after a complete engine run up and magneto check were completed, the airplane taxied for takeoff on Runway 15. The pilot added that the takeoff was normal and the airplane was indicating a rate of climb of 700 feet-per-minute while climbing at 70 knots indicated. The owner added that as the airplane approached the departure end, the pilot rolled into a 30 degree bank to the left while the airplane continued to climb. The owner added that the engine was "running well until it suddenly stopped." The owner further stated that the pilot was not reacting to the sudden loss of engine power so he said "I've got it," leveled the wings, and tried to keep the nose level and pancaked-in." The FAA inspector confirmed that the ground scars and the crushing damage sustained by the forward area of the fuselage were consistent with the airplane impacting the ground in a pronounced nose-low attitude. The inspector was also able to confirm the presence of fuel aboard the airplane and he was also able to establish flight control continuity. The engine was found in the inverted position, buried under the nose of the airplane. The propeller was still attached to the engine and neither propeller blade had any leading edge damage or "S" bending. The owner of the airplane reported that the sudden loss of engine power was due to the failure of the engine driven fuel pump.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The delayed landing flare by the pilot which resulted in a hard landing. A contributing factor was the loss of engine power for undetermined reasons.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. FUEL SYSTEM,PUMP - FAILURE

Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY LANDING AFTER TAKEOFF

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

Findings
2. TERRAIN CONDITION - CROP
3. EMERGENCY PROCEDURE - IMPROPER - PILOT PASSENGER
4. (C) FLARE - DELAYED - PILOT IN COMMAND

Factual Information

On May 8, 2006, at 1956 central daylight time, a single-engine Beech C23 airplane, N5021M, was substantially damaged during a forced landing following a loss of engine power during initial takeoff climb from Runway 15 at the Bishop Municipal Airport, near Bishop, Texas. The commercial pilot and the pilot-rated passenger were seriously injured. The airplane was owned and operated by a private individual. Visual meteorological conditions prevailed for the 14 Code of Federal Regulations Part 91 personal flight. The local flight was originating at the time of the accident.

A patrolman, who responded to the accident site, reported that the pilot and pilot-rated passenger had been performing maintenance on the engine and elected to take a short flight to verify the proper operation of the engine. The patrolman reported that the flight had taken off from Runway 15, and during the initial climb, the engine lost power. The pilot elected to return to the airport, and while attempting to make the airport, the pilot lost control of the airplane. The airplane impacted in a nose low attitude into a cotton field approximately 300 feet west of the extended centerline for Runway 15. There was no fire.

The owner of the airplane reported that the O-360-A4J Lycoming engine had been recently overhauled. The newly overhaul engine was run several times after the engine was installed and all the adjustments were made. The aircraft was topped off with a full load of fuel for the test flight. The annual inspection was also performed in conjunction with the engine overhaul. The annual inspection was signed off 4 days prior to the accident. The owner of the airplane reported that he was the pilot-in-command of the flight; however, he was occupying the right seat. The left seat was being occupied by another pilot, who was also an airframe and powerplant (A&P) mechanic who performed the engine overhauled and signed off the annual inspection. The mechanic also held an FAA inspection authorization (IA).

On the day of the accident, after a complete engine run up and magneto check, the airplane taxied for takeoff on Runway 15. The pilot added that the takeoff was normal and the airplane was indicating a rate of climb of 700 feet-per-minute while climbing at 70 knots indicated. The owner added that as the airplane approached the departure end of the runway, the pilot on the left seat rolled the airplane into a 30-degree bank to the left while the airplane continued to climb. The owner added that the engine was "running well until it suddenly stopped." The owner further stated that the pilot manipulating the controls was not reacting to the sudden loss of engine power so he said "I've got it," leveled the wings, and tried to keep the nose level and pancaked-in."

The FAA inspector, who responded to the accident site, confirmed that the ground scars and the crushing damage sustained by the forward area of the fuselage were consistent with ground impact in a pronounced nose-low attitude. The inspector was also able to confirm the

presence of fuel onboard the airplane and also established flight control continuity. He added that the airplane came to rest in the upright position; however all 3 landing gears were collapsed. The flaps were found in the retracted position. The engine was found in the inverted position, buried under the nose of the airplane. The propeller was still attached to the engine and neither propeller blade had any leading edge damage or "S" bending. The owner of the airplane reported that the sudden loss of engine power was due to the failure of the engine driven fuel pump.

The Bishop Airport features a single 3,200-foot long, by 50-foot wide asphalt runway (15/33). The field elevation is 55 feet msl. The airport is surrounded by cultivated fields and there were no obstructions in either direction. The FAA inspector added that the airport was surrounded by suitable forced landing areas and cultivated fields.

The nearest weather recording station to the accident site was the Kingsville Naval Air Station (KNQI), located 7-nautical miles southwest of the Bishop Airport. At 1956 local, KNQI was reporting wind from 130 degrees at 11 knots, visibility 5 statute miles with haze, a scattered layer at 25,000 feet, temperature 32 degrees Celsius, dew point 23 degrees Celsius, with an altimeter setting of 29.69 inches of Mercury. The investigator-in-charge calculated the density altitude at 2,298 feet.

Pilot Information

Certificate:	Private	**Age:**	60,Male
Airplane Rating(s):	Single-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 3	**Last FAA Medical Exam:**	October 1, 2005
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	April 1, 2005
Flight Time:	682 hours (Total, all aircraft), 481 hours (Total, this make and model), 623 hours (Pilot In Command, all aircraft), 19 hours (Last 90 days, all aircraft), 8 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N5021M
Model/Series:	C23	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal; Utility	**Serial Number:**	M-2048
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	May 1, 2006 Annual	**Certified Max Gross Wt.:**	2749 lbs
Time Since Last Inspection:	0 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	O-360-A4J
Registered Owner:	Frederick A. Stenberg	**Rated Power:**	180 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	KNQI,45 ft msl	**Distance from Accident Site:**	7 Nautical Miles
Observation Time:	18:56 Local	**Direction from Accident Site:**	206°
Lowest Cloud Condition:	Scattered / 25000 ft AGL	**Visibility**	5 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	11 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	130°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.69 inches Hg	**Temperature/Dew Point:**	32°C / 23°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Bishop, TN (07R)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	VFR
Departure Time:	19:55 Local	**Type of Airspace:**	

Airport Information

Airport:	Bishop Municipal Airport 07R	**Runway Surface Type:**	Asphalt
Airport Elevation:	55 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	15	**IFR Approach:**	None
Runway Length/Width:	3200 ft / 50 ft	**VFR Approach/Landing:**	Forced landing

Wreckage and Impact Information

Crew Injuries:	2 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Serious	**Latitude, Longitude:**	

Administrative Information

Investigator In Charge (IIC):	Casanova, Hector
Additional Participating Persons:	William R Bumps; FAA FSDO; San Antonio, TX
Original Publish Date:	January 31, 2008
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=63647