

Air Safety Investigations Aircraft Incident/Accident Technical Report

Aircraft Incident/ Accident Information	Year: 2003	Make: Beechcraft	Model: A36
	Serial number: E-3503		Registration: N207PC
Location: Enumclaw, WA		Date: 03-04-18	Time: 1558 PST
Aircraft Owner		Aircraft Operator	
Systima Technologies Inc [REDACTED] Kirkland, WA 98033-5024		Thomas Derek Prenzlou [REDACTED] [REDACTED] Woodinville, WA 98077-7756	
Report Information			
Senior Air Safety Investigator: Henry J. Soderlund		Report #: ASI-18-AT-T	Report date: 08-20-18

Airframe

Impact Sequence and Airframe Structure

The aircraft reportedly impacted trees followed by terrain. During the impact sequence parts of the aircraft became caught in the trees.



Aircraft at storage facility.



Airframe Systems

Flight Control System Information		
Control lock: Not engaged		
Flight Control Cable Continuity		
Ailerons: Established	Elevators: Established	Rudder: Established
Aileron tab: Established	Elevator tab: Established	Rudder tab: Not applicable
Flap and Trim Positions		
Flaps:	Indicator: Undetermined	Handle: Up
	Left actuator: 1.7" - retracted	Right actuator: 1.7" - retracted
Elevator trim:	Indicator: Between neutral and full nose up	
	Left actuator: 1.5" - 10° tab down	Right actuator: 1.5" - 10° tab down
Rudder trim:	Indicator: Not applicable	Actuator: Not applicable
Aileron trim:	Indicator: Neutral	Actuator: 1.6" - 2.25° tab down

Remarks:

The cable attachment points on both wing aileron bellcranks had separated during the impact sequence. The left side rudder cable had pulled out of its mount at the rudder horn. Both cable attachment points on the aft elevator bellcrank had separated.

Airframe Fuel System Condition, Controls, and Read Outs		
Fuel strainer screen: Clean		Fuel strainer bowl: Clean
Main fuel tank gauge:	Left: 0	Right: 0
Fuel selector handle: Right	Fuel selector valve: Right	Fuel boost pump: Low

Remarks:

An undetermined amount of fuel drained from the fuel strainer when the cover was loosened. Both airframe fuel lines to the engine driven fuel pump separated at the fuel pump.

Landing Gear System Condition and Controls			
Gear position:	Nose: Retracted	Left: Retracted	Right: Retracted
Actuator position:	Nose: Retracted	Left: Retracted	Right: Retracted
Landing gear selector:	Retracted		Emer gear handle: Stowed
Environmental System Controls and Read Outs			
Cabin heater:	Off	Cabin vent:	Off
Air conditioner:	Off	Oxygen system:	On
		Oxygen quantity:	0
Icing System Information and Switches			
Certified into known icing?	No		De-icing boots installed?
			No
Pitot heat:	Off		Stall heat:
			Not applicable
De-ice:	Surface: Not applicable	Propeller:	Off
		Windshield:	Not applicable
Anti-ice:	Surface: Not applicable	Propeller:	Not applicable
		Windshield:	Not applicable
ELT Information			
Installed?	Yes	Manufacturer:	Artex
		Model:	110-4
		Type:	AF
Serial number:	69152	Battery due date:	Undt
		Armed:	Undetermined
		Activated:	Undetermined

Remarks:

The firewall vent was closed.

Cabin and Equipment/Furnishings

Restraint System Information						
Seat	Occupied	Restraint type	Restraint used	Condition	Manufacturer	
1	Yes	3-Point	Yes	Intact	Undetermined	
2	No	3-Point	N/A	Intact	Undetermined	
3	No	3-Point	N/A	Intact	Undetermined	
4	No	3-Point	N/A	Intact	Undetermined	

Seat Condition Information						
Seat	Orientation	Feet intact	Back intact	Base intact	Rail intact	
1	Forward facing	Yes	Yes	Yes	Yes	
2	Forward facing	Yes	Yes	Yes	Yes	
3	Rear facing	Yes	Yes	Yes	Yes	
4	Rear facing	Yes	Yes	Yes	Yes	

Remarks:

The seat 1 inboard seat rail had separated from the aircraft structure.

Instrument Panel

Navigation Instruments							
Analog primary instruments				Autopilot type: Honeywell			
Suction gage: 0		Magnetic compass: Undetermined		Clock: Undetermined			
	Left side				Left side		
Airspeed:	0		Turn coordinator (airplane):	Left			
Attitude (pitch):	Inverted		Turn coordinator (ball):	Left			
Attitude (roll):	Inverted		Heading indicator:	125			
Altimeter:	410		Heading "bug":	320			
Altimeter setting:	30.02		Vertical speed indicator:	Down 250			
Communication and Navigation Radios							
Radio	Control	Active frequency	Stand-by frequency	Radio	Control	Active frequency	Stand-by frequency
Com 1:	S/B	See below	See below	Com 2:	S/B	See below	See below
Nav 1:	S/B	See below	See below	Nav 2:	S/B	See below	See below
Obs 1:	283			Obs 2:	Damaged		
Transponder:	Mode: See below		Active code: See below		Stand-by code: See below		
Electrical Switch Positions							
Master battery: Undetermined		Master alternator: Undetermined		Avionics 1: On			
Lighting Switch Positions							
Navigation: Off		Rotating Beacon: Off		Landing: Undetermined			
Taxi: Undetermined		Strobe: On		Instrument: Undetermined			
Wing Ice: Not applicable							
Ignition Switch Position							
Key: Right							

Remarks:

The aircraft radios had been removed before the wreckage examination was conducted. The stand by gyro switch was in the ON position.

Powerplant Description

Engine Instruments						
Hour meter:	1069.1	Tach RPM:	0	Tach hours:	N/A	
Oil press:	Missing	Oil temp:	Missing	EGT:	0	
Fuel press:	N/A	Fuel flow:	0	Ammeter:	0	
				Manifold press:	29.95	
				CHT:	0	
				Voltmeter:	0	
Engine Control Positions						
	Cockpit	Engine		Cockpit	Engine	
Throttle:	Full aft	Undetermined	Cowl flaps:	Closed	Undetermined	
Mixture:	Full forward	Undetermined	Carburetor heat:	Not applicable	Not applicable	
Propeller:	Full forward	Undetermined	Primer:	Not applicable		
Engine Condition						
Engine attached to airframe:	Partially			Propeller attached to engine:	Yes	
Engine compression:	No			Valve train continuity:	No	
Vacuum pump drive shaft:	Undetermined					
Engine Fuel System Condition						
Fuel pump drive shaft:	Intact			Fuel control inlet screen:	Undetermined	
Fuel distribution valve screen:	Undetermined			Fuel injectors:	Undetermined	
Magnetos Condition						
Left magneto attached:	Yes			Right magneto attached:	Yes	
Left magneto spark:	All leads			Right magneto spark:	All leads	
Spark Plug Condition (per Champion Check-A-Plug Card)						
	1	2	3	4	5	6
Top	Normal	Normal	Normal	Normal	Normal	Normal
Bottom	Normal	Normal	Normal	Normal	Normal	Normal

Remarks:

Three holes were observed in the top of the crankcase; one between the number 1 and 2 cylinders, one over the number 3 cylinder and one over the number 4 cylinder. The number 2 and 4 connecting rods were found separated from the crankshaft.



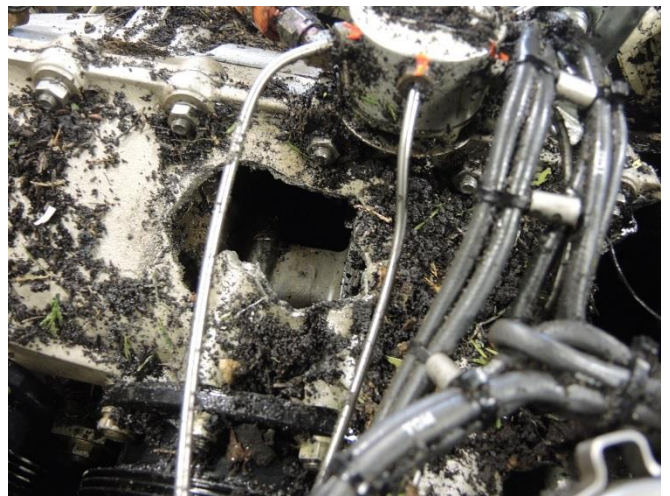
Hole in crankcase between cylinders 1 and 2



Crankshaft journal for cylinder 2 without connecting rod attached



Hole over cylinder 3



Hole over cylinder 4 showing crankshaft journal for cylinder 4 without connecting rod attached.



The turbocharger oil drain line from the check valve to scavenge pump was found hand tight at the check valve connection (circled above).

Propeller

One propeller blade tip was bent slightly aft, the other two blades appeared undamaged.

Research & Testing

A JPI EDM 700 was removed from the aircraft and sent to the NTSB for download. At the time this report was finished the download had not been completed.

During the examination of the engine at the manufacturer's facility several bearings displayed lubrication distress. Connecting rods 2, 4, and 5 had separated from the crankshaft. Evidence of metal passage was observed inside the oil pump.