



# National Transportation Safety Board Aviation Accident Data Summary

<b>Location:</b>	Anchorage, AK	<b>Accident Number:</b>	ANC10FA048
<b>Date &amp; Time:</b>	06/01/2010, 1705 AKD	<b>Registration:</b>	N59352
<b>Aircraft:</b>	CESSNA U206F	<b>Injuries:</b>	1 Fatal, 4 Serious
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Business		

## Analysis

The commercial pilot and four passengers, three of whom were of the pilot's immediate family, were departing in a single-engine airplane on a personal cross-country flight to their lodge. The airplane was loaded with lumber, building materials, groceries, personal luggage, plants, and other items for the lodge. Two witnesses said that just before it took off the airplane was loaded so heavily that its tires looked almost flat.

The pilot reported to the NTSB that shortly after takeoff, at an estimated altitude of 150 feet, he raised the wing flaps from 30 degrees to 20 degrees, and the airplane began to sink. He said he started a slight right turn, but did not recall anything after that. According to multiple witnesses, the airplane was in an exaggerated nose-high, tail-low attitude, and struggling to climb as it approached the accident site. They related that the engine sounded loud, as if operating at full power, before it crashed into a parking lot and an unoccupied building.

A postimpact fire, and cargo in the cabin, slowed rescuers from quickly removing the victims. Four of the occupants survived with serious burns and other injuries; the pilot's 4-year-old son was killed.

The cargo remaining in the pod and cabin after the fire was weighed, and exemplar weights were used for the burned materials. Using conservative weights, which did not include some burned items like a large container of detergent, the airplane's total weight was estimated to be at least 658.2 pounds over its allowable gross weight, with a center of gravity significantly beyond the aft-most limit.

Both the aircraft and cargo pod manufacturer state maximum wing flap extension limits for takeoff; the aircraft manufacturer's pilot operating handbook notes 20 degrees should be the maximum, and the cargo pod manufacturer notes a maximum of 10 degrees. Selecting more flap extension than recommended induces additional aerodynamic drag and adversely affects the airplane's acceleration and ability to climb.

Federal air regulations require that children 2 years of age or older must be secured with a lap belt. Both of the child passengers, age 2 and 4 years, were not secured with a lap belt and were sitting on the two other passenger's laps. During the crash sequence, the right front seat passenger was unable to hold onto the 4 year old. The child was pinned by the unsecured cargo and died in the fire.

Postaccident inspections of the airplane disclosed no preaccident mechanical anomalies that would have precluded normal operation.

The excessive overloading of the airplane, coupled with the aft center of gravity and the pilot's excessive use of flaps, placed the airplane well beyond its operating limitations, and made a successful takeoff highly improbable.

## Flight Events

Prior to flight - Aircraft loading event

Initial climb - Loss of control in flight

## Probable Cause

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's decision to load the airplane well beyond its allowable weight and center of gravity limits, resulting in a loss of control during the initial climb. Contributing to the severity of the injuries was the pilot's decision to allow two child passengers to sit on other passenger's laps without restraints, and his failure to properly secure the cargo in the cabin. Also contributing was the pilot's excessive extension of the wing flaps.

## Findings

Aircraft-Aircraft oper/perf/capability-Aircraft capability-Maximum weight-Capability exceeded - C  
Aircraft-Aircraft handling/service-Loading-(general)-Incorrect use/operation - C  
Personnel issues-Task performance-Planning/preparation-Weight/balance calculations-Pilot - C  
Personnel issues-Task performance-Use of equip/info-Use of equip/system-Pilot - F  
Personnel issues-Action/decision-Info processing/decision-Decision making/judgment-Pilot - C

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	33
<b>Airplane Rating(s):</b>	Single-engine Land; Single-engine Sea	<b>Instrument Rating(s):</b>	None
<b>Other Aircraft Rating(s):</b>	None	<b>Instructor Rating(s):</b>	None
<b>Flight Time:</b>	1718 hours (Total, all aircraft), 81 hours (Total, this make and model), 93 hours (Last 90 days, all aircraft), 67 hours (Last 30 days, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Manufacturer:</b>	CESSNA	<b>Registration:</b>	N59352
<b>Model/Series:</b>	U206F	<b>Engines:</b>	1 Reciprocating
<b>Operator:</b>	On file	<b>Engine Manufacturer:</b>	CONT MOTOR
<b>Air Carrier Operating Certificate:</b>	None	<b>Engine Model/Series:</b>	IO-540-F
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Business		

## Meteorological Information and Flight Plan

<b>Observation Facility, Elevation:</b>	PAMR, 137 ft msl	<b>Weather Information Source:</b>	Weather Observation Facility
<b>Conditions at Accident Site:</b>	Visual Conditions	<b>Lowest Ceiling:</b>	Broken / 10000 ft agl
<b>Condition of Light:</b>	Day	<b>Wind Speed/Gusts, Direction:</b>	9 knots, 200°
<b>Temperature:</b>	15°C / 7°C	<b>Visibility</b>	10 Miles
<b>Precipitation and Obscuration:</b>	Light - Rain		
<b>Departure Point:</b>	Anchorage, AK (MRI)	<b>Destination:</b>	Port Alsworth, AK

## Airport Information

<b>Airport:</b>	Merrill Field (MRI)	<b>Runway Surface Type:</b>	
<b>Runway Used:</b>	N/A	<b>Runway Surface Condition:</b>	
<b>Runway Length/Width:</b>			

## Wreckage and Impact Information

Crew Injuries:	1 Serious	Aircraft Damage:	Substantial
Passenger Injuries:	1 Fatal, 3 Serious	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None

## Administrative Information

Investigator In Charge (IIC):	Jennifer Rodi	Adopted Date:	03/16/2011
Investigation Docket:	<a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=76185">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=76185</a>		

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