



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Anchorage, AK	<b>Accident Number:</b>	ANC05LA130
<b>Date &amp; Time:</b>	08/28/2005, 2129 AKD	<b>Registration:</b>	N77SA
<b>Aircraft:</b>	Cessna 441	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 None

**Flight Conducted Under:** Part 91: General Aviation - Personal

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## Analysis

The airline transport pilot was landing a retractable landing gear-equipped turboprop airplane on a 10,900 foot long, by 150 foot wide paved runway. According to the pilot, while on approach to land, he selected 10 degrees of wing flaps, and then selected the landing gear selector switch to the down position, which was followed by "three greens", indicating the landing gear was down, locked, and safe for landing. He said that after touchdown, during the initial landing roll, the landing gear retracted, and the airplane slid on the underside of the fuselage. The airplane veered to the right of the runway centerline, and the right wing collided with numerous runway edge lights. A postcrash fire ensued when the right wing's fuel tank was breached. The airplane received structural damage to the underside of the fuselage, and the right wing was destroyed. Propeller strike marks originated in the vicinity of the accident airplane's touchdown point, and extended to the airplane's final resting point, about 2,200 feet from initial contact. A postaccident inspection of the airplane by the IIC and another NTSB air safety investigator, disclosed no evidence of any preaccident mechanical malfunction of the landing gear assembly or its associated operating systems. The airplane was placed on jack stands and hydraulic pressure was supplied to the airplane's hydraulic system using a hydraulic ground power unit. The airplane's landing gear retraction system was cycled numerous times, with no mechanical anomalies noted.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:  
The pilot's failure to lower the airplane's landing gear during landing, which resulted in an inadvertent wheels up landing.

### Findings

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Occurrence #1: WHEELS UP LANDING  
Phase of Operation: LANDING - FLARE/TOUCHDOWN

#### Findings

1. TERRAIN CONDITION - RUNWAY
2. (C) WHEELS UP LANDING - INADVERTENT - PILOT IN COMMAND

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Occurrence #2: ON GROUND/WATER COLLISION WITH OBJECT  
Phase of Operation: LANDING - ROLL

#### Findings

3. OBJECT - RUNWAY LIGHT

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Occurrence #3: FIRE  
Phase of Operation: LANDING - ROLL

## Factual Information

On August 28, 2005, about 2129 Alaska daylight time, a Cessna 441 turboprop airplane, N77SA, sustained substantial damage following an unintentional gear-up landing and postcrash fire during landing on runway 7R at the Ted Stevens Anchorage International Airport, Anchorage, Alaska. The airplane was being operated as an instrument flight rules (IFR) cross-country personal flight under Title 14, CFR Part 91, when the accident occurred. The airplane was owned by Security Aviation, Inc., Anchorage, Alaska. The airline transport pilot, and the sole passenger, were not injured. The flight originated at the Merle K. (Mudhole) Smith Airport, Cordova, Alaska, about 2045. Visual meteorological conditions prevailed at the flight's destination airport, and an instrument flight rules (IFR) flight plan was in effect at the time of the accident. According to the accident pilot, he obtained an IFR clearance after departing from Cordova, en route to Anchorage.

During an on scene conversation with the National Transportation Safety Board (NTSB) investigator-in-charge (IIC) on August 28, about 2200, the pilot reported that he was the director of operations for Security Aviation, and that he was using the airplane for a personal flight between Anchorage and Cordova. He said that the purpose of the flight was to transport some building materials to Cordova, and that he was returning to Anchorage at the time of the accident. He noted that upon arrival in the Anchorage area, dark night VFR conditions prevailed as the flight was cleared for the ILS runway 7R approach. He stated that the Anchorage air traffic control tower (ATCT) specialist on duty asked him to "keep his speed up" during the approach in order to accommodate arriving traffic that was sequenced behind him for landing. According to the pilot, as the airplane continued on the ILS 7R approach, he selected 10 degrees of wing flaps, and then selected the landing gear selector switch to the down position, which was followed by "three greens" indicating the landing gear was down, locked, and safe for landing. The pilot said that after landing touchdown, during the initial landing roll, the landing gear retracted, and the airplane slid on the underside of the fuselage. The airplane veered to the right of the runway centerline, and the right wing collided with numerous runway edge lights. A postcrash fire ensued when the right wing's fuel tank was breached. The airplane received structural damage to the underside of the fuselage, and the right wing was destroyed.

During the NTSB IIC's on scene investigation, propeller strike marks on the runway were discovered in the vicinity of the accident airplane's touchdown point, and extended along the crash path approximately 2,200 feet to the airplane's final resting point. Runway 7R is a 10,900 foot long, by 150 foot wide paved runway.

According to the operator's president, when the airplane was lifted off the runway during recovery, the cockpit mounted emergency landing gear extension T-handle was pulled in order to extend the landing gear. He said that once the T-handle was pulled, the landing gear extended, and locked in the down position.

A postaccident inspection of the airplane by the IIC and another NTSB air safety investigator on September 1, disclosed no evidence of any preaccident mechanical malfunction of the landing gear assembly or its associated operating systems. There were no significant side scuff marks or damage on any of the landing gear tires or rims. The bottom of the landing gear doors had near uniform damage from runway contact, with no damage noted to their edges or extension mechanism.

On October 27, 2005, under the direction of the NTSB IIC and another NTSB air safety investigator, the airplane was placed on jack stands and hydraulic pressure was supplied to the airplane's hydraulic system using a hydraulic ground power unit. The airplane's landing gear retraction system was cycled, numerous times, with no mechanical anomalies noted. Each time the landing gear was lowered, three green landing gear safe lights were observed by an NTSB investigator positioned in the airplane's cockpit area.

The accident airplane was equipped with a landing gear warning horn system that is designed to alert the flight crew if the landing gear is not extended prior to landing. According to an air safety representative from Cessna Aircraft, the landing gear warning horn system is not armed with only 10 degrees of flaps set, which avoids an erroneous warning horn activation during approach.

## Pilot Information

<b>Certificate:</b>	Airline Transport; Flight Instructor	<b>Age:</b>	56, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land; Single-engine Sea	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	Airplane Single-engine	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 1 Without Waivers/Limitations	<b>Last FAA Medical Exam:</b>	06/01/2005
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	06/01/2005
<b>Flight Time:</b>	17000 hours (Total, all aircraft), 50 hours (Total, this make and model), 13300 hours (Pilot In Command, all aircraft), 30 hours (Last 90 days, all aircraft), 10 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	Registration:	N77SA
Model/Series:	441	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	441-0329
Landing Gear Type:	Retractable - Tricycle	Seats:	10
Date/Type of Last Inspection:	08/01/2005, Continuous Airworthiness	Certified Max Gross Wt.:	10163 lbs
Time Since Last Inspection:	91.9 Hours	Engines:	2 Turbo Prop
Airframe Total Time:	11049 Hours at time of accident	Engine Manufacturer:	Garrett-AiResearch
ELT:	Installed, not activated	Engine Model/Series:	TPE 331-10
Registered Owner:	Security Aviation, Inc.	Rated Power:	715 hp
Operator:	Security Aviation, Inc.	Operating Certificate(s) Held:	On-demand Air Taxi (135)

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night
Observation Facility, Elevation:	ANC, 152 ft msl	Distance from Accident Site:	
Observation Time:	2052 ADT	Direction from Accident Site:	
Lowest Cloud Condition:	Few / 500 ft agl	Visibility	10 Miles
Lowest Ceiling:	Obscured / 4000 ft agl	Visibility (RVR):	
Wind Speed/Gusts:	Calm /	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.71 inches Hg	Temperature/Dew Point:	12 °C / 9 °C
Precipitation and Obscuration:			
Departure Point:	Cordova, AK (CVD)	Type of Flight Plan Filed:	IFR
Destination:	Anchorage, AK (ANC)	Type of Clearance:	IFR
Departure Time:	2045 ADT	Type of Airspace:	

## Airport Information

Airport:	ANCHORAGE INTL (ANC)	Runway Surface Type:	Asphalt
Airport Elevation:	152 ft	Runway Surface Condition:	Wet
Runway Used:	7R	IFR Approach:	ILS
Runway Length/Width:	10900 ft / 150 ft	VFR Approach/Landing:	Full Stop

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	1 None	<b>Aircraft Fire:</b>	On-Ground
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 None	<b>Latitude, Longitude:</b>	61.166667, -149.983333

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Clinton O Johnson	<b>Report Date:</b>	04/25/2006
<b>Additional Participating Persons:</b>	Scott Schweizer; Federal Aviation Administration; Anchorage, AK Scott Erickson; National Transportation Safety Board; Anchorage, AK		
<b>Publish Date:</b>			
<b>Investigation Docket:</b>	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).