



Aviation Investigation Final Report

Location:	RENO, Nevada	Accident Number:	LAX93FA095
Date & Time:	January 15, 1993, 13:43 Local	Registration:	N4733G
Aircraft:	CESSNA 414	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

A CESSNA 414 COLLIDED WITH A LEVEL GROUND WHILE ATTEMPTING TO LAND DURING A SNOW SHOWER. THE PILOT REPORTED AN EMERGENCY ONE MINUTE AFTER DEPARTING IFR AND REQUESTED TO RETURN TO THE AIRPORT UNDER VISUAL RULES. THE PILOT INDICATED TO AIR TRAFFIC CONTROL THAT 'I CAN'T GET ANY SPEED.' THE VISIBILITY WAS VARIABLE AROUND THE AIRPORT WITH THE LOWEST REPORT OF 1/2 MILE. WITNESSES OBSERVED THE AIRPLANE TRAVELING FAST AT LOW ALTITUDE AND INDICATED BOTH ENGINES WERE RUNNING. INVESTIGATION REVEALED DURING SERVICING BEFORE THE FLIGHT, THE PITOT TUBE COVERS WERE NOT USED. ABOUT 1.5 INCHES OF SNOW HAD ACCUMULATED ON THE AIRPLANE DURING THE REFUELING AND WAS BRUSHED OFF. THE AIRPLANE WAS SEEN FLYING INTO A SNOW SHOWER AND REVERSING COURSE. WITNESSES REPORTED THE AIRPLANE'S ANGLE OF BANK TO BE 80 TO 90 DEGREES WITH A 20 DEGREE PITCH DOWN ATTITUDE. THE AIRPLANE DESCENDED INTO A SNOW COVERED PASTURE. WITNESSES REPORTED THE AIRPLANE LEVELED ITS WING JUST BEFORE IMPACT. MANUFACTURER'S SAFETY AND WARNING SUPPLEMENTS INDICATE INFLIGHT ICE PROTECTION IS NOT DESIGNED TO REMOVE SNOW ON PARKED AIRCRAFT. THE MANUFACTURER RECOMMENDS USE OF HEATED HANGARS OR APPROVED DEICING SOLUTIONS TO INSURE THE ARE NO INTERNAL ACCUMULATIONS IN PITOT STATIC SYSTEM PORTS.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE FAILURE OF THE PILOT TO USE PITOT STATIC SYSTEM COVERS DURING ICING CONDITIONS WHICH RESULTED IN A BLOCKED PITOT TUBE AND SUBSEQUENT LOSS OF AIRSPEED INDICATIONS. THIS LED TO PILOT DISORIENTATION AND AN INVERTANT STALL.

FACTORS TO THE ACCIDENT WERE IMPROPER SNOW REMOVAL AND ADVERSE WEATHER CONDITIONS.

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: TAKEOFF

Findings

1. (F) WEATHER CONDITION - SNOW
 2. (C) PROCEDURES/DIRECTIVES - NOT FOLLOWED - PILOT IN COMMAND
 3. (C) AIRCRAFT PROTECTIVE COVERING - NOT USED - PILOT IN COMMAND
 4. (F) WEATHER CONDITION - ICING CONDITIONS
 5. (F) ICE/FROST REMOVAL FROM AIRCRAFT - IMPROPER - PILOT IN COMMAND
 6. (F) PITOT/STATIC SYSTEM - BLOCKED(TOTAL)
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Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings

7. (F) FLIGHT/NAV INSTRUMENTS,AIRSPEED INDICATOR - INOPERATIVE
 8. (F) PITOT SYSTEM - RESTRICTED - PILOT IN COMMAND
 9. (F) WEATHER CONDITION - WHITEOUT
 10. (C) AIRCRAFT HANDLING - EXCESSIVE - PILOT IN COMMAND
 11. (F) SPATIAL DISORIENTATION - PILOT IN COMMAND
 12. (C) STALL/MUSH - INADVERTENT - PILOT IN COMMAND
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Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings

13. TERRAIN CONDITION - SNOW COVERED

Factual Information

Pilot Information

Certificate:	Private	Age:	52, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim	Last FAA Medical Exam:	December 3, 1992
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	1935 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	Registration:	N4733G
Model/Series:	414 414	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	0928
Landing Gear Type:	Retractable - Tricycle	Seats:	7
Date/Type of Last Inspection:	May 15, 1992 Annual	Certified Max Gross Wt.:	6350 lbs
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:		Engine Manufacturer:	CONTINENTAL
ELT:	Installed, not activated	Engine Model/Series:	TSIO-520-NB
Registered Owner:	PLANE WRAP	Rated Power:	310 Horsepower
Operator:	PLANE WRAP	Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	Condition of Light:	Day
Observation Facility, Elevation:	RNO ,4412 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	13:43 Local	Direction from Accident Site:	170°
Lowest Cloud Condition:		Visibility	1 miles
Lowest Ceiling:	Broken / 2000 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:	0°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	-1°C / -3°C
Precipitation and Obscuration:	N/A - Blowing - Snow		
Departure Point:	(RNO)	Type of Flight Plan Filed:	IFR
Destination:	CAMARILLO , CA (CMA)	Type of Clearance:	IFR
Departure Time:	10:40 Local	Type of Airspace:	Class B;Class E

Airport Information

Airport:	RENO CANNON I'NTL RNO	Runway Surface Type:	Asphalt
Airport Elevation:	4412 ft msl	Runway Surface Condition:	Snow;Wet
Runway Used:	16	IFR Approach:	None
Runway Length/Width:	10008 ft / 150 ft	VFR Approach/Landing:	Full stop;Precautionary landing

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	On-ground
Total Injuries:	2 Fatal	Latitude, Longitude:	39.480087,-119.739433(est)

Administrative Information

Investigator In Charge (IIC):	Wilcox, Thomas
Additional Participating Persons:	REID WALBURG; RENO , NV MICHAEL J GRIMES; MOBILE , AL BRIAN J FINNIGAN; WICHITA , KS
Original Publish Date:	November 3, 1993
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=27819

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