



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	RENO, NV	<b>Accident Number:</b>	LAX93FA095
<b>Date &amp; Time:</b>	01/15/1993, 1343 PST	<b>Registration:</b>	N4733G
<b>Aircraft:</b>	CESSNA 414	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	2 Fatal
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Personal		

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## 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

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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,AIRSPD 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

<b>Certificate:</b>	Private	<b>Age:</b>	52, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<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>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 3 Valid Medical--w/ waivers/lim.	<b>Last FAA Medical Exam:</b>	12/03/1992
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	1935 hours (Total, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	CESSNA	<b>Registration:</b>	N4733G
<b>Model/Series:</b>	414 414	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	0928
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	7
<b>Date/Type of Last Inspection:</b>	05/15/1992, Annual	<b>Certified Max Gross Wt.:</b>	6350 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	2 Reciprocating
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	CONTINENTAL
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	TSIO-520-NB
<b>Registered Owner:</b>	PLANE WRAP	<b>Rated Power:</b>	310 hp
<b>Operator:</b>	PLANE WRAP	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Day
Observation Facility, Elevation:	RNO, 4412 ft msl	Distance from Accident Site:	1 Nautical Miles
Observation Time:	1343 PST	Direction from Accident Site:	170°
Lowest Cloud Condition:	Partial Obscuration / 0 ft agl	Visibility	1 Miles
Lowest Ceiling:	Broken / 2000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	Calm /	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	-1° C / -3° C
Precipitation and Obscuration:			
Departure Point:	(RNO)	Type of Flight Plan Filed:	IFR
Destination:	CAMARILLO, CA (CMA)	Type of Clearance:	IFR
Departure Time:	1040 PST	Type of Airspace:	Class B; Class E

## Airport Information

Airport:	RENO CANNON INTL (RNO)	Runway Surface Type:	Asphalt
Airport Elevation:	4412 ft	Runway Surface Condition:	Snow--compacted; Snow--wet; 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:	

## Administrative Information

**Investigator In Charge (IIC):** THOMAS H WILCOX **Report Date:** 11/03/1993

**Additional Participating Persons:** REID WALBURG; RENO, NV  
MICHAEL J GRIMES; MOBILE, AL  
BRIAN J FINNIGAN; WICHITA, KS

**Publish Date:**

**Investigation Docket:** 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 [pubinq@ntsb.gov](mailto:pubinq@ntsb.gov), or at 800-877-6799. Dockets released after this date are available at <http://dms.nts.gov/pubdms/>.

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