National Transportation Safety Board

FACTUAL REPORT
AVIATION

NTSB ID: SEA02FA027	Aircraft Registration Number: N2669J
Occurrence Date: 01/13/2002	Most Critical Injury: Fatal
Occurrence Type: Accident	Investigated By: NTSB

Location/Time

Nearest City/Place	State	Zip Code	Local Time	Time Zone	
Ilwaco	WA	98624	1158	PST	

Airport Proximity: Off Airport/Airstrip

Distance From Landing Facility: 0.5

Aircraft Information Summary

Aircraft Manufacturer	Model/Series	Type of Aircraft
Cessna	150G	Airplane

Revenue Sightseeing Flight: No

Air Medical Transport Flight: No

Narrative

Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:

HISTORY OF FLIGHT

On January 13, 2002, at 1158 Pacific standard time, a Cessna 150G, N2669J, was destroyed by impact forces and fire after colliding with terrain near the Port of Ilwaco Airport, Ilwaco, Washington. The student pilot, the sole occupant, was fatally injured. The airplane was owned by Twiss Air Services, Warrenton, Oregon, and was being operated as a visual flight rules (VFR) instructional flight under the provisions of Title 14, CFR Part 91. Visual meteorological conditions prevailed, and no flight plan was filed for the flight. The flight originated from Astoria, Oregon. The exact time of departure is unknown, however, the operator estimated that the departure time was between 1000 and 1030 local. The operator also indicated that the airplane departed Astoria with approximately 18 gallons of fuel.

Several witnesses to the accident reported seeing the airplane land on runway 28. After landing, the pilot back-taxied to the approach end of runway 28 and initiated a westbound departure. Witnesses reported hearing what they described as a rough running engine during the airplane's initial climb. One witness reported hearing the engine " partially quit then restart, partially quit a second time and restart again, then it quit and did not restart." A second witness reported hearing, "The engine coughed once, sputtered, coughed again and died." Witnesses reported seeing the airplane bank sharply to the left after the power disruption. A witness located approximately 700 feet north of the airport stated that the pilot initiated a turn to the left after the engine stopped running. The witness stated that after initiating the turn, the airplane banked sharply to the left and nosed over just before impacting terrain.

The airplane impacted terrain in a nose-low attitude approximately 580 feet west of the departure end of runway 28. The accident occurred during the hours of daylight at 46 degrees, 18.9 minutes north latitude, 124 degrees, 0.56 minutes west longitude. Personnel from Pacific County Fire District One extinguished the postcrash fire.

According to the operator, the student pilot was instructed to practice solo maneuvers and touch-and-go landings at Astoria Regional Airport, Warrenton, Oregon. The Port of Ilwaco Airport is located approximately 11 miles northwest of the Astoria airport.

PERSONNEL INFORMATION

Medical records obtained from the Federal Aviation Administration, indicated that the pilot held a third-class medical/student pilot certificate dated June 28, 2001. The medical certificate carried limitations requiring the pilot to wear corrective lenses for vision correction. On the medical certificate application, the pilot indicated that he had accumulated 25 hours total time, 17 of which were accumulated during the six months preceding the certificate date.

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Occurrence Type: Accident

Narrative (Continued)

AIRPLANE INFORMATION

The airplane, a 1967 Cessna 150G, was powered by a naturally aspirated Continental O-200 series engine rated at 100 horsepower. Maintenance records indicated that the airplane's last inspection, an annual inspection, was accomplished on December 1, 2001. At the time of the inspection, the airframe had accrued 6,128 hours total time. The records also indicate that the engine was overhauled on December 12, 2001.

METEOROLOGICAL INFORMATION

The 1155 Aviation Routine Weather Observation (METAR) at Astoria, approximately 11 miles south of the accident location, reported a visibility of 10 statute miles; broken clouds at 5,000 feet above ground level (AGL); temperature 7 degrees Celsius; dew point 4 degrees Celsius; altimeter setting 30.38 inches.

According to the FAA Carburetor Icing Probability Chart (attached), this combination of temperature and dew point present a hazard of serious icing at cruise and glide power settings.

WRECKAGE AND IMPACT INFORMATION

Personnel from the National Transportation Safety Board and the Federal Aviation Administration accessed the wreckage on the evening of January 13. The wreckage was located in an open field west of the airport. The terrain was flat, soft, and muddy.

The airplane impacted terrain in a nose-low attitude. The remains of the fuselage were found oriented on a magnetic heading of approximately 290 degrees. All aircraft components were located in the immediate vicinity of the main wreckage and burn area.

Rearward crushing, fragmentation and thermal damage was noted to the forward section of the airframe to include the engine, engine mount assembly, firewall, and aft engine accessories. Fire and impact forces destroyed the cockpit controls, instrument panel, and cabin area.

The propeller assembly was found as a unit attached to the crankshaft flange. Rearward crushing was noted to the lower portion of the spinner. Propeller blade A was bent aft, at mid-span, approximately 20 degrees. Chord wise and diagonal scratches were noted to both sides of the propeller. Continuous aft bending, chord wise and diagonal scratches were observed to propeller blade B.

Both wings remained partially attached to the fuselage. Extensive thermal damage was noted to the wing center section and the inboard sections of both wings. Leading edge rearward crushing and upward bending was noted to the outboard section of the left wing. The left wing flap, aileron, and lift strut were found attached to their respective attach points, and control continuity was established from the aileron to the remains of the cockpit. The wing flap was found in the down position. It was noted that the wing flap moved freely from the retracted position to the down position. The right wing exhibited leading edge rearward crushing from mid-span to the distal end of the wing. The flap was in the retracted position and the lift strut, flap and aileron were attached to their normal position. Control continuity was established from the right aileron to the remains of the cockpit.

The main fuel tank sustained impact and thermal damage. An undetermined amount of amber colored fuel was noted in both main fuel tanks.

The tail cone, just forward of the empennage, was twisted to the left and bent downward. The partially attached empennage was bent forward and downward. All empennage control surfaces remained attached in their normal position. Control system continuity was established from the

Narrative (Continued)

empennage control surfaces to the cockpit.

MEDICAL AND PATHOLOGICAL INFORMATION

The Pacific County Coroner's Office, South Bend, Washington, conducted the postmortem examination of the pilot. According to the autopsy report, the pilot's cause of death was attributed to traumatic chest injuries.

The FAA Civil Aeromedical Institute (CAMI), Oklahoma City, Oklahoma, conducted toxicology testing on the pilot. According to the postmortem report, results were negative for carbon monoxide, cyanide, and ethanol, legal and illegal drugs. See attached report for specific test results.

ADDITIONAL INFORMATION

On January 14, 2002, the aircraft's engine and accessories were transported to a hangar facility in Warrenton, Oregon, for further examination by personnel from Cessna Aircraft Company, Teledyne Continental Motors, and the NTSB.

Extensive thermal and impact damage was noted to the engine. Crushing deformation was noted to the frontal area and bottom area of the engine. Impact and thermal damage was noted to the accessory region of the engine.

Both crankcase halves, pistons, cylinders and overhead components were intact and showed no evidence of a pre-impact failure. The crankshaft rotated freely and air compression was noted in cylinders 1,3 and 4. Piston, valve train and accessory gear continuity was established by rotating the crankshaft by hand. The oil sump was crushed. Crushing type deformity was noted to the exhaust and intake tubing. Both magnetos and their respective ignition harnesses sustained extensive thermal and impact damage and could not be functionally tested. The spark plugs were removed and normal operating wear patterns were noted.

The carburetor assembly was broken away from the intake manifold flange. The throttle control arm was intact and rotated freely. The mixture control arm was bent and rotation was restricted. The float assembly was intact. The carburetor bowl and finger inlet screen were free of containments. A small amount of an amber colored liquid, later identified as automotive gasoline, was found in the carburetor bowl. Trace amounts of water were also present in the carburetor bowl.

The carburetor air intake box was found attached to the carburetor assembly. The air box sustained considerable impact damage. The carburetor heat control cable and linkage was attached to the air box, however, the cable had been severed. The cockpit carburetor heat control knob was found in the full forward position.

Disassembly and examination of the engine's internal components revealed no evidence of abnormal wear or failure of internal components. All cylinder overhead components were intact and appeared normal. The crankcase main bearings exhibited no evidence of bearing shift or scoring. The connecting rods moved freely on their respective journals. No lifter spalling, pitting or abnormal camshaft wear was noted.

On February 4, 2002, the aircraft wreckage was released to Twiss Air Service, Warrenton, Oregon.

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Occurrence Type: Accident

Landing Facility/Approach Information

Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
Port of Ilwaco Airport	7W1	8 Ft. MSL	28	2070	50

Runway Surface Type: Asphalt

Runway Surface Condition: Dry

Approach/Arrival Flown: NONE

VFR Approach/Landing: Unknown

Aircraft Information

Aircraft Manufacturer	Model/Series	Serial Number
Cessna	150G	150-65669

Airworthiness Certificate(s): Normal

Landing Gear Type: Tricycle

Amateur Built Acft?	Number of Seats:	Certified Max Gross Wt.	Number of Engines:
No	2	1600 LBS	1

Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:
Reciprocating	Continental	O-200-A	100 HP

- Aircraft Inspection Information

Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time
Annual	12/2001	28 Hours	6128 Hours

- Emergency Locator Transmitter (ELT) Information

ELT Installed?/Type	ELT Operated?	ELT Aided in Locating Accident Site?
Yes /		No

Owner/Operator Information

Registered Aircraft Owner	Street Address	City	State	Zip Code
Twiss Air Service	1270 SE Flightline Drive	Warrenton	OR	97146

Operator of Aircraft	Street Address	City	State	Zip Code
Twiss Air Service	1270 SE Flightline Drive	Warrenton	OR	97146

Operator Does Business As:

Operator Designator Code:

- Type of U.S. Certificate(s) Held: None

Air Carrier Operating Certificate(s):

Operating Certificate:

Operator Certificate:

Regulation Flight Conducted Under: Part 91: General Aviation

Type of Flight Operation Conducted: Instructional

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First Pilot Information

Name	City	State	Date of Birth	Age
On File	On File	On File	On File	61

Sex: M | Seat Occupied: Left | Occupational Pilot? Unknown | Certificate Number: On File

Certificate(s): Student

Airplane Rating(s): None

Rotorcraft/Glider/LTA: None

Instrument Rating(s): None

Instructor Rating(s): None

Current Biennial Flight Review?

Medical Cert.: Class 3 | Medical Cert. Status: Valid Medical--w/ waivers/lim. | Date of Last Medical Exam: 06/2001

- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Mult-Engine	Night	Instrument Actual	Instrument Simulated	Rotorcraft	Glider	Lighter Than Air
Total Time	25	25	25							
Pilot In Command(PIC)										
Instructor										
Instruction Received										
Last 90 Days										
Last 30 Days										
Last 24 Hours										

Seatbelt Used? | Shoulder Harness Used? | Toxicology Performed? Yes | Second Pilot? No

Flight Plan/Itinerary

Type of Flight Plan Filed: None

Departure Point	State	Airport Identifier	Departure Time	Time Zone
Same as Accident/Incident Location		7W1	1148	PST

Destination	State	Airport Identifier
Local Flight		

Type of Clearance: None

Type of Airspace: Class G

Weather Information

Source of Wx Information:

Unknown

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Weather Information

WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
AST	1155	PST	15 Ft. MSL	11 NM	140 Deg. Mag.

Sky/Lowest Cloud Condition: Unknown Ft. AGL

Condition of Light: Day

Lowest Ceiling: Broken 5000 Ft. AGL

Visibility: 10 SM

Altimeter: 30.38 "Hg

Temperature: 7 °C

Dew Point: 4 °C

Weather Conditions at Accident Site: Visual Conditions

Wind Direction:

Wind Speed: Light and Variable

Wind Gusts:

Visibility (RVR): Ft.

Visibility (RVV) SM

Precip and/or Obscuration:

Accident Information

Aircraft Damage: Destroyed

Aircraft Fire: Ground

Aircraft Explosion None

- Injury Summary Matrix	Fatal	Serious	Minor	None	TOTAL
First Pilot	1				1
Second Pilot					
Student Pilot					
Flight Instructor					
Check Pilot					
Flight Engineer					
Cabin Attendants					
Other Crew					
Passengers					
- TOTAL ABOARD -	1				1
Other Ground					
- GRAND TOTAL -	1				1

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Administrative Information

Investigator-In-Charge (IIC)

Dennis J. Hogenson

Additional Persons Participating in This Accident/Incident Investigation:

James Erwin
Federal Aviation Administration
Renton, WA

Scott Boyle
Continental Motors
Arvada, CO

Seth D Buttner
Cessna Aircraft Company
Wichita, KS