		NTSB ID: SEA07FA263		Aircraft Registration Number: N139DK	
		Occurrence Date: 09/13/2007		Most Critical Injury: Fatal	
		Occurrence Type: Accident		Investigated By: NTSB	
Location/Time					
Nearest City/Place Reno		State NV	Zip Code 89506	Local Time 1445	Time Zone PDT
Airport Proximity: On Airport		Distance From Landing Facility: 0.25		Direction From Airport:	
Aircraft Information Summary					
Aircraft Manufacturer Aero Vodochody		Model/Series L-39C		Type of Aircraft Airplane	
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					
<p>On September 13, 2007, at 1445 Pacific daylight time, an Aero Vodochody L-39C, N139DK, collided with terrain while participating in the Reno Air Races at Reno-Stead Airport, Reno, Nevada. The pilot was operating the privately owned airplane under the provisions of 14 CFR Part 91. The private pilot, the sole occupant, was killed; the airplane was substantially damaged. Visual meteorological conditions prevailed and no flight plan was filed. The airplane departed Reno-Stead about 1410.</p> <p>The pilot was participating in the jet race of the Reno Air Races. The accident airplane had rounded the last pylon, pylon 8, when according to a witness, the airplane was banked to the left as it rounded the pylon. The airplane then rolled to the right and impacted the ground at a high speed.</p> <p>An additional witness reported that the accident airplane was following another airplane. As the airplanes rounded the pylon, the accident airplane appeared to be lower. The accident airplane then seemed to roll inverted and impacted the ground moments later.</p> <p>In an interview with the Jet Class Director of Flight Operations, he indicated that the pilot had discussed a passing procedure that was inconsistent with race rules. After the pilot spoke with the Director of Flight Operations, the pilot agreed not to perform the passing procedure. According to the Director of Flight Operations, the pilot flew the race in accordance with the Jet Class rules. The Director of Flight Operations was flying above the race at the time of the accident, and also viewed a video of the event following the accident. Based on his experience, it appeared that the pilot may have inadvertently entered the wake turbulence from the T-2B Buckeye and was unable to regain control of the airplane prior to its impact with the ground. Additionally, the Director of Flight Operations indicated that all pilots are given training in wake turbulence avoidance procedures during the Reno Pylon Racing Seminar.</p>					
PILOT INFORMATION					
<p>The 47 year old pilot held a private pilot certificate with an instrument rating and was certified to fly single engine land and sea airplanes. The pilot had about 1,500 hours total time, with 150 hours in the accident airplane. He had flown the accident airplane about 15 hours within the last 90 days.</p> <p>The pilot attended the Reno Pylon Racing Seminar in 2006, and he had competed in the jet races in 2006 and 2007. According to the check pilot, the pilot flew well during the racing seminar and no problems were noted.</p>					

National Transportation Safety Board

FACTUAL REPORT

AVIATION

NTSB ID: SEA07FA263

Occurrence Date: 09/13/2007

Occurrence Type: Accident

Narrative (Continued)

AIRPLANE INFORMATION

The airplane was issued an experimental Special Airworthiness Certificate on February 8, 2006, for exhibition. A Ukrainian Progress Al-25TL engine powered the airplane. The last inspection of the airplane was on July 11, 2007, at a total time of 961.1 hours. According to the maintenance personnel that worked on the airplane, an additional 15 hours had accrued on the airplane since the inspection.

WRECKAGE AND IMPACT INFORMATION


The wreckage debris field ran generally parallel to runway 8/26 at Reno-Stead and was approximately 705 yards in length. The first identified point of contact consisted of two distinct shapes; one was a large disruption to the soil and spanned outward to the remainder of the debris field and to its left was a mark in the soft soil, rectangular and similar in size and shape to the leading edge of a wing. There was no similar rectangular shape on the right side of the large disruption. The debris field was on a magnetic heading of 240 degrees. Approximately 100 yards into the debris field, the smell of fuel was evident and areas of burn were present.


From the initial soil disruption, the debris field consisted of many small pieces of debris, with multiple large sections. All control surfaces, or portions of them, were identified in the debris field. The engine was separated from the airframe structure during the accident sequence and was the last identified piece of debris within the field. The outer case had been torn from the engine and located by investigators earlier in the debris field. The turbine blades were bent opposite the direction of rotation and portions of the blade tip material were missing.

ADDITIONAL INFORMATION

Videos were obtained from spectators of the Reno Air Races and viewed. The videos showed that a Rockwell T-2B (Buckeye) airplane was leading the group, with the accident airplane behind him. When they rounded pylon 8, the accident airplane was behind the Buckeye. As the accident airplane rounded the pylon, it banked to the left, and then banked to the right. The bank to the right continued through an inverted position as the airplane descended. Upon impact with the ground, the airplane was upright, in a nose low attitude.

According to the Pilot's Handbook of Aeronautical Knowledge (FAA-H-8083-25), "All aircraft generate a wake while in flight. This disturbance is caused by a pair of counter-rotating vortices trailing from the wingtips. The vortices from larger aircraft pose problems to encountering aircraft. The wake of these aircraft can impose rolling moments exceeding the roll-control authority of the encountering aircraft."

 National Transportation Safety Board FACTUAL REPORT AVIATION		NTSB ID: SEA07FA263			
		Occurrence Date: 09/13/2007			
		Occurrence Type: Accident			
Landing Facility/Approach Information					
Airport Name	Airport ID:	Airport Elevation	Runway Used	Runway Length	Runway Width
Reno Stead Airport	4SD	5050 Ft. MSL	NA		
Runway Surface Type:					
Runway Surface Condition:					
Type Instrument Approach: NONE					
VFR Approach/Landing: None					
Aircraft Information					
Aircraft Manufacturer		Model/Series		Serial Number	
Aero Vodochody		L-39C		934874	
Airworthiness Certificate(s): Experimental (Special)					
Landing Gear Type: Retractable - Tricycle					
Homebuilt Aircraft? No	Number of Seats: 2	Certified Max Gross Wt.	12500 LBS	Number of Engines: 1	
Engine Type:	Engine Manufacturer:	Model/Series:	Rated Power:		
Turbo Fan	Ukraine Progress	A1-25-TL	3800 LBS		
- Aircraft Inspection Information					
Type of Last Inspection	Date of Last Inspection	Time Since Last Inspection	Airframe Total Time		
100 Hour	07/2007	15 Hours	961 Hours		
- Emergency Locator Transmitter (ELT) Information					
ELT Installed? Yes	ELT Operated? No	ELT Aided in Locating Accident Site? No			
Owner/Operator Information					
Registered Aircraft Owner		Street Address			
Bradley Morehouse		City		State	Zip Code
		Afton		WY	83110
Operator of Aircraft		Street Address			
Same as Reg'd Aircraft Owner		Same as Reg'd Aircraft Owner			
		City		State	Zip Code
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: Air Race/Show					
FACTUAL REPORT - AVIATION					

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: SEA07FA263
	Occurrence Date: 09/13/2007
	Occurrence Type: Accident

First Pilot Information

Name On File	City On File	State On File	Date of Birth On File	Age 47
-----------------	-----------------	------------------	--------------------------	-----------

Sex: M	Seat Occupied: Front	Principal Profession: Non-Occupational Pilot	Certificate Number: On File
--------	----------------------	----------------------------------------------	-----------------------------

Certificate(s): Private

Airplane Rating(s): Single-engine Land

Rotorcraft/Glider/LTA: None

Instrument Rating(s): Airplane

Instructor Rating(s): None

Type Rating/Endorsement for Accident/Incident Aircraft?	Current Biennial Flight Review? 12/2006
---------------------------------------------------------	-----------------------------------------

Medical Cert.: Class 3	Medical Cert. Status: With Waivers/Limitations	Date of Last Medical Exam: 02/2006
------------------------	------------------------------------------------	------------------------------------

- Flight Time Matrix	All A/C	This Make and Model	Airplane Single Engine	Airplane Multi-Engine	Night	Instrument		Rotorcraft	Glider	Lighter Than Air
						Actual	Simulated			
Total Time	1500	150								
Pilot In Command(PIC)										
Instructor										
Last 90 Days		15								
Last 30 Days										
Last 24 Hours										

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

Flight Plan/Itinerary

Type of Flight Plan Filed: None

Departure Point Reno/Stead	State NV	Airport Identifier 4SD	Departure Time 1410	Time Zone PDT
-------------------------------	-------------	---------------------------	------------------------	------------------

Destination Local Flight	State	Airport Identifier	
-----------------------------	-------	--------------------	--


Type of Clearance: VFR

Type of Airspace:

Weather Information

Source of Briefing: Unknown

Method of Briefing:

 <p>National Transportation Safety Board FACTUAL REPORT AVIATION</p>	NTSB ID: SEA07FA263
	Occurrence Date: 09/13/2007
	Occurrence Type: Accident

Weather Information

WOF ID	Observation Time	Time Zone	WOF Elevation	WOF Distance From Accident Site	Direction From Accident Site
RNO	1456	PDT	4415 Ft. MSL	12 NM	140 Deg. Mag.

Sky/Lowest Cloud Condition: Clear Ft. AGL Condition of Light: Day

Lowest Ceiling: None Ft. AGL Visibility: 10 SM Altimeter: 29.97 "Hg

Temperature: 27 °C Dew Point: -11 °C Wind Direction: 260 Density Altitude: Ft.

Wind Speed: 13 Gusts: 20 Weather Conditions at Accident Site: Visual Conditions

Visibility (RVR): Ft. Visibility (RVV) SM Intensity of Precipitation:

Restrictions to Visibility: No Obscuration; No Precipitation

Type of Precipitation:

Accident Information

Aircraft Damage: Substantial Aircraft Fire: Ground Aircraft Explosion: Ground

Classification:

- 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

National Transportation Safety Board

FACTUAL REPORT

AVIATION



NTSB ID: SEA07FA263

Occurrence Date: 09/13/2007

Occurrence Type: Accident

Administrative Information

Investigator-In-Charge (IIC)

Kristi Dunks

Additional Persons Participating in This Accident/Incident Investigation:

William Kunder
Federal Aviation Administration
Reno, NV