

National Transportation Safety Board
Washington, DC 20594

Brief of Accident

Adopted 04/30/2008

SEA07FA263
File No. 23502 09/13/2007 Reno, NV Aircraft Reg No. N139DK Time (Local): 14:45 PDT

Make/Model:	Aero Vodochody / L-39C	Fatal	1	Serious	0	Minor/None	0
Engine Make/Model:	Ukraine Progress / A1-25-TL	Crew	1	0	0	0	0
Aircraft Damage:	Substantial	Pass	0	0	0	0	0
Number of Engines:	1						
Operating Certificate(s):	None						
Type of Flight Operation:	Air Race/Show						
Reg. Flight Conducted Under:	Part 91: General Aviation						

Last Depart. Point:	Reno/Stead, NV	Condition of Light:	Day
Destination:	Local Flight	Weather Info Src:	Weather Observation Facility
Airport Proximity:	On Airport	Basic Weather:	Visual Conditions
Airport Name:	Reno Stead Airport	Lowest Ceiling:	None
Runway Identification:	NA	Visibility:	10.00 SM
Runway Length/Width (Ft):	Unk/Nr	Wind Dir/Speed:	260 / 013 Kts
Runway Surface:		Temperature (°C):	27
Runway Surface Condition:		Precip/Obscuration:	No Obscuration; No Precipitation

Pilot-in-Command	Age: 47	Flight Time (Hours)
Certificate(s)/Rating(s)		Total All Aircraft: 1500
Private; Single-engine Land		Last 90 Days: Unk/Nr
Instrument Ratings		Total Make/Model: 150
Airplane		Total Instrument Time: Unk/Nr

The pilot was racing his jet airplane in a scheduled race in a high speed, low-level, racetrack pattern around pylons. Videos were obtained from spectators of the race and reviewed. The videos showed that a Rockwell T-2B (Buckeye) airplane was leading the group of jets, with the accident airplane immediately behind as the group rounded pylon 8. 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. It is likely that due to the low altitude of the airplane during the accident sequence, there was limited time available for the pilot to recover from the upset. 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."

Brief of Accident (Continued)

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Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: MANEUVERING

Findings

1. (F) LOW ALTITUDE FLIGHT/MANEUVER - PERFORMED - PILOT IN COMMAND
 2. (C) WAKE TURBULENCE - ENCOUNTERED - PILOT IN COMMAND
 3. (C) AIRCRAFT CONTROL - NOT POSSIBLE - PILOT IN COMMAND
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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings

4. TERRAIN CONDITION - GROUND

Findings Legend: (C) = Cause, (F) = Factor

The National Transportation Safety Board determines the probable cause(s) of this accident as follows.

The pilot's encounter with wake turbulence while maneuvering over a race course. Contributing to the accident was the low altitude at which the encounter occurred.