



National Transportation Safety Board Aviation Accident Final Report

Location:	RICHMOND HTS., OH	Accident Number:	NYC92FA055
Date & Time:	02/06/1992, 2101 EST	Registration:	N725AC
Aircraft:	AERO COMMANDER 500S	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

THE PILOT HAD THE WASTE GATES ON THE TURBOCHARGES ADJUSTED AND WANTED TO TEST FLY THE AIRPLANE AFTER THE WORK WAS COMPLETED. THE AIRPLANE DEPARTED AND HAD REACHED AN ALTITUDE OF ABOUT 1000 FEET WHEN WITNESSES HEARD AN ENGINE SPUTTER. THE AIRPLANE WAS SEEN MAKING A LEFT TURN AND ENTER A NOSE LOW, LEFT SPIN BEFORE IMPACTING THE TERRAIN. A TEAR DOWN OF THE LEFT ENGINE REVEALED THAT THE EXHAUST VALVES IN CYLINDERS #3 AND #5 WERE BURNT THROUGH AT THE VALVE HEAD. THE #5 EXHAUST VALVE HAD A DEEP PREEXISTING DEEP MARK ON THE VALVE STEM. THE FAILURES OF BOTH VALVES WERE SUFFICIENT ENOUGH TO CAUSE A POWER FAILURE IN THE LEFT ENGINE.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE PILOT'S IMPROPER EMERGENCY PROCEDURES AND FAILURE TO MAINTAIN CONTROL OF THE AIRPLANE, WHICH RESULTED IN AN INADVERTENT SPIN AT TOO LOW AN ALTITUDE TO ALLOW RECOVERY. FACTORS IN THIS ACCIDENT WERE; A POWER LOSS IN THE LEFT ENGINE AS RESULT OF THE EXHAUST VALVE FAILURES IN CYLINDERS #3 AND #5.

Findings

Occurrence #1: LOSS OF ENGINE POWER

Phase of Operation: CLIMB

Findings

1. (F) ENGINE ASSEMBLY, VALVE, EXHAUST - BURNED
2. (F) 1 ENGINE - FAILURE, TOTAL

Occurrence #2: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: DESCENT - UNCONTROLLED

Findings

3. (C) EMERGENCY PROCEDURE - IMPROPER - PILOT IN COMMAND
4. LACK OF TOTAL EXPERIENCE IN TYPE OF AIRCRAFT - PILOT IN COMMAND
5. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
6. (C) STALL/SPIN - INADVERTENT - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Findings

7. TERRAIN CONDITION - GROUND

Factual Information

Pilot Information

Certificate:	Private	Age:	40, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim.	Last FAA Medical Exam:	01/25/1991
Occupational Pilot:	Last Flight Review or Equivalent:		
Flight Time:	1111 hours (Total, all aircraft), 71 hours (Total, this make and model), 930 hours (Pilot In Command, all aircraft), 18 hours (Last 90 days, all aircraft), 8 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	AERO COMMANDER	Registration:	N725AC
Model/Series:	500S 500S	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	3144
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	07/26/1991, Annual	Certified Max Gross Wt.:	6750 lbs
Time Since Last Inspection:	500 Hours	Engines:	2 Reciprocating
Airframe Total Time:	3276 Hours	Engine Manufacturer:	LYCOMING
ELT:	Installed, not activated	Engine Model/Series:	IO-540-E1B5
Registered Owner:	SHRIKE CORPORATION	Rated Power:	290 hp
Operator:	MICHAEL STANTON-HICKS	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	, 0 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0000	Direction from Accident Site:	0°
Lowest Cloud Condition:	Scattered / 20000 ft agl	Visibility	10 Miles
Lowest Ceiling:	None / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	10 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	260°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	2° C
Precipitation and Obscuration:			
Departure Point:		Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	2059 EST	Type of Airspace:	Class D; Class E

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	N/A	Aircraft Fire:	On-Ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Fatal	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	Alan J Yurman	Report Date:	06/21/1993
Additional Participating Persons:	BOB TAYLOR; CLEVELAND, OH JIM BROWN; WILLIAMSPORT, PA		
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 pubinquiry@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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