



# Aviation Investigation Final Report

<b>Location:</b>	BAGGS, Wyoming	<b>Accident Number:</b>	SEA91LA128
<b>Date &amp; Time:</b>	June 7, 1991, 07:30 Local	<b>Registration:</b>	N5695Y
<b>Aircraft:</b>	ENSTROM F280C	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	2 None
<b>Flight Conducted Under:</b>	Part 91: General aviation - Personal		

## Analysis

THE PILOT OF THE ENSTROM F280C STATED THAT HE HEARD A LOUD NOISE WHILE FLYING AT 50-100 FEET AGL. HE THEN DESCENDED TO A FORCED LANDING AS THE ENGINE RPM DECREASED. HE SET THE AIRCRAFT DOWN HARD IN TALL SAGEBRUSH, CAUSING THE DOWNHILL SKID TO COLLAPSE. AS A RESULT OF THE HARD IMPACT THE MAIN ROTOR BLADES DROOPED AND SHEARED OFF THE TAIL BOOM. LATER INSPECTION OF THE ENGINE REVEALED THAT THE NUMBER THREE EXHAUST VALVE STEM HAD BROKEN AND THAT PARTS OF THIS VALVE HAD DESTROYED THE TURBOCHARGER AND BOTH SPARK PLUGS IN THE NUMBER THREE CYLINDER.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: EXHAUST VALVE FAILURE, RESULTING IN A PARTIAL POWER LOSS. CONTRIBUTING FACTORS WERE LOW ALTITUDE AND ROUGH/UNEVEN TERRAIN.

## Findings

Occurrence #1: LOSS OF ENGINE POWER(PARTIAL) - MECH FAILURE/MALF  
Phase of Operation: MANEUVERING

### Findings

1. (C) ENGINE ASSEMBLY, VALVE, EXHAUST - FAILURE, TOTAL

Occurrence #2: FORCED LANDING  
Phase of Operation: DESCENT - EMERGENCY

Findings

2. AUTOROTATION - ATTEMPTED - PILOT IN COMMAND

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Occurrence #3: HARD LANDING  
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

3. (C) TERRAIN CONDITION - ROUGH/UNEVEN

## Factual Information

### Pilot Information

<b>Certificate:</b>	Commercial; Flight instructor	<b>Age:</b>	64, Male
<b>Airplane Rating(s):</b>	Single-engine land; Single-engine sea; Multi-engine land	<b>Seat Occupied:</b>	Unknown
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>		<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 Valid Medical--w/ waivers/lim	<b>Last FAA Medical Exam:</b>	March 12, 1991
<b>Occupational Pilot:</b>	UNK	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	7843 hours (Total, all aircraft), 949 hours (Total, this make and model), 6 hours (Last 24 hours, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	ENSTROM	<b>Registration:</b>	N5695Y
<b>Model/Series:</b>	F280C F280C	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	
<b>Airworthiness Certificate:</b>		<b>Serial Number:</b>	1205
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	3
<b>Date/Type of Last Inspection:</b>	Unknown	<b>Certified Max Gross Wt.:</b>	2150 lbs
<b>Time Since Last Inspection:</b>	0 Hrs	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Installed, not activated	<b>Engine Model/Series:</b>	H10-360-E1AD
<b>Registered Owner:</b>	JOHN L. IRWIN	<b>Rated Power:</b>	205 Horsepower
<b>Operator:</b>	JOHN L. IRWIN	<b>Operating Certificate(s) Held:</b>	On-demand air taxi (135)
<b>Operator Does Business As:</b>		<b>Operator Designator Code:</b>	

## Meteorological Information and Flight Plan

<b>Conditions at Accident Site:</b>	Visual (VMC)	<b>Condition of Light:</b>	Day
<b>Observation Facility, Elevation:</b>		<b>Distance from Accident Site:</b>	
<b>Observation Time:</b>		<b>Direction from Accident Site:</b>	
<b>Lowest Cloud Condition:</b>	Clear	<b>Visibility</b>	60 miles
<b>Lowest Ceiling:</b>	None	<b>Visibility (RVR):</b>	
<b>Wind Speed/Gusts:</b>	5 knots /	<b>Turbulence Type Forecast/Actual:</b>	/
<b>Wind Direction:</b>	120°	<b>Turbulence Severity Forecast/Actual:</b>	/
<b>Altimeter Setting:</b>		<b>Temperature/Dew Point:</b>	-18°C / -18°C
<b>Precipitation and Obscuration:</b>	No Obscuration; No Precipitation		
<b>Departure Point:</b>	BAGGS , WY	<b>Type of Flight Plan Filed:</b>	None
<b>Destination:</b>		<b>Type of Clearance:</b>	None
<b>Departure Time:</b>	07:15 Local	<b>Type of Airspace:</b>	

## Airport Information

<b>Airport:</b>		<b>Runway Surface Type:</b>	
<b>Airport Elevation:</b>		<b>Runway Surface Condition:</b>	
<b>Runway Used:</b>	0	<b>IFR Approach:</b>	None
<b>Runway Length/Width:</b>		<b>VFR Approach/Landing:</b>	Forced landing

## Wreckage and Impact Information

<b>Crew Injuries:</b>	1 None	<b>Aircraft Damage:</b>	Substantial
<b>Passenger Injuries:</b>	1 None	<b>Aircraft Fire:</b>	None
<b>Ground Injuries:</b>	N/A	<b>Aircraft Explosion:</b>	None
<b>Total Injuries:</b>	2 None	<b>Latitude, Longitude:</b>	41.029739,-107.649261(est)

## Administrative Information

<b>Investigator In Charge (IIC):</b>	Anderson, Orrin
<b>Additional Participating Persons:</b>	BUD HARDESTY; CASPER , WY
<b>Original Publish Date:</b>	February 8, 1993
<b>Last Revision Date:</b>	
<b>Investigation Class:</b>	<a href="#">Class</a>
<b>Note:</b>	
<b>Investigation Docket:</b>	<a href="https://data.nts.gov/Docket?ProjectID=41447">https://data.nts.gov/Docket?ProjectID=41447</a>

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