



Aviation Investigation Final Report

Location:	ANACORTES, Washington	Accident Number:	SEA92LA095
Date & Time:	May 11, 1992, 15:20 Local	Registration:	N4223P
Aircraft:	Ryan ST-3KR	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	1 Minor, 1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

THE PILOT WAS TURNING FROM TAKEOFF LEG TO CROSSWIND WHEN THE ENGINE QUIT. HE INITIATED A FORCED LANDING ON A STREET IN A RESIDENTIAL AREA. THE ACFT IMPACTED AN EMBANKMENT BESIDE THE STREET, SKIDDED ONTO THE STREET, GROUND LOOPED, AND WAS DESTROYED BY POST IMPACT FIRE. EXAM OF THE ENGINE REVEALED THE AFT CRANKSHAFT COUNTERWEIGHT AND NO. 5 CYLINDER SEPARATED IN FLIGHT. METALURGICAL EXAM OF THE CRANKSHAFT ASSY REVEALED FATIGUE FAILURE OF THE COUNTERWEIGHT CAP SCREWS.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: LOSS OF ENGINE POWER DUE TO FATIGUE FAILURE OF THE CRANKSHAFT COUNTERWEIGHT CAP SCREWS AND SEPARATION OF THE COUNTERWEIGHT. A FACTOR RELATING TO THE ACCIDENT WAS THE RESIDENTIAL AREA AND LACK OF SUITABLE TERRAIN FOR A FORCED LANDING.

Findings

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

Findings

1. (C) ENG ASSEMBLY, CRANKSHAFT COUNTERWEIGHTS/VIB DAMPER - SEPARATION

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

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

2. (F) TERRAIN CONDITION - RESIDENTIAL AREA
3. (F) TERRAIN CONDITION - NONE SUITABLE

Factual Information

Pilot Information

Certificate:	Private	Age:	68, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Rear
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	July 17, 1991
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	3200 hours (Total, all aircraft), 350 hours (Total, this make and model), 2880 hours (Pilot In Command, all aircraft), 14 hours (Last 90 days, all aircraft), 3 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Ryan	Registration:	N4223P
Model/Series:	ST-3KR ST-3KR	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	1691
Landing Gear Type:	Tailwheel	Seats:	2
Date/Type of Last Inspection:	September 1, 1991 Annual	Certified Max Gross Wt.:	1885 lbs
Time Since Last Inspection:	36 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	2203 Hrs	Engine Manufacturer:	KINNER
ELT:	Installed, not activated	Engine Model/Series:	R-55
Registered Owner:	BREWER, LEE A.	Rated Power:	160 Horsepower
Operator:	BREWER, LEE A.	Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	NUW ,47 ft msl	Distance from Accident Site:	9 Nautical Miles
Observation Time:	14:55 Local	Direction from Accident Site:	155°
Lowest Cloud Condition:	Scattered / 2000 ft AGL	Visibility	7 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	270°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	14°C / 1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	ANACORTES , WA (74S)	Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	15:15 Local	Type of Airspace:	Class G

Airport Information

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

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Destroyed
Passenger Injuries:	1 None	Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Minor, 1 None	Latitude, Longitude:	48.460182,-122.59996(est)

Administrative Information

Investigator In Charge (IIC):	Mangum, Prentiss
Additional Participating Persons:	HAROLD HUTCHINS; RENTON , WA ROY KOGLE; RENTON , WA FRANK ZAKAR; WASHINGTON , DC
Original Publish Date:	September 28, 1993
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=41673

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