



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	FRESNO, CA	<b>Accident Number:</b>	LAX93LA058
<b>Date &amp; Time:</b>	12/02/1992, 1709 PST	<b>Registration:</b>	N80142
<b>Aircraft:</b>	ROBINSON R-22 BETA	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>		<b>Injuries:</b>	1 None

**Flight Conducted Under:** Part 91: General Aviation - Aerial Observation

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## Analysis

THE HELICOPTER TAIL ROTOR GEAR BOX AND THE VERTICAL FIN SEPARATED DURING CRUISE FLIGHT. THE PILOT WAS ABLE TO LAND THE HELICOPTER IN A FLOOD BASIN. THE WRECKAGE EXAMINATION DISCLOSED THAT THE FUEL CAP CAME OFF THE FUEL TANK AND STRUCK A TAIL ROTOR BLADE. THE TAIL ROTOR BLADE BALANCE WEIGHT SEPARATED AS DID THE ENTIRE VERTICAL FIN. THE TAIL ROTOR ASSEMBLY REMAINED ATTACHED TO THE HELICOPTER BY ITS PITCH CHANGE CONNECTING ROD. METALLURGICAL EXAMINATION OF THE SEPARATED PARTS DISCLOSED NO EVIDENCE OF ANY PREEXISTING CRACKING OR FATIGUE. THE POROSITY LEVEL OF THE VERTICAL FIN BULKHEAD CASTING WAS WITHIN NORMAL LIMITS.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE PILOT'S INADEQUATE PREFLIGHT. CONTRIBUTING TO THIS ACCIDENT WAS THE SEPARATION OF THE FUEL CAP, TAIL ROTOR BLADE BALANCE WEIGHT, TAIL ROTOR GEAR BOX, AND THE VERTICAL FIN.

## Findings

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Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION  
Phase of Operation: CRUISE

### Findings

1. (F) FUEL SYSTEM,CAP - SEPARATION
2. (C) AIRCRAFT PREFLIGHT - INADEQUATE - PILOT IN COMMAND
3. (F) ROTOR SYSTEM,TAIL ROTOR BLADE BALANCE WEIGHTS - SEPARATION
4. ROTOR SYSTEM,TAIL ROTOR BLADE BALANCE WEIGHTS - OVERLOAD
5. (F) ROTOR DRIVE SYSTEM,TAIL ROTOR GEARBOX(90 DEG) - SEPARATION
6. ROTOR DRIVE SYSTEM,TAIL ROTOR GEARBOX(90 DEG) - OVERLOAD
7. (F) VERTICAL STABILIZER ATTACHMENT - SEPARATION
8. VERTICAL STABILIZER ATTACHMENT - OVERLOAD

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

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Occurrence #3: HARD LANDING  
Phase of Operation: DESCENT - EMERGENCY

### Findings

9. TERRAIN CONDITION - NONE SUITABLE

## Factual Information

### Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	36, Male
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	Seatbelt, Shoulder harness
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	07/16/1992
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	5130 hours (Total, all aircraft), 2667 hours (Total, this make and model), 156 hours (Last 90 days, all aircraft), 52 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	ROBINSON	<b>Registration:</b>	N80142
<b>Model/Series:</b>	R-22 BETA R-22 BETA	<b>Aircraft Category:</b>	Helicopter
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	0992
<b>Landing Gear Type:</b>	Skid	<b>Seats:</b>	2
<b>Date/Type of Last Inspection:</b>	11/09/1992, 100 Hour	<b>Certified Max Gross Wt.:</b>	1370 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	2167 Hours	<b>Engine Manufacturer:</b>	LYCOMING
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	O-320-B2C
<b>Registered Owner:</b>	HENRY BROADCASTING CO.	<b>Rated Power:</b>	160 hp
<b>Operator:</b>	HENRY BROADCASTING CO.	<b>Operating Certificate(s) Held:</b>	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:	Unknown / 0 ft agl	Visibility	10 Miles
Lowest Ceiling:	Overcast / 7000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	10° C
Precipitation and Obscuration:			
Departure Point:		Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	1641 PDT	Type of Airspace:	Class G

## Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	A. D Llorente	Report Date:	09/14/1993
Additional Participating Persons:	ASI DON MORRIS; FRESNO,, CA ASI DAVID M. LEHMAN; FRESNO,, CA		
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 <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

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The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).