Aviation Investigation Final Report

Location:	Camarillo, California	**Accident Number:**	LAX01LA288
Date & Time:	August 24, 2001, 18:20 Local	**Registration:**	N48742
Aircraft:	Ryan ST3KR	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The pilot reported he was giving rides in the antique aircraft to thank museum volunteers of the Confederate Air Force squadron. Before takeoff, the aircraft was fueled to capacity, which he reported was sufficient for 2 hours endurance. About 20 minutes after takeoff, while in normal cruise flight and without warning, the engine lost power. During the ensuing forced landing in an open field, the landing gear struck a culvert and a wing was damaged. Post-accident inspection revealed that a clevis on the throttle linkage separated from the rod at the cockpit control quadrant. The operator, a (civilian) military aircraft museum, believed that the throttle linkage had been field fabricated, or refurbished and installed during restoration of the World War II-era airplane, 358 flight hours prior. A rivet, intended to lock the clevis to the shaft, was never installed during the fabrication/reassembly of the linkage, and the absence of the rivet was not detected during subsequent annual inspections.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The improper fabrication/reassembly and inspection of the engine throttle control linkage during aircraft restoration by the operator, and the failure of the operator's inspection personnel to detect the error during subsequent annual inspections.

Findings

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

Findings
1. THROTTLE/POWER LEVER,LINKAGE - DISCONNECTED
2. (C) THROTTLE/POWER CONTROL - IMPROPER - OTHER MAINTENANCE PERSONNEL
3. (C) MAINTENANCE,INSPECTION - INADEQUATE - COMPANY MAINTENANCE PERSONNEL
4. (C) MAINTENANCE,ANNUAL INSPECTION - INADEQUATE - COMPANY MAINTENANCE PERSONNEL

Occurrence #2: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER
Phase of Operation: EMERGENCY DESCENT/LANDING

Findings
5. TERRAIN CONDITION - OPEN FIELD

Factual Information

On August 24, 2001, at 1820 hours Pacific daylight time, a Ryan ST3KR, N48742, was substantially damaged during an off-airport emergency landing near Camarillo, California, following loss of engine power in cruise flight. The airline transport certificated pilot and one passenger were not injured. The personal flight was operated by the American Airpower Heritage Flying Museum under 14 CFR Part 91. The local area flight departed from Camarillo at 1800. Visual meteorological conditions prevailed and no flight plan was filed.

The pilot reported he was giving rides in the antique aircraft to thank museum volunteers of the Confederate Air Force squadron at Camarillo. Before takeoff, the aircraft was fueled to capacity, which he reported was sufficient for 2 hours endurance. About 20 minutes after takeoff, while in normal cruise flight and without warning, the engine lost power. During the ensuing forced landing in an open field, the landing gear struck a culvert and a wing was damaged.

Post-flight inspection revealed that a clevis on the throttle linkage rod separated from the rod at the cockpit control quadrant. A rivet, intended to lock the clevis to the rod shaft, was never installed during fabrication/assembly of the linkage and absence of the rivet had not been detected during subsequent annual inspections. Museum personnel told the Safety Board investigator that it was their belief that the throttle linkage had, most likely, been field fabricated or disassembled, cleaned and reassembled, and then reinstalled in the airplane during the last restoration of the World War II-era aircraft, 358 flight hours prior.

Pilot Information

Certificate:	Airline transport; Flight engineer; Flight instructor	**Age:**	66,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Rear
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 1 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	June 7, 2001
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	18520 hours (Total, all aircraft), 175 hours (Total, this make and model), 11099 hours (Pilot In Command, all aircraft), 235 hours (Last 90 days, all aircraft), 82 hours (Last 30 days, all aircraft), 9 hours (Last 24 hours, all aircraft)		

Information

Certificate:	Airline transport	**Age:**	59,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	June 1, 2001
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	April 5, 2001
Flight Time:	24700 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Ryan	**Registration:**	N48742
Model/Series:	ST3KR	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	1298
Landing Gear Type:	Tailwheel	**Seats:**	2
Date/Type of Last Inspection:	April 1, 2001 Annual	**Certified Max Gross Wt.:**	1850 lbs
Time Since Last Inspection:	36 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2512 Hrs at time of accident	**Engine Manufacturer:**	Kinner
ELT:	Installed, not activated	**Engine Model/Series:**	R-56
Registered Owner:	American Airpower Heritage Flying Museum	**Rated Power:**	160 Horsepower
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	CMA,75 ft msl	**Distance from Accident Site:**	6 Nautical Miles
Observation Time:	17:55 Local	**Direction from Accident Site:**	215°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.8 inches Hg	**Temperature/Dew Point:**	21°C / 12°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Camarillo, CA (CMA)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	18:00 Local	**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	34.230316,-119.07006(est)

Administrative Information

Investigator In Charge (IIC):	Parker, Richard
Additional Participating Persons:	FRANK MOTTER; FAA Flt Stnds Dist. Office; Van Nuys, CA
Original Publish Date:	May 28, 2002
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=53115