National Transportation Safety Board
Aviation Accident Final Report

Location:	Fullerton, CA	**Accident Number:**	LAX04FA330
Date & Time:	09/25/2004, 1323 PDT	**Registration:**	N750RW
Aircraft:	Bushmaster Aircraft 2000	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	2 Serious, 2 Minor
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The airplane crashed onto a street adjacent to the airport shortly after takeoff. As the airplane started its takeoff roll, it began to veer to the left off of the runway. About midway down the runway the airplane lifted off the ground and flew over a crowd of people assembled at the airport for an airport appreciation day. The airplane climbed to about 50 feet, made a steep roll to the left, flying in-between the control tower and a light pole, and crossed over the boundary fence where the left wing struck a moving vehicle before coming to rest against several parked cars. Numerous photographs (including video footage) were taken by witnesses on the airport of the airplane on the takeoff ground roll and throughout the accident sequence. The photographs clearly show a nylon strap connecting the left elevator and rudder. It was surmised that the use of the nylon strap was as a flight control/gust lock for the airplane. During the investigation, a nylon strap was observed hanging from an S-hook that was attached to the vertical stabilizer/rudder hinge attach point. The loop at the other end of the strap had come apart, and when investigators looked under the left stabilizer/elevator hinge attach area they noted a similar S-hook attached to the hinge attach area.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the inadequate preflight inspection by the pilot-in-command, where the pilot failed to remove the makeshift gust lock attached to the rudder and left elevator of the airplane. As a result, the airplane veered off the runway surface during the takeoff roll, became airborne, and immediately began an uncontrolled descending left roll until impacting vehicles and the ground.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. (C) FLIGHT CONTROL,GUST LOCK - NOT REMOVED
2. (C) AIRCRAFT PREFLIGHT - INADEQUATE - PILOT IN COMMAND
3. (C) FLIGHT CONTROLS - RESTRICTED

Occurrence #2: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: DESCENT - UNCONTROLLED

Findings
4. (F) OBJECT - VEHICLE

Occurrence #3: ON GROUND/WATER ENCOUNTER WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
5. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On September 25, 2004, at 1323 Pacific daylight time, a tri-motor Bushmaster Aircraft 2000, N750RW, impacted the ground during the takeoff initial climb from runway 24 at Fullerton Municipal Airport (FUL), Fullerton, California, and struck a car on an adjacent street. The pilot operated the airplane under the provisions of 14 CFR Part 91. The airplane was destroyed. The commercial pilot and the private pilot rated passenger sustained serious injuries. The two people in the car sustained minor injuries from the deployment of their airbags. The local area flight departed at 1522. Day visual meteorological conditions prevailed, and no flight plan had been filed.

The accident occurred during the Fullerton Airport Appreciation Day. A spectator at the airport videotaped the accident sequence, and provided the footage to the National Transportation Safety Board investigator-in-charge (IIC). In addition to the videotape, spectators at the airport submitted numerous photographs. One such photograph, enhanced by the Safety Board vehicle recorders specialist, clearly showed a strap connecting the left elevator to the rudder.

According to witnesses, as soon as the airplane began its takeoff roll, it started to veer to the left of the runway. The airplane departed the runway, went into the grass area that separated the runway from the taxiway, struck a runway light, and crossed over to the taxiway. The airplane rolled towards a crowd surrounding parked airplanes on the ramp prior to lifting off the ground. Witnesses said that the airplane continued in a left turn and went between the air traffic control tower and a light pole, and crashed. Witnesses reported that the airplane was about 50 to 100 feet above the ground, and the wings were 90 degrees to the ground, when it passed between the air traffic control tower and the light pole.

Witnesses further reported that they did not hear anything abnormal with the engines when the airplane powered up for takeoff or at any point during the accident sequence. One witness reported that prior to the airplane impacting the ground he thought he heard an engine, or all of the engines power back.

Air traffic control personnel indicated that they issued a takeoff clearance for the pilot and after takeoff there were no further communications.

PERSONNEL INFORMATION

Flying Pilot

The pilot held a commercial pilot certificate with ratings for airplane single and multiengine land, and instrument airplane. He also held a certified flight instructor (CFI) certificate with ratings for airplane single and multiengine land, and instrument airplane.

The pilot held a second-class medical certificate issued on September 24, 2003. It had the limitation that the pilot must wear corrective lenses.

The pilot had a total flight time of 3,700 hours. He logged 31 hours in the last 90 days, and 12 in the last 30 days. He had an estimated 54 hours in the accident make and model. He completed a flight review on June 18, 2003, in the accident make and model, which he also held a type rating for.

Non-Flying Pilot/Mechanic

The passenger was a certificated private pilot, with a rating for airplane single engine land. He reported about 1,000 hours of flight time, none of which was in the accident make and model.

The private pilot also held an airframe and power plant mechanic certificate, with a Federal Aviation Administration inspection authorization.

AIRCRAFT INFORMATION

The airplane was a tri-motor Bushmaster Aircraft 2000, serial number 2. A review of the airplane's logbooks revealed that the airplane had a total airframe time of 1,420 hours at the last annual inspection, which was completed on March 1, 2004; there were no engine times recorded during the inspection. The tachometer for the number 1, 2, and 3 engines read 588.1, 479.1, and, 588.1, respectively, at the last 100-hour inspection dated February 29, 2004.

METEOROLOGICAL CONDITIONS

The closest official weather observation station was Fullerton (FUL), located at the accident site. An aviation routine weather report (METAR) for FUL was issued at 1253. It stated: winds from 230 degrees at 7 knots; visibility 7 statute miles; skies clear; temperature 30 degrees Celsius; dew point 17 degrees Celsius; altimeter 29.88 inches of Mercury.

WRECKAGE AND IMPACT INFORMATION

Investigators from the Safety Board and the Federal Aviation Administration (FAA) examined the wreckage at the accident scene. The airplane came to rest in an industrial section of Fullerton about 300 feet south of the airport on Commonwealth Avenue on a magnetic heading of 360 degrees. The first identified point of contact was a concrete divider that separated Commonwealth Avenue and a frontage road. On the north facing side of the concrete divider was a scrape mark with paint transfer. Adjacent to the concrete divider was a green electrical box that had a piece of airplane metal embedded in it. A road sign in the same area showed evidence of a clean cut, which is indicative of a propeller strike.

About 5 feet from the concrete divider was the car that was struck by the airplane. Approximately 12 feet of the outboard section of the left wing was embedded in the front end of the car. The airplane, with the exception of the outboard section of the left wing, remained intact and came to rest about 20 feet from the car. Propeller marks were found in the road between the car and the airplane's final resting point. All of the engines' propellers exhibited signs of S-bending, leading and trailing edge gouging, and chordwise scratches.

While photographing the area, a Safety Board investigator observed a nylon tie down strap hanging from the vertical stabilizer/rudder hinge attach point. When examined, the IIC noted an S-hook at the hinge attach point. The other end of the nylon strap had been folded over and stitched together to make a loop. The IIC noted that the stitching had been pulled apart and there was no S-hook attached to it. The IIC examined the underneath portion of the left horizontal stabilizer/elevator area, and found an S-hook at the hinge attach point.

ADDITIONAL INFORMATION

The Safety Board IIC released the wreckage to the owner's representative on February 5, 2005.

Pilot Information

Certificate:	Flight Instructor; Commercial	**Age:**	45, 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):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	**Toxicology Performed:**	No
Medical Certification:	Class 2	**Last FAA Medical Exam:**	09/01/2003
Occupational Pilot:		**Last Flight Review or Equivalent:**	06/01/2003
Flight Time:	3700 hours (Total, all aircraft), 54 hours (Total, this make and model), 3441 hours (Pilot In Command, all aircraft), 31 hours (Last 90 days, all aircraft), 12 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Bushmaster Aircraft	**Registration:**	N750RW
Model/Series:	2000	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	2
Landing Gear Type:	Tailwheel	**Seats:**	11
Date/Type of Last Inspection:	03/01/2004, Annual	**Certified Max Gross Wt.:**	125000 lbs
Time Since Last Inspection:	588.1 Hours	**Engines:**	3 Reciprocating
Airframe Total Time:	1420 Hours as of last inspection	**Engine Manufacturer:**	Pratt & Whitney
ELT:	Installed, not activated	**Engine Model/Series:**	R985
Registered Owner:	Richard Fuchs	**Rated Power:**	450 hp
Operator:	Richard Fuchs	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Dawn
Observation Facility, Elevation:	FUL, 117 ft msl	**Distance from Accident Site:**	
Observation Time:	1253 PST	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	7 Miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	230°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.88 inches Hg	**Temperature/Dew Point:**	30°C / 17°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Fullerton, CA (FUL)	**Type of Flight Plan Filed:**	None
Destination:	(FUL)	**Type of Clearance:**	VFR
Departure Time:	1322 PDT	**Type of Airspace:**	

Airport Information

Airport:	FULLERTON MUNI (FUL)	**Runway Surface Type:**	Asphalt
Airport Elevation:	96 ft	**Runway Surface Condition:**	Dry
Runway Used:	24	**IFR Approach:**	None
Runway Length/Width:	3121 ft / 75 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 Serious	**Aircraft Damage:**	Destroyed
Passenger Injuries:	1 Serious	**Aircraft Fire:**	On-Ground
Ground Injuries:	2 Minor	**Aircraft Explosion:**	None
Total Injuries:	2 Serious, 2 Minor	**Latitude, Longitude:**	33.875556, -117.966667

Administrative Information

Investigator In Charge (IIC):	Tealeye C Cornejo	**Report Date:**	07/31/2006
Additional Participating Persons:	Joe Bonner; Federal Aviation Administration; Long Beach, 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 pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at http://dms.ntsb.gov/pubdms/.		