National Transportation Safety Board
Aviation Accident Final Report

Location:	Stockton, CA	**Accident Number:**	LAX01FA207
Date & Time:	06/14/2001, 0923 PDT	**Registration:**	N70SL
Aircraft:	Piper PA-46-350P	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General Aviation - Instructional		

Analysis

During a forced landing the left wing struck a light standard pole, and the airplane came to rest inverted after colliding with a fence. The purpose of the flight was to conduct recurrent training to include emergency procedures. On the accident flight the certified flight instructor (CFI) initiated a simulated engine failure after takeoff during the initial climb out. The student advised the tower, and turned crosswind at 700 feet agl. The student set up for landing, which included lowering the landing gear and adding 10 degrees of flaps. On short final, descending through 400 feet agl, both the CFI and student realized they would not make the runway. Both pilot's advanced the throttle, to arrest the descent and perform a go-around. There was no corresponding response from the engine. During the final stages of the emergency descent, the pilot maneuvered the airplane to avoid a work crew at the airport boundary fence and the airplane collided with the light standard pole and a fence. An airframe and engine examination discovered no discrepancies with any system. Following documentation of the engine and related systems it was removed and installed in an instrumented engine test cell for a functional test. The engine started without hesitation and was operated for 44 minutes at various factory new engine acceptance test points. During acceleration response tests, technicians rapidly advanced the throttle to the full open position, and the engine accelerated with no hesitation. A second acceleration response test produced the same results. According to Textron Lycoming, there were no discrepancies that would have precluded the engine from being capable of producing power.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: a loss of engine power for undetermined reasons. Also causal was the inadequate supervision of the flight by the CFI for allowing a simulated emergency maneuver to continue below an altitude which would not allow for recovery contingencies.

Findings

Occurrence #1: LOSS OF ENGINE POWER
Phase of Operation: APPROACH - VFR PATTERN - FINAL APPROACH

Findings
1. EMERGENCY PROCEDURE - SIMULATED
2. (C) REASON FOR OCCURRENCE UNDETERMINED

Occurrence #2: FORCED LANDING
Phase of Operation: EMERGENCY LANDING AFTER TAKEOFF

Findings
3. (C) SUPERVISION - INADEQUATE - PILOT IN COMMAND(CFI)
4. (C) ALTITUDE/CLEARANCE - LOW - PILOT IN COMMAND(CFI)
5. (C) GO-AROUND - DELAYED - PILOT IN COMMAND(CFI)

Occurrence #3: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: MANEUVERING - TURN TO LANDING AREA (EMERGENCY)

Findings
6. OBJECT - FENCE
7. OBJECT - OTHER PERSON

Factual Information

HISTORY OF FLIGHT

On June 14, 2001, at 0923 Pacific daylight time, a Piper PA-46-350P, N70SL, experienced a loss of engine power while on final approach for runway 29R at the Stockton Metropolitan Airport (SCK), Stockton, California. The airplane was destroyed after it collided with an airport perimeter fence during an attempted forced landing. The pilot/owner was operating the airplane under the provisions of 14 CFR Part 91. The certified flight instructor (CFI) and the private pilot were not injured. Visual meteorological conditions prevailed for the local area instructional flight, and no flight plan had been filed. The airplane was landing at the time of the accident.

According to the CFI's written statement to the Safety Board, they started flying at 0919 the morning of the accident. The first maneuver of the day was a short field takeoff and return for landing. They noted no discrepancies during that portion of the flight. Before starting the next maneuver, he reviewed the maneuver and sequence of events with the pilot prior to contacting SCK tower. When they contacted SCK tower, they requested a simulated engine failure on climb out with a planned return to runway 11L. The tower cleared them for the maneuver and they took off.

The CFI stated that as they began the right crosswind turn at 700 feet above ground level (agl), he made the first power reduction from 42 inches of manifold pressure (MAP) to 35 inches MAP. He continued to reduce the power to simulate the engine failure, as the pilot flew the airplane back to the runway. The CFI stated that the "engine appeared to [windmill] normally." During the approach he noted a work crew and vehicle at the blast fence. The CFI instructed the student to select [landing] gear and flaps as needed for landing. The student selected 10vdegrees of flaps down, and extended the landing gear.

On short final, 400 feet above ground level (agl), the CFI advised the student that the sink rate would not allow them to cross over the concrete blast fence. Both pilot's agreed to "power up" the engine and go around to try the maneuver again.

The CFI stated that he guarded both the flight controls and engine control levers. He placed his hand over the students' hand to advance the throttle to the full forward position. At this point there was no corresponding response from the engine. He informed the student that they would have to continue with the glide to avoid a "stall / spin event." The CFI guarded the yoke with his right hand, and the engine control levers with his left. He scanned the appropriate switches, levers, circuit breakers, and the fuel selector position to verify that they were in the correct position. Everything appeared to be set correctly.

The CFI and student maneuvered the airplane to avoid the blast fence and work crew, choosing an open space between the Instrument Landing System (ILS) antenna and blast fence. The CFI stated that they did not retract the landing gear and flaps, as they were concerned with a further loss of altitude.

During the descent the left wing struck a light standard pole and the airplane yawed to the left at a 45-degree angle over a road. The CFI stated that the airplane came to rest inverted.

According to the private pilot, he began his recurrent training with the CFI on June 12, 2001. His insurance provider required the recurrent training. On June 12th, they did ground work

that consisted of airplane systems and procedures, and practiced instrument flight rules (IFR) flight, as well as normal procedures. He resumed training on June 14th. Prior to leaving his home base of Hayward, he refueled the airplane with 100 gallons of fuel (50 gallons per side).

On the day of the accident they reviewed some ground material, and discussed the maneuvers that they were going to do that day. Prior to doing the simulated engine out, they discussed the maneuver. The student stated that the CFI would be responsible for the throttles during the maneuver.

The crew noted no discrepancies with the takeoff or the initiation of the maneuver. At 400 feet agl the student lowered the landing gear. He and the CFI discussed the rate of descent and decided that they would not be able to make the runway. They decided to go around and try the maneuver again. The student stated that they both went to apply power, but there was no response. He continued flying the airplane as the CFI continued to instruct. He verified that the fuel boost pump was in the on position, and the airplane continued to descend.

After the airplane came to rest, the student noted a hydraulic leak. He turned off the battery, alternator, and magnetos.

According to the San Joaquin County Airport Police incident report, the left wing struck a 14-foot-high street light at the 8-foot mark.

PERSONNEL INFORMATION

A review of Federal Aviation Administration (FAA) airman records revealed that the CFI held a commercial certificate with ratings for airplane single engine land, multiengine land, and instrument airplane. The CFI also held a certified flight instructor certificate with ratings for airplane single engine land, multiengine land, and instrument airplane. The CFI held a second-class medical certificate that was issued on April 4, 2001. It had a limitation that the pilot must have available glasses for near vision. His medical also contained a waiver for color.

The CFI submitted a Pilot/Operator Aircraft Accident Report (NTSB form 6120.1/2). He indicated an estimated total flight time of 8,927 hours. He logged 163 hours in the last 90 days, and 42 hours in the last 30 days. He had an estimated 598 hours in this make and model, with 92 hours in the last 90 days, and 23 hours in the last 30 days.

A review of FAA airman records revealed that the owner/pilot held a private pilot certificate with ratings for airplane single engine land and instrument airplane. He held a second-class medical certificate that was issued on November 29, 1999. It had no limitations or waivers.

The private pilot submitted a Pilot/Operator Aircraft Accident Report (NTSB form 6120.1/2). He indicated an estimated total flight time of 746 hours. He logged 33 hours in the last 90 days, and 14.8 hours in the last 30 days. He had an estimated 156 hours in this make and model.

AIRCRAFT INFORMATION

The airplane was a Piper PA-46-350P, serial number 4622084. A review of the airplane's logbooks revealed a total airframe time of 1,588.1 hours at the last annual inspection. An annual inspection was completed on January 5, 2001. On February 23, 2001, maintenance technicians performed routine maintenance to replace the engine driven fuel pump in accordance with Textron Lycoming Airworthiness Directive 98-18-12. They performed an operational check of the fuel boost pump system and fuel selector valve in accordance with the

maintenance manual Chapter 28-00-00, with no defects or malfunctions noted. Total airframe time at that inspection was 1,624.6 hours.

The airplane had a Textron Lycoming TIO-540-AE2A engine, serial number L-9060-61A, installed. Total time on the engine at the last annual inspection was 763.5 hours since major overhaul, and zero hours since top overhaul.

TESTS AND RESEARCH

Investigators examined the airframe and power plant at Plain Parts, Sacramento, California, on June 26, 2001. The New Piper Aircraft Company and Textron Lycoming were parties to the investigation.

Investigators completed an external examination of the airframe with no discrepancies noted. The left wing separated outboard of wing root area. There was a semicircular impression dimensionally similar to the light pole. The right wing separated from the fuselage at the wing root. The vertical stabilizer and rudder remained attached to the fuselage. The nose section partially separated from the fuselage. Investigators functionally tested both fuel boost pumps and encountered no mechanical anomalies.

Investigators conducted an external examination of the engine. They removed the engine. All fuel lines and fittings were secure at their respective locations on the engine. Fuel was in the fuel lines during their removal from the engine. They established throttle control and mixture control continuity from the cockpit controls to the respective components on the engine. The engine was sent back to Textron Lycoming, Williamsport, Pennsylvania, after investigators determined that an engine run could be conducted.

Textron Lycoming conducted an engine run at their facilities on September 20, 2001. Technicians removed the top spark plugs, which were clean with no mechanical deformation. The spark plug electrodes were gray in color, which corresponded to normal operation according to the Champion Aviation Check-A-Plug AV-27 Chart. A borescope inspection revealed no mechanical deformation on the valves, cylinder walls, or internal cylinder head.

The crankshaft flange was bent rearward. In order to install the club propeller for the test run, Lycoming personnel straightened the crankshaft with the use of heat. Technicians established mechanical continuity throughout the engine. Crankshaft rotation produced thumb compression in each cylinder, with accessory gear and valve train continuity established. They removed the oil suction screen, and it was clear of debris.

The technicians installed the engine onto the test stand. The engine started with no problems and they ran it for 44 minutes at various test points. The engine was unable to maintain a post-impact idle setting; however, they conducted an acceleration response test by manually establishing an idle at 450 rpm with the throttle. Technicians rapidly advanced the throttle to the full open position, and the engine accelerated with no hesitation. A second acceleration response test produced the same results. According to Textron Lycoming there were no discrepancies that would have precluded the engine from being capable of producing power.

ADDITIONAL INFORMATION

The IIC released the wreckage to the owner's representative.

Pilot Information

Certificate:	Flight Instructor; Commercial	**Age:**	51, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--w/ waivers/lim.	**Last FAA Medical Exam:**	04/04/2001
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:	8927 hours (Total, all aircraft), 598 hours (Total, this make and model), 8817 hours (Pilot In Command, all aircraft), 163 hours (Last 90 days, all aircraft), 42 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Student Pilot Information

Certificate:	Private	**Age:**	41, Male
Airplane Rating(s):	Single-engine Land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	11/29/1999
Occupational Pilot:		**Last Flight Review or Equivalent:**	01/14/2000
Flight Time:	746 hours (Total, all aircraft), 156 hours (Total, this make and model), 671 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Piper	**Registration:**	N70SL
Model/Series:	PA-46-350P	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	4622084
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	01/05/2001, Annual	**Certified Max Gross Wt.:**	4300 lbs
Time Since Last Inspection:	82 Hours	**Engines:**	1 Reciprocating
Airframe Total Time:	1670 Hours as of last inspection	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	TIO-540-AE2A
Registered Owner:	FL25 Aviation Inc.	**Rated Power:**	350 hp
Operator:	FL25 Aviation Inc.	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Day
Observation Facility, Elevation:	SCK, 30 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	0856 PDT	**Direction from Accident Site:**	0°
Lowest Cloud Condition:	Clear	**Visibility**	10 Miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	Calm /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	Variable	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	29.92 inches Hg	**Temperature/Dew Point:**	27°C / 7°C
Precipitation and Obscuration:			
Departure Point:	Stockton, CA (SCK)	**Type of Flight Plan Filed:**	None
Destination:	Stockton, CA (SCK)	**Type of Clearance:**	VFR
Departure Time:	0930 PDT	**Type of Airspace:**	Class D

Airport Information

Airport:	STOCKTON METROPOLITAN AIRPORT (SCK)	**Runway Surface Type:**	Asphalt
Airport Elevation:	30 ft	**Runway Surface Condition:**	Dry
Runway Used:	29R	**IFR Approach:**	None
Runway Length/Width:	10650 ft / 150 ft	**VFR Approach/Landing:**	Forced Landing; Simulated Forced Landing

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	Destroyed
Passenger Injuries:	N/A	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	37.883333, -121.241389

Administrative Information

Investigator In Charge (IIC):	TEALEYE C CORNEJO	**Report Date:**	03/30/2004
Additional Participating Persons:	TIM JARRARD; FEDERAL AVIATION ADMINISTRATION; OAKLAND, CA MARK PLATT; TEXTRON LYCOMING; VAN NUYS, CA CHARLES LITTLE; THE NEW PIPER AIRCRAFT; CHINO HILLS, 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/.		