Aviation Investigation Final Report

Location:	SAN MARTIN, California	**Accident Number:**	LAX98LA196
Date & Time:	June 14, 1998, 13:30 Local	**Registration:**	N912KA
Aircraft:	Beech 76	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 Minor
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

Prior to the simulated engine failure and subsequent accident, the instructor had simulated a right alternator failure, an engine fire, a left engine failure on takeoff, and a right engine failure on takeoff. During the accident simulated engine failure, initiated by shutting off the fuel supply, the student diverted to the airport for an emergency landing. He noted that the landing gear lights indicating the landing gear was in the down position were not illuminated. He informed the instructor, who advised him to initiate a go-around. As the student pilot advanced the throttles for the go-around the aircraft lurched to the right. The student pilot raised the flaps; however, aircraft performance continued to deteriorate. The student pilot stated that the aircraft speed was too slow to maintain directional control so he lowered the nose and the aircraft impacted terrain in a nose-low, right wing-low attitude. The aircraft and both engines were inspected on-scene with no mechanical malfunctions noted.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: Failure of the instructor to adequately supervise the flight, which included ensuring that the student maintained the proper airspeed during the attempted go-around.

Findings

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

Findings
1. 1 ENGINE
2. (C) ENGINE SHUTDOWN - INITIATED - PILOT IN COMMAND(CFI)

Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: GO-AROUND (VFR)

Findings
3. (C) SUPERVISION - INADEQUATE - PILOT IN COMMAND(CFI)
4. GO-AROUND - ATTEMPTED - DUAL STUDENT
5. (C) AIRSPEED(VMC) - NOT MAINTAINED - PILOT IN COMMAND(CFI)
6. DIRECTIONAL CONTROL - NOT MAINTAINED - PILOT IN COMMAND(CFI)

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
7. TERRAIN CONDITION - OPEN FIELD

Factual Information

On June 14, 1998, at 1330 hours Pacific daylight time, a Beech 76, N912KA, experienced a loss of engine power in the right engine after initiating a go-around and impacted terrain near the South County Airport, San Martin, California. The aircraft, operated by Trade Winds Aviation under the provisions of .14 CFR Part 91, sustained substantial damage. The commercial flight instructor and private pilot received minor injuries. Visual meteorological conditions existed for the local dual instruction flight and no flight plan was filed.

The private pilot reported after departing Hollister airport, they climbed to 3,000 feet agl for the return to the Reid-Hillview airport, San Jose, California. As he was tuning in Automatic Terminal Information Service (ATIS), the right engine failed. The private pilot reported that his instructor had shut off the fuel to simulate an engine failure. His reaction was to advance the mixture and propellers and add additional power. The pilot stated that South County was the nearest airport and he made a turn to the left to land on runway 32. The pilot reported that he attempted to troubleshoot the failed engine, and then informed his instructor that he was going to "feather the failed engine," and then set up for the final approach.

The private pilot stated that he radioed his intentions on Common Traffic Advisory Frequency (CTAF), and noted that the flap indicator was not working, but verified flaps down. On short final the pilot noted that the gear lights were not illuminated. He informed his instructor, who responded by telling him to go around. The pilot stated that he applied full power and the plane immediately yawed to the right. He added cross controls, raised the flaps, and pitched up. He stated that the aircraft was too slow to maintain directional control, so he lowered the nose. The private pilot stated that they were less than 50 feet agl and continuing the turn to the right when the aircraft started to roll to the right. He stated that the impact was in a nose-low, right wing low attitude.

The instructor pilot reported that after departing Reid-Hillview for the practice area, he initiated a right alternator failure by pulling the right alternator field circuit breaker. He stated that the student reviewed the checklist and then the Pilot Operator's Handbook (POH). The student initiated procedures to correct the problem; however, the alternator would not come back on line. The instructor stated that historically the "right alternator has had trouble sharing the load." The instructor reported that he had the student leave the right alternator switch off and then switched off the left alternator to see if the right one would "pick up the load," which it did. The student pilot then switched the left alternator back to the on position. No other anomalies were noted with this portion of the flight.

The instructor reported that that they executed an emergency descent and then simulated an engine fire, with the student performing satisfactorily. His only recommendation was that the student should maintain 95 knots until established on final approach and then maintain 85

knots until landing was assured, which he confirmed with the POH. The instructor reported that they taxied back for takeoff to Reid-Hillview. On takeoff the instructor stated that he cut the left engine, with the student recovering satisfactorily. He then instructed the student to takeoff, and failed his right engine. The student recovered satisfactorily and remained aligned with the runway centerline.

While en route to Reid-Hillview the instructor informed the student that there was traffic off his left wing. The instructor reported that when the student went to verify the traffic, he turned the right fuel selector to the off position. He then instructed the student to obtain ATIS information for Reid-Hillview. While the student was copying ATIS, the right engine failed. The instructor reported that after the student had identified that the right engine was inoperative and completed the emergency checklist for troubleshooting the inoperative engine, he questioned what the student would do next. The student attempted to feather the right propeller. The instructor stated that he stopped him from feathering the engine and verified the right fuel selector had been returned to the on position and brought back the manifold pressure just under 10 inches to simulate feathering the engine.

The instructor reported that the student then diverted to South County airport for the simulated precautionary landing. The instructor then had the student report his intentions over CTAF. He stated that "knowing we would probably do a go-around," he pulled the circuit breaker for the gear indicating lights while the student was maneuvering the aircraft for landing. He stated that he did this to point out to the student how high his last two approaches were and voice his concerns of rushing the airplane down to the nearest airport when it was not necessary.

The instructor reported that the student lowered the gear and flaps, but that the flap indicator still did not show the flap position. The student visually verified that the flaps were down. The instructor reported that the student announced his position when another aircraft asked for a position report. He stated that the student retarded the throttles and was on short final before he noted the gear lights were not illuminated and the gear was not down.

The instructor stated that he told the student to go around and that he had "both engines." He stated that the student advanced the throttles full forward, and that something did not feel right. The student then retracted the flaps, and moved the propellers forward. The instructor stated that the aircraft yawed to the right when the propeller surged, which he attributed to the unequal spooling up of the propellers.

The instructor reported that the initial climbout was not normal, but it was not evident to him that the right engine had failed. He noted that the flaps were still full down and recycled the flap handle. The instructor reported that they were still yawing to the right and he input left rudder and left aileron, but the student had the controls already fully deflected. He noted that the airspeed was under 65 knots. At this point, he realized that the right engine had failed. He pulled the throttle and tried to return to the runway. The instructor reported that after clearing a row of trees they lowered the nose and tried to maneuver between two lampposts. The aircraft was still descending in a right bank towards a field. After impact, they both shut down

the aircraft and exited the aircraft.

A Federal Aviation Administration (FAA) airworthiness inspector from the San Jose Flight Standards District Office examined the aircraft at the South County airport. No mechanical malfunctions were noted with the right engine. The FAA inspector stated that it was also unclear as to whether or not the right engine had been restarted after the in-flight shutdown.

Pilot Information

Certificate:	Commercial; Flight instructor	**Age:**	27,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	None	**Restraint Used:**	
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 1 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	June 2, 1998
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	1661 hours (Total, all aircraft), 115 hours (Total, this make and model), 1586 hours (Pilot In Command, all aircraft), 270 hours (Last 90 days, all aircraft), 107 hours (Last 30 days, all aircraft), 5 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N912KA
Model/Series:	76 76	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	ME-12
Landing Gear Type:	Retractable - Tricycle	**Seats:**	4
Date/Type of Last Inspection:	April 28, 1998 100 hour	**Certified Max Gross Wt.:**	3916 lbs
Time Since Last Inspection:	43 Hrs	**Engines:**	2 Reciprocating
Airframe Total Time:	3352 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	O-360-A1G6O/D
Registered Owner:	OPERATIONS ENGINEERING, INC.	**Rated Power:**	180 Horsepower
Operator:	TRADEWINDS AVIATION	**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:	RHV ,133 ft msl	**Distance from Accident Site:**	22 Nautical Miles
Observation Time:	12:45 Local	**Direction from Accident Site:**	290°
Lowest Cloud Condition:	Scattered / 5000 ft AGL	**Visibility**	20 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots / None	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	290°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	27°C / 16°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	SAN JOSE (RHV)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	13:00 Local	**Type of Airspace:**	Class E

Airport Information

Airport:	SOUTH COUNTY Q99	**Runway Surface Type:**	Asphalt
Airport Elevation:	281 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	32	**IFR Approach:**	None
Runway Length/Width:	3100 ft / 75 ft	**VFR Approach/Landing:**	Simulated forced landing

Wreckage and Impact Information

Crew Injuries:	2 Minor	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Minor	**Latitude, Longitude:**	37.100009,-121.600257(est)

Administrative Information

Investigator In Charge (IIC):	Cornejo, Tealeye
Additional Participating Persons:	GARY DUPERTUIS; SAN JOSE , CA
Original Publish Date:	April 20, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=30119