



National Transportation Safety Board Aviation Accident Final Report

Location:	Santa Ana, CA	Accident Number:	LAX02LA221
Date & Time:	02/02/2002, 1823 PST	Registration:	N4458S
Aircraft:	Beech 58P	Aircraft Damage:	Substantial
Defining Event:		Injuries:	1 None
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The airplane landed hard on the runway and hit two taxiway signs following a wake turbulence encounter on final approach. A Boeing 757 landed about 5 minutes prior to the accident airplane. While on downwind the pilot made a 360-degree turn for wing tip vortex avoidance. Just before touchdown, the airplane hit a "bump" and became "uncontrollable." The airplane landed hard to the right side of the runway and struck two taxiway signs. The pilot aborted the landing, and took off again. When he saw that his aircraft was still positioned over the runway, he decided to land instead of continue the takeoff. Upon touchdown a second time, the airplane veered to the left side of the runway. According to a written statement submitted by Federal Aviation Administration ATC personnel, the pilot followed the glide path of the Boeing 757. The airplane flew into the wing tip vortices approximately 50 to 75 feet from landing at a point behind where the 757 had touched down. The pilot failed to land beyond the Boeing 757's touchdown point, as suggested in the Aeronautical Information Manual.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's failure to remain above the landing Boeing 757's glide path resulting in an encounter with wing tip vortices, a loss of directional control after touchdown, and collision with taxiway signs.

Findings

Occurrence #1: VORTEX TURBULENCE ENCOUNTERED
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

1. (C) PROPER GLIDEPATH - NOT MAINTAINED - PILOT IN COMMAND
2. (C) WAKE TURBULENCE - ENCOUNTERED - PILOT IN COMMAND
3. (C) DIRECTIONAL CONTROL - NOT MAINTAINED - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

4. OBJECT - SIGN

Factual Information

On February 2, 2002, about 1823 Pacific standard time, a Beech 58P twin-engine airplane, N4458S, landed hard on runway 19R, and hit two taxiway signs at the John Wayne Airport-Orange County Airport (SNA), Santa Ana, California. The airplane, which was owned and operated by the pilot under the provisions of 14 CFR Part 91, sustained substantial damage. The airline transport pilot (ATP), the sole occupant, was not injured. Visual meteorological conditions prevailed for the cross-country flight, and no flight plan had been filed. The flight departed the San Luis Obispo County Airport (SBP), San Luis Obispo, California, about 1723. The flight was scheduled to terminate at SNA.

According to SNA tower personnel, a Boeing 757 (B757) landed about 5 minutes prior to the accident airplane. While on downwind, the tower informed the accident pilot that a B757 was landing and asked him if he would like to make a 360-degree turn for spacing due to possible wing tip vortices. The pilot elected to perform the maneuver, and then proceeded to land.

The pilot stated that just before touchdown his airplane hit a "bump" and became "uncontrollable." The airplane landed hard to the right side of the runway past taxiway Juliet and struck two taxiway signs. The pilot aborted the landing. He attempted to takeoff; however, he noticed his airplane remained positioned over the runway and decided to land rather than continue the takeoff. He landed a second time near taxiway Hotel. The airplane started to veer to the left and came to rest on the left side of runway 19R near taxiway Echo.

Upon further inspection, it was noted that the left main landing gear scissor link had broken. During repair work, structural damage was observed. The incident was upgraded to an accident on July 9, 2002.

According to a written statement submitted by Federal Aviation Administration personnel, the pilot followed the glide path of the B757. The airplane flew into the wing tip vortices approximately 50 to 75 feet from landing at a point behind where the 757 had touched down.

According to the Aeronautical Information Manual (AIM), "Under certain conditions, airport traffic controllers apply procedures for separating IFR aircraft. The controllers will also provide to VFR aircraft with whom they are in communication and which in the tower's opinion may be adversely affected by wake turbulence from a larger aircraft, the position, altitude, and direction of flight of larger aircraft followed by the phrase 'CAUTION - WAKE TURBULENCE.' WHETHER OR NOT A WARNING HAS BEEN GIVEN, PILOTS ARE EXPECTED TO ADJUST THEIR OPERATIONS AND FLIGHT PATH(S) AS NECESSARY TO PRECLUDE SERIOUS WAKE ENCOUNTERS."

The AIM continues by offering the following advice for aircraft landing behind a larger aircraft: "Stay at or above the larger aircraft's final approach flight path - note its touchdown point - land beyond it."

The National Transportation Safety Board attempted to contact the pilot on numerous occasions, and sent two written requests for the pilot/owner to complete Pilot/Operator Aircraft Accident Report (NTSB form 6120.1/2), but there was no response.

Pilot Information

Certificate:	Private	Age:	62, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	07/08/2001
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	Registration:	N4458S
Model/Series:	58P	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	TJ-58
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:		Certified Max Gross Wt.:	6100 lbs
Time Since Last Inspection:		Engines:	2 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Continental
ELT:		Engine Model/Series:	TSIO-520 SER
Registered Owner:	William K. Gamble	Rated Power:	310 hp
Operator:	William K. Gamble	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Night
Observation Facility, Elevation:	SNA, 56 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	1853 PST	Direction from Accident Site:	0°
Lowest Cloud Condition:	Few / 20000 ft agl	Visibility	10 Miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	Calm /	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30.16 inches Hg	Temperature/Dew Point:	12° C / 10° C
Precipitation and Obscuration:			
Departure Point:	San Luis Obispo, CA (SBP)	Type of Flight Plan Filed:	None
Destination:	Santa Ana, CA (SNA)	Type of Clearance:	VFR
Departure Time:	1726 PST	Type of Airspace:	Class C

Airport Information

Airport:	JOHN WAYNE AIRPORT-ORANGE COUN (SNA)	Runway Surface Type:	Asphalt
Airport Elevation:	56 ft	Runway Surface Condition:	Dry
Runway Used:	19R	IFR Approach:	None
Runway Length/Width:	5701 ft / 150 ft	VFR Approach/Landing:	Full Stop; Traffic Pattern

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:	33.681667, -117.869167

Administrative Information

Investigator In Charge (IIC):	Tealeye C Cornejo	Report Date:	09/29/2004
Additional Participating Persons:	Richard Stockton; 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.nts.gov/pubdms/ .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

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](#).