National Transportation Safety Board
Aviation Accident Final Report

Location:	Santa Monica, CA	**Accident Number:**	LAX02FA028
Date & Time:	11/13/2001, 1836 PST	**Registration:**	N2RR
Aircraft:	Cessna 340A	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	2 Fatal
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

During an aborted nighttime takeoff, the airplane continued off the end of the 4,987-foot-long runway, vaulted an embankment, and impacted a guardrail on an airport service road 30 feet below. According to the manufacturer's pilot operating handbook, the takeoff distance required for the ambient conditions was 1,620 feet and the accelerate-stop distance was 2,945 feet. Several witnesses reported observing the airplane traveling along the runway at an unusually high speed, with normal engine sound, and without becoming airborne; followed by an abrupt reduction in engine power and the sound of screeching tires. Skid marks were present on the last 1,000 feet of the runway. In the wreckage, the gust lock/control lock was found engaged in the pilot's control column.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to remove the control gust lock prior to takeoff and his failure to abort the takeoff with sufficient runway remaining to stop the airplane on the runway.

Findings

Occurrence #1: OVERRUN
Phase of Operation: TAKEOFF - ABORTED

Findings
1. AIRCRAFT PREFLIGHT - INADEQUATE - PILOT IN COMMAND
2. (C) REMOVAL OF CONTROL/GUST LOCK(S) - NOT PERFORMED - PILOT IN COMMAND
3. (C) ABORTED TAKEOFF - DELAYED - PILOT IN COMMAND

Occurrence #2: ON GROUND/WATER COLLISION WITH OBJECT
Phase of Operation: TAKEOFF - ABORTED

Factual Information

HISTORY OF FLIGHT

On November 13, 2001, at 1836 Pacific standard time, a Cessna 340A, N2RR, continued off the end of runway 21, vaulted an embankment, and came to rest on an airport service road during an aborted takeoff at Santa Monica Municipal airport, California. The private pilot and one passenger were fatally injured and the airplane was destroyed. Night, visual meteorological conditions prevailed and no flight plan was filed for the personal flight that was operated by the owner under 14 CFR Part 91. The flight was destined for Van Nuys California.

A private pilot observed the accident from the Justice Aviation ramp, which is on the south side of the airport about the 3,500-foot point along runway 21 [Note: Runway 21 is 4,987 feet long and 150 feet wide, grooved asphalt]. He said his attention was attracted to the airplane because he was accustomed to seeing airplanes pass that point on the runway at 100 - 200 feet above the runway, and this airplane was very low or on the runway (it was dark) and traveling very fast; he estimated 120 knots. He described the engine sound as normal. As the airplane passed his position, engine power was reduced to idle and he started hearing tire skidding sound. He thought perhaps one engine had failed and the pilot was aborting the takeoff. The skidding sound continued for a period of time and there were two distinct "pops," which he assumed were the tires "blowing out." The airplane continued skidding, went off the end of the runway, and he then saw the fire.

A flight instructor at the same location said his attention was attracted to the airplane as it passed because it was traveling very fast, about 120 knots, and was either on the runway or 10 - 20 feet above it. It was dark and the engines sounded normal. As the airplane passed abeam his position the engine power was abruptly reduced ("an engine cut") and he thought the pilot had had an engine failure and was aborting. He then heard a tire skidding sound during which there were two "pop" sounds and then he saw the fire/explosion.

A third witness, who was not a pilot, witnessed the accident from the same location while waiting for a friend. His attention was drawn to the accident airplane because; whereas most planes were flying past him well into the air, the accident plane never left the ground. It went by him going "real fast, fast enough to fly." He then heard the tires "screeching" and saw the plane go off the end of the runway. He doesn't recall any abnormal sound from the engines and couldn't recall if the engine sound ceased when the tire screeching started.

A corporate pilot who held an airline transport pilot certificate observed the airplane during its takeoff roll from his position at the middle of the ramp at Supermarine Aviation on the north side of the runway, approximately at the runway mid-length point. He reported having a great deal of general aviation experience and was familiar with the Cessna 340 and the engine sound it normally makes. His attention was attracted to the airplane as it went past his position because it was traveling very fast on the runway and was not airborne, as he knew a Cessna 340 normally should be. The engine sound was normal; smooth and synchronized. He commented to his first officer, who was standing next to him, that the airplane must be "really heavy" to have been still on the runway at that speed. Their view of the airplane became blocked by a hangar to the right (west) of their position and he said to his first officer "I don't think this is right." They walked together to the taxiway edge of the ramp and looked to the west in time to see the flash of the fire and hear the muffled explosion. He ran back to his airplane and got his flight attendant, who was a nurse, and together they went to the accident site but were unable

to render any aid.

A flight instructor, who was in the run-up area with a student at the time of the accident, reported that as he and the student taxied to the run-up area they passed the accident aircraft that was in a parking area for the Typhoon restaurant. The restaurant and the parking area are about 1,500 feet from the threshold end of runway 21. As they taxied past the Cessna 340 all of its lights were on, including strobe lights, and he commented to his student about the matter of courtesy to other pilots when using lighting on the ground at night and added that he thought the pilot was in a rush. As he and his student were in the run-up area completing their preflight checks, the Cessna 340 taxied past in front of them and, without stopping in the run-up area, taxied directly up to the runway hold short line. He again commented to his student that the pilot "must be in a hurry." He was not certain how long the Cessna 340 held at the runway before being cleared for takeoff. The departure was full length on the runway.

PERSONNEL INFORMATION

The pilot's logbook was not located after the accident. On the pilot's application for medical certificate, dated April 19, 2001, he reported having "6,200+" hours to date, total pilot time, and "90+" hours in the previous 6 months.

A mechanic and pilot who knew the pilot and had flown with him in the past said his piloting skills were "impeccable" and that he maintained his airplanes "immaculately" nothing was spared. He added that, like some executive/pilots, the pilot was sometimes "in a hurry" when he came to the airport to go flying.

COMMUNICATIONS

The Safety Board investigator listened to a re-recording of radio communications between the pilot and Santa Monica ground control and local control (tower) provided by the Federal Aviation Administration (FAA) Southwest Region Quality Assurance Office. At 1833, the pilot transmitted "good evening santa monica twin Cessna two romeo romeo at the admin administration building with hotel taxi for takeoff please." Nine seconds later, the ground controller cleared the aircraft to taxi to runway 21. Two-minutes and 2 seconds after the controller cleared the airplane to taxi, the pilot transmitted on the local control position (tower) frequency: "van nuys excuse me uh santa monica twin Cessna two double R is ready to go straight out please right turn at the shoreline." Thirteen seconds later the local controller cleared the airplane to taxi into position and hold on runway 21, and, an additional 13 seconds later, cleared the airplane for takeoff.

AIRPORT INFORMATION

The distance from the parking location at the administration building to the runway 21 threshold is approximately 1,500 - 1,700 feet.

WRECKAGE AND IMPACT INFORMATION

The accident site was on the western end of the airport, within the airport perimeter boundaries. The airplane skidded off the end of the runway 21, vaulted a 30-foot embankment, and came to rest on an airport service road that was aligned north-south and passed about 300-feet west of the end of runway 21. The accident location on the service road was approximately 100 feet north of the runway extended centerline. A guardrail on the western (far) edge of the service road was deformed about 1-foot in proximity of the wreckage and the concrete curb beneath the guardrail was damaged over about an 8-inch area. The curb damage

was accompanied by a black smear mark on the concrete, which resembled the propeller deice boot material. The entire airplane was present at the accident site and the airplane was destroyed by impact and fire.

At the accident site the airplane's (fire damaged) flight control lock was found with the pin engaged through the mating hole of the pilot's control column. The flag on the control lock was absent. As found in the wreckage, the control lock had been installed from right-to-left; but with the diagonal leg passing over the top of the control column tube and extending upward and to the left.

On the southwestern end of the runway surface above where the wreckage came to rest, there was a continuous black tire skid from the right-hand main landing gear tire and a lesser skid mark from the left tire. When viewed from their starting point toward the end of the runway, the skid marks arced to the right approximately 10 degrees. The skid mark from the right-hand tire extended approximately 1,200 feet from its inception to the end of the paved surface. The skid mark from the left tire extended approximately 550 feet from its inception to the end of the paved surface. At the end of the paved surface was a drainage culvert and an embankment that sloped downward approximately 45 degrees to the airport service road about 30 feet below. The plants on the slope were not disturbed.

The left wing of the airplane was destroyed by fire outboard of the engine nacelle. The left engine nacelle and the fuselage from the nose aft to the aft cabin bulkhead were involved in the fire. The ceiling of the cockpit and cabin were consumed by fire and the cockpit instruments and switches were damaged by fire and unreadable. There was an indentation in the center of the pilot's instrument panel, which was about 1/2 inch deep and 8 inches in diameter. The right wing and engine were not involved in the fire; however, the right tip tank was separated from the wing and locally discolored as though involved in fire. The nose of the aircraft was deformed to the right (as viewed from the rear of the aircraft), and there was a visible crush plane extending across the nose and toward the left engine on approximately a 45-degree angle. The wing flaps were retracted and the landing gear was extended. The cabin emergency escape hatch was in place and the handle was horizontal. On the engine cockpit control quadrant, the left engine throttle control was in the mid-range position while the right engine throttle was in the full-forward position. Both propeller and mixture controls were full forward.

The airplane was equipped with seven fuel tanks: a left and right main tank; a left and right auxiliary tank; a factory nacelle fuel tank on the left nacelle; and two wing baggage locker tanks. The left-hand main and auxiliary tanks were destroyed by fire. The right-hand main tank was broken from the wing and was leaking fuel at the accident site. The right-hand auxiliary tank and the nacelle tank were full of a clear, blue fluid resembling 100-octane aviation fuel. The two baggage compartment locker fuel tanks were intact and empty.

The right-hand main landing gear tire exhibited a flat spot over about an 8-inch area of the tread accompanied in the center by a hole in the tire casing of about 4-inch diameter. The left-hand tire was fire damaged; however, the tread was continuous over the entire circumference. The brake lining material on both wheel brakes was about 1/8-inch thick and the pucks in both calipers were found flush with the caliper body. There was clear, reddish fluid resembling MIL-H-5606 hydraulic fluid in the fluid line to the right-hand brake; however, the fluid line to the left caliper was severed. One, fire damaged, brake master cylinder was located in the fuselage wreckage near the rudder pedals.

The propeller of the left engine was separated from the engine propeller flange and the attachment bolts exhibited bending. Deice boots on two of the blades exhibited abrasion damage. One blade was loose in the hub and was bent aft with some chordwise striations and modest torsional bending. The second and third blades exhibited chordwise striations and torsional twisting and bending.

The right-hand propeller remained attached to the engine. One blade was bent smoothly aft about 90 degrees over its inboard half-span and was underneath the engine nacelle. A second blade was curled smoothly aft about 180 degrees over its outer half-span, and the third blade was bent aft about 5 degrees within 6 inches of the tip.

MEDICAL AND PATHOLOGICAL INFORMATION

According to the pilot's daughter, the pilot had experienced a serious left leg injury in the distant past and had inferior strength in the left leg. Repair of the injury included a rod in the femur and pins in the knee. He also had impaired circulation in the lower leg that sometimes caused pain.

An autopsy was performed on the pilot by the County of Los Angeles, Department of Coroner (case number 2001-08257). A toxicological analysis was performed on the pilot by the FAA's Civil Aeromedical Institute (reference number 200100319001). The toxicology reported finding no ethanol and no drugs.

TESTS AND RESEARCH

According to the Cessna Aircraft Company Pilot Operating Handbook for the model 340A airplane, for takeoff gross weight conditions at sea level and at 15 degrees Centigrade temperature, the airplane's takeoff distance is 1,620 feet and its accelerate-stop distance is 2,945 feet.

ADDITIONAL INFORMATION

The aircraft wreckage was released to Mr. Robert Cheek, the owner's insurance representative, on November 21, 2001.

Pilot Information

Certificate:	Private	**Age:**	64, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land; Single-engine Sea	**Seat Occupied:**	Unknown
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	04/19/2001
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:	6200 hours (Total, all aircraft), 45 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Cessna	**Registration:**	N2RR
Model/Series:	340A	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	340A0643
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	12/27/2000, Annual	**Certified Max Gross Wt.:**	5990 lbs
Time Since Last Inspection:	68 Hours	**Engines:**	2 Reciprocating
Airframe Total Time:	1036 Hours as of last inspection	**Engine Manufacturer:**	Continental
ELT:	Installed, not activated	**Engine Model/Series:**	TSIO-520-NB
Registered Owner:	Richard C. Runyon	**Rated Power:**	310 hp
Operator:	Richard C. Runyon	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Night
Observation Facility, Elevation:	SMO, 175 ft msl	**Distance from Accident Site:**	1 Nautical Miles
Observation Time:	1751 PST	**Direction from Accident Site:**	35°
Lowest Cloud Condition:	Clear	**Visibility**	10 Miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	Calm /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.1 inches Hg	**Temperature/Dew Point:**	15°C / 11°C
Precipitation and Obscuration:			
Departure Point:	Santa Monica, CA (SMO)	**Type of Flight Plan Filed:**	None
Destination:	Van Nuys, CA (VNY)	**Type of Clearance:**	VFR
Departure Time:	1835 PST	**Type of Airspace:**	Class D

Airport Information

Airport:	Santa Monica Municipal (SMO)	**Runway Surface Type:**	Asphalt
Airport Elevation:	175 ft	**Runway Surface Condition:**	Dry
Runway Used:	21	**IFR Approach:**	
Runway Length/Width:	4987 ft / 150 ft	**VFR Approach/Landing:**	Unknown

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	On-Ground
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 Fatal	**Latitude, Longitude:**	

Administrative Information

Investigator In Charge (IIC):	RICHARD B PARKER	**Report Date:**	04/23/2003
Additional Participating Persons:	Jeronimo F Gil; FAA Flight Stnds Dist Office; Los Angeles, CA Robert August; Cessna Aircraft Company; Wichita, KS Michael J Grimes; Teledyne Continental Motors; Mobile, AL		
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/.		