Aviation Investigation Final Report

Location:	GRASS VALLEY, California	**Accident Number:**	LAX96LA072
Date & Time:	December 14, 1995, 08:00 Local	**Registration:**	N4598K
Aircraft:	CESSNA P210N	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	2 None
Flight Conducted Under:	Part 91: General aviation		

Analysis

THE PILOT ABORTED HIS FIRST TAKEOFF BECAUSE THE ENGINE PRODUCED ONLY 25 INCHES OF MANIFOLD PRESSURE AND NOT THE NORMAL TAKEOFF POWER OF 38 INCHES AT 2,700 RPM. THE PILOT TURNED THE FUEL BOOST PUMP SWITCH TO LOW AND WAS ABLE TO GAIN 3 MORE INCHES OF MANIFOLD PRESSURE, BUT AGAIN NOT FULL TAKEOFF POWER. THE PILOT ATTEMPTED A SECOND TAKEOFF. AT 80 KNOTS THE PILOT ROTATED THE AIRPLANE. THE AIRPLANE BECAME LIGHT ON THE LANDING GEAR, AT WHICH TIME THE LANDING GEAR BEGAN TO RETRACT. THE PILOT IMMEDIATELY SAW THE LANDING GEAR HANDLE WAS IN THE UP POSITION AND MOVED IT TO THE DOWN POSITION. THE AIRPLANE SETTLED TO THE RUNWAY WITH ONE OF THE MAIN LANDING GEAR NOT FULLY EXTENDED. THE AIRPLANE VEERED OFF THE RIGHT SIDE OF THE RUNWAY AND STRUCK THE CONCRETE FOOTING OF A RUNWAY EDGE LIGHT UNDER CONSTRUCTION. THE POSITION OF THE LANDING GEAR LEVER IS LISTED AS AN ITEM ON THE AIRPLANE'S BEFORE STARTING ENGINE CHECKLIST. THERE WAS NO EVIDENCE OF MECHANICAL FAILURE OR MALFUNCTION FOUND THAT WOULD ACCOUNT FOR THE 8- TO 10-INCH DROP IN MANIFOLD PRESSURE.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the failure of the pilot to follow the before starting engine checklist and ensure that the landing gear selector was in the down position, and the pilot's decision to takeoff with a known aircraft deficiency.

Findings

Occurrence #1: GEAR RETRACTION ON GROUND
Phase of Operation: TAKEOFF - ROLL/RUN

Findings
1. POWERPLANT - OUTPUT LOW
2. (C) OPERATION WITH KNOWN DEFICIENCIES IN EQUIPMENT - INTENTIONAL - PILOT IN COMMAND
3. (C) CHECKLIST - NOT FOLLOWED - PILOT IN COMMAND
4. (C) GEAR RETRACTION - INADVERTENT - PILOT IN COMMAND

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

Findings
5. OBJECT - RUNWAY LIGHT
6. DIRECTIONAL CONTROL - NOT MAINTAINED - PILOT IN COMMAND

Factual Information

On December 14, 1995, at 0800 hours Pacific standard time, a Cessna P210N, N4598K, collided with a concrete footing after an on-ground loss of control during takeoff from runway 25 at the Nevada County Airpark, Grass Valley, California. The airplane was substantially damaged. The certificated commercial pilot and passenger were not injured. The airplane was being operated by the pilot/owner as a business flight under 14 CFR Part 91. The flight was destined for Novato, California. Visual meteorological conditions prevailed. An instrument flight rules (IFR) flight plan was filed, but not opened.

The pilot aborted his first takeoff because the engine produced only 25 inches of manifold pressure, and not the normal takeoff power of 38 inches of Hg at 2,700 rpm. The pilot turned the fuel boost pump switch to the low position and was able to gain 3 more inches of manifold pressure, but again not full takeoff power. The pilot attempted a second takeoff. At 80 knots the pilot rotated the airplane.

The airplane became light on the landing gear, at which time the landing gear began to retract. The pilot immediately saw the landing gear handle was in the up position and moved it to the down position. The main left gear extended and locked. The right main gear and nose gear did not. The airplane settled to the runway and the pilot aborted the takeoff. The airplane veered off the right side of the runway and struck the concrete footing of a runway edge light under construction. The airplane continued another 50 feet and slid down an embankment.

The airplane checklist reminds the pilot to check the position of the landing gear lever before starting the engine.

The engine was examined by an Federal Aviation Administration aviation airworthiness safety inspector on January 3, 1996. During the examination, there was no evidence of mechanical failure or malfunction found that would account for the 8- to 10-inch drop in manifold pressure. The engine was not capable of being run due to accident damage.

Pilot Information

Certificate:	Commercial	**Age:**	50,Male
Airplane Rating(s):	Single-engine land; Multi-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 2 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	October 25, 1995
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	2301 hours (Total, all aircraft), 1412 hours (Total, this make and model), 2256 hours (Pilot In Command, all aircraft), 16 hours (Last 90 days, all aircraft), 1 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	CESSNA	**Registration:**	N4598K
Model/Series:	P210N P210N	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	P21000230
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:	February 12, 1995 Annual	**Certified Max Gross Wt.:**	4000 lbs
Time Since Last Inspection:	5 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	2422 Hrs	**Engine Manufacturer:**	CONTINENTAL
ELT:	Installed, not activated	**Engine Model/Series:**	TSIO-520-P
Registered Owner:	KING, LARRY W.	**Rated Power:**	310 Horsepower
Operator:		**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:	BAB ,113 ft msl	**Distance from Accident Site:**	21 Nautical Miles
Observation Time:	09:55 Local	**Direction from Accident Site:**	240°
Lowest Cloud Condition:	25000 ft AGL	**Visibility**	15 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	8 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	200°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	11°C / 7°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:		**Type of Flight Plan Filed:**	IFR
Destination:	NOVATO , CA (O56)	**Type of Clearance:**	None
Departure Time:	00:00 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	NEVADA COUNTY AIRPARK O17	**Runway Surface Type:**	Asphalt
Airport Elevation:	3151 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	25	**IFR Approach:**	None
Runway Length/Width:	3915 ft / 50 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	1 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	2 None	**Latitude, Longitude:**	39.180633,-120.979896(est)

Administrative Information

Investigator In Charge (IIC):	Wilcox, Thomas
Additional Participating Persons:	JOHN L HANCOCK; SACRAMENTO , CA
Original Publish Date:	March 21, 1996
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=29354