



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Selma, CA	<b>Accident Number:</b>	WPR15LA226
<b>Date &amp; Time:</b>	08/01/2015, 1030 PDT	<b>Registration:</b>	N49153
<b>Aircraft:</b>	TAYLORCRAFT 12-m	<b>Aircraft Damage:</b>	Substantial
<b>Defining Event:</b>	Collision during takeoff/land	<b>Injuries:</b>	2 Minor
<b>Flight Conducted Under:</b>	Part 91: General Aviation - Instructional		

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## Analysis

The pilot receiving instruction and flight instructor departed the airport area, practiced basic maneuvers, and then returned to the airport to practice takeoffs and landings. The pilot receiving instruction successfully completed five full-stop landings. The flight instructor reported that, during the sixth takeoff, the tail came up a bit slower but not at an abnormal rate. He added that, at liftoff, the airplane's pitch attitude was a bit higher than during the previous liftoffs and that the airplane was not climbing. As the flight instructor adjusted his position to see out the front windscreen, the airplane contacted the runway and then bounced. He determined that there was insufficient runway to land and stop the airplane, so he held the throttle in the full-power position to ensure that the pilot receiving instruction did not try to abort the takeoff. He maintained wings level and lowered the nose as much as possible until the airplane cleared a ditch and then touched down in a vineyard. The airplane contacted the ground in a level attitude, turned sharply 90 degrees, and then travelled about 30 ft before stopping.

The pilot receiving instruction reported that it was hot and humid, that the wind conditions were variable, and that the airplane was near its maximum gross weight. He added that there were no mechanical malfunctions or failures with the airplane that would have precluded normal operation. It is likely that the combined effects of the pilot's use of an increased pitch attitude, the airplane's near maximum gross weight, and the environmental conditions degraded the airplane's climb performance.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot receiving instruction's use of an excessive pitch attitude during takeoff with the airplane near its maximum gross weight in hot and humid conditions, which degraded the airplane's climb performance and resulted in a collision with obstacles during an off-airport landing. Contributing to the accident was the flight instructor's delayed remedial action.

## Findings

### Aircraft

Climb capability - Capability exceeded (Cause)  
Maximum weight - Not specified (Cause)

### Personnel issues

Aircraft control - Pilot (Cause)  
Monitoring other person - Instructor/check pilot (Cause)  
Delayed action - Instructor/check pilot (Factor)

### Environmental issues

High temperature - Effect on equipment (Cause)  
Terrain - Contributed to outcome

## Factual Information

On August 1, 2015, about 1030 Pacific daylight time, a Taylorcraft 12-m, N49153, experienced a runway excursion at the Selma Airport, Selma, California. The pilot was operating the airplane under the provisions of 14 Code of Federal Regulations (CFR) Part 91. The private pilot under instruction (PUI) and the certified flight instructor (CFI) both received minor injuries. The airplane sustained substantial damage to the wings and the engine mount. The local instructional flight departed about 0900. Visual meteorological conditions (VMC) prevailed, and no flight plan had been filed.

The pilot flew south of the airport after departure to practice basic maneuvers, and then returned to the airport to practice takeoffs and landings. Seven to eight landings to a full stop were successfully completed. On the last takeoff, the airplane lifted off, but would not climb above 5 feet. It settled back to the ground about 3/4 down the runway, lifted off again to a few feet, and then touched down again before hitting an embankment. The airplane bounced over a canal, and crashed into a vineyard about 45 feet from the runway.

The pilot reported that it was hot and humid, the wind conditions were variable, and the airplane was close to maximum gross weight. He stated that there were no mechanical malfunctions or failure with the airplane.

The flight instructor stated that the last takeoff (6th) initially seemed like the previous ones. Power addition was the same; the tail came up a bit slower, but not at an abnormal rate. At liftoff, the pitch attitude was a bit higher than the previous takeoffs. The airplane did not seem to be climbing, so he adjusted his position to see out the front windscreen. As he did this, the airplane bounced. As the airplane went airborne again, he felt that it was not producing sufficient lift to fly. He determined that there was insufficient runway to set the airplane down and stop before going into a deep drainage ditch that was perpendicular to the end of the runway. He held the throttle in the full power position to insure that the PUI didn't try to abort the takeoff, maintained wings level, and lowered the nose as much as possible. He maintained that attitude until the airplane cleared the ditch, and touched down in the vineyard. It contacted the ground in a level attitude, turned sharply 90 degrees, and stopped in about 30 feet.

## History of Flight

Takeoff

Collision during takeoff/land (Defining event)

## Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	24
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Seat Occupied:</b>	Front
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Without Waivers/Limitations	<b>Last Medical Exam:</b>	11/22/2013
<b>Occupational Pilot:</b>	No	<b>Last Flight Review or Equivalent:</b>	05/05/2015
<b>Flight Time:</b>	53 hours (Total, all aircraft), 4 hours (Total, this make and model), 12 hours (Pilot In Command, all aircraft), 10 hours (Last 90 days, all aircraft), 4 hours (Last 30 days, all aircraft)		

## Flight Instructor Information

<b>Certificate:</b>	Airline Transport; Flight Instructor; Commercial; Military	<b>Age:</b>	
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land; Single-engine Sea	<b>Seat Occupied:</b>	Rear
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane Single-engine	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Without Waivers/Limitations	<b>Last Medical Exam:</b>	06/19/2015
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	09/18/2013
<b>Flight Time:</b>	3434 hours (Total, all aircraft), 10 hours (Total, this make and model), 25 hours (Last 90 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

## Aircraft and Owner/Operator Information

<b>Aircraft Manufacturer:</b>	TAYLORCRAFT	<b>Registration:</b>	N49153
<b>Model/Series:</b>	12-m	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	5320
<b>Landing Gear Type:</b>	Tailwheel	<b>Seats:</b>	
<b>Date/Type of Last Inspection:</b>	06/11/2015, Annual	<b>Certified Max Gross Wt.:</b>	1325 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	1590 Hours	<b>Engine Manufacturer:</b>	CONT MOTOR
<b>ELT:</b>	Not installed	<b>Engine Model/Series:</b>	9-170-3
<b>Registered Owner:</b>	HUGHES BRIAN D	<b>Rated Power:</b>	65 hp
<b>Operator:</b>	On file	<b>Air Carrier Operating Certificate:</b>	None

## Meteorological Information and Flight Plan

Observation Facility, Elevation:	KFAT, 336 ft msl	Observation Time:	0953 PDT
Distance from Accident Site:	13 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	345°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Few / 20000 ft agl	Temperature/Dew Point:	31° C / 7° C
Lowest Ceiling:		Visibility	10 Miles
Wind Speed/Gusts, Direction:	5 knots, 290°	Visibility (RVR):	
Altimeter Setting:	29.95 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Selma, CA (0Q4)	Type of Flight Plan Filed:	None
Destination:	Selma, CA (0Q4)	Type of Clearance:	None
Departure Time:	PDT	Type of Airspace:	

## Airport Information

Airport:	Selma (0Q4)	Runway Surface Type:	Asphalt
Airport Elevation:	305 ft	Runway Surface Condition:	Vegetation
Runway Used:	10	IFR Approach:	None
Runway Length/Width:	2490 ft / 50 ft	VFR Approach/Landing:	Forced Landing

## Wreckage and Impact Information

Crew Injuries:	2 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Minor		

## Administrative Information

Investigator In Charge (IIC):	Howard D Plagens	Adopted Date:	01/05/2016
Additional Participating Persons:	Mike Coberly; FAA FSDO; Freno, CA		
Publish Date:	01/05/2016		
Note:	The NTSB did not travel to the scene of this accident.		
Investigation Docket:	<a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=91686">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=91686</a>		

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