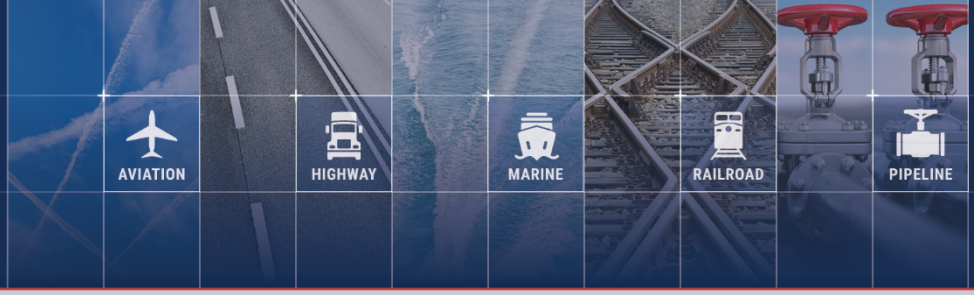

Aviation Investigation Final Report

Location:	Pueblo, Colorado	**Accident Number:**	DEN04LA089
Date & Time:	June 12, 2004, 07:17 Local	**Registration:**	N611HA
Aircraft:	Hispano Aviacion HA-200	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The purpose of the flight was to take ground photographs of the airplane in flight for a promotional brochure that was being prepared for the upcoming air show season. Witnesses saw the airplane make what appeared to be a normal takeoff, lifting off about halfway down the 4,073-foot runway. It then rolled steeply to the left and the nose fell through the horizon. The airplane struck the ground, exploded, and burned. Based on pictures and wreckage proximity to the runway, the pilot's HA-200 flight instructor said he doubted the airplane could have climbed more than 200-300 feet, and speed would have been no more than 130-140 knots. According to his flight instructor, this speed would allow for shallow turns. If, however, the airplane were to make a steep bank, as witnesses described, a 180-knot airspeed would be required to sustain a 60-degree bank. If the airplane stalled, it would always roll towards the low wing. With its "almost perfect c.g. (center of gravity)," the airplane would recover from an accelerated stall after the pilot unloaded the wings. The instructor said the pilot "flew well, flew safe, and had a good command authority for his new jet. I was impressed with his command ability and attention to detail." He was "above average...an aggressive pilot in command, [who] knew the aircraft systems well." Around the fifth hour of instruction, the pilot expressed his desire to do some aerobatics. The instructor told him that "low level air show work had huge unforgiving risks involved," and that "aerobatics was totally out of the question." The instructor asked him to demonstrate a barrel roll at 12,000 feet. The instructor said that during the maneuver, the pilot lost 6,000 feet and rolled out 70 degrees off heading. The instructor then demonstrated a Cuban-8. The lesson ended by the instructor advising the pilot not to perform aerobatics in the HA-200. He suggested that he take basic aerobatic instruction in a slower, more forgiving airplane. The pilot said he would seek another instructor. The engines were later disassembled and inspected. No discrepancies were noted. Autopsy and toxicological protocols were unremarkable.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain adequate airspeed resulting in an accelerated stall at an altitude too low for recovery. A factor was the pilot's lack of experience in the aircraft make and model.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings
1. (C) STALL - INADVERTENT - PILOT IN COMMAND
2. (C) LOW ALTITUDE FLIGHT/MANEUVER - PERFORMED - PILOT IN COMMAND
3. (F) LACK OF TOTAL EXPERIENCE IN TYPE OF AIRCRAFT - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
4. TERRAIN CONDITION - OPEN FIELD

Factual Information

On June 12, 2004, at 0717 mountain daylight time, a Hispano Aviacion HA-200 SAETA, N611HA, piloted by a private pilot, was destroyed when it impacted terrain shortly after taking off from Pueblo Memorial Airport (PUB), Pueblo, Colorado. Visual meteorological conditions prevailed at the time of the accident. The local personal flight was being conducted under the provisions of Title 14 CFR Part 91 without a flight plan. The pilot was fatally injured. The flight was originating at the time of the accident.

According to the pilot's fiance, the purpose of the flight was to take photographs of the airplane for a promotional brochure that was being prepared for the upcoming air show season. The airplane was serviced with 71 gallons of Jet-A fuel, and a Prist additive was added to an undetermined amount of fuel that was already on board the airplane (total fuel capacity is 152 gallons). At 0712, the pilot was cleared to taxi to runway 26L and was issued a transponder code of 0333. At 0716, after requesting touch and go landings, the pilot was cleared for takeoff and to "make left closed traffic runway 26L."

The consensus of witness' interviews and statements indicated the airplane made what appeared to be a normal takeoff, lifting off about halfway down runway 26L (4,073 feet x 75 feet, asphalt). It then rolled steeply to the left and the nose fell through the horizon. The airplane struck the ground, exploded, and burned. The pilot's fiance took two pictures of the takeoff before her attention was diverted by the accident.

The pilot's HA-200 flight instructor was interviewed by an FAA air safety inspector. He said the pilot was "above average...an aggressive pilot in command, [who] knew the aircraft systems well." About the fifth hour of instruction, the pilot expressed a desire to do some aerobatics. The instructor asked him to demonstrate a barrel roll at 12,000 feet. The instructor said that during the maneuver, the pilot lost 6,000 feet and rolled out 70 degrees off heading. The instructor then demonstrated a Cuban-8, an aerobatic maneuver. The lesson ended by the instructor advising the pilot not to perform aerobatics in the HA-200. He suggested that he take basic aerobatic instruction in a slower, more forgiving airplane.

The instructor submitted a written statement (see EXHIBITS) in which he said the pilot "flew well, flew safe, and had a good command authority for his new jet. I was impressed with his command ability and attention to detail." When the pilot said he planned to fly the airplane in air shows, the instructor told him that "low level air show work had huge unforgiving risks involved," and that "aerobatics was totally out of the question." The pilot said he would seek another instructor.

The instructor described the ex-Spanish Air Force trainer as "very docile." The two Turbomeca Marbore II turbojet engines, mounted side by side and forward of the pilot, gave the airplane

almost centerline thrust, making an engine failure unremarkable. In his 50 years of experience, the instructor said he could not recall a single Turbomeca Marbore II engine failure. He said the HA-200 takeoff profile was "fairly flat," with landing gear retraction occurring between 100 and 110 knots. Gear retraction was slow, with the main gear retracting first, followed by the nose gear.

The FAA inspector described to the flight instructor the pictures taken by the pilot's fiancé, and the proximity of the runway lift-off point to the accident site. The instructor said he doubted the airplane could have climbed more than 200-300 feet, and air speed would have been no more than 130-140 knots. This speed would allow for shallow turns. If, however, the airplane were to make a steep bank, as witnesses described, a 180-knot airspeed would be required to sustain a 60 degree bank. If the airplane stalled, it would always roll towards the low wing. With its "almost perfect c.g. (center of gravity)," the airplane would recover from an accelerated stall after the pilot unloaded the wings.

On June 30, 2004, the engines were disassembled and examined at the facilities of Beegles Aircraft Service in Greeley, Colorado. In attendance were investigators from the National Transportation Safety Board, Federal Aviation Administration, and Turbomeca Engines of France. No discrepancies were noted that would have precluded the development of power. Autopsy and toxicological protocols were unremarkable.

Pilot Information

Certificate:	Private	**Age:**	41,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Front
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	None	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	May 19, 2004
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	January 10, 2003
Flight Time:	1178 hours (Total, all aircraft), 29 hours (Total, this make and model), 1099 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Hispano Aviacion	**Registration:**	N611HA
Model/Series:	HA-200	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	E.14A-11
Landing Gear Type:	Retractable - Tricycle	**Seats:**	2
Date/Type of Last Inspection:	August 3, 2003 Annual	**Certified Max Gross Wt.:**	7385 lbs
Time Since Last Inspection:		**Engines:**	2 Turbo jet
Airframe Total Time:	833 Hrs as of last inspection	**Engine Manufacturer:**	Turbomeca
ELT:	Not installed	**Engine Model/Series:**	Marbore II
Registered Owner:	On File	**Rated Power:**	880 Lbs thrust
Operator:		**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	PUB,4726 ft msl	**Distance from Accident Site:**	
Observation Time:	06:53 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.03 inches Hg	**Temperature/Dew Point:**	13°C / -1°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Pueblo, CO (PUB)	**Type of Flight Plan Filed:**	None
Destination:	(PUB)	**Type of Clearance:**	VFR
Departure Time:	07:17 Local	**Type of Airspace:**	Class D

Airport Information

Airport:	Pueblo Memorial PUB	**Runway Surface Type:**	Asphalt
Airport Elevation:	4726 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	26L	**IFR Approach:**	Unknown
Runway Length/Width:	4073 ft / 75 ft	**VFR Approach/Landing:**	Unknown

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	On-ground
Total Injuries:	1 Fatal	**Latitude, Longitude:**	38.283332,-104.505279

Administrative Information

Investigator In Charge (IIC):	Scott, Arnold
Additional Participating Persons:	Steven R Scully; Federal Aviation Administration; Denver, CO
Original Publish Date:	November 21, 2006
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=59461