Aviation Investigation Final Report

Location:	WHITE POST, Virginia	**Accident Number:**	IAD01LA014
Date & Time:	November 18, 2000, 10:41 Local	**Registration:**	N8181L
Aircraft:	Gick AEROCOMP CA6WB	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

The homebuilt airplane touched down on the turf runway, the nose gear collapsed, and the airplane nosed over. Both the pilot and the witness stated the main gear touched down first, then the nose gear. The pilot said the nose tire appeared to lock during the landing, but was free to rotate after the accident. Disassembly of the nose gear revealed the threaded end of the wheel-pant mount screw on the right side rested 1/8 of an inch from the sidewall of the tire. Circumferential scoring of the tire was noted directly across from the screw. The swiveling attach point for the wheel mount was forward of the tire. The distance from the swivel-mount bolt to the ground was 4 inches. The distance from the bottom of the wheel rim to the tire's contact patch was 4 inches. Tire pressure was measured at 11 psi. According to a vendor for the tire manufacturer, the tire pressure recommended for the nose-wheel tire was 50 psi.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate preflight. Also causal in the accident was the under-inflated tire that flattened and locked during landing, and collapsed the nose landing gear.

Findings

Occurrence #1: NOSE OVER
Phase of Operation: LANDING - ROLL

Findings
1. (C) LANDING GEAR,TIRE - LOW PRESSURE
2. (C) AIRCRAFT PREFLIGHT - INADEQUATE - PILOT IN COMMAND
3. (C) LANDING GEAR,NOSE GEAR - SNAGGED

Factual Information

On November 18, 2000, at 1041 eastern standard time, a homebuilt Aerocomp CA6WB airplane, N8181L, was substantially damaged when it nosed over during a landing roll at the White Post Airport (3VA7), White Post, Virginia. The certificated commercial pilot was not injured. Visual meteorological conditions prevailed for the personal flight that originated at Winchester, Virginia (OKV), at 1005. No flight plan was filed for the flight, conducted under 14 CFR Part 91.

In a written statement, the pilot said the purpose of the flight was to have maintenance performed on the engine's ignition system at the White Post Airport. He said the discrepancies were noted during the annual inspection that was performed the previous day. According to the pilot:

"I overflew the airstrip while at pattern altitude for a visual inspection and made a left hand circuit to set myself up for landing. I flew a circuit to set myself up for an approximate one mile final, with an initial approach speed of 90 mph indicated. Since the approach was clear, I did a normal approach, slowing the aircraft to about 65 mph at the fence, and reduced power for landing. Touchdown was normal, on the main landing gear first, the nosewheel touched a few seconds later and during the rollout all appeared normal. Suddenly, the nose of the aircraft started going down with a simultaneous shudder of the aircraft. The nose of the aircraft contacted the ground, and at the end of a two or three second nose skid, [the airplane] slowly stood up on its nose, and fell over on its back. Points to be noted: 1. Nose wheel appears to have locked - similar to a wheel with the brakes locked. After the accident, the nose wheel was free! 2. No skid marks to indicate the use of brakes on wheels. 3. Nose wheel was on runway and rolling for 50 feet before it appears to have locked for the first time."

In a telephone interview, a certificated airframe and powerplant mechanic said he witnessed the accident. According to the witness:

"He made a low pass to have a look at the field. It's a real smooth, grass strip. He came in nose high and touched down on the mains. The nose wheel came down, the strut buckled, and that's it. I did see that the nose strut is totally inadequate for that big old O-540 engine."

The pilot provided a detailed wreckage diagram and notes that outlined his observations. According to the diagram, the main landing gear touched down 240 feet beyond the approach end of the runway. The nose gear touched down 359 feet further beyond the approach end of the runway. Along the subsequent 165 feet of the wreckage path, the pilot noted ground scars that illustrated "the nosewheel appears to have locked" and "locked again." The pilot further documented ground scars from propeller and nose cowling strikes, and where the airplane nosed over and came to rest inverted.

In a telephone interview, a representative of the kit manufacturer was asked about the numbers of kits delivered in either the nosewheel or tailwheel configuration. He said:

"Almost all are tailwheels. [The accident] airplane is the only one with a nose wheel. I don't know of any piston powered CA6s that are nose wheels. The nose wheel hasn't been very popular. There was one other nose wheel airplane in Canada, but it was destroyed in a stall accident. The problems we've had with the nose wheel aircraft have all been pilot induced. There was a Comp Air 3 that was delivered as a nosewheel, but it's a taildragger now."

The manufacturer's representative was asked if the company still sold the kits with the nose wheel configuration. He said:

"Yes. But the nose wheel we would sell you would be the one from our turbine-powered airplanes, not the one from [the accident airplane]. It's a completely different design. It's for airplane's that weigh up to 6,000 pounds. That's the only one we offer anymore, it's very heavy duty. The one on [the accident airplane] was only for airplanes up to 3,200 pounds gross weight."

Examination revealed the nose gear was a fixed, non-dampening tube bolted inside a tri-pod airframe mount. The nose-gear tire was a free-castering, non-steerable type, with no brakes installed. The gear was twisted and bent aft 90 degrees at the point where the tube entered the mount.

Disassembly of the nose gear revealed that the threaded end of the wheel-pant mount screw on the right side rested 1/8 of an inch from the sidewall of the tire. Circumferential scoring of the tire was noted directly across from the screw. The swiveling attach point for the wheel mount was forward of the tire. The distance from the swivel-mount bolt to the ground was 4 inches. The distance from the bottom of the wheel rim to the tire's contact patch was 4 inches. Tire pressure was 11 psi.

According to a vendor for the tire manufacturer, the tire pressure recommended for the nose-wheel tire was 50 psi.

The pilot reported 10,000 hours of total flight experience. He reported 350 hours of experience in this type airplane, of which 4 hours were in the accident airplane.

The winds reported at Winchester, Virginia, 5 miles north of White Post, were from 290 degrees at 9 knots.

Pilot Information

Certificate:	Commercial	**Age:**	38,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Unknown
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--no waivers/lim.	**Last FAA Medical Exam:**	July 24, 1997
Occupational Pilot:	Yes	**Last Flight Review or Equivalent:**	
Flight Time:	10000 hours (Total, all aircraft), 350 hours (Total, this make and model), 250 hours (Last 90 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Gick	**Registration:**	N8181L
Model/Series:	AEROCOMP CA6WB AEROCOMP C	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	97159
Landing Gear Type:	Tricycle	**Seats:**	6
Date/Type of Last Inspection:	November 17, 2000 Annual	**Certified Max Gross Wt.:**	3200 lbs
Time Since Last Inspection:	1 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	Lycoming
ELT:	Not installed	**Engine Model/Series:**	O-540
Registered Owner:	Pamela Gick	**Rated Power:**	250 Horsepower
Operator:	LEON STOMAN	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	OKV,727 ft msl	**Distance from Accident Site:**	5 Nautical Miles
Observation Time:	10:40 Local	**Direction from Accident Site:**	340°
Lowest Cloud Condition:	Unknown	**Visibility**	10 miles
Lowest Ceiling:	Overcast / 4300 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	9 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	290°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	3°C / -6°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	WINCHESTER, VA (OKV)	**Type of Flight Plan Filed:**	None
Destination:	WHITE POST, VA (3VA7)	**Type of Clearance:**	None
Departure Time:	10:05 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	White Post 3VA7	**Runway Surface Type:**	Grass/turf
Airport Elevation:	610 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	220	**IFR Approach:**	None
Runway Length/Width:	2000 ft / 75 ft	**VFR Approach/Landing:**	Full stop;Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 None	**Aircraft Damage:**	Substantial
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 None	**Latitude, Longitude:**	39.0625,-78.09111

Administrative Information

Investigator In Charge (IIC):	Rayner, Brian
Additional Participating Persons:	MARK FRANCE; FAA FSDO; WASHINGTON, DC
Original Publish Date:	February 7, 2002
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=50649