



Aviation Investigation Final Report

Location:	El Cajon, California	Accident Number:	WPR17LA214
Date & Time:	September 23, 2017, 14:15 Local	Registration:	N52KF
Aircraft:	SC AEROSTAR SA YAK 52W	Aircraft Damage:	Substantial
Defining Event:	Loss of control on ground	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

After completing an uneventful preflight inspection, the pilot was unable to start the engine due to low pressure in the pneumatic system. An individual arrived with a tank of air to pressurize the system while the pilot remained in the airplane. The pilot shut off the compressed air supply valve, as required during a pneumatic system recharge; however, the recharge could not be accomplished due to an incorrect adapter. While the individual left to find the correct adapter, another individual offered to help start the engine manually by turning the propeller. After the engine started, the pilot forgot to reopen the compressed air supply valve and, during taxi, the airplane experienced a loss of braking performance that affected its steering capabilities (the steering is accomplished through differential braking, and the brake system requires pneumatic pressure to operate). The pilot was unable to maintain directional control, and the airplane subsequently collided with a fence and sustained substantial damage to the left wing.

The checklist for the make/model airplane does not require the pilot to check the air pressure or valve position during the preflight, engine start, or before takeoff phases.

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 directional control during taxi after a reduction in braking performance and steering capabilities due to his failure to reopen the air supply valve after the nonstandard engine start.

Findings

Personnel issues	Forgotten action/omission - Pilot
Aircraft	Pneumatic distribution system - Not used/operated
Aircraft	Directional control - Attain/maintain not possible
Environmental issues	Fence/fence post - Contributed to outcome

Factual Information

History of Flight

Prior to flight	Aircraft servicing event
Taxi	Loss of control on ground (Defining event)
Taxi	Ground collision

On September 23, 2017, about 1415 Pacific daylight time, an experimental SC Aerostar SA, Yak-52W airplane, N52KF, sustained substantial damage while taxiing at Gillespie Field Airport (SEE), El Cajon, California. The airline transport pilot and the passenger were not injured. The airplane was registered to an individual and operated by the pilot as a Title 14 *Code of Federal Regulations* Part 91 personal flight. Visual meteorological conditions prevailed, and no flight plan had been filed.

The pilot did not submit an NTSB Pilot/Operator Aircraft Accident/Incident Report Form 6120.1, however, his legal counsel provided an email statement which described the sequence of events.

The pilot reported that he conducted a normal preflight inspection, completed the starting engine checklist, and attempted to start the engine, but was unable to do so due to low pressure in the pneumatic system. An individual arrived with a tank of air to pressurize the system, while the pilot remained in the airplane. The pilot shut off the compressed air supply valve, as required during a pneumatic system recharge. The individual with the tank of air realized that they had accidentally brought the wrong adapter for the airplane, and left to find the correct adapter. A second individual arrived and offered to assist to start the engine by manually turning the propeller. The pilot accepted the offer, and the engine was subsequently started.

The pilot completed the post-start checklist, and started to taxi. Shortly thereafter, he experienced a loss of braking performance which affected the airplane's steering capabilities (the steering is accomplished through differential braking, and the brake system requires pneumatic pressure to operate). The pilot realized that the compressed air supply valve was still shut off, and attempted to turn it back on while turning the engine off and maintaining steering control. Due to the size constraints of the cockpit, he could not reach the supply valve without unstrapping his seat belt and turning around. The airplane impacted a fence before he was able to do so, and sustained substantial damage to the left wing.

Further investigation revealed that the Yak-52 checklist does not require the pilot to check air pressure or the valve position during the preflight, engine start or before takeoff phases.

There was no noted preimpact mechanical malfunction that would have precluded normal operations.

Pilot Information

Certificate:	Airline transport; Flight engineer; Flight instructor	Age:	59,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Unknown
Other Aircraft Rating(s):	Glider	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	Airplane single-engine	Toxicology Performed:	No
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	April 10, 2017
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:			

Passenger Information

Certificate:		Age:	
Airplane Rating(s):		Seat Occupied:	Unknown
Other Aircraft Rating(s):		Restraint Used:	
Instrument Rating(s):		Second Pilot Present:	No
Instructor Rating(s):		Toxicology Performed:	No
Medical Certification:		Last FAA Medical Exam:	
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:			

Aircraft and Owner/Operator Information

Aircraft Make:	SC AEROSTAR SA	Registration:	N52KF
Model/Series:	YAK 52W NO SERIES	Aircraft Category:	Airplane
Year of Manufacture:	1991	Amateur Built:	Yes
Airworthiness Certificate:	Unknown	Serial Number:	9111213
Landing Gear Type:	Tricycle	Seats:	
Date/Type of Last Inspection:		Certified Max Gross Wt.:	2899 lbs
Time Since Last Inspection:		Engines:	1
Airframe Total Time:		Engine Manufacturer:	AMA/EXPR
ELT:		Engine Model/Series:	UNKNOWN ENG
Registered Owner:		Rated Power:	
Operator:	On file	Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	KSEE, 387 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	14:47 Local	Direction from Accident Site:	255°
Lowest Cloud Condition:	Scattered / 5000 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	8 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	230°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.84 inches Hg	Temperature/Dew Point:	22°C / 11°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	El Cajon, CA (SEE)	Type of Flight Plan Filed:	None
Destination:	El Cajon, CA (SEE)	Type of Clearance:	None
Departure Time:	14:15 Local	Type of Airspace:	

Airport Information

Airport:	GILLESPIE FIELD SEE	Runway Surface Type:	Asphalt
Airport Elevation:	387 ft msl	Runway Surface Condition:	Dry
Runway Used:		IFR Approach:	None
Runway Length/Width:		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:	32.82611,-116.972503

Administrative Information

Investigator In Charge (IIC):	Smith, Maja
Additional Participating Persons:	Roger Messik; San Diego FSDO; San Diego, CA
Original Publish Date:	September 14, 2020
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=96089

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).