



AVIATION



HIGHWAY



MARINE



RAILROAD



PIPELINE

Aviation Investigation Final Report

Location:	Jasper, Alabama	Accident Number:	WPR18LA144
Date & Time:	May 21, 2018, 12:30 Local	Registration:	N4356K
Aircraft:	Ryan Navion	Aircraft Damage:	Substantial
Defining Event:	Midair collision	Injuries:	2 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Before takeoff for the practice formation flight of four airplanes, the lead pilot briefed all the pilots on instructions for the formation changes. The flight began as a finger-four, heavy-left formation with a separation between the airplanes of about 80 ft. As the airplanes neared their destination, the lead pilot called for the flight to maneuver to "parade," and the airplanes closed the separation between them to about 40 ft. The lead pilot then called for the flight to change to an echelon-right formation. The two pilots in the trail airplanes left of the lead airplane began their maneuver to the right to position themselves behind the airplane that was already in position on the right side of the lead airplane. During this maneuver, the pilot in the airplane opposite the right-side airplane lost sight of that airplane due to sun glare, and they subsequently collided. Both airplane were able to land at the destination airport.

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 clearance from another airplane in the formation flight due to sun glare.

Findings

Personnel issues	Monitoring other aircraft - Pilot
Environmental issues	Glare - Effect on personnel

Factual Information

History of Flight

Maneuvering	Midair collision (Defining event)
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On May 21, 2018, about 1230 central daylight time, a white Ryan Navion N4356K, and a green North American Navion, N8995H, collided in midair near the Walker County Airport-Bevill Field (JFX), Jasper, Alabama. The white Navion's airline transport pilot and passenger were uninjured. The green Navion's private pilot was uninjured. The white Navion sustained substantial damage to the right wing. The green Navion sustained minor damage to the propeller and the underside of the left wing. Both airplanes were privately owned and operated by the pilots as a Title 14 *Code of Federal Regulations* Part 91 personal formation flight of four airplanes. Visual meteorological conditions prevailed at the time and no flight plans were filed by either pilot. The formation flight originated from Abernathy Field Airport (GZS) Pulaski, Tennessee, about 1130 destined for JFX.

Both airplanes were part of a formation flight of four airplanes practicing for an upcoming airshow. All the pilots in the formation had been briefed by the lead pilot prior to takeoff and included instructions for formation changes. Upon arrival to the destination airport, the flight was in a finger-four, heavy left formation, see figure 1a. The lead airplane was in the #1 position. The green Navion was in the #2 position. The white Navion was in the #3 position and the last airplane was in the #4 position.

The white Navion's pilot reported that when they were about five miles north of JFX, with "two airplanes" length separation of approximately 80 ft, the lead pilot called for the flight to maneuver to "parade" and the flight closed separation to approximately 40 ft. The lead pilot then called for the flight to change to an echelon right formation, see figure 1b. The pilot of the white Navion stated that he initiated a right bank and descended and decelerated to pass below and behind the green Navion, however due to sun glare he lost sight of the green Navion. He asked his passenger if she could see the green Navion. She told him it was right above them. He immediately pushed the nose down when the collision occurred.

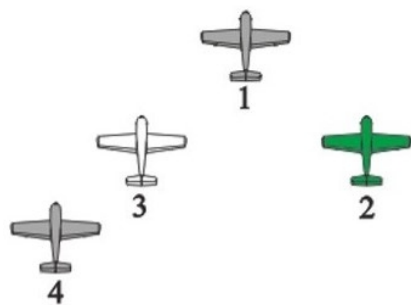


Figure 1a.

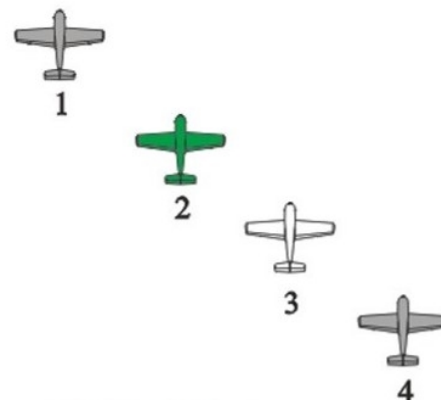


Figure 1b.

The pilot in the #4 position stated it initially appeared the white Navion was not low enough to pass underneath the green Navion. He thought to transmit a warning to the pilot of the white Navion but changed his mind when he saw the airplane had clearance. He further stated just as the white Navion passed underneath the green Navion, the white Navion climbed into the green Navion. After the collision, all four airplanes continued to JFX and landed without further incident.

Pilot Information

Certificate:	Airline transport; Commercial	Age:	63, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	3-point
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Unknown	Last FAA Medical Exam:	
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	October 22, 2017
Flight Time:	13959 hours (Total, all aircraft), 66.5 hours (Total, this make and model), 4657.3 hours (Pilot In Command, all aircraft), 170.6 hours (Last 90 days, all aircraft), 98 hours (Last 30 days, all aircraft), 5.9 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Ryan	Registration:	N4356K
Model/Series:	Navion	Aircraft Category:	Airplane
Year of Manufacture:	1948	Amateur Built:	
Airworthiness Certificate:	None	Serial Number:	NAV-4-1356
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:		Certified Max Gross Wt.:	2850 lbs
Time Since Last Inspection:		Engines:	1 Reciprocating
Airframe Total Time:		Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	IO 520
Registered Owner:		Rated Power:	285 Horsepower
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:	KJFX	Distance from Accident Site:	
Observation Time:	12:30 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Scattered / 4500 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/ Convective
Wind Direction:		Turbulence Severity Forecast/Actual:	/ Moderate
Altimeter Setting:	30.04 inches Hg	Temperature/Dew Point:	37°C / 21°C
Precipitation and Obscuration:			
Departure Point:	Jasper, AL (KJFX)	Type of Flight Plan Filed:	
Destination:	Jasper, AL (KJFX)	Type of Clearance:	VFR
Departure Time:		Type of Airspace:	Class E

Airport Information

Airport:	Walker County Airport-Bevill F KJFX	Runway Surface Type:	Asphalt
Airport Elevation:	483 ft msl	Runway Surface Condition:	Dry
Runway Used:	09	IFR Approach:	None
Runway Length/Width:	5004 ft / 100 ft	VFR Approach/Landing:	Straight-in

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:	33.871944,-87.259719

Administrative Information

Investigator In Charge (IIC):	Salazar, Fabian
Additional Participating Persons:	Clay Perkins; FAA FSDO; Birmingham, AL
Original Publish Date:	February 5, 2019
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=97292

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](#).



Aviation Investigation Final Report

Location:	Jasper, Alabama	Accident Number:	WPR18LA144
Date & Time:	May 21, 2018, 12:30 Local	Registration:	N8995H
Aircraft:	North American Navion	Aircraft Damage:	Minor
Defining Event:	Midair collision	Injuries:	1 None
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Before takeoff for the practice formation flight of four airplanes, the lead pilot briefed all the pilots on instructions for the formation changes. The flight began as a finger-four, heavy-left formation with a separation between the airplanes of about 80 ft. As the airplanes neared their destination, the lead pilot called for the flight to maneuver to "parade," and the airplanes closed the separation between them to about 40 ft. The lead pilot then called for the flight to change to an echelon-right formation. The two pilots in the trail airplanes left of the lead airplane began their maneuver to the right to position themselves behind the airplane that was already in position on the right side of the lead airplane. During this maneuver, the pilot in the airplane opposite the right-side airplane lost sight of that airplane due to sun glare, and they subsequently collided. Both airplane were able to land at the destination airport.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The other pilot's failure to maintain clearance from another airplane in the formation flight due to sun glare.

Findings

Personnel issues	Monitoring other aircraft - Pilot of other aircraft
Environmental issues	Glare - Effect on personnel

Factual Information

History of Flight

Enroute

Midair collision

On May 21, 2018, about 1230 central daylight time, a white Ryan Navion N4356K, and a green North American Navion, N8995H, collided in midair near the Walker County Airport-Bevill Field (JFX), Jasper, Alabama. The white Navion's airline transport pilot and passenger were uninjured. The green Navion's private pilot was uninjured. The white Navion sustained substantial damage to the right wing. The green Navion sustained minor damage to the propeller and the underside of the left wing. Both airplanes were privately owned and operated by the pilots as a Title 14 Code of Federal Regulations Part 91 personal formation flight of four airplanes. Visual meteorological conditions prevailed at the time and no flight plans were filed by either pilot. The formation flight originated from Abernathy Field Airport (GZS) Pulaski, Tennessee, about 1130 destined for JFX.

Both airplanes were part of a formation flight of four airplanes practicing for an upcoming airshow. All the pilots in the formation had been briefed by the lead pilot prior to takeoff and included instructions for formation changes. Upon arrival to the destination airport, the flight was in a finger-four, heavy left formation, see figure 1a. The lead airplane was in the #1 position. The green Navion was in the #2 position. The white Navion was in the #3 position and the last airplane was in the #4 position.

The white Navion's pilot reported that when they were about five miles north of JFX, with "two airplanes" length separation of approximately 80 ft, the lead pilot called for the flight to maneuver to "parade" and the flight closed separation to approximately 40 ft. The lead pilot then called for the flight to change to an echelon right formation, see figure 1b. The pilot of the white Navion stated that he initiated a right bank and descended and decelerated to pass below and behind the green Navion, however due to sun glare he lost sight of the green Navion. He asked his passenger if she could see the green Navion. She told him it was right above them. He immediately pushed the nose down when the collision occurred.

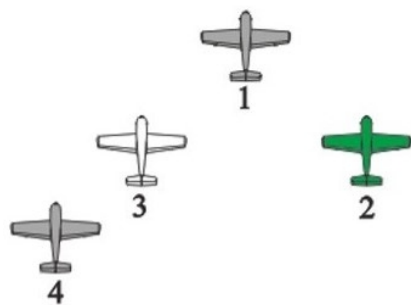


Figure 1a.

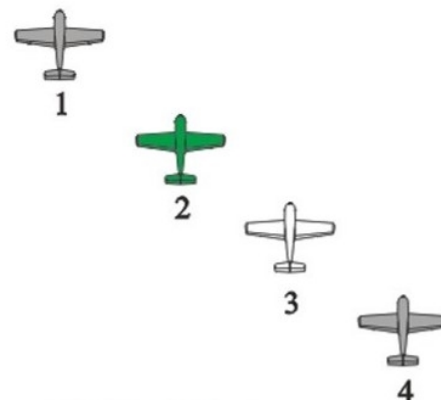


Figure 1b.

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Pilot Information

Certificate:	Private	Age:	71,Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Lap only
Instrument Rating(s):	None	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Without waivers/limitations	Last FAA Medical Exam:	October 12, 2016
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	November 11, 2017
Flight Time:	1067 hours (Total, all aircraft), 805 hours (Total, this make and model), 967 hours (Pilot In Command, all aircraft), 13 hours (Last 90 days, all aircraft), 7 hours (Last 30 days, all aircraft), 0 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	North American	Registration:	N8995H
Model/Series:	Navion NO SERIES	Aircraft Category:	Airplane
Year of Manufacture:	1947	Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	NAV-4-995
Landing Gear Type:	Retractable - Tricycle	Seats:	4
Date/Type of Last Inspection:	May 9, 2017 Annual	Certified Max Gross Wt.:	2850 lbs
Time Since Last Inspection:		Engines:	Reciprocating
Airframe Total Time:	4783.67 Hrs as of last inspection	Engine Manufacturer:	Continental
ELT:	C91 installed, not activated	Engine Model/Series:	E185
Registered Owner:		Rated Power:	250 Horsepower
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:	KJFX	Distance from Accident Site:	
Observation Time:	12:30 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Scattered / 4500 ft AGL	Visibility	10 miles
Lowest Ceiling:		Visibility (RVR):	
Wind Speed/Gusts:	/	Turbulence Type Forecast/Actual:	/ Convective
Wind Direction:		Turbulence Severity Forecast/Actual:	/ Moderate
Altimeter Setting:	30.04 inches Hg	Temperature/Dew Point:	37°C / 21°C
Precipitation and Obscuration:			
Departure Point:	Jasper, AL (KJFX)	Type of Flight Plan Filed:	None
Destination:	JASPER, AL (JFX)	Type of Clearance:	None
Departure Time:		Type of Airspace:	Class E

Airport Information

Airport:	Walker County Airport-Bevill F KJFX	Runway Surface Type:	Asphalt
Airport Elevation:	483 ft msl	Runway Surface Condition:	Dry
Runway Used:	09	IFR Approach:	None
Runway Length/Width:	5004 ft / 100 ft	VFR Approach/Landing:	Straight-in

Wreckage and Impact Information

Crew Injuries:	1 None	Aircraft Damage:	Minor
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 None	Latitude, Longitude:	33.871944,-87.259719

Administrative Information

Investigator In Charge (IIC):	Salazar, Fabian
Additional Participating Persons:	Clay Perkins; FAA FSDO; Birmingham, AL
Original Publish Date:	February 5, 2019
Note:	The NTSB did not travel to the scene of this accident.
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