

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



WPR24FA309

ONSCENE EXAMINATION REPORT

September 24, 2024

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A. ACCIDENT

Location: Lancaster, California
Date: September 22, 2024
Time: 1248 Pacific Daylight Time
Airplane: Nanchang CJ-6A, Registration N313YK; Yakovlev Yak 52 N5287

B. PARTICIPANTS

IIC	Stephen Stein National Transportation Safety Board Federal Way, Washington
Party Coordinator	Frank Motter Federal Aviation Administration Van Nuys, California

C. SUMMARY

The CJ-6A impacted the ground upright approximately 1.5 nm northwest of the Yak 52 and was extensively damaged by impact forces. The left elevator was not found onscene and a subsequent ground search of the surrounding area located a portion of a VOR antenna from the vertical stabilizer of the CJ-6A and a portion of cowling from the Yak 52. Propeller blade fragments were found in the left wing of the CJ-6A accompanied by a large tear and deformation to the top skin. Both propeller blades from the Yak 52 had separated at their blade roots.

D. DETAILS OF THE INVESTIGATION

1.0 Accident Site

N313YK

The airplane came to rest upright at a level attitude with the surrounding desert terrain oriented on a northwestern heading at a field elevation of about 2,310 ft mean sea level (msl). Most of the airplane major structures were accounted for at the accident site with exception of the left elevator. The left side antenna from the vertical stabilizer was located about 0.5 nm west of the main wreckage. A ground scar was located beneath the right wing and another ground signature was located under the engine.



Figure 1: N313YK at accident site

N5287

The airplane came to rest upright on the right edge of a road about 1.5 nm southeast of N313YK oriented on a southeast heading at a field elevation of about 2,350 ft msl. All of the major structures were accounted for at the accident site. The airplane was mostly unremarkable with exception to the damage to the trailing edge of the left wing, upper cowling, and both propeller blades which had separated at the blade roots.



Figure 2: N5287 at accident site

2.0 Airframe Examination

2.1 Fuselage

N313YK

The forward cockpit seat was intact and the instrument panel was mostly damaged by recovery personnel during the occupant extraction process. The rear cockpit was intact and the instrument panel was partially deformed by impact forces. Both canopy windshields were intact with some cracks and broken plexiglass. The forward canopy was seized in the open position. The aft fuselage was crushed downward with numerous light gray striated paint transfer marks that tracked across the top skin from right to left 25° relative to the longitudinal axis of the airplane. An approximately 5 inch long gouge was observed in the top skin of the aft fuselage about midspan and adjacent to the striated marks.



Figure 3: Light gray striated marks on top skin of aft fuselage (N313YK)

N5287

The fuselage was intact and unremarkable.

2.2 Empennage

The empennage was mostly separated from the aft fuselage. The rudder separated from the vertical stabilizer, which had separated from its mount on the empennage; however, both control surfaces were still attached at their respective control tubes. The right horizontal elevator remained attached to the right horizontal stabilizer at its inboard and midspan mounts, but separated at the outboard mount. The right elevator trim tab remained attached to the elevator. The left horizontal stabilizer separated from the empennage and the left elevator and trim tab were not found at the accident site or in the surrounding terrain.



Figure 4: N313YK empennage from left side; note missing left elevator

2.3 Wings

N313YK

The right wing remained attached to the fuselage, was bent upward and exhibited compression wrinkling and bending at the wing root. Both the right aileron and right flap remained attached to the wing. The pitot tube was attached and intact. The right wing inboard leading edge was buckled and compressed. The left wing also remained attached to the fuselage. Both the left aileron and left flap remained attached although the left flap was partially separated and was displaced downward. The inboard left wing was separated from the leading edge to the trailing edge between two fuel tanks at an inboard wing rib; however, the forward and aft spars remained attached. An approximately 6 foot long lateral tear was located on the top skin of the left wing. A 13 inch long fragment of a wood propeller blade tip was embedded in the wing in the middle of the tear. Several yellow and white paint transfer marks were observed from the inboard beginning of the tear to the trailing edge. The transfer marks were tracked outboard about 30° relative to the longitudinal axis of the airplane.



Figure 5: Damage to top skin of left wing on N313YK with embedded wooden propeller fragment



Figure 6: Yellow paint transfer marks on left wing (N313YK)

N5287

Both wings remained attached to the fuselage. The right wing was unremarkable and the left wing exhibited an approximately 18 inch long chordwise tear about midspan to the trailing edge. Numerous grey paint transfer marks were observed from the leading edge outboard that tracked inboard towards the trailing edge and terminated about midspan. Red and white paint transfer marks formed a large arc inboard on the top of the inboard left wing and a large yellow arc was observed from the midspan depression that tracked outboard.



Figure 7: Damage to left wing trailing edge of N5287; note yellow and red paint transfer marks

2.4 Flight Control System

N313YK

The empennage flight controls (both rudder and elevator) were traced from their respective control surfaces to the rear cockpit. Aileron continuity was confirmed from both wings to their wing roots.

N5287

Flight control continuity was confirmed from each of the airplane's flight control surfaces to the forward and rear flight control sticks.

2.5 Seats and Restraint System

N313YK

The forward cockpit was equipped with a five point harness, which remained intact and connected at each of its seat and frame attachment points. The latch closed and locked in its normal detent and opened with normal resistance with the full five point harness assembled.

N5287

The seat and restraint systems were not examined.

Submitted by:

Stephen Stein
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