

National Transportation Safety Board

Office of Aviation Safety

Washington, DC 20594



CEN23LA425

FLIGHT CONTROLS EXAMINATION

November 21, 2023

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A. ACCIDENT

Location: Herington, Kansas
Date: September 28, 2023
Time: 1130 Local Time
Airplane: N445HA, Air Tractor AT-802

B. PARTICIPANTS

Investigator	Michael Hodges, aviation accident investigator National Transportation Safety Board Aurora, Colorado
Party Coordinator	Dakota Lowe, air safety investigator Air Tractor Olney, Texas

C. DETAILS OF THE EXAMINATION

1.0 Follow-up Examination

The wreckage of the aerial application airplane (serial number 802-0633) was recovered to the facilities of George's Aircraft Repair in Vernon, Texas. The airplane was transported to George's Aircraft Repair for repair work due to the accident. Present during the follow-up examination work were members from the NTSB, Air Tractor, and staff members from George's Aircraft Repair. The examination work was performed on November 21, 2023.

2.0 Flight Controls Examination

The airplane examined is a two-seat configuration (front and rear seats).

The cockpit-based Hobbs meter showed 3,360.3 hours.

Both wings, ailerons, flaps, and the two horizontal stabilizers were found removed during the examination.

The left pedal was examined for the rear seat. The area of concern was where the left pedal (for the rear seat) contacts the upper spray valve push rod (which is located to the left of the front seat), that could restrict movement, and thus result in the pilot not being able to apply full brake action. The left pedal was found to be intact, with signatures consistent with rubbing on the backside of the pedal, where it was likely contacting the upper spray valve push rod. The upper spray valve push rod had some

minor damage present consisting with scratching, likely consistent with the impact from the left pedal.

The upper spray valve push rod was installed in the airframe by Air Tractor and is not part of a Federal Aviation Administration (FAA) Supplemental Type Certificate.

The left rudder and brake restrictions when the pedal was depressed were measured. The left rudder and brake were actuated by the Air Tractor air safety investigator sitting in the rear seat and then measured. The measurements obtained were:

Retracted (at rest): 1 and 1/8 inch.

Full brake: 2 and 1/4 inch.

Interference (full rudder and as much brake application as possible that could be obtained): 1 and 3/4 inch.

The brake system was not pressurized and there was no brake fluid present, as the brake system was disassembled due to recovery from the accident site. There were no observed fluid leaks with the brake system. The brake cylinder in the cockpit was found connected and showed no fluid leaks.

Control continuity for the brake system was established. The hardware for the brake system was observed to be installed and intact. Both brakes were actuated inside of the cockpit with no issues noted. During the actuation of the brakes, there was no interference noted.

Flight control continuity for the airframe was established with no issues noted.

The examination revealed a possible design deficiency with the location of the upper spray valve push rod, where the upper spray valve push rod restricts some movement with the left pedal when full brake is applied from the rear seat. When the movement of the left pedal is restricted, the rear seat pilot is unable to apply full brake action.

There were no issues noted with the front seat portion of the cockpit and applying full left rudder or brake.

An Electronics International MVP-50T avionics unit (serial number 174553) and a Satloc Falcon avionics unit (serial number 53234-10) were retained and shipped to the NTSB investigator-in-charge. Both avionics units appeared to be in an undamaged condition. Nothing else from the airplane was retained by the NTSB after the examination.

The airplane maintenance records were not reviewed during the examination. The historical FAA airworthiness and registration records were obtained and reviewed.

Submitted by:

Michael J. Hodges
Investigator