

NATIONAL TRANSPORTATIONS SAFETY BOARD
Office of Aviation Safety
Washington, DC 20594

SUMMARY OF AIRCRAFT EXAMINATION

-- CEN20LA134 --

A. ACCIDENT

Location: Mesquite, Texas
Date: March 29, 2020
Time: 1518 central daylight time
Aircraft: Muse P-51D (s/n F869), N151JD

B. PARTICIPANTS

Craig Hatch
Aerospace Engineer
National Transportation Safety Board
Denver, Colorado

Joshua Lindberg
Aviation Accident Investigator
National Transportation Safety Board
Denver, Colorado

C. ACCIDENT SUMMARY

On March 29, 2020, at 1518 central daylight time, a Muse P-51D airplane, N151JD, was destroyed when it was involved in an accident near Mesquite, Texas. The pilot was fatally injured. The airplane was operated as a Title 14 *Code of Federal Regulations* Part 91 personal flight.

D. DETAILS OF AIRCRAFT EXAMINATION

The NTSB did not respond to the accident site.¹ A post-recovery examination was conducted at Air Salvage of Dallas, Lancaster, Texas, on September 3, 2020.

¹ Travel restrictions due to COVID-19 were in effect at the time of the accident.

Summary of Aircraft Examination

E. DESCRIPTION OF ACCIDENT SITE

The accident site was located one mile east-northeast (126°) from the departure end of runway 36 at Mesquite Metro Airport (HQZ). The airplane impacted an open field and was fragmented. The debris was centered on three ground impact depressions.

F. SUMMARY OF AIRCRAFT EXAMINATION²

Airframe – Muse P51D (s/n F869)

Engine – LS1 Chevy

Propeller – MT-Propeller MTV-14-B/213-56

The airframe was fragmented and exhibited evidence of a post-impact fire. The cockpit area was compromised. Portions of each flight control was observed in the wreckage. The cockpit control sticks and rudder pedals exhibited thermal damage. They were separated from the airframe structure consistent with impact and post-impact fire damage.

The aileron and rudder control cables remained attached to the cockpit controls. The flight control system exhibited multiple cable separations consistent with overstress failures due to impact forces. Several control cables also exhibited cuts consistent with recovery. The flap actuator and motor were separated from the airframe. The jack screw was fully extended from the motor housing.³

The landing gear were separated from the airframe and exhibited thermal damage. The main landing gear had mechanical locks (braces) installed intended to hold them in the extended position. With the locks in place, the landing gear was not able to be retracted.

The fuel selector was separated from the airframe. The housing appeared intact but was coated with dirt. The selector handle was in place and free to rotate; however, the locking mechanism was contaminated with a small amount of debris. The left and right tank detents were not pronounced. The fuel lines remained secured to the selector. The selector was positioned between the left and right tanks at the time of the exam.

The spinner was compressed against the propeller hub. Three of the four propeller blades were separated at the hub. All four blades were splintered and delaminated across the span. The propeller remained attached to the reduction drive assembly. The reduction drive assembly was dislocated from the engine. The input drive shaft was twisted consistent with engine power (torque) at impact.

The engine assembly was damaged consistent with impact forces and the post-impact fire. The valve train appeared intact. The oil pan was crushed upward and into the crankshaft consistent with impact forces.

----- *end of summary* -----

² Directions related to accident site placement and component damage/deformation are with respect to an intact airframe unless otherwise noted.

³ According to the owner/builder, the actuator jack screw position corresponded to a flaps-up configuration