



NATIONAL TRANSPORTATION SAFETY BOARD

**Office of Aviation Safety
Western Pacific Region**

SITE and ON-SCENE INFORMATION

**NTSB Accident: WPR18FA112
Accident Date: March 26, 2018**

Examination Date: March 26, 2018

This document contains 22 embedded images

A. ACCIDENT

Location: Marina, California
Date: March 26, 2018
Aircraft: Mooney M20E, N213EJ, Serial # 939
NTSB IIC: Michael Huhn

B. EXAMINATION PARTICIPANTS:

Michael Huhn	Wilbert "JR" Robinson
Air Safety Investigator	Air Safety Inspector
National Transportation Safety Board	Federal Aviation Administration
Federal Way, WA	San Jose, California

C. ACCIDENT SUMMARY

On March 26, 2018, about 1053 Pacific daylight time, a Mooney M20E, N213EJ, was destroyed when it impacted terrain shortly after takeoff from runway 29 at Marina Municipal Airport (OAR), Marina, California. The private pilot/owner, the sole person on board, received fatal injuries. The personal flight was conducted under the provisions of 14 *Code of Federal Regulations* Part 91. Visual meteorological conditions prevailed. No flight plan was filed for the flight, which had originated from Watsonville Municipal Airport (WVI), Watsonville, California.

D. RESPONSE and SITE LOCATION INFORMATION

1.0 Response

- The accident occurred about 1153
- First responders arrived on scene very shortly thereafter
- FAA representative arrived about 1330
- NTSB representative arrived about 1415

2.0 Location

- The airplane impacted in a near-vertical trajectory, with essentially no post-impact horizontal travel
- The wreckage was very tightly contained; only a few minor components or fragments of components were separated from the airplane
- The impact site was located on a flat grassy area between the runway and a parallel taxiway
- The impact site was located just southwest of the intersection of runway 29 and taxiway C, offset about 300 feet from the runway centerline

E. WRECKAGE INFORMATION

1.0 General

- The airplane came to rest upright, and essentially intact, at the impact point
- The airplane came to rest on an approximate heading of 320° magnetic
- Fire erupted immediately
- The steel-tube fuselage structure exhibited substantial impact crush damage
- The engine & engine compartment were partially damaged by the fire
- The propeller, left wing, and empennage were not significantly affected by the fire
- The propeller and engine were partially embedded in the sandy soil
- The landing gear was found to be in the retracted position at time of impact

2.0 Cockpit & Cabin

- Fire consumed most of the cabin/cockpit and its contents
- Flight and engine instruments and controls were significantly damaged by impact and fire
- All seat and seat belt fabric, cushion, & webbing material was consumed by fire
- One seat (lap) belt buckle assembly was found latched

3.0 Aero Surfaces and Flight Controls

- All aerodynamic surfaces and flight controls were accounted for on scene
- The right outboard wing, right aileron, and right horizontal stabilizer were partially damaged, but not consumed, by fire
- The inboard wing sections were partially damaged or consumed by fire
- Both wings bore full span, leading edge crush damage in the aft direction
- All flight control panels/surfaces remained attached to their respective primary structures
- The ailerons, elevators, and rudder were intact
- The left flap was impact damaged and slightly fire damaged
- The right flap was partially consumed by fire
- Aileron control continuity between the ailerons and cockpit was confirmed
- Rudder control continuity between the rudder and cockpit was confirmed
- Elevator continuity between the elevator and cockpit, exclusive of fire damage to the right yoke connection rod, was confirmed
- Pitch trim system integrity was confirmed
- The pitch trim and flap settings were not able to be determined on scene
- The airplane was equipped with an aftermarket deployable spoiler assembly on each wing; both the left and right spoiler panels were found in their retracted positions

F. SURVEILLANCE VIDEO

- A video surveillance camera was mounted on a building near the southwest corner of the airport

- The camera was located about 1,500 ft west of the accident location
- The camera faced approximately northeast; the field of view included portions of the ramp, taxiway, and runway
- The camera captured most of the accident sequence, from the beginning of the spin to ground impact
- The airplane entered, via the upper frame edge, the field of view
- The left wing was the first item to appear in the frame
- At that point the airplane appeared to be on a heading of about 160°, with about a 15° nose down pitch attitude, and in a descending flight path
- The airplane continued to yaw left, the pitch attitude continued to decrease, and the trajectory became increasingly steep
- By the time the airplane was about 3 airplane lengths above the ground, the nose down pitch attitude was nearly vertical, the top of the airplane was facing the runway 11 threshold, and the trajectory was near vertical
- The airplane struck the ground in a near-vertical nose down attitude, fell back onto its underside, and a fire began immediately
- The vertical distance from the top of the image frame to the impact point was about 10 airplane lengths, or about 230 feet.
- The elapsed time from the first image of the airplane to impact was about 3.5 seconds

G. STILL IMAGES



Figure 1 - Overall Wreckage View (note wing impact scar on ground)



Figure 2 - Overall Wreckage View



Figure 3 - Overall Wreckage View



Figure 4 - Overall Wreckage View



Figure 5 - Empennage



Figure 6 - Right Wing and Cabin



Figure 7 - Aft Fuselage and Control Rods



Figure 8 - Cowl and Propeller



Figure 9 - Cockpit (Looking Forward)

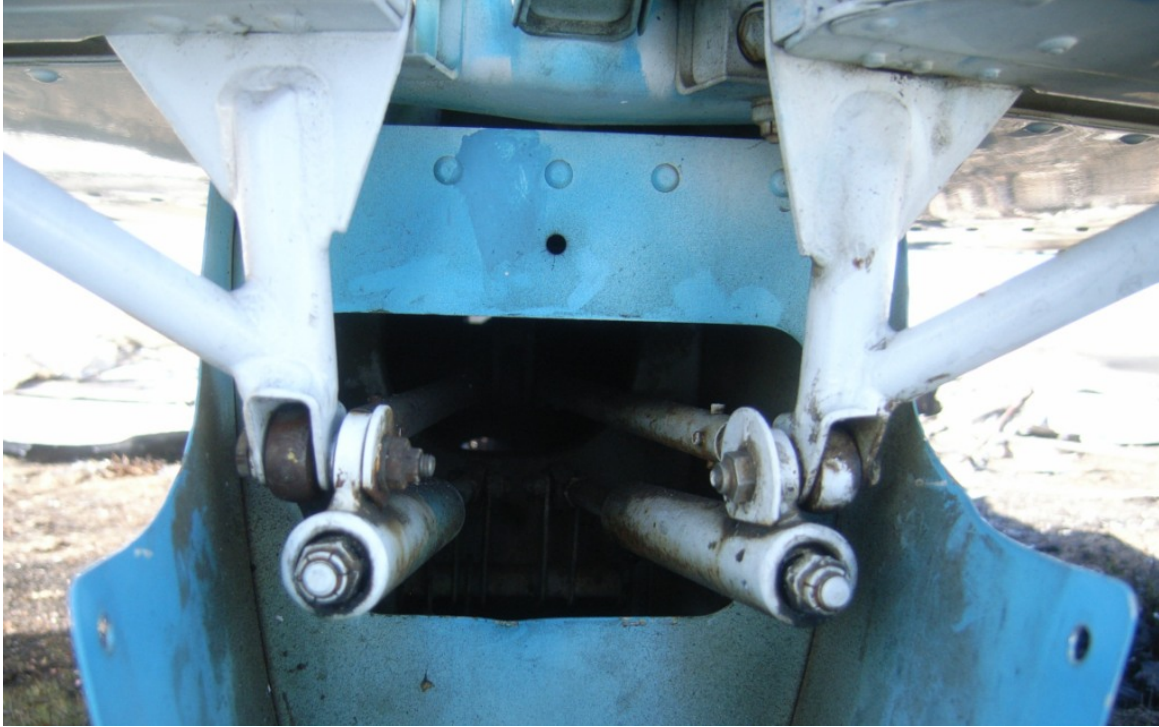


Figure 10 - Elevator Controls



Figure 11 - Buckled Lab Belt Latch



Figure 12 - Airspeed Indicator

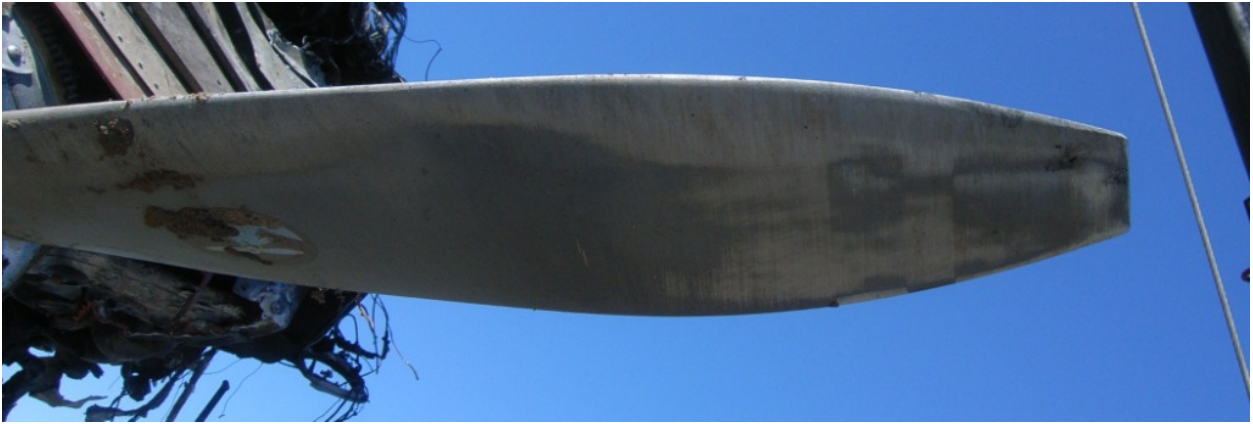


Figure 13 - Propeller Blade



Figure 14 - Propeller Blade

H. SURVEILLANCE VIDEO STILLS



Figure 15 - First Appearance in Frame



Figure 16 - Developed Spin



Figure 17 - Spin Continuation



Figure 18 - Spin Continuation



Figure 19 - Just Prior to Impact



Figure 20 - Initial Fire



Figure 21 - Developing Fire



Figure 22 - Full Camera Field of View (including smoke)