NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Western Pacific Region

SITE and ON-SCENE INFORMATION

NTSB Accident: WPR17FA055
Accident Date: January 12, 2017

Examination Dates: January 19, 2017 & February 1, 2017

This document contains 26 embedded images

A. ACCIDENT

Location:	Lake Hughes, California
Date:	January 12, 2017
Aircraft:	Mooney M20J, N6201N, Serial # 24-0590
NTSB IIC:	Michael Huhn

B. EXAMINATION PARTICIPANTS:

Michael Huhn Air Safety Investigator National Transportation Safety Board Federal Way, WA	Frank Motter Air Safety Inspector Federal Aviation Administration Van Nuys, California

C. SUMMARY

On January 12, 2017, about 0905 Pacific Standard time, a Mooney M20J, N6201N, was destroyed when it impacted terrain near the Lake Hughes Very High Frequency Omnirange navigation beacon (LHS VOR) during a flight from Tehachapi Municipal Airport (TSP), Tehachapi, California to Zamperini Field Airport (TOA), Torrance, California. The private pilot/owner was fatally injured. The personal flight was conducted under the provisions of Title 14 Code of Federal Regulations Part 91. Evidence supports the existence of instrument meteorological conditions at the accident site at the time of the accident. No flight plan was filed for the flight.

All evidence was consistent with a controlled flight into terrain event, and no evidence of any pre-impact mechanical malfunctions, in-flight fire, or in-flight structural failure was observed.

D. NOTIFICATION and SITE LOCATION INFORMATION

1.0 Notification

The airplane was the subject of a Federal Aviation Administration (FAA) Alert Notice (ALNOT), indicating that the airplane was missing. The ALNOT was issued on January 17. Investigation yielded a determination that the pilot's last known flight date was January 12, which then resulted in detailed examination of Air Traffic Control (ATC) radar data for that day and geographic locale. A radar track with a transponder code of 1200, originating southeast of TSP, and terminating at the LHS VOR, was identified as likely being that of the missing airplane. On the morning January 18, an aerial search by the CAP located the wreckage of the airplane.

2.0 Location

LHS VOR is situated on a leveled-off mountaintop; its elevation is 5,793 feet. The wreckage was situated on the north slope of that peak, about 70 feet below, and 380 feet from, the LHS VOR antenna. The wreckage site was at the terminus of the ATC ground tracking radar data track that originated from TSP on January 12.

LHS VOR is a navigational beacon that was situated between the pilots origination airport (TSP) and his reported destination (TOA), and would be an obvious navigation waypoint for an essentially direct flight between the two airports.

Refer to separate documentation for details regarding the radar track data.

3.0 Site Scar & General Wreckage Information

- The airplane first struck low (up to about 10 feet) scrub vegetation, and then grassy earth, before impacting the heavy scrub vegetation where it came to rest
- Vegetation and ground scars were consistent with the airplane striking the ground in a wings-level, right side up, attitude on a horizontal flight path
- The aft fuselage came to rest upright, with the empennage nearly intact
- Both wings were rotated aft about 75 degrees, and exhibited extensive, full-span crush damage to their leading edges
- The forward fuselage exhibited severe crush and fracture damage
- The engine was partially separated from the airframe, and the three-blade propeller and its hub was fracture-separated from the engine
- There was no fire
- A Garmin GPSMap 496 device was recovered intact, and the remnants of what appeared to be another Garmin portable GPS was also located in the wreckage
    - Both devices were sent to the NTSB Recorders Laboratory for possible data downloads

E. WRECKAGE DETAILS

1.0 General, Aero Surfaces, and Flight Controls

- The aft fuselage was moderately intact, mostly with buckling damage
- The fuselage was upright
- Left Wing
    - The wing was relatively intact, but folded aft
    - The flap remained attached and appeared to be retracted
    - The left aileron remained attached to the outboard wing section
    - The control surfaces were only able to be moved through a small range of their normal travel, likely due to post accident deformation & binding

    - The left aileron balance weight remained attached to the aileron
- Right Wing
    - The wing was relatively intact, but folded aft, and rotated LE down
    - The flap remained attached and was free to travel through its entire range, consistent with a fractured link in the system
        - Although not able to be determined, this fracture was likely a result of impact
    - The right aileron remained attached to the outboard wing section
    - The right aileron was only able to be moved through a small range of its normal travel, likely due to post accident deformation & binding
    - The right aileron balance weight remained attached to the aileron
- The left and right horizontal stabilizers remained attached to the empennage
- The left and right elevators remained attached to their respective stabilizers, and to one another
- The vertical stabilizer remained attached to the empennage
- The rudder remained attached to the vertical stabilizer
- The balance weights for the rudder and the two elevators remained attached to their respective control surfaces
- Fuselage disruption forward of the aft cabin wall precluded any control continuity determinations

2.0 Fuselage and Cabin

- The fuselage exhibited extensive disruption damage; essentially the cabin ceased to exist after the accident
- The single (right side) cabin door was found about 20 feet ahead of the wreckage
- The pilots seat, as well as some interior items from the cabin, were also found near that location
- Portions of the cabin sidewalls, floor, and roof were found strewn in and also in the tops of the vegetation forward of the main wreckage
- The instrument panel was severely disrupted
    - About half of the instruments remained attached to the panel
- The circuit breaker and electrical switch panels were also severely disrupted
- Damage precluded the obtaining of any relevant information regarding instrument or control positions at impact
- Some personal effects, including a flight bag, were found in the localized debris field
- The nose gear was found adjacent to the engine
- The main landing gear condition and position was consistent with the gear being retracted at the time of impact

3.0 Engine and Propeller

- The engine was partially attached to the fuselage mount structure, which was partially attached to the firewall/fuselage
- The engine was oriented on its left side
- The engine exhibited significant damage to its forward and lower sides
    - All cylinders remained attached/intact
    - No evidence of any pre-impact catastrophic failures was evident
- Some engine accessories and components were fracture-separated from the engine
- The propeller hub was fracture-separated from the engine at the crankshaft
- Two full-length blades remained in the hub
    - These blades exhibited moderate twisting and/or bending deformation
- The stub of the third blade, about 3 inches long, also remained in the hub
    - The blade was fracture-separated near the root
    - The main section of the blade was also moderately damaged, and found in close proximity to the hub

4.0 ELT Information

- No ELT signals were received from this accident airplane
- On February 1, two FAA inspectors returned to the site to retrieve the ELT
- Upon removal from the wreckage the ELT began to transmit
- A sticker on the front of the ELT indicated to replace the ELT batteries by 3/2015
- The inspectors noted that when the switch was placed in the “ON” position the ELT would transmit but would not transmit while in the “ARM” position.
- The ELT was an AMERI-KING CORP Model AK-450
- This ELT Make and Model is listed as an FAA Unapproved Part per Document No. 2016-2013NM460018 (Dated 1 March, 2016)

F. IMAGES & PHOTOGRAPHS

Figure 1 - Wreckage and Lake Hughes VOR

Figure 2 - View Back Along Flight Path

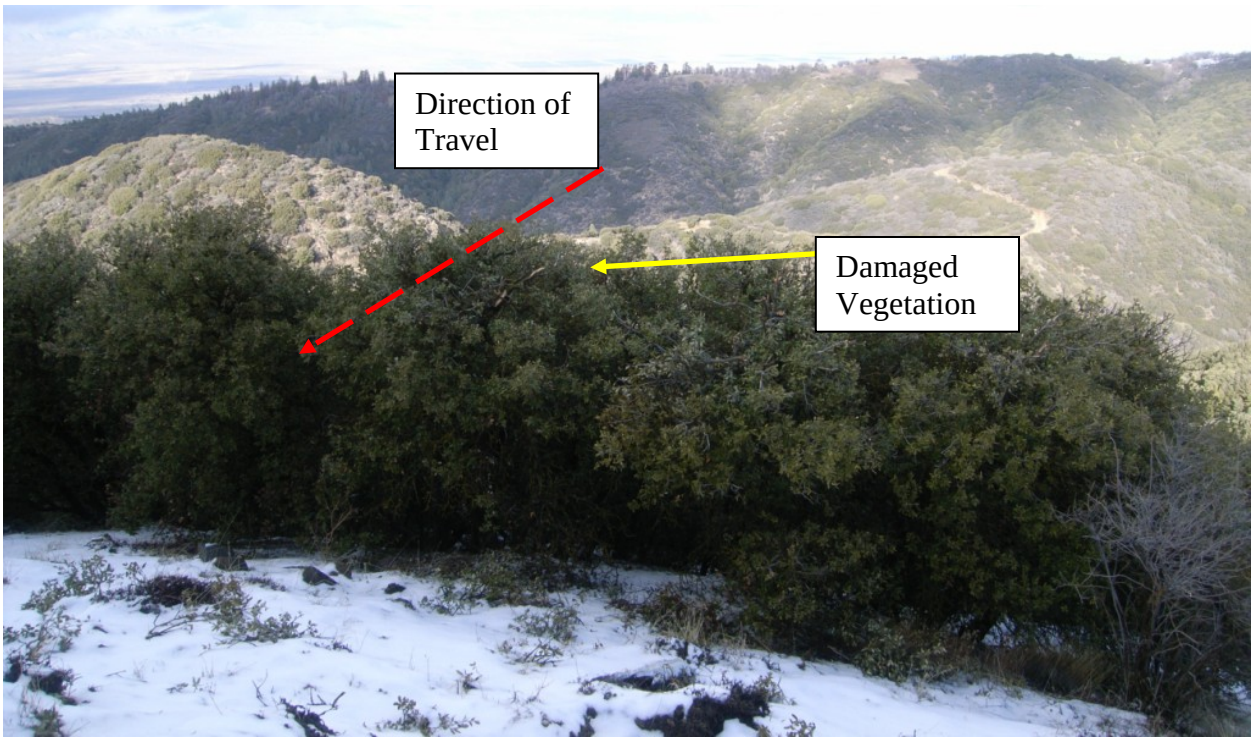

Figure 3 - View Back Along Flight Path (note damaged vegetation)

Figure 4 - Damaged Vegetation

Figure 5 - Left Wing and Empennage

Figure 6 - Left Aft View

Figure 7 - Aft View

Figure 8 - Right Aft View

Figure 9 - Right Wing and Aileron

Figure 10 - Empennage and Right Wing

Figure 11 - Left Elevator and Balance Weight

Figure 12 - Right Elevator and Balance Weight

Figure 13 - Fin, Rudder, and Balance Weight

Figure 14 - Cabin Sections

Figure 15 - Cabin Door and Skin

Figure 16 - Left Cockpit Seat

Figure 17 - Instrument Panel

Figure 18 - Instrument Panel

Figure 19 - Electronic Transponder Face

Figure 20 - View Back Towards Main Wreckage

Figure 21 - Main Wreckage from Right Side

Figure 22 – Engine

Figure 23 - Fractured Crankshaft/Propeller Hub Junction

Figure 24 - Propeller

Figure 25 - Propeller Blade

Figure 26 - Fractured Blade Root