

**Examination notes
N5557Q
Mooney M20C
Flower Pot, AZ
12-8-2019
CEN20FA034**

- The accident was reported by a rancher that found the wreckage on December 13, 2019, but the actual date of the accident was not known.

On-scene examination began on December 14, 2019.

- Initial impact point to main wreckage 320 feet @ 60 degrees
- Prop separated with crank nose still attached. Break has 45 shear lips indicating overload. One blade twisted 180 deg in hub and relatively straight. Blade 2 has tip curl aft with chordwise scratching.
- Left horizontal tail separated from fuselage with elevator still attached.
- Right horizontal, right elevator, vertical, rudder still attached to aft fuselage
- Wing inverted at site.
- Rt wing intact from tip to root with fire damage inboard. Aileron and flap still attached.
- Left wing intact but with fire damage from root to 2/3 span. Aileron still attached. Flap partially separated.
- Engine beneath wreckage and partially visible. Has fire damage. Part of engine sump with data plate broken from engine.
- After on-scene documentation the airplane was recovered to Air Transport in Phoenix, AZ for further examination.

Examination at Air Transport

- Layout examination completed on December 16, 2019
- All control system components identified with numerous breaks due to impact in the control system. All breaks in control system consistent with impact. No pre-impact deficiencies identified.
- 2 gyro instruments identified and disassembled (AHI & DG). In both cases the spinning core was still firmly mounted in the "cage" which precluded impact with anything while spinning.
- Visually there was no evidence of a catastrophic failure of the engine
- Engine could not be rotated due to impact damage
- Prop shaft broken aft of flange

- Holes drilled in crankcase and borescope used to examine internal engine and cylinders with no anomalies noted.
- Accessory case removed and no anomalies noted.
- Camshaft rotated with tool on accessory end and all valves opened and closed normally.
- Vacuum pump opened and vanes were intact. Plastic coupler melted
- No anomalies noted with respect to the engine, airframe or control system