

Don Maxwell Aviation Services, Inc.

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Don Maxwell, President

Date: 1-24-2017

**To: Mr. Robert N. McGee
FAA/ Airworthiness
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Houston, Texas 77034**

Re: Mechanic statement N1159G

Intro:

Don Maxwell Aviation Services, Inc is a Mooney Airplane Company Factory authorized Service Center. We provide maintenance and warranty service for all model Mooney aircraft. We work on Mooney aircraft only. We provide factory authorized maintenance training at our facility for all new Mooney Service Center personnel as well as providing maintenance training seminars for owners & operators twice a year at our facility. We have provided Mooney training to the Mooney Service Centers in China as well as representatives of the Chinese FAA. I have been flying and repairing Mooney airplanes for 48 years. I have been called as an expert witness in legal cases involving accidents as well as provided input to FAA and NTSB investigators on Mooney accidents. We provide tech support for all model Mooney's thru all media outlets as well as our website donmaxwell.com.

Mechanic Statement

N1159G is a 1982 Mooney M20K, Sn. 25-0662 owner by Mr. Don Irby. Mr. Irby brought his aircraft to us for an annual inspection. We started the annual on Dec.14, 2016. One of the discrepancies during the inspection were numerous fuel stains thru out the belly panels. The source of the leaks were the O-rings on fittings in the fuel selector valve. We have seen these leaks many times over the years in older planes where the O-rings have deteriorated. On Friday, Dec. 23, 2016, we drained both fuel tanks. The fuel selector valve was removed from the aircraft. The fuel selector was NOT disassembled. Four unions, 2-AN815-8D & 2-AN815-4D were removed. The O-rings were replaced with MS 29512-04 & MS29512-08 O-rings. Mooney elbow fitting Pn. 610272-001 was removed and the MS29512-08 O-ring was replaced. The fittings were retorqued. The selector valve was reinstalled. The fuel tanks were refilled with the fuel that had been previously removed and filtered. The fuel selector was moved from the off position to the left position and the fuel supply to the valve was purged of air thru the gascolator drain valve. The selector was moved to the right position. The right fuel line to the selector was purged of air thru the gascolator drain valve. Inspection showed no leaks and we closed our shop for the Christmas/New Year's holidays. We returned to work on Jan 3, 2017. I inspected the fuel selector for leakage and none was found. The annual inspection and repairs were completed.

My policy is that I personally fly each aircraft after annual inspections or repairs. Item one in the Preflight inspection check list requires that each fuel tank is selected and fuel drained for 5 seconds during the preflight. I have included these pages from the POH. I performed this function, I assume Mr. Irby did also.

On the before taxi check list, item 7, states to switch tanks, verify engine runs on other tank. I assume Mr. Irby did this.

My personal procedure before flight is to start the engine on the left fuel tank. Once the engine is warmed up to operating temps, I switch to the right fuel tank to taxi and depart on. I do this as a safety precaution so that I know that the fuel selector is to the far right and can go no further. In an emergency I would just reach down and the only option is left or off.

I completed a post annual test flight of the aircraft on the morning of January 4th for approximately 20 minutes. After the flight, the cowling was removed, the engine inspected for leaks, none found. The cowling was reinstalled and the aircraft returned to service.

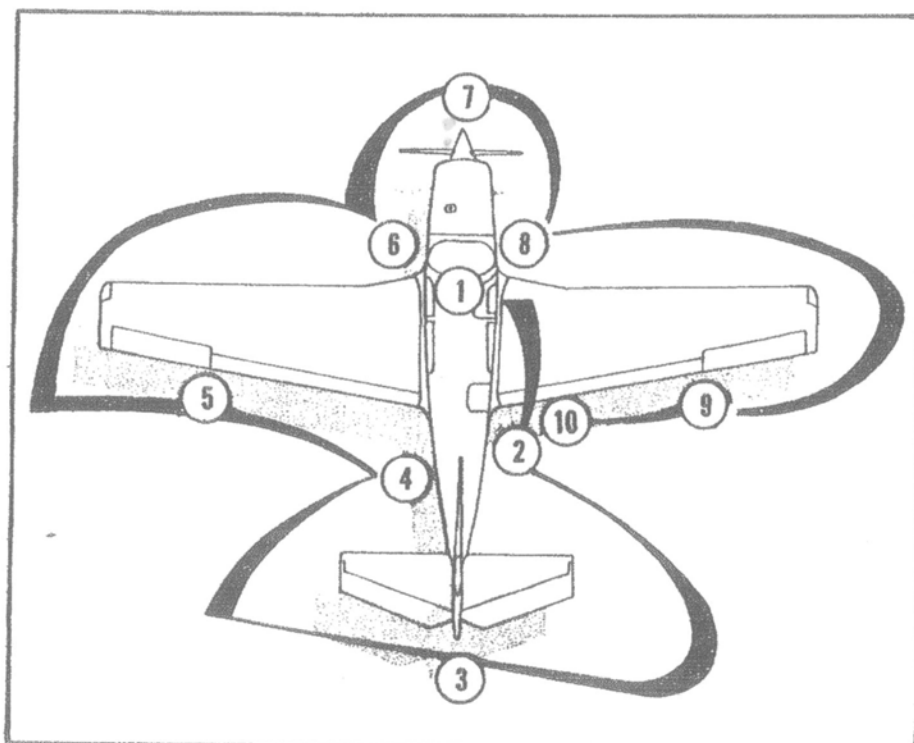
Mr. Irby arrived afternoon of Jan 4, 2017. Mr. Irby departed KGGG about 3:30PM with full fuel tanks. Approximately 20 minutes later, Mr. Irby called in on his cell phone and spoke to my wife Jan Maxwell. He stated he had crashed and did not know where he was but that he was unhurt. She advised him to call 911 and they should be able to locate him. I called him back about 10 minutes later and he said he had been located just short of the airport at Nacogdoches. He again stated he was OK. I asked him what happened and he said he did as the POH stated and switched to the fullest tank. Both tanks were full. I questioned his reason for changing tanks outside gliding distance from the pattern with a low ceiling. His response was that the POH said to. I told him I would never change tanks that low outside of gliding distance to an airport. That night Mr. Irby was on all of the TV news programs with a different story. He stated that he was returning from Longview where he had an inspection completed on his plane and the engine started running rough.

Immediately after Mr. Irby's call we checked our fuel farm for water or contamination. No water or contamination was found.

Based on my experience, I believe Mr. Irby inadvertently switched the fuel selector to OFF thinking he was switching to the left and his low altitude prevented time for a restart.

Don Maxwell
A&P [REDACTED]

Attachments
M20K Preflight check list Pg. 4-2
M20K Before taxi check list Pg. 4-7



PREFLIGHT INSPECTION

1. Gear switch - Down.
Magnetos/starter - Off.
Master switch - On.
Internal/External lights - Check.
Fuel gages - Check.
Master switch - Off.
→ Fuel selector - R; pull gascolator ring (5 seconds).
→ Fuel selector - L; pull gascolator ring (5 seconds).
2. Instrument static port - Unobstructed.
Right Fuselage - Check skin condition.
Tail tiedown - Remove.
3. Empennage - Check elevator and rudder attach points.
General skin condition. Remove all ice, snow, or frost.

FLOODED ENGINE STARTING

1. Fuel boost pumps - OFF.
2. Throttle - Full forward.
3. Mixture - Idle cutoff.
4. Magneto/Starter Switch - Turn and push to start, release to both when engine starts.
5. Throttle - Retard to 1200 RPM.
6. Mixture - Full forward (Rich).
7. Engine Oil Pressure - If minimum oil pressure not indicated within 30 seconds, stop engine and determine problem.

WARM ENGINE STARTING

1. Fuel boost pumps - OFF.
2. Throttle - Slightly open.
3. Mixture - Full forward (Rich).
4. Magneto/Starter Switch - Turn and push to start, release to both when engine starts.
5. Throttle - Set for 1000 to 1200 RPM.
6. Engine Oil Pressure - If minimum oil pressure not indicated within 30 seconds, stop engine and determine problem.

BEFORE TAXIING

1. Radio Master Switch - On.
2. External Lights - As desired.
3. Directional Gyro - Set.
4. Instruments - Normal.
5. Radios - Check.
6. Altimeter - Set.
- 7. Fuel Selector - Switch tanks, verify engine runs on other tank.

TAXIING**NOTE**

It may be necessary to increase RPM slightly to prevent flashing of the LOW voltage light.

1. Parking brake - Release.
2. Brakes - Check.
3. Directional Gyro - Proper indication during turns.
4. Turn Coordinator - Proper indication during turns.
5. Artificial Horizon - Erect during turns.