

Brannen John

From: [REDACTED]
Sent: Saturday, January 22, 2022 2:40 PM
To: Brannen John; 'McDaniel, Lonnie D (FAA)'
Cc: 'Frank Riner'; 'Randi Hart'
Subject: RE: N111XJ - Engine test run

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[REDACTED]

Attached is the link to the pictures and videos. Let me know if you have any questions or troubles accessing the file information.

Compression Check: Cold #1 78/80, #2 78/80, #3 77/80, #4 73/80 (note: small amount of oil inside two cylinder most likely from aircraft being upside down)

Visual inspection:

- 6 qts. Oil in engine, No metal found in oil
- Gas found in gascolator
- Rotation of crankshaft normal
- No evidence of any major oil leaks, inside cowling, on belly.
- Fuel supply from temporary fuel tank (gravity feed) mounted on upper fuselage structure. Fuel line was ran from fuel tank to carburetor
- Inspection found throttle travel at carburetor was not getting full travel (high rpm)
- Engine started normal and within 2 full rotations. Warm up normal, magneto check normal, oil pressure normal after warm up (no variation at constant rpm) increased with rpm, Oil temps normal, CHT and EGT temp normal. Performed propeller cycle found normal. Full rpm check 2510 rpm static.
- Inspected engine after engine run: No oil leaks, had small amount from exhaust after start up and cleared after engine run.

Regards,

Darin Hart
American Legend Aircraft Company

From: Brannen John [REDACTED] >
Sent: Wednesday, January 19, 2022 10:37 AM
To: McDaniel, Lonnie D (FAA) [REDACTED]
Subject: N111XJ - Engine test run

Gentlemen,

FYI for both of you, Lonnie McDaniel from FAA, and Darin Hart from Legend Aircraft are on this e-mail. Here are the phone numbers I have for each of you so that you both have each other's contact information.

Darin Hart – email: [REDACTED] phone: [REDACTED]
Lonnie McDaniel – email: [REDACTED] phone: [REDACTED]

I have received funds authorization for testing on N111XJ, the Aviat A-1A, that was involved in an accident on 12/9/2021. The approval I have is for 6 hours at the shop rate quoted at [REDACTED]/hour. Here is what I would like to do on this. I understand some of this has already been done:

1. Several photographs of engine as it is now
2. Visually check engine for outward signs of damage
3. Verify crank rotation with no observed or felt issues
4. Perform compression check. Can just be a “thumb” compression with someone rotating crank with another person holding thumbs in the plug holes. Or if not too much trouble a differential compression check would be fine too.
5. R&R broken prop with a loaner for test run.
6. Document how fuel system and engine are rigged for test run and if anything is not per the original airplane design. Photos good here. For example if a jerry can with a hose running direct to fuel pump, or gascolator or however is convenient for the test.
7. Perform normal start, warm-up, and once warmed up perform a standard engine run-up recording how the engine performed.
8. If everything looks good to this point, perform a full-throttle static run of the engine.

Of course, if at any time it is felt that things aren’t safe or that additional damage would be incurred, stop testing.

Darin – if you think the above can be performed in the 6 hour time frame then proceed. If you think that may be stretching the I will leave it up to the two of you to determine the scheduling of the engine testing. I should be available by phone depending on the scheduling of the engine testing. Keep me posted on what those plans are.

Thank You Both,

John M. Brannen II
Senior Air Safety Investigator
National Transportation Safety Board
[REDACTED]
Denver, CO 80239
Office: [REDACTED]
[REDACTED]

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