



MOONEY AIRCRAFT CORPORATION

100 Hour-Annual Inspection Guide

Date _____

Owner's Name _____ Address _____

Reg. No. _____ A/C Serial No. _____ A/C Tach Time _____

Engine Model & Serial No. _____

Prop Design & Serial No. _____

Engine Time _____ Hrs Brand of Oil & Weight Used _____

- | | | | | | |
|---|------------|-----------|----------------------------------|------------|-----------|
| 1. Is approved flight or owners manual in aircraft? | Yes. _____ | No. _____ | Current and in proper condition? | Yes. _____ | No. _____ |
| 2. Are current log books in aircraft? | Yes. _____ | No. _____ | Current and in proper condition? | Yes. _____ | No. _____ |
| 3. Is Registration Certificate in aircraft? | Yes. _____ | No. _____ | Current and in proper condition? | Yes. _____ | No. _____ |
| 4. Is Airworthiness Certificate in aircraft? | Yes. _____ | No. _____ | Current and in proper condition? | Yes. _____ | No. _____ |
| 5. Is Weight and Balance Record in aircraft? | Yes. _____ | No. _____ | Current and in proper condition? | Yes. _____ | No. _____ |
| 6. Is all applicable factory service information complied with? | Yes. _____ | No. _____ | Current and in proper condition? | Yes. _____ | No. _____ |
| 7. Are all applicable FAA Airworthiness Directives complied with? | Yes. _____ | No. _____ | | | |

NOTE: This sheet is a guide only - refer to the specific model service manual for aircraft, engine and propeller inspections.

Mechanic Signature _____

Inspector Signature _____

ENGINE SECTION:

Refer to engine manufacturers manual and Mooney Service & Maintenance Manual for appropriate Model).

- Remove and clean engine cowlings and baffling; inspect for leaks, wash engine.
- Perform a HOT engine differential compression check. Cylinder reading:
1. _____ 2. _____ 3. _____ 4. _____
5. _____ 6. _____

LUBRICATING SYSTEM:

- Drain sump and change oil filter (if installed).
- Remove pressure and suction screens; check for metal particles.
- Clean and inspect screens. Reinstall and safety wire screens.
- Check engine for oil leaks (note and correct).
- Inspect condition of oil cooler.
- Service engine with recommended lubricating oil (Refer to Lycoming Specification 301E and Service Instruction 1614 or T.C.M. Service Manual).

IGNITION SYSTEM:

- Inspect spark plugs, replace or clean and regap.
- Inspect ignition harness for general condition, free from fraying or chafing.
- Inspect magnetos and points, check magneto timing; check distributor block for erosion or cracks.

ELECTRICAL SYSTEM:

- Inspect battery for security, battery box for corrosion and vent for obstruction.
- Inspect generator/alternator and accessories.
- Inspect electrical components and wiring.
- Inspect starter and starter drive; lubricate starter drive.

FUEL SYSTEM, M20B, C, D, G:

- Inspect and drain carburetor, clean screens and check fuel flow.
- Inspect carburetor heat system for leaks and proper operation.
- Remove, clean, inspect and re-oil air filter.
- Inspect carburetor airbox and induction system for condition.
- Inspect fuel selector valve for operation and proper pointer indication.

FUEL SYSTEM, M20B, C, D, G (Cont):

- Operate boost pump; check pressure and all lines for leaks.
- Clean electric fuel pump screen (1963 and previous models).
- Drain fuel sumps and fuel selector valve (Right & Left tanks).

FUEL SYSTEM, M20F, J, K, M, R:

- Inspect fuel injection system, clean screens and injector nozzles (refer to Avco-Lycoming O/H Manual Section 8 or T. C. M. Service Manual).
- Check power boost system for proper door operation and seal for leaks (M20E, F, J) NOTE: (Power boost system deleted on 1990 and on).
- Remove, clean and inspect dry-air filter.
- Inspect air induction system and alternate air valve.
- Inspect fuel selector valve for operation and proper indication.
- Operate boost pump; check pressure and all lines for leaks.
- Clean electric fuel pump screen (1963 and previous models).
- Drain fuel sumps and fuel selector valve (Right & Left tanks).

EXHAUST SYSTEM:

- Remove heater jacket and inspect exhaust system for leaks and cracks; remove exhaust cavities, inspect area.
- Inspect clamps for tightness at turbocharger.
- Inspect firewall for proper sealing and freedom from cracks.
- Inspect tubular engine mount for cracks; bolts and rubber mounts for security.

GENERAL INSPECTION:

- Lubricate engine controls and inspect for security, full travel and free movement.
- Lubricate cowl flaps and inspect for proper opening and operation. NOTE (M20C & G, 1968 & on, cowl flaps are fixed).
- Remove propeller spinner and check for cracks and general condition.
- Inspect propeller hub for grease leakage; check hub bolts and mounting bolts for proper torque; inspect blades for cracks, nicks, and dents; lubricate as needed (refer to appropriate manufacturers handbooks).

Mooney (M20B-M20C-M20D-M20E-M20F-M20G-M20J-M20K-M20M-M20R)

	Mech	Insp
e. Reinstall spinner, check for correct interference fit with prop. Shim with teflon tape as required (M20J, K, M, R).		
AIRFRAME SECTION: (Refer to Mooney Service and Maintenance Manual)		
1. Inspect exterior and interior of aircraft for general condition, collision damage, loose rivets, dents and corrosion.		
2. Inspect tubular structure lower longerons for corrosion.		
3. Inspect wings and empennage for general condition, collision damage, loose rivets, dents and corrosion.		
4. Inspect control surfaces for security of attachment, proper rigging, free movement, collision damage, loose rivets, dents and corrosion.		
5. Lubricate flight control system guide blocks, hinge points, rod end bearings and bell cranks.		
6. Inspect all wing, fuselage and empennage drain holes for obstruction.		
7. Inspect empennage trim system for proper operation and rigging.		
8. Inspect downspring and loops, cable and pulley for wear and corrosion (M20K, M, R).		
9. Inspect flap system for proper operation and rigging; lubricate in accordance with Mooney Service and Maintenance Manual.		
10. Inspect flight instruments, filters and vacuum system for proper operation, marking and condition; clean vacuum air filter.		
11. Inspect cabin lights, circuit breakers and electrical components for proper operation. (a.) Check operation of stall warning system.		
12. Inspect P.C. system components for security leaks and proper operation; servo seals for deterioration; all other autopilot components for security and proper operation.		
13. Inspect vacuum step for security and proper operation; fixed step for security.		
14. Inspect wing interior in fuel tank area for fuel leaks, fuel tank vents for obstructions and fuel filler caps for security and proper operation.		
15. Inspect cabin and baggage doors for condition, proper operation and sealing.		
16. Inspect windshield and windows for cracks, crazing, scratches and distortion.		
17. Inspect seats, seat belts and shoulder harnesses for security, proper operation and condition.		
18. Inspect compass and compass deviation card for proper indication and compensation. (Refer to Mooney Service Bulletin M20-150A).		
19. Inspect all radio equipment for proper installation and operation.		
20. Inspect cabin for proper sealing.		
21. Inspect oxygen system for leaks, proper valve operation and filler for safety of operation. (If installed)		
LANDING GEAR OPERATIONAL CHECK: (Refer to Mooney Service and Maintenance Manual).		
1. Raise aircraft on jacks.		
2. Inspect brakes, hydraulic brake cylinders and hydraulic system for leaks and general condition; service reservoir with MIL-H-5606 (red) fluid.		
3. Remove wheels, inspect, repack, reinstall and safety, lubricate brake guide pins using Silicone-base lubricant. Check wheels for free rotation and proper brake action.		
4. Lubricate and inspect landing gear pivot points and moving parts.		
MANUAL GEAR RETRACTION SYSTEM:		
a. Check operation and rigging.		
b. Check warning system lights and horn.		
c. Check down lock preload.		
d. Check doors for proper closing.		
e. Check retract lever welds for cracks.		

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ELECTRIC GEAR RETRACTION SYSTEM:		
a. Check operation and rigging.		
b. Check warning system lights, horn and visual indicator.		
c. Check air pressure safety switch or squat safety switch.		
d. Check downlock preload.		
e. Lubricate actuator gear box (Dukes & ITT actuators only).		
f. Check doors for proper closing.		
g. Check emergency system by lowering gear using emergency gear extension system. Do not attempt gear retraction using emergency system. (Refer to Mooney Service and Maintenance Manual.)		
h. Inspect shock absorbers (main and nose gear) in accordance with Mooney Service and Maintenance Manual.		
FIXED GEAR:		
a. Inspect landing gear fairing (M20D only).		
b. Check air seals in wheelwell areas.		
POST-INSPECTION OPERATIONAL CHECK: (Refer to Mooney Owner's Manual or aircraft POH)		
1. Check propeller governor operation with engine running at 2000 rpm and pitch control at low pitch (high rpm). When propeller control is pulled out to high pitch (low rpm) engine speed should decrease at least 500 rpm.		
2. Check ease of operation for all engine controls with engine running.		
3. Check generator/alternator output and indication.		
4. Check oil pressure indication.		
5. Check fuel pressure indication.		
6. Check fuel quantity indication.		
7. Check cylinder head temperature indication.		
8. Check oil temperature indication.		
9. Check idle rpm, idle mixture and idle cut-off.		
10. Check propeller pitch through range.		
11. Check cabin and panel lights.		
12. Check radio operation.		
13. Check autopilot operation.		
14. Check magneto drop and ground.		
15. Check brake operation.		
16. Check fuel selector valve operation.		
17. Test vacuum warning lights and instruments for proper operation.		
18. Flight check gear-up warning horn at 12" (M20J, M20R), 16-18" (M20K) manifold pressure and (M20M) at throttle 1/4 inch from idle position.		
19. Flight check aircraft rigging and P.C. or other autopilot systems for proper operation.		
20. Make a cabin ventilation and hearing system carbon monoxide check.		
21. Check EGT gauge and any other items of installed equipment.		
22. Check flap position indicator.		
23. Check trim position indicator.		

REMARKS:

Revised January 3, 1997

Mooney (M20B-M20C-M20D-M20E-M20F-M20G-M20J-M20K-M20M-M20R)