



MOONEY AIRPLANE COMPANY, INC.

100 Hour-Annual Inspection Guide

M-20J

Date Dec 7-2021
 Owner's Name GMT Enterprises LLC Address [REDACTED]
 Reg. No. N4262H A/C Serial No. 24-0690 A/C Tach Time 1906.2
 Engine Model No. IO-360-A3802 Serial No. 1-19508-51A
 Propeller Model No. B2D34C214B Serial No. 795846
 Engine Time 2531.4 Hours Brand of Oil/Weight Used Aeroshell W100

1. Is Approved Flight or Owners manual in aircraft? Yes No Current & in proper condition Yes No
 2. Are current log books in aircraft? Yes No Current & in proper condition Yes No
 3. Is Registration Certificate in aircraft? Yes No Current & in proper condition Yes No
 4. Is Airworthiness Certificate in aircraft? Yes No Current & in proper condition Yes No
 5. Is Weight & Balance Record in aircraft? Yes No Current & in proper condition Yes No
 6. Is all applicable factory service information complied with? 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's Service & Maintenance Manual for airframe, engine and propeller inspections.
 Mechanic Signature [REDACTED] Inspector Signature JD

ENGINE SECTION: (Refer to engine manufacturers manual & Mooney Service & Maintenance Manual for appropriate model)	MECH	INSP
1. Remove and clean engine cowling and baffling; inspect for cracks, wash engine.	[REDACTED]	[REDACTED]
2. Perform a HOT engine differential compression check. Cylinder Readings: 1 <u>76</u> 2 <u>72</u> 3 <u>78</u> 4 <u>76</u> 5 <u>72</u> 6 <u>X</u>	[REDACTED]	[REDACTED]
LUBRICATING SYSTEM:		
1. Drain sump and change oil filter (if installed).	[REDACTED]	[REDACTED]
2. Remove pressure and suction screens; check for metal particles.	[REDACTED]	[REDACTED]
3. Clean and inspect screens. Reinstall and safety wire screens.	[REDACTED]	[REDACTED]
4. Inspect condition of oil cooler.	[REDACTED]	[REDACTED]
5. Service engine with recommended lubricating oil, (Refer to Textron Lycoming Specification 301E & Service Instruction 1014 or TCM Service Manual).	[REDACTED]	[REDACTED]
6. Check engine for oil leaks (note & correct).	[REDACTED]	[REDACTED]
IGNITION SYSTEM:		
1. Inspect spark plugs; replace or clean & re-gap.	[REDACTED]	[REDACTED]
2. Inspect ignition harness for general condition, free from fraying or chafing.	[REDACTED]	[REDACTED]
3. Inspect magnetos & points; check magneto timing; check distributor block for erosion or cracks. Overhaul Bendix magnetos each 500 hours/4 years per TCM SB 643B.	[REDACTED]	[REDACTED]
ELECTRICAL SYSTEM:		
1. Inspect battery(ies) for security, battery box (or area) for corrosion & vent for obstruction.	[REDACTED]	[REDACTED]
2. Inspect generator/alternator(s) and accessories.	[REDACTED]	[REDACTED]
3. Inspect electrical components & wiring.	[REDACTED]	[REDACTED]
4. Inspect starter & starter drive; lubricate starter drive.	[REDACTED]	[REDACTED]
5. For Garmin G1000 equipped A/C, refer to G1000 documentation for continued airworthiness instructions.	[REDACTED]	[REDACTED]
INDUCTION SYSTEM: (Challenger Aviation Filter Equipped Aircraft)		
1. Recharge filter every 100 hours. Inspect filter housing for debris and component condition (hoses, clamps, etc.). Check opening pressure/operation of ALT air door.	[REDACTED]	[REDACTED]
FUEL SYSTEM - M20B, C, D, G:		
1. Inspect & drain carburetor, clean screens and check fuel flow.	[REDACTED]	[REDACTED]
2. Inspect carburetor heat system for leaks & proper operation.	[REDACTED]	[REDACTED]
3. Remove, clean, inspect and re-oil air filter.	[REDACTED]	[REDACTED]
4. Inspect carburetor airbox & induction system for condition.	[REDACTED]	[REDACTED]
5. Inspect fuel selector valve for operation & proper pointer indication. Verify positive valve selection while rotating fuel selector valve through selection range. Tighten/Loctite set-screw if required.	[REDACTED]	[REDACTED]
6. Operate boost pump, check pressure and all lines for leaks.	[REDACTED]	[REDACTED]
7. Clean electric fuel pump screen (1963 & previous models).	[REDACTED]	[REDACTED]
8. Drain fuel sumps and fuel selector valve (Right & Left tanks).	[REDACTED]	[REDACTED]

FUEL SYSTEM - M20E, F, J, K, M, R, S, TN:	MECH	INSP
1. Inspect fuel injection system, clean screens & injector nozzles (refer to Textron Lycoming O/H Manual, Section 8 or TCM Service Manual).	[REDACTED]	[REDACTED]
2. Check power boost system for proper door operation & seal for leaks (M20E, F, J). NOTE: Power boost system deleted on 1990 & ON.	[REDACTED]	X
3. Remove, clean & inspect dry-air filter. Replace paper induction filter @ 500 hours. Recharge K & N filter @ 100 hours and replace when worn or after 25 cleanings.	[REDACTED]	[REDACTED]
4. Inspect air induction system & alternate air valve.	[REDACTED]	[REDACTED]
5. Inspect fuel selector valve for operation & proper indication. Verify positive valve selection while rotating fuel selector valve through selection range. Tighten/Loctite set-screw if required.	[REDACTED]	[REDACTED]
6. Operate boost pump; check pressure & all lines for leaks.	[REDACTED]	[REDACTED]
7. Drain Right & Left tank fuel sumps; selector fuel valve or gascolator.	[REDACTED]	[REDACTED]
8. Check unmetered fuel pressure per Mooney Service & Maintenance Manual (M20K, M20R, M20S, M20TN).	[REDACTED]	[REDACTED]
EXHAUST SYSTEM:		
1. Remove heater jacket & inspect exhaust system for leaks & cracks; remove exhaust cavities, inspect area.	[REDACTED]	[REDACTED]
2. Inspect clamps for tightness at turbocharger(s) (M20K, M20M, M20TN).	[REDACTED]	[REDACTED]
3. Inspect firewall for proper sealing & freedom from cracks.	[REDACTED]	[REDACTED]
4. Inspect tubular engine mount for cracks; bolts & rubber mounts for security.	[REDACTED]	[REDACTED]
GENERAL INSPECTION:		
1. Lubricate engine controls & inspect for security, full travel & free movement. Inspect for secure throttle, mixture & prop control arms and respective components.	[REDACTED]	[REDACTED]
2. Lubricate cowl flaps & inspect for proper opening & operation. NOTE: M20C & G, 1968 & ON, cowl flaps are fixed. M20R, M20S & M20TN have no cowl flaps.	[REDACTED]	[REDACTED]
3. Remove propeller spinner & inspect for cracks & general condition.	[REDACTED]	[REDACTED]
4. Inspect propeller hub for grease leakage; check hub bolts & mounting bolts for proper torque; inspect blades for cracks, nicks, and dents, lubricate as needed (refer to appropriate manufacturer's handbooks).	[REDACTED]	[REDACTED]
5. Reinstall spinner; check for correct interference fit with prop. Wrap hub with Teflon tape as required for fit (M20J, K, L). Shim interference fit between hub and bulkhead (M20M, R, S, TN).	[REDACTED]	[REDACTED]
AIRFRAME SECTION: (Refer to Mooney Service & Maintenance Manual)		
1. Inspect exterior & interior of aircraft for general condition, collision damage, loose rivets, dents & corrosion.	[REDACTED]	[REDACTED]
2. Inspect tubular structure lower longerons for corrosion (Reference SB M20-208[*]) (* latest revision).	[REDACTED]	[REDACTED]
3. Inspect wings & empennage for general condition, collision damage, loose rivets, dents & corrosion.	[REDACTED]	[REDACTED]
4. Inspect flight control surfaces for security of attachment, proper rigging, free movement, collision damage, loose rivets, dents and corrosion.	[REDACTED]	[REDACTED]

Mooney (M20B-M20C-M20D-M20E-M20F-M20G-M20J-M20K-M20L-M20M-M20R-M20S-M20TN)



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AIRFRAME SECTION (con't):	MECH	INSP
5. Lubricate flight control system guide blocks; hinge points, rod end bearings & bell cranks.	[X]	
6. Inspect all wing, fuselage & empennage drain holes for obstructions.	[X]	
7. Inspect empennage trim system for proper operation & rigging.	[X]	
8. Inspect downspring end loops, cable & pulley for wear and corrosion. Comply with Bendix/King Install Bulletin 343 (inspect & lube trim carrier bearing) for A/C with KAP/KFC 100 series autopilots.	[X]	
9. Inspect flap system for proper operation & rigging; lubrication accordance with Mooney Service & Maintenance Manual.	[X]	
10. Inspect flight instruments, filters & vacuum system for proper operation, marking, and condition; clean vacuum air filter.	[X]	
11. Inspect cabin lights, circuit breakers & electrical components for proper operation.	[X]	
12. Check operation of stall warning system.	[X]	
13. Inspect P.C. system components for security, leaks & proper operation; servo seals for deterioration, all other auto-pilot components for security & proper operation. A/C equipped with Bendix/King Autopilots, comply with Honeywell Service Memo 292.	[X]	08
14. Inspect vacuum step for security & proper operation; fixed step for security & damage.	[X]	
15. Inspect wing interior in fuel tank area for fuel leaks, fuel tank vents for obstructions & fuel filler caps for security & proper operation.	[X]	
16. Inspect cabin & baggage doors for condition, proper operation & sealing.	[X]	
17. Inspect windshield & windows for cracks, crazing, scratches and distortion.	[X]	
18. Inspect seats, seat latch pins, seat belts & shoulder harnesses for security, proper operation and condition. If AMSAFE Restraint equipped, diagnostic test per AAIR Supplemental Maintenance Manual every 1,000 flight-hours or annually (whichever comes first).	[X]	
19. Inspect compass & compass deviation card for proper indication & compensation. (Refer to Mooney Service Bulletin M20-150A)	[X]	
20. Inspect all radio equipment for proper installation & operation.	[X]	
21. Inspect cabin for proper sealing.	[X]	
22. Inspect oxygen system for leaks, proper ON/OFF valve operation & filler for safety of operation. Perform hydrostatic test of oxygen bottle every 3 yrs & regulator overhaul every 6 yrs. Composite bottles expire @ 15 yrs.	[X]	[Signature]
23. Inspect ELT as required by FAR 91.207d(1-4).	[X]	
LANDING GEAR OPERATIONAL CHECK:		
1. Raise aircraft on jacks.	[X]	
2. Inspect brakes, hydraulic brake cylinders & hydraulic system for leaks and general condition: Service reservoir with ML-H-5606 (RED) fluid.	[X]	
3. Remove wheels, inspect, repack bearings, reinstall and safety, lubricate brake guide pins using Silicone-based lubricant. Check wheels for free rotation & proper brake action.	[X]	
4. Lubricate & inspect landing gear pivot points & moving parts.	[X]	
5. Inspect landing gear shock discs (main & nose gear) (Refer to MAC S & M manual).	[X]	
MANUAL GEAR RETRACTION SYSTEM:	[X]	[X]
1. Raise aircraft on jacks.	[X]	
2. Check operation & rigging (pre-loads).	[X]	
3. Check warning system light & horn.	[X]	
4. Check gear down lock preload (Mains & Nose).	[X]	
5. Check landing gear doors for proper closing/rigging.	[X]	
6. Check retract lever welds for cracks.	[X]	

ELECTRIC GEAR RETRACTION SYSTEM:	MECH	INSP
1. Raise aircraft on jacks.	[X]	[X]
2. Check operation & rigging.	[X]	[X]
3. Check warning system lights, horn & visual indicator.	[X]	[X]
4. Check air pressure safety switch or squat safety switch.	[X]	[X]
5. Check main & nose gear down lock preload.	[X]	[X]
6. Lubricate actuator gear box (Dukes & ITT actuators only)	[X]	[X]
7. Check landing gear doors for proper closing/rigging.	[X]	[X]
8. Check emergency landing gear extension system; extend gear using emergency gear extension system. Do not attempt gear retraction using emergency system (Refer to MAC S & M manual).	[X]	[X]
9. Inspect shock discs (main & nose gear) in accordance with Mooney Service & Maintenance Manual.	[X]	[X]
FIXED GEAR:		
1. Inspect landing gear fairing (M20D only).	[X]	[X]
2. Check air seals in wheel well areas.	[X]	[X]
POST-INSPECTION OPERATIONAL CHECK: (Refer to Mooney Owner's Manual or POH)		
1. Check propeller governor operation with engine running at 2000 RPM & 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.	[X]	[X]
2. Check ease of operation for all engine controls with engine running.	[X]	[X]
3. Check generator/alternator output & indication.	[X]	[X]
4. Check oil pressure indication.	[X]	[X]
5. Check fuel pressure indication.	[X]	[X]
6. Check fuel quantity indication.	[X]	[X]
7. Check cylinder head temperature (CHT) indication.	[X]	[X]
8. Check oil temperature indication.	[X]	[X]
9. Check idle RPM, idle mixture & idle cut-off.	[X]	[X]
10. Check propeller pitch through complete range.	[X]	[X]
11. Check operation of cabin & panel lights.	[X]	[X]
12. Check Radios/Avionics operation.	[X]	[X]
13. Check Auto Pilot operation.	[X]	[X]
14. Check magneto drop and grounding circuits.	[X]	[X]
15. Check operation of brakes.	[X]	[X]
16. Check fuel selector valve for smooth operation.	[X]	[X]
17. Check vacuum warning lights & instruments for proper operation.	[X]	[X]
18. Check flap position indicator (Take-Off & Full down).	[X]	[X]
19. Check trim position indicator and smooth operation of Trim System.	[X]	[X]
20. Flight check gear-up warning horn at: 12" manifold pressure (MP) (M20J prior to S/N 24-3154); 14-16" MP (M20K [231, 252]) & with throttle 1/4-3/8 inch from idle position M20J (after S/N 24-1354), M20K (Encore), M20L, M20M, M20R, M20S, M20TN.	[X]	[X]
21. Flight check aircraft flight control rigging.	[X]	[X]
22. Flight check P.C. or other Autopilot systems for proper operation.	[X]	[X]
23. Check cabin ventilation and heating system for carbon monoxide.	[X]	[X]
24. Check EGT/TIT gauge and any other items of installed equipment.	[X]	[X]
25. Check operation of remote ELT switch between top of hour and 5 min after the hour.	[X]	[X]
26. Other checks (Specify as necessary):	[X]	[X]

REMARKS: