



Instrument Proficiency Check (IPC) Syllabus

FITS-Based Scenario IPC for Mooney M20-Series Airplanes

Mooney Pros, Inc. | Revised October 2026

This syllabus guides an instrument proficiency check (IPC) conducted by Mooney Pros instructors in a Mooney M20-series airplane. It follows 14 CFR 61.57(d), the IPC task table in the Instrument Rating – Airplane Airman Certification Standards (ACS) (FAA-S-ACS-8C, Appendix 1), and the guidance in AC 61-98E, Chapter 5. It uses the FAA Industry Training Standards (FITS) approach: scenario-based training (SBT), learner-centered grading (LCG), and an emphasis on single-pilot resource management (SRM) and risk management in Mooney operations.

Important: This syllabus does not replace the FAA-approved Pilot's Operating Handbook/Airplane Flight Manual (POH/AFM). All speeds, limitations, procedures, and performance data come from the POH/AFM, including avionics and autopilot supplements, for the specific model and serial number being flown.

Objective

To determine that the pilot has the knowledge, skills, and judgment to operate a Mooney safely under instrument flight rules (IFR), meeting 14 CFR 61.57(d) and the standards of the Instrument Rating – Airplane ACS.

Target Audience

- Instrument-rated pilots who have not met the instrument experience requirements of 14 CFR 61.57(c) for more than six calendar months and must complete an IPC to reestablish instrument currency (14 CFR 61.57(d)).
- Instrument-rated pilots who want an IPC for proficiency or to meet an insurance requirement.
- Pilots familiar with their Mooney (M20 series with retractable landing gear and, on many airplanes, technically advanced aircraft (TAA) avionics such as the Garmin G1000 or G1000 NXi). Pilots new to the Mooney should complete transition training first.

Instructor Qualifications

The IPC is conducted by a Mooney Pros flight instructor who holds an instrument rating on both the pilot and flight instructor certificates appropriate to the airplane (14 CFR 61.57(d)(3)(iv); AC 61-98E, paragraph 5.1.1). The instructor should also be current as a pilot and as an instructor.



Training Philosophy

- **Scenario-Based Training (SBT):** Realistic IFR scenarios that evaluate decision-making, navigation, and emergency procedures. The instructor builds one scenario that incorporates as many required tasks as practical.
- **Learner-Centered Grading (LCG):** Maneuvers and procedures are graded Describe, Explain, Practice, or Perform; risk management and SRM are graded Explain, Practice, or Manage-Decide.
- **Single-Pilot Resource Management (SRM):** Aeronautical decision-making (ADM), risk management, task management, automation management, and situational awareness.
- **FITS principles:** Risk management throughout, and automation management using the installed autopilot and avionics where the airplane is so equipped.
- **Mooney-specific focus:** Precise airspeed and configuration control on approach, gear-up landing prevention, and manually operated (Johnson bar) landing gear on airplanes so equipped.

FAA Reference Materials

Use the current edition of each publication (check faa.gov before each IPC).

- **14 CFR 61.57(c) and (d):** Instrument currency and IPC requirements.
- **Instrument Rating – Airplane ACS (FAA-S-ACS-8C):** Areas of operation, tasks, and standards, including the IPC task table in Appendix 1.
- **AC 61-98E:** Currency Requirements and Guidance for the Flight Review and Instrument Proficiency Check (October 30, 2024): Chapter 5 (conducting the IPC), Appendix G (Pilot's Instrument Experience Summary), Appendix H (Sample Instrument Training and Proficiency Plan), and Appendix I (Sample Flight Instructor's Instrument Proficiency Check Checklist). AC 61-98E replaced AC 61-98D.
- **AC 61-65 (current edition):** Sample logbook endorsement for a satisfactory IPC.
- **14 CFR part 91, Subparts B, C, and E:** Flight rules; equipment, instrument, and certificate requirements; and maintenance, preventive maintenance, and alterations.
- **Instrument Flying Handbook (FAA-H-8083-15B):** IFR operations, navigation, and instrument failures.
- **Instrument Procedures Handbook (FAA-H-8083-16B):** Departures, en route, arrivals, approaches, and navigation databases.
- **Airplane Flying Handbook (FAA-H-8083-3C):** Airplane handling, approach and landing, and emergency procedures.
- **Aviation Instructor's Handbook (FAA-H-8083-9B):** SBT, LCG, and collaborative critique.
- **Aeronautical Information Manual (AIM):** ATC procedures and pilot/controller responsibilities.
- **FAAsteam ALC-38, Instrument Proficiency Check Review Guide:** Optional pre-IPC study course available on FAASafety.gov.

Prerequisites

- Pilot certificate with an instrument-airplane rating.
- Medical certificate (or BasicMed) and flight review status confirmed. Before the flight, the instructor and pilot agree on who will act as pilot in command.
- Familiarity with the POH/AFM, including avionics and autopilot supplements.



- Ground review (recommended) covering IFR regulations, procedures, and Mooney systems. The pilot may complete the Pilot's Instrument Experience Summary (AC 61-98E, Appendix G) in advance.
- An appropriate view-limiting device if the check is conducted in visual meteorological conditions (VMC).
- An airplane airworthy for IFR: required instruments and equipment (14 CFR 91.205(d)); altimeter, static system, and transponder tests current (14 CFR 91.411 and 91.413); a VOR check within the preceding 30 days if VOR will be used under IFR (14 CFR 91.171); and a current navigation database for any IFR-approved GPS.

Syllabus Structure

The IPC consists of a ground evaluation and a flight evaluation, tailored to the pilot's experience and the Mooney's equipment. The ground modules total 1.5 to 2.5 hours and the flight evaluation 2.0 to 3.0 hours. The syllabus meets the ACS IPC requirements while incorporating Mooney-specific scenarios and risk management.

Lesson	Planned time
Ground Module 1: IFR Knowledge and Regulations	1.0–1.5 hours
Ground Module 2: IPC Planning and Preparation	0.5–1.0 hour
Total ground evaluation	1.5–2.5 hours
Flight Evaluation: IFR Cross-Country with Challenges	2.0–3.0 hours
Total IPC	3.5–5.5 hours

Ground Evaluation

Module 1: IFR Knowledge and Regulations

- **Objective:** Verify the pilot's understanding of IFR operations and regulatory requirements (14 CFR part 91, Subparts B, C, and E; AC 61-98E, paragraph 5.2.1).
- **Topics:**
 - Subpart B (Flight Rules): IFR flight plans and alternate airport requirements (91.169), ATC clearance and flight plan required (91.173), VOR equipment check (91.171), IFR takeoff and landing minimums (91.175), minimum altitudes (91.177), and two-way radio communications failure (91.185).
 - Subpart C (Equipment, Instrument, and Certificate Requirements): instruments and equipment for IFR (91.205(d)) and inoperative instruments and equipment (91.213).
 - Subpart E (Maintenance, Preventive Maintenance, and Alterations): owner/operator responsibilities and airworthiness directives (91.403), required inspections (91.409), altimeter and static system tests (91.411), and transponder tests (91.413).
 - Chart interpretation: departure procedures (SIDs and ODPs), en route charts, STARs, instrument approach procedures, and RNAV/GPS/WAAS procedures.
 - Weather: obtaining and analyzing weather information, including icing and convective activity.



- Mooney systems related to IFR: avionics (e.g., Garmin G1000 or G1000 NXi, if equipped), autopilot, pitot heat and alternate static source, ice protection (if equipped), and failure procedures (e.g., emergency gear extension, alternator failure, attitude or air data system failure).
- Lost communications and automation failure procedures.
- Angle of attack (AOA) principles and, if installed, the purpose, operation, and limitations of the AOA indicator.
- Risk management: PAVE checklist (Pilot, Aircraft, enVironment, External pressures) and 3P model (Perceive, Process, Perform).
- **Activities:**
 - Oral quiz on IFR regulations (e.g., lost communications, alternate airport criteria).
 - Review a sample IFR flight plan for a 200 NM trip in the Mooney.
 - Discuss an NTSB report on a Mooney accident (e.g., a gear-up landing or spatial disorientation).
- **Duration:** 1.0–1.5 hours
- **LCG outcome:** Explain IFR regulations, procedures, and risk management.

Module 2: IPC Planning and Preparation

- **Objective:** Plan the flight portion and agree on how the IPC will be conducted (AC 61-98E, paragraphs 5.1.3 and 5.1.4).
- **Topics:**
 - Weather analysis and go/no-go decision-making.
 - IFR flight planning (e.g., fuel requirements, alternate airports, NOTAMs and TFRs).
 - Review of the required IPC tasks and standards (see the IPC Task Table).
 - Performance and limitations for the specific airplane, taken from the POH/AFM and recorded in Appendix A.
 - Conduct of the check: VFR with a view-limiting device or IFR; pilot-in-command and crew roles; when the view-limiting device is put on and removed; positive exchange of flight controls; and the criteria for satisfactory completion.
- **Activities:**
 - Plan a sample IFR flight using ForeFlight or a similar electronic flight bag, including approaches and alternates.
 - Review the POH/AFM emergency procedures (e.g., engine failure, electrical failure).
 - Complete the Aircraft-Specific IFR Data sheet (Appendix A) with the pilot.
- **Duration:** 0.5–1.0 hour
- **LCG outcome:** Explain flight planning and ACS requirements.



IPC Task Table

Required tasks for an IPC in a single-engine airplane, from the Instrument Rating – Airplane ACS (FAA-S-ACS-8C), Appendix 1. Areas of Operation I and II have no required tasks. The instructor may add any maneuver needed to determine that the pilot can operate safely under IFR (AC 61-98E, paragraph 5.3).

Area of Operation	Required task(s)
III. Air Traffic Control (ATC) Clearances and Procedures	B. Holding Procedures
IV. Flight by Reference to Instruments	B. Recovery from Unusual Flight Attitudes
V. Navigation Systems	A. Intercepting and Tracking Navigational Systems and DME Arcs
VI. Instrument Approach Procedures	A. Non-precision Approach; B. Precision Approach; C. Missed Approach; D. Circling Approach; E. Landing from an Instrument Approach
VII. Emergency Operations	D. Approach with Loss of Primary Flight Instrument Indicators (Tasks B and C apply to multiengine airplanes only)
VIII. Postflight Procedures	A. Checking Instruments and Equipment

Approach requirements (ACS Appendix 3):

- At least two different non-precision approaches. One must include a course reversal (e.g., procedure turn or holding in lieu); one must be flown from an initial approach fix without the autopilot and without radar vectors; and one must be flown with backup or partial-panel instrumentation representing a realistic failure mode for the installed avionics.
- One precision approach to the decision altitude (DA) using approved vertical guidance (e.g., ILS or RNAV (GPS) to LPV minimums).
- If the airplane has an installed IFR-approved RNAV system, the pilot demonstrates approach proficiency using it.
- DME arcs are selected only if charted and available.
- An advanced aviation training device (AATD) may be used for most of the IPC as allowed by its Letter of Authorization, but the circling approach and the landing must be flown in the airplane (or a qualified full flight simulator). A basic aviation training device (BATD) cannot be used for any part of the IPC.

Flight Evaluation

The flight portion is conducted in the Mooney under IFR in actual or simulated instrument conditions, or under VFR with a view-limiting device (AC 61-98E, paragraph 5.1.3.1). When a view-limiting device is used, the instructor remains vigilant for other traffic throughout. The evaluation includes every task in the IPC Task Table, uses the AC 61-98E Appendix I checklist as a guide, and follows a scenario tailored to Mooney operations. The instructor may add maneuvers at their discretion, and the pilot must demonstrate satisfactory basic attitude instrument flying throughout (AC 61-98E, paragraph 5.3). All speeds and configurations come from the POH/AFM (Appendix A).



Flight Scenario: IFR Cross-Country with Challenges

- **Objective:** Evaluate the pilot's ability to operate the Mooney safely under IFR, including navigation, approaches, and emergency procedures.
- **Scenario overview:** The pilot flies a 100 to 150 NM IFR cross-country flight from a towered airport to a non-towered airport, encountering weather changes, ATC amendments, and a simulated system failure. The flight includes multiple approaches, holding, and emergency procedures.
- **Duration:** 2.0–3.0 hours
- **LCG outcome:** Perform for all required tasks to ACS standards; Manage-Decide for risk management and SRM.

Tasks (per the ACS and the IPC Checklist)

Preflight Preparation and Procedures (ACS Areas I and II; instructor discretion)

- **Tasks:**
 - Conduct the preflight inspection per the POH/AFM.
 - Verify IFR equipment and inspection status (e.g., GPS and navigation database, VOR check, altimeter, static system, and transponder tests) per 14 CFR 91.205(d), 91.171, 91.411, and 91.413.
 - Complete the instrument flight deck check.
 - File an IFR flight plan, and obtain and comply with the IFR clearance.
- **Risk management focus:** Aircraft airworthiness and fuel planning.
- **Standards:** Complete the preflight per the checklist without errors; explain the equipment and inspection requirements.

Basic Attitude Instrument Flying (AC 61-98E, paragraph 5.3; evaluated throughout)

- **Tasks:**
 - Maintain straight-and-level flight, turns, climbs, and descents by reference to the flight instruments.
 - Perform standard-rate turns and timed turns (e.g., a 180° turn in 1 minute).
- **Risk management focus:** Spatial disorientation and instrument scan.
- **Standards:** Altitude ± 100 feet, heading $\pm 10^\circ$, airspeed ± 10 knots, and bank angle $\pm 5^\circ$ during turns (ACS IR.IV.A.S1).

Navigation, Holding, and ATC Compliance (ACS Area III, Task B; Area V, Task A)

- **Tasks:**
 - Intercept and track courses using GPS and/or VOR (a DME arc only if charted and available).
 - Comply with ATC clearances and instructions (e.g., an amended clearance to an alternate airport).
 - Enter and fly a holding pattern (standard or nonstandard, published or non-published), slowing to holding speed within 3 minutes of the fix and complying with leg length or timing (e.g., 1-minute legs at or below 14,000 feet MSL).



- **Risk management focus:** Situational awareness and communication errors.
- **Standards:** Navigation: airspeed ± 10 knots, altitude ± 100 feet, selected headings $\pm 5^\circ$, and no more than $\frac{3}{4}$ -scale CDI deflection (DME arc ± 1 NM). Holding: airspeed ± 10 knots, altitude ± 100 feet, selected headings $\pm 10^\circ$, and no more than $\frac{3}{4}$ -scale CDI deflection (ACS IR.V.A.S5–S6, IR.III.B.S4).

Instrument Approaches (ACS Area VI, Tasks A, B, D, E; Area VII, Task D)

- **Tasks:**
 - Fly two different non-precision approaches (e.g., RNAV (GPS) to LNAV or LP minimums, VOR, or LOC) to the minimum descent altitude (MDA): one with a course reversal and one from an initial approach fix without the autopilot or radar vectors.
 - Fly one precision approach (e.g., ILS or RNAV (GPS) to LPV minimums) to the DA.
 - Fly one non-precision approach with loss of the primary flight instrument indicators (backup or partial panel, representing a realistic failure for the installed avionics). This may also count as one of the two non-precision approaches.
 - Fly one circling approach and a landing from an instrument approach, at an airport and runway where circling can be flown safely.
- **Risk management focus:** Approach briefing, stabilized approach, and the missed approach decision.
- **Standards:** Before the final approach segment: altitude ± 100 feet, heading $\pm 10^\circ$, airspeed ± 10 knots. On final: no more than $\frac{3}{4}$ -scale deflection of the lateral (and vertical, if applicable) guidance and airspeed ± 10 knots; MDA $+100/-0$ feet; missed approach initiated immediately at the DA/DH, or at the missed approach point, if the required visual references are not available. Circling: airspeed ± 10 knots, heading/track $\pm 10^\circ$, and altitude $+100/-0$ feet until descending below the MDA or circling altitude, no more than 30° of bank, and touchdown in the first one-third of the runway. Minimums are adjusted for the airplane's approach category (ACS Area VI).
- **Note:** DA is a barometric altitude (MSL), not a height above the ground.

Missed Approach and Holding (ACS Area VI, Task C; Area III, Task B)

- **Tasks:**
 - Execute the published (or ATC-assigned) missed approach procedure and report it to ATC.
 - Transition to a holding pattern assigned by ATC.
- **Risk management focus:** Task prioritization and checklist discipline.
- **Standards:** Promptly initiate the missed approach; configure the airplane per the POH/AFM; maintain the recommended airspeed ± 10 knots, heading/course $\pm 10^\circ$, and altitude ± 100 feet (ACS IR.VI.C.S7). Hold to the standards above.

Emergency Procedures (ACS Area IV, Task B; Area VII, Task A at instructor discretion)

- **Tasks:**
 - Recover from unusual attitudes, nose-high and nose-low, with full and partial panel (required).
 - Respond to simulated system failures (e.g., vacuum pump or attitude/heading reference failure, alternator failure, or a gear extension problem).
 - Simulate lost communications procedures per 14 CFR 91.185.



- **Risk management focus:** SRM and automation management (if TAA-equipped).
- **Standards:** Identify the unusual attitude through proper instrument cross-check and apply the correct control, power, and configuration inputs in the correct sequence to return to stabilized level flight (ACS IR.IV.B.S1), within POH/AFM limitations; follow the POH/AFM emergency procedures.

Mooney-Specific Tasks (instructor discretion)

- **Tasks:**
 - Fly approaches at the POH/AFM approach speeds and configurations recorded in Appendix A.
 - Brief, and when appropriate demonstrate, the POH/AFM emergency gear extension procedure on airplanes with electrically actuated gear. On manual (Johnson bar) gear airplanes, confirm gear-down and locked indications.
 - Manage the installed avionics and autopilot (e.g., Garmin G1000 or G1000 NXi) for approach transitions, if equipped.
- **Risk management focus:** Gear-up landing prevention and approach stability.
- **Standards:** Approach airspeed within ± 5 knots of the POH/AFM target (Mooney Pros standard; the ACS tolerance is ± 10 knots); gear procedure completed correctly per the POH/AFM.

Postflight Procedures (ACS Area VIII, Task A)

- **Tasks:**
 - Conduct a postflight inspection, check instruments and equipment, and document any discrepancies and servicing needs.
- **Risk management focus:** Reporting equipment problems before the next IFR flight.
- **Standards:** Complete the postflight inspection and document discrepancies, if any (ACS IR.VIII.A.S1).

Flight Notes

- **View-limiting device:** Used in VMC to simulate instrument conditions (AC 61-98E, paragraph 5.3). Brief when and how it will be put on and removed. The instructor maintains traffic vigilance.
- **Mooney characteristics:** Emphasize precise airspeed control on approach and landing; the Mooney's low-drag airframe is slow to decelerate, and excess airspeed leads to floating and long landings. Cover manually operated (Johnson bar) landing gear on airplanes so equipped.
- **TAA integration:** If equipped (e.g., Garmin G1000 or G1000 NXi), evaluate automation competency (e.g., mode awareness and failure management).
- **ATC environment:** Select airports with varied ATC complexity (e.g., Class D to Class C airspace) to test communication skills.
- **Risk management:** Incorporate the PAVE and 3P models in debriefs to evaluate ADM.

Completion Standards

- **Ground evaluation:** Explain level for IFR regulations, procedures, and Mooney systems.



- **Flight evaluation:** Perform level for all required IPC tasks, meeting the Instrument Rating – Airplane ACS standards, and Manage-Decide level for risk management and SRM, demonstrating safe and competent IFR operation of the Mooney.
- **Endorsement:** On satisfactory completion, the instructor endorses the pilot's logbook for completion of an IPC under 14 CFR 61.57(d), using the sample endorsement in AC 61-65 (current edition).
- **Unsatisfactory performance:** The instructor does not endorse an unsatisfactory IPC. The session is logged as dual instruction given, and the instructor recommends additional training (AC 61-98E, paragraph 5.4.1).

Assessment

- Use the LCG scales: Describe, Explain, Practice, Perform for maneuvers and procedures; Explain, Practice, Manage-Decide for risk management and SRM.
- Postflight collaborative critique of performance, SRM, and risk management, beginning with the pilot's self-assessment and using the IPC Checklist to confirm every required task was covered.
- **Deficiencies:** If the pilot does not meet ACS standards, the instructor documents the deficiencies and recommends additional training, with suggestions for improving weak areas.

Customization

- Tailor scenarios to the pilot's experience (e.g., recent IFR experience, TAA familiarity).
- Adjust approaches to local airspace and airport facilities (e.g., RNAV vs. ILS availability), while still meeting the ACS approach requirements.
- Include elective tasks (e.g., a DME arc where charted, or complex airspace navigation) at instructor discretion.

IPC Checklist (adapted from AC 61-98E, Appendix I)

Instructor job aid. Mark each item S (satisfactory), U (unsatisfactory), or N/A.

Item	S / U / N/A	Notes
GROUND PORTION		
Pilot certificate, instrument rating, medical (or BasicMed), flight review status, and PIC agreement		
Instrument experience summary and logbook review		
14 CFR part 91, Subparts B, C, and E		
Chart interpretation (SIDs/ODPs, STARs, IAPs, RNAV/GPS/WAAS)		
Weather analysis and flight planning (fuel, alternates, NOTAMs/TFRs)		
Mooney systems, IFR equipment, and emergency procedures		
AOA principles and indicator (if installed)		
Risk management (PAVE, 3P)		
FLIGHT PORTION		



Item	S / U / N/A	Notes
Preflight inspection and IFR equipment check		
Basic attitude instrument flying		
Holding procedures (III.B)		
Intercepting and tracking navigation systems (V.A)		
Recovery from unusual flight attitudes (IV.B)		
Non-precision approach #1, with course reversal (VI.A)		
Non-precision approach #2, from IAF without autopilot or vectors (VI.A)		
Precision approach to DA (VI.B)		
Approach with loss of primary flight instrument indicators (VII.D)		
Missed approach (VI.C)		
Circling approach (VI.D)		
Landing from an instrument approach (VI.E)		
Emergency procedures and system failures (lost communications optional)		
Mooney-specific tasks (approach speed control, gear, avionics/autopilot)		
Postflight: checking instruments and equipment (VIII.A)		

Notes

- **Mooney-specific risks:** Emphasize gear-up landing prevention (common in Mooneys), checklist discipline, and precise airspeed control on approach.
- **TAA considerations:** If the Mooney has a glass cockpit, evaluate automation management per FITS guidance (e.g., switching between GPS and VOR navigation sources).
- **Safety focus:** Ensure adherence to ATC clearances and proper use of checklists, as emphasized in AC 61-98E.
- **Resources:** Use the FAA's Instrument Flying Handbook and Instrument Procedures Handbook for approach briefings and emergency procedures.

Contact

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Mooney Pros is a FAA Team Industry Member. FAA Team membership does not constitute FAA endorsement of Mooney Pros or its training.



Appendix A: Aircraft-Specific IFR Data

Completed by the instructor and pilot in Ground Module 2, using the POH/AFM and supplements for the specific airplane. Do not use values from another airplane, another model, or a generic source.

Item	Entry
Registration (N-number)	
Model and serial number	
Engine (make/model) and propeller	
POH/AFM revision/date and applicable supplements (avionics, autopilot, other)	
IFR GPS/navigator model, approach capability (e.g., WAAS/LPV), and database expiration	
Autopilot model and approach-mode limitations (per supplement)	
Altimeter/static (91.411) and transponder (91.413) test due dates; last VOR check (91.171)	
Pilot / Instructor / Date	

Speed, limitation, or performance item	Value (units)	POH/AFM section/page
VSO / VS1: stall speeds (landing configuration / clean)		
Instrument approach category (VREF if specified, otherwise 1.3 VSO at max certificated landing weight; 14 CFR 97.3)		
VA: maneuvering speed (at max weight and at today's weight)		
VFE: max flap-extended speed (takeoff/approach flaps; full flaps)		
VLO: max landing gear operating speed (extension; retraction)		
VLE: max landing gear extended speed		
VNO / VNE		
VY / VX		
Best glide speed		
Planned holding speed and power setting		
Planned instrument approach speed and configuration (initial; final)		
Normal approach speed (full flaps)		
Missed approach / go-around speed and configuration sequence		
Maximum demonstrated crosswind component		
Usable fuel; planning cruise power, TAS, and fuel flow		
Maximum operating altitude (and oxygen requirements)		
Turbocharger/manifold pressure limits; speed brake limitations (if equipped)		
Ice protection equipment and limitations (if equipped)		



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Speed, limitation, or performance item	Value (units)	POH/AFM section/page
Emergency gear extension procedure (reference)		