

**FLIGHT TRAINING INC. – MOONEY FITS SCENARIO-BASED
TRANSITION SYLLABUS**

LESSON 1

OBJECTIVE

The Pilot in Training (PT) will demonstrate a basic knowledge and proficiency in avionics and aircraft systems equipment location and operating procedures and takeoff and landing operations.

SCENARIO 1

Preflight

The PT will plan a short visual cross-country flight of about one hour or less in duration, to include a full stop landing at an airport other than the departure airport.

The PT will perform all weight and balance and performance calculations, and describe his/her approach to management of the specific risks involved in this flight. The instructor will provide the necessary guidance to insure that the overall plan provides for all the scenario activities and sub activities listed for this lesson. The PT is evaluated on the ability to plan a comprehensive flight with conscious attention to all the required scenario activities.

The PT will perform all preflight procedures, engine start, avionics set-up, taxi and before takeoff procedures for each leg of the scenario. This includes GPS flight plan programming for the flight as well as PFD and MFD set-up and an effective preflight briefing.

The preflight activities will be accomplished prior to takeoff for each leg of the flight.

Leg 1

The PT will perform a normal takeoff and departure to a safe altitude. When established in the departure, the autopilot will be engaged. Climbing turns will be performed during departure using the autopilot with a transition to VFR cruise. Aircraft systems, avionics and autopilot functions will all be practiced during cruise, descent and normal landing phase of the flight. Airspeed and configuration changes are practiced during cruise. At some point the flight will proceed to a designated “practice” area to accomplish steep turns, slow flight, flight at Minimum Control Airspeed (MCA), stall recognition and recovery and unusual attitude recovery. The flight will then continue to the destination airport where the PT will practice normal, crosswind and rejected landings to a full stop.

Leg 2

A different route will be programmed into the GPS flight plan for the return trip. After departure the flight will continue in the manual mode with continued practice of aircraft systems and avionics. Prior to arrival, the autopilot will be engaged and the VNAV function will be used for the descent. The instrument rated PT will execute a coupled ILS approach to a full stop landing. The VFR PT will perform a normal descent and pattern transition followed by a normal landing approach to a full stop landing.

Postflight

The PT will perform all aircraft shutdown and securing procedures.

PREREQUISITES

Completion of the Flight Training Inc. (FTI) Mooney Academic Training Course corrected to 100%.

PT PREPARATION

Review the following:

1. Normal operating procedures in the Mooney FAA Approved Pilot's Operating Handbook, the FTI Pilot Training Manual (PTM) and the FTI Abbreviated Checklist.
2. The FTI Flight Planning Worksheet
3. Airport information for the departure and destination airports
4. Route of flight information for both trips
5. Aircraft and avionics systems display procedures
6. The Maneuvers and Procedures section of the FTI PTM

BRIEFING ITEMS

A. INITIAL INTRODUCTION

PTs should have a clear understanding of the Pilot-in-Command concept and how command is transferred. This should include a detailed pre-takeoff briefing procedure and format.

B. SINGLE-PILOT RESOURCE MANAGEMENT (SRM)

1. Checklist procedures
2. Avionics systems to be used during the flight
3. Radio procedures
4. Operating procedures

C. SAFETY

The following safety items should be briefed to all PTs

1. Traffic and mid-air collision avoidance procedures
2. Taxi procedures
3. Runway Incursion procedures

LESSON 2

OBJECTIVE

The PT will plan a flight that will provide for the practice of skills introduced in Lesson 1, and will safely and efficiently demonstrate maneuvers in a Technically Advance Aircraft (TAA).

SCENARIO 2

The Instructor will provide feedback to the PT upon completion of each leg and guidance on the remainder of the flight.

Preflight

The PT will plan a VFR cross-country flight with a return to the home airport after landings at 3 other airports. This flight should consist of 4 legs with a full stop landing after each leg.

The PT will plan the flight profile and perform all preflight procedures, engine start, avionics set-up, taxi, before takeoff procedures before each leg of the flight. The PT will perform all radio communications for the flight.

Leg 1

The PT will perform a normal takeoff and departure to a safe altitude. When established in the departure phase, the autopilot will be engaged. Climbing turns and transition to cruise are practiced. Aircraft systems, avionics, and autopilot functions are practiced during cruise, descent and normal landing phase of the flight. GPS navigation including flight plan pages are practiced during the first leg.

The PT will plan and conduct a normal descent and pattern transition with a short field landing to a full stop, including “land and Hold Short Operations” (LAHSO). The PT will perform a normal takeoff to a closed traffic pattern to perform a crosswind (actual or simulated) landing to a full stop. The PT will perform a maximum performance takeoff to a closed pattern to perform a partial flap landing to a full stop.

Leg 2

A short field takeoff is performed followed by a manual constant rate climb and transition to cruise. Cruise procedures and Flight Plan modification are practiced on this phase of the scenario with a visual

descent and transition into the next airport. The IFR PT will execute an autopilot assisted GPS approach followed by a manual missed approach, and then vectors for a coupled ILS to a missed approach to remain in the pattern for a soft field approach and landing to a full stop. The VFR PT will execute a GPS assisted entry into the traffic pattern and a soft field approach and landing to a full stop.

Leg 3

The PT will perform a soft field takeoff with an autopilot-assisted climb and transition to cruise. The PT will practice use of the avionics systems and will be introduced into uncomplicated emergencies during cruise. The IFR PT will execute a manual VOR/GPS approach. The descent and transition into the traffic pattern will include a runway change with a crosswind landing to a full stop. The VFR PT will perform a GPS assisted entry into the traffic pattern with a runway change to a crosswind landing to a full stop.

Leg 4

The PT will perform an aborted takeoff to a full stop, followed by a normal takeoff with an autopilot-assisted climb and transition to cruise. The Instructor will select GPS and avionics procedures to be practiced enroute. The PT will perform a VNAV descent into an airport within Class C airspace. The IFR PT will execute a manual ILS approach to a full stop landing. The VFR PT will perform a GPS assisted entry into the traffic pattern for a normal full stop landing.

Postflight

The PT will perform all aircraft shutdown and securing procedures. The Instructor will provide feedback and planning data to the PT for the next flight.

PREREQUISITES

Completion of Scenario 1

PILOT IN TRAINING PREPARATION

1. Review previous lesson
2. Review POH
3. Plan flight profile using the scenario listed above

BRIEFING ITEMS

A. INITIAL INTRODUCTION

1. Weather
2. Flight profile

3. Command transfer and pre-takeoff briefing

B. SRM

1. Avionics systems to be used during this flight
2. Decision making

C. SAFETY

1. Traffic and mid-air collision avoidance
2. Appropriate NOTAMS
3. Airport diagrams and taxi procedures
4. Emergency procedures

LESSON 3

OBJECTIVE

The PT will demonstrate proficiency in all critical action emergency procedures and a representative cross section of non-critical action emergency procedures described in the aircraft POH.

SCENARIO 3

The PT may plan the same cross-country flight from lesson 2 but in reverse direction (VFR or IFR as appropriate).

Preflight

The PT will plan the profile and perform all preflight procedures, engine start, avionics set-up, and before takeoff procedures before each leg of the flight. Runway incursions, high wind taxi situations and abnormal indications and corrective actions will be practiced.

Leg 1

The PT will perform a normal takeoff and autopilot assisted departure. In cruise, the PT will execute the proper procedures for an engine fire emergency and for isolated system failures.

The autopilot will be turned off in cruise and the flight will proceed under Basic Attitude Instrument (BAI) flying conditions. Airspeed and configuration changes will be practiced during cruise.

The IFR PT will plan and perform a GPS hold followed by a GPS approach to a missed approach and a GPS Nav to the VOR for the VOR approach to a full stop landing. The VFR PT will plan and perform a GPS assisted entry and approach procedure to a full stop landing.

Leg 2

The PT will initiate a normal takeoff and the instructor will call for an abort. The PT will taxi back and perform a high performance takeoff with an autopilot-assisted departure (IFR pilots will use the DP on the GPS as part of their flight plan). In cruise, the PT will perform the proper procedures for a significant engine power loss, electric trim failure and a complete electrical failure.

The IFR PT will perform an autopilot-assisted ILS followed by an autopilot-assisted missed approach with GPS Nav to the holding pattern and then a manual ILS approach to a full stop landing.

The VFR PT will perform a GPS assisted VFR entry into the pattern with an engine failure in the pattern followed by a power-off landing to a full stop.

The PT will perform a normal takeoff and closed pattern followed by a 10-degree flap landing to a full stop. The PT will perform a normal takeoff and closed pattern followed by a zero-flap landing to a full stop.

Leg 3

The PT will perform a normal takeoff and autopilot-assisted departure. The IFR flight plan will be cancelled and the 3rd leg will proceed under VFR. The PT will perform recovery from unusual attitudes; perform the procedure for a complete engine failure, an emergency descent and a diversion to the home airport.

The VFR PT will plan and perform a GPS assisted entry and approach procedure to a full stop landing.

Postflight

The PT will perform all aircraft shutdown and securing procedures.

PREREQUISITES

Completion of Scenario 2

Completion of a review of Abnormal and Emergency Procedures

PILOT IN TRAINING PREPARATION

1. Review previous lessons
2. Review POH
3. Plan flight profile using scenario as listed above

BRIEFING ITEMS

A. INITIAL INTRODUCTION

1. Weather
2. Flight profile
3. Command transfer and pre-takeoff briefing

B. SRM

1. Avionics systems to be used during this flight
2. Abnormal and emergency procedures
3. Decision making

C. SAFETY

1. Mid-air collision avoidance procedures
2. Appropriate NOTAMS
3. Airport diagrams and taxi procedures
4. Emergency procedures

LESSON 4

OBJECTIVE

The PT will combine previously learned flight skills and instrument procedures to achieve flying proficiency.

SCENARIO 4

The PT will plan and perform a detailed cross-country flight using airports not previously visited. The flight will include transition into an airport within Class C airspace, and the maneuvers and procedures should include representative sub-activities selected from the list of scenario activities for the course.

PREREQUISITES

Completion of lesson 3

PILOT IN TRAINING PREPARATION

1. Review previous lessons
2. Review the POH
3. Plan flight profile using the scenario from lessons 3 and 4

BRIEFING ITEMS (PT)

A. INITIAL INTRODUCTION

1. Weather
2. Flight profile
3. Command transfer and pre-takeoff briefing

B. SRM

1. Avionics systems to be used during this flight
2. Abnormal and emergency procedures
3. Decision making

C. SAFETY

1. Mid-air collision avoidance procedures
2. Appropriate NOTAMS
3. Airport diagrams and taxi procedures
4. Instrument approach procedures
5. Emergency procedures

LESSON 5
FINAL EVALUATION FLIGHT

OBJECTIVE

The PT will demonstrate knowledge and skill level appropriate and demonstrate judgment, aeronautical decision-making skills and single pilot management skills to effectively, efficiently and safely operate a Mooney in an actual cross-country exercise

SCENARIO 5

The PT and the Instructor will work together to plan a detailed cross-country flight to multiple airports. The flight profile will include samples of the maneuvers and procedures listed in the course syllabus with an emphasis on judgment and decision-making in ambiguous situations.

PREREQUISITES

Completion of lesson 4

PILOT IN TRAINING PREPARATION

1. Review previous lessons
2. Review the POH
3. Plan flight profile using the maneuvers and procedures listed in the course syllabus

BRIEFING ITEMS

A. INITIAL INTRODUCTION

1. Weather
2. Pilot in Command

B. SRM

1. Flight profile
2. Decision making

C. SAFETY

1. Mid-air collision avoidance procedures
2. Appropriate NOTAMS
3. Airport diagrams and taxi procedures
4. Instrument approach procedures
5. Emergency procedures

Desired Pilot in Training (PT) Scenario Outcome – The object of scenario-based training is a change in the thought process, habits, and behaviors of the PT during the planning and execution of the scenario. Since training is “student-centered”, the success of the training is measured in the following desired PT performances:

- **Describe** – at the completion of the scenario the PT will be able to describe the physical characteristics and cognitive elements of the scenario activities.
- **Explain** – at the completion of the scenario the PT will be able to describe the scenario activity and understand the underlying concepts, principles, and procedures that comprise the activity.
- **Practice** – at the completion of the scenario the PT will be able to practice the scenario activity with little input from the instructor. The PT with coaching and/or assistance from the instructor will quickly correct minor deviations and errors identified by the instructor.
- **Perform** – at the completion of the scenario, the PT will be able to perform the activity without assistance from the instructor. Errors and deviations will be quickly identified and corrected by the PT. At no time will the successful completion of the activity be in doubt. “Perform” will be used to signify that the PT is satisfactorily demonstrating proficiency in traditional piloting and systems operation skills.
- **Manage/Decide** – at the completion of the scenario, the PT will be able to correctly gather the most important data, identify possible courses of action, evaluate the risk inherent in each course of action, and make the appropriate decision. “Manage/Decide” will be used to signify that the PT is satisfactorily demonstrating acceptable SRM skills.