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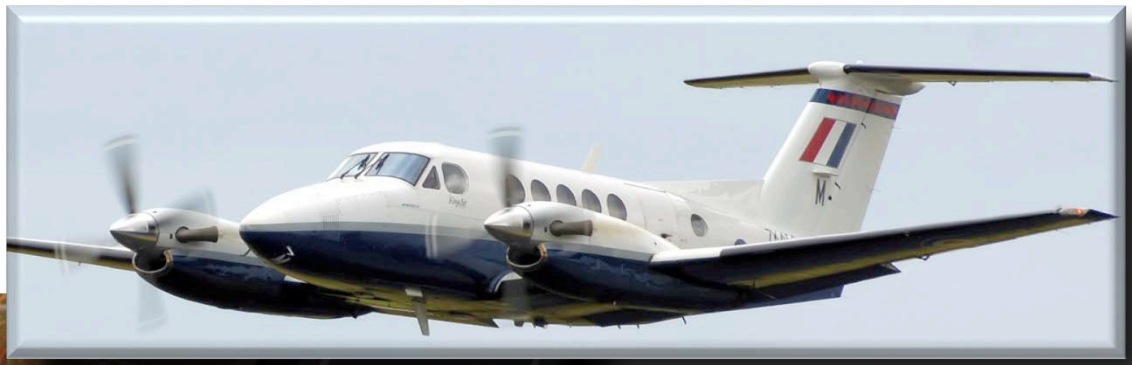
FITS ACCEPTED

Transition Training Syllabus

King Air 90/200



FAA/Industry Training Standards
FITS

Wright Aviation Services LLC
April, 2014

Published by
Wright Aviation Services, LLC
Phoenix, AZ

Serving:
Dear Valley Airport (DVT) Scottsdale Airport (SDL), Prescott Airport (PRC)

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Section 1 – FITS Introduction

FAA Industry Training Standards (FITS)
The FITS Program is a joint project of the FAA sponsored Center for General Aviation Research (CGAR), Embry Riddle Aeronautical University, The University of North Dakota, and the General Aviation Industry.

FITS Mission Statement
Ensure pilots learn to safely, competently, and efficiently operate a technically advanced piston or light jet aircraft in the modern National Airspace System (NAS).

FITS Imperatives
The SAFER SKIES initiative is a commitment by the FAA and the aviation industry to significantly reduce general aviation accidents—the majority of which (75%) are pilot error related. Compounding the challenge of this initiative is the emergence of a new class of technically advanced general aviation aircraft that offers significant improvements in performance and capability. These innovative aircraft are equipped with automated cockpits and cruising speeds that require flight management and decision-making skills normally expected from ATP-level pilots; yet they will be flown by lots with significantly lower qualification and experience levels. It is imperative that a new training philosophy be implemented which reduces the human error element and accelerates acquisition of higher-level judgment and decision-making skills.

FITS training recognizes the wide variety of advanced technology systems and the different combinations and permutations of these systems as compared to the relatively similar layout of the conventional cockpits they replace.

Within a type of system (e.g. different operations of GPS navigators)

Within categories of advanced technology systems
- Pilot Flight Displays (PFD)
- Multi Function Displays (MFD)
- Traffic Displays
- Weather displays
- Terrain Displays
- Autopilots

FITS Training Goals

It is imperative to provide pilots of Technically Advanced Aircraft (TAA) with the best possible training in the following areas:

Higher Order Thinking
- Aeronautical Decision Making
- Situational Awareness
- Pattern Recognition and Decision Making

Automation Competence
- Planning and Execution
- Procedural Knowledge
- Psychomotor Skills

Section 2 – FITS Terminology and Definitions

Key Terms

Aeronautical Decision Making (ADM) - A systematic approach to the mental process used by aircraft pilots to consistently determine the best course of action in response to a given set of circumstances.

Airmanship – The consistent use of good judgment and well-developed skills to accomplish flight objectives. Pilots with strong airmanship skills understand the capabilities and limitations of themselves; their team; their aircraft; the physical, regulatory, and organizational environment; and the multiple risks associated with a particular flight.

Technically Advanced Aircraft (TAA) – A General Aviation aircraft that combines some or all of the following design features; advanced cockpit automation system (Moving Map GPS/ Glass Cockpit) for IFR/VFR flight operations, automated engine and systems management, and integrated auto flight/autopilot systems.

Light Turbine TAA – A jet or turboprop aircraft weighing 12,500 lbs or less and equipped with cabin pressurization, and conventional (non-swept) wings. This aircraft contains all the features of a Technically Advanced Aircraft and will be capable of operating in Class A airspace on normal mission profiles. A Light Jet TAA will be certified for Single-Pilot operation.
(Note: Light TAAs are specifically defined as non-swept wing due to the significantly increased training load incurred when transitioning pilots to swept wing aircraft)

Scenario Based Training (SBT) – SBT is a training system that uses a highly structured script of real-world experiences to address flight training objectives in an operational environment. Such training can include initial training, transition training, upgrade training, recurrent training, and special training.

Single Pilot Resource Management (SRM) – The art and science of managing all the resources (both on-board the aircraft and from outside sources) available to a single pilot (prior and during flight) to ensure that the successful outcome of the flight is never in doubt. The primary emphasis will be on integrating the developing and enhancement of mental process and underlying thinking skills needed by the pilot to consistently determine the best course of action in response to a given set of circumstances.

Related Terms and Abbreviations

Aircraft Automation Management – The ability to control and navigate an aircraft by means of the automated systems installed in the aircraft.

Automated Navigation Leg – A flight of 30 minutes or more conducted between two separate airports in which the aircraft is controlled primarily by the autopilot and the on board navigation systems. A VFR Automated Navigation Leg is flown on autopilot from 1,000 ft AGL on the departure until entry to the VFR traffic pattern. An IFR Automated Navigation Leg is flown on autopilot from 500 ft AGL on departure until reaching the decision altitude (coupled ILS approach) or missed approach point (autopilot aided non-precision approach) on the instrument approach. If a missed approach is flown it will be flown using the autopilot and onboard navigation systems.

Automation Competence – The ability to understand and operate the automated systems installed in the aircraft.

Automation Surprise – The characteristic of automated systems to provide different types and varieties of cues to pilots compared to the analog systems they replace, especially in time critical situations.

Automation Bias – The relative willingness of the pilot to trust and utilize automated systems.

Candidate Assessment – A system of critical thinking and skill evaluations designed to assess a training candidates readiness to begin training at the required level.

Critical Safety Tasks/Event – Those mission related tasks and or events that if not accomplished quickly and accurately may result in damage to the aircraft or loss of life.

Data Link Situational Awareness Systems – Systems that feed real-time information to the cockpit such as: weather, traffic, terrain, and flight planning. This information may be displayed on the PFD, MFD, or on other related cockpit displays.

Learner Centered Grading –
Desired Pilot in Training (PT) Scenario Outcomes –

The object of scenario-based training is to achieve a positive change in the thought processes, habits, and behaviors of the PT during the planning and execution of the scenario. Since the training is learner-centered the success of the training is measured in the following desired PT outcomes:

- 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 CFI. The PT with coaching and/or assistance from the CFI will quickly correct minor deviations and errors identified by the CFI.

- Perform – At the completion of the scenario, the PT will be able to perform the activity without assistance from the CFI. Errors and deviations will be identified and corrected by the PT in an expeditious manner. 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, systems operation skills and aeronautical decision making.

- Manage/Decide – At the completion of the scenario, the PT will be able to correctly gather the most important data available both within and outside the cockpit, 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 including aeronautical decision making.

Emergency Escape Maneuver – A maneuver (or series of maneuvers) performed manually or with the aid of the aircraft's automated

systems that will allow a pilot to successfully escape from an inadvertent encounter with Instrument Meteorological Conditions (IMC) or other life-threatening situations.

Mission Related Tasks – Those tasks required for the safe and effective accomplishment of the mission(s) that the aircraft is capable of and required to conduct.

Multi-Function Display MFD – Any display that combines navigation, aircraft systems, and situational awareness information onto a single electronic display.

Electronic Flight Information System (EFIS) – is an instrument display system in which the display technology used is electronic rather than electromechanical. The typical display overlays airspeed, altitude, vertical speed as well as rate of bank - rate of turn information on top of an electronic representation of the horizon and aircraft pitch/bank state.

Primary Flight Display (PFD) – Any display that combines information of the primary six flight instruments in an EFIS display, along with related navigation and situational awareness information, into a single electronic display.

Proficiency Based Qualification (PBQ) – Aviation task qualification based on demonstrated performance rather than other flight time or experience qualifiers.

Simulation – Any use of animation and/or actual representations of aircraft systems to simulate the flight environment. PT interaction with the simulation and task fidelity for the task to be performed are considered the requirements for effective simulation.

Training Only Tasks – Training maneuvers that, while valuable to the PT's ability to understand and perform a mission related task, are not required for the PT to demonstrate proficiency. However, instructor pilots will be required to demonstrate proficiency in Training Only Tasks.

Additional Terms and Definitions:

Attitude – Is a personal motivational predisposition to respond to persons, situations, or events in a given manner that can,

nevertheless, be changed or modified through training. A sort of mental shortcut to aeronautical decision making.

Attitude Management – The ability to recognize hazardous attitudes in oneself and the willingness to modify them as necessary through the application of an appropriate antidote thought.

Cockpit Resource Management, (CRM) – Multi-pilot crew configurations, is the effective use of all personnel and material assets available to a flight crew. CRM emphasizes good communication and other interpersonal relationship skills.

Headwork – Required to accomplish a conscious, rational thought process when making decisions. Good aeronautical decision making involves risk identification and assessment, information processing, and problem solving.

Judgment – The mental process of recognizing and analyzing all pertinent information in a particular situation, a rational evaluation of alternative actions in response to it, and a timely decision on which action to take.

Personality – The embodiment of personal traits and characteristics of an individual, set at a very early age and which are extremely resistant to change.

Poor Judgment (PJ) Chain – A series of mistakes that may lead to an accident or incident. Two basic principles generally associated with the creation of a PJ chain are:

(1) one bad decision often leads to another; and
(2) as a string of bad decision grows, it reduces the number of subsequent alternatives for continued safe flight.
ADM is intended to break the PJ chain before it can cause an accident or incident.

Risk Management – The part of the aeronautical decision making process that relies on situational awareness, problem recognition, and good judgment to reduce risks associated with each flight.

Risk Elements – In ADM risk elements take into consideration the four fundamental risk elements: the pilot, the aircraft, the environment, and the type of operation that comprise any given aviation situation.

Situational Awareness – The accurate perception and understanding of all the factors and conditions within the four fundamental risk elements that affect safety before, during, and after the flight.

Skills and Procedures – The procedural, psychomotor, and perceptual skills used to control a specific aircraft or its systems. They are the stick and rudder or airmanship abilities that are gained through conventional training, are perfected, and become almost automatic through experience.

Stress Management – The personal analysis of the kinds of stress experienced while flying, the application of appropriate stress assessment tools, and other coping mechanisms.

Section 3 – FITS TAA Training Philosophy

FITS TAA Training is a new approach to training pilots that is scenario based rather than maneuver based and is structured to emphasize development of critical thinking and flight management skills. The goal of this new training philosophy is accelerated acquisition of the pilot trainee's top of mind decision-making skills deemed necessary to prevent "pilot error" accidents in Technically Advanced Aircraft (TAA).

Background

Previous training philosophy assumed that newly certificated pilots would generally remain in the local area until recently acquired aviation skills are refined. This is no longer true with the advent of Technically Advanced Aircraft (TAA). Due in part to their superior avionics as well as their higher performance capabilities, these aircraft travel faster and further than their predecessors. As a result, a growing number of entry-level pilots suddenly have the capability of long distance high speed and altitude travel and its incumbent challenges.

Flights of this nature routinely span diverse weather systems and topography requiring advanced flight planning and execution skills. Advanced cockpits and avionics, while generally considered to be enhancements, require new and/or increased technical knowledge and more finely tuned automation competence. Without these skills, the potential for increased human error accidents is daunting. A new method of training is required that accelerates acquisition of these skills during the training process.

Research has proven that learning is enhanced when training is realistic and authentic. In addition, the underlying skills needed to make good judgments and decisions are teachable. Both the military and commercial airlines have embraced these principles through integration of Line Oriented Flight Training (LOFT) and Cockpit Resource Management (CRM) training into their qualification programs.

Both LOFT and CRM lessons mimic real-life scenarios as a means to expose trainees to realistic operations and critical decision-making opportunities. The most significant shift in these programs has been to move away from traditional maneuver-based training to incorporate training that is scenario-based.

Maneuver-based training puts emphasis on the mastery of individual tasks or elements. In maneuvers training, completion standards are driven by regulation, as well as Practical Test Standards, that use flight hours and the ability to fly within plus or minus some specified tolerance as the measurement of competence. The emphasis is on development of motor skills to satisfactorily accomplish individual maneuvers. Only limited emphasis is placed on decision-making, and as a result, when the newly trained pilot goes on to fly in the real world environment, he or she is inadequately prepared to make crucial decisions unassisted.

Scenario Based Training (SBT) and Single Pilot Resource Management (SRM) are similar to LOFT and CRM training but tailored to the TAA pilot's needs. They use the same individual tasks as Maneuver Based Training, but arrange or script them into scenarios that mimic real-life TAA cross-country travel. By emphasizing, on each lesson, that the goal is getting to a destination safely, the trainee readily correlates the importance of individual training maneuvers to safe mission accomplishment.

In addition, throughout the scenario, the instructor poses "What If?" discussions as a means to provide the trainee with increased exposure to proper decision-making. Because the "What If" discussions are in reference to the scenario, there is a vivid connection between decisions made and the final outcome. The "What if" discussions are designed to accelerate the development of decision-making skills by posing real world situations for the PT to ponder. Once again, research has shown that these types of discussions help build judgment and offset low experience.

Questions or situations posed by the instructor must be somewhat open-ended (rather than requiring only rote or one-line responses.) In addition, the instructor guides the trainee through the decision process by:

1. Posing a question or situation that engages the trainee in some form of decision-making activity.
2. Examining the decisions made.
3. Exploring other ways to solve the problem.
4. Evaluating which way is best.

For example, when the trainee is given a simulated engine failure, the instructor might ask questions like:

- What should we do now? Or,
- Why did you pick that place to land? Is there a better choice?
- Which place is the safest?
- Why?

Questions of this nature force the trainee to focus on the decision process, which accelerates acquisition of judgment.

Judgment, after all, is simply the decision-making process, which is learned primarily from experience. It is not innate. All life experiences mold the judgment tendencies brought into flight situations. By artificially injecting decision opportunities into routine training lessons, we speed-up acquisition of experience, and thus enhance judgment and decision-making.

For further information, please reference "Aeronautical Decision Making" in the FAA Aviation Instructor Handbook.

Section 4 – Wright Aviation Services, LLC - FITS Transition Syllabus

This document is a general outline of the items to be included in the ground and flight training of pilots transitioning into the King Air 90/200 aircraft.

Goal

The goal of Transition Training is to prevent accidents by ensuring pilots have proper training in the specified systems and operating characteristics of their aircraft.

Additionally, the King Air 90/200 Transition Training course will develop airmanship knowledge and skills that are not specific to the King Air 90/200.

King Air 90/200 Transition Course Prerequisites:

To enroll in the King Air 90/200 Transition Course the pilot must have at least a *private pilot certificate with AMEL* and *instrument rating* **or** an *ATP certificate*. Additionally, the pilot must complete and return a detailed pilot survey used to define the pilot's personal experience. Based on the survey a recommendation will be made to the pilot as to which training track is most appropriate. The optional training tracks are defined in section 8. The pilot may choose to follow any of the available training tracks with the understanding that course completion will not be awarded until all training tasks contained in this syllabus are completed to proficiency.

Course Elements

SBT represents a non-traditional approach to training. The most significant shift is the move away from the traditional practice of simple maneuver-based training and repetition. SBT uses the same maneuvers, but scripts them into realistic training experiences.

Practice of the task remains the cornerstone of skill acquisition, but the shift is away from meaningless drill/repetition in the practice area toward meaningful application as a part of a normal flight activity. The goal of SBT is to teach the PT how to think and make decisions as early as possible in the flight training process.

This syllabus utilizes some maneuver-based instruction, mainly in approach and landing training, however the emphasis is on SBT. It also provides a coordinated ground/flight sequence of training so that academic support materials are covered before the associated flight lessons. Additionally, the simple-to-complex building-block approach is maintained. Each lesson

increases in complexity and the PT is provided the opportunity to practice the maneuver in a real-world flight experience.

However, it goes well beyond the current training philosophy by placing the PT in a realistic environment. This demands analysis and decision-making from the first pre-attendance lesson to the final check-ride, and the flight mentoring that follows.

Standards:

Several training items require a discussion of airplane component or system limitations. In every airplane system there are limitations based on two factors:

1. The absolute capability of the equipment to perform a particular function and;

2. The individual pilot's ability to use that equipment.

Effective training and experience enables the safe operation of an airplane within these limitations. Some airplane systems are more complex and require a higher level of skill and interpretation. Pilot skills and knowledge vary with a pilot's total flight time, time-in-type, and recent flight training or experience. Pilots must therefore be trained to recognize their personal limitations as well as those of the airplane.

Throughout the ground school and flight curriculum, emphasis will be placed on operating within airplane and pilot limitations. Risk management and decision-making skills (also referred to as Single Pilot Resource Management (SRM)) are consistently integrated into each scenario. A discussion of limitations, as they apply to the pilot's experience level, and with reference to potential problem areas, will enhance the decision process. Transition Training includes discussions of system limitations, flight characteristics of the specific airplane, and how these items apply to a particular pilot.

Ground Training:

The ground-based segments of the syllabus are an integral part of the SBT course and should be integrated into the flight training experience. The pilot-in-training (PT) should demonstrate, through written and oral review, the knowledge to safely operate the King Air 90/200, using the Pilot's Operating Handbook, the Pilot's Training Manual, airplane checklists and other material.

All time critical emergency procedures must be committed to memory. The Instructor will discuss each incorrect response with the pilot to ensure complete understanding and the reasons why their responses were incorrect. The instructor must integrate SRM concepts and techniques in each of these discussions.

The basic structure of thinking skills training is to engage the learner in a task or in solving a problem, ask the learner to reflect on the mental process used to solve the task or problem, consider other ways the task or problem could have been solved, and then consider which way was better or best. A discussion of why one method is or may be better than another will help the learner build better problem-solving strategies.

Flight Training:

Each *Flight Training* lesson consists of a scripted scenario. These scenarios increase in complexity as the PT progresses through the course.

The instructor and PT should use the scenario as a lesson plan. The intent is for the PT to study the lesson script, prepare a scenario plan, and brief it as part of the preflight preparation. Unless extenuating circumstances exist, all training flights will include operations above Flight Level 180 to provide the maximum exposure to the high altitude environment.

It is vitally important that the PT learn to manage the aircraft in the automated mode, as well as fly the aircraft by hand. Good SRM demands that the PT be able to rely on the autopilot and automated navigation systems during times of high cockpit task loads.

Instructors must ensure that emphasis is given to both automated and manual flight modes as described in each scenario. The PT should demonstrate the necessary skill and experience required for the safe operation of the King Air 90/200. Operations must be accomplished within the tolerances specified in the Practical Test Standards appropriate to the pilot's airmen certificate.

Scenario Development:

Scenario development is the key to the FITS transition syllabus. The PT ideally conducts scenario planning with little assistance from the instructor. The instructor, with guidance from the syllabus, will act as a mentor and assist in establishing boundaries for the scenario and to guide the planning process. This will ensure that learning outcomes are achieved in an orderly and efficient manner.

The PT and the Instructor will discuss the lesson syllabus and decide (in advance) the most likely destination for the scenario. The PT must have the prior knowledge, flight proficiency, and experience with the TAA to be able to concentrate on the transition training. If the instructor determines that the PT is not demonstrating this level of competency, the instructor should discontinue advancing through the transition training until it is achieved. Proficiency must be developed during each segment of the syllabus to allow the PT to proceed to the next lesson.

Note: The instructor must be completely versed in all the automated features of the aircraft and must be able to instruct PT and demonstrate

their proper and appropriate use. Failure to completely master and trust cockpit automation will severely reduce the effectiveness of TAA training.

Instructor / PT Responsibilities:

Pre-Scenario Planning - For Scenario Based Instruction to be effective; it is vital that the PT and instructor communicate well in advance of the training session. The instructor should communicate the following information in order that the PT can plan accordingly:

- Scenario destination(s)
- Desired PT learning outcomes
- Desired level of PT performance
- Desired level of automation use
- Possible in-flight scenario changes (during later stages of the program no preflight notification is required)

When a PT is conducting the transition syllabus, the instructor should make the situation as realistic as possible. The PT will know the mission parameters in advance of the flight. While the actual flight may deviate from the original plan, it allows the PT to be placed in a realistic scenario, and provides a frame of reference for all follow-ups on actions and decisions.

Scenario Planning – Before the flight, the instructor will propose the scenario to be planned. After discussion with the instructor, the PT will plan the flight to include:

- Route
- Destination(s)
- Weather
- NOTAMS
- Desired PT learning outcomes
- Possible alternate scenarios and emergency procedures

Pre-Flight Briefing – The PT will brief the instructor on the flight scenario, which will include:

- Route, weather, and NOTAMS
- Accomplishment of desired training outcomes
- Emergency procedures and alternate scenarios
- SRM considerations (see the SRM outcomes list in section 5)
- Safety considerations

In-Flight – The PT will execute the scenario plan with minimal intervention from the instructor. The instructor should provide scenarios that allow the PT to be exposed to the differences of the TAA aircraft while exercising critical thinking skills. For example, the instructor may create a situation that requires the PT to divert. In doing so, the PT should utilize TAA automated systems and critical thinking skills to determine the best course of action.

Post-Flight – The post-flight review should be a dialogue between the PT and the instructor critiquing the flight scenario. Typically, the discussion should be led by the PT self-critiquing and the instructor enabling the PT to solve the problems and drawing conclusions. Based on this analysis, the PT and instructor should discuss methods and alternatives for improvement as well as those items considered successful. This step is critical in the development of higher order thinking and decision-making skills.

In the beginning, the instructor may take a leading role in the post-flight review demonstrating to the PT the proper method to conduct the post-flight; however, it is vital that the PT learn to identify performance deficiencies, problem solve and administer corrective actions independently.

Grading and Evaluation

It is important that the PT and instructor understand that the object of SBT in this transition training course is to cause a positive change in the thought processes, habits, and behaviors of the PT.

The King Air 90/200 transition-training syllabus is learner centered. It is important that the PT understands the success of the transition-training syllabus is measured in the desired PT outcomes list below. These desired outcomes are not based on the traditional standards. Instead, they are based on the knowledge and skill level of the PT.

The grading and evaluation of flight performance shall be based on the appropriate FAA Practical Test Standards using the Desired PT Scenario Outcomes defined in Section 1.

PT performance shall be graded and evaluated as:

- PROFICIENT (1),
- NORMAL PROGRESS (2) or
- ADDITIONAL TRAINING REQUIRED (3).

The criteria for evaluation shall be as follows:

- PROFICIENT (1) -— Based on the Desired PT Scenario Outcomes defined in Section 1, a grade of PROFICIENT (1) will be awarded when the PT in training attains the level of Perform or Manage-Decide. Perform is used to describe proficiency in a skill item such as an approach or landing. Manage-Decide is used to describe proficiency in an SRM area such as ADM.
  (Note: a grade of Explain may be used to signify proficiency in an event that is not performed in the aircraft due to safety considerations)
- NORMAL PROGRESS (2) – Based on the Desired PT Scenario Outcomes defined in Section 1, a grade of NORMAL PROGRESS (2) will be awarded when the PT attains the level of performance below proficiency that is required for the individual training scenario. Describe, Explain and Practice are used to describe PT learning levels below proficiency in both skill items and SRM areas.
- ADDITIONAL TRAINING REQUIRED (3) – Based on the Desired PT Scenario Outcomes defined in Section 1, a grade of *ADDITIONAL TRAINING REQUIRED* will be given when the PT fails to attain the level of performance that is required for the individual training scenario.

In order to complete any pilot training course, the client must attain a grade of Proficient (1) in all areas of training. Any maneuver or procedure completed with less than a Proficient grade (1) must be repeated until a grade of 1 is attained before the client can satisfactorily complete the course.

The standards for course completion for a pilot course requiring the issuance of an Airline Transport Pilot (ATP) Certificate are found in the FAA's Airline Transport Pilot and Type Rating Practical Test Standards.

The standards for course completion for a pilot course not requiring the issuance of an Airline Transport Pilot (ATP) Certificate are those found in the FAA's Instrument Rating Practical Test Standards.

Section 5 – King Air 90/200/FITS Scenario Guide

Pre Training Survey: Before arrival the prospective PT will submit a written questionnaire to the training manager. Sufficient information about pilot qualifications will be included in the questionnaire to allow tailoring of the training to individual needs. For many, this training program will be their first experience in a TAA.

Flying single pilot IFR in faster, complex TAA requires good instrument skills, excellent systems knowledge, and strong airmanship skills. Simple volume of flight experience and prior training may not be as important as the type and quality of that flight experience and training. Information pertaining to the computer literacy of the PT as well as prior digital equipment experience will prove valuable in providing the most effective training experience possible.

SRM (Single-Pilot Resource Management) requires resource management skills that may have been learned in other endeavors. The pre-training survey will attempt to capture as much of this data as possible in a concise way.

Pre Arrival Academics: Since many pilots encountering their first TAA do not have the necessary foundation knowledge, it is important this material be presented to the pilot for his/her study prior to entry into the King Air 90/200 training program.

The following is a partial list of academic training topics that may be presented on-line or by CD. Since little instructor supervision is available, this training will be limited to basic knowledge and completion will be verified through knowledge testing.

1. Cockpit Integration
    a. PFD/AHRS (where applicable)
    b. MFD (where applicable)
        i. Datalink Situational Awareness Systems (Weather, Traffic, Terrain)
        ii. Systems and Navigation Displays
        iii. Checklist Integration
2. Communication, Navigation, and Surveillance Systems (CNS)
    a. VHF Communication Systems
    b. GPS (if installed)
    c. VOR/DME
3. Electrical System

4. Hydraulic System
5. Fuel System
6. Environmental Systems (Air Conditioning and Pressurization)
7. Landing Gear
8. Flight Controls
    a. Elevator, Rudder, Aileron
    b. Flaps
    c. Trim
9. Engines
10. Performance data, Weight and Balance, and Flight planning
11. High Altitude Navigation, Airspace, and Air Traffic Control Procedures
12. High Altitude Physiology
13. Practical Risk Management for Pilots

Pre Transition Enrichment Training:

Enrichment training for the King Air 90/200 is designed to facilitate the PT's progress toward successfully completing the King Air 90/200 transition-training course. Scenarios and maneuvers will be added or eliminated as needed to train the PT to the **practical test standards** appropriate to the PT's certification.

The primary focus of this training is to reinforce the basic instrument skills required to fly the King Air 90/200 and, as appropriate, introduce cockpit automation to the PT with little or no TAA experience. PT will be evaluated on his/her instrument skills, automation adaptability, cockpit management and aviation decision making skills.

Pre Transition Enrichment Training options are defined in section 8.

On Site Ground Training:

Ground Training in the King Air 90/200 will be conducted through a series of learning modules. Ground training for the King Air 90/200 Transition Course will consist of a minimum of 20 hours of classroom instruction. The following subjects will be covered:

1. Cockpit Integration (if installed in specific aircraft)
    a. PFD/AHRS (where applicable)
    b. MFD (where applicable)
        i. Datalink Situational Awareness Systems (Weather, Traffic, Terrain)
        ii. Systems and Navigation Displays
        iii. Checklist Integration
2. Communication, Navigation, and Surveillance Systems (CNS)
    a. VHF Communication Systems
    b. GPS (if installed)
    c. VOR/DME
3. Electrical System
4. Hydraulic System
5. Fuel System
6. Environmental Systems (Air Conditioning and Pressurization)
7. Landing Gear
8. Flight Controls
    a. Elevator, Rudder, Aileron
    b. Flaps
    c. Trim
9. Engines
10. Performance data, Weight and Balance, and Flight planning
11. High Altitude Navigation, Airspace, and Air Traffic Control Procedures
12. High Altitude Physiology
13. Practical Risk Management for Pilots

Module Segments:

Each module will consist of the following three segments:

Segment One: A review of pre-arrival training materials (if applicable) in a guided discussion format will be conducted. The purpose of segment one is to review pertinent material and establish the foundation for the new information provided in segment two.

Since most pre-arrival training is conceptual in nature, the evaluation of the PTs progress will be accomplished during this segment. While a guided discussion including essay or multiple choice testing is preferred, Computer Based Training (CBT) or other means that allow the instructor to reasonably determine PT preparedness level may be substituted.

Segment Two: Guided Discussion of the appropriate technical specifications, operational limitations, and normal and emergency procedures for a given subject, aircraft system or group of systems.

This segment will focus on information about the aircraft that is useful and controllable by the PT. Special emphasis will be placed on automated systems. While an interactive guided discussion is preferred, CBT or other means that allow the instructor to reasonably determine PT preparedness level may be substituted.

Segment Three: This segment combines SRM skills with the systems knowledge gained during segment one and two (and during all previous learning modules).

During this segment the instructor presents the PT with an actual pre-flight or inflight scenario and expects the PT to lead a discussion of the solution with the instructor. The PT is expected to identify all the actions required to safely operate the systems, handle any emergencies that are presented, and recover the aircraft safely.

The instructor will not let the scenario end until all the steps required to complete the scenario to a safe landing are completed. Attention to detail is very important and the instructor should increase the complexity of the scenario and the completeness of detail in the PTs' response as the academic phase progresses.

Whenever possible, cockpit and system diagrams, "power point" or other multimedia presentations, computer simulations and/or appropriate Aviation Training Devices (ATDs), where available, will be employed to create the realism required. The instructor controls the scenario by role-playing as an air traffic controller and by the timing and complexity of scenario inputs. Basic SRM concepts must be identified by the instructor and employed throughout the training scenarios.

FLIGHT LESSON 1 – Introduction To The King Air 90/200

Objective: The Pilot in Training (PT) will demonstrate a basic knowledge and proficiency in avionics and the appropriate aircraft system equipment location and normal operating procedures in the King Air 90/200 as well as demonstrate good basic airmanship skills.

Prerequisites:

1. Completion of the pre-arrival training packet corrected to 100%.
2. Completion of first ground training session and an oral quiz covering Single Pilot Resource Management (SRM), normal operating procedures, and applicable aircraft systems and avionics.

PT Preparation: Complete and/or review the following:

1. Normal operating procedures in the Pilot's Operating Handbook (POH)
2. Compute all weight & balance and performance data
3. Airport information for departure destination and potential alternate airports.
4. Route of flight information.
5. Aircraft and avionics systems display and procedures.
6. All pertinent weather and NOTAM information
7. Personal and Weather Risk Assessment

BRIEFING ITEMS:

INITIAL INTRODUCTION: PT should have a clear understanding of the Pilot-in-Command concept and how command is transferred. This should include a detailed pre-Take-off briefing procedure and format.

SINGLE PILOT RESOURCE MANAGEMENT (SRM):

- Basic pre-flight and in-flight task management,
- Automation management,
- Aeronautical decision-making and Risk management,
  - Review Weather Risk Assessment
  - Review Personal Risk Assessment
- Situational awareness and controlled flight into terrain awareness

SAFETY:

The following safety items should be briefed by PT and facilitated by the instructor:

- Mid-air collision avoidance procedures that include the use of ATC flight following and on-board equipment, if available.
- Taxi procedures that includes runway incursion avoidance techniques
- Use of flight plans
- Exchange of aircraft controls procedure between the PT and instructor, especially in the case of an actual emergency
- Review of phraseology/terminology (especially pertaining to the use of systems such as flaps, landing gear, engine controls, pressurization controls, etc. Example- "Set/Retract Flap, not "Dump Flaps")

PREFLIGHT:

First flight to be a short VFR cross-country, GPS "direct" flight of approximately one hour in duration with a full-stop landing at an airport other than the departure airport. The second flight is to be a VFR flight returning to the airport of origin utilizing GPS waypoints for navigation.

The PT will plan both segments of this flight, perform all weight and balance as well as performance calculations for the flights and describe his/her approach to management of the specific risks involved in the flights.

The Instructor will provide the necessary guidance to ensure the 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 attention to all the required scenario activities.

The PT will perform all preflight procedures, engine start-up, avionics set-up, taxi and before-Take-off procedures for each leg of the scenario. Prior to taxi, GPS flight plan programming for the flight will be completed as well as MFD and PFD setup. Prior to take-off an effective pre-Take-off briefing will be conducted. These Preflight activities will be accomplished prior to Take-off for each leg of the flight.

Leg 1:

The PT will perform a normal Take-off and departure to a safe altitude. When established in the departure the autopilot will be engaged.

- Climbing turns will be performed during the departure with a transition to VFR cruise.
- Appropriate checklists will be employed for each phase of flight.
- Aircraft systems, avionics and autopilot functions will all be practiced during cruise, descent and approach to landing phases of the flight.
- The VNAV function will be used for the descent planning
- A coupled ILS (or GPS LVP, if so equipped) approach to a full stop landing will be executed by the PT.

Experience has shown this first autopilot leg should be kept very simple to allow the PT to get more comfortable with cockpit automation.

Leg 2:

Prior to take-off, the PT will perform all preflight procedures, avionics set-up, GPS flight plan programming (if so equipped) as well as MFD and PFD setup (if so equipped) and before-Take-off procedures. Also, prior to take-off an effective *pre-take-off briefing* will be conducted.

The PT will perform an actual (or simulated) crosswind take-off and departure to a safe altitude. When established on course for the initial leg and at a safe altitude, the autopilot will be engaged.

After the aircraft is established in cruise the autopilot will be disengaged and the flight continued in the manual mode with continued practice of aircraft systems and avionics. Airspeed and configuration changes are also practiced during cruise

At some point on the return trip the flight will proceed to a designated "practice" area to accomplish:

- Steep turns (appropriate to the PTs' certification),
- Slow flight,
- Stall recognition series (level flight and 20° banked left and right turns) with recovery to level flight,
- VFR unusual attitude recovery.
- The PT will use the GPS direct function to proceed to the destination and will perform a manual descent and transition to a manual ILS or GPS LVP or LNAV/VNAV approach with a go-around into the airport pattern followed by a crosswind landing.

Post-flight:

FLIGHT LESSON 1 – Introduction To The King Air 90/200

The PT will perform all aircraft shutdown and securing procedures. PT will conduct a basic post-flight debriefing and self-critique facilitated by the instructor.

Scenario One:

(note: these activities will be completed as part of the training scenario and are not intended to be a list of training tasks to be completed in numerical order)

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
FLIGHT PLANNING:		
Flight Planning	1. Weight and Balance and Aircraft:	Practice
	2. Performance Calculations:	Practice
	3. Preflight SRM Briefing:	Describe
	4. Decision Making and Risk Management:	Describe
PRE-FLIGHT ACTIVITIES:		
Normal Preflight & Cockpit Procedures	External Inspection	Practice
	Internal Inspection	Practice
	PFD/MFD/GPS/Autopilot Programming	Practice
	SRM	Describe
ENGINE START:		
Powerplant Start	Normal	Practice
	External Power	N/A
	Flooded Start	N/A
	Hot Start	Describe
Start Malfunctions	Low Oil Pressure	N/A
	Starter Engaged	N/A
	N/A	N/A
	N/A	N/A

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
BEFORE TAKE-OFF:		
Before Taxi	Complete Checklist items	Practice
	Appropriate Clearances	Practice
	Radio Setups	Practice
	GPS/FMS Programming	Practice
Taxiing	Safety & Collision Avoidance	Perform
	Runway Incursion Avoidance	Perform
	Instrument Verifications	Practice
	Aircraft ground handlings	Practice
	Complete Checklist items	Practice
Before Take-off Checks	Flight Controls	Perform
	Engine Run-up	Perform
	Propeller(s) Check	Perform
	Electrical Systems Checks	Practice
	Hydraulic Systems Checks	Practice
	Auto Flight Systems Checks	Practice
	Pressurization System Check/Set	Practice
	Ice Protection Systems Check/Set	Practice
	Avionics Systems Check/Set	Practice
	Checklist Review	Perform
	SRM Briefing	Describe
TAKE-OFF		
Take-off	Normal/Visual	Practice
	Instrument	N/A
	Aborted Take-off	N/A
	Crosswind	Practice
	Maximum Performance	N/A
	IFR Departure Procedure	N/A
	SRM	Describe
CLIMB		
Climb Procedures	Automated climb	Practice
	Manual climb	Practice
	Navigation Programming	Practice
	Power Management	Practice
	Checklist Review	Perform
	SRM	Describe
Cruise Procedures		
Cruise Procedures	Fuel Management	Practice
	Best Economy vs. Best Power	Describe
	Manual Cruise	Practice
	Autopilot Cruise	Practice
	Navigation Programming	Practice
	Automated navigation leg	Practice
	Checklist Review	Perform
	SRM	Describe

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Control Performance		
Instrument/Visual Crosscheck	Straight and Level	Practice
	Normal Turns	Practice
	Climbing and Descending Turns	Practice
	Steep Turns	Practice
Low Speed Envelope	Configuration Changes	Practice
	Slow Flight	Practice
	Approach to Stalls	Practice
	Recovery from Autopilot Induced Stall	Describe
	SRM	Describe
Descent		
Planning and Execution	Vertical Navigation (VNAV) Planning	Describe
	Navigation Programming	Practice
	Manual Descent	Practice
	Autopilot Descent	Practice
	Pressurization	Practice
	Checklist Review	Perform
	SRM	Describe
Landing		
VFR Approach to Land	Descent Planning	Describe
	Before Landing Procedures	Practice
	Speed Planning & Control	Practice
	Traffic Pattern Entry	Practice
	SRM	Describe
IFR Approach to Land	Descent Planning	Describe
	Before Landing Procedures	Practice
	Speed Planning & Control	Practice
	IFR Landing Transition	Practice
	SRM	Describe
Landings	Normal Landing	Practice
	Maximum Performance Landing	N/A
	Partial Flap Landing	N/A
	Zero Flap Landing	N/A
	Cross Wind Landings	Practice
	Balked Landing	N/A
After Landing		
Aircraft Shutdown and Securing Procedures	Aircraft Shutdown and Securing	Practice
	Aircraft Towing, Ground Handling and Tie-down	Practice

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Automated Avionics Operation and Systems Interface		
EFIS Systems	Primary Flight Display	Describe
	Multi Function Display-Normal Operation	Describe
	EHSI Operation	Describe
Systems Management	Powerplant	Practice
	Fuel	Practice
	Electrical	Practice
	Avionics/GPS Systems	Practice
	Autoflight	Practice
	Landing Gear	Practice
	Ice Protection	Practice
	Pressurization	Practice
	Oxygen	Describe
	SRM	Describe
Navigation – VOR	Tuning & Identifying	N/A
	Situational Awareness	N/A
	Intercepting Radial	N/A
	Tracking Radial to/from	N/A
	Intersections	N/A
	Position Reporting	N/A
	Holding	N/A
	SRM	N/A
Navigation – GPS	Programming	Practice
	Situational Awareness	Describe
	Intercepting Courses	Practice
	Tracking Courses to/from	Practice
	Intersections/Waypoints	Practice
	Position Reporting	Describe
	Holding	N/A
	SRM	Describe

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Instrument Approaches		
ILS	Normal/Manual	Practice
	Single Engine	N/A
	Autopilot Coupled Approach	Practice
	Circling Approach	N/A
	SRM	Describe
LOC	Normal/Manual	N/A
	Single Engine	N/A
	Autopilot Coupled Approach	N/A
	Circling Approach	N/A
	SRM	N/A
GPS	Normal/Manual	Practice
	Single Engine	N/A
	Autopilot Coupled Approach	Practice
	Circling Approach	N/A
	SRM	Describe
VOR	Normal/Manual	N/A
	Single Engine	N/A
	Autopilot Coupled Approach	N/A
	Circling Approach	N/A
	SRM	N/A
Missed Approach	From Precision	N/A
	From Non-Precision	N/A
	From Circle	N/A
	Single Engine	N/A
	Use of Navaids	N/A
	SRM	N/A
Abnormal and Emergency Procedures		
Powerplant	Engine Fail Before Rotation	N/A
	Engine Fail After Rotation	N/A
	Inflight Fail/Troubleshoot	N/A
	Engine Securing	N/A
	Single Engine Maneuvering	N/A
	Best Glide Speed	N/A
	Engine Fire In Flight	N/A
	Propeller Overspeed	N/A
	SRM	N/A
Electrical	Alternator Fail	N/A
	Electrical Fire	N/A
	Battery Only Operations	N/A
	SRM	N/A
Fuel	Engine Driven Fuel Pump Failure	N/A
	Crossflow	N/A
	SRM	N/A

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Abnormal and Emergency Procedures (continued)		
Landing Gear	Unsafe Gear Indication	N/A
	Emergency Extension	N/A
	SRM	N/A
Flight Controls	Unscheduled Trim	N/A
	Autopilot Failure	N/A
	Flap Malfunction	N/A
	SRM	N/A
Pressurization	Rapid Decompression	N/A
	Door Seal	N/A
	Emergency Descent	N/A
	SRM	N/A
Flight Instruments	ADI Failure	N/A
	HSI Failure	N/A
	Airspeed Failure	N/A
	Static System Blockage	N/A
	Unusual Attitude Recovery	N/A
	SRM	N/A
Avionics	Communication Failure	N/A
	Glide Slope Failure	N/A
	PFD Failure	N/A
	MFD Failure	N/A
	GPS Failure	N/A
	NAV ½ Failure	N/A
	Smoke Removal	N/A
	Ice Protection	N/A
	Emergency Evacuation	N/A
	SRM	N/A
Airmanship and Special Emphasis Items		
Airmanship	Aircraft Control	Practice
	Checklist/Memory Items	Practice
	Smoothness In Handling	Practice
	Conduct In Emergencies	N/A
	SRM	Descirbe
Special Emphasis Items	Collision Avoidance	Practice
	Wake Turbulence Avoidance	Describe
	LAHSO	Describe
	Communication Management	Practice
	Runway Incursion Awareness	Describe
	Windshear	Describe
	SRM	Describe

FLIGHT LESSON 2 – IFR In The King Air 90/200

Objective:
The PT will plan a flight to allow for the continued development and expansion of skills introduced in Lesson 1. He or she will safely and efficiently demonstrate high performance maneuvers in the King Air 90/200 as well as demonstrate good airmanship skills. The majority of the training flight will be conducted under simulated or actual IFR conditions.

Prerequisites:
1. Successful completion of Flight Lesson 1
2. Completion of the second ground training session and an oral quiz covering airmanship, normal and emergency operating procedures, and applicable aircraft systems and avionics.

PT Preparation:
Complete and/or review the following:
1. Review previous lesson
2. Review normal and emergency procedures in the POH
3. Plan flight profile using the scenario assigned by instructor.
4. All pertinent weather NOTAM information
5. Complete Personal and Weather Risk Assessment

Briefing Items:

INITIAL INTRODUCTION:
PT should be able to conduct a thorough pre-flight briefing with little guidance from the instructor.
1. Review Personal and Weather Risk Assessment
2. Discuss flight profile

SRM:
1. Decision-making, risk management, situational awareness and controlled flight into terrain awareness.
2. Automation and task management
3. Filing an IFR flight plan

SAFETY:
1. Mid-air collision avoidance procedures
2. Appropriate NOTAMS
3. Airport diagrams and taxi procedures, Runway Incursion Avoidance procedures
4. Emergency procedures

PREFLIGHT:

The PT will plan an instrument 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-up, avionics set-up, taxi and before Take-off procedures. This will be accomplished prior to Take-off for each leg of the flight. Runway incursions, high wind taxi situations and abnormal indications and corrective actions are introduced and practiced. The PT will perform all radio communications for the flight.

Leg 1: The PT will perform a normal Take-off and departure to a safe altitude. When established in the departure 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 phases of the flight. Use of navigation systems and flight plan execution practiced during the first leg. The PT will plan and conduct a normal descent and pattern transition with a maximum performance landing to a full stop, including actual or simulated "Land and Hold Short Operations (LAHSO)."

Leg 2: A maximum performance Take-off is performed with 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 an airport within Class C airspace. The PT will execute an autopilot assisted Non Precision approach, followed with a hand flown missed approach and vectors for a coupled Precision approach and landing to a full-stop.

Leg 3: The PT will perform a normal Take-off with an autopilot-assisted climb out and transition to cruise. The PT will practice use of the avionics system and will be introduced to elementary emergencies during cruise. At some point during this phase of the scenario the PT will plan to demonstrate power on and power off stall recognition and recovery, and recovery from unusual attitudes. In addition, the PT will practice an engine failure procedure. The descent and transition into the traffic pattern will include a runway change with a crosswind landing to a full stop.

Leg 4: The PT will perform an aborted Take-off followed by a high performance Take-off to be selected by the CFI with an autopilot assisted climb and transition to cruise. The CFI will select avionics procedures to be practiced enroute. The PT will perform a VNAV descent and will execute a manual non-precision approach to a landing.

Post-flight: FLIGHT LESSON 2 – IFR In The King Air 90/200

The PT will perform all aircraft shutdown and securing procedures. PT will conduct a basic post-flight debriefing and self-critique facilitated by the instructor.

Scenario One:
(note: these activities will be completed as part of the training scenario and are not intended to be a list of training tasks to be completed in numerical order)

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
FLIGHT PLANNING:		
Flight Planning	5. Weight and Balance and Aircraft:	Perform
	6. Performance Calculations:	Perform
	7. Preflight SRM Briefing:	Perform
	8. Decision Making and Risk Management:	Explain
PRE-FLIGHT ACTIVITIES:		
Normal Preflight & Cockpit Procedures	External Inspection	Perform
	Internal Inspection	Perform
	PFD/MFD/GPS/Autopilot Programming	Practice
	SRM	Explain
ENGINE START:		
Powerplant Start	Normal	Perform
	External Power	N/A
	Flooded Start	Discuss
	Hot Start	Practice
Start Malfunctions	Low Oil Pressure	Explain
	Starter Engaged	Explain
	N/A	N/A
	N/A	N/A

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
BEFORE TAKE-OFF:		
Before Taxi	Complete Checklist items	Perform
	Appropriate Clearances	Perform
	Radio Setups	Perform
	GPS/FMS Programming	Perform
Taxiing	Safety & Collision Avoidance	Perform
	Instrument Verifications	Perform
	Aircraft ground handlings	Perform
	Complete Checklist items	Perform
Before Take-off Checks	Flight Controls	Perform
	Engine Run-up	Perform
	Propeller(s) Check	Perform
	Electrical Systems Checks	Perform
	Hydraulic Systems Checks	Perform
	Auto Flight Systems Checks	Perform
	Pressurization System Check/Set	Perform
	Ice Protection Systems Check/Set	Perform
	Avionics Systems Check/Set	Perform
	Checklist Review	Perform
	SRM Briefing	Explain
TAKE-OFF		
Take-off	Normal/Visual	Perform
	Instrument	Perform
	Aborted Take-off	Practice
	Crosswind	Perform
	Maximum Performance	N/A
	IFR Departure Procedure	Practice
	SRM	Explain
CLIMB		
Climb Procedures	Automated climb	Perform
	Manual climb	Perform
	Navigation Programming	Perform
	Power Management	Perform
	Checklist Review	Perform
	SRM	Explain
Cruise Procedures		
Cruise Procedures	Fuel Management	Perform
	Best Economy vs. Best Power	Explain
	Manual Cruise	Perform
	Autopilot Cruise	Perform
	Navigation Programming	Perform
	Automated navigation leg	Perform
	Checklist Review	Perform
	SRM	Explain

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Control Performance		
Instrument/Visual Crosscheck	Straight and Level	Perform
	Normal Turns	Perform
	Climbing and Descending Turns	Perform
	Steep Turns	Perform
Low Speed Envelope	Configuration Changes	Perform
	Slow Flight	Perform
	Approach to Stalls	Perform
	Recovery from Autopilot Induced Stall	Explain
	SRM	Explain
Descent		
Planning and Execution	Vertical Navigation (VNAV) Planning	Explain
	Navigation Programming	Perform
	Manual Descent	Perform
	Autopilot Descent	Perform
	Pressurization	Perform
	Checklist Review	Perform
	SRM	Explain
Landing		
VFR Approach to Land	Descent Planning	Explain
	Before Landing Procedures	Perform
	Speed Planning & Control	Perform
	Traffic Pattern Entry	Perform
	SRM	Explain
IFR Approach to Land	Descent Planning	Explain
	Before Landing Procedures	Perform
	Speed Planning & Control	Perform
	IFR Landing Transition	Perform
	SRM	Explain
Landings	Normal Landing	Perform
	Maximum Performance Landing	Practice
	Partial Flap Landing	Perform
	Zero Flap Landing	Perform
	Cross Wind Landings	Perform
	Balked Landing	Perform
After Landing		
Aircraft Shutdown and Securing Procedures	Aircraft Shutdown and Securing	Perform
	Aircraft Towing, Ground Handling and Tie-down	Perform

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Automated Avionics Operation and Systems Interface		
EFIS Systems	Primary Flight Display	Explain
	Multi Function Display-Normal Operation	Explain
	EHSI Operation	Explain
Systems Management	Powerplant	Perform
	Fuel	Perform
	Electrical	Perform
	Avionics/GPS Systems	Perform
	Autoflight	Perform
	Landing Gear	Perform
	Ice Protection	Perform
	Pressurization	Perform
	Oxygen	Explain
	SRM	Explain
Navigation – VOR	Tuning & Identifying	Perform
	Situational Awareness	Explain
	Intercepting Radial	Perform
	Tracking Radial to/from	Perform
	Intersections	Perform
	Position Reporting	Explain
	Holding	Perform
	SRM	Explain
Navigation – GPS	Programming	Practice
	Situational Awareness	Explain
	Intercepting Courses	Practice
	Tracking Courses to/from	Practice
	Intersections/Waypoints	Practice
	Position Reporting	Explain
	Holding	Practice
	SRM	Explain

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Instrument Approaches		
ILS	Normal/Manual	Perform
	Single Engine	N/A
	Autopilot Coupled Approach	Perform
	Circling Approach	Practice
	SRM	Explain
LOC	Normal/Manual	Perform
	Single Engine	N/A
	Autopilot Coupled Approach	Perform
	Circling Approach	Practice
	SRM	Explain
GPS	Normal/Manual	Perform
	Single Engine	N/A
	Autopilot Coupled Approach	Perform
	Circling Approach	Practice
	SRM	Explain
VOR	Normal/Manual	Perform
	Single Engine	N/A
	Autopilot Coupled Approach	Perform
	Circling Approach	Practice
	SRM	Explain
Missed Approach	From Precision	Perform
	From Non-Precision	Perform
	From Circle	Practice
	Single Engine	N/A
	Use of Navaids	Practice
	SRM	Explain
Abnormal and Emergency Procedures		
Powerplant	Engine Fail Before Rotation	N/A
	Engine Fail After Rotation	N/A
	Inflight Fail/Troubleshoot	N/A
	Engine Securing	N/A
	Single Engine Maneuvering	N/A
	Best Glide Speed	N/A
	Engine Fire In Flight	N/A
	Propeller Overspeed	N/A
	SRM	N/A
Electrical	Alternator Fail	N/A
	Electrical Fire	N/A
	Battery Only Operations	N/A
	SRM	N/A
Fuel	Engine Driven Fuel Pump Failure	N/A
	Crossflow	N/A
	SRM	N/A

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Abnormal and Emergency Procedures (continued)		
Landing Gear	Unsafe Gear Indication	N/A
	Emergency Extension	N/A
	SRM	N/A
Flight Controls	Unscheduled Trim	N/A
	Autopilot Failure	N/A
	Flap Malfunction	N/A
	SRM	N/A
Pressurization	Rapid Decompression	N/A
	Door Seal	N/A
	Emergency Descent	N/A
	SRM	N/A
Flight Instruments	ADI Failure	N/A
	HSI Failure	N/A
	Airspeed Failure	N/A
	Static System Blockage	N/A
	Unusual Attitude Recovery	N/A
	SRM	N/A
Avionics	Communication Failure	N/A
	Glide Slope Failure	N/A
	PFD Failure	N/A
	MFD Failure	N/A
	GPS Failure	N/A
	NAV ½ Failure	N/A
	Smoke Removal	N/A
	Ice Protection	N/A
	Emergency Evacuation	N/A
	SRM	N/A
Airmanship and Special Emphasis Items		
Airmanship	Aircraft Control	Perform
	Checklist/Memory Items	Perform
	Smoothness In Handling	Perform
	Conduct In Emergencies	N/A
	SRM	Explain
Special Emphasis Items	Collision Avoidance	Perform
	Wake Turbulence Avoidance	Explain
	LAHSO	Explain
	Communication Management	Perform
	Runway Incursion Awareness	Explain
	Windshear	Explain
	SRM	Explain

FLIGHT LESSON 3 -– Emergency Procedures

Objective:
This lesson is designed to be conducted in either a qualifying flight simulator or in the appropriate aircraft. 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. Additionally the PT will demonstrate improving airmanship skills. All procedures will be conducted under simulated or actual IFR.

Prerequisites:

1. Successful completion of Flight Lesson 2
2. Completion of the third ground training session and an oral quiz covering airmanship, normal and emergency operating procedures, and applicable aircraft systems and avionics.

PT Preparation:
Complete and/or review the following:

1. Review previous lessons.
2. Review the POH, Pilot's Training Manual and aircraft checklists.
3. Plan flight profile assigned by instructor.
4. Personal and Weather Risk Assessment.

Briefing Items:
INITIAL INTRODUCTION:
PT should be able to conduct a thorough pre-flight briefing with little or no guidance from the instructor.

1. Weather procurement and analysis.
2. Flight profile analysis.
3. Command transfer and pre-Take-off briefing
4. Review of Personal and Weather Risk Assessment

SRM:

1. Decision making, risk management
2. Automation and task management
3. Situational and CFIT awareness
4. Filing an IFR flight plan

SAFETY:

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

PREFLIGHT:
The PT will plan the flight profile and perform all preflight procedures, engine start-up, avionics set-up, taxi and before-Take-off procedures. This is accomplished prior to Take-off for each leg of the flight. Runway incursions, high wind taxi situations, abnormal indications, and corrective actions should be practiced.

Leg 1: The PT will initiate a normal Take-off and the instructor will call for an abort. The PT will taxi back and perform a high performance Take-off with an autopilot-assisted departure. The PT will perform a DP utilizing the available navigation aids. The autopilot will be disengaged in cruise and the first leg should proceed under Basic Attitude Instrument (BAI) flying conditions. In cruise the PT will execute the proper procedures for an in-flight fire emergency, and for isolated system failures. Airspeed and configuration changes will be practiced during transitions from one phase of flight to another. The PT will plan and perform an instrument approach as appropriate at the first airport followed with an autopilot assisted missed approach to the hold and a hand-flown VOR approach to a full-stop landing.

Leg 2: The PT will perform a normal Take-off and autopilot assisted departure. In cruise the PT will perform the proper procedures for handling an engine failure (critical engine), control surface failures, and a complete electrical failure. The PT will plan and perform a hold followed by a single engine instrument approach (either the ILS or GPS that was not performed at the first airport of landing) at the second airport to a full-stop landing.

Leg 3: The PT will perform a normal Take-off 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 PT will perform a GPS assisted VFR entry into the downwind pattern with an engine failure in the pattern followed by a single engine landing to a full stop. The PT will perform a normal closed traffic pattern Take-off followed by a 50% flap landing and a second traffic pattern with a zero-flap landing.

Post-flight: LESSON 3 – EMERGENCY PROCEDURES

The PT will perform all aircraft shutdown and securing procedures. PT will conduct a basic post-flight debriefing and self-critique facilitated by the instructor.

Scenario One:
(note: these activities will be completed as part of the training scenario and are not intended to be a list of training tasks to be completed in numerical order)

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
FLIGHT PLANNING:		
Flight Planning	Weight and Balance and Aircraft:	Perform
	Performance Calculations:	Perform
	Preflight SRM Briefing:	Explain
	Decision Making and Risk Management:	Explain
PRE-FLIGHT ACTIVITIES:		
Normal Preflight & Cockpit Procedures	External Inspection	Perform
	Internal Inspection	Perform
	PFD/MFD/GPS/Autopilot Programming	Perform
	SRM	Explain
ENGINE START:		
Powerplant Start	Normal	Perform
	External Power	Perform
	Flooded Start	Explain
	Hot Start	Explain
Start Malfunctions	Low Oil Pressure	Perform
	Starter Engaged	Explain
	N/A	N/A
	N/A	N/A

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
BEFORE TAKE-OFF:		
Before Taxi	Complete Checklist items	Perform
	Appropriate Clearances	Perform
	Radio Setups	Perform
	GPS/FMS Programming	Perform
Taxiing	Safety & Collision Avoidance	Perform
	Instrument Verifications	Perform
	Aircraft ground handlings	Perform
	Complete Checklist items	Perform
Before Take-off Checks	Flight Controls	Perform
	Engine Run-up	Perform
	Propeller(s) Check	Perform
	Electrical Systems Checks	Perform
	Hydraulic Systems Checks	Perform
	Auto Flight Systems Checks	Perform
	Pressurization System Check/Set	Perform
	Ice Protection Systems Check/Set	Perform
	Avionics Systems Check/Set	Perform
	Checklist Review	Perform
	SRM Briefing	Explain
TAKE-OFF		
Take-off	Normal/Visual	Perform
	Instrument	Perform
	Aborted Take-off	Perform
	Crosswind	Perform
	Maximum Performance	Perform
	IFR Departure Procedure	Perform
	SRM	Explain
CLIMB		
Climb Procedures	Automated climb	Perform
	Manual climb	Perform
	Navigation Programming	Perform
	Power Management	Perform
	Checklist Review	Perform
	SRM	Explain
Cruise Procedures		
Cruise Procedures	Fuel Management	Perform
	Best Economy vs. Best Power	Explain
	Manual Cruise	Perform
	Autopilot Cruise	Perform
	Navigation Programming	Perform
	Automated navigation leg	Perform
	Checklist Review	Perform
	SRM	Explain

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Control Performance		
Instrument/Visual Crosscheck	Straight and Level	Perform
	Normal Turns	Perform
	Climbing and Descending Turns	Perform
	Steep Turns	Perform
Low Speed Envelope	Configuration Changes	Perform
	Slow Flight	Perform
	Approach to Stalls	Perform
	Recovery from Autopilot Induced Stall	Explain
	SRM	Explain
Descent		
Planning and Execution	Vertical Navigation (VNAV) Planning	Explain
	Navigation Programming	Perform
	Manual Descent	Perform
	Autopilot Descent	Perform
	Pressurization	Perform
	Checklist Review	Explain
	SRM	Explain
Landing		
VFR Approach to Land	Descent Planning	Explain
	Before Landing Procedures	Perform
	Speed Planning & Control	Perform
	Traffic Pattern Entry	Perform
	SRM	Explain
IFR Approach to Land	Descent Planning	Explain
	Before Landing Procedures	Perform
	Speed Planning & Control	Perform
	IFR Landing Transition	Perform
	SRM	Explain
Landings	Normal Landing	Perform
	Maximum Performance Landing	Perform
	Partial Flap Landing	Perform
	Zero Flap Landing	Perform
	Cross Wind Landings	Perform
	Balked Landing	Perform
After Landing		
Aircraft Shutdown and Securing Procedures	Aircraft Shutdown and Securing	Perform
	Aircraft Towing, Ground Handling and Tie-down	Perform

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Automated Avionics Operation and Systems Interface		
EFIS Systems	Primary Flight Display	Explain
	Multi Function Display-Normal Operation	Explain
	EHSI Operation	Explain
Systems Management	Powerplant	Perform
	Fuel	Perform
	Electrical	Perform
	Avionics/GPS Systems	Perform
	Autoflight	Perform
	Landing Gear	Perform
	Ice Protection	Perform
	Pressurization	Perform
	Oxygen	Explain
	SRM	Explain
Navigation – VOR	Tuning & Identifying	Perform
	Situational Awareness	Perform
	Intercepting Radial	Perform
	Tracking Radial to/from	Perform
	Intersections	Perform
	Position Reporting	Perform
	Holding	Perform
	SRM	Explain
Navigation – GPS	Programming	Perform
	Situational Awareness	Explain
	Intercepting Courses	Perform
	Tracking Courses to/from	Perform
	Intersections/Waypoints	Perform
	Position Reporting	Explain
	Holding	Perform
	SRM	Explain

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Instrument Approaches		
ILS	Normal/Manual	Perform
	Single Engine	Practice
	Autopilot Coupled Approach	Perform
	Circling Approach	Perform
	SRM	Explain
LOC	Normal/Manual	Perform
	Single Engine	Practice
	Autopilot Coupled Approach	Perform
	Circling Approach	Perform
	SRM	Explain
GPS (if equipped)	Normal/Manual	Perform
	Single Engine	Practice
	Autopilot Coupled Approach	Perform
	Circling Approach	Perform
	SRM	Explain
VOR	Normal/Manual	Perform
	Single Engine	Perform
	Autopilot Coupled Approach	Perform
	Circling Approach	Perform
	SRM	Explain
Missed Approach	From Precision	Perform
	From Non-Precision	Perform
	From Circle	Perform
	Single Engine	Practice
	Use of Navaids	Explain
	SRM	Explain
Abnormal and Emergency Procedures		
Powerplant	Engine Fail Before Rotation	Practice
	Engine Fail After Rotation	Practice
	Inflight Fail/Troubleshoot	Practice
	Engine Securing	Practice
	Single Engine Maneuvering	Practice
	Best Glide Speed	Practice
	Engine Fire In Flight	Practice
	Propeller Overspeed	Practice
	SRM	Explain
Electrical	Alternator Fail	Practice
	Electrical Fire	Practice
	Battery Only Operations	Practice
	SRM	Explain
Fuel	Engine Driven Fuel Pump Failure	Practice
	Crossflow/feed	Practice
	SRM	Explain

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Abnormal and Emergency Procedures (continued)		
Landing Gear	Unsafe Gear Indication	Practice
	Emergency Extension	Practice
	SRM	Explain
Flight Controls	Unscheduled Trim	Practice
	Autopilot Failure	Practice
	Flap Malfunction	Practice
	SRM	Explain
Pressurization	Rapid Decompression	Practice
	Door Seal	Practice
	Emergency Descent	Practice
	SRM	Explain
Flight Instruments	ADI Failure	Practice
	HSI Failure	Practice
	Airspeed Failure	Practice
	Static System Blockage	Practice
	Unusual Attitude Recovery	Practice
	SRM	Explain
Avionics	Communication Failure	Practice
	Glide Slope Failure	Practice
	PFD Failure	Practice
	MFD Failure	Practice
	GPS Failure	Practice
	NAV ½ Failure	Practice
	Smoke Removal	Practice
	Ice Protection	Practice
	Emergency Evacuation	Explain
	SRM	Explain
Airmanship and Special Emphasis Items		
Airmanship	Aircraft Control	Perform
	Checklist/Memory Items	Perform
	Smoothness In Handling	Perform
	Conduct In Emergencies	Practice
	SRM	Explain
Special Emphasis Items	Collision Avoidance	Perform
	Wake Turbulence Avoidance	Explain
	LAHSO	Perform
	Communication Management	Perform
	Runway Incursion Awareness	Explain
	Windshear	Explain
	SRM	Explain

FLIGHT LESSON 4 – Hot & High/Night Operations

Objective:
The PT will combine previously learned flight skills and instrument procedures as appropriate to achieve flying proficiency. The PT will also demonstrate a high level of airmanship skill. High density altitude operations will be covered as well as night operations.

Prerequisites:
1. Successful completion of Flight Lesson 3
2. Completion of the fourth ground training session and an oral quiz covering airmanship, normal and emergency operating procedures, and applicable aircraft systems and avionics.

PT Preparation:
Complete and/or review the following:
1. Review previous lessons
2. Review the POH, Pilot's Training Manual and aircraft checklists
3. Plan flight scenario
4. Personal and Weather Risk Assessment

Briefing Items:

INITIAL INTRODUCTION:
PT will conduct a thorough pre-flight briefing with guidance from the instructor only if absolutely necessary.
1. Weather procurement and analysis.
2. Flight profile analysis.
3. Command transfer and pre-Take-off briefing
4. Review Personal and Weather Risk Assessment

SRM:
1. Decision making, risk management
2. Automation/task management
3. Situational awareness
4. CFIT awareness
5. Filing an IFR flight plan

SAFETY:
1. Mid-air collision avoidance procedures
2. Appropriate NOTAMS
3. Airport diagrams and taxi procedures
4. Instrument approach procedures
5. Emergency procedures
6. High altitude operations
7. Night operations

Scenario Four:

PREFLIGHT:
The PT will plan the flight profile and perform all preflight procedures, engine start-up, avionics set-up, taxi and before-Take-off procedures. This is accomplished prior to Take-off for each leg of the flight. Runway incursions, night time ground operations, collision avoidance, abnormal indications, and corrective actions should be practiced.

Leg 1: The PT will initiate a normal Take-off and the instructor with an autopilot-assisted departure. The PT will perform a DP utilizing the GPS inputs to the HSI and MFD for situational awareness. The autopilot will be disengaged in cruise and the first leg should proceed under Basic Attitude Instrument (BAI) flying conditions. In cruise the PT will execute the proper procedures for an in-flight pressurization failure, gradual as well as rapid decompression, emergency descent, and for powerplant failures. Airspeed and configuration changes will be practiced during transitions from one phase of flight to another. The PT will plan and perform an instrument approach as appropriate (ILS or GPS) at the first airport followed with an autopilot assisted missed approach with GPS navigation to the hold and then a hand-flown VOR approach to a full-stop night landing.

Leg 2: The PT will perform a normal Take-off and autopilot assisted departure. In cruise the PT will perform the proper procedures for handling a significant engine power loss, control surface failures, and a complete electrical failure. The PT will plan and perform a GPS hold followed by an instrument approach (either the ILS or GPS that was not performed at the first airport of landing) at the second airport to a full-stop night landing.

Leg 3: The PT will perform a normal Take-off and autopilot assisted departure. The IFR flight plan will be cancelled and the 3rd leg will proceed under night VFR with flight following. 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 PT will perform a GPS assisted VFR entry into the downwind pattern with a midfield engine failure in the pattern followed by landing to a full stop. The PT will then perform a normal closed traffic pattern Take-off followed by a 50% flap landing and a second traffic pattern with a zero-flap landing to a full stop.

POST-FLIGHT:

LESSON 4 – Hot & High / Night Operations

The PT will perform all aircraft shutdown and securing procedures. PT will conduct a basic post-flight debriefing and self-critique facilitated by the instructor.

Scenario One:
(note: these activities will be completed as part of the training scenario and are not intended to be a list of training tasks to be completed in numerical order)

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
FLIGHT PLANNING:		
Flight Planning	9. Weight and Balance and Aircraft:	Perform
	10. Performance Calculations:	Perform
	11. Preflight SRM Briefing:	Perform
	12. Decision Making and Risk Management:	Manage and Decide
PRE-FLIGHT ACTIVITIES:		
Normal Preflight & Cockpit Procedures	External Inspection	Perform
	Internal Inspection	Perform
	PFD/MFD/GPS/Autopilot Programming	Perform
	SRM	Perform
ENGINE START:		
Powerplant Start	Normal	Perform
	External Power	Explain
	Flooded Start	Explain
	Hot Start	Explain
Start Malfunctions	Low Oil Pressure	Explain
	Starter Engaged	Explain
	N/A	N/A
	N/A	N/A

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
BEFORE TAKE-OFF:		
Before Taxi	Complete Checklist items	Perform
	Appropriate Clearances	Perform
	Radio Setups	Perform
	GPS/FMS Programming	Perform
Taxiing	Safety & Collision Avoidance	Perform
	Instrument Verifications	Perform
	Aircraft ground handlings	Perform
	Complete Checklist items	Perform
Before Take-off Checks	Flight Controls	Perform
	Engine Run-up	Perform
	Propeller(s) Check	Perform
	Electrical Systems Checks	Perform
	Hydraulic Systems Checks	Perform
	Auto Flight Systems Checks	Perform
	Pressurization System Check/Set	Perform
	Ice Protection Systems Check/Set	Perform
	Avionics Systems Check/Set	Perform
	Checklist Review	Perform
	SRM Briefing	Explain
TAKE-OFF		
Take-off	Normal/Visual	Perform
	Instrument	Perform
	Aborted Take-off	Perform
	Crosswind	Perform
	Maximum Performance	N/A
	IFR Departure Procedure	Perform
	SRM	Explain
CLIMB		
Climb Procedures	Automated climb	Perform
	Manual climb	Perform
	Navigation Programming	Perform
	Power Management	Perform
	Checklist Review	Perform
	SRM	Explain
Cruise Procedures		
Cruise Procedures	Fuel Management	Perform
	Best Economy vs. Best Power	Describe
	Manual Cruise	Perform
	Autopilot Cruise	Perform
	Navigation Programming	Perform
	Automated navigation leg	Perform
	Checklist Review	Perform
	SRM	Explain

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Control Performance		
Instrument/Visual Crosscheck	Straight and Level	Perform
	Normal Turns	Perform
	Climbing and Descending Turns	Perform
	Steep Turns	N/A
Low Speed Envelope	Configuration Changes	Perform
	Slow Flight	N/A
	Approach to Stalls	N/A
	Recovery from Autopilot Induced Stall	Explain
	SRM	Explain
Descent		
Planning and Execution	Vertical Navigation (VNAV) Planning	Explain
	Navigation Programming	Perform
	Manual Descent	Perform
	Autopilot Descent	Perform
	Pressurization	Perform
	Checklist Review	Perform
	SRM	Explain
Landing		
VFR Approach to Land	Descent Planning	Explain
	Before Landing Procedures	Perform
	Speed Planning & Control	Perform
	Traffic Pattern Entry	Perform
	SRM	Explain
IFR Approach to Land	Descent Planning	Explain
	Before Landing Procedures	Perform
	Speed Planning & Control	Perform
	IFR Landing Transition	Perform
	SRM	Explain
Landings	Normal Landing	Perform
	Maximum Performance Landing	Perform
	Partial Flap Landing	Perform
	Zero Flap Landing	Perform
	Cross Wind Landings	Perform
	Balked Landing	Perform
After Landing		
Aircraft Shutdown and Securing Procedures	Aircraft Shutdown and Securing	Perform
	Aircraft Towing, Ground Handling and Tie-down	Perform

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Automated Avionics Operation and Systems Interface		
EFIS Systems	Primary Flight Display	Explain
	Multi Function Display-Normal Operation	Explain
	EHSI Operation	Explain
Systems Management	Powerplant	Perform
	Fuel	Perform
	Electrical	Perform
	Avionics/GPS Systems	Perform
	Autoflight	Perform
	Landing Gear	Perform
	Ice Protection	Perform
	Pressurization	Perform
	Oxygen	Perform
	SRM	Perform
Navigation – VOR	Tuning & Identifying	Perform
	Situational Awareness	Perform
	Intercepting Radial	Perform
	Tracking Radial to/from	Perform
	Intersections	Perform
	Position Reporting	Perform
	Holding	Perform
	SRM	Explain
Navigation – GPS	Programming	Perform
	Situational Awareness	Perform
	Intercepting Courses	Perform
	Tracking Courses to/from	Perform
	Intersections/Waypoints	Perform
	Position Reporting	Perform
	Holding	Perform
	SRM	Explain

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Instrument Approaches		
ILS	Normal/Manual	Perform
	Single Engine	N/A
	Autopilot Coupled Approach	Perform
	Circling Approach	Perform
	SRM	Explain
LOC	Normal/Manual	Perform
	Single Engine	N/A
	Autopilot Coupled Approach	Perform
	Circling Approach	Perform
	SRM	Explain
GPS	Normal/Manual	Perform
	Single Engine	Perform
	Autopilot Coupled Approach	Perform
	Circling Approach	Perform
	SRM	Explain
VOR	Normal/Manual	Perform
	Single Engine	Perform
	Autopilot Coupled Approach	Perform
	Circling Approach	Perform
	SRM	Explain
Missed Approach	From Precision	Perform
	From Non-Precision	Perform
	From Circle	Perform
	Single Engine	Perform
	Use of Navaids	Perform
	SRM	Explain
Abnormal and Emergency Procedures		
Powerplant	Engine Fail Before Rotation	Perform
	Engine Fail After Rotation	Perform
	Inflight Fail/Troubleshoot	Perform
	Engine Securing	Perform
	Single Engine Maneuvering	Perform
	Best Glide Speed	Perform
	Engine Fire In Flight	Perform
	Propeller Overspeed	Describe
	SRM	Explain
Electrical	Alternator Fail	Perform
	Electrical Fire	Perform
	Battery Only Operations	Perform
	SRM	Explain
Fuel	Engine Driven Fuel Pump Failure	Perform
	Crossflow	Perform
	SRM	Explain

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Abnormal and Emergency Procedures (continued)		
Landing Gear	Unsafe Gear Indication	Perform
	Emergency Extension	Perform
	SRM	Explain
Flight Controls	Unscheduled Trim	Perform
	Autopilot Failure	Perform
	Flap Malfunction	Perform
	SRM	Explain
Pressurization	Rapid Decompression	Perform
	Door Seal	Perform
	Emergency Descent	Perform
	SRM	Explain
Flight Instruments	ADI Failure	Perform
	HSI Failure	Perform
	Airspeed Failure	Perform
	Static System Blockage	Perform
	Unusual Attitude Recovery	Perform
	SRM	Explain
Avionics	Communication Failure	Perform
	Glide Slope Failure	Perform
	PFD Failure	Perform
	MFD Failure	Perform
	GPS Failure	Perform
	NAV ½ Failure	Perform
	Smoke Removal	Perform
	Ice Protection	Perform
	Emergency Evacuation	Explain
	SRM	Explain
Airmanship and Special Emphasis Items		
Airmanship	Aircraft Control	Perform
	Checklist/Memory Items	Perform
	Smoothness In Handling	Perform
	Conduct In Emergencies	Perform
	SRM	Explain
Special Emphasis Items	Collision Avoidance	Perform
	Wake Turbulence Avoidance	Explain
	LAHSO	Perform
	Communication Management	Perform
	Runway Incursion Awareness	Explain
	Windshear	Explain
	SRM	Explain

FLIGHT LESSON 5 – Bringing It All Together

Objective: The PT will demonstrate the knowledge and skill level appropriate and demonstrate judgment, aeronautical decision making skills and single pilot management skills to effectively, efficiently, and safely operate the King Air 90/200 in an actual cross-country exercise. The training flight will be conducted under simulated or actual IFR conditions and VFR conditions.

Prerequisites:

Successful completion of Lesson 4 and all ground training components.

Preparation:

Complete and/or review the following:

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

BRIEFING ITEMS:

PT will conduct a thorough and complete pre-flight briefing with no assistance.

1. Weather data procurement and analysis
2. Pilot in Command responsibilities
3. Review Personal and Weather Risk Assessment

SRM

1. Decision making, risk management
2. Automation/task management
3. Situational awareness
4. CFIT awareness
5. Use of flight plan

SAFETY

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

FLIGHT LESSON 5 – Bringing It All Together

PREFLIGHT: The PT will plan the flight profile and perform all preflight procedures, engine start-up, avionics set-up, taxi and before-Take-off procedures. This is accomplished prior to Take-off for each leg of the flight. Runway incursions, ground operations, collision avoidance, abnormal indications, and corrective actions should be performed without assistance from the CFI. All decisions affecting the operation of the flight should be made by the PT employing appropriate aeronautical decision-making skills.

Leg 1: The PT will initiate a normal Take-off and initial climb manually then fly the DP with an autopilot-assisted departure. The PT will perform a DP utilizing the GPS inputs to the HSI and MFD for situational awareness. The autopilot will be disengaged, prior to cruise, with entry into cruise accomplished manually. The first leg should proceed under Basic Attitude Instrument (BAI) flying conditions. In cruise, the PT will execute the proper procedures for an in-flight power plant failure. Airspeed and configuration changes will be practiced during transitions from one phase of flight to another both manually and with auto-flight assistance. The PT will plan and perform an instrument approach as appropriate (ILS or GPS) at the first airport followed with an autopilot assisted missed approach to the hold and then a hand-flown, single engine, non-precision approach to a full-stop landing.

Leg 2: The PT will perform a normal Take-off and autopilot assisted departure. In cruise the PT will perform the proper procedures for handling a significant engine power loss, control surface failures, and a complete electrical failure, maintaining control of the aircraft by sole reference to the compass, altimeter and airspeed indicator. With power restored but primary instruments inoperative, the PT will plan and perform a hold followed by a non-precision instrument approach at the second airport to a full-stop landing. (if equipped with IFR GPS, this will be a LNAV approach)

Leg 3: The PT will perform a normal Take-off and autopilot assisted departure. The IFR flight plan will be cancelled and the 3rd leg will proceed under VFR with flight flowing. The PT will perform recovery from unusual attitudes; perform the procedure for VMC demo, critical engine failure, an emergency descent and a diversion to the home airport. The PT will perform a VFR entry into the downwind pattern with a midfield engine failure and in the pattern followed by landing to a full stop. The PT will then perform a normal closed traffic pattern Take-off followed by a landing gear failure and manual gear extension to a 50% flap, full stop landing. The PT will then taxi back and, with all systems restored, perform a second traffic pattern with a zero-flap landing to a full stop.

POST-FLIGHT:

FLIGHT LESSON 5 – Bringing It All Together

The PT will perform all aircraft shutdown and securing procedures. PT will conduct a basic post-flight debriefing and self-critique facilitated by the instructor.

Scenario One:
(note: these activities will be completed as part of the training scenario and are not intended to be a list of training tasks to be completed in numerical order)

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
FLIGHT PLANNING:		
Flight Planning	13. Weight and Balance and Aircraft:	Manage/Decide
	14. Performance Calculations:	Manage/Decide
	15. Preflight SRM Briefing:	Manage/Decide
	16. Decision Making and Risk Management:	Manage/Decide
PRE-FLIGHT ACTIVITIES:		
Normal Preflight & Cockpit Procedures	External Inspection	Perform
	Internal Inspection	Perform
	PFD/MFD/GPS/Autopilot Programming	Perform
	SRM	Explain
ENGINE START:		
Powerplant Start	Normal	Manage/Decide
	External Power	Manage/Decide
	Flooded Start	Manage/Decide
	Hot Start	Manage/Decide
Start Malfunctions	Low Oil Pressure	Manage/Decide
	Starter Engaged	Manage/Decide
	N/A	N/A
	N/A	N/A

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
BEFORE TAKE-OFF:		
Before Taxi	Complete Checklist items	Perform
	Appropriate Clearances	Perform
	Radio Setups	Perform
	GPS/FMS Programming	Perform
Taxiing	Safety & Collision Avoidance	Manage/Decide
	Instrument Verifications	Perform
	Aircraft ground handlings	Perform
	Complete Checklist items	Perform
Before Take-off Checks	Flight Controls	Perform
	Engine Run-up	Perform
	Propeller(s) Check	Perform
	Electrical Systems Checks	Perform
	Hydraulic Systems Checks	Perform
	Auto Flight Systems Checks	Perform
	Pressurization System Check/Set	Perform
	Ice Protection Systems Check/Set	Perform
	Avionics Systems Check/Set	Perform
	Checklist Review	Perform
	SRM Briefing	Explain
TAKE-OFF		
Take-off	Normal/Visual	Perform
	Instrument	Perform
	Aborted Take-off	Perform
	Crosswind	Perform
	Maximum Performance	Perform
	IFR Departure Procedure	Perform
	SRM	Explain
CLIMB		
Climb Procedures	Automated climb	Perform
	Manual climb	Perform
	Navigation Programming	Perform
	Power Management	Perform
	Checklist Review	Perform
	SRM	Explain
Cruise Procedures		
Cruise Procedures	Fuel Management	Manage/Decide
	Best Economy vs. Best Power	Manage/Decide
	Manual Cruise	Perform
	Autopilot Cruise	Perform
	Navigation Programming	Perform
	Automated navigation leg	Perform
	Checklist Review	Perform
	SRM	Explain

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Control Performance		
Instrument/Visual Crosscheck	Straight and Level	Perform
	Normal Turns	Perform
	Climbing and Descending Turns	Perform
	Steep Turns	Perform
Low Speed Envelope	Configuration Changes	Perform
	Slow Flight	Perform
	Approach to Stalls	Perform
	Recovery from Autopilot Induced Stall	Perform
	SRM	Explain
Descent		
Planning and Execution	Vertical Navigation (VNAV) Planning	Manage & Decide
	Navigation Programming	Perform
	Manual Descent	Perform
	Autopilot Descent	Perform
	Pressurization	Perform
	Checklist Review	Perform
	SRM	Explain
Landing		
VFR Approach to Land	Descent Planning	Manage & Decide
	Before Landing Procedures	Perform
	Speed Planning & Control	Perform
	Traffic Pattern Entry	Perform
	SRM	Explain
IFR Approach to Land	Descent Planning	Manage/Decide
	Before Landing Procedures	Perform
	Speed Planning & Control	Perform
	IFR Landing Transition	Perform
	SRM	Explain
Landings	Normal Landing	Perform
	Maximum Performance Landing	Perform
	Partial Flap Landing	Perform
	Zero Flap Landing	Perform
	Cross Wind Landings	Perform
	Balked Landing	Perform
After Landing		
Aircraft Shutdown and Securing Procedures	Aircraft Shutdown and Securing	Perform
	Aircraft Towing, Ground Handling and Tie-down	Perform

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Automated Avionics Operation and Systems Interface		
EFIS Systems	Primary Flight Display	Manage/Decide
	Multi Function Display-Normal Operation	Manage/Decide
	EHSI Operation	Explain
Systems Management	Powerplant	Manage/Decide
	Fuel	Manage/Decide
	Electrical	Manage/Decide
	Avionics/GPS Systems	Manage/Decide
	Autoflight	Manage/Decide
	Landing Gear	Manage/Decide
	Ice Protection	Manage/Decide
	Pressurization	Manage/Decide
	Oxygen	Manage/Decide
	SRM	Explain
Navigation – VOR	Tuning & Identifying	Perform
	Situational Awareness	Perform
	Intercepting Radial	Perform
	Tracking Radial to/from	Perform
	Intersections	Perform
	Position Reporting	Perform
	Holding	Perform
	SRM	Explain
Navigation – GPS	Programming	Perform
	Situational Awareness	Perform
	Intercepting Courses	Perform
	Tracking Courses to/from	Perform
	Intersections/Waypoints	Perform
	Position Reporting	Perform
	Holding	Perform
	SRM	Explain

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Instrument Approaches		
ILS	Normal/Manual	Perform
	Single Engine	Perform
	Autopilot Coupled Approach	Perform
	Circling Approach	Perform
	SRM	Explain
LOC	Normal/Manual	Perform
	Single Engine	Perform
	Autopilot Coupled Approach	Perform
	Circling Approach	Perform
	SRM	Explain
GPS	Normal/Manual	Perform
	Single Engine	Perform
	Autopilot Coupled Approach	Perform
	Circling Approach	Perform
	SRM	Explain
VOR	Normal/Manual	Perform
	Single Engine	Perform
	Autopilot Coupled Approach	Perform
	Circling Approach	Perform
	SRM	Explain
Missed Approach	From Precision	Perform
	From Non-Precision	Perform
	From Circle	Perform
	Single Engine	Perform
	Use of Navaids	Perform
	SRM	Explain
Abnormal and Emergency Procedures		
Powerplant	Engine Fail Before Rotation	Manage/Decide
	Engine Fail After Rotation	Manage/Decide
	Inflight Fail/Troubleshoot	Manage/Decide
	Engine Securing	Manage/Decide
	Single Engine Maneuvering	Manage/Decide
	Best Glide Speed	Manage/Decide
	Engine Fire In Flight	Manage/Decide
	Propeller Overspeed	Manage/Decide
	SRM	Explain
Electrical	Alternator Fail	Manage/Decide
	Electrical Fire	Manage/Decide
	Battery Only Operations	Manage/Decide
	SRM	Explain
Fuel	Engine Driven Fuel Pump Failure	Manage/Decide
	Crossflow	Manage/Decide
	SRM	Explain

Scenario Activities	Scenario Sub Activities	Desired PT Scenario Outcome
Abnormal and Emergency Procedures (continued)		
Landing Gear	Unsafe Gear Indication	Manage/Decide
	Emergency Extension	Manage/Decide
	SRM	Explain
Flight Controls	Unscheduled Trim	Manage/Decide
	Autopilot Failure	Manage/Decide
	Flap Malfunction	Manage/Decide
	SRM	Explain
Pressurization	Rapid Decompression	Manage/Decide
	Door Seal	Manage/Decide
	Emergency Descent	Manage/Decide
	SRM	Explain
Flight Instruments	ADI Failure	N/A
	HSI Failure	Manage/Decide
	Airspeed Failure	Manage/Decide
	Static System Blockage	Manage/Decide
	Unusual Attitude Recovery	Perform
	SRM	Explain
Avionics	Communication Failure	Manage/Decide
	Glide Slope Failure	Manage/Decide
	PFD Failure	Manage/Decide
	MFD Failure	Manage/Decide
	GPS Failure	Manage/Decide
	NAV ½ Failure	Manage/Decide
	Smoke Removal	Perform
	Ice Protection	Perform
	Emergency Evacuation	Explain
	SRM	Explain
Airmanship and Special Emphasis Items		
Airmanship	Aircraft Control	Perform
	Checklist/Memory Items	Perform
	Smoothness In Handling	Perform
	Conduct In Emergencies	Manage/Decide
	SRM	Explain
Special Emphasis Items	Collision Avoidance	Manage/Decide
	Wake Turbulence Avoidance	Manage/Decide
	LAHSO	Manage/Decide
	Communication Management	Manage/Decide
	Runway Incursion Awareness	Manage/Decide
	Windshear	Manage/Decide
	SRM	Explain

Section 6 – FITS Master Learning Outcomes List

TAA-01: Single Pilot Resource Management (SRM)

Objective – Demonstrates safe and efficient operations by adequately managing all available resources including:

1. Task Management (TM): Prioritize and select the most appropriate tasks (or series of tasks) to ensure successful completion of the training scenario

2. Automation Management (AM): Program and utilize the most appropriate and useful modes of cockpit automation to ensure successful completion of the training scenario

3. Risk Management (RM) and Aeronautical Decision Making (ADM): Consistently make informed decisions in a timely manner based on the task at hand and a thorough knowledge and use of all available resources.

4. Situational Awareness (SA): Be aware of all factors such as traffic, weather, fuel state, aircraft mechanical condition, and pilot fatigue level that may have an impact on the successful completion of the training scenario.

5. Controlled Flight Into Terrain (CFIT) Awareness: Understand, describe, and apply techniques to avoid CFIT encounters:

- During inadvertent encounters with Instrument meteorological conditions during VFR flight
- During system and navigation failures and physiological incidents during IFR flight

Note: All tasks under SRM will be embedded into the curriculum and the training will occur selectively during all phases of training. SRM will be graded as it occurs during the training scenario syllabus.

End TAA-01

TAA-02: Flight Planning

Objective – Develop thorough and successful preflight habit patterns for flight planning, performance, weight and balance, and normal and emergency single pilot resource management and risk assessment

Performance Conditions Standards

The training task is:

- Flight Training Scenario Planning Preflight Planning
- Weight and Balance and Aircraft Performance Computation
- Decision Making and Risk Management

The training is conducted during:

- Pre-Arrival traditional & e-Learning
- Classroom Training
- All phases of flight planning and flight

The pilot in training will:

- Review the required elements of the appropriate flight training scenario
- Decide on the optimum route and sequence of events to accomplish all required tasks
- Obtain all required charts and documents
- Obtain and analyze an FAA approved weather briefing appropriate to the scenario to be flown
- File a flight plan (VFR/IFR) for the scenario to be flown
- Preflight planning, Perform weight and balance and performance computations for the specific training scenario to be flown without error
- Preflight SRM Briefing Preflight planning
- Orally review in specific terms all aspects of the flight scenario
- Identify possible emergency and abnormal procedures relevant to the scenario and describe successful SRM strategies to deal with them.
- Make sound decisions based on a logical analysis of factual information, aircraft capability, and pilot experience and skill

The CFI conducting training will:

- Continuously critique the success of the flight scenario
- Adjust the training scenario to maintain flight safety at all times.

End TAA-02

TAA-03: Normal Preflight & Cockpit Procedures

Objective – Aircraft familiarization, checklists, cockpit procedures and PFD/GPS/MFD and autopilot operation.

Performance Conditions Standards

The training task is:

- Normal Pre-Take-off Checklist procedures
- PFD/MFD/GPS Autopilot Programming

The training is conducted during:

- Pre-arrival -– eLearning
- Pre-flight briefing
- Actual aircraft pre-flight

The pilot in training will:

- Perform normal exterior inspection by reference to the written checklist.
- Perform normal interior preflight inspection, engine start, taxi, before Take-off checklists by reference to the MFD
- Perform all checklists in the proper sequence and without error
- Perform PFD/AHRS initialization
- Perform autopilot pre-flight checks
- Program all the GPS and MFD according to the King Air 90/200 POH for the specific training scenario to be flown.

End TAA-03

TAA-04: Engine Start and Taxi Procedures

Objective – Demonstrate the proper Engine Start and taxi procedures for the King Air 90/200

Performance Conditions Standards
The training task is:

- Engine Start
- Taxi
- SRM/Situational Awareness

The training is conducted during:

- Pre-arrival – eLearning
- Pre-flight briefing
- Actual aircraft pre-flight

The pilot in training will:

1. Engine Start
   - Demonstrate the correct procedures for engine start under all conditions
   - Demonstrate the correct emergency procedures associated with engine start.
   - Successfully start the engine
2. Taxi
   - Understand the proper technique to control the aircraft using differential braking and power
   - Successfully taxi the aircraft
3. SRM/Situational Awareness
   - Understand the capability of the MFD/GPS to aid in low visibility/congested airport taxi situations
   - Demonstrate the proper visual clearing techniques during all taxi operations.

End TAA-04

TAA-05: Before Take-off Checks

Objective – Demonstrate the proper pre-Take-off procedures for the King Air 90/200

Performance Conditions Standards

The training task is:

- Normal and Abnormal Indications
- Aircraft Automation Management
- Aeronautical Decision Making/Risk Management

The training is conducted during:

- Pre-arrival – eLearning
- Pre-flight briefing
- Actual aircraft pre-flight

The pilot in training will:

Normal and Abnormal Indications

- Complete all Pre-Take-off checklist items correctly and in the proper sequence.
- Identify normal and abnormal systems indications using the MFD and the POH.

Aircraft Automation Management

- Correctly configure and program the PFD /MFD /HSI /GPS/Autopilot for the departure.

Aeronautical Decision Making/Risk Management

- Make the correct go / no-go decision based on the status of the aircraft, pilot, and the weather.

End TAA-05

TAA-06: Take-off

Objective – Demonstrate the proper Take-off procedures for the King Air 90/200

Performance Conditions Standards

The training task is:
- Normal Take-off
- Crosswind Take-off
- Aborted Take-off
- Soft Field/Short Field Take-off
- Situational Awareness
- Aeronautical Decision Making/Risk Management

The training is conducted during:
- Pre-flight briefing
- Actual aircraft pre-flight
- Inflight

The pilot in training will:
1. Normal take-off:
   - Perform a normal Take-off within the PTS standards
2. Crosswind Take-off:
   - Perform a crosswind Take-off within the PTS standards.
3. Aborted Take-off:
   - Perform the aborted Take-off procedure within the PTS standard.
4. Soft Field/Short field Take-off:
   - Perform a Soft Field/Short Field Take-off within the PTS standards
5. Situational Awareness
   - Identify traffic, systems failures, and other developing situations that might prompt the performance of an aborted Take-off.
   - Verbalize and prioritize those situations present during any given Take-off
6. Aeronautical Decision Making/Risk Management:
   - From lineup on the runway through flap reduction, decide to continue or abort any given Take-off based on the actual situation or a simulated scenario created by the instructor.

End TAA-06

TAA-07: Climb Procedures

Objective – Demonstrate the proper climb procedures for the King Air 90/200
Performance Conditions Standards

The training task is:

- Manual Climb
- Autopilot Climb
- Navigation Programming
- Power Management
- Situational Awareness, Task Management and Aeronautical Decision Making

The training is conducted during:

- Pre-Flight briefing
- In-Flight

The pilot in training will:

1. Manual Climb:
   - Perform a hand flown climb and level-off within the PTS standards
   - Establish pitch within the PTS standards
2. Autopilot Climb:
   - Perform an autopilot flown climb and level-off within the PTS standards
   - Establish pitch attitude within the PTS standards
3. Navigation Programming:
   - Program the GPS/MFD to comply with the flight planned course and all ATC clearances
4. Power Management:
   - Set appropriate power/engine leaning settings by reference to the MFD
5. Situational Awareness, Task Management, and Aeronautical Decision Making
   From flap retraction until after initial level-off at cruise altitude:
   - Identify all traffic, hazardous terrain, and potentially hazardous situation as they occur by reference to visual clearing and the MFD (if available and optioned)
   - Perform all required in-cockpit tasks in such a manner that visual clearing is not impacted negatively
   - Make timely decisions based on information obtained, visually, by radio, or by aircraft automation equipment.

End TAA-07

TAA-08: Cruise procedures

Objective – Demonstrate the proper cruise procedures for the King Air 90/200

Performance Conditions Standards

The training task is:

- Lean Assist MFD
- Best Power vs. Best Economy
- Manual Cruise
- Autopilot Cruise
- Navigation Programming:
- Automated Navigation Leg In Cruise Flight
- Task Management, Situational Awareness, and Aeronautical Decision making

The training is conducted during:

- Pre-Flight briefing
- In-Flight, Cruise

The pilot in training will:
Perform Lean:

- Best Power vs. Best Economy
- Lean the engines using the Lean Assist procedures and the MFD, unless FADEC equipped.

Manual Cruise:

- Perform hand flown manual cruise within the PTS standards
- Maintain altitude, within the PTS standards

Autopilot Cruise:

- Perform an autopilot assisted cruise within the PTS standards (for manual cruise)
- Maintain altitude within the PTS standards
- Demonstrate the aircraft reaction to course changes programmed into the GPS/MFD

Navigation Programming:

- Program flight plan changes into the GPS.

Automated Navigation Leg In Cruise Flight:

- In VFR conditions conduct a navigation leg of 30 minutes or more to a different airfield by use of the autopilot beginning at 1,000 ft AGL on departure and terminating autopilot use just prior to entry to the VFR pattern.

- In IFR conditions (or simulated IFR) conduct a navigation leg of 30 minutes or more to a different airfield by use of the autopilot beginning at 500 ft AGL on departure and terminating autopilot use at the decision altitude or missed approach point as applicable. If a missed approach is flown it will be flown by use of the autopilot.

Task Management, Situational Awareness, and Decision making

- Identify all traffic, hazardous terrain, and potentially hazardous situation as they occur by reference to visual clearing and the MFD (if available and optioned).
- Perform all required in-cockpit tasks in such a manner that visual clearing is not negatively impacted.
- Make timely decisions based on information obtained, visually, by radio, or by aircraft automation equipment.

End TAA-08

TAA-09: Control Performance Instrument/Visual Crosscheck

Objective – Demonstrate the proper use of flight controls and Visual or PFD derived cues to perform basic flight maneuvers in the King Air 90/200

Performance Conditions Standards

The training task is:

- Straight and Level Flight
- Normal (standard rate) Turns
- Climbing and Descending Turns
- Steep Turns (to PT Certificate)

The training is conducted during:

- Pre-Flight briefing
- In Flight

The pilot in training will:

- Perform the maneuver by sole reference to the window within the PTS standard
  - Straight and level
  - Normal Turns
  - Climbing and Descending Turns
  - Steep Turns (45 degree)
- Perform the maneuver by sole reference to the PFD within the PTS standard
  - Straight and level
  - Normal Turns
  - Climbing and Descending Turns
  - Steep Turns (45 degree)
- Establish airspeed and altitude within the PTS standard.
  - Straight and level
  - Normal Turns
  - Climbing and Descending Turns
  - Steep Turns (45 degree)

End TAA-09

TAA-10: Low Speed Envelope

Objective – Recognize the onset of low speed flight regimes and demonstrate the proper use of flight controls and Visual or PFD derived cues to perform basic low speed flight maneuvers in the King Air 90/200

Performance Conditions Standards

The training task is:

- Configuration changes
- Slow Flight
- Recovery From Power–Off and Power-On Stalls
- Recovery from autopilot induced stall

The training is conducted during:

- Pre-Flight briefing
- In Flight

The pilot in training will:

- Demonstrate slow flight within the PTS standard with the flaps in all possible flap positions and detents.
- Demonstrate a recovery from a planned Power-Off or Power-On Stall with minimum altitude loss.
- Demonstrate a recovery from an instructor induced Power-On/Power-Off stall with minimum altitude loss.
- Demonstrate a recovery from an autopilot induced stall with minimum altitude loss.
- Describe possible situations that might lead to an inadvertent stall and cockpit indications that would warn of an impending stall.
- Demonstrate pilot actions to avert the stall prior to its occurrence.
- Demonstrate stall prevention, situational awareness, task management, and Aeronautical Decision Making skills.

End TAA-10

TAA-11: Descent Planning and Execution

Objective – Demonstrate the proper descent procedures for the King Air 90/200

Performance Conditions Standards

The training task is:

- Automation management
- Vertical Navigation (VNAV) Planning
- Navigation Programming
- Manual Descent
- Autopilot Descent
- Task Management, Situational Awareness, CFIT Avoidance

The training is conducted during:

- Pre-Fight briefing
- In-flight, during cruise & through descent

The pilot in training will:

- Decide which automated features will be used during the descent and program then prior to beginning the descent
- Monitor and update the automated features during the descent
- Use the descent features of the GPS and the map features of the MFD to plan a fuel efficient descent that avoids known obstacles and terrain
- Program the entire descent (VFR) and program and activate the desired approach and go-around (IFR)
- Perform a manual descent within PTS standards
- Perform an autopilot descent within PTS standards
- Perform descent planning during the cruise leg and the descent itself from cruise altitude until just prior to flap extension for landing
- Identify the most important data available

End TAA-11

TAA-12: Landings

Objective – Demonstrate landing procedures in the King Air 90/200.

Performance Conditions Standards
The training task is:

- Before landing procedures
- IFR Landing Transition (Autopilot to manual and manual to Manual)
- Landings: Normal landing, Soft and Short Field landing, Partial Flap landing, Zero Flap landing and Crosswind landing.
- Balked landing and Go-Around
- Decision Making and Situational Awareness

The training is conducted during:

- Pre-arrival – eLearning
- Pre-Flight Briefing
- In-flight

The pilot in training will:

- Perform all pre-landing checklist items correctly and in sequence
- Demonstrate the proper transition from instrument reference to visual reference
- Demonstrate the proper procedures for autopilot disengagement and transition to landing
- Perform a normal full flap landing within the PTS standard
- Perform Soft and Short field landings within the PTS standard
- Perform a partial flap landing within the PTS standard
- Perform a zero flap landing within the PTS standard
- Perform a crosswind landing within the PTS standard
- Make a timely decision to go-around either in flight or after initial touchdown if the landing cannot be accomplished safely
- Perform the balked landing procedure within the PTS standards
    - (VFR) flap extension to turning off the runway or return to pattern altitude in the event of a go-around
    - (IFR) from 1,000 feet (stabilized approach until turning off the runway or climb to missed approach altitude
- Demonstrate awareness of all potential weather, traffic, and airfield factors that might impact the approach and landing
- Make timely decisions to mitigate risks and ensure a successful approach and landing

End TAA-12

TAA-13: Aircraft Shutdown and Securing Procedures

Objective – Demonstrate proficiency shutting down and securing the King Air 90/200

Performance Conditions Standards

The training task is:

- Aircraft Shutdown & Securing Checklist
- Aircraft Towing, Ground Handling, and Tiedown

The training is conducted during:

- Postflight

The pilot in training will:

- Demonstrate proficiency properly concluding a flight including engine shutdown and securing
- Demonstrate proficiency properly concluding a flight including aircraft storage

End TAA-13

TAA-14: Automated Avionics Interface

Objective – Demonstrate proficiency interfacing the avionics for flight operations

Performance Conditions Standards

The training task is:

- Identification of Data/Power Sources
  - Air Data failure
  - AHRS failure
  - Generator/battery failure
- Identification of PFD Failure Modes and corrective actions
  - Invalid Sensor Data
  - Invalid Heading
  - Crosscheck Monitor
  - Recoverable Attitude
  - Invalid Attitude and Heading
  - Complete/partial Electrical Power failure
- 3. Aircraft Automation Management

The training is conducted during:

- Pre-Arrival E learning
- Classroom
- Pre-flight
- In-flight

The pilot in training will:

- Understand data/power source failure modes that affect operation of the PFD.
- Identify specific failures and their associated cues.
- Perform the appropriate corrective action for each malfunction.
- Understand and be able to correctly describe the interface between all the installed avionics systems in the aircraft
- Demonstrate proficiency operating the Avionics installed on the aircraft as an integrated system

End TAA-14

TAA-15: GPS Operation and Programming

Objective – Demonstrate proficiency with the GPS

Performance Conditions Standards

The training task is:

- VFR: Direct-To Function, Nearest Function, Airport Information Function, Flight Plan Function Leg Activation Function and Locate, Select & Load Com and Nav Frequencies
- IFR: Direct-To Function, Nearest Function, DP/STAR/Approach Function, Flight Plan Function, Leg Activation Function, Locate, Select & Load Com and Nav Frequencies and Amend Flight Plan Procedure.

The training is conducted during:

- Pre-Arrival E learning
- Classroom
- Pre-flight
- In-flight

The pilot in training will:

- Demonstrate knowledge of databases, their currency, updating, and verifying procedures, as well as currency requirements for use as primary navigational resources.
- VFR: Demonstrate proficiency using the GPS by:
  - Utilizing "Direct to" function
  - Locate and Proceed "Direct to" Nearest: Airport, VOR, Intersection, User waypoint, Charted waypoint.
  - Access Information and load frequencies for: Airports, NavAids, ATC and FSS facilities
  - Creating, storing, activating, inverting and flying utilizing Flight Plans
- IFR: Demonstrate proficiency using the GPS by:
  - Utilizing "Direct to" function
  - Locate and Proceed "Direct to" Nearest: Airport, VOR, Intersection, User waypoint, Charted waypoint.
  - Access Information and load frequencies for: Airports, NavAids, ATC and FSS facilities
  - Creating, storing, activating, inverting and flying utilizing Flight Plans
  - Locating, loading and activating stored departure, arrival and approach procedures.

End TAA-15

TAA-16: Autopilot Programming, Modes, and Annunciators

Objective – Demonstrate proper use of the autopilot.

Performance Conditions Standards

The training task is:
- Control Wheel Steering
- LNAV and VNAV Programming
- Vertical Speed and Altitude Hold
- Navigation Modes
- Coupled Approach Modes
- Auto trim Mode
- PFD Interface

The training is conducted during:
- Pre-Arrival E learning
- Classroom
- Pre-flight
- In-flight

The pilot in training will:
- Demonstrate proper use of the control wheel steering.
- Demonstrate proper use of the LNAV and VNAV functions of the autopilot
- Demonstrate proper use of the vertical speed and altitude hold
- Demonstrate proper use of the navigation modes of the autopilot
- Demonstrate proper use of the coupled approach modes of the autopilot
- Demonstrate proper use of the auto trim mode of the autopilot
- Demonstrate proper use of the PFD interfaces

End TAA-16

TAA-17: Automated Avionics Operation and Systems Interface

Objective – Demonstrate proper use of the Avionics Interface including normal, abnormal, and emergency operations of the King Air 90/200 and all installed avionics.

Performance Conditions Standards

The training task is:

- Pilot Flight Display
- Multi Function Display Normal Operation
  - Setup Pages
  - Navigation Modes
  - Traffic Mode
  - Weather Modes
  - Checklist Modes
- Abnormal and Emergency Indications and Operations
  - Navigation Modes
  - Traffic Mode
  - Weather Modes
  - Checklist Modes
- EHSI Operation

The training is conducted during:

- Pre-Arrival, e-learning
- Classroom
- Pre-flight
- In-flight

The pilot in training will:

- In-flight demonstrate proper use of the PFD
- PFD & MFD: Demonstrate proper use of the avionics interface during normal operations including setup, navigation, traffic, weather, and checklist.
- PFD & MFD: Demonstrate proper use of the avionics interface during abnormal and emergency operations including setup, navigation, traffic, weather, and checklist.
- EHSI: Demonstrate proper setup, use, and operation

End TAA-17

TAA-18: Datalink Systems and Additional Avionics Setup

Objective – Demonstrate proper use of the Multi Function Display (MFD) and/or EHSI as well as it's interface with other installed avionics systems.

Performance Conditions Standards

The training task is:

- Datalink Systems:
  - Weather Information
  - Traffic Identification and Avoidance Information
  - Flight Plan and Traffic Control Systems
- Terrain Display and Avoidance Systems
  - EGPWS Operations
  - MFD Moving Map Operations

The training is conducted during:

- Pre-Arrival, e-learning
- Classroom
- Pre-flight
- In-flight

The pilot in training will:

- Datalink Weather Setup and Operation:
  - Demonstrate the proper setup of the information and related displays.
  - Demonstrate the proper decision making skills based on the information presented
- Datalink Traffic Setup and Operation:
  - Demonstrate the proper setup of the information and related displays.
  - Demonstrate the proper decision making skills based on the information presented
- Terrain Display and Avoidance Systems Setup and Operation
  - Demonstrate the proper setup of the information and related displays.
  - Demonstrate the proper decision making skills based on the information presented
- Datalink Flight Plan and Traffic Control Systems Setup and Operation
  - Demonstrate the proper setup of the information and related displays.
  - Demonstrate the proper decision making skills based on the information presented

End TAA-18

TAA-19: Emergency Escape Maneuvers/ Recovery from Unusual Attitudes and Upsets

Objective – Demonstrate unusual attitude/upset recovery in the King Air 90/200

Performance Conditions Standards

The training task is:

- PFD In-flight Demonstrate unusual attitude recovery using the PFD to PTS Standards
- Backup Instruments In-flight Demonstrate unusual attitude recovery using backup instruments to PTS Standards
- Autopilot - Limitations of its use for recovery
- Upset Training In-flight
- Engine Failure/Emergency Descent
- Emergency Escape Maneuvers, Risk management, and Decision Making
- Develop a problem solving matrix for use of all these systems when faced with IFR/VFR emergency procedures

The training is conducted during:

- Pre-Arrival E learning
- Classroom
- Pre-flight
- In-flight

The pilot in training will:

- Demonstrate unusual attitude recovery using the autopilot to PTS Standards
- Demonstrate procedures to be used during engine failure or situations requiring an emergency descent.
- Demonstrate upset recovery using the PFD
- Demonstrate understanding of the capabilities of the PFD, Autopilot
- Demonstrate the ability to make correct decisions when faced with IFR/VFR emergency conditions

End TAA-19

TAA-20: Instruction Approach Procedures
Objective – Demonstrate IFR procedure proficient in the King Air 90/200 using the installed equipment.
Performance Conditions Standards
The training task is:

- Manual & Coupled ILS Approaches
- Manual & Coupled GPS LPV & LNAV/VNAV Approaches
- Manual & Coupled Non-Precision VOR & GPS LNAV Approaches
- Manual & Autopilot Assisted Missed Approaches
- Manual & Autopilot assisted Procedure Turns
- Manual & Autopilot assisted Holding
- Task Management and Decision Making
- Situational Awareness In-Flight

The training is conducted during:

- Pre-Arrival, e-learning
- Classroom
- Pre-flight
- In-flight

The pilot in training will:

- Programming:
  - Select, load and activate the stored procedures in a timely and appropriate manner.
  - Demonstrate proficiency with sequencing of steps required when selecting, loading and activating stored procedures.
- Perform Approaches to PTS Standards:
  - Manual & coupled ILS approaches
  - Manual & coupled GPS LVP & LNAV/VNAV approaches
  - Manual VOR & GPS LNAV approaches
- Perform Missed Approach to PTS standards
  - Manual missed approach from DH/DA/MAP w/GPS guidance
  - Autopilot assisted missed approach from DH/DA/MAP w/GPS guidance
- Perform Procedure Turns to PTS Standards
  - Manual and Autopilot Assisted PT's
- Perform IFR Holding to PTS Standards
  - Manual and Autopilot Assisted Holds

The pilot in training will: (continued)

- Demonstrate proper planning and prioritization of time between avionics programming and execution of IFR procedures
- Demonstrate proper set-up and use of the MFD and/or HSI to maintain situational awareness during IFR procedures

End TAA-20

Section 7 – Risk Assessment and Management

Personal Minimums Worksheet

Using the above guidelines, the following worksheet should be used to formulate a comfortable set of personal minimums. These minimums should be numerical values that can be practically applied to flight operations. Day VFR

	DAY VFR	Night VFR	Day IFR	Night IFR
CEILING				
VISIBILITY				
WIND CONDITION				
RUNWAY LENGTH/WIDTH				
RUNWAY CONDITION				
REST PERIOD (IM SAFE CHECKLIST)				
FUEL RESERVES				
OTHER (E.G., ICING, THUNDER STORMS, MOUNTAIN FLYING)				
REMARKS:				

PILOT	DATE	INSTRUCTOR	DATE

Section 8 – Flight Risk Assessment

Before each flight, assess each of the following conditions and assign a numeric rating of 1 to 5 in the right hand column for each factor. Add up all factors to obtain an overall risk estimate and see where it falls in the Green/Yellow/Red Risk Chart.

	1	2	3	4	5	Rating
Flight Type	VFR		IFR			
Solo or Dual	Dual		Solo			
Day or Night	Day		Night			
Your Rating	ATP CFI/CFII	Com	PPL w/IFR	PPL	Student	
Rest in Last 24 hrs	>8 hrs	7 – 6 hrs	6 – 5 hrs	5 – 4 hrs	< 4 hrs	
Visibility	>15 miles	15-10 miles	9-6 miles	5-3 miles	<3 Miles	
Ceiling-AGL	>10K	10K-5K	5K-3K	3K-1K	<1000 ft	
Crosswind Departure	0-5 kts	6-10 kts	11-15 kts	16-20 kts	>20 kts	
Crosswind Destination	0-5 kts	6-10 kts	11-15 kts	16-20 kts	>20 kts	
Weather Stability	Stable		Deteriorating Slowly		Rapidly	
Destination Familiarity	Yes		No			
Your Time in Acft type	>200	199-150	149-100	99-50	<50 hrs	
Hours flown last 90 days	>20	19-15	14-10	9-5	<5	
Total Hours Flight Time	<2000	2000-501	500-251	250-100	>100	
					Total Risk Score:	
No unusual hazards. Use normal flight planning and established personal minimums and operating procedures.						14-30
Somewhat **riskier than usual**. Conduct flight planning with extra care. Review personal minimums and operating procedures to ensure that all standards are being adhered to. Consider alternatives to reduce risk factors.						31-47 or a 5 in any row
Conditions present **much higher** than normal risk. Conduct flight planning with extra care and review all elements to identify components that can be modified to reduce risk. If available, consult with more experienced pilot or instructor for guidance before flight. Develop contingency plans before flight to deal with all high-risk items. Decide beforehand on alternates and brief passengers and other crew members on special precautions to be taken during the flight. Consider delaying flight until conditions improve and risk diminishes.						48-63 or a 5 in any two rows

Section 8 – King Air 90/200 Initial Transition Training Flow

Duration – 5 Calendar Days, or As Required:

Initial Aircraft Transition Training Tracks

Pilot Certificate	Total Time PIC	X-Cntry PIC Time	Last 12 Mo.s	Multi Time	TAA* Time	Track
ATP/COM/PPL	≥1500 hrs	≥1000	≥200	≥300	≥300	3 days
ATP/COM/PPL	≥1500 hrs	≥1000	≥200	<300	<300	4 days
COM/PPL	750-1500 hrs	≥700	≥200	<150	<150	4.5 days
PPL	500-1500 hrs	≥450	≥100	<75	<75	5 days

Prerequisites:

- Private Pilot Certificate w/AMEL & Instrument Airplane Rating
- High Performance and Complex Airplane Endorsements
- Working knowledge of Avionics in training airplane
- Successful completion of all Pre-Course Materials

Note: The Pilot Survey will help Wright Aviation Services, LLC determine a PTs' experience and current proficiency level so we may provide the most beneficial training possible. Training tracks will not be based on solely a pilot's total flight time, type ratings held or currency. Knowledge of, and experience with, the components of the aircraft's avionics suite, as well as the PT's recent flight experience, will, in combination with overall experience, determine the proper training path for an individual PT.

The King Air 90/200 Transition Course will *typically* require 5 days of on-site training, with additional time if needed. All flight training will be conducted in the customer's aircraft flying minimum 100 nautical mile cross country legs.

At the completion of the King Air 90/200 Transition Course the pilot-in-training will have accumulated approximately 15-20 hours of flight time in the aircraft.

Explanation of King Air 90/200 Course Components:

Pre-Course Material:

Pre-Course Material consists of electronic training materials covering a wide variety of topics including aircraft systems, normal, abnormal and emergency procedures, configuration specific avionics materials, risk management, advanced weather training, and high altitude training materials. All topics will be delivered through a self-guided training format including testing and evaluation. Wright Aviation Services, LLC has the ability to track all training activities that are delivered through a combination of testing and flight log tracking.

Pre-course training is a required component of the training course and must be successfully completed before beginning the on-site, instructor lead component of the training course. The topics covered in the pre-course material will be determined based on specific aircraft equipment in the PTs' aircraft as well as the pilot's experience and qualifications.

Pre-Course Pilot Survey:

The Pre-Course Pilot Survey will allow the Pilot Trainee (PT) and Wright Aviation Services, LLC to determine the most appropriate training track for each PT. Information gathered from the survey will include such items as overall flight experience, recent experience, systems experience and the PTs' personal training requests.

The appropriate training track a PT should follow will be based on consultation with the PT and information contained in the Pilot Survey completed and returned to Wright Aviation Services, LLC for evaluation. If a PT meets the proficiency level for a higher proficiency track he may choose to follow a lower proficiency track to gain additional experience at his expense.

IFR Proficiency Training in High Performance EFIS Equipped Aircraft:

If it is determined that the PT requires additional instrument proficiency the PT can accomplish this through flight training in a Cirrus SR-20 equipped with the a G1000 System or an Avidyne Entegra PFD/MFD, Garmin GNS430W GPS/FMS system, the S-Tec 55X autopilot as appropriate. This provides for a positive training transfer for the PT should the PT wish to begin training prior to taking delivery

of his King Air 90/200 or simply need to knock the rust off his instrument skills.

Note: Because this proficiency course is focused on cockpit and avionics training, the PT will not be required to be familiar with the systems of the SR-20 as the instructor will be fully qualified in the type. This course component is specifically designed to increase a PTs' EFIS and instrument proficiency. If this training is required or requested, the PT will be responsible for the additional cost of the instructor and aircraft.

Pre-Course Training in the King Air 90/200: If it is determined that a PTs' proficiency level with EFIS equipped aircraft needs some improvement or a PT has limited experience in complex, multi engine aircraft the PT may choose to complete this type of training in his King Air 90/200 prior to starting the actual transition course. If this training is required or is requested the PT will be responsible for the additional cost.

King Air 90/200 Transition Course:

The on-site component of the King Air 90/200 Transition Course will consist of the required ground school and flight training. The course will require approximately 5 days of on-site training. At the completion of the transition course a PT will be awarded a Certificate of Completion endorsed by the CFI as well as a logbook endorsement certifying that the PT has completed this initial aircraft training and he is proficient in the operation and systems of a King Air 90/200 aircraft. All times listed above are approximate. Actual times for each course component will be based on pilot proficiency and not actual training hours.

Flight Experience with Pilot Mentor:

There is a pool of Pilot Mentors to help a PT in transitioning to the King Air 90/200. A mentor is a highly experienced pilot who is qualified in the King Air 90/200 aircraft and who can provide the PT with coaching during the PTs' period of initial operating experience in the aircraft. A mentor will act as safety pilot if required by insurance or just because the PT wants to gain additional experience in his aircraft prior to operating it solo.

Operating experience with a Pilot Mentor can take place before and/or after the Transition Course or a combination of the two. In addition a

mentor will be available to the PT after completing the required flight experience. Mentor pilot services are not included in the basic Transition Training Course fees.

FITS Syllabus	Accepted Course(s)	Acceptance Expiration
FITS Flight Syllabus	Pilatus PC-12 Series Transition Course	11/20/2015
FITS Flight Syllabus	Piper PA-46 Transition Course	03/31/2014 *
FITS Flight Syllabus	Twin Cessna Transition Course	11/30/2015
FITS Flight Syllabus	King Air 90/200 Transition Course	11/30/2015
FITS Flight Syllabus	Beech Baron Transition Course	11/30/2015
FITS Flight Syllabus	Beech Bonanza Transition Course	11/30/2015
FITS Flight Syllabus	Shrike Turbo Commander 680/690 Series	11/30/2015
FITS Flight Syllabus	Socata TBM7/TBM8 Transition Course	05/13/2014 *

Letters of Acceptance:
FAA/Industry Training Standards (FITS) Courses dated 11/27/2013.
*FAA/Industry Training Standards (FITS) Courses Renewals Pending PA46 & TBM7/8

Acknowledgements:

Syllabus prepared by:

Wright Aviation Services, LLC

Resources Relied upon:

FAA Industry Training Standards
(FITS) Scenario-based Transition Syllabus and Standards
For Technically Advanced Aircraft

Additional Resource:
Avidyne
Cessna Aircraft
Cirrus Aircraft
Garmin
Piper Aircraft
Raytheon Aircraft Corporation
Beechcraft Aircraft
Pilatus Aircraft
Daher-Socata Aircraft
S-Tec
UND Aerospace