Promech Air
Ketchikan, AK
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ANC15MA041

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ATTACHMENT 16

PM Air LLC Medallion Foundation CFIT Avoidance Manual

31 Pages

PM AIR LLC

CFIT
CONTROLLED FLIGHT INTO TERRAIN
AVOIDANCE
MANUAL

TABLE OF CONTENTS

CFIT AVOIDANCE MANUAL

SAFETY REPORT FORM

PROMECH AIR
SAFETY REPORT

FROM:_____ LOCATION:_____

DATE:_____ DEPARTMENT:_____

Summary of Hazard or Safety Concern: (use reverse side for Drawings or additional remarks)

Suggested Corrective Action:

FOR OFFICE USE ONLY

Supervisors Investigation:

Corrective Action Taken:

Signature & Date:

Copy sent to Originator Yes [ ] No [ ]
Response sent to Originator Yes [ ] No [ ]

RECORDS OF REVISIONS

Rev. No.	Revision Date	Insertion Date	By	Comments
Original	2/15/10		T. Dupea	
Rev 1	10/10/14	10/10/14	Hassell	Removed: reference to Aircraft being used for ATD, past exemptions, experience policy

Retain this record in the front of the manual. On receipt of revision, insert revised pages in the manual, remove supplanted pages, and enter revision number, revision date, insertion date, and initials of employee handling the revision.

REVISIONS POLICY

The Director of Operations has the authority to make changes to the CFIT Avoidance Manual. Revisions to the CFIT Avoidance Manual will be made and inserted by the Director of Operations.

DEFINITIONS

CFIT (Controlled Flight Into Terrain): Occurs when an airworthy aircraft is flown, under the control of a qualified pilot, into terrain (water or obstacles) with inadequate awareness on the part of the pilot of the impending collision.

Contributing factors towards a CFIT event:

Deteriorating Visibility:
Pilots should recognize that deteriorating weather conditions might exist on the route of flight, even if all indication is for fair weather. One factor contributing to CFIT accidents/incidents is the loss of flight visibility while trying to remain VFR in deteriorating flight conditions. The ability to determine flight visibility before it deteriorates to the point where terrain separation can no longer be guaranteed visually is essential. Flight visibility is defined as "The greatest distance one can see and identify prominent objects".

Flat Light:
Flat light is an optical illusion, also known as "sector or partial white out." It is not as severe as "white out" but the condition causes pilots to lose their depth-of-field and contrast in vision. Flat light conditions are usually accompanied by overcast skies inhibiting any good visual clues. Such conditions can occur anywhere in the world, primarily in snow covered areas but can occur in dust, sand, mud flats, or on glassy water. Flat light can completely obscure features of the terrain, creating an inability to distinguish distances and closure rates. As a result of this reflected light, it can give pilots the illusion of ascending or descending when actually flying level. However, with good judgment and proper training and planning, it is possible to safely operate an aircraft in flat light conditions.

White Out:
As defined in meteorological terms, white out is when a person becomes engulfed in a uniformly white glow. The glow is a result of being surrounded by blowing snow, dust, sand, mud or water. There are no shadows, no horizon or clouds and all depth-of-field and orientation are lost. A white out situation is severe in that there aren't any visual references. Flying is not recommended in any white out situation. Flat light conditions can lead to a white out environment quite rapidly, and both atmospheric conditions are insidious: they sneak up on you as your visual references slowly begin to disappear. White out has been the cause of several aviation accidents in snow-covered areas.

PROGRAM MANAGEMENT

The Organizational Chart (General Operations Manual, page 1-4) reflects the management structure with operational responsibilities for the CFIT Avoidance Program. All PM AIR, LLC employees shall follow the Organizational Chart at all times while PM AIR, LLC employees are on duty.

The Director of Operations for is responsible for and has the overall authority to establish, execute and modify CFIT Avoidance Program Policies and Procedures. In his absence, the Director of Operations may delegate authority for the CFIT Avoidance Program; however, he always retains full responsibility for all aspects of the program.

The Director of Operations, Chief Pilot and Company Check Airmen shall be responsible for the implementation of the program and demonstrate an understanding of policies, procedures, interfaces, and process associated with CFIT Avoidance Program.

The Director of Operations and Chief Pilot shall be responsible for the content, maintenance, scheduling, recording, and currency of the CFIT Avoidance training program.

PILOTS ELIGIBLE FOR CFIT TRAINING

All initial new hire pilots, all pilots receiving recurrent training and any pilot who has gone out of currency.

PURPOSE OF CFIT AVOIDANCE MANUAL

The Controlled Flight Into Terrain (CFIT) Manual describes the policies and procedures that PM AIR, LLC will use in relation to CFIT Avoidance during all phases of flight. All PM AIR, LLC aircrew shall adhere to the procedures in this manual. The Company General Operations Manual shall be referred to in all situations when procedures are in question.

COMPANY POLICY

The safe transportation of passengers and the efficient use of our assets are of primary importance. The General Operations Manual sets general procedures and guidelines for all personnel assigned duty positions so they may conduct their specific duties in a safe and efficient manner. The goal of PM AIR, LLC is to promote safety and accident prevention, as well as injury and illness protection. Safety is included in all aspects of the company training and operations programs. By following the general procedures in this manual, personnel working for PM AIR, LLC can help reduce operating costs, heighten safety awareness, and increase the operational capability of the company's aviation assets.
PM AIR, LLC is concerned with not only employee safety, but also customer safety as well. Through safety awareness, and quality education and training of all employees, our goal of accident prevention can be accomplished. It is every employee's responsibility to identify any hazard or unsafe condition so it may be eliminated.

CFIT AVOIDANCE BEST PRACTICES

Avoidance Considerations and Preparation: Pilots should recognize that deteriorating weather conditions might exist on the route of flight, even if all indications are fair weather. The basic best practices while enroute for PM AIR, LLC Pilots are to be followed:

A. Situational Awareness:
   1. Know the aircraft position at all times.
   2. Know the high and low terrain at all times-reference sectional and or GPS.
   3. Know the best direction to turn if needed.
   4. Study the weather trends regularly and understand the meaning of these weather trends in relation to your geographical area of travel.
   5. Know the VFR Minimum Safe Altitude at all time, IAW FAR 135.203 (a)(1).
   6. Know the VFR Visibility Requirements at all time, IAW FAR 135.205 (a).
   7. Above all- fly the aircraft.

CFIT AVOIDANCE POLICIES AND PROCEDURES

DETERIORATING VISIBILITY

During preflight planning the Minimum Safe Altitudes will be adhered to along the VFR planned route segment IAW FAR 135.203 (a)(1), VFR Visibility Requirements IAW FAR 135.205 (a), During the VFR flight pilots are encouraged to develop their own weather minimums before starting a VFR flight or at least the regulatory weather minimums.
Having a firm plan of action helps prepare you to be looking out for the visual cues indicating the flight may be entering one of the three conditions common to CFIT accidents.

Recognition of Loss of Visual Reference

One factor contributing to CFIT accidents/incidents is the loss of flight visibility while trying to remain VFR in deteriorating flight conditions. The ability to determine flight visibility before it deteriorates to the point where terrain separation can no longer be guaranteed visually is essential.

Estimating In-Flight Visibility at Low Altitude

Flight visibility is defined as "The greatest distance one can see and identify prominent objects". The following techniques will be used to assist pilots in determining flight visibility:

A. GPS (Capstone Equipped Aircraft and Hand Held Units)
   1. Set up the GPS to display in map-mode and miles remaining to the next waypoint.
   2. Pick a prominent object as displayed on the GPS unit over water (i.e. island, coastline formation, and entrance to a bay or channel).
   3. Pick a prominent object as displayed on the GPS unit over land (i.e. a bend in the mountain pass structure, rivers, mountain ridges, and valleys).

4. Note the miles displayed from the prominent object in the GPS map-mode and the aircraft present position to arrive at flight visibility.

B. Non-GPS Equipped Aircraft
1. Reference VFR Sectional Chart and know the aircraft position at all times.
2. Pick a prominent object as displayed on the VFR Sectional Chart over water (i.e. island, coastline formation, and entrance to a bay or channel).
3. Pick a prominent object as displayed on the VFR Sectional Chart over land (i.e. a bend in the mountain pass structure, rivers, mountain ridges, and valleys).
4. Note the miles from the prominent object on theVFR Sectional Chart and the aircraft present position to arrive at flight visibility.

If during the VFR segment, existing weather is radically different from that forecasted and/or in the process of deteriorating, a timely decision to make enroute must be made.
The recognition of the loss of visual references is best described as having to slow down and come down in order to maintain visual reference.

Deteriorating Visibility Aeronautical Decision Making (ADM)

1. PIREPS-Seek Pilot Reports on CTAF if there is other aircraft in front of you and/or near the destination airport. Good pilot reports provide great reliability.
2. Choose an alternate route to the destination airport.
3. Execute a 180-degree turnaround and return to departure airport or base of operations.

FLAT LIGHT

During preflight planning the Minimum Safe Altitudes will be adhered to along the VFR planned route segment IAW FAR 135.203 (a)(1),
During the VFR flight pilots are encouraged to develop their own weather minimums before starting a VFR flight or at least the regulatory weather minimums.

Make sure weather conditions don't deteriorate which will lead to White Out conditions. Having a firm plan of action helps prepare you to be looking out for the visual cues indicating the flight may be entering one of the three conditions common to CFIT accidents. Flat light conditions can lead to a white out environment quite rapidly, and both atmospheric conditions are insidious: they sneak up on you as your visual references slowly begin to disappear. However, with good judgment and proper training and planning, it is possible to safely operate an aircraft in flat light conditions.

If during the VFR segment, existing weather is radically different from that forecasted and/or in the process of deteriorating, a timely decision to make enroute must be made.
The recognition of the loss of visual references is best described as having to slow down and come down in order to maintain visual reference.

Flat Light Aeronautical Decision Making (ADM)

1. PIREPS-Seek Pilot Reports on CTAF if there is other aircraft in front of you and/or near the destination airport. Good pilot reports provide great reliability.
2. Situational Awareness: Know the aircraft position at all times (Charts, GPS).
3. Maintain sight of the natural horizon and if unable, but still can maintain a Minimum Safe Altitude. Check altimeter and don't descend below known altimeter reading.
4. Operating in limited terrain contrast during periods of flat light, then utilize the intermediate reference points along the flight path.
5. Don't lose sight of your reference points and NEVER fly if you have only ONE reference point.
6. Flying along a shoreline then maintain that as a visual reference for height along with the altimeter. If crossing a body of water check altimeter and don't descend below that altitude reading.
7. Keep a positive scan outside the aircraft along with the aircraft flight instruments.
8. Traffic considerations, bare in mind that there might be other aircraft sharing the same route as you so maintain a watch on the CTAF, but don't let it distract you from flying the aircraft.
9. Choose an alternate route to the destination airport.
10. Execute a 180-degree turnaround and exercise control of the aircraft and return to departure airport or base of operations.

WHITE OUT

Escape Maneuvers are intended for use as avoidance or 'escape' from inadvertent flight into flat light, white out or deteriorating visibility. These maneuvers should be planned out in advance and used as a procedure to be followed. Action is the key when you recognize that your minimums have been exceeded.

White Out Aeronautical Decision Making (ADM)

1. If inadvertent Instrument Meteorological Conditions/White Out is encountered. Aircraft maneuvering involves the use and techniques of aircraft control to escape the situation and spatial disorientation.
2. Situational Awareness: Know the aircraft position at all times (Charts, GPS).
3. Know the high and low terrain at all times (Charts, GPS).
4. Slow the aircraft (reduces turn radius and time to see ground references).
5. Partial flaps.
6. Know the best direction to turn. Execute a 180-degree turnaround from a known heading. If able, maintain visual ground references during the turn.
7. Cross-check flight instruments with ground references during the turn, maintain aircraft control.
8. If over land complete a 180-degree turn to VFR conditions and descend to an altitude to achieve ground references.

9. If over water complete a 180-degree turn to VFR conditions and descend to an altitude to achieve ground references.

PM AIR, LLC Pilot's are responsible for utilizing these tools to familiarize themselves with routes flown, help maintain situational awareness, and enable them to take the appropriate action to avoid the risk of CFIT.

UNFAMILIAR AIRPORT OPERATIONS

Routes and Destinations:

All pilots should familiarize themselves with each new area and notify dispatch when a particular area has not been covered during IOE training. Some areas need to be clearly addressed before a flight operation takes place so as not to jeopardize the safety of the passengers or aircraft. Prior to engaging in operations over any route or into any destination, the pilot will search out such information, as available, concerning the route or destination. He/she shall acquire sufficient data to make a proper decision concerning the adequacy of the landing area to be used.

If a pilot has not flown over a route and/or into a destination then pilot will, where possible, consult with the Director of Operations, Chief Pilot, Check Airmen, and/or another company pilot familiar with the route and airport facility.

CFIT TRAINING PROGRAM

The CFIT Training Program consists of curriculums, curriculum(s) segments, modules, elements or events, courseware, methods, testing and checking procedures that will ensure crewmembers remain adequately trained for the CFIT program in each aircraft, duty position, and kind of operation.

TRAINING OBJECTIVE:
At the end of the CFIT Training Program curriculum segment the pilot shall understand PM AIR, LLC's policies, procedures, and means of compliance with the Federal Aviation Regulations, General Operations Manual, Operations Specifications, and ATD Sessions while engaged in the business of air commerce. Additionally, successful completion of this curriculum segment ensures the pilot is fully prepared to enter aircraft ground and flight training curriculum segments

CFIT TRAINING RESPONSIBILITIES
It is the responsibility of PM AIR, LLC. To insure that the person with responsibility for the CFIT program has attended a System Safety, Safety Management System training or a similar training that includes system safety in the curriculum.

CURRICULUM: A complete training agenda specific to a crewmember duty assignment and/or aircraft type. Each curriculum consists of several curriculum segments.

CURRICULUM SEGMENT: An integral phase of a curriculum, which can be separately evaluated and individually approved, but by itself does not qualify a person for a crewmember duty position. Each curriculum segment consists of one or more training modules.

DUTY POSITION: The function or operating position of a crewmember for aircraft. (I.e.PIC,).

ELEMENT: An integral part of a training module that is not task-oriented but subject-oriented.

ELIGIBILITY PERIOD: The eligibility period consists of three calendar months. These three calendar months include a) the calendar month **BEFORE** the training/checking month, b) The training/**checking month**, and c) the calendar month **AFTER** the training/ checking month. During this period a crewmember must receive recurrent training, a flight check, or a competency check to remain in a qualified status. Training or checking completed during the eligibility period is considered in the category of time as during, (b) the training/checking month.

EVENT: An integral part of a training module, which is task-oriented and requires the use of a specific procedure. A training event provides a student the opportunity for instruction, demonstration, and/or practice using specific procedures. A testing or checking event provides the evaluator the opportunity to evaluate a student's ability to correctly accomplish a specific task without instruction or supervision.

INSTRUCTION DELIVERY METHODS: Methodology for conveying information to a student. These may include lectures, demonstration, audiovisual presentations, directed study,

assignments, workshops, and drills. Ground training devices, simulators, aircraft and computer workstations are also considered instructional delivery methods.

TESTING AND CHECKING: Methods by which students demonstrate the required level of knowledge in a subject and whether they can apply knowledge and skills learned in instructional situations to practical situations.

TRAINING/CHECKING MONTH: The calendar month (the first day through the last day of a particular month) during which a crewmember is due to receive required recurrent training, a required flight check, a required competency check or a required operating familiarization.

TRAINING MODULE: An integral part of a curriculum segment, which contains descriptive information, elements, or events, which relate to a specific subject. A training module includes the outline, appropriate courseware, and the instruction delivery methods. It is usually completed in a single training session.

CFIT TRAINING PROGRAM ELEMENTS

1. **MAINTAINING TRAINING RECORDS**
   PM AIR, LLC. The Chief Pilot will maintain pilot-training records. Pilot training records will be reviewed by the Director of Operations after training and qualification segments are completed and prior to the records being filed.

2. **TRAINING MATERIALS**
   During the training phase the following material will be made available:
   a) CFIT Avoidance Manual
   b) Course Syllabus
   c) ATD Simulator Syllabus
   d) Checklist, Charts, Graphs, and (if applicable) Aircraft Reference Handbook

3. **INSTRUCTIONAL FACILITIES, INSTRUCTIONAL DELIVERY METHODS AND COURSEWARE (Figure 1)**
   Promech Air. classrooms are equipped for presentation of 35mm slides and VCR/TV. A view graph projector is also available. Combination of several instructional delivery systems will be used for conveying information to the trainees during ground and ATD training. Methods include lectures, audiovisual presentations, home-study assignments, procedures training in cockpit mock-ups, demonstrations, performance of drills, computer-based training and the use of simulators. Courseware includes the references in this manual, overhead viewgraphs, 35mm slide presentations, syllabuses, various handouts and videotapes.

INSTRUCTIONAL DELIVERY METHODS/COURSEWARE CHARTS

Instructional Delivery Method (IDM)

Lecture	A
Audiovisual	B
Home Study	C
Cockpit Mock-Up	D
Demonstration	E
Performance of Drills	F
Computer Based Training	G
Simulators	H
Aircraft	I

Courseware (CW)

Overhead Viewgraphs	35mm Slides	Handouts	Video Tapes	Lesson Plans
1	2	3	4	5

NOTE: Each subject area contains the letter and/or number that identifies the applicable Instructional Delivery Method (IDM) and/or Courseware (CW)

Figure 1. Instructional Delivery Method/Courseware

4. GROUND TRAINING

When only one or two crewmembers are being trained, the Instructor and Crewmember will work one on one. The instructor will make directed study assignments and assign work projects. There will be sufficient contact periods where the instructor can instruct, explain, demonstrate and determine that the student crewmember has adequate knowledge and understanding of the subjects of the curriculum.

When more that two crewmembers are being trained, the Instruction will be in a formal classroom. The Instructor will teach the subjects of the curriculum, make directed study and work assignments, and determine that the student crewmembers have adequate knowledge and understanding of the subjects of the curriculum. Lectures, classroom discussion, directed study assignments, and demonstrations (where practical) will be the methods of training.

AUTHORIZED INSTRUCTORS:

1. Director of Operations
2. Chief Pilot
3. Company Check Airman

COURSEWARE:

1. Blackboard/Whiteboard
2. Advisory Circular
3. Aircraft POH
4. Company Operations Manual
5. Federal Aviation Regulations
6. Aviation Safety Video: Flying in Flat Light/White Out Conditions
7. Overhead Projector
8. Computer Based Training

5. REVIEW AND TEST PROCEDURES

a) Ground Training

In order to insure that the Pilot possesses adequate knowledge of subjects covered, he/she will be required to pass an oral or written examination with a minimum grade of 70% corrected to 100%, as required.

NOTE: If an individual fails to pass the examination, he/she will be assigned extra study time as deemed necessary and will be retested using a different exam. If examination is failed again, further training/testing will be determined by operator.

6. ATD FLIGHT TRAINING

For purposes of this training program *Flight Training* means training on an approved simulator and flight training device.

7. QUALIFIED INSTRUCTORS

A qualified instructor who conducts a classroom subject within a course, and completes a course of ground training (required within this approved training program) will be considered to have completed that subject, course or drill for their own training requirement. The Chief Pilot, Director of Operations shall certify such credits.

IN NO CASE WILL A PERSON SIGN THEIR OWN TRAINING RECORD

8. CATEGORIES OF TRAINING

CURRICULUM SEGMENT TRAINING

a) INITIAL TRAINING

i) Initial New Hire

New employees without previous 135 experiences and without any previous aircraft experience for which the crewmember is assigned. Initial New Hire is required to complete the CFIT Avoidance; Ground and ATD training prior to being assigned pilot-in-command duties

9. RECURRENT TRAINING-ANNUAL TRAINING PERIOD (12th Calendar Month)

Provided to a crewmember that has been trained and qualified by PM AIR, LLC and will continue to serve in the same duty position and aircraft type, and who must receive recurrent training and/or checking within an ***appropriate eligibility period to maintain currency***. Will be required to complete the CFIT Avoidance; Ground and ATD training prior to being assigned pilot-in-command duties

10. REQUALIFICATION

Provided to a crew member who has been trained and qualified by the PM Air, LLC but has become unqualified to serve in a particular duty position and/or aircraft due to not having received recurrent training and/or required flight or competency check within the appropriate eligibility period.

11. GROUND TRAINING SEGMENTS

Each curriculum is further divided into several curriculum segments. Each segment is an integral phase of the curriculum and may be evaluated individually. CFIT Avoidance Ground Training. Curriculum Segments are grouped and classified as Deteriorating Visibility, Flat Light, White Out, and Inadvertent IMC.
CFIT Avoidance ground training curriculum segments schedule for 2 hours.
A brief description of the curriculum segments follows:

a) Deteriorating Visibility

Introduces the crewmember to PM AIR, LLC method of conducting operations in air transportation. It specifically acquaints the individual with policies, procedures for recognizing the onset of Deteriorating Visibility and methods for estimating in-flight visibility and acquired adequate basic knowledge:

(1) Appropriate provisions of the Federal Aviation Regulations.
(2) Recognition of Loss of Visual Reference.
(3) Estimating In-Flight Visibility at Low Altitude
(4) Deteriorating Visibility Aeronautical Decision Making (ADM)

b) Flat Light

Introduces the crewmember to PM AIR, LLC method of conducting operations in air transportation. It specifically acquaints the individual with policies, procedures for recognizing the onset of Flat Light and methods for estimating in-flight visibility and acquired adequate basic knowledge:

(1) Appropriate provisions of the Federal Aviation Regulations.
(2) Recognition of Loss of Visual Reference.
(3) Flat Light Aeronautical Decision Making (ADM)

c) White Out/ Inadvertent IMC

Introduces the crewmember to PM AIR, LLC method of conducting operations in air transportation. It specifically acquaints the individual with policies, procedures for recognizing the onset of White Out and methods for estimating in-flight visibility and acquired adequate basic knowledge:

(1) Escape Maneuvers
(2) Situational Awareness
(3) Whit Out Aeronautical Decision Making (ADM)

12. AVIATION TRAINING DEVICE (ATD) CURRICULUM SEGMENTS

Each curriculum is further divided into several curriculum segments. Each segment is an integral phase of the curriculum and may be evaluated individually. CFIT Avoidance ATD Simulator Training. Curriculum Segments are grouped and classified as Deteriorating Visibility, Flat Light, White Out, and Inadvertent IMC. The completion standards will be achieved when the pilot in training can safely identify and respond to the following conditions. A brief description of the curriculum segments follows:

ATD TRAINING LESSON PLANS
CFIT AVOIDANCE

SUBJECT	Deteriorating Visibility
OBJECTIVE	The crewmember will perform the policy, procedures ,and maneuvers of this lesson with the outcome never in doubt.
ELEMENTS	TAKEOFF: Normal CLIMB: Normal ENROUTE: Situational Awareness-GPS, VFR Sectional, Knowledge of local terrain for current leg of flight. Estimating In-Flight Visibility at low Altitude- Methods: GPS/VFR Sectional Recognition of Loss of Visual References Deteriorating Visibility Aeronautical Decision Making (ADM)
SCHEDULE	ATD: 45 Minutes
COURSEWARE	CFIT Avoidance Manual, Aviation Safety Video-Flat Light/White Out, CFIT Training Video.
INSTRUCTION METHODS	The instructor will conduct a preflight briefing of the maneuver and procedures of this lesson. He/she will correct errors or improper procedures and demonstrate when necessary to achieve desired results.
STUDENT ACTIONS	The crewmember will conduct the procedures and maneuvers of this lesson.
COMPLETION STANDARDS	The crewmember will meet the Commercial Pilot Practical Test Standards and CFIT Avoidance policies/procedures when this lesson is completed.
DESCRIPTION	This session will be conducted in a DeHavilland Beaver ATD. The flight will depart the Ketchikan Harbor and proceed to the West, on a dispatched flight to Thorne Bay (KTB) and to Hollis (HYL), via the normal VFR route to Thorne Bay. During the flight the visibility will decrease allowing the pilot to experience loss of visual reference and review the procedures for determining in-flight visibility and aeronautical decision making skills(ADM).

Instructor notes: Demonstrate the ATD set-up to the pilot and a brief explanation of how the ATD works; Basic instrument scan, ATD trim settings, ATD switches and controls.
Aircraft review for checklist, limitations and speeds.
Airspace review for class E and G.
FAR VFR cloud and visibility minimums.
Review deteriorating visibility and CFIT avoidance policy and procedures.
Recognition of loss of visual reference with the techniques for estimating in-flight visibility and knowledge of Deteriorating Visibility Aeronautical Decision Making Skills (ADM).

ATD TRAINING LESSON PLANS
CFIT AVOIDANCE

SUBJECT	Flat Light
OBJECTIVE	The crewmember will perform the policy, procedures, and maneuvers of this lesson with the outcome never in doubt.
ELEMENTS	TAKEOFF: Normal CLIMB: Normal ENROUTE: Situational Awareness-GPS, VFR Sectional, Knowledge of local terrain for current leg of flight. Minimum Safe Altitudes; Land, Over Water Visual Reference Points Recognition of Loss of Visual References Flat Light Aeronautical Decision Making (ADM)
SCHEDULE	ATD: 45 Minutes
COURSEWARE	CFIT Avoidance Manual, Aviation Safety Video-Flat Light/White Out, CFIT Training Video.
INSTRUCTION METHODS	The instructor will conduct a preflight briefing of the maneuver and procedures of this lesson. He/she will correct errors or improper procedures and demonstrate when necessary to achieve desired results.
STUDENT ACTIONS	The crewmember will conduct the procedures and maneuvers of this lesson.
COMPLETION STANDARDS	The crewmember will meet the Commercial Pilot Practical Test Standards and CFIT Avoidance policies/procedures when this lesson is completed.

DESCRIPTION This session will be conducted in a DeHavilland Beaver ATD. The flight will depart the Ketchikan Harbor and proceed to the southeast, on a dispatched flight to Long Island (LIJ) and to Hollis (HYL), via the normal VFR route to Long Island. During the flight the visibility will decrease allowing the Pilot to experience loss of visual references and review the procedures for determining in-flight visibility and aeronautical decision-making skills. Once passed Dall Head vector the pilot towards the middle of Moira Sound and climb to 2000ft. After climbing through 1500ft, set lowest cloud layer to base of 100ft and tops at 900ft with visibility of 0mi in the lower layer of cloud. Set middle cloud layer to 2500ft with tops of 5000ft and visibility of 15 miles. Use Stratus type clouds for flat light scenario

Instructor Notes: Demonstrate the ATD set-up to the pilot and a brief explanation of how the ATD works; Basic instrument scan, ATD trim settings, ATD switches and controls.
Aircraft review for checklist, limitations and speeds.
Airspace review class E and G
Federal Aviation Regulations VFR cloud and visibility minimums.
Review Flat Light and CFIT avoidance policy and procedures.
Recognition of loss of visual references with the techniques for estimating in-flight visibility, and knowledge of Flat Light Aeronautical Decision Making Skills (ADM).

ATD TRAINING LESSON PLANS
CFIT AVOIDANCE

SUBJECT	White Out/ Inadvertent IMC
OBJECTIVE	The crewmember will perform the policy, procedures, and maneuvers of this lesson with the outcome never in doubt.
ELEMENTS	TAKEOFF: Normal CLIMB: Normal ENROUTE: Situational Awareness-GPS, VFR Sectional, Knowledge of local terrain for current leg of flight. Recognition of Loss of Visual References Escape Maneuver White Out Aeronautical Decision Making (ADM)
SCHEDULE	ATD: 45 Minutes
COURSEWARE	CFIT Avoidance Manual, Aviation Safety Video-Flat Light/White Out, CFIT Training Video.
INSTRUCTION METHODS	The instructor will conduct a preflight briefing of the maneuver and procedures of this lesson. He/she will correct errors or improper procedures and demonstrate when necessary to achieve desired results.
STUDENT ACTIONS	The crewmember will conduct the procedures and maneuvers of this lesson.
COMPLETION STANDARDS	The crewmember will meet the Commercial Pilot Practical Test Standards and CFIT Avoidance policies/procedures when this lesson is completed.
DESCRIPTION	This session will be conducted in a DeHavilland Beaver ATD. The flight will depart the Ketchikan Harbor and proceed to the southeast, on a dispatched flight to Long Island (LIJ) and to Hollis (HYL), via the normal VFR route to Long Island. During the flight the visibility will decrease allowing the Pilot to experience loss of visual references and review the procedures for determining in-flight visibility and aeronautical decision-making skills.

Instructor Notes: Demonstrate the ATD set-up to the pilot and a brief explanation of how the ATD works; Basic instrument scan, ATD trim settings, ATD switches and controls.
Aircraft review for checklist, limitations and speeds.
Airspace review class E and G
Federal Aviation Regulations VFR cloud and visibility
Review Flat Light and CFIT avoidance policy and procedures. Recognition of loss of visual references with the techniques for estimating in-flight visibility, and knowledge of Flat Light Aeronautical Decision Making Skills (ADM).

AUDITING THE CFIT AVOIDANCE PROGRAM

AUDIT PERIOD

The audit process will begin at the start of the Calendar Year.

1. Company will use following methods to audit the program

Annually the Director of Operations and/or Chief Pilot will audit the CFIT Program. The audit will include CFIT lesson plans, exams, PCADT simulator sessions, and training attendance. The purpose of the CFIT audit is to determine if the activities or processes are taking place and to determine the accuracy of the records. If the Chief Pilot does find a discrepancy either a corrective action is needed or the procedure needs to be changed. All changes in the CFIT manual must have the Director of Operations approval.

All required ground and flight training will be documented on the appropriate PIC Training "Pilot Training Check Form" The instructor pilot will sign the check form certifying the training was given. The pilot will sign the check form at the completion of training to acknowledge having received the training. The instructor is responsible for giving the completed form to the Chief Pilot. The Chief Pilot will review the completeness and correctness and forward it to the Director of Operations. The Director of Operations will audit and sign the completed training form certifying the appropriate training was accomplished and return the form to the chief pilot. The chief pilot will file the completed form in the Individual Pilot Record.

CFIT Avoidance Training Forms:

PM AIR, LLC
Pilot Training Check Form
CFIT Avoidance Program

This certifies that _____ has successfully completed training in accordance with the approved CFIT training program in the following curriculum segments:

INITIAL RECURRENT REQUAL	CURRICULUM SEGMENT	COMPLETION DATE	INSTRUCTOR (Signature)
_____	CFIT Avoidance Ground Training	_____	_____
_____	ATD CFIT Training	_____	_____

ATD Scenario Satisfactorily Completed:

☐ Deteriorating Visibility

☐ Flat Light

☐ White Out

ADDITIONAL COMMENTS: _____

_____

_____

_____ _____
Pilot signature Date

_____ _____
Director of Operations signature Audit-Date

Audit Form
CFIT Avoidance Program

AUDIT QUESTION	FINDINGS	CORRECTIVE ACTIONS	TARGET DATES	SIGNATURE
Have the company policies and procedures for CFIT Avoidance been reviewed?				
Has the training curriculum for the CFIT Avoidance Program been reviewed?				
What improvements have been made?				
Is CFIT Avoidance Training completed for all company pilots? (CFIT Avoidance Training – Tracking System)				
Were the PCATD Scenarios Completed Satisfactorily? (Pilot CFIT Avoidance Program check forms)				
Attendance Records Checked?				
Exams Graded (70% or higher)? (Exams or exam records)				
PCATD Scenario Training Session observed?				

Improvements in the CFIT Avoidance Program: (Gained from reviewing feedback form, notes or remarks sections of PCATD scenario sessions, or meeting notes)

Process Measurement Questions
CFIT Avoidance Program

PROCESS MEASUREMENT QUESTIONS	FINDINGS: If YES; how can it be verified?	CORRECTIVE ACTIONS: If NO; what is or will be done to correct the deficiency?	TARGET DATES	SIGNATURE
Has the program been implemented as written?				
Has Section 1 of the current Medallion Foundation audit point revision been incorporated into the CFIT Avoidance Program?				
Do company procedures support the policy on operation in white out, flat light and deteriorating visibility?				
Are at least three CFIT scenarios (white out, flat light and deteriorating visibility) included in the program?				
Have 100% of the pilots currently assigned to flight duty completed training?				
Is there a method to ensure that the required CFIT Avoidance training for all applicable employees has taken place?				
Are program reviews documented?				
Is there a record showing when senior management reviewed the program?				

Is the program being audited for proper documentation of training?				
What was learned as a result of auditing the CFIT training records				
Are the pilots following procedures concerning operation in decreasing visibility, flat-light and white-out conditions?				
What is the schedule for periodic reviews by the person responsible for the program?				
Were program reviews conducted as scheduled?				
Were there any serious CFIT Avoidance-related accidents within the company in the past 12 months?				
What improvements have been made to the CFIT Avoidance Program in the last 12 months?				
What feedback has been received from the individuals receiving or conducting the training to the positions of responsibility and/or authority for the program?				
What feedback has senior management provided as a result of the reviews?				

NOTES

NOTES

KTN X-plane

MEDALLION FOUNDATION
SIGN-IN / TRAINING LOG

PM AIR

IN - OUT

INSTRUCTOR NAME/COMPANY	AIRMAN	PART 135	PART 121	PART 91	VFR	IFR	CFITS	MTN ORIENT	WINGS	SOLO	DUAL	HOBBS TIME	TIME IN	TIME OUT	DATE
ZINK	PERKINS	X			X						X	12.1 - 13.3	1200	1330	4-24-15
ZINK	FRANKLIN	X			X						X	13.3 - 14.6	1330	1500	4-24-15
ZINK	KRILL	X			X						X	21.1 - 22.4	1200	1330	5-4-15
ZINK	TURIANO	X			X						X	31.3 - 32.6	0930	1100	6-29-15
ZINK	LUYTJES	X			X						X	32.6 - 34.5	1200	1330	6-29-15