

**CAPSTONE  
TRAINING PROGRAM  
FOR  
FAR 121/135  
OPERATIONS**

This Manual is current through revision Original

Developed by:

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For use by Alaskan Air Carriers Participating in Capstone

as approved by

FSDO-03 Principal Operations Inspectors (POI's)

**FAA-ALL-FSDO-03 APPROVED**

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## **REVISIONS**

Revisions will be prepared by an individual(s) designated by the operator in it's FAR 121 and/or 135 approved programs.

All manual revisions will be submitted to the FAA for review and approval prior to implementation.

Each revision will have a revision number, date, and page number being revised.

It will be the responsibility of each manual holder to keep his manual current and record any revisions on this page.

To facilitate record keeping, each revision will have a receipt attached which must be completed and returned to the individual designated.

## **LOG OF REVISIONS**

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Original	11-15-99	Entire Manual for Beta Class Presentation	L.F.K. at UAA
1	01-05-00	A-2, Section E, G-3,G-6	
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**SAMPLE REVISION TRANSMITTAL**

**CAPSTONE TRAINING MANUAL REVISION**

Revision No. \_\_\_\_\_ Issued \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ mm/dd/yy

Delete Page \_\_\_\_\_ Dated \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Add Page \_\_\_\_\_ Dated \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

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(all deleted and added pages need to be listed in revision transmittal and each transmittal must contain a new list of effective pages or "LEP")

Date revision inserted in manual \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ mm/dd/yy

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Return this receipt to:

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## LIST OF EFFECTIVE PAGES

This listing contains all current pages, with the effective dates, of the Training Manual. This (LEP) List of effective pages should be used after each revision is posted to ensure that the manual is complete and up-to-date. This LEP when approved by the FAA is the control document for the entire training program.

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# **GENERAL**

  

# **MANUAL USE**

**CAPSTONE**

**EQUIPMENT**

**TRAINING**

### **USE OF THIS MANUAL**

This document is only one aspect of the total Capstone training program and must be used with all the courseware addressed in the program. Each segment of training has specific curriculum segments and various subject modules supporting those segments. The definitions for curriculum segments and subject modules, as used in this manual, may be found under the title definitions in this Section. While the curriculum gives guidance as to the general areas of study required by the airman, the subject modules provide detailed information on the subjects to be presented. Modular Training is the concept of program development in which logical subdivisions of training programs are developed, reviewed, approved, and modified as individual units. Curriculum segments and modules may be used in multiple curriculums. The modular approach allows great flexibility in program development and reduces the administrative workload in the development and approval of these programs.

Instructors will make and follow their lesson plans based on the approved subject module. Improvements to the lesson plans are encouraged.

To determine the training required one need only define the category of training and duty position of the airman, and find the appropriate curriculum table in Section C. The page numbers for the appropriate curriculum segments appear in the corresponding blocks along with the suggested times to be applied to the curriculum segments. From there follow the curriculum to the curriculum segments in section D, where they are located, for the objectives, instruction required, and prerequisites.

Each training curriculum lists the Curriculum Segments that must be completed prior to airman qualification. Within the Curriculum Segments are Subject Modules containing the descriptive information to be covered.

Revision control is accomplished in the upper right hand corner of each page. The following is an explanation of the terms found:

A-1/R-org/11-15-99

A-1	Represents Section A, Page 1.
R-org	Represents Revision original
R-10	Would represent Revision 10
11-15-99	Represents the date the revision became effective.

Record keeping is an integral part of training. Without adequately documented records, training never took place. This manual has one chapter (Section G) devoted to the records needed to properly document all phases of the Capstone training program.

## **GENERAL INFORMATION**

### **REGULATIONS**

Under the provisions of FAR 121 Subpart N, and 135, Subpart H, it is the responsibility of the operator to develop a training program in order to enhance safety and standardization. This manual, when implemented, fulfills the provision of a training program as required under FAR 121 and 135 for Pilots and Dispatchers for: initial, recurrent, and requalification training.

Under the provisions of FAR's 121 and 135: Crewmember Initial and Recurrent Training, there is a requirement that, "No certificate holder may use a person, nor may any person serve, as a crewmember in operations under this part unless that crewmember has completed the appropriate initial or recurrent training phase of the training program appropriate to the type of operation in which the crewmember is to serve."

Note, however, the provisions of FAR's 121 and 135 "Whenever a crewmember who is required to take recurrent training under this subpart completes the training in the calendar month before, or the calendar month after, the month in which that training is required, the crewmember is considered to have completed it in the calendar in which it was required."

One purpose of this training program is to provide information and impart skills to airmen leading to the competency checks or flight checks required under FAR's 121 and 135. Testing and checking determines whether learning has occurred. In that light, tests will be administered throughout the training program.

Initial approval of this manual and program will be indicated by letter and signed by the FAA Principal Operations Inspector.

Final approval of this manual and program must be obtained within 24 months from the date of initial approval and will be indicated by an appropriate stamp on each control page signed by the FAA Principal Operations Inspector.

## **APPLICABILITY**

This document sets forth the standards and requirements for the establishment and maintenance of an approved training program for crewmembers, check airmen, ground instructors, flight instructors and aircraft dispatchers who will be using Capstone equipment.

## **TRAINING OBJECTIVE**

At the conclusion of each training curriculum segment, the individual involved will be able to successfully demonstrate his knowledge of the regulations, policies, and procedures applicable to the specific block of instruction by correctly answering 70 percent of the questions on written tests. Initial training on key Capstone equipment will be repeated until there is an 80 percent plus understanding of equipment's Capstone uses and functions. Some initial Capstone testing will be accomplished on a GX60 and MFD simulator.

## **CATEGORIES OF TRAINING.**

- b. **INITIAL.** This training category is for pilots, dispatchers, ground instructors, flight instructors, and check airmen who will be using Capstone equipment for the first time or who have not received recurrent / requalification training in the last 24 Calendar months.  
**This training applies only to Capstone equipment.**  
**This training is not to be confused with initial new hire training.**
- c. **RECURRENT TRAINING.** This category of training is for an airman who has been trained and qualified on Capstone equipment and who will continue to serve in the same duty position, and who must receive recurring training and/or checking within an appropriate eligibility period to maintain currency.
- d. **REQUALIFICATION TRAINING.** This category of training is for an employee who has been trained and qualified by the operator, but has become unqualified to serve in a particular duty position due to not having received recurrent training and/or a required flight or competency check within the appropriate eligibility period and/or failure of a check ride (becoming disqualified). Requalification training is applicable to all airmen positions: pilot, check airmen and dispatchers.

**FACILITIES**

The Classrooms at UAA Aviation Technology or other appropriate facilities as approved by the FAA will be used to conduct the Capstone ground training. The rooms at UAA can comfortably seat 20 students and have appropriate break rooms and rest facilities available. Initial training can be accomplished at any facility that will comfortably seat the participants and provides adequate break and rest facilities. The facility will also need provisions for all training aids and course material.

**TRAINING AIDS**

Training aids include: an overhead projector, video projector, 35mm slide projector, Capstone simulator and dry erase boards

**COURSEWARE**

- A. A listing of training materials made available to each student can be found in the appendix under, Training Materials.
- b. Specific lesson plans are contained in this manual in Appendix AP-D. All instructors will review the pertinent lesson plan prior to giving instruction.

**QUALIFICATION REQUIREMENTS**

No person will be assigned duties as an airman using Capstone equipment until they have completed all of the training and checking requirements of this program.

All classroom participants must be certificated airmen as pilot, dispatcher, and ground Instructor or A&P who is installing or repairing Capstone equipment.

## **BASIC CHECKING QUALIFICATION**

The basic checking modules are in two parts. One part consists of the written or oral test elements and is applicable to dispatchers, ground instructors, and check airmen and pilots. The other part consists of the flight check events applicable pilots and Check Airmen.

## **LINE CHECK QUALIFICATION**

Before any pilot uses Capstone equipment in an aircraft while in revenue service, that pilot must have satisfactorily completed a line check with a qualified FAA inspector or a check airman approved by the FAA to give Capstone Equipment line checks. Capstone requalification training curriculums that are used to requalify PIC's who have been unqualified for 12 months or more may be included in a required PIC line check module. FAR's Part 121 and 135 specifies that all PIC's must satisfactorily complete a line check once every 12 calendar months. Therefore, the qualification curriculum segment for recurrent training should include a line check module for the PIC.

## **REQUALIFICATION TRAINING**

In this section a formal definition of requalification training is given; a definition is not given in the FAR's. Since crewmembers qualified for operations in revenue service under FAR's Part 121 and 135 do sometimes lose their qualification, it is useful to have a definition of requalification training, including the reasons for it and its objectives.

Requalification training is that category of training conducted specifically to restore a previously qualified crewmember to a qualified status.

- A. **LOSING QUALIFICATION.** A crewmember may lose qualification status and become "unqualified" for any of the following reasons: failure to accomplish all of the recency of experience requirements required by the regulations; failure to complete recurrent training within the eligibility period established by the regulations; or failure of a check ride. A crewmember may be simultaneously qualified in one airplane or duty position and unqualified in another.

**Note: If a crewmember fails a check ride in one airplane, that crewmember cannot fly in revenue service in another airplane until the crewmember's qualification has been re-established.**

**C. FAILURE TO COMPLETE RECURRENT TRAINING.** A requalification Curriculum segment is required when a crewmember fails to complete recurrent Training during a pre-established eligibility period. The minimum amount of Training required in each segment of the curriculum is determined by the length of time the crewmember has been unqualified. Crewmembers must be trained to proficiency and complete a qualification module before being returned to revenue service. Tables containing the requalification requirements for airmen who have exceeded their respective eligibility periods for required training or checks are contained in the requalification segment of training.

b. **NONCURRENT OR OVERDUE UPON REASSIGNMENT.** A crewmember who is reassigned to a duty position or aircraft type in which the crewmember was previously qualified, but is not currently qualified, must receive requalification training. The method used to requalify the crewmember differs according to the reason for the requalification as follows:

- a. A crewmember that is unqualified solely because of not having accomplished the required currency events may be requalified by completing those events or a recency of experience qualification module as appropriate.
- b. A crewmember that is unqualified for being overdue recurrent training may be requalified in accordance with the table in the requalification segment.

F. **REQUALIFICATION AFTER FAILED CHECKRIDES.** A crewmember that fails a required check must be entered into requalification training. The requalification training segment must consist of at least that remedial training required to restore the airman's competency in the failed events.

The instructor or check airman conducting this training must certify to the crewmember's proficiency before the crewmember reaccomplishes the check ride. This certification is not limited to the events the crewmember failed but it encompasses all events of the qualification module.

The qualification module for SIC shall consist of the module previously failed. The qualification curriculum segment for a PIC shall consist of either the basic qualification module, the line check module, or both, if appropriate.

**PART 121/135 REQUALIFICATION CURRICULUMS  
 AIRMEN OVERDUE TRAINING  
 CAPSTONE EQUIPMENT QUALIFICATION**

Time Past Month Due	RGT Segment	RFT Segment	Qualification Segment
Up to 12 calendar months	The portion of RGT not Accomplished when due.	The elements not Accomplished when due.	The modules not Accomplished in the Eligibility period: CC, PC, LC, or special.
12 to 35 months	8 hours	Line training and checking to proficiency	All qualification modules Of the recurrent ground training curriculum.
36 to 59 months	16 hours	Line training and checking to proficiency	All qualification modules Of the recurrent ground and flight training Curriculum.
More than 59 months	Same as Initial	Same as Initial	Same as Initial

Key: RGT = Recurrent Ground Training  
 RFT = Recurrent Flight Training  
 CC = Competency Check  
 PC = Proficiency Check  
 LC = Line Check

**CREDIT FOR PREVIOUS GROUND TRAINING**

It is recognized that in some cases a flight crewmember may have recently completed Capstone training and may be qualified to operate. This previous training will be a result of having been qualified (within the last twelve months) with another certificated operator with an approved Capstone training program.

In a situation such as this, certain ground training subject modules may be granted credit for previous training. In order to take advantage of this "credit" certain documentation **MUST** be on file in the crewmember's record file.

Acceptable training "credit" will be within the same make and model with the same Capstone equipment installation. Variations within a series and/or installed equipment must be evaluated and knowledge determined to be satisfactory.

Supporting documentation will consist of the following:

- a. Copies of training received from a certificated Air Carrier's approved FAR 121 or 135 training program, including an FAA form 8410-3, Proficiency Check record (within the previous twelve calendar months).
- b. Copies of training received from a training center such as UAA Aviation Technology. (Within the previous twelve calendar months).

Training credit will be granted only with supporting documentation in the crewmember's record file. Training in each subject area for which credit is granted will consist of a quiz or review to determine the extent of the crewmember's knowledge and instruction as necessary in any area of knowledge determined to be deficient.

**INSTRUCTORS AND CHECK AIRMEN**

- A. No person may serve as a flight instructor or check airman in the training program for Capstone equipment unless that person:
  - 1. Has completed all required initial ground and flight training for Capstone equipment.
  - 2. In the case of a check airman, has been approved by the Administrator for the airman duties involved under the provisions of FAR 121 or 135.
  
- B. Ground training will be conducted at the direction of the Operator and his designated representative.

**DEFINITIONS.** The following terms are used throughout this training manual and are defined as follows:

**Training Program:** A system of instruction, which includes curriculums, facilities, instructors, check airmen, courseware, instructional delivery methods, and testing and checking procedures. This system must satisfy the training program requirements of Part 121 or Part 135 and ensure that each crewmember and dispatcher remains adequately trained for each aircraft, duty position, and kind of operation in which the person serves.

**Curriculum:** A complete training agenda specific to Capstone equipment and a crewmember or dispatcher duty position. Each curriculum consists of several curriculum segments.

**Curriculum Segment:** The largest subdivision of a curriculum containing broadly related training subjects and activities based on regulatory requirements. Curriculum segments are logical subdivisions of a curriculum, which can be separately evaluated and individually approved, for example: the ground training segment and the flight training segment. Each curriculum segment consists of one or more training modules.

**Modular Training:** The concept of program development in which logical subdivisions of training programs are developed, reviewed, approved, and modified as individual units. Curriculum segments and modules may be used in multiple curriculums. The modular approach allows great flexibility in program development and reduces the administrative workload on both operators and in the development and approval of these programs.

**Training Module:** A subpart of a curriculum segment, which constitutes a logical, self-contained unit. A module contains elements or events, which relate to a specific subject. For example, a ground training curriculum segment could logically be divided into modules pertaining to aircraft systems (hydraulic, pneumatic, electrical, etc.). As another example, a flight training curriculum segment is normally divided into flight periods each of which is a separate module. A training module includes the outline, appropriate courseware, and the instructional delivery methods. It is usually but not necessarily completed in a single training session.

**Courseware:** Instructional material developed for each curriculum. This is information in lesson plans, instructor guides, computer software programs, audiovisual programs, workbooks, aircraft operating manuals, and handouts. Courseware must accurately reflect curriculum requirements, be effectively organized, and properly integrate with instructional delivery methods.

**Instructional Delivery Methods:** Methodology for conveying information to a student. For example, this may include lectures, demonstrations, audiovisual presentations, home study assignments, workshops, and drills. Training devices, simulators, aircraft, and computer workstations are also considered instructional delivery methods.

**Eligibility Period:** Three calendar months (the calendar month before the "training/checking month," the "training/checking month," and the calendar month after the "training/checking" month). During this period a crewmember or aircraft dispatcher 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 to be completed during the "training/checking month."

# **CONTRACT**

  

# **TRAINING**

**CAPSTONE**

**EQUIPMENT**

**TRAINING**

**CONTRACT TRAINING**

The University of Alaska Anchorage, Aviation Technology, is approved to conduct Capstone Ground Training as part of it's contract with the FAA for Capstone development.

Initial Ground Training will be provided at Anchorage and Bethel Alaska locations as part of the Capstone project.

The initial training is provided to train a sufficient number of instructors for each capstone operator to ensure that all capstone participants are trained in a timely manner.

Future training needs may be met through contact training agreements with other air carriers or schools as approved by the administrator.

# **TRAINING**

  

# **CURRICULA**

**CAPSTONE**

**EQUIPMENT**

**TRAINING**

# **CAPSTONE TRAINING C-1/R-org/11-15-99**

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## **INITIAL GROUND TRAINING**

<b><u>SUBJECTS</u></b>	<b><u>HOURS</u></b>
HISTORY OF GPS .....	1
Lesson D-1	
CAPSTONE SAFETY INITIATIVE .....	1
Lesson D-2	
INTRODUCTION TO GPS .....	1
Lesson D-3	
GX60/GPS .....	7
Lesson D-5, D-6 (Startup Displays Apollo GX60/GPS)	
Lesson D-7, D-8 (Navigation Basics GX60/GPS)	
Lesson D-9 (Moving Map Functions)	
Lesson D-10 D-11 (Flight Plan Functions)	
Lesson D-12 (System Functions GX60/gps)	
Lesson D-13, D-14 (Message Function)	
Lesson D-15, D-16, D-17 (Approach Basics)	
MX20/MFD .....	4
Lesson D-18 (Displays Controls, Weather, Maps)	
Lesson D-19 (Terrain Features)	
Lesson D-20 (Traffic ADS-B)	
COMMUNICATIONS RADIO OPERATION .....	1
Lesson D-21, 22, 23, 24	
REVIEW OF CAPSTONE EQUIPMENT AND PROCEDURES .....	1
Lesson D-25, 26	
TOTAL HOURS FOR CAPSTONE INITIAL .....	<u>16</u>

# **CAPSTONE TRAINING C-2/R-org/11-15-99**

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## **INITIAL FLIGHT TRAINING**

<b><u>SUBJECTS</u></b>	<b><u>HOURS</u></b>
VFR CAPSTONE FLIGHTS .....	1+ Hrs. (#1)
LESSON F-4 PREFLIGHT PLANNING	
LESSON F-5 CAPSTONE EQUIPMENT SETUP AND TESTS	
LESSON F-6 PRE TAKEOFF	
LESSON F-7 AIRPORT AREA OPERATIONS (departure)	
LESSON F-8 EN ROUTE OPERATIONS	
LESSON F-9 DIVERSIONS	
LESSON F-10 TERRAIN ALERTING	
LESSON F-11 TRAFFIC ALERTING	
LESSON F-12 WEATHER INFORMATION	
LESSON F-13 ARRIVAL (Descent and Approach)	
LESSON F-14 AIRPORT AREA OPERATIONS (arrival)	
LESSON F-15 POST FLIGHT; CAPSTONE REPORTING	
 MEL (Minimum Equipment List).....	 1/2 Hr.
LESSON F-16 INFLIGHT OPERATIONS WITH INOPERATIVE COMPONENTS IN THE CAPSTONE EQUIPMENT,	
 MULTI CREW OPERATIONS ONLY.....	 1/2 Hr.
LESSON F-17 ASSIGNMENT OF CAPSTONE DUTIES BY CREW POSITION	
 IFR MANUEVERS/PROCEDURES.....	 1+ Hrs. (2#)
LESSON F-18 GPS EN ROUTE PROCEDURES	
LESSON F-19 GPS APPROACHES	
 TOTAL HOURS FOR CAPSTONE INITIAL FLIGHT TRAINING .....	 3+Hrs.

(#1)The initial Capstone flight must have a route segment with at least 30 minutes of cruise flight in an area with airports near the route of flight to set up scenarios using en route diversions airport, navaid and flight planning functions.

(#2) The IFR portion of the Capstone training must be accomplished on a GPS airway or airway segment with GPS intersections or waypoints and be concluded with a GPS approach.

**CAPSTONE TRAINING C-3/R-org/11-15-99**

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**RECURRENT TRAINING**

**SUBJECTS**

**HOURS**

GROUND TRAINING

MX60/GPS	
LESSONS D-7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17.....	2 Hrs.
MX20/MFD	
LESSONS D-18, 19, 20 .....	1 Hr.
COMMUNICATIONS RADIO OPERATION	
LESSONS D-21, 22, 23, 24 .....	1/2 Hr.
TOTAL RECURRENT GROUND TRAINING .....	<u>3 1/2</u> Hrs.

FLIGHT TRAINING

CAPSTONE VFR FLIGHT	
LESSONS E-7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 .....	1+Hr. (#1)
MULTI CREW OPERATIONS ONLY	
LESSON E-20 .....	1/2 Hr.
CAPSTONE IFR FLIGHT	
LESSONS E-21, 22 .....	1+Hr. (#2)
TOTAL HOURS FOR CAPSTONE RECURRENT FLIGHT VARIED	
VFR SINGLE PILOT ONLY .....	1 Hr.
VFR AND IFR MULTI CREW .....	2 1/2 Hrs.

(#1) CAPSTONE VFR FLIGHT OVER A ROUTE SEGMENT WITH AT LEAST 30 MINUTES OF CRUISE FLIGHTS FOR DIVERSION AND EMERGENCY SCENARIOS TO BE DEMONSTRATED AND DISCUSSED.

(#2) CAPSTONE VFR FLIGHT MUST INCORPORATE AN AIRWAY SEGMENT AND A GPS APPROACH

## **CAPSTONE TRAINING C-4/R-org/11-15-99**

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### **REQUALIFICATION TRAINING**

THIS TRAINING IS FOR AN AIRMAN WHO HAS NOT COMPLETED RECURRENT TRAINING IN THE PAST 14 MONTHS DURING A NORMAL QUALIFICATION PERIOD (Prior, Base, or Grace month).

THE REQUALIFICATION TRAINING MAY CONSIST OF ONLY THOSE LESSONS AND SUBJECTS NOT COMPLETED WITHIN THE NORMAL QUALIFICATION PERIOD (ie: Completed everything except MFD ground only requal would be MFD ground)

SUBJECTS AND HOURS FOR REQUALIFICATION WILL BE THE SAME AS RECURRENT FOR AIRMAN WITHIN 24 CALENDER MONTHS OF LAST TRAINING.

AN AIRMAN WHO HAS BECOME UNQUALIFIED FOR MORE THAN 24 CALANDER MONTHS WILL REQUIRED TO TAKE INITIAL TRAINING

# **CAPSTONE TRAINING C-5/R-org/11-15-99**

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## **INSTRUCTOR/CHECK AIRMAN**

ALL CHECK AIRMEN USED FOR CAPSTONE EQUIPMENT MUST BE QUALIFIED IN THE AIRCRAFT AND ON THE EQUIPMENT WITHIN THE GUIDELINES OF FAR 121.401, 121.411, AND 121.413 AND/OR 135.323, AND 135.337

FOR CURRENT AND QUALIFIED CHECK AIRMEN ( in the aircraft to be used for the training and checking)THE INITIAL CAPSTONE TRAINING WILL BE THE SAME AS OTHER AIRMAN. THE CHECKAIRMAN MAY DO TRAINING AND CHECKING ON CAPSTONE EQUIPMENT AFTER SATISFACTORY COMPLETION OF ALL CAPSTONE TRAINING INCLUDING A PROFECIENCY CHECK IN THE AIRCRAFT.

### **GROUND TRAINING**

THE GROUND INSTRUCTORS AND CHECK AIRMAN WHO WILL BE CONDUCTING GROUND AND FLIGHT INSTRUCTION MUST HAVE SATISFACTORLY COMPLETED CAPSTONE INITIAL TRAINING AND ATTEND A CAPSTONE "TRAIN THE TRAINER COURSE"

#### **SUBJECT**

#### **HOURS**

"TRAIN THE TRAINER COURSE"

LESSON T-1 (COURSE MATERIALS)

LESSON T-2 (CLASSROOM EXERCISES)

LESSON T-3 ("SIMULATOR" OPERATION GX/60 MX/20)

LESSON T-4 (RECORDKEEPING)

TOTAL HOURS GROUND "TRAIN THE TRAINER".....4 Hrs.

# **CAPSTONE TRAINING C-6/R-org/11-15-99**

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## **DISPATCHER SPECIFIC TRAINING**

### **INITIAL**

THE AIRCRAFT DISPATCHERS AND FLIGHT FOLLOWERS WHO WORK IN THE CAPSTONE AREA OF OPERATION MUST HAVE A THROUGH KNOWLEDGE OF THE CAPSTONE EQUIPMENT AND ITS LIMITATIONS

<b><u>SUBJECT</u></b>	<b><u>HOURS</u></b>
HISTORY OF GPS LESSON D-1 .....	1 Hr.
CAPSTONE SAFETY INITIATIVE LESSON D-2 .....	1 Hr.
INTRODUCTION TO GPS LESSON D-3 .....	1 Hr.
PREFLIGHT PLANNING LESSON F-4 .....	1 Hr.
MEL (minimum equipment list) LESSON D-25, 26, F-16 .....	1/2 Hr.
CAPSTONE LIMITATIONS (RAIM, NOTAMS, ALTIMETRY) LESSON D-22 .....	1 Hr.
CAPSTONE RECORD KEEPING LESSON F-15 .....	1/2 Hr.
REVIEW AND EXAMINATION .....	1 ½ Hrs.
DISPATCHER INITIAL CAPSTONE TRAINING TOTAL HOURS .....	<u>7 1/2</u> Hrs.

**CAPSTONE TRAINING C-7/R-org/11-15-99**

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**DISPATCHER SPECIFIC TRAINING**

**RECURRENT / REQUALIFICATION**

<b><u>SUBJECT</u></b>	<b><u>HOURS</u></b>
PREFLIGHT PLANNING LESSON F-4 .....	1 Hr.
MEL (minimum equipment list) LESSON F-16 .....	1/2 Hr.
CAPSTONE LIMITATIONS (RAIM, NOTAMS, ALTIMETRY) LESSON D-22 .....	1 Hr.
REVIEW AND EXAMINATION .....	1 ½ Hrs.
TOTAL HOURS FOR RECURRENT or REQUALIFICATION	<u>4</u> Hrs.

# **CURRICULUM SEGMENTS**

**CAPSTONE**

**EQUIPMENT**

**TRAINING**

# **CAPSTONE TRAINING D-ii/R-org/11-15-99**

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## **CURRICULUM SEGMENTS INDEX**

(Lesson Plans)

History of GPS .....	D-2
Capstone Safety Initiative .....	D-3
Getting started with the Capstone Equipment .....	D-4
Startup Displays Apollo GX60/GPS.....	D-5, 6
Navigation Basics GX60/GPS .....	D-7, 8
Moving Map Functions .....	D-9
Flight Plan Functions .....	D-10, 11
System Functions GX60/GPS .....	D-12
Message Function .....	D-13, 14
Approach Basics GX60/GPS .....	D-15, 16, 17
Apollo MX20/MFD .....	D-18, 19, 20
Communications Radio Operation .....	D-21, 22, 23,24
Approved AFM, MEL Procedures .....	D25, 26

## **CAPSTONE TRAINING D-iii/R-org/11-15-99**

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### **CURRICULUM SEGMENTS INDEX (continued)** (Lesson Plans)

Preflight Planning .....	F-4
Capstone Equipment Setup and Tests .....	F-5
Pre Takeoff .....	F-6
Airport Area Operations (departure).....	F-7
En Route Operations .....	F-8
Diversions .....	F-9
Terrain Alerting .....	F-10
Traffic Alerting .....	F-11
Weather Information .....	F-12
Arrival (descent and approach).....	F-13
Airport Area Operations .....	F-14
Post Flight ; Capstone Reporting .....	F-15
MEL (minimum equipment list) .....	F-16
Capstone Duties by Crew Position .....	F-17
IFR GPS En Route Procedures.....	F-18
IFR GPS Approaches .....	F-19

### “TRAIN THE TRAINER “ CURRICULUM SEGMENTS INDEX

Course Materials .....	T-1
Classroom Exercises .....	T-2
“Simulator Operation” GX/65 MX/20.....	T-3
Recordkeeping.....	T-4

## **INTRODUCTION**

Section D of this manual serves as the curriculum segments / lesson plans for the Capstone Equipment ground Training.

The curriculum segments are laid out in outline form to capture 100% of the available topics on the use of the Capstone Equipment.

The Curriculum segments if used as a checklist will provide a means of assuring that all relevant material is covered.

## **CAPSTONE TRAINING D-2/R-org/11-15-99**

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**LESSON PLAN:** INITIAL CAPSTONE QUALIFICATION / HISTORY OF GPS.

**OBJECTIVE:** Provide the airmen involved in Capstone with an understanding of GPS its history and how it functions.

**INSTRUCTIONAL DELIVERY METHODS:** Lecture

**TESTING/CHECKING:** Oral exam

### **A. The History of GPS.**

- a) October 1957 the Launch of Sputnik
- b) US military programs TRANSIT system in 1964.
- c) TIMATION I launched by U.S. Navy in 1967.
- d) NAVSTAR GPS program in 1973 with USAF and US Navy.
- e) Korean Airlines Flight 007 in 1983.
- f) Seven Satellites in 1985
- g) Full Operational Coverage on April 27,1995 with 24 satellites.
- h) Agreement between US-DoD and the US department of transportation.
- i) Civil Authorization

### **B.The Function of GPS components.**

- 1.The satellite constellation Space Vehicles (SV).
- 2. Ground Stations.
- 3. Controls on the system
- 4. (SPS) and (PPS) signals
  - I. Descriptions and acronyms
  - II. Limitations

**EXAM:** a quick oral to ensure all participants have a ready reference capability to definitions, descriptions and acronyms.

## **CAPSTONE TRAINING D-3/R-org/11-15-99**

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<b>LESSON PLAN:</b>	<b>Capstone Safety Initiative</b>
<b>OBJECTIVE:</b>	Provide the Airman with an understanding of the background and history of Capstone
<b>REFERENCES:</b>	FAA Capstone literature.
<b>COURSEWARE:</b>	Transparencies, overhead projector
<b>INSTRUCTIONAL DELIVERY METHODS:</b>	Lecture,
<b>TESTING / CHECKING:</b>	NONE
<b>STANDARD:</b>	N/A

- A. HALALASKA PROJECT
- B. SAFE FLIGHT 2000
- C. CAPSTONE
- D. INDUSTRY AND THE FAA
- E. UAA / FAA CONTRACT
- F. SAFETY STUDY
- G. USER INPUT
- H. TRAINING
- I. FUTURE OF CAPSTONE

## **CAPSTONE TRAINING D-4/R-org/11-15-99**

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- LESSON PLAN:** Introduction to the GX60 GPS
- OBJECTIVE:** Provide the pilot operator of the GX60 GPS the ability to activate the GPS functions and determine they are working properly for the intended operation.
- REFERENCES:** Apollo GX60 user's guide
- COURSEWARE:** Student handbook, GX60 simulator, overhead projector, and transparencies.
- INSTRUCTIONAL DELIVERY METHOD:** Lecture, demonstration, hands on participation.
- TESTING/CHECKING:** Written or Oral exam
- STANDARD:** The minimum passing score is 100%. The airman must have total understanding of basic functions in order to gain the required knowledge in other segments.

### **I. APOLLO GX/60 features / getting started.**

1. GX60 startup and self test
2. GX60 Display
  - (a) Photocell
  - (b) Information Keys
  - (c) Hard Keys
  - (d) Power volume squelch knobs
  - (e) Small and Large Concentric knobs
  - (f) "Smart" keys
  - (g) "Smart" key annunciator
3. Hard keys in conjunction with the Small and Large Knobs
  - (h) NAV
  - (i) NRST
  - (j) INFO
  - (k) SEL
  - (l) MAP
  - (m) "Direct To"
  - (n) ENTER

## **CAPSTONE TRAINING D-5/R-org/11-15-99**

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<b>LESSON PLAN:</b>	Start Up Displays Apollo GX60/GPS
<b>OBJECTIVE:</b>	Provide the user of the Apollo GX/60 a Through understanding of the displays and their Importance to safe operations
<b>REFERENCES:</b>	GX60 users manual, Student Handbook
<b>COURSEWARE:</b>	GX60 simulator, overhead projector
<b>INSTRUCTIONAL DELIVERY METHODS:</b>	Lecture, demonstration, hands on exercises
<b>TESTING / CHECKING:</b>	Student handbook exercises
<b>STANDARD:</b>	Minimum passing score 70%

- A. STARTUP Bypass
  1. Use the "SMART" SKIP key to stop initial testing
  2. Quick Comm to enable immediate use of the Comm function
- J. Comm Radio Test
- K. Owner Message
- L. Memory Tests
  1. Software Memory Test
  2. Non-Volatile RAM Tests
  3. User Database Memory Failure
  4. Miscellaneous NVRAM or EEPROM Memory Failure
  5. Database Test
  6. Database Message
- M. Seed Position
- N. Entering a Seed Position
  1. Change Reference Waypoint
  2. Change LAT/LON Reference position
- O. IFR Output Tests
  1. TO/FROM Flag Output Tests
  2. Nav Valid and Nav Supper Flag Tests
  3. VDI Output Tests
  4. VDI Valid and VDI Super Flag Tests
  5. External Annunciator Lamp Tests
  6. Screen Test

## **CAPSTONE TRAINING D-6/R-org/11-15-99**

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### P. Checking GPS Signal Strength

1. Check before flight
2. At least four satellites needed to calculate a 3D position fix
3. GPS Sensor
4. GPS Health page
  - a. Visible satellites
  - b. Healthy satellites
  - c. Satellites used
  - d. Satellite Status, Elevation, Signal Strength and Azimuth

## **CAPSTONE TRAINING D-7/R-org/11-15-99**

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<b>LESSON PLAN:</b>	Navigation Basics GX60/GPS
<b>OBJECTIVE:</b>	Provide the Airman with the skills required to Use the navigation features of the GX60/GPS.
<b>REFERENCES:</b>	GX60 users manual, Student Handbook
<b>COURSEWARE:</b>	GX60 simulator, overhead projector
<b>INSTRUCTIONAL DELIVERY METHODS:</b>	Lecture, demonstration, hands on exercises
<b>TESTING / CHECKING:</b>	Student handbook exercises
<b>STANDARD:</b>	Minimum passing score 70%

- A. About the Navigation Function
- Q. About the Navigation Function Displays
- R. Nav Home Page
- S. Autonav
- T. Relative Bearing Indicator
- F. Nav Pages
  - 1. Estimated Time En Route (Ete)
  - 2. Bearing (Brg)
  - 3. Range (Rge)
  - 4. Course Deviation Indicator (CDI) and Distance Off Track
  - 5. TO/FROM Indicator
  - 6. Desired Track (Dtk)
  - 7. Leg (FROM-TO) Distance
  - 8. Track (Trk) Angle
  - 9. Track Angle Error (Tae)
  - 10. Ground Speed (GS)
  - 11. Minimum Safe Altitude (MSA)
  - 12. Minimum En Route Safe Altitude (MESA)
  - 13. Flight Time
  - 14. Time UTC
  - 15. Estimated Time of Arrival (ETA)
- U. Nearest Waypoint and Airspace Search
  - 1. Starting Nearest Waypoint & Airspace Search
  - 2. Searching Around a Reference Waypoint
  - 3. Setting Runway Limits for Nearest Waypoint
- V. Controlled Special Use Airspace
- W. Altitude Assist (VNAV)

## **CAPSTONE TRAINING D-8/R-org/11-15-99**

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- X. Parallel Track Offset
- Y. GPS Position
- Z. Countdown Timer
- AA. Arc Assist
- BB. Waypoint Distance Page
- CC. From-To-Next Waypoint ETA Page
- DD. FROM/TO/NEXT Waypoint
- EE. Using Direct-To
- FF. Direct-To-OBS
- GG. Turn Anticipation

## **CAPSTONE TRAINING D-9/R-org/11-15-99**

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<b>LESSON PLAN:</b>	Moving Map Functions
<b>OBJECTIVE:</b>	Provide the Airman with the skills required to Use the Map Functions of The GX60/GPS
<b>REFERENCES:</b>	GX60 users manual, Student Handbook
<b>COURSEWARE:</b>	GX60 simulator, overhead projector
<b>INSTRUCTIONAL DELIVERY METHODS:</b>	Lecture, demonstration, hands on exercises
<b>TESTING / CHECKING:</b>	Student handbook exercises
<b>STANDARD:</b>	Minimum passing score 70%

- A. Full Screen Map
- B. Controls
- C. Map and Nav Info
- D. Map Setup
  - 1. Route Line
  - 2. MAP Orient
  - 3. North Up
  - 4. DTK Up
  - 5. Track Up
  - 6. Map Reference
  - 7. Identifier and Waypoint Selection
  - 8. Track History
  - 9. Airspeed Setup
  - 10. Airspace Buffers
  - 11. ATC Ring Selection
  - 12. Airspace Selection
  - 13. Search and Rescue (SAR)

## **CAPSTONE TRAINING D-10/R-org/11-15-99**

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<b>LESSON PLAN:</b>	Flight Plan Functions
<b>OBJECTIVE:</b>	Provide the Airman with the skills required to Use the flight planning features of the GX60/GPS To build, store and retrieve flight plans
<b>REFERENCES:</b>	GX60 users manual, Student Handbook
<b>COURSEWARE:</b>	GX60 simulator, overhead projector
<b>INSTRUCTIONAL DELIVERY METHODS:</b>	Lecture, demonstration, hands on exercises
<b>TESTING / CHECKING:</b>	Student handbook exercises
<b>STANDARD:</b>	Minimum passing score 70%

- A. Flight Plan Pages
  - 14. Reaching the Flight Plan Function
- B. Creating a Flight Plan
- C. Flight Plan Sequencing
- D. Flight Plan Leg Information
  - 1. ETA
  - 2. ETE
  - 3. Leg ETE
  - 4. Fuel To?
  - 5. Direct-To
- E. Manual Leg Activation
- F. Changing Existing Flight Plan Legs
- G. Inserting a New Waypoint
- H. Deleting a Waypoint
- I. Flight Plan Options
  - 1. Activate
  - 2. Rev Activate
  - 3. Reactivate
  - 4. Rename
  - 5. Copy Plan
  - 6. Estimated Ground Speed
  - 7. Clear Waypoints
  - 8. Delete Plan
  - 9. Hold
  - 10. Holding Patterns

## **CAPSTONE TRAINING D-11/R-org/11-15-99**

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- 11. Load Approach
- 12. Change Approach
- 13. Unload Approach
- 14. Enable Approach
- 15. Disable Approach
- J. Destination Waypoint Information
- K. Flight Plan Comments
- L. Saving an Active Flight Plan

## **CAPSTONE TRAINING D-12/R-org/11-15-99**

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<b>LESSON PLAN:</b>	System Functions GX60/GPS
<b>OBJECTIVE:</b>	Provide the Airman with the skills required to Use the systems functions of the GX60/GPS For Comm info, GPS Sensors, and Misc, Sensors, as well as Nav, Info
<b>REFERENCES:</b>	GX60 users manual, Student Handbook
<b>COURSEWARE:</b>	GX60 simulator, overhead projector
<b>INSTRUCTIONAL DELIVERY METHODS:</b>	Lecture, demonstration, hands on exercises
<b>TESTING / CHECKING:</b>	Student handbook exercises, With Active GX60 GPS Simulator
<b>STANDARD:</b>	Minimum passing score 70%

  

A. About the System Functions
B. Navigation Information
15. Autonav Time
16. Customizing Navigation Pages
17. Selecting Autonav Pages
18. Restoring Default Nav Pages
19. Lat/Lon Units
20. Nav Page Choices
21. Setting Units of Measurement
22. Magnetic Variation
23. Flight Timer Trigger
24. Direct-To Entry Options
25. CDI Scaling
HH. Test Display
II. Display Brightness
JJ. GPS Sensor
1. Satellite Search Status
2. GPS Date and Time Page
KK. Miscellaneous Sensors
1. Encoding Altimeter
2. Air Data Info
3. Fuel Info

## **CAPSTONE TRAINING D-13/R-org/11-15-99**

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<b>LESSON PLAN:</b>	Message Function
<b>OBJECTIVE:</b>	Provide the Airman with the skills required to Use the message function
<b>REFERENCES:</b>	GX60 users manual, Student Handbook
<b>COURSEWARE:</b>	GX60 simulator, overhead projector
<b>INSTRUCTIONAL DELIVERY METHODS:</b>	Lecture, demonstration, hands on exercises
<b>TESTING / CHECKING:</b>	Student handbook exercises
<b>STANDARD:</b>	Minimum passing score 70%

- A. About the Message Function
- LL. New Messages
- MM. Old Messages
- NN. Special use airspace messages
  - 1. SOON
  - 2. CLOSE
  - 3. CLOSE Altitude
  - 4. INSIDE
- OO. Empty TO Waypoint: Cannot Compute Nav
- PP. GPS Self Test Failure
- QQ. GPS Sensor Lat/Lon Failure
- RR. GPS RAIM Not Available
- SS. GPS RAIM Position Error
- TT. GPS Communication Failure
- UU. GPS HDOP Position Error
- VV. Parallel Track/Approach Conflict
- WW. Enable Approach
- XX. Approach Enabled Too Late
- YY. Set Barometer
- ZZ. Not Valid Altitude Input for Approach
- AAA. Approach RAIM Unavailable
- BBB. RAIM Predict Too Late
- CCC. Lat/Lon Position Jump
- DDD. Altitude Range Error
- EEE. Altitude Encoder Communications Failure
- FFF. Fuel/Air Data Sensor Communications Failure

## **CAPSTONE TRAINING D-14/R-org/11-15-99**

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- GGG. Low Fuel
- HHH. Arrival At Hold Altitude
- III. Outside Hold Altitude Buffer
- JJJ. Start Auto Descent
  - a. Arrival At Auto Decent Altitude
  - b. Arrival At The TO Waypoint
- KKK. Apollo GX With F/ADS Wind Info
- LLL. Arrival at Inbound Course
- CC. Holding at The TO Waypoint
- DD. Next Leg is DME Arc
- EE. To Waypoint Sequence
- FF. Normal Sequence
  - a. DME Arc Sequence
  - b. Auto OBS Crossing Holding Waypoint
- GG. MEMORY PROBLEMS (OLD AGE or CRS)
  - a. User Database Memory Loss
  - b. Flight Plan Memory Loss
  - c. User Memory Failure
- HH. DATABASE ISSUES
  - a. Database Expired
  - b. Database Invalid
- KK. OTHER FUNCTIONS
  - a. Manual Magnetic Variation
  - c. Low Internal Battery Voltage
  - d. High Battery Voltage
  - e. Countdown Timer Expired

## **CAPSTONE TRAINING D-15/R-org/11-15-99**

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<b>LESSON PLAN:</b>	Approach Basics GX60 GPS
<b>OBJECTIVE:</b>	Provide the Airman with the skills required to Use the GX60/GPS to navigate non-precision Approaches
<b>REFERENCES:</b>	GX60 users manual, Student Handbook
<b>COURSEWARE:</b>	GX60 simulator, overhead projector
<b>INSTRUCTIONAL DELIVERY METHODS:</b>	Lecture, demonstration, hands on exercises
<b>TESTING / CHECKING:</b>	Student handbook exercises
<b>STANDARD:</b>	Minimum passing score 70%

- B. Three general areas of operation
  - 1. En Route
  - 2. Approach Transition
  - 3. Approach Active
- C. Waypoint Arrival Alert
- D. Approach Procedure
  - 1. En Route
    - a. Load Destination Waypoint
    - b. Load Approach Information
  - 2. Approach Transition (or Approach Enabled)
    - a. Enable Approach (Method 1 or 2)
    - b. 30 nm from Destination Airport
    - c. Initial Approach Fix
    - d. Final Approach Fix
  - 3. Approach Active
    - a. Crossing the Final Approach Fix
    - b. Missed Approach Point
- E. En Route Operations
  - 1. Load a Destination Airport
  - 2. Load Approach Information
- F. Approach Transition Operation (Enabling Approach)
  - 1. Enable Approach – Method 1
  - 2. Enable Approach – Method 2
  - 3. At 30nm from Destination Airport
  - 4. Initial Approach Fix (IAF)
  - 5. Final Approach Fix (FAF)

## **CAPSTONE TRAINING D-16/R-org/11-15-99**

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- G. Approach Active Operation
  - 1. Begins with FAF inbound
  - 2. Approach Active annunciator is illuminated
  - 3. CDI sensitivity is 0.3 nm for approach
  - 4. Crossing the FAF makes MAP active Waypoint
- H. Crossing the Final Approach Fix
  - 1. Approach Active Annunciator
  - 2. OBS/HOLD Annunciator
  - 3. MAP is current TO waypoint
- I. Missed Approach Point (MAP)
  - 1. MSG annunciator standard waypoint alert for MAP
  - 2. OBS/HOLD annunciator lighted
  - 3. TO/FROM flag switch when crossing the MAP
  - 4. OBS/HOLD button if you do not land
  - 5. Return to approach transition mode
  - 6. Changes in indications
    - a. CDI resolution gradually increases to 1.0 nm
    - b. ACTV annunciator will turn off
    - c. OBS/HOLD annunciator will turn off
  - 7. Sequence to the next waypoint in the missed approach (MAHP)
- J. Missed Approaches
- K. Canceling an Approach
- L. Repeating an Approach
- M. Selecting a Different Approach
- N. Direct – To operation in conjunction with approaches
  - 1. Direct – To unloading active approach after IAF
  - 2. Canceling parallel-track operations
  - 3. Direct-To Destination
  - 4. Direct – To OBS DTK
- O. Manually Selecting a Flight plan Leg
- P. Flight Plan Waypoint Sequencing
- Q. Procedure Turns
  - 1. Procedure Turn at FAF
- R. Holding Patterns
- S. DME Arcs (Arc Assist)
- T. Vector to Final
- U. RAIM
- V. Sample Approaches
  - 1. BETHEL (BET) GPS RWY 36
  - 2. BETHEL (BET) GPS RWY 18
  - 3. ANIAK GPS RWY 10
  - 4. ANVIK GPS RWY 35
  - 5. HOOPER BAY (HPB) GPS RWY 31

## **CAPSTONE TRAINING D-17/R-org/11-15-99**

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6. ST. MARYS (PASM) GPS RWY 16

7. ST. MARYS (PASM) GPS RWY 34

W. Approach Notes.

1. Waypoints

2. TSO C129 Overlay

3. Identification

4. Naming conventions

<b>LESSON PLAN:</b>	Apollo MX20 Multi-Function Display
<b>OBJECTIVE:</b>	Provide the Airman with the knowledge and skills required to use the MX20 for enroute advisory information.
<b>REFERENCES:</b>	MX20 users manual, Student Handbook
<b>COURSEWARE:</b>	MX20 simulator, overhead projector
<b>INSTRUCTIONAL DELIVERY METHODS:</b>	Lecture, demonstration, hands on exercises
<b>TESTING / CHECKING:</b>	Student handbook exercises
<b>STANDARD:</b>	Minimum passing score 70%

- X. The user interface of the Apollo MX20 Multi-Function Display.
  - 1. Menu Keys.
  - 2. Smart Keys
- Y. Function Selection Menu.
- Z. Incorporated Functions.
  - 4. Message Function
  - 5. Screen Layout
  - 6. En Route
  - 7. Smart Key Assignment
- AA. Custom Map Function
  - 1. Screen Layout
  - 2. Smart Key Assignment
  - 3. Menu Option Assignment
- BB. IFR Chart Function
  - 1. Screen Layout
  - 2. Smart Key Assignment
  - 3. Menu Option Assignment
- CC. VFR Chart Function
  - 1. Screen Layout
  - 2. Smart Key Assignment
  - 3. Menu Option Assignment
- DD. Traffic Function
  - 1. Screen Layout
  - 2. Smart Key Assignment
  - 3. Menu Option Assignment

## **CAPSTONE TRAINING D-19/R-org/11-15-99**

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### EE. Flight Plan Function.

1. Screen Layout
2. Smart Key Assignment
3. Menu Option Assignment

### FF. Terrain Function.

1. Screen Layout
2. Smart Key Assignment
3. Menu Option Assignment
4. EMPASIS ON ALTIMETRY / BAROMETRIC LIMITATIONS
  - a. HIGH TO LOW ILLUSTRATIONS OF LIMITATIONS
  - b. USE BET HPB EXAMPLE WITH BERING SEA LOW

### GG. Test Function

1. Screen Layout
2. Smart Key Assignment (none)
3. Menu Option Assignment

## **CAPSTONE TRAINING D-20/R-org/11-15-99**

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<b>LESSON PLAN:</b>	COMM RADIO OPERATION
<b>OBJECTIVE:</b>	Provide the Airman with the skills required to Use the GX60/GPS for communications functions.
<b>REFERENCES:</b>	GX60 users manual, Student Handbook
<b>COURSEWARE:</b>	GX60 simulator, overhead projector
<b>INSTRUCTIONAL DELIVERY METHODS:</b>	Lecture, demonstration, hands on exercises
<b>TESTING / CHECKING:</b>	Student handbook exercises
<b>STANDARD:</b>	Minimum passing score 70%

HH. Introduction to the Comm Radio Operation on the GX60.

1. Comm Radio Display Description
2. Comm Radio/Map Display Description

II. COMM Frequency Abbreviations

JJ. COMM Radio.

8. The **LARGE** Knob to change MHz
9. The **SMALL** knob to change kHz
10. Press **<->** to toggle Active and Standby
11. Press **MON** to monitor Standby
12. Press **MEM** to memorize Standby
13. Press **RCL** to recall stored frequencies
  - a. Turn the **LARGE** Knob to view frequency types
  - b. Turn the **SMALL** Knob to view frequencies for selected type

KK. Communications Radio Mode Smart Keys

1. **COM** key to operate the communications radio functions
2. **RCL** key will recall frequencies stored in the data base.
3. **MON** will automatically switch to active when signal received
4. **MEM** when pressed will store the Standby frequency.
5. **XIT** (EXIT) will appear in the MSG key position to allow comm. radio use during startup testing. Disappears when testing is complete.
6. Comm Radio System Info Summary

**LL.GX/60 Comm Radio Frequency Abbreviations**

- a. TWR - Tower frequency**
- b. GRND - Ground frequency**
- c. ATIS - ATIS frequency**
- d. ATF - Air Traffic Frequency**
- e. APPR – Approach**
- f. CLR - Clearance/Delivery**
- g. CTAF - Common Traffic Advisory Frequency**
- h. DEP - Departure frequency**
- i. UNIC - Unicom frequency**
- j. MF - Mandatory Frequency**
- k. UNKN – Unknown**

**F. GX60 Comm Radio Functions**

- i. Press the COM key to activate the Comm Radio functions (GX60).**
- b. Turn LARGE Knob to change MHz**
- c. Turn SMALL Knob to change kHz**
- d. Press <-> to toggle Active & Standby**
- e. Press MON to monitor Standby**
- f. Press MEM to memorize Standby**
- g. Press RCL to recall stored frequencies**
- h. Turn the LARGE Knob to view frequency types**
- i. Turn the SMALL Knob to view frequencies for selected type**

**G. Communications Radio Mode Smart Keys**

- a. The Recall (RCL)
- b. Monitor (MON)
- c. Memorize (MEM)
- d. Flip/Flop (<->) keys are available in the GX60 after the COM soft key has been pressed.

**H. COM (GX60)**

- a. Press the COM key to operate the Communications radio functions.

- b. Flip/Flop (<->) (GX60)

Press the Flip/Flop key to switch between the active (left-most) and standby (right-most) frequency while in the Com function. You may use an optional external Flip/Flop key for the same operation as the front panel control. Switching between frequencies is disabled while you are transmitting or editing in any function.

- c. RCL (Recall) (GX60)

Press the RCL key to recall frequencies stored in the database.

- d. MON (Monitor) (GX60)

Press the MON key to listen to the Standby frequency. When the Active frequency receives a signal, the GX60 will automatically switch to the Active frequency.

**e. MEM (Memorize) (GX60)**

**Press the MEM key to store the current Standby frequency.**

**F. XIT (Exit) (GX60)**

**The XIT key will appear on the far left of the display, in the MSG key position, if the COM key has been pressed to allow use of the radio during startup testing. Press the XIT key to return to the start-up sequence, or wait for test completion. The XIT key will disappear when testing is complete.**

**LESSON PLAN:** FAA APPROVED AFM SUPPLEMENT

**OBJECTIVE:** Provide the Airman with an understanding of the Requirement for an AFM Supplement and its contents and use.

**REFERENCES:** AIRPLANE FLIGHT MANUAL SUPPLEMENT

**COURSEWARE:** Transparencies, overhead projector

**INSTRUCTIONAL DELIVERY METHODS:** Lecture,

**TESTING / CHECKING:** STUDENT HANDBOOK EXERCISES

**STANDARD:** MINIMUM PASSING SCORE 70%

B. GENERAL

B. SUPPLEMENTAL VFR NAVIGATION ONLY

MMM. LIMITATIONS

1. Operational
2. User Manual
3. System Software
4. Alternate Navigation System
5. Magnetic Variation
6. Non-Navigation Information
7. Foreign Airspace
8. Placards

NNN. Emergency / Abnormal Procedures

1. Invalid Nav Data

OOO. Normal Procedures

1. System Switches / Controls
2. System Annunciation
3. GX60 Display

## **CAPSTONE TRAINING D-26/R-org/11-15-99**

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<b>LESSON PLAN:</b>	MEL for CAPSTONE AIRCRAFT
<b>OBJECTIVE:</b>	Provide the Airman with an understanding of the Capstone Program Aircraft MEL its content and use.
<b>REFERENCES:</b>	MEL Preamble, Definitions, and Sections 23 and 34
<b>COURSEWARE:</b>	Transparencies, overhead projector
<b>INSTRUCTIONAL DELIVERY METHODS:</b>	Lecture,
<b>TESTING / CHECKING:</b>	STUDENT HANDBOOK EXERCISES
<b>STANDARD:</b>	MINIMUM PASSING SCORE 70%

- C. OpSpecs Authority to use MEL
- D. Aircraft under MEL approval
- E. MEL Procedures
  - a. Duties and Responsibilities of pilots in the use of the MEL
  - b. Discrepancy logging
  - c. Placarding
  - d. Dispatch and operational limitations
- F. MEL Chapter 23 Communications.
  - 4. Remarks or Exceptions.
- G. MEL Chapter 34 Navigation
  - a. Remarks or Exceptions.

# **PROCEDURES**

**CAPSTONE**

**EQUIPMENT**

**INTRODUCTION**

**THE PROCEDURES SECTION WILL CONTAIN ANY OPERATING  
PROCEDURES THAT ARE DESIGNED SPECIFICALLY FOR CAPSTONE**

**FORMAT**

**SPECIAL VFR ARRIVALS AND DEPARTURES**

**ENROUTE TRACK OFFSET**

# **FLIGHT TRAINING**

**CAPSTONE**

**EQUIPMENT**

**FLIGHT TRAINING CAPSTONE EQUIPMENT**

**INDEX**

The following pages comprise the flight training modules for the Capstone Equipment . The modules are for Initial, Recurrent, and Requalification training and apply to all aircraft and airmen participating in Capstone. There are additional modules for aircraft flown with more than one flight deck crewmember and they address seat specific duties.

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**PART E - IFR EN ROUTE PROCEDURES**

See Section E of Capstone Training Manual

## **INTRODUCTION**

The flight training described herein will serve as the bases for standardized instruction and accomplishment of Capstone flight training. They will also serve as guidelines to achieve the highest level of proficiency and provide safe operations of the aircraft using Capstone Equipment. The flight training as outlined can be accomplished in revenue operations with the same limitations as would be imposed for Initial Operating Experience (IOE). Initial, Recurrent and Requalification flight training should be incorporated in the normal training program.

The flight training for Capstone Equipment must reference the Users Manuals for the Capstone Equipment in addition to the references to Commercial and Instrument Practical Test Standards the applicable titles contained in the Airline Transport Pilot Practical Test Standard, FAA-S-8081-5, shall apply to those crewmembers who are required to hold an Airline Transport Pilot Certificate as outlined in FAR Part 121 or 135 and the Company Operations Specifications. The acceptable performance guidelines shall be as contained in FAR Part 121, FAR 135 and company manuals.

### FORMAT

The following flight training procedures are designed to provide the highest level of safety and efficiency when operating with the Capstone Equipment. The procedures are designed for flight training, pilot preparation and pilot evaluation. These maneuvers are presented in accordance with the following outline:

1. **TITLE.** A specific name for the individual procedure consistent with Capstone Operations with references to FAR's and Practical Test Standards when
2. **OBJECTIVE.** The procedure objective briefly states the purpose for which the procedure is required.
3. **REFERENCES.** The reference for the procedure states the document in which the procedure appears.
4. **DESCRIPTION.** For each flight procedure utilized, there is a prescribed chronological order of events followed in the execution of the particular procedure. The description may include CAUTIONS and brief NOTES to highlight aspects of the procedure.

In cases where more than one procedure is described, the alternate procedure(s) is included within the description. The alternate procedures will be identified as an ALTERNATE PROCEDURE.

5. **ACCEPTABLE PERFORMANCE GUIDELINES.** The acceptable performance guidelines set forth in these procedures are utilized to evaluate the performance of a pilot and to determine if that pilot has attained the desired proficiency level. Consideration shall also be given to overall judgment, and knowledge.
6. **PROFILE.** For a flight training procedure for which a pictorial depiction is appropriate, one is provided.

**CAPSTONE EQUIPMENT VFR OPERATIONS**

**Title:** PREFLIGHT PLANNING

**References:** AC 61-21, Practical Test Standards: Commercial, ATP

**Objective:** To determine that the pilot is competent in performing preflight planning on routes where the Capstone Equipment will be utilized.

**Description:**

The pilot will accomplish normal preflight planning to include weather, nav aids, notams, and fuel requirements. The preflight planning will also include aircraft maintenance status for any deferred maintenance items or MEL limitations. For initial Capstone qualification "what if" scenarios need to be posed for potential Capstone equipment limitations.

**Acceptable Performance Guidelines:**

FAA Practical Test Standards for Commercial or ATP as appropriate must have proper airport and weather information.

**CAPSTONE EQUIPMENT VFR OPERATIONS**

**Title:** CAPSTONE EQUIPMENT SET UP AND TESTS

**References:** QRH or Checklist

**Objective:** To determine that the pilot understands the test sequence of the Capstone Equipment and can identify any faults in the system.  
Set up the Capstone Equipment for the intended flight.

**Description:** The pilot will start up the Capstone Equipment and observe all tests functions to ensure proper equipment operation.  
DO NOT USE THE "SKIP" KEY on the GX60/GPS when start up is intended for flight. After tests are completed any desired flight plan may be selected or set up in the GPS and the appropriate active and standby frequencies selected in the COMM.

**Acceptable Performance Guidelines:**Practical Test Standards

- Proper use of cockpit checklists
- Proper start up procedures
- Proper flight plan selection
- Proper frequency storage in Comm.
- Reduction in workload during flight as a result of proper set up

**CAPSTONE EQUIPMENT VFR OPERATIONS**

**Title:** Pre Takeoff

**References:** Practical Test Standards: Commercial, Instrument, ATP

**Objective:** To determine that the pilot has accomplished all pre takeoff checklists in accordance with the AFM, Company and FAR requirements

**Description:**

The pilot will demonstrate all checklist items to ensure proper aircraft operations and equipment capabilities. The pilot must properly address how any "what if" scenarios of inoperative equipment would be handled prior to takeoff.

**Acceptable Performance Guidelines:**

All AFM and company limitations are complied with

**CAPSTONE EQUIPMENT VFR OPERATIONS**

- Title:** Airport area Operations (Departure)
- Objective:** Maintain proper operating practices while using Capstone Equipment
- References:** Practical test standards
- Description:** The pilot needs to operate the aircraft within the airport traffic area using standard practices. Outside watch for traffic is extremely important.

DO NOT HAVE YOUR HEAD DOWN TRYING TO USE THE CAPSTONE EQUIPMENT IN A BUSY VFR TRAFFIC PATTERN.

Proper preflight planning, equipment set up and tests, and pre takeoff checklists should prevent the need to adjust the equipment at this critical phase of flight. The desired MFD display and GPS functions used for the departure phase of flight should be selected prior to taking the active runway. The MFD can be set up for TIS (Traffic Information Service) prior to takeoff and viewed as part of a normal instrument scan. The GPS flight plan can be selected prior to departure and does not need to be addressed again until the En Route phase of flight.

**Acceptable performance guidelines:**

Maintain proper traffic watch and follow all prescribed airport departure procedures.

Compliance with all clearances issued by the tower and/or Check Airman.

Promptly advise Check Airman or tower if unable to comply with a clearance.

When required, establishment and maintenance of 2-way radio communications with ATC using proper phraseology and technique.

**CAPSTONE EQUIPMENT VFR OPERATIONS**

**Title:** En Route Operations

**Objective:** Insure the pilot has proper understanding and use of the Capstone Equipment for en route operations for navigation and communication.

**References:** Company manuals, Capstone training material, and Practical Test Standards.

**Description:** Use of Capstone equipment as supplemental VFR navigation.  
Use terrain alerting features with close attention to Altimetry issues especially when operating from a high to a low.

Use of traffic alerting features of Capstone equipment with emphasis on see and avoid as primary means of traffic avoidance.

**Acceptable Performance Guidelines:** Proper outside the cockpit watch for traffic in conjunction with Capstone equipment use and adequate attention to Baro settings for5 terrain alerting features.

**CAPSTONE EQUIPMENT VFR OPERATIONS**

**Title:** Diversions

**Objective:** Use Capstone installed GX60 GPS to locate and proceed to nearest suitable airport .

**References:** GX60/GPS users manual

**Description:** On a route of flight simulate an emergency situation that would require a diversion to an off route airport. Use the GX60/GPS to locate a suitable airport and route of flight to deal with the emergency.

**Acceptable Performance guidelines:** Demonstration that a suitable airport can be selected with a course and distance to that airport using Capstone Equipment

**CAPSTONE EQUIPMENT VFR OPERATIONS**

**Title:** Terrain Alerting

**Objective:** Use Capstone MFD to display terrain features and plan avoidance of obstructions .

**References:** MFD users manual

**Description:** While en route use MFD to display terrain features and various colors in display for situational awareness. Put special attention on altimetry to ensure proper terrain separation.

**Acceptable Performance Guidelines:** Proper use of MFD with emphasis on Altimeter setting to ensure proper terrain separation.

**CAPSTONE EQUIPMENT VFR OPERATIONS**

**Title:** Traffic Alerting

**Objective:** Use MFD to provide ADS-B traffic information.

**References:** MFD users manual

**Description:** Use the MFD to provide traffic alerting information while operating in the Capstone environment . Special emphasis must be placed on the importance of see and avoid as the primary means of traffic separation .

**Acceptable Performance Guidelines:** Proper use of ADS-B functions of MFD and outside the cockpit traffic watch.

**CAPSTONE EQUIPMENT VFR OPERATIONS**

**Title:** Weather Information

**Objective:** Display weather text on MFD

**References:** MFD users guide

**Description:** Use the MFD to display weather text in cockpit of Capstone aircraft

**Acceptable Performance Guidelines:** Be able to display weather and properly interpret weather for safety of flight decisions.

**CAPSTONE EQUIPMENT VFR OPERATIONS**

**Title:** Arrival (Descent and Approach)

**Objective:** Use GX60/GPS for navigation and MFD for traffic alerting

**References:** MFD users guide and GPS operators manual

**Description:** Use the capstone equipment in the Descent and Approach phase of flight for terrain and traffic alerting.

**Acceptable Performance Guidelines:** Be able to recognize any terrain or traffic situations that may pose a hazard to flight and take proper corrective action.

**CAPSTONE EQUIPMENT VFR OPERATIONS**

- Title:** Airport area operations (arrival)
- Objective:** Maintain proper operating practices while using Capstone Equipment
- References:** Practical test standards
- Description:** The pilot needs to operate the aircraft within the airport traffic area using standard practices. Outside watch for traffic is extremely important.

**DO NOT HAVE YOUR HEAD DOWN TRYING TO USE THE CAPSTONE EQUIPMENT IN A BUSY VFR TRAFFIC PATTERN.**

**Acceptable Performance Guidelines:** Maintain proper traffic watch and follow all prescribed airport arrival procedures.

Compliance with all clearances issued by the tower and/or Check/Airman

Promptly advise tower and/or Check Airman if unable to comply with a clearance.

**CAPSTONE EQUIPMENT VFR OPERATIONS**

**Title:** CAPSTONE REPORTING

**Objective:** Provide information to Capstone team.

**References:** Capstone Reporting Form

**Description:** Completing the Capstone reporting form.

**Acceptable Performance Guidelines:** A completed form.

# **RECORDKEEPING**

**CAPSTONE**

**EQUIPMENT**

**TRAINING**

**RECORDKEEPING**

**THE RECORD KEEPING PRESENTED IN THIS SECTION IS INTENDED TO MEET THE FAA RECORD KEEPING REQUIREMENTS FOR CAPSTONE EQUIPMENT TRAINING AND IS NOT APPROVED AS A RECORD KEEPING SYSTEM FOR OTHER FAR 121/135 PROGRAM REQUIREMENTS.**

**INDIVIDUAL OPERATORS MAY OBTAIN SEPARATE OR DIFFERENT RECORD KEEPING SYSTEMS FOR CAPSTONE TRAINING. HOWEVER, AN FAA APPROVED RECORD MUST BE MAINTAINED.**

- A. The Operator will maintain airman training records as required by the appropriate 121 or 135 regulation. In that training record will be kept a Record of Training Completion, Capstone Equipment.(CAP TR-1)The training records must establish and maintain initial, recurrent and requalification training as appropriate. Information required to be maintained for each airman's Capstone Record of Completion includes but is not limited to:
1. The full name of the airman.
  2. The airman's certificate number.
  3. The airman's duty position(s).
  4. The date and result of each of the initial, recurrent and requalification.
  5. Check airman authorization, to conduct pilot proficiency or dispatcher Competency checks.
  6. The date of the completion of the Initial phase and each Recurrent or Requalification phase of training.
  7. The date of any required Requalification Training.
- B. In accordance with FAR 121 or 135 each segment of training (ground or flight) Shall be certified by the applicable ground instructor, flight instructor or check Airman as to the proficiency and knowledge of the airman upon completion of The training or check. This certification will be part of the airman's training record.
- C. Documentation of Capstone Equipment operating experience will be maintained.

- D. A qualified instructor who conducts a classroom subject within a course, or a complete course of ground training required within this approved training program will be considered to have completed that subject/ course for their own training requirement. The Operator or his/her designee shall certify such credit. ***In NO case will a person sign his or her own training record.***
- E. Contractual simulator training certification will be documented by the inclusion of the contractor's certificate of completion in the crewmember's record file. (Such as an FAA Approved LOFT in UAA's FRASCA 242 using Capstone Equipment)
- F. All completed records pertaining to the initial qualification requirements will be maintained in their original state in the airman's record. The record must include the individual's name; date of completion; training course or flight check; results; follow-up after unsatisfactory performance (if required); and the name of the certifying official.
- G. A score of 70% or higher constitutes satisfactory completion of a written examination. SAT entered in the results column indicates that the crewmember scored 70% or higher on course examinations. Any subject area determined to be deficient will be reviewed and additional instruction conducted to achieve a satisfactory level of knowledge.

### **AIRMAN RECORD KEEPING RESPONSIBILITY**

To assure complete and accurate records, compliance with the Proficiency and Competency Check procedures set forth in The Capstone Training Program and FAR's 121 and 135, the instructor / check airman conducting the training or check will complete the appropriate forms.

The completed form will be inserted into the airman's record.

When an FAA Inspector is conducting or observing a flight check or competency check, their statement may be entered as well.

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**TRAINING FORMS:**

(CAP TR-1)

**GROUND TRAINING ATTENDANCE RECORD  
CAPSTONE EQUIPMENT**

This form is provided as a means of recording and tracking ground training provided to Each airman participating in the Capstone Training.

(CAP TR-2)

**CAPSTONE EQUIPMENT/I.O.E./LINE CHECK**

This form is provided as a means to record FAR 121 or 135 route qualification by an Airman for Capstone Equipment and may be placed in the airman's training record.

(CAP TR-3)

**DISPATCHER/FLIGHT FOLLOWER COMPETANCY CHECK  
CAPSTONE EQUIPMENT**

This form is provided as a means to record 121 or 135 Dispatcher Competency To dispatch aircraft and flight crews using Capstone Equipment.

(CAP TR-4)

**CAPSTONE INSTRUCTOR/CHECK AIRMAN QUALIFICATION RECORD**

This form is provided as a means of recording ground instructor, flight instructor, Pilot check airman, and dispatcher check airman Training and qualifications.

(CAP TR-5)

**RECORD OF TRAINING COMPLETION  
CAPSTONE EQUIPMENT**

This form is provided as a means to document on a single form all elements of the Capstone Equipment Training. The form has places to record control dates for Initial, Recurrent and Requalification training.

GROUND TRAINING ATTENDANCE RECORD  
CAPSTONE EQUIPMENT  
Form (CAP TR-1)

DATE \_\_\_/\_\_\_/\_\_\_ HOURS \_\_\_\_\_ LOCATION \_\_\_\_\_

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TRAINING PRESENTED:

INITIAL	[ ]	INSTRUCTOR	[ ]
RECURRENT	[ ]	CHECK AIRMAN	[ ]
REQUALIFICATION	[ ]	OTHER (specify)	[ ] _____

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CURRICULUM SEGMENTS: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.  
\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.

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TRAINEE NAMES

PRINT FIRST MI LAST	SIGNATURE	AIRMANS CETIFICATE NO.
---------------------	-----------	------------------------

1. \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
2. \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
3. \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
4. \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
5. \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
6. \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
7. \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
8. \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
9. \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
10. \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
11. \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
12. \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

FAA PARTICIPANTS/OBSERVERS

1. \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
  2. \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
  3. \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_
- 
- 

GROUND INSTRUCTOR

PRINT: FIRST MI LAST	SIGNATURE	AIRMAN CERTIFICATE NO.
----------------------	-----------	------------------------

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

\*\*\* Use additional attendance records if needed for large classes \*\*\*

**CAPSTONE EQUIPMENT/ I.O.E./LINE CHECK  
(FAR 121 AND 135)  
Form (CAP TR-2)**

Pilot Name: First MI Last _____, _____, _____			Pic [ ] SIC [ ]			Date:					
Route Segment:			A/C Type:			N:					
#T/O:		#Lndg:		Check Airman:				Time:			
Item Checked/Results				S	U	Item Checked/Results				S	U
PREFLIGHT PLANNING						WEATHER INFORMATION					
CAPSTONE EQUIPMENT SET UP AND TESTS						ARRIVAL (DECENT AND APPROACH)					
PRE TAKEOFF						TRAFFIC SCAN PROCEDURES					
USE OF CHECKLISTS						AIRPORT AREA OPERATIONS (ARRIVAL)					
CREW COORDINATION For AIRCRAFT REQUIRING MORE THAN 1 PILOT						APPROACH PROCEDURES (WHEN APPLICABLE)					
AIRPORT AREA OPERATIONS (DEPARTURE)						POST FLIGHT					
RADIO PROCEDURES						CAPSTONE REPORTING					
EN ROUTE PROCEDURES						OTHER:					
DIVERSIONS						OTHER:					
TERRAIN ALERTING						KNOWLEDGE OF EQUIPMENT					
TRAFFIC ALERTING						JUDGEMENT					
TYPE of TRAINING OR CHECKING:  IOE ( ) LINE CHECK ( )											
Remarks/Comments:											
Results:		SAT		UNSAT		Check Airman Signature:					

**DISPATCHER/FLIGHT FOLLOWER COMPETANCY CHECK  
CAPSTONE EQUIPMENT  
Form (CAP TR-3)**

DISPATCHER NAME: _____, _____, _____ FIRST MI LAST		DUTY POSITION: DISPATCHER [ ] FLIGHT FOLLOWER [ ] SCHEDULER [ ]		DATE: mm/dd/yy ____, _____, _____	
AIRMANS CERTIFICATE NUMBER:			AREA OF OPERATION:		
CHECK AIRMAN:			CERTIFICATE NUMBER:		
The dispatcher must understand the function and use of the Capstone Equipment and its effect on flight operations.					
ITEM CHECKED / RESULTS	S	U	ITEM CHECKED / RESULTS	S	U
Knowledge of Operations Area			Knowledge of Aircraft Used		
Flight Following			Fuel Requirements		
Alternates (DEPARTURE) (EN ROUTE) (ARRIVAL)			MEL		
NOTAMS (FDC) (L) (D)			COMMUNICATIONS		
PILOT REPORTS			RAIM FORECAST		
WEATHER REPORTS/FORECASTS (FD), (FA), (TAF), (AREA)			CAPSTONE LIMITATIONS		
STATION INFORMATION			FAR's		
Remarks/Comments:					
Results:	SAT		UNSAT	Check Airman Signature:	

**CAPSTONE INSTRUCTOR/CHECK AIRMAN QUALIFICATION RECORD**

Form (CAP TR-4)

**CERTIFICATION**

This certifies that \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ has satisfactorily completed the training required for qualification as an instructor/check airman for Capstone Equipment and is authorized to conduct: (check all appropriate)

Pilot Ground School: Initial [ ] Recurrent [ ] Requalification [ ]

Dispatcher/Flight Follower Ground School: Initial [ ] Recurrent [ ] Requalification [ ]

Flight Instruction I.O.E. : Initial [ ] Recurrent [ ] Requalification [ ]

Line Check Aircraft: Initial [ ] Recurrent [ ] Requalification [ ]

Dispatcher Competency Check : Initial [ ] Recurrent [ ] Requalification [ ]

I CERTIFY THE ABOVE NAMED INDIVIDUAL MEETS THE REQUIREMENTS TO PROVIDE CAPSTONE EQUIPMENT TRAINING.

PRINT: FIRST MI LAST SIGNATURE AIRMAN CERTIFICATE NO.

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Date Signed \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ mm/dd/yy Title: \_\_\_\_\_

**RECORD OF TRAINING COMPLETION  
CAPSTONE EQUIPMENT  
Form (CAP TR-5)**

<p><b>NAME:</b> _____, _____, _____</p> <p>AIRMANS CERTIFICATE NUMBER: _____</p>	<p><b>DUTY POSITION:</b> Check All Appropriate</p> <p>PIC <input type="checkbox"/> SIC <input type="checkbox"/> CHECK AIRMAN <input type="checkbox"/></p> <p>DISPATCHER <input type="checkbox"/> FLIGHT FOLLOWER <input type="checkbox"/></p> <p>INSTRUCTOR <input type="checkbox"/> OTHER <input type="checkbox"/> Specify _____</p>
<p>TRAINING RECEIVED: _____mm/dd/yy</p>	<p>NEXT TRAINING DUE : _____mm/yy</p>
<p>TYPE OF TRAINING RECEIVED Check All Appropriate</p> <p>Initial <input type="checkbox"/> Grnd <input type="checkbox"/> Flight <input type="checkbox"/></p> <p>Recurrent <input type="checkbox"/> Grnd <input type="checkbox"/> Flight <input type="checkbox"/></p> <p>Requalification <input type="checkbox"/> Grnd <input type="checkbox"/> Flight <input type="checkbox"/></p> <p>Instructor <input type="checkbox"/> Grnd <input type="checkbox"/> Flight <input type="checkbox"/></p> <p>Check Airman <input type="checkbox"/> Grnd <input type="checkbox"/> Flight <input type="checkbox"/></p> <p>Other <input type="checkbox"/> Specify _____</p>	<p>BASE MONTH: _____mm/yy</p> <p>Recurrent Training Recieved: Check one</p> <p>Month Prior to Base Month <input type="checkbox"/></p> <p>Month Due or Base Month <input type="checkbox"/></p> <p>Month After Base Month "grace" <input type="checkbox"/></p> <p>REQUALIFICATION MONTH : _____mm/yy</p> <p>Detail Level of Requalification Required.</p> <p>_____</p>
<p>COMPLETION STANDARD:</p> <p>Satisfactory <input type="checkbox"/> SAT</p> <p>Unsatisfactory <input type="checkbox"/> UNSAT</p> <p>The reason for UNSAT completion has been presented to me and I understand.</p> <p>Airman Signature _____</p> <p>Details of UNSAT performance will be recorded on the back of this form.</p>	<p>NEW BASE MONTH: _____mm/yy</p> <p>Explain Reason for Change in Base Month.</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p>I certify the above Training Record is correct.</p>	
<p>PRINT: FIRST MI LAST</p> <p>_____, _____, _____</p>	<p>SIGNATURE</p> <p>_____</p>
<p>Date Signed _____, _____, _____ mm/dd/yy</p>	<p>AIRMAN CERTIFICATE NO.</p> <p>_____</p> <p>Title: _____</p>

**“TRAIN THE TRAINER”**

**CAPSTONE  
INSTRUCTORS**

**CAPSTONE EQUIPMENT**

## **CAPSTONE TRAINING T-1/R-org/11-15-99**

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- LESSON PLAN:** CAPSTONE COURSE MATERIALS.
- OBJECTIVE:** PROVIDE THE CAPSTONE INSTRUCTORS AND CHECK AIRMEN A THROUGH UNDERSTANDING OF ALL AVAILABLE TRAINING MATERIALS AND COURSEWARE
- REFERENCES:** FAA CAPSTONE LITERATURE, STUDENT HANDBOOK, INSTRUCTORS MANUAL, FAA APPROVED COURSE CURRICULUM, CAPSTONE EQUIPMENT USERS MANUALS
- COURSEWARE:** TRANSPARANCIES, OVERHEAD PROJECTOR AND ALL REFERENCES.
- INSTRUCTIONAL DELIVERY METHODS:** LECTURE
- TESTING / CHECKING:** NONE
- STANDARD:** N/A
- A. FAA APPROVED COURSE MATERIAL
    - 1. Training modules.
  - B. STUDENT HANDBOOK
    - 1. GX60/GPS references
    - 2. MX20/MFD references
  - C. USERS MANUALS FOR CAPSTONE EQUIPMENT
    - 1. GX60/GPS
    - 2. MX20/GPS
  - D. INSTRUCTORS REFERENCE MATERIALS
    - 1. STUDENT HANDBOOK
    - 2. FAR'S
    - 3. ADVISORY CIRCULARS
    - 4. CD/SIM

## **CAPSTONE TRAINING T-2/R-org/11-15-99**

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**LESSON PLAN:** CLASSROOM EXERCISES

**OBJECTIVE:** PROVIDE THE CAPSTONE INSTRUCTORS AND CHECK AIRMEN EXPERIENCE IN PRESENTING THE CAPSTONE MATERIAL

**REFERENCES:** CAPSTONE INSTRUCTORS MANUAL AND STUDENT HANDBOOK

**COURSEWARE:** SAME AS REFERENCES

**INSTRUCTIONAL DELIVERY METHOD:** LECTURE, INSTRUCTOR CHECK AIRMAN PRESENTATIONS

**STANDARD:** EACH INSTRUCTOR CHECK AIRMAN WILL SUCESSFULLY PRESENT A GROUND TRAINING MODULE ON CAPSTONE EQUIPMENT.

- A. SETUP OF CLASSROOM FOR STUDENT EXERCISES
- B. SAMPLE EXERCISES
- C. CLASS PRESENTATION BY INSTRUCTORS/CHECK AIRMEN
- D. EVALUATION AND DISCUSSION OF PRESENTATIONS

## **CAPSTONE TRAINING T-3/R-org/11-15-99**

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**LESSON PLAN:** "SIMULATOR" OPERATION GX/60 GPS and MX20/MFD

**OBJECTIVE:** PROVIDE CAPSTONE INSTRUCTORS and CHECK AIRMEN THE KNOWLEDGE TO EFFECTIVELY USE THE "SIMULATION" COURSEWARE IN THE CLASSROOM.

**REFERENCES:** GX60/GPS AND MX20/MFD USER GUIDES

**COURSEWARE:** GX60/GPS AND MX20/MFD SIMULATOR

**INSTRUCTIONAL DELIVERY METHOD:** LECTURE, INSTRUCTOR/CHECK AIRMAN PARTICIPATION.

**STANDARDS:** EACH INSTUCTOR/CHECK AIRMAN WILL OPERATE THE SIMULATION TO PRESENT CAPSTONE MATERIAL.

- A. EQUIPMENT STARTUP
- B. SELF TEST
- C. USING STORED DATA
- D. FLIGHT PLAN SETUP
- E. MFD FUNCTIONS
- F. CLASSROOM PRESENTATION

**CAPSTONE TRAINING T-4/R-org/11-15-99**

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**LESSON PLAN:** RECORDKEEPING

THIS LESSON PLAN WILL CONSIST OF A THROUGH REVIEW OF SECTION F OF THE CAPSTONE TRAINING.