DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
3000 MARINE CORPS PENTAGON
WASHINGTON, DC 20350-3000

NAVMC 3500.93
C 4610
11 MAY 2011

NAVMC 3500.93 W/CH 1

From: Commandant of the Marine Corps
To: Distribution List

Subj: UC-20G TRAINING AND READINESS (T&R) MANUAL

Ref: (a) NAVMC 3500.14B

Encl: (1) UC-20G T&R MANUAL

1. <u>Purpose</u>. To revise standards and regulations regarding the training of UC-20G aircrew per the reference.

2. <u>Scope</u>. Highlights of major T&R planning considerations included in this Manual are as follows:

   a. Mission Essential Task (MET) incorporation.

   b. Addition of Aviation Career Progression Model (ACPM) curriculum.

   c. Emphasis on Mission Skills versus Core Skills.

   d. Re-naming and re-numbering of phases from 3-digit to 4-digit codes.

   e. Standardized Naval Air Training and Operating Procedures Standardization Program (NATOPS) and instrument evaluation policy.

3. <u>Information</u>. Recommended changes to this Manual are invited, and may be submitted via the syllabus sponsor and the appropriate chain of command to: Commanding General (CG), Training and Education Command (TECOM), Aviation Training Division (ATD) using standard Naval Correspondence or the Automated Message Handling System (AMHS) plain language address: CG TECOM ATD.

4. <u>Command</u>. This Manual is applicable to the Marine Corps Total Force.

5. <u>Certification</u>. Reviewed and approved this date.

R. C. FOX
By direction

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NAVMC 3500.93 Ch 1
C 465
13 MAR 2013

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Subj: UC-20G TRAINING AND READINESS (T&R) MANUAL

Encl: (1) New page inserts to NAVMC 3500.93

1. <u>Purpose</u>. To transmit new page inserts to the basic manual.

2. <u>Scope</u>. Remove pages 2-14 and 2-15 and replace with corresponding pages in the enclosure.

3. <u>Information</u>. This change is out of the normal T&R review cycle in order to remove the requirement to conduct an instrument evaluation for Event T2P-2103.

4. <u>Filing Instructions</u>. This change transmittal will be filed immediately following the signature page of the basic manual.

                                        T. M. MURRAY
                                        By direction

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CHAPTER 1

UC-20G

CHAPTER 1

UC-20G

100. <u>MARINE OPERATIONAL SUPPORT AIRLIFT (H&HS C-20G) TRAINING AND READINESS REQUIREMENTS</u>. The goal of Marine Aviation is to attain and maintain combat readiness to support Expeditionary Maneuver Warfare while conserving resources. The standards established in this program are validated by subject matter experts to maximize combat capabilities for assigned METs. These standards describe and define unit capabilities and requirements necessary to maintain proficiency in mission skills and combat leadership. Training events are based on specific requirements and performance standards to ensure a common base of training and depth of combat capability.

101. <u>C-20G MISSION</u>. Provide time-sensitive air transport of high priority passengers and cargo to, within, and between theaters of war.

102. <u>TABLE OF ORGANIZATION (T/O)</u>. Refer to T/O #8323 managed by Total Force Structure, MCCDC, for current authorized organizational structure and personnel strength. Information below depicts C-20G T/O information as of the date of this directive.

T/O for One Squadron/Unit
Squadron 1 C-20G Aircraft 8 Pilots/4 Crew Chiefs 4 Loadmasters
Detachment 1 C-20G Aircraft 6 Pilots/3 Crew Chiefs 3 Loadmasters

103. <u>CORE SKILL AND MISSION SKILL ABBREVIATIONS</u>. Shading indicates core plus skills.

Core Skill/Mission Skill Abbreviations	
Core Skill	Abbreviation
COMMAND AIRCRAFT CREW TRAINING	CACT
SIMULATOR FAMILIARIZATION	SFAM
FAMILIARIZATION	FAM
INSTRUMENT	INST
INITIAL OPERATING EXPERIENCE	IOE
TRANSPORT SECOND PILOT	T2P
TRANSPORT AIRCRAFT COMMANDER	TAC
Mission Skill	
Operational Airlift Support	OSA

104. <u>CORE METL AND CORE METL OUTPUT STANDARDS</u>

1. <u>Core METL</u>. A standardized list of specified tasks a unit was designed to perform. Selected tasks are drawn from the Marine Corps Task List (MCTL) and are standardized by type unit.

2. <u>Core METL Output Standards</u>. The required level of performance a unit must be capable of sustaining during contingency/combat operations by MET to be considered MET-ready. Output standards will be demonstrated through the incorporation of Unit Training Events.

Core METL Output Standards C-20G Squadron (1 Aircraft)				
MCT	MET	OUTPUT STANDARD		
		MAX DAILY SORTIES	MAX MCT SORTIES	CMMR CREWMEMBERS
1.3.4.1.2 OSA	Conduct Operational Airlift Support	2	2	4

Note: Based on an average sortie duration of 5 hours, a C-20G unit is able to execute 2 total overall sorties on a daily (24 hour period) basis during contingency/combat operations.

105. <u>MCT TO CORE/MISSION/CORE PLUS SKILL MATRIX</u>. Provide a pictorial view of the relationship between the unit Core METL (Marine Corps Task) and each Core Skill and Mission Skill required to perform the METL.

C-20G			
Mission Essential Task To Core/Mission/Core Plus Skill Matrix			
MISSION ESSENTIAL TASK (MET) // MARINE CORPS TASK (MCT)	CORE SKILLS		MISSION SKILLS
	T2P	TAC	OSA
MCT 1.3.4.1.2 OSA	X	X	X

106. <u>C-20G CMMR CORE/MISSION/CORE PLUS SKILLS CREW DEFINITION AND PROFICIENCY REQUIREMENTS</u>. This table delineates crew position and proficiency requirements for each Core/Mission/Core Plus Skill. The numbers associated with each crew position column reflect the number of Core/Mission/Core Plus Skill proficient individuals required.

CMMR Core and Mission Skills				
Core Skills	Pilots	Crew Chiefs	Loadmasters	Crews
T2P	3	0	0	3
TAC	3	0	0	3
Mission Skills				
OSA	6	3	3	3

107. <u>CMMR FLIGHT LEADERSHIP REQUIREMENTS</u>. At a minimum, in order to be considered Core Competent, the following numbers of crews with the listed flight leadership designations.

CMMR Flight Leadership			
Designation	SQDN Pilots	Crew Chiefs	Loadmasters
TAC	3		
T2P	3		
CC		3	
LM			3

108. <u>INSTRUCTOR REQUIREMENTS</u>. A unit should possess the following numbers of personnel with the instructor designations listed in the matrix.

CMMR Instructors			
Instructor Designation	SQDN Pilots	Crew Chiefs	Loadmasters
ANI (Assistant NATOPS Inst)	1	1	1
NI (NATOPS Instructor)	1	1	1
Instrument Evaluator	3	N/A	N/A
Basic Instructor Pilot	1	N/A	N/A

Enclosure (1)

CHAPTER 2

UC-20G PILOT/7553

TABLES

CHAPTER 2

UC-20G PILOT/7553

200. <u>C-20G PILOT/7553 INDIVIDUAL TRAINING AND READINESS REQUIREMENTS</u>. This T&R syllabus is based on specific goals and performance standards designed to ensure individual proficiency in Core and Mission Skills. The goal of this chapter is to develop individual and unit war fighting capabilities.

201. <u>C-20G PILOT TRAINING PROGRESSION MODEL</u>. This model represents the recommended training progression for the average C-20G pilot. Units should use the model as a point of departure to generate individual training plans.
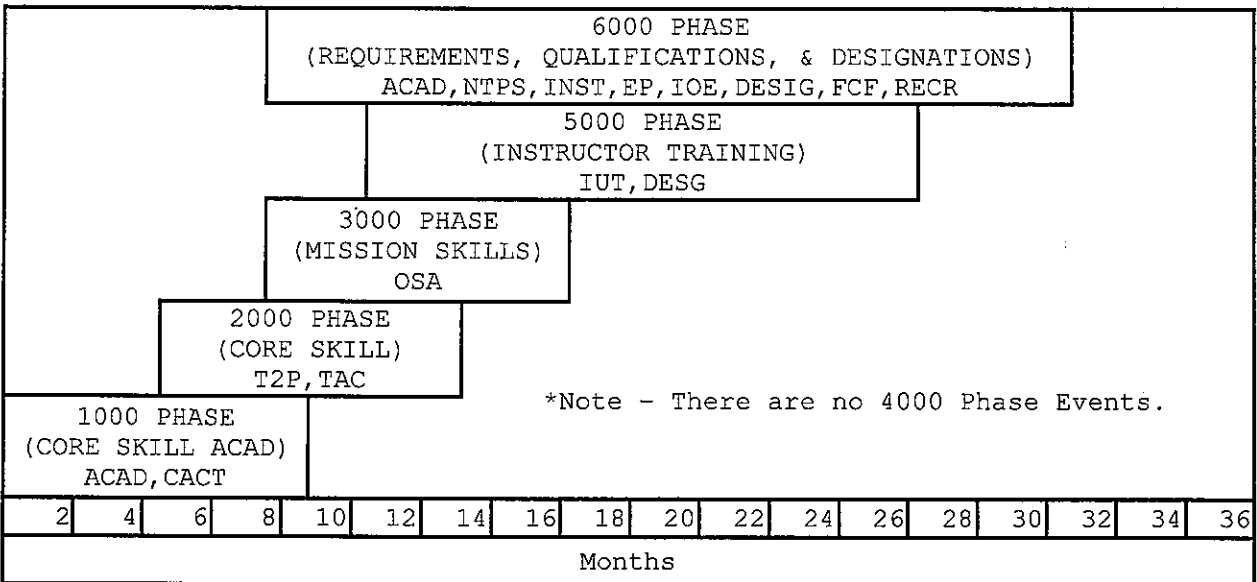
```
+------------------------------------------------------------------------------+
|          |              6000 PHASE                                           |
|          |   (REQUIREMENTS, QUALIFICATIONS, & DESIGNATIONS)                   |
|          |      ACAD,NTPS,INST,EP,IOE,DESIG,FCF,RECR                          |
|          |        +----------------------------------------------+           |
|          |        |           5000 PHASE                          |           |
|          |        |      (INSTRUCTOR TRAINING)                     |           |
|          |        |          IUT,DESG                              |           |
|          |   +-------------------+                                |           |
|          |   |   3000 PHASE      |                                |           |
|          |   | (MISSION SKILLS)  |                                |           |
|          |   |      OSA          |                                |           |
|        +-----------------+       |                                            |
|        |   2000 PHASE    |                                                    |
|        | (CORE SKILL)    |                                                    |
|        |   T2P,TAC       |     *Note - There are no 4000 Phase Events.        |
|  +----------------+      |                                                    |
|  | 1000 PHASE     |                                                           |
|  |(CORE SKILL ACAD)|                                                          |
|  |  ACAD,CACT     |                                                           |
+------------------------------------------------------------------------------+
|  2|  4|  6|  8| 10| 12| 14| 16| 18| 20| 22| 24| 26| 28| 30| 32| 34| 36|
+------------------------------------------------------------------------------+
|                              Months                                           |
+------------------------------------------------------------------------------+
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Table 2-1. C-20G Training Progression Model

202. <u>INDIVIDUAL CORE SKILL PROFICIENCY (CSP) REQUIREMENTS</u>. A CSP crew consists of individuals representing each crew position who have achieved and currently maintain individual CSP. In order to be considered proficient in a Core Skill, an individual must attain and maintain proficiency in Core Skill events as delineated in the below paragraphs.

1. <u>Events Required to Attain Individual CSP</u>. To initially attain CSP in a Core Skill, an individual must simultaneously have a proficient status in all of the 2000 Phase T&R events listed in the table below for that Core Skill.

INDIVIDUAL CORE SKILL PROFICIENCY ATTAIN TABLE			
T&R events required to Attain CSP (2000 Phase)			
T2P		TAC	
2101	2102	2201R	2202R
2103R		2203R	
Gray highlight & an R suffix on the event code = Refresher POI			

Table 2-2. Core Skill Proficiency Attain Table

2. <u>Events Required to Maintain Individual CSP</u>. To maintain CSP in a Core Skill, an individual must maintain proficiency in all 2000 phase T&R events

listed for that Core Skill. However, all Core Skill requirements will be maintained through NATOPS instrument, night, monthly, and yearly hour requirements coupled with flying the Squadron OSA mission. Therefore, there are no event requirements to maintain CSP.

203. <u>INDIVIDUAL MISSION SKILL PROFICIENCY (MSP) REQUIREMENTS</u>. A MSP crew consists of individuals representing each crew position who have achieved and currently maintain Individual MSP. To be considered proficient in a Mission Skill, an individual must attain and maintain proficiency in Mission Skill events as delineated in the below paragraphs.

1. <u>Events Required to Attain Individual MSP</u>. To initially attain MSP in a Mission Skill, an individual must simultaneously have a proficient status in all 3000 phase T&R events listed for that Mission Skill:

INDIVIDUAL MISSION SKILL PROFICIENCY (MSP) ATTAIN TABLE C-20G Pilot T&R events required to Attain MSP (3000 Phase)	
OSA	
3101R	3102R
Gray highlight & an R suffix on the event code = Refresher POI	

Table 2-3. Individual Mission Skill Attain Table

2. <u>Events Required to Maintain Individual MSP</u>. To maintain MSP in a Mission Skill, an individual must maintain proficiency in all 3000 phase T&R events listed for that Mission Skill:

INDIVIDUAL MISSION SKILL PROFICIENCY (MSP) MAINTAIN TABLE	
T&R events required to Maintain MSP (3000 Phase)	
OSA	
3100R	3102R
Gray highlight & an R suffix on the event code = Refresher POI	

Table 2-4. Individual Mission Skill Maintain Table

204. <u>QUALIFICATION AND DESIGNATION TABLES</u>. The tables below delineate T&R events required to be completed to attain proficiency, initial qualifications and designations. In addition to event requirements, all required stage lectures, briefs, squadron training, prerequisites, and other criteria shall be completed prior to completing final events. Qualification and designation letters signed by the Commanding Officer shall be placed in Individual Performance Records (IPR). Only after successfully completing qualification or designation requirements and being issued a qualification/designation letter signed by the Commanding Officer will an individual be considered qualified or designated. Do not confuse certifications with qualifications or designations as defined below. Loss of proficiency in all qualification events causes the associated qualification to be lost. Regaining a qualification requires completing all R-coded syllabus events associated with that qualification.

1. <u>Qualification</u>. A qualification is a status ('qualified' or 'not qualified') assigned to personnel based on demonstration of proficiency in a specific skill. Individuals do not lose a qualification as a function of refly factor for individual events. However, loss of proficiency (delinquent refly factor) for all associated qualification events (events with measurable

refly factor) constitutes loss of that qualification. Re-qualification requires demonstration of proficiency and shall be achieved by successfully repeating all R-coded events associated with the respective qualification unless waived per paragraph 207 of NAVMC 3500.14.

2. <u>Designation</u>. A designation is a status assigned to an individual based on leadership ability. Designations are command specific and remain in effect until removed for cause or the individual is transferred to another command.

3. <u>Instructor Designations</u>. Instructor designations are assigned to personnel based on ability to conduct ground and/or airborne instruction of a core skill or mission area. Instructor designations are designed to enhance standardization and safety while training unqualified personnel in specific skills. T&R syllabi shall refer to the MAWTS-1 Course Catalog, NATOPS, and other applicable directives for instructor designation criteria.

INDIVIDUAL QUALIFICATION REQUIREMENTS	
Qualification	Event Requirements
NATOPS	6000R, 6001R, 6002R, 6100R
Standard Instrument	6003R, 6004R, 6200R
Special Instrument	6003R, 6004R, 6201R
R = Refresher POI events required for requalification.	

Table 2-5. Individual Qualification Requirements

INDIVIDUAL DESIGNATION REQUIREMENTS	
Designation	Event Requirements
T2P	2101, 2102, 2103R, 6502R
TAC	2201R, 2202R, 2203R, 6405R, 6406R, 6503R
FCF	6601R
BIP	5000R, 5001R, 5002R, 5003R, 5004R, 5010R
ANI	5011R
NI	5012R
R = Refresher POI events required for requalification.	

Table 2-6. Individual Designation Requirements

205. <u>C-20G PILOT PROGRAMS OF INSTRUCTION (POI)</u>. A POI is a group of events within a syllabus that an individual is required to perform. Individuals are assigned to only one POI at any given time. Events within a POI are annotated in both the event description and the T&R Syllabus Matrix with a 'B,' 'SC,' or 'R'. All pilots changing aircraft/platform type as a Transition (T) per NAVMC 3500.14 will fly the Basic (B) POI.

Note 1
A pilot must have a minimum 500 hours total flight time in order to be assigned to <u>any</u> POI in this T&R.

Note 2
Upon completion of the Core Skill Introduction Phase, the Standardization Board will assign the appropriate POI.

1. <u>Programs of Instruction (POI) for the Basic (B) and Transition (T) POI</u>

WEEKS	COURSE/LEVEL	ACTIVITY
1-12	Core Skills Introduction	CACT/VMR Det
13-52	Core/Mission Skills Basic	CACT/VMR Det
52-104	TAC/FCF Under Training	CACT/VMR Det
104-	IP Under Training	CACT/VMR Det

2. <u>Programs of Instruction for the Refresher (R) and Series Conversion (SC)</u>. The Refresher Series represent pilots who have previously flown the C-20G. These pilots should complete events coded with an R. A previously qualified Gulfstream pilot (civilian or military other than the C-20G) are considered a Series Conversion and should complete events coded with an SC. The Commanding Officer will review the qualifications, previous experience, currency, and demonstrated ability of Refresher and Series Conversion pilots with a view towards waiving and/or combining required flights.

WEEKS	COURSE/LEVEL	ACTIVITY
1-5	Core Skills Introduction	CACT/VMR Det
6-12	Core Skills Basic	CACT/VMR Det
12-26	Mission Skills	CACT/VMR Det
26-52	TAC/FCF Under Training	CACT/VMR Det

3. <u>Program of Instruction (POI) for Instructor Pilot (IP)</u>. The pilot must have 1,000 hours of fixed-wing flight time and 100 hours flight time in model in order to be considered for this POI.

WEEKS	COURSE/LEVEL	ACTIVITY
1-2	Instructor Ground School	CACT/VMR Det
3-7	Basic Instructor Pilot Training	CACT/VMR Det
15-52	FRSI Instructor Pilot Training	CACT/VMR Det

206. <u>ACADEMIC TRAINING</u>

1. Academic training shall be conducted for each phase/stage of the syllabus. Where indicated, standardized academic training materials exist and may be obtained from the sponsoring activity.

2. External academic courses of instruction available to complete the syllabus are listed below:

COURSE	ACTIVITY
Core Skills Introduction Academics	CACT
Recurrent Phase Academics	CACT
ACPM Training	MAWTS-1

3. <u>Aircrew Training References</u>. Aircrews shall use the following references to ensure safe and standardized training and maintenance procedures, grading criteria, and aircraft operation:

ACPM Training	MAWTS-1
OPNAVINST 3710.7_	OPNAVINST 3710.7_ NATOPS Gen Flt & Operating Inst
OPNAVINST 4790.2_	NAVMC 3500.14 T&R Program Manual
NAVAIR 01-C20GAAA-1	US Navy C-20G NATOPS/Gulfstream
Aerospace Corporation	G-IV manuals
MCO P4790.12	MCO 3500.27/OPNAV 3500.39 Operational Risk Management (ORM)

207. <u>SYLLABUS NOTES</u>

1. <u>Event Format Coding</u>. The following format is used to describe aircraft, simulator, and classroom events. To provide the Commanding Officer the maximum amount of flexibility for training, some events allow for the optional use of simulators or aircraft. Those types of events will use the designator A/S for aircraft preferred, simulator optional and S/A for simulator preferred, aircraft optional.

1/	2/	3/	4/	5/	6/	7/	8/	/9
FAM-3000	2.0	180	B,SC,R	E	1	C-20G	A	(N)

1/ <u>Stage-Training Code</u>. A unique numeric four-digit training code has been assigned to each syllabus event. The first digit of the event training code shall begin with the appropriate phase series number (Core Skill Introduction events = 1XXX; Core Skill events = 2XXX; etc.). The second digit of a T&R code refers to the stage. The third and fourth digits refer to the individual events within a stage, in sequence

2/ <u>Projected Event Duration</u>. Projected event duration should reflect the average time to execute the event requirement (actual time to execute the event may vary).

3/ <u>Refly Factor</u>. Refly (proficiency interval) factors reflect the maximum time between syllabus events. Refly are delineated in days. An asterisk (*) indicates the event has no refly interval, indicating a onetime training requirement (unless R-coded).

4/ <u>Programs of Instruction</u>

        a. B = Basic/Transition
        b. SC = Series Conversion
        c. R = Refresher

5/ <u>Evaluation</u>. An "E" shall be annotated here if the event is required to be evaluated.

6/ <u>Device Number</u>. The number of aircraft, simulator, or other device(s) required for the completion of the event.

7/ <u>Device Type</u>. The type of device required for the completion of the event.

8/ <u>Device Options</u>

DEVICE OPTIONS	
Code	Requirement
A	Event performed in aircraft.
S	Event performed in simulator or a simulated practical application.
A/S	Event performed in aircraft preferred/simulator optional.
S/A	Event performed in simulator preferred/aircraft optional.

Table 2-7. Device Options

9/ <u>Environmental Conditions</u>. Pilots shall fly events annotated with an N at least 30 minutes after official sunset. Events shall be flown in accordance with environmental conditions listed in the matrix below:

ENVIRONMENTAL CONDITIONS	
Code	Meaning
D	Shall be flown during hours of daylight.
N*	Shall be flown or conducted at night unaided.
(N*)	May be flown or conducted at night – If flown at night must be flown unaided.
Note – If the event is to be flown in the simulator the Simulator Instructor shall set the desired environmental conditions for the event.	

Table 2-8. Environmental Conditions

2. <u>Classroom (CLSRM)</u>. CLSRM lessons comprise the majority of C-20G Ground School training. All aircrew shall complete the C-20G Ground School as prescribed by the CACT instructor. Completion of CACT Ground School shall be documented in the Aircrew Performance Record (APR). Courseware shall be reviewed on an annual basis to ensure proper content, concurrency with the aircraft and operating procedures.

3. <u>Training Event Performance Requirements</u>

a. <u>Purpose</u>. To familiarize the PUI with general syllabus expectations, definitions, and the observation scale found on the Integrated Aircrew Training Forms (IATFs).

b. <u>General</u>

(1) The 1000 phase syllabus includes all emergencies that are indicated with warnings, all emergency procedures with critical memory items, those with associated warnings, land immediately or land as soon as possible emergencies, and those that refer to any of the above. PUIs will be expected to memorize critical memory items and warnings associated with emergency procedures. They will be familiar with and be able to quickly look up other (non-memory) emergency procedures and associated notes and cautions. To reinforce the latter, during flight briefs, PUIs will open operating manuals to the appropriate page to review notes, cautions, and other non-memory items.

(2) PUIs shall be familiar with, but will not be required to memorize numerical system limitations for those systems whose indications are displayed with a green, yellow or red scale on either the EICAS or MFDs.

(3) All flights shall terminate with a comprehensive debrief with emphasis on aircrew performance and procedures or systems discussed. Instructors should use all available debriefing techniques.

(4) In the C-20G, all aspects of aircraft operation are integrated with the automated systems. As a result, training typically reserved for Instrument stages of this Manual will be integrated with the Familiarization stages throughout.

   c. Definitions

     (1) Discuss

(a) The IP shall discuss a system, procedure, or maneuver during the brief, in flight, or debrief.

(b) The PUI shall demonstrate an understanding of all discussed items listed in the event description.

(c) Demonstrate/Introduce flight events shall be discussed during the brief.

(d) Emergencies listed in the event description are treated as discussion items during the brief and may be simulated during the flight at the option of the IP and in accordance with unit SOP. EPs for Simulator events will be treated as Demonstrate/Introduce items on the event in which they are listed and are subject to review during any subsequent event.

     (2) Demonstrate

(a) IP performs the maneuver with accompanying description. At IP discretion, the PUI may fly the maneuver, but is not graded. Playback of recorded demonstrations may be used during simulator events.

(b) The PUI observes the maneuver and is responsible for knowledge of the procedures during the brief.

     (3) Introduce

(a) At his option, the IP may perform the maneuver with an accompanying description followed by the PUI flying the maneuver, or he may coach the PUI through the maneuver without demonstration.

(b) The PUI shall perform the maneuver with coaching as necessary and is responsible for knowledge of the procedures prior to the flight. In general, the expectation is that the PUI will not consistently recognize errors and will frequently be outside performance standards

     (4) Review

(a) The IP observes and grades the maneuver with only minimal coaching.

(b) The PUI is expected to perform the maneuver with minimal coaching and with only minor procedural errors. In general, the expectation

is that the PUI will consistently recognize errors; however occasionally, corrections will not be timely with some excursions outside performance standards.

(5) Evaluate

(a) The IP observes and grades the maneuver without coaching the PUI. An airborne critique of the PUI's performance is at the option of the instructor.

(b) The PUI is expected to perform the maneuver without coaching, with minor or no procedural errors, and at a level acceptable to warrant progress in the syllabus. The expectation is that the PUI will consistently apply timely corrections with very few and quickly corrected excursions outside performance standards.

(6) Expose

(a) The IP shall expose the PUI to the procedure or consideration during the brief, in flight or debrief.

(b) The PUI is not responsible for the knowledge of the procedure or consideration prior to the flight.

4. Aircrew Evaluation Flights. All pilots shall have an appropriate NATOPS evaluation form completed annually upon completion of the following:

a. NATOPS Check (NTPS-6100). A designated NATOPS Instructor(NI)/Assistant NATOPS Instructor (ANI) shall evaluate NTPS-6100.

b. Instrument Check (INST-6200 or 6201). A designated Basic Instructor Pilot, who is a member of the Instrument Flight Board, shall evaluate INST-6200 or 6201 flights.

5. Instructor Requirements

a. For all simulator and flight events the instructor requirement is noted at the bottom of the event. If the event does not contain an instructor requirement, then the minimum requirement is a transport aircraft commander (TAC) proficient in the given event.

b. For Core Skill Introduction simulator events, designated contract instructors (CI) may fulfill the role of instructor. Certification as a CI may be withdrawn by the FRS Commanding Officer.

6. Crew Requirements/Position Designations. Crew requirements are listed for each stage of training. A designated T2P or TAC may serve as the CC on training flights.

7. Event Completion. Event completion is predicated upon demonstrated proficiency. When supervising individual events, unit instructors/leaders shall ensure that trainees demonstrate proficiency per T&R standards prior to logging successful event completion. Evaluating individual proficiency in an event normally requires both objective and subjective assessment. If, in the instructor's opinion, the PUI does not adequately perform a required event, then all or parts of the sortie shall be repeated until adequate performance is demonstrated. If an individual fails to accomplish the requirements of an event per the performance standards, the individual should not log that event

and the proficiency status for that event remains unchanged. Times indicated
for each event are for planning purposes only.

8. Multiple Event Logging. There may be opportunities for crewmembers to
accomplish the requirements of more than one event during a scheduled
training evolution. Units are encouraged to take advantage of complex
training opportunities that allow multiple event completion. Under all
circumstances, post-event logging (single or multiple) is allowable if the
requirements for each event are accomplished per the performance standard.

9. Sequence. Where practical, training should be accomplished by flying
events within a stage in sequence and stages in sequence.

10. Crew Resource Management (CRM). Aircrews shall brief techniques of CRM
for all flights and/or events.

11. Operational Risk Management (ORM). Aircrews shall brief those factors
that affect risk mitigation decisions for every flight or mission.

208. CORE SKILL INTRODUCTION PHASE (1000)

1. General. The approved CACT Initial is considered synonymous with a
C-20G FRS. The USMC C-20G CACT contract is part of a larger CACT contract
managed by the C-20G Model Manager (currently CFLSW). Core Skill
Introduction FRS Academics are conducted at CACT during the approved C-20G
initial training syllabus generated by CACT. The Commanding Officer has the
responsibility to define the required content, conduct reviews, forward
required changes and approve the content for all Core Skill Academic events.
Additionally, the Commanding Officer of the FRS has waiver authority over any
event within the Core Skill Academics phase.

2. Stages

   • Academics (ACAD)
   • Command Aircraft Crew Training SIMs (CACT)

2. ACAD

   a. Purpose. To prepare the student for the simulator portion of the Core
Skill Introduction phase. Courseware is developed by the CACT and covers,
but is not limited to: Flight Training Systems; Avionics and Electrical
Systems; Power Plant and Related Systems; Hydraulic and Pneumatic Systems;
Communications and Navigation Systems; Flight Management Systems FMS; Traffic
Collision Alerting System (TCAS); Enhanced Ground Proximity Warning System
(EGPWS); Egress and Ditching Procedures; Crew Tactics and Safety.

   b. General. A pilot returning for Refresher training will complete
Recurrent Ground School (RECR-6700) prior to starting any 1000 phase events.

ACAD-1000   10 days   * B,SC   CACT Ground School
   Goal. Upon completion, the student will be able to perform as a PUI in
   the CACT Simulator Phase.
   Requirement. Per CACT approved syllabus.
   Performance Standard. Per CACT approved syllabus.
   Prerequisites. 500 hours total flight time.

3. CACT

    a. Purpose. To provide the PUI with the necessary training to obtain a type rating in the C-20G, prepare the PUI for training as a T2P, and for training in the specific mission requirements of the aircraft.

    b. General. All events marked CACT should be accomplished at the approved CACT simulator site. Every attempt should be made to ensure Navy checklists and procedures are studied and adhered to during the CACT training while operating as both the pilot flying and the pilot not flying.

        (1) CACT-1001 through CACT-1007 are flown as part of the CACT Initial training and may be subject to change when the CACT contract changes. Any changes to the CACT contract are considered acceptable by this T&R manual. Should the number of sorties differ in a new CACT contract, TECOM will be notified and the appropriate local pen and ink changes will be made.

        (2) CACT-1001 thru CACT-1007 shall be instructed by a qualified CACT approved instructor and is part of CACT Initial Training. CACT 1008-1010 may be accomplished in the C-20G aircraft as operations dictate.

    c. Crew Requirements. CACT-1001 thru CACT-1007 may be accomplished with just the PUI and CACT instructor. However, every attempt should be made to pair up with another Navy/Marine Corps PUI in order to facilitate training using established Navy C-20G checklists and procedures. There is no requirement for a crew chief on CACT-1001 thru CACT-1007. For any event requiring a crew chief, a qualified pilot may perform the crew chief duties.

CACT-1001-1007   28.0   *   B,SC   1   C-20G   S   (N*)

    Goal. Perform normal procedures and selected abnormal/emergency procedures during a local training flight as per the current CACT contract.

    Requirement. Emphasize the following objectives: Preflight Procedures, Takeoff and Departure Phase, In-flight Maneuvers, Instrument Procedures, Landings and Approaches, and Post-flight Procedures. Attention should be given to Communication, Advanced/Automated Cockpits, Situational Awareness, and FMS System Management.

    Performance Standard. Perform all normal, abnormal, and emergency checklists and procedures, repeating as necessary to achieve 100% completion. In addition, demonstrate effective use of CRM skills.

    Prerequisite. ACAD-1000.

CACT-1008   4.0   *   B,SC,R   1   C-20G   S/A   (N*)

    Goal. Introduce USMC specific C-20G procedures with emphasis on local Standard Operating Procedures (SOP). Review selected systems and normal/abnormal procedures.

    Requirement. Discuss selected systems as per the IATF. Introduce selected precision and non-precision approaches utilizing system automation and both normal and abnormal procedures.

Performance Standard. Demonstrate sufficient systems and procedural knowledge to progress to the next event.

Prerequisite. CACT-1007~B,SC, RECR-6700~R

Crew Requirements. PUI, IP, and CC.

CACT-1009   4.0   *   B,SC,R   1   C-20G   S/A   (N*)

Goal. Introduce night operations.

Requirement. Discuss aircraft lighting and peculiarities associated with night aircraft operations. Discuss selected systems as per the IATF. Perform multiple approaches and landings utilizing normal procedures in the night environment.

Performance Standard. Demonstrate sufficient knowledge of aircraft systems and the ability to competently handle the aircraft in all phases of flight in a night environment.

Prerequisite. CACT-1008.

Crew Requirements. PUI, IP, and CC.

CACT-1010   4.0   *   B,SC,R   E   1   C-20G   S/A   (N*)

Goal. Complete initial NATOPS evaluation.

Requirement. Perform initial NATOPS evaluation per OPNAVINST 3710 and all applicable local directives.

Performance Standard. Be able to safely operate the aircraft IAW the C-20G NATOPS and unit SOPs under normal and emergency situations to the level of a T2P. As a T2P, mastery of BOLD face emergency procedures and aircraft operating limitations is a requirement for a passing grade.

Prerequisite. NTPS-6000, NTPS-6001, NTPS-6002 within 60 days preceding this event.

Crew Requirements. PUI, NI/ANI, and CC.

209. CORE SKILL PHASE (2000)

1. General

    a. Purpose. To practice the enabling Core Skills required for the PUI to attain core competency in the aircraft and be prepared to learn the mission skills associated with his/her crew position.

    b. Stages. The following stages are included in the Core Skill Phase of training.

- Transport Second Pilot (T2P)
- Transport Aircraft Commander (TAC)

    c. Refer to paragraph 216 for the ACPM lectures required for this phase of training.

2. T2P

    a. Purpose. Prepare and designate the PUI as a Transport Second Pilot (T2P).

    b. General. During the T2P designation phase, at least 1 hour of night operations should be logged. Also, at least 3 hours of actual/simulated instrument time shall be logged prior to INST-2104 (Instrument check).

    c. Crew Requirements. Crew requirements are delineated on each flight to ensure proper crew composition.

T2P-2101   4.0   *   B   1   C-20G   A   D

    Goal. Introduce differences between the simulator and the actual aircraft with emphasis on the landing pattern. Introduce left seat operations.

    Requirement. Emphasis shall be placed on tiller operations while taxing and on the runway. Additional emphasis shall be placed on procedural differences during take-off and landing from the left vice right seat (hand positions, voice callouts, and emergency procedures). Two hours of actual or simulated instrument time must be logged during this event.

    Performance Standard. Comply with C-20G NFM Emergency Procedures.

    Prerequisite. CACT-1010, and all pre-fly requirements as established by local SOP.

    Crew Requirements. PUI, BIP, and CC.

T2P-2102   2.0   *   B   1   C-20G   A   N*

    Goal. Introduce night operations.

    Requirement. Practice night ground and air operations. Multiple landings and approaches should be accomplished utilizing normal procedures.

    Performance Standard. Comply with C-20G NFM and unit SOP for night operations.

    Prerequisite. T2P-2101

    Crew Requirements. PUI, BIP, and CC.

T2P-2103   2.5   *   B,SC,R   E   1   C-20G   A   (N*)

    Goal. Practice instrument flight procedures in order to accumulate the appropriate number of instrument approaches towards the instrument flight evaluation. Conduct an objective evaluation of the PUIs knowledge of flight planning, filing, briefing, and conduct of flight under normal operating conditions, emergency procedures, closing out flight plans, and debriefing.

<u>Requirement</u>. Conduct an objective evaluation of the PUIs knowledge of flight planning, filing, conduct of flight under normal operating conditions, and emergency procedures. At the successful completion of this event, the PUI will also log DESG-6501 (T2P Qualification).

<u>Performance Standard</u>. Executes flight and ground operations safely IAW OPNAV 3710.7 Series, Platform NATOPS, NATOPS Instrument Flight Manual, and local SOPs.

<u>Prerequisite</u>. T2P-2102, ACAD-6003, ACAD-6004, OPNAV3710.7 series required simulated/actual instrument time.

<u>Crew Requirements</u>. PUI, BIP/IFB, and CC.

4. <u>TAC</u>

    a. <u>Purpose</u>. To introduce the PUI to roles and responsibilities of a C-20G Transport Aircraft Commander.

    b. <u>General</u>. Perform PF and PNF duties while gaining proficiency as an Aircraft Commander. Upon completion of TAC events PUI will complete IOE time requirements prior to being qualified for TAC designation by Commanding Officer. To be considered for TAC the pilot must have a total of at least 1000 hours with 100 hours in model.

    c. <u>Crew Requirements</u>. Crew requirements are delineated on each flight to ensure proper crew composition.

TAC-2201   4.0   *   B,SC,R   1   C-20G   S/A   (N*)

<u>Goal</u>. Introduce TAC

<u>Requirement</u>. Introduction to TAC operations. Emphasis shall be placed upon briefing, preflight, cockpit leadership during flight, post flight, and debrief

<u>Performance Standard</u>. Safely operate the aircraft in all flight regimes while displaying sound judgment, systems knowledge, and flight deck leadership.

<u>Prerequisite</u>. IOE-6403, IOE-6404, DESG-6502

<u>Crew Requirements</u>. PUI, BIP, and CC.

TAC-2202   4.0   *   B,SC,R   1   C-20G   S/A   (N*)

<u>Goal</u>. Practice TAC responsibilities.

<u>Requirement</u>. Practice TAC duties with emphasis on aircraft performance, night operations, and IMC operations.

<u>Performance Standard</u>. Safely operate the aircraft in all flight regimes while displaying sound judgment, systems knowledge, and flight deck leadership.

<u>Prerequisite</u>. TAC-2201

Crew Requirements. PUI, BIP, and CC.

TAC-2203   4.0   *   B,SC,R   1   C-20G S/A   (N*)

Goal. Conduct Line Oriented Flight Training (LOFT)

Requirement. The purpose of the LOFT is to simulate an actual flight from planning to debrief. The PUI will be required to produce mission planning products at brief time as listed on the ATF.

Performance Standard. Properly plan and execute a line mission to the level expected of a TAC with special emphasis being placed upon the PUI's decision making ability.

Prerequisite. TAC-2202

Crew Requirements. PUI, BIP, and CC.

210. MISSION SKILL PHASE (3000)

1. General. This phase of training is designed to enable pilots to obtain proficiency in Mission Skills. Mission Skills are designed to fulfill the requirements of the C-20G Mission Essential Task List as defined by the associated Marine Corps Task (MCT).

2. Stages. The following stage is included in the Mission Skill Phase of training.

- Operational Airlift Support (OSA)

2. OSA

    a. Purpose. This stage of training is designed to fulfill the requirement set in MCT 1.3.3.3.1, Conduct Aviation Support Operations.

    b. Crew Requirement. Crew requirements are delineated on each flight to ensure proper crew composition.

OSA-3101   4.0   60   B,SC,R   1   C-20G A/S   (N*)

Goal. Aircraft proficiency. Retain and maintain proficiency with all aspects of aircraft operation. Because of the design and operation of the C-20G, a standard flight will usually consist of some visual and instrument flight operations resulting in proficiency in all aspects of operating the aircraft.

Requirement. Discuss selected systems. Demonstrate competence in all areas of C-20G operation. At least 1.0 Hour of Actual or Simulated Instrument Time and one instrument approach should be logged during this event.

Performance Standard. Aircrew must demonstrate knowledge of aircraft systems and ability to competently handle the aircraft in all phases of flight as the PF or PNF.

Prerequisite. T2P-2103.

Crew Requirement. TAC, CP, CC, LM

OSA-3102   4.0   60   B,SC,R   1   C-20G   A/S   (N*)

Goal. Conduct a line mission under actual or simulated tasking from Higher Headquarters.

Requirement. Conduct a line mission.

Performance Standard. Conduct a line mission involving (but not limited to) overwater flight, international airspace, or takeoffs and landings away from home station and outside of the local flying area. A line mission should involve some level of Distinguished Visitor (DV), general passenger, or cargo carrying operations. If CACT is being used to update proficiency, the mission planning phase must include the same level of preparation and products as an event flown in the actual aircraft.

Prerequisite. T2P-2103.

Crew Requirement. TAC, CP, CC, LM

211. CORE PLUS SKILL PHASE (4000). This phase is not applicable to the C-20G.

212. INSTRUCTOR TRAINING PHASE (5000)

1. General. The purpose of this Phase is to train qualified pilots to instruct various levels of instruction. There are three phases of instructors within the scope of this manual. They are:

   a. Basic Instructor Pilot (BIP). An Instructor Pilot who is authorized to instruct all phases of training in the C-20G (This differs from the 3500.14 definition as explained below).

   b. Fleet Replacement Squadron Instructor (FRSI). An Instructor Pilot who trains those in the Core Skill and Core Skill Introduction Phases. Due to the limited number of pilots assigned to the C-20G, the designation of BIP will include the duties of the FRSI and the FRSI designation will not be used.

   c. NATOPS Instructor/Assistant NATOPS Instructor (NIP/ANI). An Instructor Pilot who may instruct all training phases and administer NATOPS evaluation flights.

   The following general requirements shall be adhered to:

   • 1000 hours of total fixed-wing pilot time.

   • 100 hours of C-20G TAC time.

   **Note: There is no minimum C-20G IP time requirement to be designed an NIP or ANI. This designation is at the discretion of the CO and should be based upon the IUT's demonstrated ability to perform as a higher level instructor.

   All events except IUT-5004 should be accomplished in the CACT approved simulator but may utilize the aircraft as appropriate. A BIP is authorized

to instruct IUT-5001 through IUT-5003 and IUT-5004 shall be instructed by a NIP/ANI. To attain the designation of unit NIP, a NATOPS evaluation flight must be flown with the CFLSW C-20G Model Manager NATOPS Evaluation Pilot (NEP). Finally, to attain the designation of ANI, a NATOPS evaluation flight must be flown with the unit NIP.

  d. Stages
    • Academics (ACAD)
    • Instructor Under Training (IUT)
    • Designations (DESG)

2. <u>Academics</u>. To complete all academic requirements to prepare IUT for flight portion of training.

ACAD-5000 5.0 * B,SC,R E

  <u>Goal</u>. BIP academic training.

  <u>Requirement</u>. Complete the academic ground school for IUT.

  <u>Performance Standard</u>. The IUT shall demonstrate knowledge of instructional procedures and techniques.

  <u>Prerequisites</u>. DESG 6503, FCF-6601, 1000 total hours, 100 hours as TAC, APRB recommendation.

3. <u>IUT</u>

  a. <u>Purpose</u>. To develop qualified Basic Instructor Pilots (BIPs) using a standardized instructor training program. This syllabus is designed to prepare aircraft commanders to instruct specific events.

  b. <u>General</u>

    (1) A prospective BIP shall be a TAC, FCF pilot, and CRMF that the APRB and Commanding Officer determine has the requisite airmanship and maturity to begin Instructor Pilot training.

    (2) Once designated, a BIP will be authorized to conduct all phases of pilot training, to include the Core Skill Introduction (1000) and IUT (5400) POI's. The designation of BIP is synonymous with the NAVMC 3500.14 requirements of a FRSI.

    (3) BIPs shall be designated in writing by the Squadron Commanding Officer.

  c. <u>Crew requirements</u>. Crew requirements are delineated on each flight to ensure proper crew composition.

  d. <u>Academic/Ground Training</u>. Complete the IUT ground school syllabus and be a designated CRM Facilitator. The IUT shall review all directives pertinent to the safe conduct of flight to include the OPNAV 3710.7_, Instrument Flight Manual, AIM/FAR, AFM, and local SOPs. The IUT shall be familiar with the T&R Program Manual (NAVMC 3500.14_) and this T&R.

IUT-5001 4.0 * B,SC,R E 1 C-20G S/A (N*)

Goal. Basic Instructor Pilot (BIP) Introduction. The goal of this event is to practice emergency procedures, aircraft handling exercises, and discuss unit SOP adherence in order to assess the IUT's ability to perform as an Instructor Pilot.

Requirement. The Instructor Pilot shall discuss instructional techniques, aircraft and PUI monitoring, defensive posture, and common PUI errors. The IUT shall demonstrate the ability to maintain a safe training environment while noticing and correcting common copilot errors as simulated by the Instructor Pilot.

Performance Standard. The IUT must possess a solid understanding of NATOPS and applicable SOPs while demonstrating a high level of situational awareness while operating the aircraft.

Crew Requirements. IP, IUT.

Prerequisites. ACAD-5000.

IUT-5002   4.0   *   B,SC,R   E   1   C-20G   S/A   (N*)

Goal. Introduce instructional techniques. The IP will demonstrate to the IUT how to construct an instructional event in reference to required maneuvers and evaluation standards. Additionally, the IP will demonstrate to the IUT how to conduct an instructional sortie from brief to debrief.

Requirement. The IUT will monitor an instructional sortie between an IP and a PUI while occupying the jump seat and performing crew chief duties. The IP will emphasize instructional techniques and SOP adherence. Syllabus used will be in accordance with the event appropriate to the PUI.

Performance Standards. The IUT must possess a solid understanding of NATOPS and applicable SOPs while demonstrating a high level of situational awareness while operating the aircraft.

Crew Requirements. IP, IUT, PUI (any phase).

Prerequisite. IUT-5001

IUT-5003   4.0   *   B,SC,R   E   1   C-20G   S/A   (N*)

Goal. Introduce phase-appropriate instructional techniques during the conduct of an actual instructional sortie.

Requirement. The IUT will act as instructor for a pilot who is either an actual PUI or acting PUI. The IP shall occupy the jump seat. The IUT shall conduct the mission brief and execute the syllabus event in accordance with the event description.
Performance Standard. Demonstrate the ability to competently execute a training event from brief to debrief.

Crew Requirements. IP, IUT, PUI (any phase).
Prerequisite. IUT-5002.

IUT-5004   3.0   *   B,SC,R   E   1   C-20G   A/S   (N*)

   Goal. Conduct an instructional sortie.

   Requirement. The IUT will act as the instructor for a pilot who is
   either an actual PUI or acting PUI. The IP shall occupy the jump-seat.
   The IUT shall conduct the mission brief and execute the syllabus event
   in accordance with the event description.

   Performance Standard. Demonstrate competencies established in FRSI-
   5492 while conducting a safe and efficient instructional event.

   Crew Requirements. NIP/ANI, IUT, PUI (phase appropriate).

   Prerequisite. IUT-5003.

4. DESG. To ensure proper designations are assigned for BIP, ANI, and NIP.

DESG-5010   0.0   *   B,SC,R   E   C-20G

   Goal. BIP designation.

   Performance Standard. Satisfactory completion of the IUT POI.

   Prerequisite. IUT-5004

DESG-5011   0.0   *   B,SC,R   E   C-20G

   Goal. ANI designation.

   Performance Standard. Satisfactory completion of a NATOPS evaluation
   with a NIP.

   Prerequisite. IUT-5004

DESG-5012   0.0   *   B,SC,R   E   C-20G

   Goal. NIP designation.

   Performance Standard. Satisfactory completion of a NATOPS evaluation
   with a NEP.

   Prerequisite. IUT-5004

213. REQUIREMENTS, QUALIFICATIONS, DESIGNATIONS (RQD) PHASE (6000)

1. General. To provide a vehicle for tracking codes associated with
certifications, qualifications and designations. E-coded sorties are
evaluation sorties. Once the flight to attain the qualification or
designation is complete, a letter from the Squadron Commanding Officer
awarding the qualification or designation shall be placed in the individual's
NATOPS jacket.

2. Stages

- Academics (ACAD)
- NATOPS (NTPS)
- Instruments (INST)
- Emergency Procedures (EP)
- Initial Operating Experience (IOE)
- T3P, T2P, and TAC Designations (DESG)
- Functional Check Flight (FCF)
- Recurrent Training (RECR)

3. <u>ACAD</u>. Provide yearly NATOPS academic requirements to maintain currency in the aircraft.

ACAD-6000   4.0   365   B,SC,R   E

> <u>Goal</u>. The open book examination shall consist of, but not be limited to the question bank. The purpose of the open book examination is to evaluate the Pilot's knowledge of the appropriate publications and the aircraft.

> <u>Performance Standard</u>. Achieve a minimum score of 3.5 on the open book examination.

ACAD-6001   2.0   365   B,SC,R   E

> <u>Goal</u>. The purpose of the closed book examination is to evaluate the Pilot's knowledge of the concerning normal/emergency procedures and aircraft limitations.

> <u>Performance Standard</u>. Achieve a minimum score of 3.5 on the closed book examination.

ACAD-6002   2.0   365   B,SC,R   E

> <u>Goal</u>. The oral examination shall consist of, but not be limited to the question bank. The instructor may draw upon their experience to propose questions of a direct and positive manner and in no way be opinionated to evaluate the Pilot's knowledge of the concerning normal/emergency procedures, aircraft limitations, and performance.

> <u>Performance Standard</u>. Achieve a minimum grade of qualified on the oral examination.

> <u>Prerequisite</u>. NTPS-6000 and NTPS-6001 within 60 days preceding this event.

ACAD-6003   8.0   365   B,SC,R   E

> <u>Goal</u>. The Instrument Ground School shall be an approved Commander Naval Air Forces (CNAF) approved syllabus and at a minimum cover the following topics:
> > 1) Spatial disorientation.
> > 2) CNO GPS Policy Statement and GPS fundamentals to include RNAV (GPS) and Required Navigation Performance (RNP).
> > 3) Reduced Vertical Separation Minimums (RVSM) procedures.
> > 4) Requirements and denial reports.

          5) Use of non-DoD instrument approach/departure
procedures.
          6) Use of non-DoD GPS NOTAMS systems (Jeppeson GPS
NOTAMS and Databases).

Performance Standard. Achieve a minimum grade of qualified for
Instrument Ground School which also encompasses the open book
examination.

ACAD-6004   2.0   365   B,SC,R   E

Goal. The oral NATOPS instrument examination shall consist of, but not
be limited to the question bank in addition to any subject listed for
coverage in OPNAVINST 3710.7 series. The examination shall include
questions on the following topics:
          1) Pertinent Navy or Marine Corps regulations, orders,
and instructions.
          2) Pertinent parts of the Federal Aviation Regulations
(FAR), other regulations, and/or aeronautical
publications which are applicable.
          3) Interpretation of weather information normally used in
flight planning. The instructor may draw upon their
experience to propose questions of a direct and positive
manner and in no way be opinionated to evaluate the
airman's knowledge of the NATOPS, NATOPS Instrument
Flight Manual, FAR/AIM and/or aeronautical publications
which are applicable, normal/emergency instrument ground
and flight procedures, weather, aircraft limitations, and
performance.

Performance Standard. Achieve a minimum grade of qualified on the oral
NATOPS instrument examination.

Prerequisite. ACAD-6003

ACAD-6005   2.0   365   B,SC,R   E

Goal. CRM ground instruction in accordance with applicable directives
and instructions.

Performance Standard. Demonstrate satisfactory knowledge of CRM
principles and their application.

3. NTPS

   a. Purpose. Provide required annual NATOPS and CRM flights to maintain
currency.

   b. Crew Requirements. Crew requirements are delineated on each flight
to ensure proper crew composition.

NTPS-6100   2.5   365   B,SC,R   E   1   C20-G   S/A   (N*)

Goal. Complete Annual NATOPS evaluation.
Requirement. Perform annual NATOPS evaluation per OPNAVINST 3710 and
all applicable local directives.

Performance Standard. Be able to safely operate the aircraft IAW the C-20G NATOPS and unit SOPs under normal and emergency situations to the level of positional designation within the aircraft.

Prerequisite. NTPS-6000, NTPS-6001, NTPS-6002 within 60 days preceding this event.

Crew Requirements. PUI, NI/ANI, and CC.

NTPS-6101   2.5   365   B,SC,R   E   1   C-20G   S/A   (N*)

Goal. Complete Annual CRM flight evaluation.

Requirement. Perform initial/annual CRM flight evaluation per applicable directives. May be flown in conjunction with annual NATOPS evaluation flight.

Performance Standard. Performance standards will be according to the C-20G NFM.

Prerequisite. ACAD-6005

Crew Requirements. PUI, CRMF/NI/ANI, and CC.

4. INST

   a. Purpose. To qualify pilot with either a Standard or Special Instrument ticket annually.

   b. Crew Requirements. Crew requirements are delineated on each flight to ensure proper crew composition.

INST-6200   2.0   365   B,SC,R   E   1   C-20G   S/A   (N*)

   Goal. Complete standard instrument flight evaluation. Following completion of the ground evaluation events, a standard instrument flight/simulator evaluation event shall be flown and completed with a grade of "Qualified." Conduct an objective evaluation of the airman's knowledge of flight planning, filing, briefing, conduct of flight under normal operating conditions, emergency procedures, closing out flight plans, and debriefing.

   Requirement. Successfully pass the instrument check.

   Performance Standard. Executes flight and ground operations safely IAW OPNAV 3710.7 Series, Platform NATOPS, NATOPS Instrument Flight Manual, and training rules. All areas on the instrument flight evaluation are critical. An "Unsatisfactory" grade in any area shall result in an "Unsatisfactory" grade for the flight.

   Prerequisite. ACAD-6003, ACAD-6005, and minimum experience per OPNAVINST 3710.7_.

   Crew Requirements. PUI, TAC/IFB, and CC.

INST-6201   2.0   365   B,SC,R   E   1   C-20G   S/A   (N*)

  Goal. Complete special instrument flight evaluation. Following
completion of the ground evaluation events, a special instrument
flight/simulator evaluation event shall be flown and completed with a
grade of "Qualified." Conduct an objective evaluation of the airman's
knowledge of flight planning, filing, briefing, conduct of flight under
normal operating conditions, emergency procedures, closing out flight
plans, and debriefing.

  Requirement. Successfully pass the instrument check.

  Performance Standards. Executes flight and ground operations safely
IAW OPNAV 3710.7 Series, Platform NATOPS, NATOPS Instrument Flight
Manual, and training rules. All areas on the instrument flight
evaluation are critical. An "Unsatisfactory" grade in any area shall
result in an "Unsatisfactory" grade for the flight.

  Prerequisite. INST-6003, INST-6004, DESG-6503, and posses minimum
experience per OPNAVINST 3710.7_.

  Crew Requirements. PUI, TAC/IFB, and CC.

5. EP

  a. Purpose. Maintain monthly and quarterly emergency procedure
training.

  b. General. Emergency procedure training consists of a monthly EP exam
and a quarterly EP simulator. In the event the simulator is unavailable, the
EP review may be conducted in the cockpit either pre or post flight as a
static event.

  c. Crew Requirements. Emergency Procedure review events may be
instructed by any qualified aircrew and should be accomplished with two
pilots and a crew chief.

EP-6300   1.0   30   B,SC,R   E

  Goal. Monthly Emergency Procedures Exam.

  Requirement. Conduct a monthly EP Exam per NAVMC 3500.14.

EP-6301   1.0   90   B,SC,R   E   1   C-20G   S/A   (N*)

  Goal. Emergency Procedure Review.

  Requirement. This event will review C-20G emergency procedures and
fulfills the requirement of quarterly EP simulator training per NAVMC
3500.14. This event can be accomplished as a combined event in the
simulator or in the actual aircraft while airborne or sitting on the
deck.

  Performance Standard. Comply with C-20G NFM Emergency Procedures.
6. T2P IOE

a. <u>Purpose</u>. Introduce and practice responsibilities and procedures required during line missions while serving as a T2P. The focus of training should be on increasing the level of responsibility on the PUI in order to perform at the level of a T2P.

b. <u>General</u>

(1) Events shall be flown in conjunction with scheduled military logistics missions or Out of Area Training (OAT) flights that include at least 1 required stop at an airfield other than the PUI's home field in addition to the requirements described in each event. The PUI should be thoroughly introduced to and practice all expected pre mission planning products, mission planning software, SOP adherence, and RON procedures. When flown as an OAT, the training should still emulate the same level of mission preparedness and execution as an actual line mission.

(2) T2P IOE training shall total 30 hours in its entirety. Any combination of flight hours can be used to achieve 30 hours as long as the IOE-6403 and IOE-6404 are accomplished per this manual with at least 10 hours being in the IOE-6403 and 20 hours in IOE-6404.

(3) When logging T2P IOE events in the M-SHARP Flight Logger, ensure the specific T2P IOE Flight Hour Type is properly recorded on the "Flight Hour Page". The two T2P IOE flight hour types are:
T2P LOC (this equates to IOE-6403)
T2P FIR (this equates to IOE-6404)

Note:
Aircrew should not log an IOE-6403 or IOE-6404 in M-SHARP until the cumulative Flight Hour requirements for those events have been satisfied.

c. <u>Crew Requirements</u>. Crew requirements are delineated on each flight to ensure proper crew composition.

<u>IOE-6403   10.0   *   B,SC,R   1   C-20G   A   (N*)</u>

<u>Goal</u>. Practice T2P roles and responsibilities during all phases of a military logistics mission to a non-international destination.

<u>Requirement</u>. Perform duties of a T2P as both PF and PNF duties in conjunction with a non-international over-water military logistics mission. The T2P will be responsible for performing the majority of the pre-mission planning while seeking the guidance of the TAC when needed.

<u>Performance Standard</u>. Competently plan and execute the duties of a T2P while practicing good CRM.

<u>Prerequisite</u>. DESG-6502

<u>Crew Requirements</u>. PUI, TAC, and CC.

IOE-6404   20.0   *   B,SC,R   1   C-20G   A   (N*)

    Goal. Practice T2P roles and responsibilities during all phases of a military logistics mission to an international destination.

    Requirement. Perform duties of a T2P as both Pilot Flying and Pilot Not Flying duties in conjunction with an international over-water military logistics mission across international FIR boundaries and into and out of an international airfield. Discuss peculiarities of international over-water flight operations. Demonstrate and perform proper communications procedures with different controlling agencies.

    Performance Standard. Perform all duties of a T2P while practicing CRM.

    Prerequisite. DESG-6502

    Crew Requirements. PUI, TAC, and CC.

7. TAC IOE

    a. Purpose. Introduce and practice responsibilities and procedures required during line missions while serving as a TAC.

    b. General

        (1) Events shall be flown in conjunction with scheduled military logistics missions or Out of Area Training (OAT) flights that include at least 1 required stop at an airfield other than the PUI's home field in addition to the requirements described in each event. The PUI should be thoroughly introduced to and practice all expected pre mission planning products, mission planning software, SOP adherence, and RON procedures. When flown as an OAT, the training should still emulate the same level of mission preparedness and execution as an actual line mission.

        (2) The TAC IOE is comprised of two events aimed at ensuring the PUI is fully capable of serving in the capacity of a C-20G TAC in both the local and international operating environment.

        (3) TAC IOE training shall total 25 hours in its entirety. Any combination of flight hours can be used to achieve 25 hours as long as the IOE-6405 and IOE-6406 are accomplished per this manual with at least 4 hours being in the IOE-6405 and 21 hours in IOE-6406.

        (4) When logging TAC IOE events in the M-SHARP Flight Logger, ensure the specific TAC IOE Flight Hour Type is properly recorded on the "Flight Hour Page". The two TAC IOE flight hour types are:
        TAC LOC (this equates to IOE-6405)
        TAC FIR (this equates to IOE-6406)

Note:
Aircrew should not log an IOE-6405 or IOE-6406 in M-SHARP until the cummulative Flight Hour requirements for those events have been satisfied.

        (5) The completion of the TAC IOE phase will satisfy all requirements of TAC training and qualifies the PUI for worldwide operations as an Aircraft Commander and designation as a TAC.

(6) During the TAC IOE phase, the IP shall sign for the aircraft and be fully responsible for the entire evolution in the capacity of both IP and Aircraft Commander.

c. <u>Crew Requirements</u>. Crew requirements are delineated on each flight to ensure proper crew composition.

<u>IOE-6405   4.0   *   B,SC,R   E   1   C-20G   A   (N*)</u>

<u>Goal</u>. Demonstrate TAC capabilities during a local flight.

<u>Requirement</u>. Perform duties of as a TAC as both PF and PM duties in conjunction with a local area flight. The PUI will be responsible for performing all of the of the pre-mission planning, ADB review, preflight inspection, and flight execution while seeking the guidance of the BIP when needed.

<u>Performance Standard</u>. Competently plan and execute the duties of a T2P while practicing good CRM on local flight.

<u>Prerequisite</u>. TAC-2203
<u>Crew Requirements</u>. PUI, BIP, and CC.

<u>IOE-6406   25.0   *   B,SC,R   E   1   C-20G   A   (N*)</u>

<u>Goal</u>. Demonstrate TAC capabilities during an International flight.

<u>Requirement</u>. Perform duties of as a TAC as both PF and PNF duties in conjunction with an international over-water military logistics mission across international FIR boundaries and into and out of an international airfield. Discuss peculiarities of international over-water flight operations. Demonstrate and perform proper communications procedures with different controlling agencies.
The PUI will be responsible for performing all of the pre-mission planning, ADB review, preflight inspection, and flight execution while seeking the guidance of the BIP when needed.

<u>Performance Standard</u>. Competently plan and execute the duties of a TAC while practicing good CRM.

<u>Prerequisite</u>. TAC-2203

<u>Crew Requirements</u>. PUI, BIP, and CC.

8. <u>DESG</u>

a. <u>Purpose</u>. To obtain the designation of either a T2P or TAC.

b. <u>General</u>. The following guidelines apply to the different designations.

(1) Once the PUI is T2P-2103 complete, the designation of T2P is authorized and upon designation by the CO, the T2P can operate the aircraft from any seat at any time.

(2) Aircrew will possess 1000 hours total flight time and 100 hours in the C-20G to be designated a TAC.

(3) Emphasis on the TAC phase is flight leadership and aeronautical competence. The PUI must be able to manage the cockpit in all phases of flight and utilize sound judgment with regard to mission decisions. A sound knowledge of all aircraft systems, local SOP, and USMC OSA procedures is a requirement and shall be thoroughly vetted during the throughout this POI.

(4) A TAC will often be performing PNF duties from the right seat when flying with a T2P or higher but still assume full responsibility as the Aircraft Commander. In order to mitigate the risk associated with both left and right seat TAC operations, a TACUI should operate the aircraft as the PF from the right seat and as the PNF from the left seat during the simulator sessions in order to build proficiency from both seat positions.

(5) Due to frequency of remote location operations, all TACs must be qualified as FCPs. Conducting FCF-6601 in the same simulator period as the TAC 2000 series events will ensure a standardized training program for all future TACs and FCPs.

(6) Once the PUI is IOE-6406 complete, the designation of TAC is authorized.

DESG-6502   *   B,SC,R   E

Goal. T2P designation

Requirement. Having successfully completed all prerequisites, the PUI will receive the appropriate designation letter from the Commanding Officer.

Prerequisite. T2P-2103

DESG-6503   *   B,SC,R   E

Goal. TAC designation

Requirement. Having successfully completed all prerequisites, the PUI will receive the appropriate designation letter from the Commanding Officer.

Prerequisite. IOE-6405, IOE-6406

9. FCF

a. Purpose. Prepare and designate the Pilot as a Functional Check Pilot.

b. General. Aircrew will be a designated TAC and receive an ACRB recommendation in order to be designated a FCP. Once the PUI is designated, the FCP may conduct FCF operations as pilot in command.

c. Crew Requirements. Crew requirements are delineated on each flight to ensure proper crew composition.

FCF-6601   4.0   *   B,SC,R   E   1   C-20G   S/A   D

Goal. Familiarize the PUI with the FCF checklist and procedures. Conduct training for designation as a Functional Check Pilot (FCP). At the completion of this event and all other prerequisites are met the PUI will be designated an FCP.

Requirement. Conduct FCP training with a previously designated FCP. Brief: flight procedures/conduct, FCF requirements, FCF procedures. Conduct: QA/Maintenance brief, ADB review, exterior/interior inspection, engine start, taxi, takeoff, climb, level at altitude, FCF checks, enroute descent, penetration, landing, postflight, debrief QA/Maintenance, sign off FCF card and required maintenance paperwork.

Performance Standard. Satisfactorily execute procedures per the C-20 Operations Manual, OPNAVINST 3710.7(series), and OPNAVINST 4790.2(series).

Prerequisite. DESG-6503

Crew Requirements. PUI, BIP, and CC.

10. RECR. To provide required re-currency training to maintain FAA type requirements and Squadron re-currency requirements for the C-20G. This training will be conducted at an approved CACT facility.

RECR-6700   16.0   365   B,SC,R   E   CACT GROUND SCHOOL

Goal. Complete Recurrent Ground School.

Requirement. Per CACT approved syllabus.

Performance Standard. Per CACT approved syllabus.

RECR-6701-6703   12.0   365   B,SC,R   E   1   C-20G   S   (N*)

Goal. Complete Recurrent Flight Phase.

Requirement. Per CACT approved syllabus.

Performance Standard. Per CACT approved syllabus.

214. AVIATION CAREER PROGRESSION MODEL (ACPM)

1. Purpose. To enhance professional understanding of Marine Aviation and the MAGTF and to ensure aviators possess the requisite skills to fill battle command and battle staff positions in support of the ACE and the MAGTF in a joint environment. ACPM academic training requirements will be tracked and managed in M-SHARP. Commanding officers shall ensure the requisite ACPM training requirements have been met prior to designating flight leaders.

a. Stages. The following stages are included in the ACPM:

(1) Core Skill Training Events

(2) Mission Skill Training Events

(3) Flight Leadership Training Events

(a) Section Leader

(b) Division Leader

2. ACPM Core Skill Training Events

    a. Purpose. To provide and introduce basic integration of the ACE within the MAGTF and ACE Battle Staff planning.

    b. General. The PUI must be qualified as a T3P prior to beginning this stage of training.

ACPM-8200   0.5   *   B,SC,R   MACCS Agencies, Functions, and Control of Aircraft and Missiles

        Learning Objectives

        (1) Understand the organization of the MACG and the agencies provided by the MACG that form the MACCS.
        (2) Understand the mission and tasks of the Tactical Air Command Center (TACC).
        (3) Understand the mission and tasks of the Tactical Air Operations Center (TAOC).
        (4) Understand the mission and tasks of marine Air Traffic Control (MATC) and the marine Air Traffic Control Mobile Team (MMT).
        (5) Understand the mission and tasks of the Direct Air Support Center (DASC).
        (6) Understand the mission and tasks of the Low Altitude Air Defense (LAAD) Battalion.
        (7) Understand the mission and tasks of the Marine Unmanned Air Vehicle (VMU) squadron.
        (8) Understand the mission and tasks of the Marine Wing Communication Squadron (MWCS).

ACPM-8201   0.5   *   B,SC,R   MWCS Brief

        Learning Objectives

        (1) From a list be able to identify the core competencies of the MWCS.
        (2) Without the aid of reference, describe the organization of the MWCS.
        (3) Without the aid of reference, identify key equipment used by the MWCS to support the MACCS.

ACPM-8202   0.8   *   B,SC,R   ACA and Airspace

        Learning Objectives

        (1) List the three fundamental principles of airspace command and control.
        (2) List and explain the three tenets of the integrated combat airspace command and control system.
        (3) Describe the responsibilities of the ACA.
        (4) Describe the responsibilities of the AMCT.

(5) Understand the definitions of Air Direction and Air Control as well as the subsets of those two major categories.

(6) List a variety of items encompassed within the ACP.

ACPM-8210   0.7   *   B,SC,R   Aviation Ground Support

Learning Objectives

(1) Identify the organization responsible for providing Aviation Ground Support (AGS) to the MAW.

(2) Identify the four concepts for MAGTF Forward Operating Bases (FOBs).

(3) Identify the five activities the Marine Wing Support Squadron (MWSS) performs for the ACE when deployed.

(4) Identify the four classifications of FOBs and state the distinguishing characteristics of each.

(5) Identify the fourteen functions of AGS.

ACPM-8230   1.0   *   B,SC,R   ACE Battle Staff

Learning Objectives

(1) To introduce and explain the intel capabilities/products available to the ACE/MAGTF.

(2) To introduce ALSA comm brevity terms.

(3) Introduce functions and responsibilities of ACE Battle Staff.

ACPM-8231   1.0   *   B,SC,R   Battle Command Display

Learning Objectives

(1) Introduce the Battle Command Display.

ACPM-8240   1.7   *   B,SC,R   Six Functions of Marine Aviation

Learning Objectives

(1) To better understand the 6 functions of Marine Corps Aviation.

ACPM-8241   1.3   *   B,SC,R   JTAR/ASR Introduction and Practical Application

Learning Objectives

(1) Understand the ATO cycle and the request process.
(2) Write a technically correct JTAR.
(3) Write a technically correct EW JTAR.
(4) Write a technically correct EARF.
(5) Write a technically correct ASR.
(6) Track submitted air requests using various web-based programs.
(7) Introduce the Automated Tracking System.

ACPM-8242   1.0   *   B,SC,R   Site Commander Primer

Learning Objectives

(1) Introduce fundamentals and functions of Site Command.

ACPM-8250   0.8   *   B,SC,R   Theater Air Ground System (TAGS)

Learning Objectives

(1) Identify the primary characteristics of TAGS.
(2) Identify the primary surveillance agency within the Theater Air Control System.
(3) Identify the element within the Army Air and Ground System responsible for integrating operational fires and synchronizing deep operations.
(4) Identify the element within the Navy's Tactical Air Control System responsible for coordinating power projection.
(5) Identify the commander within an amphibious task force who is subordinate to the Air Defense Commander (ADC) and responsible for the detection and engagement of hostile tracks in the AOA.
(6) Identify the Marine Corps' contribution to overall Theater Air Ground System.

3. ACPM Mission Skill Training Events

    a. Purpose. To provide and introduce basic integration of the ACE within the MAGTF and Joint environment.

    b. General. The PUI must be qualified as a T3P prior to beginning this stage of training.

ACPM-8300   0.8   *   B,SC,R   Air Defense

Learning Objectives

(1) Outline the principles of Air Defense.
(2) Understand the composition of an Integrated Air Defense System (IADS).
(3) Define Active and Passive Air Defense.
(4) Identify the (4) primary pillars of Passive Air Defense operations.

ACPM-8310   0.8   *   B,SC,R   Forward Arming Refueling Point (FARP)
Operations

Learning Objectives

(1) State the mission and objective of a FARP.
(2) Explain the planning considerations of a FARP.
(3) Explain the techniques of employment.
(4) Describe the procedures necessary for movement of aircraft through a FARP and various layouts.

ACPM-8311   0.8   *   B,SC,R   Marine Corps Tactical Fuel Systems

Learning Objectives

(1) State the basic history of the Bulk Fuel community.
(2) Identify the four major fuel systems and their capabilities.
(3) State the job description of the Bulk Fuel Specialist.

ACPM-8320   1.0   *   B,SC,R   Joint Structure & Joint Air Operations

Learning Objectives

(1) Understand the criteria used by the Joint Force Commander (JFC) when selecting the Joint Forces Air Component Commander (JFACC).
(2) Understand the duties and responsibilities of the five divisions of Joint Air and Space Operations Center (JAOC).
(3) Know the types of sorties the MAGTF Commander must make available to the JFACC for tasking.
(4) Understand the primary responsibilities of the Area Air Defense Commander (AADC).
(5) Understand the purpose of the Airspace Control Order (ACO).
(6) Become familiar with the six phases of the Joint Air Tasking Cycle.

ACPM-8321   0.3   *   B,SC,R   Joint Air Tasking Cycle Phase 1: Strategy Development

Learning Objectives

(1) Understand how the JFC normally provides air apportionment guidance to the Joint Forces Air Component Commander (JFACC).
(2) Understand the air apportionment process.
(3) Understand who drafts the AOD and what the AOD provides the JAOC.
(4) Understand how objectives and tasks are prioritized.

Prerequisite.   ACPM-8320.

ACPM-8322   0.3   *   B,SC,R   Joint Air Tasking Cycle Phase 2: Target Development

Learning Objectives

(1) Understand the purpose of the Joint Integrated Prioritized Target List (JIPTL).
(2) Understand the purpose for the joint targeting coordination board and its participants.
(3) Understand the target development process.
(4) Know the product of phase 2 of the joint air tasking cycle.
(5) Understand what provides the foundation for phase 2 of the joint air tasking cycle.

Prerequisite. ACPM-8321.

ACPM-8323   0.3   *   B,SC,R   Joint Air Tasking Cycle Phase 3: Weaponeering and Allocation

Learning Objectives

(1) Understand weaponeering and how it is conducted within the joint air tasking cycle.
(2) Understand the Allocation Request Message (ALLOREQ) and how it is used in producing the MAAP.
(3) Understand the air allocation process.
(4) Understand the purpose of the MAAP team and what is contained in the MAAP.
(5) Understand the purpose of the Sortie Allocation (SORTIEALLOT) message.

Prerequisite. ACPM-8322.

ACPM-8324   0.3   *   B,SC,R   Joint Air Tasking Cycle Phase 4: Joint ATO Production

Learning Objectives

(1) Understand the role of joint ATO production within the joint air tasking cycle.
(2) Understand the responsibilities of the joint ATO production team.
(3) Understand the processes used in the production of the joint air tasking order.
(4) Understand how TBMCS 1.1.3 is used to produce the joint air tasking order.

Prerequisite. ACPM-8323.

ACPM-8325   0.3   *   B,T,SC,R   Joint Air Tasking Cycle Phase 5: Force Execution

Learning Objectives

(1) Understand the primary functions and responsibilities of the AOC.
(2) Understand how the JAOC organizes for the execution phase.
(3) Understand how TBMCS 1.1.3 is used during the execution phase.
Prerequisite. ACPM-8324.

ACPM-8326   0.3   *   B,SC,R   Joint Air Tasking Cycle Phase 6: Combat Assessment

Learning Objectives

(1) Understand the three inter-related components of combat assessment.
(2) Understand the key factors concerning the three components of combat assessment.
(3) Understand the purpose of BDA based upon current doctrine.

(4) Understand physical damage, functional damage, and the target system assessment process.

(5) Understand the purpose of the re-attack recommendation.

Prerequisite. ACPM-8325.

ACPM-8340   0.5   *   B,SC,R   Integrating Fires & Airspace within the MAGTF

Learning Objectives

(1) List the (14) Fire Support Principles.
(2) Identify and discuss the (2) types of FSCMs.
(3) Identify where most of the fire support coordination occurs within the MAGTF.
(4) Discuss the purpose of ACMs.
(5) Discuss the need for integrating FSCMs and ACMs.
(6) Identify the required components of the JFA as an FSCM.
(7) Identify the differences between the JFA and GARS.

ACPM-8350   0.8   *   B,SC,R   Phasing Control Ashore

Learning Objectives

(1) Identify the Navy agency most akin to the LF FSCC.
(2) Identify what must be established ashore for control to be phased from the Navy TACC to the landing force.

ACPM-8351   1.0   *   B,SC,R   TACRON Organizations and Functions

Learning Objectives

(1) TBD

4. ACPM Flight Leadership Training Events

    a. Purpose. To provide the prospective flight leader the concepts of basic integration of the MAGTF within the Joint environment.

    b. General. Completion of Flight Leadership Training Events is required prior to the following flight leadership designations:

        (1) Section Leader: ACPM-8630, ACPM-8660.

        (2) Division Leader: ACPM-8640, ACPM-8641, ACPM-8620.

        (3) However, the PUI does not need to be in a specific flight leader syllabus in order to receive 8600 level training events.

ACPM-8630   1.0   *   B,SC,R   Tactical Air Command Center (TACC)

Learning Objectives

(1) Without aid of references, identify the mission of the TACC.
(2) Without aid of references, identify the major tasks/duties of the TACC.

(3) Without aid of references, identify the three sections being supported by intelligence.
(4) Without aid of references, identify the key TACC personnel and their responsibilities.
(5) Without aid of references, identify the equipment associated with a full TACC capability.

ACPM-8660   0.4   *   B,SC,R   Joint Ops Introduction

Learning Objectives

(1) Understand Joint Operation Command relationships.
(2) Understand the main responsibilities for each Functional Component Commander.

ACPM-8640   0.8   *   B,SC,R   Joint Data Network

Learning Objectives

(1) Understand the four components of the JDN.
(2) Understand the differences between the Single Integrated Air Picture (SIAP), Common Tactical Picture (CTP), and Common Operational Picture (COP).
(3) Understand the differences between Sensor Network(s), Joint Data Network (JDN), and Joint Planning Network (JPN).
(4) Understand how the ACE builds its CTP and how information is shared throughout the ACE and the Marine Air Command and Control System (MACCS).
(5) Know the primary system that will "tie in" the intelligence flow throughout the Marine Aviation Command and Control System (MACCS).

ACPM-8641   1.3   *   B,SC,R   MAGTF Theater and National ISR Employment

Learning Objectives

(1) Define priority intelligence requirement.
(2) Identify basic tenets of the National Imagery Interpretability Rating Scale.
(3) Recognize strengths and weaknesses of the EO, SAR, and IR sensors found on national satellites.
(4) Know the three categories of SIGINT.
(5) Identify the information requirements used in the UAS planning process.
(6) Identify what effective planning of UAS employment involves.
(7) Identify key planning considerations outlined for UAS employment.
(8) Define "Non-Traditional ISR".
(9) Identify the most common shortfalls on JTARs submitted for NTISR support.
(10) Identify the most common shortfalls on JTARs submitted for ATARS support.
(11) Identify different imagery products ATARS can provide.

ACPM-8620   1.0   *   B,SC,R   ESG/CSG Integration

Learning Objectives

(1) TBD

215.   T&R SYLLABUS MATRIX

ACPM-8620   1.0   *   B,SC,R   ESG/CSG Integration

Learning Objectives

CORE SKILL INTRODUCTION TRAINING (1000 PHASE EVENTS)

CORE SKILL ACADEMICS

COMMAND AIRCRAFT CREW TRAINING (CACT) ACADEMICS (ACAD)

STAGE	TRNG CODE	DESCRIPTION	POI	EVAL	DEVICE	# OF A/C	CONDITIONS	REFLY	TOTAL EVENTS	ACAD	TOTAL EVENTS	SIM	TOTAL FLTS	FLT	PREREQUISITE	CHAINING	EVENT CONV
ACAD	1000	CACT Ground School	B,SC					*	1	80.0							100
		ACAD TOTAL							1	80.0							

COMMAND AIRCRAFT CREW TRAINING SIMS (CACT)

STAGE	TRNG CODE	DESCRIPTION	POI	EVAL	DEVICE	# OF A/C	CONDITIONS	REFLY	TOTAL EVENTS	ACAD	TOTAL EVENTS	SIM	TOTAL FLTS	FLT	PREREQUISITE	CHAINING	EVENT CONV
CACT	1010	NATOPS Check	B,SC,R	E	S/A	1	(N*)	*			1	4.0			1009, 6000, 6001, 6002		110
CACT	1009	SIM 9 Night Familiarization	B,SC,R		S/A	1	(N*)	*			1	4.0			1008		108/109
CACT	1008	SIM 8 Intro to Local Operations	B,SC,R		S/A	1	(N*)	*			1	4.0			1007		107
CACT	1007	SIM 7	B,SC		S	1	(N*)	*			1	4.0			1006		106
CACT	1006	SIM 6	B,SC		S	1	(N*)	*			1	4.0			1005		105
CACT	1005	SIM 5	B,SC		S	1	(N*)	*			1	4.0			1004		104
CACT	1004	SIM 4	B,SC		S	1	(N*)	*			1	4.0			1003		103
CACT	1003	SIM 3	B,SC		S	1	(N*)	*			1	4.0			1002		102
CACT	1002	SIM 2	B,SC		S	1	(N*)	*			1	4.0			1001		101
CACT	1001	SIM 1	B,SC		S	1	(N*)	*			1	4.0			1000		100
		CACT SIM TOTAL									10	40.0					
		CORE SKILL INTRODUCTION TRAINING (1000 PHASE EVENTS) TOTAL							1	80.0	10	40.0					

CORE SKILL TRAINING (2000 PHASE EVENTS)

T2P

STAGE	TRNG CODE	DESCRIPTION	POI	EVAL	DEVICE	# OF A/C	CONDITIONS	REFLY	TOTAL EVENTS	ACAD	TOTAL EVENTS	SIM	TOTAL FLTS	FLT	PREREQUISITE	CHAINING	EVENT CONV
T2P	2103	Instrument Check	B,SC,R	E	A	1	(N*)	*					1	2.5	2102		202
T2P	2102	Night Operations	B		A	1	N*	*					1	2.0	2101		201
T2P	2101	Intro to left Seat Operations	B		A	1	D	*					1	4.0	1010		200
		T2P TOTAL											3	8.5			

TAC

STAGE	TRNG CODE	DESCRIPTION	POI	EVAL	DEVICE	# OF A/C	CONDITIONS	REFLY	TOTAL EVENTS	ACAD	TOTAL EVENTS	SIM	TOTAL FLTS	FLT	PREREQUISITE	CHAINING	EVENT CONV
TAC	2203	LOFT	B,SC,R		S/A	1	(N*)	*			1	4.0			2202		304
TAC	2202	Practice TAC Responsibilities	B,SC,R		S/A	1	(N*)	*			1	4.0			2201		302/303
TAC	2201	Intro to TAC	B,SC,R		S/A	1	(N*)	*			1	4.0			1000 Total Hrs/100 in Model, 6403,6404,6502		300/301
		TAC TOTAL									3	12.0					
		CORE SKILL TRAINING (2000 PHASE EVENTS) TOTAL									3	12.0	3	8.5			

MISSION SKILL TRAINING (3000 PHASE EVENTS)

AVIATION SUPPORT OPERATIONS (OAS)

STAGE	TRNG CODE	DESCRIPTION	POI	EVAL	DEVICE	# OF A/C	CONDITIONS	RFLY	TOTAL EVENTS	ACAD	TOTAL EVENTS	SIM	TOTAL FLTS	FLT	PREREQUISITE	CHAINING	EVENT CONV
OSA	3101	Aircraft Proficiency	B,SC,R		A	1	(N*)	60					1	4.0	2103		
OSA	3102	Operational Aircraft Support	B,SC,R		A/S	1	(N*)	60					1	4.0	2103		
		MISSION SKILL TRAINING (3000 PHASE EVENTS) TOTAL											2	8.0			

CORE PLUS TRAINING (4000 PHASE EVENTS)

There are no 4000 level events for the C-20G

INSTRUCTOR TRAINING (5000 PHASE EVENTS)

IUT ACADEMICS (ACAD)

STAGE	TRNG CODE	DESCRIPTION	POI	EVAL	DEVICE	# OF A/C	CONDITIONS	RFLY	TOTAL EVENTS	ACAD	TOTAL EVENTS	SIM	TOTAL FLTS	FLT	PREREQUISITE	CHAINING	EVENT CONV
ACAD	5000	IUT Ground School	B,SC,R	E				*	1	5.0					6503,6601		

INSTRUCTOR UNDER TRAINING (IUT)

IUT	5001	Instructional Techniques	B,SC,R	E	S/A	1	(N*)	*			1	4.0			5000		500
IUT	5002	Instructional Observation	B,SC,R	E	S/A	1	(N*)	*			1	4.0			5001		501
IUT	5003	Practice Instructing	B,SC,R	E	S/A	1	(N*)	*			1	4.0			5002		502
IUT	5004	IUT Eval	B,SC,R	E	A/S	1	(N*)	*					1	3.0	5003		503

INSTRUCTOR DESIGNATIONS (DESIG)

DESG	5010	Basic Instructor Pilot	B,SC,R	E				*							5004		621
DESG	5011	Assistant Natops Instructor	B,SC,R	E				*							5004		
DESG	5012	Natops Instructor	B,SC,R	E				*							5004		
		INSTRUCTOR TRAINING (5000 PHASE EVENTS) TOTAL							1	5.0	3	12.0	1	3.0			

REQUIREMENT, QUALIFICATIONS, AND DESIGNATIONS (RQD) (6000 PHASE)

ACADEMICS (ACAD)

ACAD	6000	NATOPS Open Book Exam	B,SC,R	E				365	1	4.0							
ACAD	6001	NATOPS Closed Book Exam	B,SC,R	E				365	1	2.0					6000		
ACAD	6002	NATOPS Oral Exam	B,SC,R	E				365	1	1.0					6000,6001		
ACAD	6003	Inst Ground School & Exam	B,SC,R	E				365	1	8.0							
ACAD	6004	Instrument Oral Exam	B,SC,R	E				365	1	2.0					6003		
ACAD	6005	CRM Ground	B,SC,R	E				365	1	2.0							

NATOPS EVALUATION (NTPS)

| NTPS | 6100 | NATOPS Evaluation | B,SC,R | E | S/A | 1 | (N*) | 365 | | | | | 1 | 2.5 | 6000,6001,6002 | | 600 |

STAGE	TRNG CODE	DESCRIPTION	POI	EVAL	S/A	DEVICE	# OF A/C	CONDITIONS	REFLY	TOTAL EVENTS ACAD	ACAD	TOTAL EVENTS SIM	SIM	TOTAL FLTS	FLT	PREREQUISITE	CHAINING EVENT CONV
NTPS	6101	CRM Flight	B,SC,R		S/A		1	(N*)	365					1	2.5	6005	
		INSTRUMENT EVALUATION (INST)															
INST	6200	Standard Instrument Evaluation	B,SC,R	E	S/A		1	(N*)	365					1	2.0	6003,6004	601
INST	6201	Special Instrument Evaluation	B,SC,R	E	S/A		1	(N*)	365					1	2.0	6003,6004, 6503	
		EMERGENCY PROCEDURES (EP)															
EP	6300	Montly EP exam	B,SC,R	E					30	1	1.0						
EP	6301	90 Day EP Pratical Review	B,SC,R	E	S/A		1		90	1	1.0						
		ROD ACAD TOTAL								8	22.0						
		INITIAL OPERATING EXPERIENCE (IOE)															
IOE	6403	Plan and Execute O/W Line	B,SC,R		A		1	(N*)	*					1	10.0	6502	220
IOE	6404	Plan and Execute FIR Crossing	B,SC,R		A		1	(N*)	*					1	20.0	6502	221/222
IOE	6405	Local TAC IOE	B,SC,R		A		1	(N*)	*					1	4.0	2203	320
IOE	6406	International/O/W IOE Route check	B,SC,R		A		1	(N*)	*					1	25.0	2203	321/322
		IOE TOTALS												4	49.0		
		TAC															
DESG	6503	TAC Designation	B,SC,R	E				*						1	20.0	6405,6406	611/620
		T2P															
DESG	6502	T2P Designation	B,SC,R	E				*						1	10.0	2103	611
		T2P,TAC DESIGNATION TOTALS															
		FUNCTIONAL CHECK PILOT (FCF)															
FCF	6601	FCF Practice	B,SC,R	E	S/A		1	D	*	1	1.0	1	4.0	1	4.0	6503	611
		FCF TOTALS															
		RECURRENT CACT (RECR)															
RECR	6700	Recurrent Ground School (CACT)	B,SC,R	E	S		1	(N*)	365	1	16.0					6700	
RECR	6701	Recurrent Sim 1 (CACT)	B,SC,R		S		1	(N*)	365			1	4.0				6701
RECR	6702	Recurrent Sim 2 (CACT)	B,SC,R		S		1	(N*)	365			1	4.0				6702
RECR	6703	Recurrent Sim 3 (CACT)	B,SC,R		S		1	(N*)	365			1	4.0				
		CACT SIM TOTAL								1	16.0	3	12.0				
		REQUIREMENT, QUALIFICATIONS, AND DESIGNATIONS (ROD) (6000 PHASE) TOTAL								9	38.0	4	16.0	7	87.0		

STAGE	TRNG CODE	DESCRIPTION	POI	EVAL	DEVICE	# OF A/C	CONDITIONS	REFLY	TOTAL EVENTS	ACAD	TOTAL EVENTS	SIM	TOTAL FLTS	FLT	PREREQUISITE	CHAINING	EVENT CONV
ACPM	8200	MACCS AGENCIES, FUNCTIONS AND CONTROL OF AIRCRAFT AND MISSLES	B,SC,R					*		0.5							
ACPM	8201	MWCS BRIEF	B,SC,R					*		0.5							
ACPM	8202	ACA AND AIRSPACE	B,SC,R					*		0.8							
ACPM	8210	AVIATION GROUND SUPPORT	B,SC,R					*		0.7							
ACPM	8230	ACE BATTLESTAFF	B,SC,R					*		TBD							
ACPM	8231	BATTLE COMMAND DISPLAY	B,SC,R					*		TBD							
ACPM	8240	SIX FUNCTIONS OF MARINE AVIATION	B,SC,R					*		1.7							
ACPM	8241	JTAR/ASR INTRODUCTION AND PRACTICAL APPLICATION CLASS	B,SC,R					*		1.3							
ACPM	8242	SITE COMMAND PRIMER	B,SC,R					*		TBD							
ACPM	8250	THEATER AIR GROUND SYSTEM (TAGS)	B,SC,R					*		0.9							
ACPM	8300	AIR DEFENSE	B,SC,R					*		0.9							
ACPM	8310	FORWARD ARMING AND REFUELING POINT (FARP) OPERATIONS	B,SC,R					*		0.8							
ACPM	8311	MARINE CORPS TACTICAL FUEL SYSTEMS	B,SC,R					*		0.8							
ACPM	8320	ACE BATTLE STAFF	B,SC,R					*		1							
ACPM	8321	JOINT AIR TASKING CYCLE PHASE 1: STRATEGY DEVELOPMENT	B,SC,R					*		0.4							
ACPM	8322	JOINT AIR TASKING CYCLE PHASE 2: TARGET DEVELOPMENT	B,SC,R					*		0.4							
ACPM	8323	JOINT AIR TASKING CYCLE PHASE 3: WEAPONING AND ALLOCATION	B,SC,R					*		0.4							
ACPM	8324	JOINT AIR TASKING CYCLE PHASE 4: JOINT ATO PRODUCTION	B,SC,R					*		0.4							
ACPM	8325	JOINT AIR TASKING CYCLE PHASE 5:	B,SC,R					*		0.4							
ACPM	8326	FORCE EXECUTION	B,SC,R					*		0.4							

STAGE	TRNG CODE	DESCRIPTION	POI	EVAL	DEVICE	# OF A/C	CONDITIONS	REFLY	TOTAL EVENTS	ACAD	TOTAL EVENTS	SIM	TOTAL FLTS	FLT	PREREQUISITE	CHAINING	EVENT CONV
ACPM	8340	JOINT AIR TASKING CYCLE PHASE 6: COMBAT ASSESMENT	B,SC,R					*		0.5							
ACPM	8350	INTEGRATING FIRES AND AIRSPACE WITHIN THE MAGTF	B,SC,R					*		0.9							
ACPM	8351	ESTABLISHING CONTROL ASHORE	B,SC,R					*		TBD							
ACPM	8630	TACRON ORGANIZATIONS AND FUNCTIONS	B,SC,R					*		1							
ACPM	8660	TACTICAL AIR COMMAND CENTER (TACC)	B,SC,R					*		0.5							
ACPM	8640	JOINT OPS INTRO	B,SC,R					*		0.9							
ACPM	8641	JOINT DATA NETWORK	B,SC,R							1.3							
ACPM	8620	ESG/CSG INTEGRATION	B,SC,R							TBD							
ACPM TOTAL									25	17.5	0	0.0	0	0.0			

CHAPTER 3

UC-20 CREW CHIEF

TABLES

CHAPTER 3

UC-20 CREW CHIEF

300. C-20 CREW CHIEF INDIVIDUAL TRAINING AND READINESS REQUIREMENTS. This T&R syllabus is based on specific goals and performance standards designed to ensure individual proficiency in Core and Mission Skills. The goal of this chapter is to develop individual and unit warfighting capabilities.

301. C-20 CREW CHIEF TRAINING PROGRESSION MODEL. This model represents the recommended training progression for the average C-20 crew chief. Units should use the model as a point of departure to generate individual training plans.

```
+--------------------------------------------------------------------------+
|                          6000 PHASE                                      |
|            (REQUIREMENTS, QUALIFICATIONS, & DESIGNATIONS)                 |
|                 (ACAD,NTPS,EP,DESG,FCF,RECR)                             |
|                 +--------------------------------------+                  |
|                 |            5000 PHASE                |                  |
|                 |       (INSTRUCTOR TRAINING)          |                  |
|                 |         CCI,CCANI,CCNI               |                  |
|        +--------+-------------+                        |                  |
|        |     3000 PHASE       |                        |                  |
|        |   (MISSION SKILLS)   |                        |                  |
|        |        OSA           |                        |                  |
|   +----+--------------+       |                        |                  |
|   |   2000 PHASE      |       |                        |                  |
|   |   (CORE SKILL)    |       |                        |                  |
|   |    NO EVENTS      |       |                        |                  |
|   +-----+-------------+       |                        |                  |
| 1000 PHASE |                                                              |
|(CORE SKILL INTRO)                                                        |
| (ACAD,GFAM,FAM) |                                                         |
+---+---+---+---+---+---+---+---+---+----+----+----+----+----+----+----+----+
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
+---+---+---+---+---+---+---+---+---+----+----+----+----+----+----+----+----+
|                              Months                                      |
+--------------------------------------------------------------------------+
```
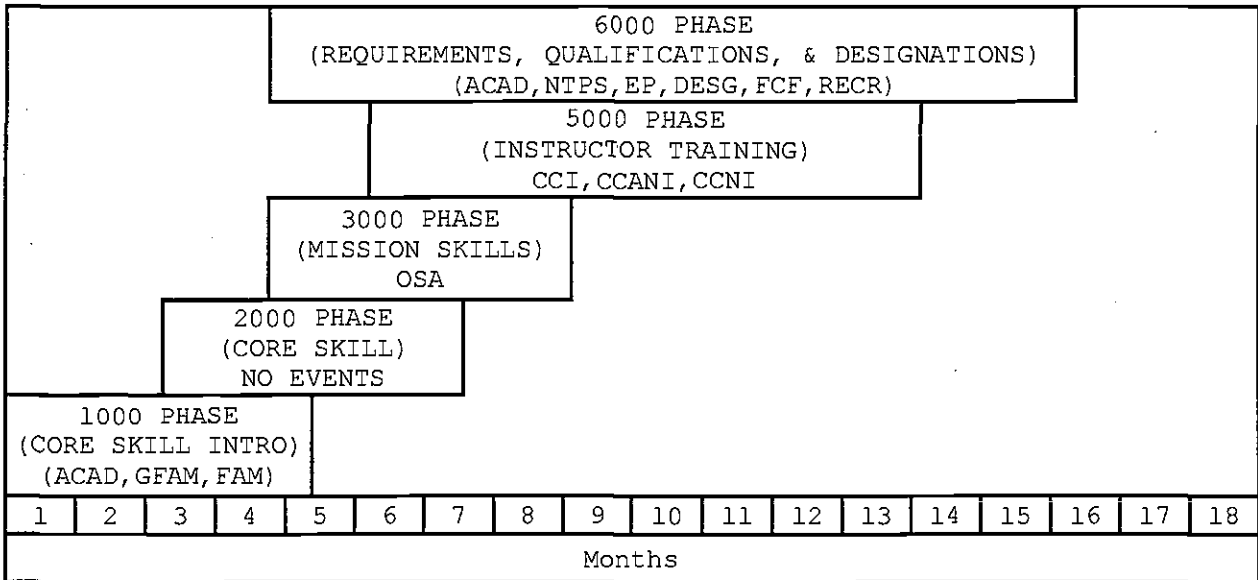
Table 3-1. C-20 TRAINING PROGRESSION MODEL

302. INDIVIDUAL CORE SKILL PROFICIENCY (CSP) REQUIREMENTS. All Core Skill requirements will be maintained through NATOPS instrument, night, monthly, and yearly hour requirements coupled with flying the Squadron OSA mission. Therefore, there are no event requirements to maintain CSP.

303. INDIVIDUAL MISSION SKILL PROFICIENCY (MSP) REQUIREMENTS. A MSP crew consists of individuals representing each crew position who have achieved and currently maintain Individual MSP. To be considered proficient in a Mission Skill, an individual must attain and maintain proficiency in Mission Skill events as delineated in the below paragraphs.

1. Events Required to Attain Individual MSP. To initially attain MSP in a Mission Skill, an individual must simultaneously have a proficient status in all 3000 phase T&R events listed for that Mission Skill:

INDIVIDUAL MISSION SKILL PROFICIENCY (MSP) ATTAIN TABLE C-20G CC	
T&R events required to Attain MSP (3000 Phase)	
OSA	
3101R	3102R
Gray highlight & an R suffix on the event code = Refresher POI	

Table 3-2 Individual Mission Skill Attain Table

2. <u>Events Required to Maintain Individual MSP</u>. To maintain MSP in a Mission Skill, an individual must maintain proficiency in all 3000 phase T&R events listed for that Mission Skill:

INDIVIDUAL MISSION SKILL PROFICIENCY (MSP) MAINTAIN TABLE C-20G CC	
T&R events required to Maintain MSP (3000 Phase)	
OSA	
3101R	3102R
Gray highlight & an R suffix on the event code = Refresher POI	

Table 3-3 Individual Mission Skill Maintain Table

304. <u>QUALIFICATION AND DESIGNATION TABLES</u>. The tables below delineate T&R events required to be completed to attain proficiency, initial qualifications and designations. In addition to event requirements, all required stage lectures, briefs, squadron training, prerequisites, and other criteria shall be completed prior to completing final events. Qualification and designation letters signed by the Commanding Officer shall be placed in Individual Performance Records (IPR). Only after successfully completing qualification or designation requirements and being issued a qualification/ designation letter signed by the Commanding Officer will an individual be considered qualified or designated. Do not confuse certifications with qualifications or designations as defined below. Loss of proficiency in all qualification events causes the associated qualification to be lost. Regaining a qualification requires completing all R-coded syllabus events associated with that qualification.

1. <u>Qualification</u>. A qualification is a status ('qualified' or 'not qualified') assigned to personnel based on demonstration of proficiency in a specific skill. Individuals do not lose a qualification as a function of refly factor for individual events. However, loss of proficiency (delinquent refly factor) for all associated qualification events (events with measurable refly factor) constitutes loss of that qualification. Re-qualification requires demonstration of proficiency and shall be achieved by successfully repeating all R-coded events associated with the respective qualification unless waived per paragraph 207 of NAVMC 3500.14.

2. <u>Designation</u>. A designation is a status assigned to an individual based on leadership ability. Designations are command specific and remain in effect until removed for cause or the individual is transferred to another command.

3. <u>Instructor Designations</u>. Instructor designations are assigned to personnel based on ability to conduct ground and/or airborne instruction of a

core skill or mission area. Instructor designations are designed to enhance standardization and safety while training unqualified personnel in specific skills. T&R syllabi shall refer to the MAWTS-1 Course Catalog, NATOPS, and other applicable directives for instructor designation criteria.

INDIVIDUAL QUALIFICATION REQUIREMENTS	
Qualification	Event Requirements
NATOPS	6000R, 6001R, 6002R, 6101R
R = Refresher POI events required for requalification.	

Table 3-4 Individual Qualification Requirements

INDIVIDUAL DESIGNATION REQUIREMENTS	
Designation	Event Requirements
CC	6504R
CCI	5010R
CCANI	5011R
CCNI	5012R
FCF	6601R
R = Refresher POI events required for requalification.	

Table 3-5 Individual Designation Requirements

305. <u>C-20 CREW CHIEF PROGRAMS OF INSTRUCTION (POI)</u>. A POI is a group of events within a syllabus that an individual is required to perform. Individuals are assigned to only one POI at any given time. Events within a POI are annotated in both the event description and the T&R Syllabus Matrix with a 'B,' or 'R'.

1. <u>Programs Of Instruction (POI) For Basic (B) Crew Chief</u>. The POI prescribed for newly designated personnel or personnel obtaining the C-20G CC designation for the first time. Any modification to the Basic syllabus based on previous background and experience shall be addressed by the APRB and approved by the Commanding Officer.

WEEKS	COURSE/LEVEL	ACTIVITY
1-16	Core Skills Introduction	CACT/VMR Det
8-32	Core/Mission Skills Basic	CACT/VMR Det
32-56	CCI/CCANI/CCNI	CACT/VMR Det

2. <u>Program Of Instruction (POI) For Refresher (R) Crew Chief</u>. After completion of a 'B' POI an individual is assigned to the refresher POI of that MOS syllabus. Any modification to the refresher syllabus based on previous background and experience shall be addressed by the APRB and approved by the Commanding Officer.

WEEKS	COURSE/LEVEL	ACTIVITY
1-5	Core Skills Introduction	CACT/VMR Det
6-12	Core Skills Basic	CACT/VMR Det
12-26	Mission Skills	CACT/VMR Det

3. <u>Program Of Instruction (POI) For Crew Chief Instructor (CCI, CCANI, CCNI)</u>. The APRB shall consider previous experience as well as current performance in assigning this POI.

WEEKS	COURSE/LEVEL	ACTIVITY
1-2	Instructor Ground School	CACT/VMR Det
3-7	Instructor Training	CACT/VMR Det

306. <u>ACADEMIC TRAINING</u>

1. Academic training shall be conducted for each phase/stage of the syllabus. Where indicated, standardized academic training materials exist and may be obtained from the sponsoring activity.

2. External academic courses of instruction available to complete the syllabus are listed below:

COURSE	ACTIVITY
Core Skills Introduction Academics	CACT
Recurrent Phase Academics	CACT
ACPM Training	MAWTS-1

3. Aircrew Training References. Aircrews shall use the following references to ensure safe and standardized training and maintenance procedures, grading criteria, and aircraft operation:

ACPM Training	MAWTS-1
OPNAVINST 3710.7_	OPNAVINST 3710.7_ NATOPS Gen Flt & Operating Inst
OPNAVINST 4790.2_	NAVMC 3500.14 T&R Program Manual
NAVAIR 01-C20GAAA-1	US Navy C-20G NATOPS/Gulfstream Aerospace Corporation G-IV manuals
MCO P4790.12	MCO 3500.27/OPNAV 3500.39 Operational Risk Management (ORM)

307. <u>SYLLABUS NOTES</u>

1. <u>Event Format Coding</u>. The following format is used to describe aircraft, simulator, and classroom events. To provide the Commanding Officer the maximum amount of flexibility for training, some events allow for the optional use of simulators or aircraft. Those types of events will use the designator A/S for aircraft preferred, simulator optional and S/A for simulator preferred, aircraft optional.

1/	2/	3/	4/	5/	6/	7/	8/	/9
FAM-3000	2.0	180	B,SC,R	E	1	C-20G	A	(N)

NOTES:

1/ Stage-Training Code. A unique numeric four-digit training code has been assigned to each syllabus event. The first digit of the event training code shall begin with the appropriate phase series number (Core Skill Introduction events = 1XXX; Core Skill events = 2XXX; etc.). The second digit of a T&R

code refers to the stage. The third and fourth digits refer to the individual events within a stage, in sequence

2/ Projected Event Duration. Projected event duration should reflect the average time to execute the event requirement (actual time to execute the event may vary).

3/Refly Factor. Refly (proficiency interval) factors reflect the maximum time between syllabus events. Refly are delineated in days. An asterisk (*) indicates the event has no refly interval, indicating a onetime training requirement (unless R-coded).

4/ Programs of Instruction.
        B = Basic
        R = Refresher

5/ Evaluation. An "E" shall be annotated here if the event is required to be evaluated.

6/ Device Number. The number of aircraft, simulator, or other device(s) required for the completion of the event.

7/ Device Type. The type of device required for the completion of the event.

8/ Device Options.

DEVICE OPTIONS	
Code	Requirement
A	Event performed in aircraft.
S	Event performed in simulator or a simulated practical application.
A/S	Event performed in aircraft preferred/simulator optional.
S/A	Event performed in simulator preferred/aircraft optional.

Table 3-6 Device Options

9/ Environmental Conditions. Events annotated with an N shall be flown at least 30 minutes after official sunset. Events shall be flown in accordance with environmental conditions listed in the matrix below:

ENVIRONMENTAL CONDITIONS	
Code	Meaning
D	Shall be flown during hours of daylight.
N*	Shall be flown during hours of darkness must be flown unaided
(N*)	May be flown during hours of darkness – If flown during hours of darkness must be flown unaided
Note – If the event is to be flown in the simulator the Simulator Instructor shall set the desired environmental conditions for the event.	

Table 3-7 Environmental Conditions

2. <u>Classroom (CLSRM)</u>. CLSRM lessons comprise the majority of C-20 Ground School training. All aircrew shall complete the C-20 Ground School as prescribed by the CACT instructor. Completion of CACT Ground School shall be documented in the Aircrew Performance Record (APR). Courseware shall be reviewed on an annual basis to ensure proper content, concurrency with the aircraft and operating procedures.

3. <u>Training Event Performance Requirements</u>

    a. <u>Purpose</u>. To familiarize the CCUI with general syllabus expectations and definitions.

    b. <u>General</u>

        (1) The 1000 phase syllabus includes ground familiarization (GFAM) and flight familiarization (FAM) events. Ground familiarization events are designed to be accomplished before their corresponding flight event.

        (2) All flights shall terminate with a comprehensive debrief with emphasis on aircrew performance and procedures or systems discussed. Instructors should use all available debriefing techniques.

    c. <u>Definitions</u>

        (1) <u>Discuss</u>

            (a) The CCI shall discuss a system or procedure during the brief, in flight, or debrief.

            (b) The CCUI shall demonstrate an understanding of all discussed items listed in the event description.

            (c) Demonstrate/Introduce events shall be discussed during the brief.

            (d) Emergencies listed in the event description are treated as discussion items during the brief and may be simulated during the flight at the option of the CCI and in accordance with unit SOP. EPs for Simulator events will be treated as Demonstrate/Introduce items on the event in which they are listed and are subject to review during any subsequent event.

        (2) <u>Demonstrate</u>

            (a) CCI performs the task with accompanying description. At CCI discretion, the CCUI may perform the task, but is not graded. Playback of recorded demonstrations may be used during simulator events.

            (b) The CCUI observes the task and is responsible for knowledge of the procedures during the brief.

        (3) <u>Introduce</u>

            (a) At his option, the CCI may perform the task with an accompanying description followed by the CCUI performing the task, or he may coach the CCUI through the task without demonstration.

            (b) The CCUI shall perform the task with coaching as necessary and is responsible for knowledge of the procedures prior to the flight. In general, the expectation is that the CCUI will not consistently recognize errors and will frequently be outside performance standards

(4) <u>Review</u>

(a) The CCI observes and grades the task with only minimal coaching.

(b) The CCUI is expected to perform the task with minimal coaching and with only minor procedural errors. In general, the expectation is that the CCUI will consistently recognize errors; however occasionally, corrections will not be timely with some excursions outside performance standards.

(5) <u>Evaluate</u>

(a) The CCI observes and grades the task without coaching the CCUI. An airborne critique of the CCUI's performance is at the option of the instructor.

(b) The CCUI is expected to perform the task without coaching, with minor or no procedural errors, and at a level acceptable to warrant progress in the syllabus. The expectation is that the CCUI will consistently apply timely corrections with very few and quickly corrected excursions outside performance standards.

4. <u>Multiple Event Logging</u>. There may be opportunities for crewmembers to accomplish the requirements of more than one event during a scheduled training evolution. Units are encouraged to take advantage of complex training opportunities that allow multiple event completion. Under all circumstances, post-event logging (single or multiple) is allowable if the requirements for each event are accomplished per the performance standard.

5. <u>Sequence</u>. Training should be accomplished by accomplishing events within a stage in sequence and stages in sequence when practical.

6. <u>Crew Resource Management (CRM)</u>. Aircrews shall brief techniques of CRM for all flights and/or events.

7. <u>Operational Risk Management (ORM)</u>. Aircrews shall brief those factors that affect risk mitigation decisions for every flight or mission.

308. <u>CORE SKILL INTRODUCTION PHASE (1000)</u>

1. <u>General</u>. The Core Skill Introduction Phase is designed to familiarize the CCUI with all aspects of C-20G systems and operations and designate a C-20G Crew Chief upon successful completion. This stage is designed to ensure a high level of knowledge is attained through study and instruction while utilizing the aircraft as a training aid. In order to be successful, the CCUI must arrive at each event with an in-depth working knowledge of the systems and procedures covered by the event. If the CCUI does not have a satisfactory level of knowledge at the commencement of the event, the event shall be terminated and appropriate action taken.

2. <u>Stages</u>

- ACADEMICS (ACAD)

- GROUND FAMILIARIZATION (GFAM)

- IN-FLIGHT AIRCRAFT FAMILIARIZATION (FAM)

3. ACAD. Purpose. Provide CCUI with required Command Aircraft Crew Training (CACT) and an in-depth knowledge of the systems of the C-20G.

ACAD-1000   80 hrs   *   B,R   C-20G

    Goal. Upon completion, the student will be able to perform as a Crew Chief Under Instruction.

    Requirement. Per CACT approved syllabus.

    Performance Standard. Per CACT approved syllabus.

    Prerequisites. None

3. GFAM

    a. Purpose. To build on the CCUI's academic training and to introduce CC responsibilities on the C-20G.

    b. Crew Requirements. Unless otherwise specified, a qualified crew chief may instruct all GFAM events, with the exception of GFAM 1125. The GFAM 1125 is a Progress Check and must be instructed by a CCANI or CCNI.

    c. Ground/Academic Training. This stage relies heavily on ground instruction due to the academics required to learn the responsibilities of the C-20G crew chief. As a result, many events require the aircraft as a training aid only and may or may not be conducted in conjunction with an actual flight event. If labeled FAM, the training event must be in conjunction with a flight.

GFAM-1101   2.0   *   B,R   1   C-20G   A

    Goal. Introduce the CCUI to the C-20G aircraft.

    Requirement. Conduct a general aircraft familiarization discussion to include the main cabin area, cockpit, tail, galley, lavatory, baggage compartments and wheel wells. Introduce aircraft hazard areas, emergency equipment location, and Aircraft Discrepancy Book (ADB). Conduct emergency egress training.

    Performance Standard. Have a working knowledge of general C-20G systems and procedures.

    Prerequisite. ACAD-1000

GFAM-1102   2.0   *   B   1   C-20G   A

    Goal. Introduce Auxiliary Power Unit (APU) operation.

    Requirement. Introduce general APU operation. Review normal and abnormal procedures IAW applicable directives. Introduce APU oil system servicing.

    Performance Standard. Demonstrate thorough knowledge of the APU.

    Prerequisite. GFAM-1101

GFAM-1103   2.0   *   B   1   C-20G   A

    Goal. Introduce the AC electrical system.

    Requirement. AC Electrical System Operation, AC EPMP operation and
associated AC indications. Introduce all normal and abnormal AC
operations IAW applicable directives.

    Performance Standard. Demonstrate thorough knowledge of AC electrical
system.

    Prerequisite. GFAM-1102

GFAM-1104   2.0   *   B   1   C-20G   A

    Goal. Introduce the DC electrical system.

    Requirement. DC Electrical System Operation, DC EPMP operation and
associated DC indications. Introduce all normal and abnormal DC
operations IAW applicable directives.

    Performance Standard. Demonstrate thorough knowledge of DC
electrical system.

    Prerequisite. GFAM-1103

GFAM-1105   2.0   *   B   1   C-20G   A

    Goal. Introduce the emergency electrical system.

    Requirement. Introduce emergency electrical system operation and
associated indications. Introduce all normal and abnormal emergency
electrical system operations IAW applicable directives.

    Performance Standard. Demonstrate thorough knowledge of the
emergency electrical system.

    Prerequisite. GFAM-1104

GFAM-1106   2.0   *   B   1   C-20G   A

    Goal. Review the C-20G electrical system.

    Requirement. Review electrical System Operation, A/C Power System, D/C
Power System, emergency power, EPMP operation and associated
indications. Review all normal and abnormal emergency electrical
system operations IAW applicable directives.

    Performance Standard. Demonstrate thorough knowledge of the C-20G
electrical system.

    Prerequisite. GFAM-1105

GFAM-1107   2.0   *   B   1   C-20G   A

    Goal. Introduce the Flight and Auxiliary hydraulic system.

Requirement. Introduce Flight and Auxiliary Hydraulic
System general operation. Introduce all Flight and Auxiliary hydraulic
systems indications and all normal and abnormal procedures IAW
applicable directives. Introduce Flight and Auxiliary Hydraulic
servicing.

Performance Standard. Demonstrate thorough knowledge of the flight and
auxiliary hydraulic systems.

Prerequisite. GFAM-1101

GFAM-1108   2.0   *   B   1   C-20G   A

Goal. Introduce the Combined and Utility hydraulic system.

Requirement. Introduce Combined and Utility Hydraulic System general
operation. Introduce all Combined and Utility hydraulic systems
indications and all normal and abnormal procedures IAW applicable
directives. Introduce Combined and Utility Hydraulic servicing.

Performance Standard. Demonstrate thorough knowledge of the combined
and utility hydraulic systems.

Prerequisite. GFAM-1107

GFAM-1109   2.0   *   B   1   C-20G   A

Goal. Review the hydraulic system.

Requirement. Review the C-20G Hydraulic system, operation,
indications, and all normal and abnormal procedures.

Performance Standard. Demonstrate thorough knowledge of the C-20G
hydraulic system.

Prerequisite. GFAM-1108

GFAM-1110   2.0   *   B   1   C-20G   A

Goal. Introduce the flight control system.

Requirement. Introduce Flight Control general operation to include
elevators, ailerons, spoilers, rudder, flaps, horizontal stabilizer,
stall warning/protection system, automatic flight guidance system, and
wings. Review all normal and abnormal procedures IAW applicable
directives.

Performance Standard. Demonstrate thorough knowledge of the flight
control system.

Prerequisite. GFAM-1109

GFAM-1111   2.0   *   B   1   C-20G   A

Goal. Introduce the landing gear system.

Requirement. Introduce landing gear general operation to include NWS System, brake system, tire and strut servicing and aircraft towing considerations. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of the landing gear system.

Prerequisite. GFAM-1110

GFAM-1112   2.0   *   B   1   C-20G   A

Goal. Introduce the fuel system.

Requirement. Introduce fuel System general operation to include fuel lines, fuel tanks, fuel quantity indicating system, and fuel servicing procedures and considerations. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of the fuel system.

Prerequisite. GFAM-1101

GFAM-1113   2.0   *   B   1   C-20G   A

Goal. Introduce the potable water and waste disposal systems.

Requirement. Introduce potable water system general operation to include potable water filling, water testing procedures, wastewater disposal and servicing, and cold weather considerations. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of the water and waste disposal systems.

Prerequisite. GFAM-1101

GFAM-1114   2.0   *   B   1   C-20G   A

Goal. Introduce the pneumatic system.

Requirement. Introduce pneumatic system general operation to include bleed air components and supplied systems, indications, and all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of pneumatic system.

Prerequisite. GFAM-1101

GFAM-1115   2.0   *   B   1   C-20G   A

Goal. Introduce the anti-ice and pitot-static system.

Requirement. Introduce anti-ice and pitot-static systems general operation to include ice and rain protection, wing anti-ice system, cowl anti-ice system, windscreen-heating system, and the pitot-static system. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of anti-ice and pitot-static system.

Prerequisite. GFAM-1114

GFAM-1116   2.0   *   B   1   C-20G   A

Goal. Introduce the air conditioning system.

Requirement. Introduce the air conditioning system general operation to include the refrigeration system, avionics equipment cooling, and indications. Review all normal and abnormal procedures applicable directives.

Performance Standard. Demonstrate thorough knowledge of air conditioning system.

Prerequisite. GFAM-1115

GFAM-1117   2.0   *   B   1   C-20G   A

Goal. Introduce the pressurization system and oxygen system.

Requirement. Introduce cabin pressurization system general operation to include outflow valve, normal and abnormal relief systems, and controls and indications. Introduce oxygen system general operation to include controls and indications, system component location, and component servicing. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of the aircraft pressurization and oxygen systems.

Prerequisite. GFAM-1116

GFAM-1118   2.0   *   B   1   C-20G   A

Goal. Introduce the Tay 611-8 Engine compressor and turbine sections.

Requirement. Introduce basic jet engine components and operations specific to the C-20G engine to include compressor section components, turbine section components, bypass and non-bypass air, engine airflow control, manual start valve operation, and engine ignition systems. Discuss how the powerplant fits in to the overall C-20G system. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of powerplant's basic operation.

Prerequisite. GFAM-1101

GFAM-1119   2.0   *   B   1   C-20G   A

Goal. Introduce the Tay 611-8 Engine fuel system.

Requirement. Introduce engine fuel system general operation to include high-pressure boost pumps, filters, suction feeding, and combustion chamber nozzles. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of engine fuel system.

Prerequisite. GFAM-1118.

GFAM-1120   2.0   *   B   1   C-20G   A

Goal. Introduce the Tay 611-8 Engine oil system.

Requirement. Introduce engine oil system general operation to include tanks, lines, lubricating locations, heat transfer components, and engine oil system servicing. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of engine oil system.

Prerequisite. GFAM-1119

GFAM-1121   2.0   *   B   1   C-20G   A

Goal. Review the Tay 611-8 Engine.

Requirement. Review all aspects of the C-20G power plant.

Performance Standard. Demonstrate thorough knowledge of the C-20G power plant and all affected systems.

Prerequisite. GFAM-1120

GFAM-1122   2.0   *   B   1   C-20G   A

Goal. Introduce the fire detection and extinguishing system.

Requirement. Introduce the APU and engine fire systems general operation to include fire sensing, controls and indication, smoke and flame systems, and extinguishing systems. Introduce the master warning and caution system indications and operation. Review all normal and abnormal procedures IAW applicable directives.

Performance Standard. Demonstrate thorough knowledge of fire detection and extinguishing systems.

Prerequisite. GFAM-1121

GFAM-1123   2.0   *   B   1   C-20G   A

    Goal.   Introduce the Flight Management System (FMS).

    Requirement.   Introduce FMS general operation to include initialization and flight summary. Introduce instruments, navigation system, communication systems, and the autopilot and auto throttle systems. Review all normal and abnormal procedures IAW applicable directives.

    Performance Standard.   Demonstrate thorough knowledge of the FMS and related systems.

    Prerequisite.   GFAM-1101

GFAM-1124   2.0   *   B   1   C-20G   A

    Goal.   Introduce aircraft lighting systems, galley operations, door and stairway operations, and loadmaster duties.

    Requirement.   Introduce the general operation of the normal and emergency lighting, galley, airstair, and the cargo and baggage doors. Introduce loadmaster duties to include Form F and cargo and passenger loading.

    Performance Standard.   Demonstrate thorough knowledge of applied systems and be able to assist with loadmaster duties.

    Prerequisite.   GFAM-1101

GFAM-1125   2.0   *   B,R   E   1   C-20G   A

    Goal.   Progress check.

    Requirement.   Demonstrate knowledge of all C-20G aircraft systems and procedures.

    Performance Standard.   Satisfactorily demonstrate aircraft systems and procedural knowledge during the course of an oral examination.

    Prerequisite.   NATOPS open and closed book exams in addition to all events in the stage.

    Prerequisite.   GFAM-1101 through GFAM-1124

GFAM-1126   2.0   *   B,R   1   C-20G   A

    Goal.   Certify CCUI as a tow tractor operator.

    Requirement.   Attend appropriate GSE courses.

    Performance Standard.   Demonstrate detailed knowledge of the landing gear system as it pertains to all tow tractor operations.

    External Syllabus Support.   Tow tractor.

GFAM-1127 2.0 * B,R 1 C-20G A

    Goal. Certify CCUI in ground servicing procedure associated with the aircraft oxygen system.

    Requirement. Attend appropriate GSE courses.

    Performance Requirements. Demonstrate detailed knowledge of air conditioning system as it pertains to the external oxygen-servicing cart.

    External Syllabus Support. Gaseous oxygen servicing cart.

GFAM-1128 2.0 * B,R 1 C-20G A

    Goal. Certify CCUI in ground servicing procedures associated with aircraft systems requiring nitrogen servicing.

    Requirement. Attend appropriate GSE courses.

    Performance Standard. Demonstrate detailed knowledge of the landing gear and hydraulic systems as they pertain to the external nitrogen-servicing cart.

    External Syllabus Support. Nitrogen servicing cart.

GFAM-1129 2.0 * B,R 1 C-20G A

    Goal. Certify CCUI in operation of external AC and DC power units.

    Requirement. Attend appropriate GSE courses.

    Performance Standard. Demonstrate detailed knowledge of electrical system as it pertains to the external power cart.

    External Syllabus Support. External AC and DC Power Unit.

GFAM-1130 2.0 * B,R 1 C-20G A

    Goal. Certify CCUI in operation of external air cart.

    Requirement. Attend appropriate GSE courses.

    Performance Standard. Demonstrate proficiency in use of the external air cart.

    External Syllabus Support. External air cart.

4. FAM

    a. Purpose. To build on the CCUIs Ground training and introduce CC responsibilities on the C-20G while in flight.

    b. Crew Requirements. Unless otherwise specified, a qualified crew chief may instruct all FAM events with the exception of FAM 1215. The FAM 1215 is the FAM stage check flight and must be instructed by a CCANI or CCNI.

FAM-1201   3.0   *   B,R   1   C-20G   A   (N*)

    Goal. Introduce the CCUI to the C-20G jump seat duties.

    Requirement. Review aircrew brief and debrief and other crew chief specific duties. Review operations with emphasis on checklist procedures of both a normal and emergency nature to include the location and use of survival equipment, CAS and annunciator indications, emergency exits, and oxygen use. Review selected takeoff and landing emergencies. Instructor-selected in-flight malfunctions to include air and ground APU malfunctions.

    Performance Standard. Provide CCUI an appreciation for basic pilot responsibilities and increase CCUI confidence while acting as a third cockpit crewmember.

    Prerequisite. GFAM-1125

FAM-1202   3.0   *   B,R   1   C-20G   A   (N*)

    Goal. Review APU operation and introduce its practical application.

    Requirement. Review all normal and abnormal APU procedures to include APU Fire, APU Alternator Failure, APU ALT BRG FAIL, APU ALT HOT, APU MASTER WARNING, APU EXCEEDENCE, APU In-Flight Operation (Alternate Electrical Source), Electrical Load Warning System, E-BATT DISCH, E-BATT FAIL, and APU Oil System servicing. Discuss cold weather operations, crosswind landings, aircraft range and endurance performance, survival equipment use, cargo door operation, and the Minimum Equipment List (MEL). Instructor- selected limitations and emergencies.

    Performance Standard. Demonstrate thorough knowledge in all aspects of APU operation.

    Prerequisite. GFAM-1102

FAM-1203   3.0   *   B,R   1   C-20G   A   (N*)

    Goal. Review the electrical system and introduce its practical application.

    Requirement. Review all normal and abnormal electrical system procedures to include EPMP operation and associated indications, battery integrity checks, alternator and converter failure (dual and single), APU in-flight operation (ELWS), L-R/APU Failed BRG, L-R/APU ALT HOT, L-R Converter HOT/FAN FAIL, TRU HOT/FAIL, L-R AC/DC Power Fail, Essential AC/DC BUS FAULT, Battery only operation/SEP operation, BATT 1-2 Charger Fail, and EPMP Power Fail. Review crew chief jump seat duties and MEL. Instructor- selected limitations and emergencies. Introduce concepts of Cockpit Resource Management (CRM): Adaptability and flexibility.

    Performance Standard. Demonstrate thorough knowledge in all aspects of the electrical system.

    Prerequisite. GFAM-1103 thru GFAM-1106,

FAM-1204   3.0   *   B,R   1   C-20G   A   (N*)

  Goal. Review the hydraulic system and introduce its practical
  applications.

  Requirement. Review all normal and abnormal hydraulic system
  procedures and operation to include engine driven hydraulic pumps,
  auxiliary and utility pumps, normal and abnormal start indications,
  COMB HYD FAIL message, FLT HYD FAIL message, Dual Hydraulic system
  Failure, FLT/COMB HYD FLUID HOT message, partial flap landing, T/R
  unlock or deploy in-flight, yaw damper failure, and cargo door
  operation. Review crew chief jump seat duties and the MEL.
  Instructor-selected limitations and emergencies. Introduce concepts of
  CRM: Leadership.

  Performance Standard. Demonstrate thorough knowledge in all aspects of
  the hydraulic system.

  Prerequisite. GFAM 1107 thru GFAM 1109

FAM-1205   3.0   *   B,R   1   C-20G   A   (N*)

  Goal. Review the flight control system and introduce its practical
  application.

  Requirement. Review all normal and abnormal flight control procedures
  and operation to include rudder limiting messages, flap and stabilizer
  operation, flight control runaway to hard over position, immovable
  flight controls, manual flight controls, stall barrier malfunction,
  ground spoiler failure, runaway electrical elevator trim, MACH trim
  compensation failure, failure of Stabilizer/Flap interconnect, wing
  flap alternate operation, undesired flap movement, and ACFT CONFIG
  Message. Review crew chief jump seat duties and the MEL. Instructor-
  selected limitations and emergencies. Introduce concepts of Cockpit
  CRM: Decision Making.

  Performance Standard. Demonstrate thorough knowledge in all aspects of
  flight controls.

  Prerequisite. GFAM 1110

FAM-1206   3.0   *   B,R   1   C-20G   A   (N*)

  Goal. Review the landing gear system and introduce its practical
  application.

  Requirement. Review all normal and abnormal landing gear procedures
  and operation to include brakes and antiskid operation, NWS system
  operation and failures, nutcracker system operation and failures, anti-
  skid fail message, BRAKE FAIL message, Anti-skid-off braking, hot
  brakes, BRAKE PEDAL message, multiple brake fail messages, alternate
  braking, landing gear failures, alternate gear extension, partial gear
  landing, tire failure, nose gear shimmy. Review crew chief jump seat
  duties, the MEL, and aircraft towing procedures. Instructor-selected
  limitations and emergencies. Introduce concepts of Cockpit CRM:
  Assertiveness.

Performance Standard. Demonstrate thorough knowledge in all aspects of the landing gear systems.

Prerequisite. GFAM 1111

FAM-1207   3.0   *   B,R   1   C-20G   A   (N*)

Goal. Review the fuel system and introduce its practical application.

Requirement. Review all normal and abnormal fuel system procedures and operation to include balancing procedures, boost pump failures, fuel level low message, fuel pressure low messages, filter messages, minimum fuel procedures, suction feeding, system servicing (pressure, gravity, and de-fueling). Review crew chief jump seat duties and the MEL. Instructor selected limitations and emergencies. Introduce concepts of CRM: Adaptability and Flexibility.

Performance Standard. Demonstrate thorough knowledge in all aspects of the fuel system.

Prerequisite. GFAM 1112

FAM-1208   3.0   *   B,R   1   C-20G   A   (N*)

Goal. Review the potable water and waste disposal systems and introduce their practical application.

Requirement. Review all normal and abnormal procedures and operations as they pertain to the potable water and waste disposal systems to include water-testing procedures and system servicing. Review cold weather servicing procedures, crew chief jump seat duties, and the MEL. Instructor-selected limitations and emergencies. Introduce concepts of CRM: Mission Analysis.

Performance Standard. Demonstrate thorough knowledge in all aspects of the potable water and waste disposal systems.

Prerequisite. GFAM 1113

FAM-1209   3.0   *   B,R   1   C-20G   A   (N*)

Goal. Review the aircraft pneumatic, anti-ice, and pitot-static systems and introduce their practical application.

Requirement. Review all normal and abnormal procedures and operation of the pneumatic, wing and cowl anti-ice, and pitot-static systems to include PYLON HOT message, AFT EQUIP HOT message, bleed air hot messages, bleed air high pressure messages, wing hot messages, wing temp low messages, cowl anti-ice overheat messages, cowl low pressure messages, pitot heat fail message, standby pitot heat fail message, TAT/SAT probe heat failure, windshield heat failure, and windshield crack/failure. Review crew chief jump seat duties and the MEL. Introduce concepts of CRM: Situational Awareness.

Performance Standard. Demonstrate thorough knowledge in all aspects of the pneumatic, anti-ice, and pitot-static systems.

Prerequisite. GFAM 1114, GFAM-1115

FAM-1210   3.0   *   B,R   1   C-20G   A   (N*)

Goal. Review the air conditioning and pressurization systems and introduce their practical application.

Requirement. Review all normal and abnormal procedures and operation of the air conditioning and pressurization systems to include rapid decompression, emergency descent, loss of automatic pressurization control, pressurization system rate limiting, cabin differential 9.6/9.8 message, cabin pressure low message, cooling turbine hot message, air conditioning smoke, smoke and fume evacuation, display unit hot messages, display unit fan fail messages, symbol generator hot messages, IRS fan fail messages, AHRS cool fail message. Review crew chief jump seat duties, oxygen system operation and duration charts, portable oxygen use, oxygen system servicing, CRM, and the MEL. Instructor-selected limitations and emergencies.

Performance Standard. Demonstrate thorough knowledge in all aspects of the air conditioning and pressurization systems.

Prerequisite. GFAM1116, GFAM 1117

FAM-1211   3.0   *   B,R   1   C-20G   A   (N*)

Goal. Review the Tay 611-8 powerplant and related systems and introduce their practical application.

Requirement. Review all normal and abnormal procedures and operation of the C-20G powerplant and its related systems to include start malfunctions, start-valve malfunctions, engine failures (single and dual), single and dual engine out considerations through all phases of flight, air start (immediate and normal), engine vibration on the ground, engine synchronizer, approach idle system, oil pressure low messages, oil filter bypass messages, and engine oil servicing (normal and emergency). Review crew chief jump seat duties, CRM, and the MEL. Instructor-selected limitations and emergencies.

Performance Standard. Demonstrate thorough knowledge in all aspects of the powerplant and related systems.

Prerequisite. GFAM-1118 thru GFAM-1121

FAM-1212   3.0   *   B,R   1   C-20G   A   (N*)

Goal. Review the APU and engine fire warning and extinguishing systems and introduce their practical application.

Requirement. Review all normal and abnormal procedures and operation of the APU and engine fire warning and extinguishing systems to include an APU fire test, engine fire and fault test, APU fire, engine fire, severe vibration or separation, engine hot messages, pylon hot messages, engine warning system malfunction, fire detection system fault, smoke and flame detect message, inside fire, smoke and fume evacuation, Aft lavatory smoke annunciator, fire extinguishing systems (engine, APU, portable). Review crew chief jump seat duties, CRM,

aircraft performance (takeoff and climb), and the MEL. Instructor-selected limitations and emergencies.

Performance Standard. Demonstrate thorough knowledge in all aspects of the APU and engine fire warning and extinguishing systems.

Prerequisite. GFAM 1122

FAM-1213   3.0   *   B,R   1   C-20G   A   (N*)

Goal. Review the FMS and related FGC systems and introduce their practical application.

Requirement. Review the FMS and related FGC systems operation and procedures that pertain to the crew chief jump seat duties to include FMS initialization, flight summary, PERF INIT, TO INIT, TO DATA, LAND DATA, single-engine data, EGPWS modes and callouts, display Switching and symbol generator control check. Review normal and abnormal procedures to include autopilot malfunction, auto-throttle malfunction, display system failure, AFGCS failure, DAU CAS messages, FGC CAS messages, IRS/NAV CAS messages, in-flight communications failure and degradation, anti-hijacking procedures, over-water procedures. Review crew chief jump seat duties, aircraft performance (descent, landing), hot weather operations, foul weather considerations (wind-shear, turbulence, microburst, volcanic ash), CRM, and the MEL. Instructor-selected limitations and emergencies.

Performance Standard. Demonstrate thorough knowledge in all aspects of the FMS and related FGC systems.

Prerequisite. GFAM 1123

FAM-1214   3.0   *   B,R   1   C-20G   A   N*

Goal. Review aircraft lighting, galley operations, door and stairway operations, loadmaster duties and introduce their practical application.

Requirement. Review operation and procedures for the aircraft light system (normal and emergency), galley, loadmaster duties and responsibilities, doors and stairway. Review crew chief jump seat duties, CRM, and the MEL. Instructor-selected limitations and emergencies.

Performance Standard. Demonstrate thorough knowledge in all aspects of lighting, galley, and door systems.

Prerequisite. GFAM 1124

FAM-1215   3.0   *   B,R   E   1   C-20G   A   (N*)

Goal. Stage Check.

Requirement. Evaluate CCUI on systems knowledge and ground and flight performance on a local area trainer.

Performance Standard. Demonstrate extensive systems and procedural knowledge of the C-20G aircraft.

Prerequisite. Satisfactory completion of all 1000 stage events.

309. CORE SKILL PHASE (2000). There are no Core Skill Phase events in the Crew Chief syllabus.

310. MISSION SKILL PHASE (3000)

1. General

a. This phase of training is designed to enable Crew Chiefs to obtain and maintain proficiency in Mission Skills. Mission Skills are designed to fulfill the requirements of the C-20G Mission Essential Task List as defined by the associated Marine Corps Task (MCT).

b. Stages. The following stages are included in the Mission Skill Phase of training.

- Operational Airlift Support (OSA)

2. OSA

a. Purpose. This stage of training is designed to fulfill the requirement set in MCT 1.3.3.3.1, Conduct Aviation Support Operations.

b. Crew Requirement. TAC, CP, CC

OSA-3101   4.0   60   B,R   1   C-20G   A/S   (N*)

Goal. Aircraft proficiency. Retain and maintain proficiency with all aspects of aircraft operation. Because of the design and operation of the C-20G, a standard flight will usually consist of some visual and instrument flight operations resulting in proficiency in all aspects of operating the aircraft.

Requirement. Discuss selected systems. Demonstrate competence in all areas of C-20G CC responsibilities.

Performance Standard. CC must demonstrate knowledge of aircraft systems and ability to competently perform CC duties in all phases of flight.

Prerequisite. DESG-6504

Crew Requirement. TAC, CP, CC, LM

OSA-3102   4.0   60   B,R   1   C-20G   A/S   (N*)

Goal. Conduct a line mission under actual or simulated tasking from Higher Headquarters.

Requirement. Conduct a line mission.

Performance Standard. Conduct a line mission involving (but not limited to) overwater flight, international airspace, or takeoffs and landings away from home station and outside of the local flying area.

A line mission should involve some level of DV, general passenger, or cargo carrying operations. If CACT is being used to update proficiency, the mission planning phase must include the same level of preparation and products as an event flown in the actual aircraft.

Prerequisite. DESG-6504

Crew Requirement. TAC, CP, CC, LM

311. CORE PLUS SKILL PHASE (4000). This phase is not applicable to the C-20G.

312. INSTRUCTOR TRAINING PHASE (5000)

1. General. The purpose of this Phase is to train qualified CCs to instruct various levels of instruction.

2. Stages
- Academics (ACAD)
- Instructor Under Training Flights (IUT)
- Designations (DESG)

2. ACAD. Purpose. To complete all academic requirements to prepare IUT for flight portion of training.

ACAD-5000   5.0   *   R E   1   S/A   (N*)

    Goal. Crew Chief Instructor Under Training academic training.

    Requirement. Complete the academic ground school for IUT.

    Performance Standard. The IUT shall demonstrate knowledge of instructional procedures and techniques.

    Prerequisites. DESG-6504, APRB recommendation

2. IUT

    a. Purpose. Earn designation as Crew Chief Instructor (CCI).

    b. General. Upon successful completion of IUT-502, CC may be designated a CCI by the Commanding Officer.

    c. Crew Requirements. TAC, CP, CCI, CCIUI.

    d. Ground/Academic Training. An in-depth oral examination shall be administered to the CCIUI. This may be conducted one-on-one with a designated CCI or may be accomplished in conjunction with GFAM-124 with the CCIUI administering the oral exam to a CCUI. The CCUI must be a designated CRM Facilitator prior to being designated a CCI.

IUT-5001   2.5   *   B,R   E   1   C-20G   A   (N*)

    Goal. Introduce CCIUI techniques.

Requirements. CCIUI shall act in an Instructor capacity while being observed and instructed by a designated CCI.

Performance Standard. Demonstrate mastery of all C-20G procedures and systems and perform capable instruction to CCUI.

Prerequisite. ACAD-5000

IUT-5002   2.5   *   .B,R   E   1   C-20G   A   (N*)

Goal. Review CCIUI techniques.

Requirements. CCIUI shall act in an Instructor capacity while being observed and instructed by a designated CCI.

Performance Standard. Demonstrate mastery of all C-20G procedures and systems and perform capable instruction to CCUI.

Prerequisite. ACAD-5001

3. DESG. Purpose. To ensure proper designations are assigned for CCI, CCANI, and CCNIP.

DESG-5010   0.0   *   B,R   E   C-20G

Goal. CCI designation.

Performance Standard. Satisfactory completion of the IUT POI.

Prerequisite. IUT-5002, APRB recommendation

DESG-5011   2.0   SC,R   E   1 C-20G   A   D

Goal. CCANI designation.

Performance Standard. Satisfactory completion of a NATOPS evaluation with a CCNI.

Prerequisite. IUT-5002, APRB recommendation

DESG-5012   2.0   SC,R   E   1 C-20G   A   D

Goal. CCNI designation.

Performance Standard. Satisfactory completion of a NATOPS evaluation with a CCNE.

Prerequisite. IUT-5002, APRB recommendation

313. REQUIREMENTS, QUALIFICATIONS, DESIGNATIONS (RQD) PHASE (6000)

1. General. To provide a vehicle for tracking codes associated with certifications, qualifications and designations. E-coded sorties are evaluation sorties. Once the flight to attain the qualification or

designation is complete, a letter from the squadron commanding officer awarding the qualification or designation shall be placed in the individual's NATOPS jacket.

2. Stages

- Academics (ACAD)
- NATOPS (NTPS)
- Emergency Procedures (EP)
- CC Designation (DESG)
- Functional Check Flight (FCF)
- Recurrent Training (RECR)

3. ACAD. Purpose. Provide yearly NATOPS academic requirements to maintain currency in the aircraft.

ACAD-6000   3.0   365   B,R   E

    Goal. The open book examination shall consist of, but not be limited to the question bank. The purpose of the open book examination is to evaluate the Crew Chief's knowledge of the appropriate publications and the aircraft.

    Performance Standard. Achieve a minimum score of 3.5 on the open book examination.

ACAD-6001   1.0   365   B,R   E

    Goal. The purpose of the closed book examination is to evaluate the Crew Chief's knowledge of the concerning normal/emergency procedures and aircraft limitations.

    Performance Standard. Achieve a minimum score of 3.5 on the closed book examination.

    Prerequisite. ACAD-6000

ACAD-6002   1.0   365   B,R   E

    Goal. The oral examination shall consist of, but not be limited to the question bank. The instructor may draw upon their experience to propose questions of a direct and positive manner and in no way be opinionated to evaluate the Crew Chief's knowledge of the concerning normal/emergency procedures, aircraft limitations, and performance.

    Performance Standard. Achieve a minimum grade of qualified on the oral examination.

    Prerequisite. ACAD-6000, ACAD-6001 within 60 days preceding this event.

ACAD-6005   3.0   365   B,R   E

    Goal. CRM ground instruction in accordance with applicable directives and instructions.

Performance Standard. Demonstrate satisfactory knowledge of CRM principles and their application.

3. NTPS

    a. Purpose. Provide required annual NATOPS and CRM flights to maintain currency.

    b. Crew Requirements. Crew requirements are delineated on each flight to ensure proper crew composition.

NTPS-6100 3.0   365   B,R   E   1   C20-G S/A (N*)

    Goal. Complete Annual NATOPS evaluation.

    Requirement. Perform annual NATOPS evaluation per OPNAVINST 3710 and all applicable local directives.

    Performance Standard. Be able to safely operate the aircraft IAW the C-20G NATOPS and unit SOPs under normal and emergency situations to the level of positional designation within the aircraft.

    Prerequisite. ACAD-6000, ACAD-6001, ACAD-6002 within 60 days preceding this event.

    Crew Requirements. TAC, CP, CCUI, CCANI/NI

NTPS-6101 3.0   365   B,R   E   1   C-20G A/S (N*)

    Goal. Complete Annual CRM flight evaluation.

    Requirement. Perform initial/annual CRM flight evaluation per applicable directives.

    Performance Standard. Demonstrate knowledge of all aspects of CRM with respect to duties performed as CC.

    Prerequisite. ACAD-6005

    Crew Requirements. TAC and CP (one must be CRMF) and CCUI

4. EP

    a. Purpose. Maintain monthly and quarterly emergency procedure training.

    b. General. Emergency procedure training consists of a monthly EP exam and a quarterly EP simulator. In the event the simulator is unavailable, the EP review may be conducted in the cockpit either pre or post flight as a static event.

c. <u>Crew Requirements</u>. Emergency Procedure review events may be instructed by any qualified aircrew and should be accomplished with two pilots and a crew chief.

EP-6300   1.0   30   B,R   E

    <u>Goal</u>. Monthly Emergency Procedures Exam.

    <u>Requirement</u>. Conduct a monthly EP Exam per NAVMC 3500.14

EP-6301   1.0   90   B,R   E   1   C-20G   S/A   (N*)

    <u>Goal</u>. Emergency Procedure Review.

    <u>Requirement</u>. This event will review C-20G emergency procedures and fulfills the requirement of quarterly EP simulator training per NAVMC 3500.14. This event can be accomplished as a combined event in the simulator or in the actual aircraft while airborne or sitting on the deck.

    <u>Performance Standard</u>. Comply with C-20G NFM Emergency Procedures.

5. <u>DESG</u>

    a. <u>Purpose</u>. To obtain the designation of a C-20G Crew Chief.

    b. <u>General</u>. A designated NATOPS Crew Chief Instructor will observe and certify that the CCUI is NATOPS qualified per the applicable directives. Satisfactory completion of the NATOPS ground evaluation (FAM-1215) is a prerequisite for the NATOPS flight evaluation. At the successful completion of DESG-6504 the CCUI will be designated a C-20G Crew Chief.

    c. <u>Crew Requirements</u>. TAC, CP, CCUI, CCI, LM.

    d. <u>Ground/Academic Training</u>. CCUI shall complete NATOPS open/closed book tests prior to flight.

DESG-6504   3.0   *   B,R   E   1   C-20G   A   (N*)

    <u>Goal</u>. Evaluate crew chief knowledge of aircraft systems and normal and abnormal emergency procedures.

    <u>Requirement</u>. Perform all duties as crew chief on the C-20G during a line mission. The mission must include an overnight visit to a field other than the home field. Perform all procedures IAW NATOPS procedures to include all Operating Manuals and Standard Operating Procedures. Instructor-selected emergencies.

    <u>Performance Standard</u>. CCUI shall perform all duties and procedures IAW applicable directives.

    <u>Prerequisite</u>. FAM-1215, ACAD-6000, ACAD-6001, ACAD-6002.

6. FCF. Purpose. To designate the CCUI as a CC capable of conducting FCFs.

FCF-6601   2.5   *   X,X,X   1   C-20G   A

>   Goal. Familiarize the CCUI with the FCF checklist and procedures. Conduct training for designation as a Functional Check CC. At the completion of this event and all other prerequisites are met the CCUI will be designated an FCP.
>
>   Requirement. Conduct FCF training with a previously designated FCCC. Brief: flight procedures/conduct, FCF requirements, FCF procedures. Conduct: QA/Maintenance brief, ADB review, exterior/interior inspection, engine start, taxi, takeoff, climb, level at altitude, FCF checks, enroute descent, penetration, landing, postflight, debrief QA/Maintenance, sign off FCF card and required maintenance paperwork.
>
>   Performance Standard. Satisfactorily execute procedures per the C-20 Operations Manual, OPNAVINST 3710.7(series), and OPNAVINST 4790.2(series).
>
>   Prerequisite. DESG-6504
>
>   Crew Requirements. PUI, BIP, and CC.

7. RECR. To provide required recurrency training to maintain Squadron recurrency requirements for the C-20G. This training will be conducted at an approved CACT facility.

RECR-6700   16.0   365   B,R   E   CACT GROUND SCHOOL

>   Goal. Complete Recurrent Ground School.
>
>   Requirement. Per CACT approved syllabus.
>
>   Performance Standard. Per CACT approved syllabus.

RECR-6701-6703   4.0   365   B,R   E   1   C-20G   S   (N*)

>   Goal. Complete Recurrent Flight Phase.
>
>   Requirement. Per CACT approved syllabus.
>
>   Performance Standard. Per CACT approved syllabus.

314.   T&R SYLLABUS MATRIX

CORE SKILL INTRODUCTION TRAINING (1000 PHASE EVENTS)

STAGE	TRNG CODE	DESCRIPTION	POI	EVAL	DEVICE	# OF A/C	CONDITIONS	REFLY	TOTAL EVENTS	ACAD HRS	TOTAL EVENTS	GFAM HRS	TOTAL FLTS	FLT HRS	PREREQUISITE	CHAINING	EVENT CONV
ACAD	1000	CACT Ground School	B	E				*	1	80.0							
		ACAD TOTAL							1	80.0							

CORE SKILL INTRODUCTION ACADEMICS

Ground Familiarization Events (GFAM)

STAGE	TRNG CODE	DESCRIPTION	POI	EVAL	DEVICE	# OF A/C	CONDITIONS	REFLY	TOTAL EVENTS	ACAD HRS	TOTAL EVENTS	GFAM HRS	TOTAL FLTS	FLT HRS	PREREQUISITE	CHAINING	EVENT CONV
GFAM	1101	Intro to to C-20G	B		A	1	(N*)	*				2.0			1000		
GFAM	1102	Intro to APU	B		A	1	(N*)	*				2.0			1101		
GFAM	1103	Intro to AC electrical	B		A	1	(N*)	*				2.0			1102		
GFAM	1104	Intro to DC electrical	B		A	1	(N*)	*				2.0			1103		
GFAM	1105	Intro to SEPS electrical	B		A	1	(N*)	*				2.0			1104		
GFAM	1106	Review electrical system	B		A	1	(N*)	*				2.0			1105		
GFAM	1107	Intro to Flt and Aux HYD	B		A	1	(N*)	*				2.0			1101		
GFAM	1108	Intro to Cmb and Util HYD	B		A	1	(N*)	*				2.0			1107		
GFAM	1109	Review HYD system	B		A	1	(N*)	*				2.0			1108		
GFAM	1110	Intro to flight controls	B		A	1	(N*)	*				2.0			1109		
GFAM	1111	Intro to landing gear	B		A	1	(N*)	*				2.0			1110		
GFAM	1112	Intro to fuel system	B		A	1	(N*)	*				2.0			1101		
GFAM	1113	Intro to water and waste systems	B		A	1	(N*)	*				2.0			1101		
GFAM	1114	Intro to pneumatic system	B		A	1	(N*)	*				2.0			1101		
GFAM	1115	Intro to anti-ice and pitot-static system	B		A	1	(N*)	*				2.0			1114		
GFAM	1116	Intro to air conditioning system	B		A	1	(N*)	*				2.0			1115		
GFAM	1117	Intro to press and oxy system	B		A	1	(N*)	*				2.0			1116		
GFAM	1118	Intro to compressor and turbine	B		A	1	(N*)	*				2.0			1101		
GFAM	1119	Intro to engine fuel system	B		A	1	(N*)	*				2.0			1118		
GFAM	1120	Intro to engine oil system	B		A	1	(N*)	*				2.0			1119		
GFAM	1121	Review engine	B		A	1	(N*)	*				2.0			1120		
GFAM	1122	Intro to fire system	B		A	1	(N*)	*				2.0			1121		
GFAM	1123	Intro to FMS	B		A	1	(N*)	*				2.0			1101		
GFAM	1124	Intro to cabin lights and doors	B		A	1	(N*)	*				2.0			1101		
GFAM	1125	Progress check	B,R	E	A	1	(N*)	*				2.0			1101 thru 1124		

3-30

Enclosure (1)

STAGE	TRNG CODE	DESCRIPTION	POI	EVAL	DEVICE	# OF A/C	CONDITIONS	REFLY	TOTAL EVENTS	ACAD HRS	TOTAL EVENTS	GFAM HRS	TOTAL FLTS	FLT HRS	PREREQUISITE	CHAINING	EVENT CONV
GFAM	1126	Tow tractor operator GSE	B,R		A	1	(N*)	*				2.0			None		
GFAM	1127	Oxygen cart GSE	B,R		A	1	(N*)	*				2.0			None		
GFAM	1128	Nitrogen GSE	B,R		A	1	(N*)	*				2.0			None		
GFAM	1129	AC and DC power GSE	B,R		A	1	(N*)	*				2.0			None		
GFAM	1130	External Air Cart	B,R		A	1	(N*)	*				2.0			None	*	
		GFAM TOTAL									30	60.0					
		Familiarization (FAM)															
FAM	1201	Review CC duties	B,R		A	1	(N*)	*						3.0	3.0	1125	
FAM	1202	Review APU operation	B,R		A	1	(N*)	*						3.0	3.0	1102	
FAM	1203	Review electrical system	B,R		A	1	(N*)	*						3.0	3.0	1103,1104,1105,1106	
FAM	1204	Review hydraulic system	B,R		A	1	(N*)	*						3.0	3.0	1107,1108,1109	
FAM	1205	Review flight control system	B,R		A	1	(N*)	*						3.0	3.0	1110	
FAM	1206	Review landing gear system	B,R		A	1	(N*)	*						3.0	3.0	1111	
FAM	1207	Review fuel system	B,R		A	1	(N*)	*						3.0	3.0	1112	
FAM	1208	Review potable water and waste disposal	B,R		A	1	(N*)	*						3.0	3.0	1113	
FAM	1209	Review pneumatic, anti-ice, and pitot-static systems	B,R		A	1	(N*)	*						3.0	3.0	1114,1115	
FAM	1210	Review air conditioning and pressurization systems	B,R		A	1	(N*)	*						3.0	3.0	1116,1117	
FAM	1211	Review TAY 611-8 powerplant and related systems	B,R		A	1	(N*)	*						3.0	3.0	1118,1119,1120,1121	
FAM	1212	Review APU, engine fire warning, and extinguishing systems	B,R		A	1	(N*)	*						3.0	3.0	1122	
FAM	1213	Review FMS and related FGC systems	B,R		A	1	(N*)	*						3.0	3.0	1123	
FAM	1214	Review aircraft lighting, galley, door and stairway ops. LM duties.	B,R		A	1	(N*)	*						3.0	3.0	1124	
FAM	1215	Stage Check	B,R	E	A	1	(N*)	*						3.0	3.0	1101-1130,1201-1214	
		FAM TOTAL											15	45.0			
		CORE SKILL TRAINING (2000 PHASE EVENTS) TOTAL							1	30.0	30	60.0	15	45.0			

MISSION SKILL TRAINING (3000 PHASE EVENTS)

		AVIATION SUPPORT OPERATIONS (OSA)															
OSA	3101	Aircraft Proficiency	B,,R		A	1	(N*)	60					1	4.0	6504		
OSA	3102	Operational Aircraft Support	B,,R		A/S	1	(N*)	60					1	4.0	6504		
		MISSION SKILLTRAINING (3000 PHASE EVENTS) TOTAL											2	8.0			

Enclosure (1)

STAGE	TRNG CODE	DESCRIPTION	POI	EVAL	DEVICE	# OF A/C	CONDITIONS	REFLY	TOTAL EVENTS	ACAD HRS	TOTAL EVENTS	GFAM HRS	TOTAL FLTS	FLT HRS	PREREQUISITE	CHAINING	EVENT CONV
		CORE PLUS TRAINING (4000 PHASE EVENTS)															
		There are no 4000 level events for the G-20G															
		INSTRUCTOR TRAINING (5000 PHASE EVENTS)															
		IUT ACADEMICS (ACAD)															
ACAD	5000	IUT Ground School	B,R	E				*	1	5.0					6504		
		INSTRUCTOR UNDER TRAINING (IUT)															
IUT	5001	Instructional Techniques	B,R	E	A	1	(N*)	*						2.5	5000		500
IUT	5002	Instructional Techniques Review	B,R	E	A	1	(N*)	*						2.5	5001		501
		INSTRUCTOR DESIGNATIONS (DESIG)															
DESG	5010	CCI Designation	B,R	E				*							5002		
DESG	5011	CCANI Designation	B,R	E				*							5002		
DESG	5012	CCNI Designation	B,R	E				*							5002		
		INSTRUCTOR TRAINING (5000 PHASE EVENTS) TOTAL							1	5.0			2	5.0			
		REQUIRED QUALIFICATIONS AND DESIGNATIONS (RQD) (6000 PHASE)															
		REQUIREMENTS (RQD)															
		ACADEMICS (ACAD)															
ACAD	6000	NATOPS Open Book Exam	B,R	E				365	1	3.0							600
ACAD	6001	NATOPS Closed Book Exam	B,R	E				365	1	1.0					6000		
ACAD	6002	NATOPS Oral Exam	B,R	E				365	1	1.0					6000,6001		
ACAD	6005	CRM Ground	B,R	E				365	1	3.0							
		NATOPS EVALUATION (NTPS)															
NTPS	6100	NATOPS Evaluation	B,R	E	A/S	1	365	1					1	3.0	6000,6001,6002		600
NTPS	6101	CRM Flight	B,R	E	A/S	1	365						1	3.0	6005		
		EMERGENCY PROCEDURES (EP)															
EP	6300	Montly EP exam	B,R	E				30	1	1.0							
EP	6301	90 Day EP Pratical Review	B,R	E	A/S	1	90	1	1.0								
		RQD ACAD TOTAL							6	10.0			2	6.0			
		CC DESIGNATION (DESG)															
DESG	6504	CC Designation	B,R	E	A	1	(N*)	*					1	3.0	1215,6000,6001,6002		
		DESG TOTAL											1	3.0			

STAGE	TRNG CODE	DESCRIPTION	POI	EVAL	DEVICE	# OF A/C	CONDITIONS	REFLY	TOTAL EVENTS	ACAD HRS	TOTAL EVENTS	GRAM HRS	TOTAL FLTS	FLT HRS	PREREQUISITE	CHAINING	EVENT CONV
		FUNCTIONAL CHECK FLIGHT (FCF)															
FCF	6601	FCF Practice/Designation	B,R	E	A	1	D	*					1	2.5	6504		
		FCF TOTALS											1	2.5			
		RECURRENT CACT (RECR)															
RECR	6700	Recurrent Ground School (CACT)	B,R	E				365	1	16.0	1						
RECR	6701	Recurrent Sim 1 (CACT)	B,R		S	1	(N*)	365			1	4.0			6700		
RECR	6702	Recurrent Sim 2 (CACT)	B,R		S	1	(N*)	365			1	4.0			6701		
RECR	6703	Recurrent Sim 3 (CACT)	B,R		S	1	(N*)	365			1	4.0			6702		
		CACT SIM TOTAL							1	16.0	3	12.0					
		REQUIREMENT, QUALIFICATIONS AND DESIGNATIONS (RQD) (6000 PHASE) TOTAL							7	26.0	3	12.0	4	11.5			

CHAPTER 4

UC-20 LOAD MASTER

TABLES

CHAPTER 4

UC-20 LOAD MASTER

400. <u>C-20 LOAD MASTER INDIVIDUAL TRAINING AND READINESS REQUIREMENTS</u>. This T&R syllabus is based on specific goals and performance standards designed to ensure individual proficiency in Core and Mission Skills. The goal of this chapter is to develop individual and unit warfighting capabilities.

401. <u>C-20 LOAD MASTER TRAINING PROGRESSION MODEL</u>. This model represents the recommended training progression for the average C-20 Load Master. Units should use the model as a point of departure to generate individual training plans.

				6000 PHASE (REQUIREMENTS, QUALIFICATIONS, & DESIGNATIONS) (ACAD,NTPS,EP,DESG)													
					5000 PHASE (INSTRUCTOR TRAINING) LMI												
			3000 PHASE (MISSION SKILLS) OSA														
		2000 PHASE (CORE SKILL) NO EVENTS															
1000 PHASE (CORE SKILL INTRO) (GFAM,CPL)																	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Weeks																	
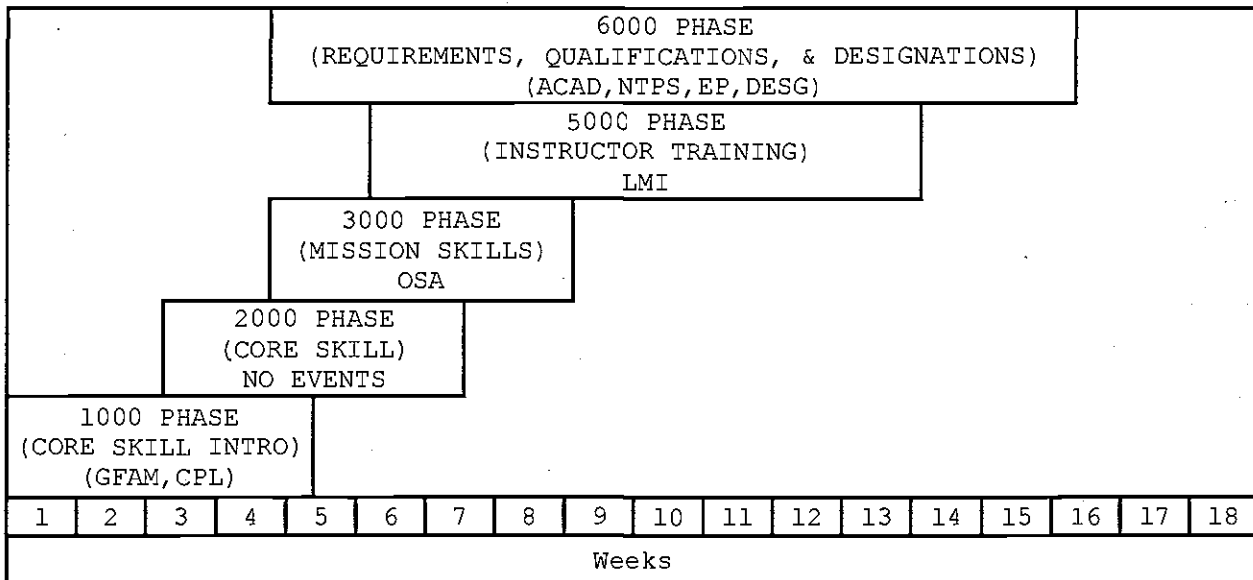
Table 4-1. C-20 TRAINING PROGRESSION MODEL

402. <u>INDIVIDUAL CORE SKILL PROFICIENCY (CSP) REQUIREMENTS</u>. All Core Skill requirements will be maintained through NATOPS instrument, night, monthly, and yearly hour requirements coupled with flying the Squadron OSA mission. Therefore, there are no event requirements to maintain CSP.

403. <u>INDIVIDUAL MISSION SKILL PROFICIENCY (MSP) REQUIREMENTS</u>. A MSP crew consists of individuals representing each crew position who have achieved and currently maintain Individual MSP. To be considered proficient in a Mission Skill, an individual must attain and maintain proficiency in Mission Skill events as delineated in the below paragraphs.

1. <u>Events Required to Attain Individual MSP</u>. To initially attain MSP in a Mission Skill, an individual must simultaneously have a proficient status in all 3000 phase T&R events listed for that Mission Skill:

INDIVIDUAL MISSION SKILL PROFICIENCY (MSP) ATTAIN TABLE C-20G CC
T&R events required to Attain MSP (3000 Phase)
OSA
3101R   3102R
Gray highlight & an R suffix on the event code = Refresher POI

Table 4-2 Individual Mission Skill Attain Table

2. Events Required to Maintain Individual MSP. To maintain MSP in a Mission Skill, an individual must maintain proficiency in all 3000 phase T&R events listed for that Mission Skill:

INDIVIDUAL MISSION SKILL PROFICIENCY (MSP) MAINTAIN TABLE C-20G CC
T&R events required to Maintain MSP (3000 Phase)
OSA
3101R   3102R
Gray highlight & an R suffix on the event code = Refresher POI

Table 4-3 Individual Mission Skill Maintain Table

404. QUALIFICATION AND DESIGNATION TABLES. The tables below delineate T&R events required to be completed to attain proficiency, initial qualifications and designations. In addition to event requirements, all required stage lectures, briefs, squadron training, prerequisites, and other criteria shall be completed prior to completing final events. Qualification and designation letters signed by the Commanding Officer shall be placed in Individual Performance Records (IPR). Only after successfully completing qualification or designation requirements and being issued a qualification/designation letter signed by the Commanding Officer will an individual be considered qualified or designated. Do not confuse certifications with qualifications or designations as defined below. Loss of proficiency in all qualification events causes the associated qualification to be lost. Regaining a qualification requires completing all R-coded syllabus events associated with that qualification.

1. Qualification. A qualification is a status ('qualified' or 'not qualified') assigned to personnel based on demonstration of proficiency in a specific skill. Individuals do not lose a qualification as a function of refly factor for individual events. However, loss of proficiency (delinquent refly factor) for all associated qualification events (events with measurable refly factor) constitutes loss of that qualification. Re-qualification requires demonstration of proficiency and shall be achieved by successfully repeating all R-coded events associated with the respective qualification unless waived per paragraph 207 of NAVMC 3500.14.

2. Designation. A designation is a status assigned to an individual based on leadership ability. Designations are command specific and remain in effect until removed for cause or the individual is transferred to another command.

3. Instructor Designations. Instructor designations are assigned to personnel based on ability to conduct ground and/or airborne instruction of a core skill or mission area. Instructor designations are designed to enhance

standardization and safety while training unqualified personnel in specific skills. T&R syllabi shall refer to the MAWTS-1 Course Catalog, NATOPS, and other applicable directives for instructor designation criteria.

INDIVIDUAL QUALIFICATION REQUIREMENTS	
Qualification	Event Requirements
NATOPS	6000R, 6001R, 6002R, 6101R
R = Refresher POI events required for requalification.	

Table 4-4 Individual Qualification Requirements

INDIVIDUAL DESIGNATION REQUIREMENTS	
Designation	Event Requirements
LM	6504R
LMI	5004R
R = Refresher POI events required for requalification.	

Table 4-5 Individual Designation Requirements

405. C-20 LOAD MASTER PROGRAMS OF INSTRUCTION (POI). A POI is a group of events within a syllabus that an individual is required to perform. Individuals are assigned to only one POI at any given time. Events within a POI are annotated in both the event description and the T&R Syllabus Matrix with a 'B' or 'R'.

1. Programs Of Instruction (POI) For Basic (B) Load Master. The POI prescribed for personnel obtaining the C-20G LM designation for the first time. Any modification to the Basic syllabus based on previous background and experience shall be addressed by the APRB and approved by the Commanding Officer.

WEEKS	COURSE/LEVEL	ACTIVITY
1	Check-in	VMR-Det
2-3	Loadmaster Course	CFLSW, Fort Worth JRB
4-16	Core Skill Introduction Phase	VMR-Det

2. Program OF Instruction (POI) For Refresher (R) Load Master. After completion of the 'B' POI an individual is assigned to the refresher POI. LMUI must have flown in the capacity as a loadmaster in the previous 2 years in order to be eligible for this POI. All decisions as to POI eligibility rest with the commanding officer.

WEEKS	COURSE/LEVEL	ACTIVITY
1	Check-in	VMR-Det
2-3	Loadmaster Course	CFLSW, Fort Worth JRB
4-8	Core Skills Introduction Phase	VMR-Det

3. Program Of Instruction (POI) For Load Master Instructor (LMI, LMANI, LMNI). The APRB shall consider previous experience as well as current performance in assigning this POI.

WEEKS	COURSE/LEVEL	ACTIVITY
1-3	Loadmaster Instructor Training	VMR-Det

406. ACADEMIC TRAINING

1. Academic training shall be conducted for each phase/stage of the syllabus. Where indicated, standardized academic training materials exist and may be obtained from the sponsoring activity.

2. External academic courses of instruction required to complete the syllabus are listed below:

COURSE	ACTIVITY
Core Skills Introduction Academics	CACT
Recurrent Phase Academics	CACT
ACPM Training	MAWTS-1

3. Aircrew Training References. Aircrews shall use the following references to ensure safe and standardized training and maintenance procedures, grading criteria, and aircraft operation:

ACPM Training	MAWTS-1
OPNAVINST 3710.7_	OPNAVINST 3710.7_ NATOPS Gen Flt & Operating Inst
OPNAVINST 4790.2_	NAVMC 3500.14 T&R Program Manual
NAVAIR 01-C20GAAA-1	US Navy C-20G NATOPS/Gulfstream
Aerospace Corporation	G-IV manuals
MCO P4790.12	MCO 3500.27/OPNAV 3500.39 Operational Risk Management (ORM)

407. SYLLABUS NOTES

1. Event Format Coding. The following format is used to describe aircraft, simulator, and classroom events. To provide the Commanding Officer the maximum amount of flexibility for training, some events allow for the optional use of simulators or aircraft. Those types of events will use the designator A/S for aircraft preferred, simulator optional and S/A for simulator preferred, aircraft optional.

1/	2/	3/	4/	5/	6/	7/	8/	/9
FAM-3000	2.0	180	B,SC,R	E	1	C-20G	A	(N)

NOTES:

1/ Stage-Training Code. A unique numeric four-digit training code has been assigned to each syllabus event. The first digit of the event training code shall begin with the appropriate phase series number (Core Skill Introduction events = 1XXX; Core Skill events = 2XXX; etc.). The second digit of a T&R code refers to the stage. The third and fourth digits refer to the individual events within a stage, in sequence

2/ Projected Event Duration. Projected event duration should reflect the average time to execute the event requirement (actual time to execute the event may vary).

3/Refly Factor. Refly (proficiency interval) factors reflect the maximum time between syllabus events. Refly are delineated in days. An asterisk (*) indicates the event has no refly interval, indicating a onetime training requirement (unless R-coded).

4/ Programs of Instruction.
          B = Basic
          R = Refresher

5/ Evaluation. An "E" shall be annotated here if the event is required to be evaluated.

6/ Device Number. The number of aircraft, simulator, or other device(s) required for the completion of the event.

7/ Device Type. The type of device required for the completion of the event.

8/ Device Options.

DEVICE OPTIONS	
Code	Requirement
A	Event performed in aircraft.
S	Event performed in simulator or a simulated practical application.
A/S	Event performed in aircraft preferred/simulator optional.
S/A	Event performed in simulator preferred/aircraft optional.

Table 4-6 Device Options

9/ Environmental Conditions. Events annotated with an N shall be flown at least 30 minutes after official sunset. Events shall be flown in accordance with environmental conditions listed in the matrix below:

ENVIRONMENTAL CONDITIONS	
Code	Meaning
D	Shall be flown during hours of daylight.
N*	Shall be flown during hours of darkness must be flown unaided
(N*)	May be flown during hours of darkness – If flown during hours of darkness must be flown unaided
Note – If the event is to be flown in the simulator the Simulator Instructor shall set the desired environmental conditions for the event.	

Table 4-7 Environmental Conditions

2. Classroom (CLSRM). CLSRM lessons comprise the majority of C-20 Ground School training. All aircrew shall complete the C-20 Ground School as prescribed by the CACT instructor. Completion of CACT Ground School shall be documented in the Aircrew Performance Record (APR). Courseware shall be

reviewed on an annual basis to ensure proper content, concurrency with the aircraft and operating procedures.

3. Training Event Performance Requirements

    a. Purpose. To familiarize the LMUI with general syllabus expectations and definitions.

    b. General

        (1) The 1000 phase syllabus includes ground familiarization (GFAM) and flight familiarization (FAM) events. Ground familiarization events are designed to be accomplished before their corresponding flight event.
        (2) All flights shall terminate with a comprehensive debrief with emphasis on aircrew performance and procedures or systems discussed. Instructors should use all available debriefing techniques.

    c. Definitions

        (1) Discuss

            (a) The LMI shall discuss a system or procedure during the brief, in flight, or debrief.

            (b) The LMUI shall demonstrate an understanding of all discussed items listed in the event description.

            (c) Demonstrate/Introduce events shall be discussed during the brief.

            (d) Emergencies listed in the event description are treated as discussion items during the brief and may be simulated during the flight at the option of the LMI and in accordance with unit SOP. EPs for Simulator events will be treated as Demonstrate/Introduce items on the event in which they are listed and are subject to review during any subsequent event.

        (2) Demonstrate

            (a) LMI performs the task with accompanying description. At LMI discretion, the LMUI may perform the task, but is not graded. Playback of recorded demonstrations may be used during simulator events.

            (b) The LMUI observes the task and is responsible for knowledge of the procedures during the brief.

        (3) Introduce

            (a) At his option, the LMI may perform the task with an accompanying description followed by the LMUI performing the task, or he may coach the LMUI through the task without demonstration.

            (b) The LMUI shall perform the task with coaching as necessary and is responsible for knowledge of the procedures prior to the flight. In general, the expectation is that the LMUI will not consistently recognize errors and will frequently be outside performance standards

(4) Review

(a) The LMI observes and grades the task with only minimal coaching.

(b) The LMUI is expected to perform the task with minimal coaching and with only minor procedural errors. In general, the expectation is that the LMUI will consistently recognize errors; however occasionally, corrections will not be timely with some excursions outside performance standards.

(5) Evaluate

(a) The LMI observes and grades the task without coaching the LMUI. An airborne critique of the LMUI's performance is at the option of the instructor.

(b) The LMUI is expected to perform the task without coaching, with minor or no procedural errors, and at a level acceptable to warrant progress in the syllabus. The expectation is that the LMUI will consistently apply timely corrections with very few and quickly corrected excursions outside performance standards.

4. Multiple Event Logging. There may be opportunities for crewmembers to accomplish the requirements of more than one event during a scheduled training evolution. Units are encouraged to take advantage of complex training opportunities that allow multiple event completion. Under all circumstances, post-event logging (single or multiple) is allowable if the requirements for each event are accomplished per the performance standard.

5. Sequence. Training should be accomplished by accomplishing events within a stage in sequence and stages in sequence when practical.

6. Crew Resource Management (CRM). Aircrews shall brief techniques of CRM for all flights and/or events.

7. Operational Risk Management (ORM). Aircrews shall brief those factors that affect risk mitigation decisions for every flight or mission.

408. CORE SKILL INTRODUCTION PHASE (1000)

1. General

a. All LMUI shall successfully complete the Loadmaster school offered by CFLSW held at Fort Worth JRB. This is a two-week course and covers generic loadmaster duties and responsibilities. This course must be completed as outlined in this Manual. This Manual covers type-specific duties.

b. In order to provide the widest possible exposure for the LMUI, all events, other than those delineated as ground events, must be conducted in the aircraft and every attempt should be made to conduct each event in conjunction with a line mission carrying passengers and/or cargo.

c. The oral exam administered as part of GFAM-124 is considered to be just as important as a check-ride. If the LMUI does not demonstrate mastery of the academic knowledge inherent to CPL-125, further progression is not allowed until the deficiency is remedied.

d. This phase is designed to ensure a high level of knowledge is attained through study and instruction while utilizing the aircraft as a training aid. In order to be successful, the LMUI must arrive at each event with an in-depth working knowledge of the systems and procedures covered by the event. If the LMUI does not have a satisfactory level of knowledge at the commencement of the event, the event shall be terminated and appropriate action taken.

e. Stages

   • Ground Familiarization (GFAM)

   • Cargo and Passenger Loading (CPL)

2. GFAM

a. Purpose. Familiarize the LMUI with the aircraft systems that pertain to the duties of a C-20G Loadmaster.

b. General. The events in this stage are delineated as GFAM. GFAM events will normally be conducted as ground evolutions using the aircraft and support equipment as training tools. However, each event in this stage may be conducted in conjunction with a flight event provided a qualified and proficient Loadmaster Instructor is present. The first 3 events of this stage must be completed in order. The remaining events may be completed out of order, if necessary. This stage must be completed in its entirety prior to commencing the Cargo and Passenger Loading stage.

c. Crew Requirements. All events conducted as part of a line mission require a TAC, CP, CC, LMI, and LMUI. If the event is not in conjunction with a flight event, only the LMI and LMUI are required.

GFAM-1101   1.5   *   B,R   1   C-20G   A

   Goal. Introduce aircraft and loadmaster duties.

   Requirement. Introduce overview of loadmaster duties and conduct initial walk-through of aircraft. Introduce APU procedures, pre-flight preparation duties and pre-flight inspection. Introduce emergency procedures to include fuselage fire, smoke and fume elimination, APU fire.

   Performance Standard. Demonstrate sound knowledge of both normal and abnormal procedures.

   Prerequisite. None

GFAM-1102   1.5   *   B   1   C-20G   A

   Goal. Introduce aircraft and loadmaster duties.

   Requirement. Review overview of loadmaster pre-flight duties and APU procedures. Introduce thru-flight inspection, post-flight inspection, C-20G aircraft rigs (A, B, C, D, E, F, G, J, K, M) and instructor-selected emergency procedures to include door warning in flight and rapid decompression.

Performance Standard. Demonstrate sound knowledge of covered material and both normal and abnormal procedures.

Prerequisite. GFAM-1101

GFAM-1103   1.5   *   B   1   C-20G   A

Goal. Introduce doors and entrances.

Requirement. Review loadmaster duties and all required inspections. Introduce doors and entrances to include forward entrance door, operation of forward air stair with and without aircraft power, emergency exits, over-wing exits, and escape ropes. Introduce instructor-selected emergencies to include crash landing, ditch on takeoff, abnormal landing, ditching.

Performance Standard. Demonstrate sound knowledge of doors and entrances.

Prerequisite. GFAM-1102

GFAM-1104   1.5   *   B   1   C-20G   A

Goal. Introduce Survival Equipment.

Requirement. Review loadmaster duties and all required inspections. Introduce survival equipment to include life vests, life rafts, survival kits, first aid kits, blankets, crash axe, and portable fire extinguishers.
Performance Standard. Demonstrate sound knowledge of C-20G survival equipment.

Prerequisite. GFAM-1103

GFAM-1105   1.5   *   B   1   C-20G   A

Goal. Introduce oxygen equipment.

Requirement. Introduce oxygen equipment to include passenger and cabin crew oxygen system, first aid oxygen and masks, portable oxygen cylinders, oxygen masks (main cabin).

Performance Standard. Demonstrate sound knowledge of C-20G oxygen equipment.

Prerequisite. GFAM-1103

GFAM-1106   1.50   *   B   1   C-20G   A

Goal. Introduce lighting and public address (PA) system.

Requirement. Introduce aircraft lighting to include normal, emergency, and evacuation lighting. Introduce the public address system to include priority and call lights.

Performance Standard. Demonstrate sound knowledge of C-20G lighting and PA system.

Prerequisite. GFAM-1103

GFAM-1107   1.5   *   B   1   C-20G   A

Goal. Introduce lavatory system and galley.

Requirement. Introduce the lavatory system to include potable water system, filters and shutoff, servicing panel, wastewater tanks, toilet servicing, and cold weather servicing. Introduce aircraft galley and equipment to include ovens, hot cups, cold storage ice drawer, and the galley electrical control panel and outlets.

Performance Standard. Demonstrate sound knowledge of C-20G lavatory system and galley.

Prerequisite. GFAM-1103

GFAM-1108   1.5   *   B   1   C-20G   A

Goal. Introduce Defense Travel System.

Requirement. Introduce the defense travel system to include creation of group travel authorizations, orders, vouchers, etc.

Performance Standard. Demonstrate sound knowledge of DTS.

Prerequisite. GFAM-1103

GFAM-1109   1.5   *   B   1   C-20G   A

Goal. Introduce cargo door.

Requirement. Introduce cargo door operations and limitations.

Performance Standard. Demonstrate sound knowledge of C-20G cargo door system.

Prerequisite. GFAM-1103

GFAM-1110   1.5   *   B,R   E   1   C-20G   A

Goal. Stage Check.

Requirement. Review all aspects of the C-20G to include systems, normal, and abnormal procedures. Instructor-selected emergencies to include emergency egress of aircrew and passengers.

Performance Standard. Demonstrate mastery of loadmaster-specific systems and procedures.

Prerequisite. GFAM-1101 thru GFAM 1109

3. CPL

    a. Purpose. Expose LMUI to mission-specific issues including weight and balance, cargo loading, and passenger loading.

    b. General

       (1) Events may be conducted in conjunction with line missions or dedicated training missions. Multiple events may be conducted on one sortie, provided the student is progressing adequately. Sortie time allotted for each event may be shortened at the discretion of the instructor.

       (2) All events in the Ground Familiarization stage must be completed prior to commencing the Cargo and Passenger Loading stage.

    c. Crew Requirements. In addition to a TAC, CP, and CC, a qualified and proficient Loadmaster is required for these events in order to supervise the LMUI and meet the minimum crew requirements.

CPL-1201   3.0   *   B   1   C-20G   A   (N*)

        Goal. Introduce LMUI to aircraft and loadmaster duties.

        Requirement. Review loadmaster pre and post-flight duties, APU procedures, and aircraft rigs. Introduce loadmaster brief techniques and procedures to include departure, thru-briefs and seat belt demonstration.

        Performance Standard. Demonstrate sound knowledge of covered material and both normal and abnormal procedures.

        Prerequisite. GFAM-1110.

CPL-1202   3.0   *   B   1   C-20G   A   (N*)

        Goal. Introduce LMUI to aircraft and loadmaster duties.

        Requirement. Review loadmaster pre- and post-flight duties, APU procedures, aircraft rigs, departure brief, thru-brief, seat belt demonstration, and instructor- selected emergencies. Introduce approach brief, over-water brief, landing brief, and abnormal landing brief.

        Performance Standard. Demonstrate sound knowledge of covered material and both normal and abnormal procedures.

        Prerequisite. GFAM-1110.

CPL-1203   3.0   *   B   1   C-20G   A   (N*)

        Goal. Introduce LMUI to aircraft and loadmaster duties.

        Requirement. Review loadmaster pre- and post-flight duties, APU procedures, aircraft rigs, and instructor- selected briefs and emergencies. Introduce VIP brief and procedures.

Performance Standard. Demonstrate sound knowledge of covered
material and both normal and abnormal procedures.

Prerequisite. GFAM-1110.

CPL-1204   3.0   *   B   1   C-20G   A   (N*)

Goal. Introduce mission planning.
Requirement. Introduce mission planning concepts and
procedures to include load planning, cargo inspection, cargo
loading and unloading, cargo loading and offloading, passenger
handling, and air terminal operations.

Performance Standard. Demonstrate sound knowledge of covered
material.

Prerequisite. GFAM-1110.

CPL-1205   3.0   *   B   1   C-20G   A   (N*)

Goal. Introduce mission planning.

Requirement. Introduce mission planning concepts and
procedures to include Form F, Logistics Flight Record,
NAVFLIR, baggage handling, crew coordination.

Performance Standard. Demonstrate sound knowledge of covered
material.

Prerequisite. GFAM-1110.

CPL-1206   3.0   *   B   1   C-20G   A   (N*)

Goal. Introduce mission planning.

Requirement. Introduce mission planning concepts and
procedures to include customs, agriculture, mail handling,
classified material, arms and ammunition, hazardous cargo,
oversized cargo, piercing or penetrating cargo, compressible
and incompressible cargo, shoring, restraint requirements, and
live animal cargo.

Performance Standard. Demonstrate sound knowledge of covered
material.

Prerequisite. GFAM-1110.

CPL-1207   3.0   *   B   1   C-20G   A   (N*)

Goal. Introduce passenger handling responsibilities.

Requirement. Introduce passenger handling to include
identification requirements, proper attire, **VIP**, dependents,
and passenger baggage.

Performance Standard. Demonstrate sound knowledge of covered
material and both normal and abnormal procedures.

Prerequisite. GFAM-1110.

CPL-1208   3.0   *   B   1   C-20G   A   (N*)

    Goal. Introduce Weight and Balance (W&B).

    Requirement. Introduce W&B terminology and publications to include the NAVAIR 01-1B-40, 01-1B-50, 01-C20AAA-1.

    Performance Standard. Demonstrate sound knowledge of covered material and both normal and abnormal procedures.

    Prerequisite. GFAM-1110.

CPL-1209   3.0   *   B   1   C-20G A   (N*)

    Goal. Introduce W&B.

    Requirement. Review W&B terminology and applicable publications. Introduce load charts and forms to include DD-365, DD-365-1, DD-365-2, DD365-3, DD365-4, chart E, and Form F.

    Performance Standard. Demonstrate sound knowledge of covered material.

    Prerequisite. GFAM-1110.

CPL-1210   3.0   *   B   1   C-20G   A   (N*)

    Goal. Introduce cargo loading equipment.

    Requirement. Introduce cargo loading equipment to include forklift, K-loader, high lift truck, roller tongs, pallets, and nets. Conduct loading exercises with each piece of equipment until familiar.

    Performance Standard. Demonstrate sound knowledge of equipment used in cargo loading.

    Prerequisite. GFAM-1110.

CPL-1211   3.0   *   B   1   C-20G   A   (N*)

    Goal. Introduce cargo loading systems.

    Requirement. Introduce cargo loading systems to include rigid end restraint, side guide rails, roller conveyor assemblies, ball transfer conveyors, retractable dual-end restraints, and doorsill conveyor assemblies. Review cargo-loading equipment.

    Performance Standard. Demonstrate sound knowledge of equipment used in cargo systems.

    Prerequisite. GFAM-1110.

CPL-1212   3.0   *   B   1   C-20G   A   (N*)

        Goal. Introduce cargo handling.

        Requirement. Introduce cargo handling to include oversized
cargo, piercing or penetrating cargo, shoring, dunnage,
alternate restraint, restraint requirements, and live animal
handling. Review cargo-loading equipment and cargo-loading
systems.

        Performance Standard. Demonstrate sound knowledge of cargo
handling concepts.

        Prerequisite. GFAM-1110.

CPL-1213   3.0   *   B,R   E   1   C-20G   A   (N*)

        Goal. Stage Check.

        Requirement. Evaluate LMUI progress. Review all aspects of
cargo and passenger loading.

        Performance Standard. Demonstrate mastery of cargo and
passenger handling concepts.

        Prerequisite. CPL-1201 thru CPL-1212.

409. CORE SKILL (2000). There are no Core Skill events for the C-20G
Loadmaster.

410. MISSION SKILL PHASE (3000)

1. General

    a. This phase of training is designed to enable Load Masters to obtain
and maintain proficiency in Mission Skills. Mission Skills are designed to
fulfill the requirements of the C-20G Mission Essential Task List as defined
by the associated Marine Corps Task (MCT).

    b. Stages. The following stages are included in the Mission Skill Phase
of training.

        • Operational Airlift Support (OSA)

2. OSA

    a. Purpose. This stage of training is designed to fulfill the
requirement set in MCT 1.3.3.3.1, Conduct Aviation Support Operations.

    b. Crew Requirement. TAC, CP, CC

OSA-3101   4.0   60   B,R   1   C-20G   A/S   (N*)

        Goal. Aircraft proficiency. Retain and maintain proficiency with all
aspects of aircraft operation. Perform all standard loadmaster duties
during a line mission under the supervision of a current and proficient
loadmaster.

Requirement. Discuss selected systems. Demonstrate competence in all areas of C-20G LM responsibilities.

Performance Standard. Perform all loadmaster duties in accordance with applicable directives.

Prerequisite. DESG-6504

Crew Requirement. TAC, CP, CC, LM

OSA-3102   4.0   60   B,R   1   C-20G   A/S (N*)

Goal. Conduct a line mission under actual or simulated tasking from Higher Headquarters.

Requirement. Conduct a line mission.

Performance Standard. Conduct a line mission involving (but not limited to) overwater flight, international airspace, or takeoffs and landings away from home station and outside of the local flying area. A line mission should involve some level of Distinguished Visitor (DV), general passenger, or cargo carrying operations. If CACT is being used to update proficiency, the mission planning phase must include the same level of preparation and products as an event flown in the actual aircraft.

Prerequisite. DESG-6504

Crew Requirement. TAC, CP, CC, LM

411. CORE PLUS SKILL PHASE (4000). This phase is not applicable to the C-20G.

412. INSTRUCTOR TRAINING PHASE (5000)

1. General. The purpose of this Phase is to train qualified pilots to instruct various levels of instruction.

2. Stages

- Instructor Under Training Flights (IUT)
- Designations (DESG)

3. IUT

    a. Purpose. Earn designation as Load Master Instructor (LMI).

    b. General. To be eligible for this stage, the LM must be nominated by the standardization board and approved by the commanding officer, and should have flown 400 hours acting as a loadmaster in the C-20G. Upon successful completion of IUT-502, LM may be designated a LMI by the Commanding Officer.

    c. Crew Requirements. TAC, CP, CC, LMI, LMIUI.

    d. Ground/Academic Training. The LMUI must be a designated CRM Facilitator prior to being designated a LMI.

IUT-5001   3.0   *   B,R   E   1   C-20G   A   (N*)

        Goal. Introduce LMIUI to teaching concepts.

        Requirement. Monitor a designated LMI instructing a LMUI in
all facets of aircraft operations and loadmaster duties.
Discuss specific instructor techniques. Discuss all
publications and duties from an instructing standpoint.
Performance Standard. Monitor LMI-led mission.

        Prerequisite. DESG-6504

IUT-5002   3.0   *   B,R   E   1   C-20G   A   (N*)

        Goal. Evaluate LMIUI ground instruction.

        Requirement. Evaluate LMIUI teaching any ground
familiarization event (GFAM 1001-1010) to a LMUI.

        Performance Standard. LMIUI effectively teaches the material.

        Prerequisite. IUT-5001

IUT-5003   10.0   *   B,R   E   1   C-20G   A   (N*)

        Goal. Conduct a mission acting as LMI instructing a LMUI.

        Requirement. Lead an instructional mission that covers all
facets of aircraft operations and loadmaster duties.
Emphasize academic knowledge and instructional techniques.

        Performance Standard. Conduct a safe and efficient mission
while instructing a LMUI.

        Prerequisite. IUT-5002.

IUT-5004   10.0   *   B,R   E   1   C-20G   A   (N*)

        Goal. Instructor Check.

        Requirement. Lead an instructional mission that covers all
facets of aircraft operations and loadmaster duties.
Emphasize academic knowledge and instructional techniques.

        Performance Standard. Demonstrate mastery of all knowledge
and control of every situation while conducting an
instructional mission.

        Prerequisite. IUT-5003.

413. REQUIREMENTS, QUALIFICATIONS, DESIGNATIONS (RQD) PHASE (6000)

1. General. To provide a vehicle for tracking codes associated with
certifications, qualifications and designations. E-coded sorties are
evaluation sorties. Once the flight to attain the qualification or
designation is complete, a letter from the squadron Commanding Officer

awarding the qualification or designation shall be placed in the individual's NATOPS jacket.

2. Stages

- Academics (ACAD)
- NATOPS (NTPS)
- Emergency Procedures (EP)
- LM Designation (DESG)

3. ACAD. To provide yearly NATOPS academic requirements to maintain currency in the aircraft.

ACAD-6000   3.0   365   B,R   E

Goal. The open book examination shall consist of, but not be limited to the question bank. The purpose of the open book examination is to evaluate the Load Master's knowledge of the appropriate publications and the aircraft.

Performance Standard. Achieve a minimum score of 3.5 on the open book examination.

ACAD-6001   1.0   365   B,R   E

Goal. The purpose of the closed book examination is to evaluate the Load Master's knowledge of the concerning normal/emergency procedures and aircraft limitations.

Performance Standard. Achieve a minimum score of 3.5 on the closed book examination.

Prerequisite. ACAD-6000

ACAD-6002   1.0   365   B,R   E

Goal. The oral examination shall consist of, but not be limited to the question bank. The instructor may draw upon their experience to propose questions of a direct and positive manner and in no way be opinionated to evaluate the Load Master's knowledge of the concerning normal/emergency procedures, aircraft limitations, and performance.

Performance Standard. Achieve a minimum grade of qualified on the oral examination.

Prerequisite. ACAD-6000, ACAD-6001 within 60 days preceding this event.

ACAD-6005   3.0   365   B,R   E

Goal. CRM ground instruction in accordance with applicable directives and instructions.

Performance Standard. Demonstrate satisfactory knowledge of CRM principles and their application.

3. NTPS

a. <u>Purpose</u>. Provide required annual NATOPS and CRM flights to maintain currency.

b. <u>Crew Requirements</u>. Crew requirements are delineated on each flight to ensure proper crew composition.

NTPS-6100   3.0   365   B,R   E   1   C20-G   S/A   (N*)

Goal. Complete Annual NATOPS evaluation.

Requirement. Perform annual NATOPS evaluation per OPNAVINST 3710 and all applicable local directives.

Performance Standard. Be able to safely operate the aircraft IAW the C-20G NATOPS and unit SOPs under normal and emergency situations to the level of positional designation within the aircraft.

Prerequisite. ACAD-6000, ACAD-6001, ACAD-6002 within 60 days preceding this event.

Crew Requirements. TAC, CP, LMUI, LMANI/NI

NTPS-6101   3.0   365   B,R   E   1   C-20G   A/S   (N*)

Goal. Complete Annual CRM flight evaluation.

Requirement. Perform initial/annual CRM flight evaluation per applicable directives.

Performance Standard. Demonstrate knowledge of all aspects of CRM with respect to duties performed as LM.

Prerequisite. ACAD-6005

Crew Requirements. TAC and CP (one must be CRMF) and LMUI

4. EP

a. <u>Purpose</u>. Maintain monthly and quarterly emergency procedure training.

b. <u>General</u>. Emergency procedure training consists of a monthly EP exam and a quarterly EP simulator. In the event the simulator is unavailable, the EP review may be conducted in the cockpit either pre or post flight as a static event.

c. <u>Crew Requirements</u>. Emergency Procedure review events may be instructed by any qualified aircrew and should be accomplished with two pilots and a Load Master.

EP-6300   1.0   30   B,R   E

    Goal. Monthly Emergency Procedures Exam.

    Requirement. Conduct a monthly EP Exam per NAVMC 3500.14

EP-6301   1.0   90   B,R   E   1   C-20G   S/A   (N*)

    Goal. Emergency Procedure Review.

    Requirement. This event will review C-20G emergency procedures and
fulfills the requirement of quarterly EP simulator training per NAVMC
3500.14. This event can be accomplished as a combined event in the
simulator or in the actual aircraft while airborne or sitting on the
deck.

    Performance Standard. Comply with C-20G NFM Emergency Procedures.

5. DESG

    a. Purpose. To obtain the designation of a C-20G Load Master.

    b. General. A designated NATOPS Load Master Instructor will observe and
certify that the LMUI is NATOPS qualified per the applicable directives.
Satisfactory completion of CPL-1213 is a prerequisite for the NATOPS flight
evaluation. At the successful completion of DESG-6504 the LMUI will be
designated a C-20G Load Master.

    c. Crew Requirements. TAC, CP, CC, LMI, LMUI.

    d. Ground/Academic Training. LMUI shall complete NATOPS open/closed book
tests prior to flight.

DESG-6504   3.0   *   B,R   E   1   C-20G   A   (N*)

    Goal. Evaluate Load Master knowledge of aircraft systems and normal and
abnormal emergency procedures.

    Requirement. Perform all duties as Load Master on the C-20G during a
line mission. The mission must include an overnight visit to a field
other than the home field. Perform all procedures IAW NATOPS
procedures to include all Operating Manuals and Standard Operating
Procedures. Instructor selected emergencies.

    Performance Standard. LMUI shall perform all duties and procedures IAW
applicable directives.

    Prerequisite. CPL-1213, ACAD-6000, ACAD-6001, ACAD-6002.

414. T&R SYLLABUS MATRIX

CORE SKILL INTRODUCTION TRAINING (1000 PHASE EVENTS)

Ground Familiarization Events (GFAM)

STAGE	TRNG CODE	DESCRIPTION	POI	EVAL	DEVICE	# OF A/C	CONDITIONS	REFLY	TOTAL EVENTS	ACAD HRS	TOTAL EVENTS	GFAM HRS	TOTAL FLTS	FLT HRS	PREREQUISITE	CHAINING	EVENT CONV
GFAM	1101	Introduce aircraft and loadmaster duties	B		A	1	(N*)	*						1.5	None		
GFAM	1102	Introduce aircraft and loadmaster duties	B		A	1	(N*)	*						1.5	1101		
GFAM	1103	Introduce doors and entrances	B		A	1	(N*)	*						1.5	1102		
GFAM	1104	Introduce Survival Equipment	B		A	1	(N*)	*						1.5	1103		
GFAM	1105	Introduce oxygen equipment	B		A	1	(N*)	*						1.5	1103		
GFAM	1106	Introduce lighting and public address (PA) system	B		A	1	(N*)	*						1.5	1103		
GFAM	1107	Introduce lavatory system and galley	B		A	1	(N*)	*						1.5	1103		
GFAM	1108	Introduce Defense Travel System	B		A	1	(N*)	*						1.5	1103		
GFAM	1109	Introduce cargo door	B		A	1	(N*)	*						1.5	1103		
GFAM	1110	Stage Check	B,R	E	A	1	(N*)	*						1.5	1101 thru 1109	*	
		GFAM TOTAL											10	15.0			

Cargo and Passenger Loading (CPL)

STAGE	TRNG CODE	DESCRIPTION	POI	EVAL	DEVICE	# OF A/C	CONDITIONS	REFLY	TOTAL EVENTS	ACAD HRS	TOTAL EVENTS	GFAM HRS	TOTAL FLTS	FLT HRS	PREREQUISITE	CHAINING	EVENT CONV
CPL	1201	Introduce LMUI to aircraft and loadmaster duties	B		A	1	(N*)	*						3.0	1110		
CPL	1202	Introduce LMUI to aircraft and loadmaster duties	B		A	1	(N*)	*						3.0	1110		
CPL	1203	Introduce LMUI to aircraft and loadmaster duties	B		A	1	(N*)	*						3.0	1110		
CPL	1204	Introduce mission planning	B		A	1	(N*)	*						3.0	1110		
CPL	1205	Introduce mission planning	B		A	1	(N*)	*						3.0	1110		
CPL	1206	Introduce mission planning	B		A	1	(N*)	*						3.0	1110		
CPL	1207	Introduce passenger handling responsibilities	B		A	1	(N*)	*						3.0	1110		
CPL	1208	Introduce Weight and Balance (W&B)	B		A	1	(N*)	*						3.0	1110		
CPL	1209	Introduce Weight and Balance (W&B)	B		A	1	(N*)	*						3.0	1110		
CPL	1210	Introduce cargo loading equipment	B		A	1	(N*)	*						3.0	1110		
CPL	1211	Introduce cargo loading equipment	B		A	1	(N*)	*						3.0	1110		
CPL	1212	Introduce cargo handling	B		A	1	(N*)	*						3.0	1110		
CPL	1213	Stage Check	B,R	E	A	1	(N*)	*						3.0	1110		
		CPL TOTAL											13	39.0			
		CORE SKILL INTRODUCTION TRAINING (1000 PHASE EVENTS) TOTAL											23	54.0			

MISSION SKILL TRAINING (3000 PHASE EVENTS)

AVIATION SUPPORT OPERATIONS (OSA)

STAGE	TRNG CODE	DESCRIPTION	POI	EVAL	DEVICE	# OF A/C	CONDITIONS	REFLY	TOTAL EVENTS	ACAD HRS	TOTAL EVENTS	GFAM HRS	TOTAL FLTS	FLT HRS	PREREQUISITE	CHAINING	EVENT CONV
OSA	3101	Aircraft Proficiency	B,R		A	1	(N*)	60					1	4.0	6504		
OSA	3102	Operational Aircraft Support	B,R		A/S	1	(N*)	60					1	4.0	6504		
		MISSION SKILLTRAINING (3000 PHASE EVENTS) TOTAL											2	8.0			

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STAGE CONV	TRNG CODE	DESCRIPTION	POI	EVAL	DEVICE	# OF A/C	CONDITIONS	REFLY	TOTAL EVENTS	ACAD HRS	GFAM HRS	TOTAL FLTS	FLT HRS	PREREQUISITE	CHAINING	EVENT CONV
		CORE PLUS TRAINING (4000 PHASE EVENTS)														
		There are no 4000 level events for the C-20G.														
		INSTRUCTOR TRAINING (5000 PHASE EVENTS)														
		INSTRUCTOR UNDER TRAINING (IUT)														
IUT	5001	Instructional Techniques	B,R	E	A	1	(N*)	*					3.0	6504		500
IUT	5002	Evaluate LMIUI ground instruction	B,R	E	A	1	(N*)	*					3.0	5001		501
IUT	5003	Conduct Mission as LMI instructing LMUI	B,R	E	A	1	(N*)	*					10.0	5002		
IUT	5004	Instructor Check	B,R	E	A	1	(N*)	*					10.0	5003		
		INSTRUCTOR TRAINING (5000 PHASE EVENTS) TOTAL										4	26.0			
		REQUIREMENT, QUALIFICATIONS, AND DESIGNATIONS (RQD) (6000 PHASE)														
		REQUIREMENTS (RQD)														
		ACADEMICS (ACAD)														
ACAD	6000	NATOPS Open Book Exam	B,R	E				365	1	2.0						600
ACAD	6001	NATOPS Closed Book Exam	B,R	E				365	1	1.0				6000		
ACAD	6002	NATOPS Oral Exam	B,R	E				365	1	1.0				6000,6001		
ACAD	6005	CRM Ground	B,R	E				365	1	2.0						
		NATOPS EVALUATION (NTPS)														
NTPS	6100	NATOPS Evaluation	B,R	E	A/S	1		365	1			1	3.0	6000,6001,6002		
NTPS	6101	CRM Flight	B,R	E	A/S	1		365	1			1	3.0	6005		
		EMERGENCY PROCEDURES (EP)														
EP	6300	Montly EP exam	B,R	E				30	1	1.0						
EP	6301	90 Day EP Pratical Review	B,R	E	A/S	1		90	1	1.0			2	6.0			
		RQD ACAD TOTAL							6	10.0		2	6.0			
		CC DESIGNATION (DESG)														
DESG	6504	LM Designation	B,R	E	A	1	(N*)	*				1	3.0	1213,6000,6001,6002		
		DESG TOTAL										1	3.0			
		REQUIREMENT, QUALIFICATIONS, AND DESIGNATIONS (RQD) (6000 PHASE) TOTAL							6	10.0		4	12.0			