CHIEF OF NAVAL AIR TRAINING

# T-44C
INTERMEDIATE E-2/C-2
MPTS

2013

DEPARTMENT OF THE NAVY
CHIEF OF NAVAL AIR TRAINING
250 LEXINGTON BLVD SUITE 102
CORPUS CHRISTI TX 78419-5041

CNATRAINST 1542.175
N713
6 Sep 13

CNATRA INSTRUCTION 1542.175

Subj: T-44C E-2/C-2 INTERMEDIATE MULTI-SERVICE PILOT TRAINING
       SYSTEM (MPTS) FLIGHT TRAINING CURRICULUM

1. Purpose. To publish the curriculum for training Naval
Aviators in the Intermediate E-2/C-2 MPTS phase of flight
training.

2. Cancellation. Upon implementation, this curriculum replaces
the E-2/C-2 portion of CNATRAINST 1542.147G, Advanced Multi-
Engine MPTS.

3. Action. This instruction is effective upon implementation
by CNATRA (N3). After release of CNATRAINST 1542.176, T-45C
Advanced E-2/C-2 MPTS, CNATRA (N3) will select SNAs for the E-2/
C-2 pipeline upon their completion of the Primary phase of
training. No changes to this instruction will be made without
written authorization by the Chief of Naval Air Training
(CNATRA).

4. Forms. The CNATRA forms required by this instruction are
automated in the Training Integration Management System (TIMS)
computer program. Additional CNATRA forms are available on the
CNATRA website https://www.cnatra.navy.mil/pubs/forms.htm.
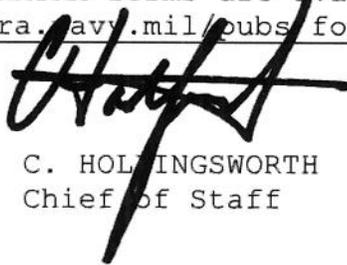
C. HOLLINGSWORTH
Chief of Staff

Distribution:
CNATRA Website

BLANK PAGE

<u>LIST OF EFFECTIVE PAGES</u>

<u>Original</u>

Total number of pages is 140 consisting of the following:

<u>Page Number</u>   <u>Issue</u>

Letter – 2
3/(4 blank)
i – ii
iii/(iv blank)
v/(vi blank)
vii - xviii
xix/(xx blank)
I-1 – I-2
I-3/(I-4 blank)
I-5 – I-26
II-1 – II-10
III-1/(III-2 blank)
IV-1 – IV-20
V-1 – V-26
V-27/(V-28 blank)
VI-1/(VI-2 blank)
VII-1 – VII-4
VII-5/(VII-6 blank)
VIII-1/(VIII-2 blank)
IX-1 – IX-16
IX-17/(IX-18 blank)
X-1/(X-2 blank)

BLANK PAGE

TABLE OF CONTENTS

CHAPTER V. INSTRUMENT TRAINING

CHAPTER VI. NAVIGATION TRAINING

CHAPTER VII. FORMATION TRAINING

CHAPTER VIII. TACTICAL TRAINING

CHAPTER IX. COURSE TRAINING STANDARDS

CHAPTER X. MASTER MATERIALS LIST

BLANK PAGE

SUMMARY OF CHANGES

CHANGE NUMBER	DATE OF CHANGE	CHANGE DESCRIPTION	PAGES AFFECTED/ INITIALS

BLANK PAGE

COURSE DATA

1. Course Title. T-44C E-2/C-2 Intermediate Multi-Service
Pilot Training System (MPTS) Flight Training Curriculum.

2. Course ID Number (CIN). Q-2A-0175.

3. Location. Naval Air Station, Corpus Christi, Texas 78419.

4. Course Status. Active.

5. Course Mission. The mission of Intermediate E-2/C-2 MPTS is
to develop multi-engine flight skills while emphasizing
instrument flying and crew coordination. At the successful
completion of this phase of aviation training, the student will
enter Advanced E-2/C-2 MPTS training.

6. Prerequisite Training. Successful completion of MPTS
Primary curriculum (Q-2A-0108) or T-6B Joint Primary Pilot
Training (Q-2A-0417).

7. Security Clearance Required. None.

8. Follow-on Training. As required by CNATRA for each specific
mission assignment.

9. Course Length. Overall time to train calculated in
accordance with CNATRAINST 1550.6E. Training Days account
directly or provide margin for factors including weather,
personnel and equipment availability, briefing and preparation
time, and historical delays. Calendar Weeks further account for
weekends, holidays, safety standdowns, and other expected
nonworking days throughout the year.

	Training Days	Calendar Weeks
E-2/C-2	71.2	15.8

10. Class Capacity. Variable.

11. Instructor/Requirements. As established by Chief of Naval
Operations (CNO) planning factors.

12. <u>Course Curriculum Model Manager</u>. Commander, Training Air Wing FOUR (COMTRAWING FOUR).

13. <u>Quota Management Authority</u>. Chief of Naval Air Training.

14. <u>Quota Control</u>. CNO.

15. <u>Course Training Subjects</u>

    a. <u>Ground Training</u>

GROUND TRAINING		
Subject	**Symbol**	**Hours**
Indoctrination	G01	4.10
Instrument Flight Rules	G02/G07	70.50
Systems	G03	34.50
Aerodynamics	G04	24.50
Flight Procedures	G05	11.75
Crew Resource Management	G06	2.00
Total		**147.35**

    b. <u>Flight Support</u>

FLIGHT SUPPORT		
Subject	**Symbol**	**Hours**
Contact Brief	C01	5.0
Instrument Brief/Flight Management System	I01	7.0
Maritime Formation Procedures	F01	1.0
Aerial Refueling Procedures	F02	1.0
Total		**14.0**

    c. Flight Training. Below are the programmed times for each phase, stage, and media:

FLIGHT TRAINING						
			T-44C			
Flight/Events	2F129C		Dual		Solo	
	Flts	Hrs	Flts	Hrs	Flts	Hrs
Procedure Trainer	6	9.0				
Contact	1	1.5	11	20.0	1	0.3
Contact Check Ride			1	1.5		
Night Contact			2	3.0		
Instruments	12	18.0	8	16.0		
Instrument Check Ride			1	1.5		
Maritime Formation and Aerial Refueling Fundamentals			1	3.0		
Totals	**19**	**28.5**	**24**	**45.0**	**1**	**0.3**

16. Training Preparation Time. In addition to the hours formally planned for classes, simulators, and flights, significant additional time to prepare and study should be expected outside of scheduled training hours. This range will vary depending on the complexity of the material and individual student needs, and may be up to several hours per event. For simulator and flight events, specific brief and taxi times will be programmed into TIMS and accounted for on the flight schedule, per the following table:

ADDITIONAL FORMAL TRAINING TIME PER EVENT			
Training Area	Brief/ Preflight/ Taxi	Taxi/ Debrief	Total
Flight	2.25	1.00	3.25
Simulator/CPT Dual Event	1.00	1.00	2.00
Simulator/CPT Single Event	0.50	0.50	1.00

17. <u>Physical Requirements</u>. As specified in the Manual of the Medical Department (NAVMED P-117) and all applicable anthropometric standards.

18. <u>Obligated Service</u>. Refer to MILPERSMAN for Naval personnel.

19. <u>Primary Instructional Methods</u>. Lecture, computer-assisted instruction (CAI), self- and group-paced study, and in-flight instruction.

20. <u>Preceding Curriculum Data</u>. This curriculum replaces the E-2/C-2 curriculum in CNATRAINST 1542.147G.

21. <u>Student Performance Measurement/Application of Standards</u>. The standards outlined in Chapter IX, Course Training Standards, are used to evaluate Student Military Aviator (SMA) performance of individual items and maneuvers. Final judgment regarding the satisfactory performance of any flight maneuver rests with the Instructor Pilot who must assess the environmental and systems factors affecting the conditions under which the performance is measured and the SMA's experience within the stage.

ABBREVIATIONS

The following is a list of abbreviations used in the curriculum:

AERO	-	Aerodynamics
AIM	-	Aeronautical Information Manual
AP	-	Area Planning
ARTCC	-	Air Route Traffic Control Center
ASR	-	Airport Surveillance Radar
ATC	-	Air Traffic Control
ATF	-	Aviation Training Form
ATIS	-	Automatic Terminal Information Service
ATJ	-	Aviation Training Jacket
ATS	-	Aviation Training Summary
AWOS	-	Automated Weather Observing System
BC	-	Back Course
CAI	-	Computer-Assisted Instruction
CIS	-	Contract Instructional Services
CNATRA	-	Chief of Naval Air Training
CO	-	Commanding Officer
CPT	-	Cockpit Procedures Trainer
CRIT	-	Criterion Quiz or Exam
CRM	-	Crew Resource Management
CRM-F	-	Crew Resource Management Facilitator
CRM-I	-	Crew Resource Management Instructor
CTS	-	Course Training Standards
DCONFP	-	Day Contact Flight Procedures
DH	-	Decision Height
DINS	-	Defense Internet NOTAM System
DME	-	Distance Measuring Equipment
DP	-	Departure Procedure
EFAS	-	Enroute Flight Advisory Service
EMFP	-	Emergency Flight Procedures
EOB	-	End of Block
EP	-	Emergency Procedure
ESIS	-	Electronic Standby Instrument System
ET	-	Extra Training

```
FAA       -  Federal Aviation Administration
FAR       -  Federal Aviation Regulations
FDC       -  Flight Data Center
FIH       -  Flight Information Handbook
FLIP      -  Flight Information Publication
FMS       -  Flight Management System
FP        -  Flight Procedures
FPC       -  Final Progress Check
FRR       -  Flight Rules and Regulations
FSS       -  Flight Support Services
FTI       -  Flight Training Instruction
GCA       -  Ground-Controlled Approach
GP        -  General Planning
GPS       -  Global Positioning System
GPSFP     -  Global Positioning System Flight Procedures
HILO      -  Holding-In-Lieu-Of
IAF       -  Initial Approach Fix
IAW       -  In Accordance With
IFR       -  Instrument Flight Rules
ILS       -  Instrument Landing System
IMC       -  Instrument Meteorological Conditions
IMS       -  International Military Student
IMSO      -  International Military Student Officer
INAV      -  Instrument Navigation
INS       -  Inertial Navigation System
IP        -  Instructor Pilot
IPC       -  Initial Progress Check
KIAS      -  Knots Indicated Airspeed
LECT      -  Lecture
LOA       -  Letter of Agreement
LOC       -  Localizer
LOC-BC    -  Localizer-Back Course
LPV       -  Local Performance with Vertical Guidance
LSC       -  Level Speed Change
MAP       -  Missed Approach Point
MDA       -  Minimum Descent Altitude
```

```
Metro    - Meteorology
MFD      - Multifunction Display
MIF      - Maneuver Item File
MIL      - Mediated Interactive Lecture
MPTS     - Multi-Service Pilot Training System
NACO     - National Aeronautical Charting Office
NATCAP   - Naval Air Training Class Advisor Program
NATOPS   - Naval Air Training Operating Procedures
           Standardization
NAVAID   - Navigational Aid
NDB      - Non-directional Beacon
NFS      - Naval Flight Student
NGA      - National Geospatial Intelligence Agency
NM       - Nautical Mile
NMU      - Number of Marginals and UNSATs
NOTAMs   - Notices to Airmen
NSS      - Navy Standard Score
NTAP     - National Track Analysis Program
ODP      - Obstacle Departure Procedure
OIS      - Obstacle Identification Surface
OPNAV    - Office of the Chief of Naval Operations
PAPI     - Precision Approach Path Indicator
PAR      - Precision Approach Radar
PAS      - Phase Aggregate Score
PF       - Pilot Flying
PIC      - Pilot-in-Command
PM       - Pilot Monitoring
PMSV     - Pilot-to-Metro Service
P/P      - Pen/Pencil and Paper
PT       - Procedure Turn
RAIM     - Receiver Autonomous Integrity Monitoring
RCVA     - Rockwell Collins Virtual Aircraft
RDO      - Runway Duty Officer
RNAV     - Area Navigation System
RRU      - Ready Room UNSAT
RV       - Radar Vectors
```

```
SDO      - Squadron Duty Officer
SID      - Standard Instrument Departure
SMA      - Student Military Aviator
SMS      - Student Monitoring Status
SNA      - Student Naval Aviator
SOP      - Standard Operating Procedure
Sqdn     - Squadron
SS       - Self-Study
SSE      - Simulated Single Engine
SSR      - Special Syllabus Requirement
STAR     - Standard Terminal Arrival
SYS      - Systems
TAC      - TACAN
TACAN    - Tactical Air Navigation
TAS      - Traffic Avoidance System
TERPs    - Terminal Instrument Procedures
TOLD     - Takeoff and Landing Data
TRB      - Training Review Board
UNSAT    - Unsatisfactory
USN      - United States Navy
VASI     - Visual Approach Slope Indicator
VCOA     - Visual Climb Over Airfield
VDA      - Vertical Descent Angle
VDP      - Visual Descent Point
VFR      - Visual Flight Rules
VHF      - Very High Frequency
VMC      - Visual Meteorological Conditions
Vmca     - Minimum Control Airspeed (air)
VNAV     - Visual Navigation
VOR      - VHF Omnidirectional Range
VR       - Visual Route
WX       - Weather
XO       - Executive Officer
```

GLOSSARY

1. Advancing X. Completed event within the normal syllabus
flow. Excludes events with last characters in the range 84-89.

2. Aviation Training Form. A grade sheet documenting SMA
performance for all categories of training regardless of media,
phase, or stage.

3. Aviation Training Jacket. The ATJ is the SMA's training
record. It contains ATFs, calendar card, grade reports, and all
other associated training information. It is filed in student
control and follows the SMA through all phases of training.

4. Aviation Training Summary. A tabular sheet listing the MIF
and maneuver grades within a training stage.

5. Block of Training. A sequential series of lessons within a
training stage sharing an identical MIF. The third character in
the lesson designator identifies a block.

6. Blue ATF. A standard ATF that is printed on blue paper.
The blue ATF is used to denote a Marginal event or SMS
documentation.

7. Check Ride (SXX90). A flight check in any stage of
training.

8. Contact. The stage of training that includes both day and
night familiarization.

9. Course of Training. The entire program of preflight,
flight, simulation, academics, and officer development conducted
in all media during the programmed training days.

10. Course Training Standard (CTS). A description of required
behaviors and standards of performance for a specific maneuver.
These standards are in Chapter IX.

11. Courseware. The technical data, flight training
instructions, audio, video, film, CAI, instructor guides,
student study guides, and other training material developed to
support and implement the syllabus of instruction.

12. Critical Item. Any maneuver coded with a plus sign (+).
This symbol indicates the maneuver is required and must be
accomplished to the specified standard in that block of
training.

13. Deliverables. A CNATRA 1542/1827 (Rev. 4-04) Training
Review Board Summary Form, generated by the TRB, which
summarizes a specific SMA's progress in a given syllabus and
provides detailed information on the application of MPTS
training for that SMA. Deliverables indicate whether the
quality and continuity of training provided was IAW CNATRAINST
1542.175 and indicate the degree of influence by "human factors"
on the SMA's performance.

14. Demonstrate. Instructor performs the maneuver with
precision and accompanying description. SMA is responsible for
knowledge of the procedures prior to event brief and observes
the maneuver.

15. Emergency Procedure. Any degradation of aircraft systems
or flight conditions requiring pilot action or intervention.

16. End of Block. Last event in block. In order to progress
past EOB, the SMA must meet or exceed MIF on all critical items,
and all optional items attempted, by the end of the block.
Flight shall consist of a cross-section of critical items;
however, all critical items do not have to be accomplished on
the last flight in block as long as MIF had been previously met.

17. Extra Training (SXX87). Additional SMA training flights
ordered by the Operations Officer, or higher, in order to
compensate for documented instructional deficiencies.

18. Final Progress Check (SXX89). A special check normally
given by the CO or XO. The CO may designate, in writing, FPC
duty to a qualified O-4 or above. This designation is only done
if the CO or XO is unqualified or unavailable to instruct in the
required stage. A satisfactory FPC returns the SMA to normal
syllabus flow. An UNSAT FPC results in a TRB.

19. Flight Training Instruction. A CNATRA-approved manual
describing flight procedures and techniques for each training
stage.

20. Hours per X (H/X). The average length for each event in a block, rounded to the nearest tenth of an hour.

21. Initial Progress Check (SXX88). A special check, given by the Operations Officer or his representative designated in writing by the squadron CO. A satisfactory IPC returns the SMA to normal syllabus flow. An UNSAT IPC results in an FPC.

22. Introduce. Instructor coaches the SMA through the maneuver as necessary and/or may demonstrate the maneuver again. The SMA is responsible for knowledge of the procedures prior to the event brief and for performing the maneuver with coaching.

23. Lesson Designator. All syllabus events have a five-character lesson designator in the following format:

Char	Meaning	Remarks	
1st	Stage	G—Ground C—Contact	I—Instrument F—Formation
2nd	Media	0—Ground Training 3—Simulator	2—CPT 4—Aircraft
3rd	Block	Sequential, indicating block within stage.	
4th & 5th	Event/Check Identifier	Sequential, indicating event within block, or other event types as shown below: 84—Adaptation 85—Practice Sim 86—Warmup 87—Extra Training	88—Initial Progress Check 89—Final Progress Check 90—Check Ride/Exam

24. Maneuver Item File. A listing of required maneuvers and associated proficiency levels for each block of training.

25. Master Syllabus. Chapters I-VIII list all training syllabus activities, prerequisites, and training flow for MPTS.

26. Naval Air Training Class Advisor Program Officer. An Instructor Pilot assigned to provide counseling and guidance to a specific student pilot or pilots throughout the applicable syllabus.

27. Off-Wing Flight. A Contact flight not flown with the SMA's on-wing.

28. On-Wing. The SMA's assigned instructor in the contact stage per CNATRAINST 1500.4G.

29. Outcomes. Potential courses of action following a progress check. There are only two basic outcomes:

    a. Pass – Return to training.

    b. Fail – Proceed with the attrition process/attrite.

30. Phase of Training. A major division in the course of training. MPTS consists of three phases: Primary, Intermediate, and Advanced.

31. Pink ATF. A standard ATF that is printed on pink paper. The pink ATF is used to denote an UNSAT event generating a progress check.

32. Practice. Instructor observes SMA with minimal coaching; may also demonstrate the maneuver if necessary. The SMA must perform maneuver with minimal coaching.

33. Progress Check Pilot. An Instructor Pilot authorized to administer Initial or Final Progress Checks.

34. Ready Room UNSAT (RRU). An UNSAT grade given for inadequate knowledge of flight procedures, systems, discuss items, emergency procedures, or deficient preflight planning.

35. Special Syllabus Requirement. One time, ungraded demonstration item(s).

36. Stage of Training. All training of a particular type (Ground, Contact, Instruments, Navigation, Formation, Tactical) within a phase. The first letter in the lesson designator identifies the stage of each lesson (Example: F4101 is in the Formation Stage).

37. Student Monitoring Status. Squadron-initiated status to address substandard SMA performance.

38. <u>Training Media</u>. MPTS media include aircraft, simulator, CPTs, ground training, and CAI. The second character in the lesson identifier designates the training media.

39. <u>Training Review Board</u>. A fact-finding board generated by a failed FPC that considers the circumstances relevant to the SMA's training, such as quality and continuity of training, outside influences, and extenuating circumstances. The TRB does not make attrition/retention recommendations.

40. <u>Warmup Event (SXX86)</u>. Additional events given to allow an SMA to regain a level of proficiency previously demonstrated which has diminished due to an extended break in training.

41. <u>Yellow ATF</u>. A standard ATF that is printed on yellow paper. The yellow ATF is used to denote an UNSAT event that does not generate a progress check.

BLANK PAGE

Chapter I

General Instructions

1. Syllabus Management

    a. Distribution. Participating squadron personnel.

    b. Interpretation. The syllabus is directive. Should circumstances create situations not covered within the scope of this syllabus, or specific course of action appears to conflict with other directives, consult CNATRA (N71).

    c. Deviations. Document all deviations on the event's ATF.

    d. Changes. Recommended changes shall be submitted in accordance with CNATRAINST 1550.6E.

    e. Execution. SMAs will execute all the curriculum events.

    f. Syllabus Description. Intermediate E-2/C-2 MPTS consists of intermediate multi-engine training for E-2/C-2 SMAs who will go to advanced jet training. This training is flown in the T-44C aircraft. Each phase is divided into stages. Stages are grouped by like flight training regimes: Contact, Instrument, and Formation. Each stage is subdivided into training blocks. The training blocks consist of a specified number of flights. Maneuver item files identify the acceptable level of performance that must be achieved at the completion of each training block.

    g. Grade Calculation

        (1) Phase Aggregate Score. An NFS's PAS is a comparative ranking based on the previous population of completers for a specific phase or portion of a phase of aviation training. PAS indicates only NFS performance relative to a normative population of other recent NFSs. Under the MPTS system, PAS is not by itself an indication of whether an NFS has met the criteria necessary for winging or continuation in aviation training.

MPTS SNA Calculations. From a population of previous SNAs, an SNA's PAS is calculated using equation (1), below:

$$SNA\_PAS = 50 + 10 * \left(0.9 * \frac{S - M1}{S1} + 0.1 * \frac{M2 - NMU}{S2} \right) \qquad (1)$$

Where

S – SNA Score
NMU – SNA Number of Marginals and UNSATs (NMU)
M1 – Squadron Average Score
M2 – Squadron Average NMU
S1 – Standard Deviation of Squadron Score
S2 – Standard Deviation of Squadron NMU

    (2) NSS. NSS is calculated to correct for potential non-normality in the distribution of PAS. NSS is calculated for the entire phase. NSS is calculated from PAS by using equation (2), below:

$$NSS = 50 + 10 * \left(\frac{PAS - MPAS}{SDPAS} \right) \qquad (2)$$

Where

PAS – NFS PAS
MPAS – Squadron Average PAS
SDPAS – Standard Deviation of Squadron PAS

2. Training Management

    a. Syllabus Progression. Fly syllabus events within each stage sequentially. Do not start a block without all prerequisites. SMAs may be in different stages or blocks simultaneously. Where applicable, SMAs will be eligible for, and shall be prepared for, more than one syllabus event. SMAs must complete all events. The flowchart on page I-5 delineates the sequence of flying events and their ground training prerequisites. System training management is designed to facilitate two graded events (flight, simulator, or exam) per SMA per day.

    b. Accelerated Progression. Under exceptional circumstances, an SMA's previous flight experience or demonstrated proficiency may warrant accelerated progression. The squadron CO may advance the SMA to the next block of instruction when all required items for the current block of instruction meet EOB MIF. This policy shall not be used to accelerate squadron production goals. It is strictly for the

rare instances where the SMA's demonstrated proficiency makes completion of all events within a block of instruction unnecessary. For example, pipeline reassignment of SMAs from Strike may warrant acceleration through the Instrument Phase based on previous instrument training. All records for the accelerated SMA will be clearly marked ACCELERATED PROGRESSION. ATFs for the events not flown will be completed with a note in the remarks section stating "ACCELERATED PROGRESSION – EVENT NOT FLOWN. ATF COMPLETED FOR ADMINISTRATIVE PURPOSES ONLY IAW CNATRAINST 1542.175."

c. <u>Maneuver Continuity</u>. SMAs must accomplish previously introduced maneuvers frequently enough to ensure required proficiency is maintained.

d. <u>Hours/X (H/X)</u>. Instructor Pilots shall plan and execute missions to meet H/X as closely as practical. If actual event length varies from H/X by more than 0.3 hours, annotate reason(s) in the ATF's general comments section. An SMA's deficiency is not an acceptable reason to exceed H/X by more than 0.3 hours.

e. <u>Special Syllabus Requirements</u>. The SSRs are allocated to blocks. Unless noted otherwise, IPs may accomplish SSRs on any flight within the block. The SSRs shall be completed in the specified block. Annotate completed SSR in the following three places on the TIMS ATF: Enter a remark in the Comments section, assign NG/1 as the SSR maneuver grade, and date/save SSR exposure on the ATF SSR tab.

f. <u>Aviation Training Jacket Reviews</u>. The Class Advisor shall conduct weekly jacket reviews in accordance with the NATCAP (CNATRAINST 5351.1B). ATS forms are required to be reviewed before each flight or simulator event. ATJ reviews may be made as often as warranted by the individual SMA's progress, subject to the following guidelines:

(1) All reviews shall be annotated on the CNATRA-GEN 1542/66, Jacket Review Divider, in the ATJ.

(2) SMAs placed on SMS require weekly ATJ reviews by the Student Control Officer for as long as the SMA remains on SMS.

BLANK PAGE

INTERMEDIATE E-2/C-2 MPTS COURSE FLOW
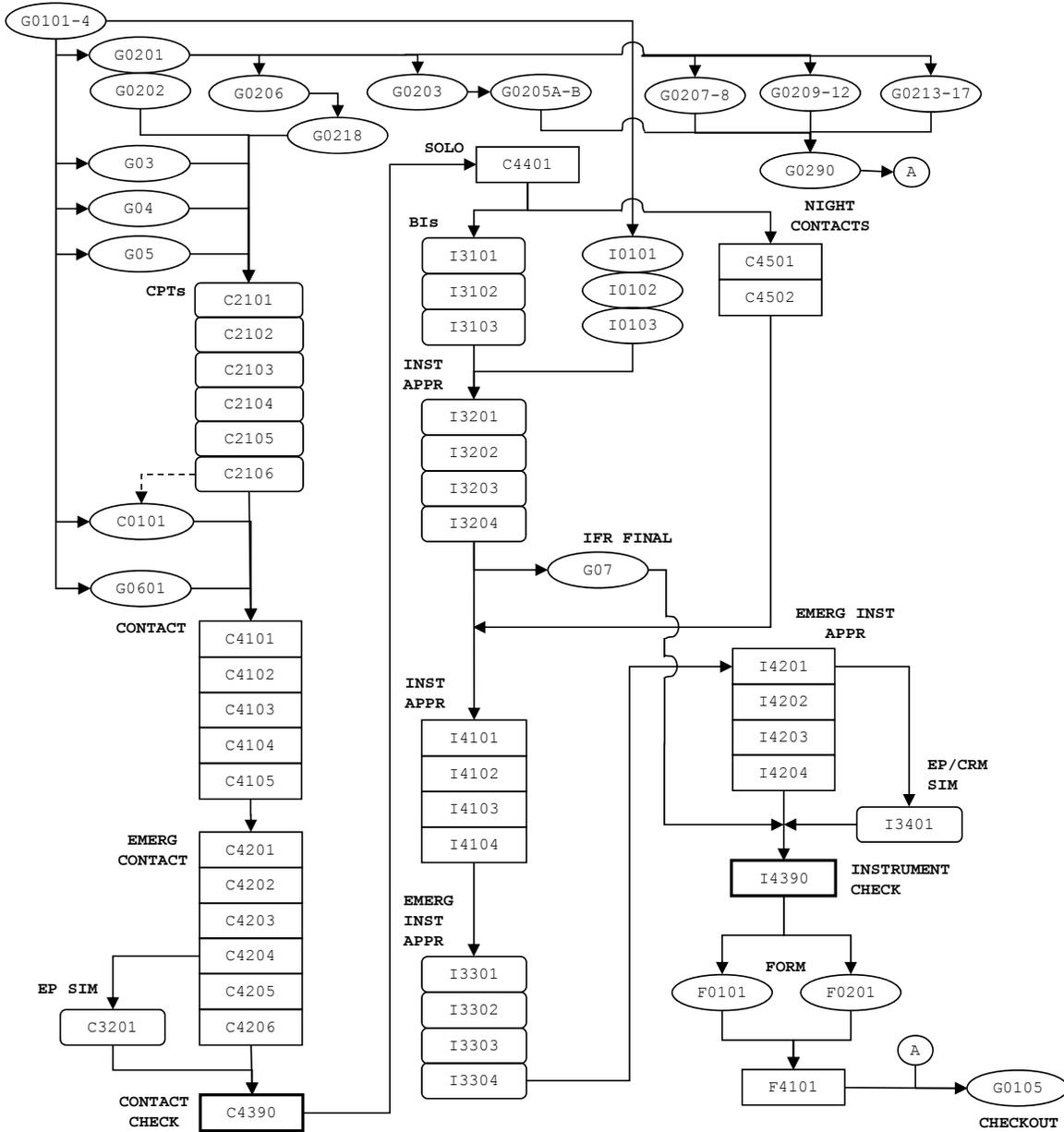
⬭	Ground Training	G0101-4 - Indoctrination G06 - CRM
▭	Flight	G02 - IFR - Phase I G07 - IFR - Phase II
▭	Simulator	G03 - Systems C01 - Contact Briefs
		G04 - Aerodynamics I01 - Instrument Brief/FMS
		G05 - Flight Procedures ------ Alternate Flow

3. <u>UNSAT Performance</u>. (See also ***Progress Check Procedures***, Chapter I, paragraph 10c(3).

    a. <u>Flight/Simulator</u>

       (1) If syllabus events remain in the block, the SMA shall progress to the next syllabus event, until the second ***consecutive*** UNSAT or third ***cumulative*** UNSAT in the block.

       (2) If no syllabus events remain, repeat the last syllabus event in the block until the SMA meets MIF, the second consecutive UNSAT, or the third cumulative UNSAT.

       (3) An UNSAT check ride (SXX90), two consecutive UNSATs, or three cumulative UNSATs (in the same block) result in an IPC. Document the failed check ride or second consecutive/third (in block) cumulative UNSAT on a pink ATF for that syllabus event.

       (4) A subsequent check ride failure, two further consecutive UNSATs, or three more cumulative UNSATs (in block) result in an FPC. Document the subsequent failed check ride, second consecutive/third (in block) cumulative UNSAT on a pink ATF generating the progress check.

       (5) Failing an FPC results in a TRB.

    b. <u>Ready Room UNSAT (RRU)</u>. An RRU is defined as either of the following situations:

       (1) The SMA is inadequately prepared for the scheduled event. A "Ready Room UNSAT" is awarded when an SMA demonstrates UNSAT knowledge during a brief. A pink ATF shall be generated for all "Ready Room UNSATs" and at least one item on the ATF shall be graded UNSAT. A missed brief does not constitute a "Ready Room UNSAT" and should be dealt with using other disciplinary methods. Use a supplemental ATF to document a missed brief and then administer counseling/discipline as required by the squadron CO.

       (2) The SMA fails an examination during the brief (ops limits quiz, NATOPS quiz, etc.).

    c. <u>Academic</u>. Failing two exams triggers an IPC or FPC as appropriate.

d. Remediation

(1) A ground evaluation emphasizing the deficient areas may clear an UNSAT check ride or end of block syllabus event caused solely by ground operations.

(2) End of block UNSAT syllabus events in the Instrument stage may be cleared in the simulator if these conditions are met:

(a) The cause of the UNSAT is specific to the maneuver.

(b) The simulator is suited to the failed maneuver.

e. Restrictions. Until remediating the UNSAT:

(1) The SMA shall not fly solo.

(2) The SMA shall not accomplish any training except academic classes, examinations, and ground training events, provided the UNSAT event was not a prerequisite.

4. Training Review Board

a. Scope. Consider the circumstances relevant to the SMA's training, for example:

(1) Quality of training provided in accordance with applicable FTI.

(2) Continuity of training provided.

(3) Outside influences/extenuating circumstances.

(4) The TRB **shall not** make attrition/retention recommendations.

b. Composition

(1) Voting Members. The board consists of three voting members, one of which is the Senior Member. The TRAWING Commander designates the Senior Member in writing.

(2) <u>Other Members/Observers</u>. At least one member will be from the SMA's parent service. For IMSs, where possible, include the country liaison officer and the squadron IMSO as observers.

(3) <u>Academic Failures</u>. TRBs convened due to academic failures may include one qualified civilian instructor as a voting member.

(4) <u>Exclusion</u>. The following conditions exclude an instructor from acting as a voting member on an SMA's TRB:

(a) The SMA's on-wing.

(b) Any instructor who has been on a previous TRB for the SMA.

(c) Any instructor who has awarded an UNSAT to the SMA in the relevant training stage.

(d) The IMSO, in the case of an international SMA.

c. <u>Deliverables</u>

(1) A background paper assessing the SMA's training quality and highlighting any irregularities.

(2) A CNATRA 1542/1827 (Rev. 4-04), Training Review Board Summary form.

5. <u>Instructor Continuity</u>

a. SMAs shall fly Contact syllabus events C4101-5 and C4201-2 with their on-wing.

b. Any Contact Stan IP may substitute as on-wing in the event the SMA's on-wing is not available and an on-wing change is not prudent.

c. There are no other continuity requirements unless specified by the Flight Leader for SMS SMAs.

6. <u>Break in Training Warmup Events (SXX86)</u>

    a. A nonsyllabus warmup event is one given to regain flight proficiency due to an extended training delay. Eligibility is based on the number of days since the last flight or simulator. The following guidelines will be used to determine warmup criteria:

        (1) Optional warmups shall be scheduled and flown as the next event. If performance warrants a warmup, it shall be coded as the previous completed dual event.

        (2) If the break in training occurs during the transition from aircraft to simulator, a mandatory warmup shall be flown and coded as the last completed simulator in stage.

        (3) If the break in training occurs between two aircraft or two simulator events, mandatory warmup shall be flown and coded as the previously completed (dual) event.

        (4) All warmups shall be dual (flight) or instructional (simulator).

        (5) For safe-for-solo and/or any other delays less than seven days in phase, specific warmup criteria promulgated in each curriculum shall apply.

        (6) Warmup events shall be coded as a SXX86 event (e.g., C4186).

        (7) The instructor is required to state on the ATF the reason(s) for awarding the warmup event.

        (8) Check rides (SXX90) are considered part of the previous block for warmup purposes.

(9) The following table is a quick reference on policy
regarding the use of warmups with respect to breaks in training.

CRITERIA FOR AWARDING WARMUP EVENTS IN A STAGE OR BLOCK		
Break* (Days)	**Warmup Events**	**Remarks**
7-13 Sim to A/C	1 Mandatory Simulator	● Mandatory warmup is not an advancing "X."

7-13 All others	1 Optional	● Based on performance.
		● Required if overall event grade is Marginal or UNSAT.
		● Prohibited if:
		  ▶ Performance meets MIF/standard.
		  ▶ Break occurs between stages (see paragraph 6b).

14-30 Sim to A/C	2 Mandatory Simulators	● Mandatory warmups are not advancing "X's."
14-30 All others	1 Mandatory 1 Optional	● Mandatory warmup is not an advancing "X." ● Optional warmup based on performance. ● Required if overall event grade is Marginal or UNSAT.

*Break = Julian Date – Julian Date last flown.

b. Training Delays and Warmup Events between Blocks,
Stages, or Modules. Warmups are intended for nonsyllabus breaks
in training. Each syllabus is designed to allow sufficient time
for academics, simulators, and flights. First flights and
simulators in block following ground training are designed and
graded with the delay factored in and normally do not require a
warmup.

(1) Between stages or blocks, a mandatory warmup is
required if 14-30 days have elapsed since any syllabus flight or
simulator event (unless otherwise specified in the curriculum
guide).

(2) All warmup events (SXX86) between blocks, stages, or
modules shall be recorded in the ATJ with an ATF for the event
deemed most consistent with the procedures reviewed.

c. Extended Training Delays. If the period between events is greater than 30 days within a curriculum, the squadron CO shall determine an appropriate warmup training plan to regain SMA proficiency with the following guidance considered.

(1) Generally a warmup training plan should consist of a representative cross-section of events completed prior to the break in training.

(2) At the completion of the warmup training plan, or when proficiency is regained prior to the completion of the warmup training plan, the SMA shall resume the normal curriculum flow.

(3) If the SMA has not regained proficiency sufficient to resume training following the designated warmup training plan, additional warmup training is left to the CO's discretion.

(4) A copy of the warmup training plan and any subsequent modifications shall be filed in the SMA's ATJ.

7. Additional Flights/Simulators

a. Extra Training Events (SXX87). All ETs shall be dual and coded as SXX87, e.g., C4187. ET events include, but are not limited to:

(1) IPC/FPC ET Events. Only award these events to compensate for training inadequacies, e.g., poor event/maneuver continuity, or improper instruction.

(a) Preceding an IPC. The Operations Officer may authorize one ET prior to an IPC.

(b) Preceding an FPC. The Commanding Officer may authorize as many as two ETs prior to an FPC.

(c) IPC/FPC XX87 events **shall not** be awarded to remediate UNSAT SMA performance unrelated to unit/instructional training inadequacies.

(d) Document the awarding of IPC/FPC XX87 events and the associated training inadequacy using a CNATRA-GEN 1542/16, Supplementary Jacket Form.

(2) Additional Events to Meet Minimum Syllabus Time. An event flown to meet minimum nighttime shall be flown as a C4587 and will meet the MIF for the block in which the ET is flown. All critical items need not be completed on this additional event.

b. Adaptation Events (SXX84). The Operations Officer may grant events required for adaptation to the flying environment when requested by the flight surgeon, e.g., airsickness, eyeglasses, etc.

8. Student Monitoring Status (SMS)

a. An SMA who receives two UNSATs in a block of training, or three UNSATs within a single stage of training shall be considered Marginal and placed on SMS. The objective of SMS is to focus supervisory attention to an SMA's progress in training, specific deficiencies, and potential to complete the program. It may also be applied to SMAs who require supervisory attention while trying to resolve personal issues.

b. The Flight Leader shall place the SMA on SMS to address substandard or marginal performance in a specific area.

c. SMS is intended as a short-term program. SMS requires specific goals. SMS should include, but is not limited to, training tailored to correct deficiencies as determined by the Flight Leader and Operations Officer or to address personal issues as determined by the Class Advisor. The goals and the required period in SMS must be annotated in a supplemental ATF in the SMA's ATJ. The form shall be printed on blue paper.

d. If the SMA achieves the goals within the SMS period or when personal issues are resolved, the SMA returns to normal training flow. If the SMA is unable to meet the specific goals of SMS or performance does not improve, the SMA shall progress to an FPC.

9. <u>Ground Training and Briefing Requirements</u>

    a. <u>Mission Preparation, Briefings, and Debriefings</u>

        (1) <u>EOB Events</u>. The IP shall carefully review the Aviation Training Summary in planning the EOB event to ensure the profile includes opportunities to reach MIF on all critical items and optional items attempted in the block.

        (2) <u>Preparation</u>. SMAs shall arrive for each flight with:

            (a) Thorough knowledge of:

                <u>1</u>. The flight's Discuss Items, as listed in Chapters IV-VIII.

                <u>2</u>. Procedural knowledge of all items for the event's training block.

            (b) A flight profile tailored to training requirements, weak areas, and continuity.

            (c) The latest ATS for the stage.

        (3) <u>Briefing</u>. Thoroughly cover the mission's:

            (a) Event Discuss Items, as listed in Chapters IV-VIII.

            (b) Specific objectives.

            (c) Techniques and required procedures for accomplishing those objectives.

            (d) Planned profile and contingencies.

        (4) <u>Debriefing</u>

            (a) After each event, the instructor shall critique the SMA's performance using cause/effect analysis, particularly with respect to the CTS.

(b) The mission's complexity and SMA's progress will govern the time required for the debrief.

b. Emergency Procedures (EP) Briefing and Training

(1) EP training builds the SMA's confidence in the aircraft. The IP shall conduct EP training on all dual aircraft events, either on the ground or in the aircraft. Correct procedural deficiencies through additional instruction and study assignments.

(2) Incorporate EP training into simulator events when practical; however, instructional block objectives take precedence.

(3) Grade the SMA's overall EP knowledge and performance under Emergency Procedures.

10. Mission Grading Procedures and Evaluation Policies

a. General Grading and Evaluation Policy. Maneuver item files listed in the MPTS are minimum stage/phase completion standards per maneuver.

b. Grading Procedures (Aircraft and Training Devices)

(1) Absolute Maneuver Grading. Use the following grading scale to document the SMA's characteristic performance on maneuvers attempted during each dual event. This grading scale is an absolute grading scale. Judge the SMA's proficiency *only* against the item's course training standard. (See *Student Performance Measurement/Application of Standards*, page viii, Course Data, paragraph 21.)

(a) Demonstrated (NG/1 Level). Enter "No Grade":

1. When the IP demonstrates the maneuver and the SMA does not subsequently perform it during the event.

2. For solo flights, where an IP cannot observe individual graded items.

3. To indicate accomplishing all SSRs for that event. Specify completed SSRs in the ATF's SSR comments section.

(b) Unable (U/2 Level). Performance is unsafe or lacks sufficient knowledge, skill, or ability. Deviations greatly exceed CTS, significantly disrupting performance. Corrections significantly lag deviations or aggravate the deviation.

(c) Fair (F/3 Level). Performance is safe, but with limited proficiency. Deviations exceed CTS, detracting from performance. Corrections noticeably lag deviations, and may not be appropriate.

(d) Good (G/4 Level). Characteristic performance is within CTS. Deviations outside CTS are allowed, provided they are brief, minor, and do not affect safety of flight. Corrections must be appropriate and timely.

(e) Excellent (E/5 Level). Greatly surpasses CTS. Performance is correct, efficient, and skillful. Deviations are very minor. Corrections, if required, are initiated by the SMA and are appropriate, smooth, and rapid.

(2) Solo Events

(a) Assign NG/1 for performed maneuvers.

(b) Any IP may grade maneuvers observed to be either unsafe or exceptional on the solo ATF. These grades shall count toward overall PAS.

(3) Overall Event Grades. Overall event grades represent the SMA's progression through MPTS. Grade events "Pass," "Marginal," or "UNSAT." Use the following definitions to characterize event grades.

(a) Pass

1. Prior to EOB: progress is adequate to meet standards by EOB.

2. EOB: the SMA's performance meets or exceeds standards.

(b) <u>Marginal</u>. Ability to meet the standards by the end of the block is questionable. IPs may not award a Marginal on an EOB event or check ride.

(c) <u>UNSAT</u>. The SMA exhibits dangerous tendencies, or progress towards meeting EOB standards is insufficient.

(4) <u>Awarding Overall Event Grades</u>. The SMA's overall grade is based on the SMA's performance against the MIF for that event. The following rules govern overall event grading:

(a) <u>EOB</u>. Performance must meet MIF by EOB. If the SMA has previously met MIF in the block, he must still meet MIF in the EOB flight if the maneuver is reattempted.

(b) <u>Prior to EOB</u>. Performance must meet/exceed previous block MIF. EXAMPLE:

1. C41 MIF requires an F/3 for No-Flap Landings. C42 MIF requires a G/4.

2. The SMA must meet or exceed F/3 to progress out of C41.

3. The SMA must maintain or exceed F/3 until the last C42 event, by which time the SMA must attain G/4.

(5) <u>Regression Rules</u>. Regression rules allow for uneven progress through training. Regression rules do not apply to the first simulator or flight block in each stage. The following specifies allowable regression:

(a) The SMA is allowed up to two maneuver grades of F/3 where a G/4 is required on previous block MIF, and:

1. The SMA has previously demonstrated G/4 proficiency when a G/4 was required on a previous block MIF.

2. The maneuver was not a check ride/safe-for-solo critical (+) item.

3. The IP is satisfied the SMA is ready to progress to the next event.

(b) The IP must award an overall UNSAT if:

1. Regression was to a U/2 where F/3 or G/4 is required on previous block MIF, or

2. Performance on the same maneuver for two consecutive events resulted in an F/3 where a G/4 is required on previous block MIF, or

3. There was regression on more than two items during an event.

(6) Maneuver Requirements. For each block:

(a) Mandatory Items. Items with a number and a plus (+) are mandatory and the SMA must meet the required proficiency by EOB. When a maneuver is performed multiple times in a block of training, the last grade assigned for the maneuver will determine if the SMA meets EOB MIF.

(b) Optional Items. Items with a number but without a plus (+) are optional; however, if flown, the SMA must meet the required proficiency by EOB.

(c) Not Demonstrated/Not Performed. The IP will not demonstrate, nor will the SMA perform:

1. Unnumbered items.

2. Items not in the stage.

3. Exceptions:

a. Weather-driven instrument approaches.

b. Prebriefed maneuvers for IP proficiency.

(7) <u>Incomplete Events</u>. In general, IPs should consider an event complete if able to accomplish the requirements in paragraph (a) below. This is particularly true when weather precludes accomplishing certain maneuver items, but the IP is able to emphasize training on other maneuver items. Subsequent events in the block, when available, can reverse this emphasis, hence achieving overall training balance. If an SMA has had ample opportunity to learn a task and subsequently flies a short mission, do not incomplete the mission solely to provide unwarranted extra training.

(a) <u>Assessment</u>. Assess the event complete if:

<u>1</u>. Seventy-five percent of the event's H/X was used for training, and

<u>2</u>. Sufficient events remain in the block to redress the imbalance, and

<u>3</u>. Individual maneuvers can still be accomplished within the block.

<u>4</u>. Otherwise, assess the event incomplete.

(b) <u>Completion Events</u>

<u>1</u>. An event may both complete a previous event and count as an advancing X.

<u>2</u>. For events flown exclusively to clear an incomplete, grades on maneuvers repeated from the incomplete event do not count towards the SMA's PAS.

(c) <u>Simulator Event Completion</u>. Assess a simulator event complete if the SMA has received a full 1.5-hour training period.

c. <u>Policies for Evaluation Flights and Ground Evaluations</u>

(1) <u>Authorized Evaluators</u>. The squadron CO will designate check pilots for each stage.

(2) <u>Check Rides (SXX90)</u>

(a) <u>Single Event Training Blocks</u>. Check rides amount to single event training blocks. Therefore, all rules regarding progressing out of a block apply, except as noted below:

<u>1</u>. Should fly a representative cross section of optional maneuvers.

<u>2</u>. Up to two optional maneuvers may be graded F/3 where G/4 is required without requiring an overall UNSAT.

<u>3</u>. Check pilots may allow SMAs to reattempt maneuvers.

<u>4</u>. The entire event should be devoted to assessing the SMA's ability and readiness to progress to the next stage of training. All maneuvers indicated with a plus (+) are check ride critical and must be accomplished to MIF. ***Regression rules do not apply***.

<u>5</u>. The SMA should be able to demonstrate required levels of proficiency without instructor assistance; however, instruction is allowed on check rides and SMAs may reattempt maneuvers at the check pilot's discretion.

(b) <u>Incomplete Check Ride</u>. The check ride shall be incomplete when:

<u>1</u>. Any (+) item was not flown, or

<u>2</u>. The check pilot was unable to sample sufficient examples of a given maneuver to assess the SMA's overall performance.

Note: The subsequent flight need only include maneuvers required to complete the check.

<u>3</u>. Exceptions. The check is complete and the overall grade is UNSAT if:

<u>a</u>. Any critical item is below MIF, or

          <u>b</u>. More than two optional items were graded F/3 where G/4 is required, or

          <u>c</u>. Any maneuver is graded U/2.

      (c) <u>Instrument Check Failure</u>. If the SMA fails an Instrument stage check because of an UNSAT pattern/landing not directly related to the stage being evaluated, any subsequent ET event may be flown as a contact event, and the resulting progress check may also be a contact event.

      (d) <u>UNSAT Check Ride—Ground Operations</u>. A check ride graded UNSAT solely for ground operations requires a progress check. The Operations Officer will decide whether to perform the progress check as a ground evaluation, in the simulator, or in the aircraft.

    (3) <u>Progress Check Procedures</u>

      (a) The Progress Check Pilot shall consider the SMA's proficiency, judgment, situational awareness, and overall ability to maneuver the aircraft safely and confidently. The SMA must also demonstrate the potential to successfully complete advanced training. All progress checks must meet MIF for the most recently completed block of training. Progress checks shall be full mission profiles emphasizing the SMA's weak areas and a representative cross section of area and pattern maneuvers. All critical items do not need to be accomplished. Document failed progress checks on the respective pink ATF for the failed event generating the progress check. For purposes of determining when IPCs or FPCs are required, no distinction need be drawn between Unsatisfactory ready room events and Unsatisfactory flight events. Progress checks generated by an RRU may be considered separate from the subsequent flight or simulator event. Both contribute to the same IPC/FPC process.

      (b) <u>IPC</u>. The following defines when to conduct an IPC, IPC outcomes, and IPC IPs.

1. Criteria for an IPC are:

a. Failed check ride.

b. Two consecutive or three cumulative UNSAT events in the same block, not including XX87 events.

c. Following a single RRU event.

d. Following two academic test failures.

e. Operations Officer or above may direct an IPC when the SMA's potential to complete MPTS is in doubt. (See paragraph 8d, failure to meet specific goals of SMS.)

2. Outcomes are:

a. Passing returns the SMA to normal syllabus flow.

b. Failing results in an FPC.

3. IPC IPs. The Operations Officer or his representative designated in writing by the squadron CO, usually a Standardization pilot, will administer the IPC. Neither an SMA's on-wing nor the IP that generated the UNSAT grade resulting in the IPC shall administer the IPC. A qualified IPC check pilot shall monitor an IPC conducted in a simulator. The squadron IPC IP is responsible for making a "return to training" or "continue the attrition process" recommendation to the squadron CO. An IPC instructor who awards an UNSAT grade on the IPC shall not fly with that SMA again during that particular stage of training.

(c) FPC. The following defines when to conduct an FPC, FPC outcomes, and FPC Check Pilots.

1. Criteria for an FPC are:

a. Following a failed IPC.

b. If the conditions requiring an IPC exist and the SMA has already accomplished an IPC in phase.

c. A Commanding Officer-directed FPC will be performed when the SMA's potential to complete MPTS is in doubt (see paragraph 8d, failure to meet specific goals of SMS).

2. Outcomes are:

a. Passing returns the SMA to normal syllabus flow.

b. Failing results in an attrition recommendation by the CO to the TRAWING Commander and a subsequent TRB.

3. FPC IPs. The CO, XO, or a CO-designated representative administers the FPC. It is the intent of CNATRA that wherever possible, the CO or in his absence the XO, shall conduct FPCs. In the event that neither the CO nor XO are qualified or available to instruct in the required stage, the CO may designate, in writing, a senior officer (O-4 or above) to conduct the FPC by direction. Neither the SMA's on-wing nor the IP that generated the UNSAT grade resulting in the FPC shall administer the FPC. A qualified FPC IP shall monitor an FPC conducted in the simulator. The FPC IP is responsible for the attrition/retention decision to the TRAWING Commander.

d. Progress Check Counseling

(1) Prior to an IPC. The SMA's Flight Leader or the Operations Officer shall counsel the SMA on the Progress Check Training Review Process and document counseling using CNATRA-GEN 1542/16, Supplementary Jacket Form.

(2) Upon Completion of an IPC. The IPC IP or Operations Officer shall counsel the SMA on the Progress Check Training Review Process. When conducted by the IPC IP, document counseling on the IPC ATF. When conducted by the Operations Officer (and the Operations Officer was not the IPC IP), document counseling using CNATRA-GEN 1542/16, Supplementary Jacket Form.

(3) <u>Upon Completion of an FPC</u>. The CO or his designated representative will counsel the SMA. Counseling should consist of, at a minimum, the Progress Check Training Review Process, attrition/retention recommendations, and future courses of action. The CO shall document counseling on the FPC ATF. If conducted by a designated representative, document counseling using CNATRA-GEN 1542/16, Supplementary Jacket Form.

MPTS PROGRESS CHECK TRAINING REVIEW PROCESS

```
┌──────────────────────────────────────────┐
│ • Two consecutive UNSATs or three in-block.│
│ • Check ride failure.                      │
│ • Ready room UNSAT.                        │
│ • Two academic failures in phase           │
│   (or subsequent failure following any IPC.)│
│ • Directed by CO, XO, or OPSO.             │
└──────────────────────────────────────────┘
                     │
                     ▼
              ╱─────────────╲
             ╱   Previous    ╲  ──── Yes ────┐
             ╲     IPC       ╱               │
              ╲─────────────╱                │
                     │ No                    │
                     ▼                        │
        Pass ───╱─────────────╲              │
        │      ╱     IPC       ╲ ◄───────────┘
        │      ╲               ╱
        │       ╲─────────────╱
        │             │ Fail
        │             ▼
   Pass │       ╱─────────────╲
        │      ╱     FPC       ╲
        │      ╲               ╱
        │       ╲─────────────╱
        │             │ Fail
        │             ▼
        │       ┌───────────┐
        │       │    TRB    │
        │       └───────────┘
        │             │
        │             ▼
┌──────────────┐   ╱─────────────╲
│ TRAWING CDR  │  ╱   TRAWING     ╲
│ files Memo   │◄─ Retain ─ CDR's ╲
│ for the      │  ╲   decision    ╱
│ record in    │   ╲─────────────╱
│ SMA's ATJ    │         │ Attrite
│ with copy to │         ▼
│ Squadron CO. │
└──────────────┘
        │
        ▼
┌────────────────────────────┐  ┌──────────────────────────┐
│ Return to normal training  │  │ Eliminate from training. │
│ flow.                      │  │                          │
└────────────────────────────┘  └──────────────────────────┘
```

11. Special Instructions and Restrictions

    a. Flight Hour/Event Requirements and Restrictions

        (1) Programmed Hours and Events. Programmed syllabus
flight hours are listed on page vii. Event lengths, SXX86, 87,
88, and 89 events will cause variation. Accomplish all syllabus
events.

        (2) Minimum Night Hours. 4.0 hours.

        (3) Minimum Solo Hours. At least 80% of the H/X for
each solo event must be logged to count the event complete.

        (4) Maximum Daily SMA Activities (Aircraft, Simulator,
or Academic). SMAs shall not exceed two graded activities
during one duty day.

        (5) Minimum SMA Turn-Times. One hour is required
between debriefing of an event and the brief for a follow-on
or simulator event. This does not apply to out-and-in,
cross-country, or safe-for-solo to hot-seat profiles; however,
the instructor shall ensure adequate debrief and brief time is
allocated.

        (6) Crew Day. The period from the beginning of the
SMA's first event or official duty of the day until the
completion of the last event of the day, including associated
paperwork and debrief. Crew day shall not exceed 12 hours.

        (7) Crew Rest. The period from the end of one crew day
until the start of the next shall be no less than 12 hours for
SMAs. After six consecutive scheduled days, SMAs shall receive
one day off. SMAs shall not be scheduled within 12 hours after
debrief.

    b. Solo Restrictions

        (1) Documentation. The ATF for the event preceding the
solo event must include "Safe for Solo" or "Unsafe for Solo" in
the general comments section.

        (2) Solo not Permitted. The SMA may not fly solo unless
that ATF states "Safe for Solo."

(3) <u>Briefing</u>. The Runway Duty Officer shall brief the SMA for Contact solo. The flight briefing must cover mission profile, objectives, and contingencies.

c. <u>Aircraft/Simulator Interchangeability</u>. Simulator events may be substituted in the aircraft when the simulator is unavailable for extended periods of time.

Chapter II

Ground Training

Blk #	Media	Title	Events	Hrs	Blk Name
G01	Sqdn/ Class	Indoctrination	5	4.1	ASI

1. Prerequisites

    a. G0101 prior to G0102-4 (in order).

    b. G0290 (Instrument Navigation Exam) and F4101 prior to G0105.

2. Events

    G0101   Lect   Squadron Welcome Aboard   1.0

    G0102   Sqdn   Squadron Policies   1.0

    G0103   Sqdn   Facilities Tour   1.0

    G0104   Lect   Academic Indoctrination   1.0
                     (Class)

    G0105   Admin Checkout   0.1

3. Syllabus Notes

    a. G0104 conducted in BLDG 1824.

    b. G0105 is an administrative event and allows a final check that all requirements for completion of syllabus have been met.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
G02	Class/ CAI	Instrument Flight Rules—Phase I	21	48.5	See Below

1. <u>Prerequisites</u>

   a. G0104 prior to G0201.

   b. G0201 prior to G0202, G0203, G0204, G0206, G0207, G0208, G0209, G0210, G0211, G0213, G0214, G0215,and G0216.

   c. G0203 prior to G0205A.

   d. G0205A-C in order.

   e. G0209, G0210, and G0211 prior to G0212.

   f. G0213-16 prior to G0217.

   g. G0206 prior to G0218.

   h. G0204, G0205C, G0207, G0208, G0212, G0217, and G0218 prior to G0290.

2. Events

        G0201   Lect Introduction to IFR   0.5   IFR

        G0202   Lect Sensory Problems/Spatial   1.0   IFR
                      Disorientation

        G0203   Lect Navigational Aids   1.0   IFR

        G0204   CAI   T-44C INAV Instrument Approach   3.5   IFR
                      Procedures

        G0205A MIL   INAV (Day 1)   2.5   IFR

        G0205B MIL   INAV (Day 2)   6.0   IFR

        G0205C MIL   INAV (Day 3)   1.5   IFR

        G0206   CAI   INAV Flight Planning   3.5   IFR

        G0207   P/P   INAV Practice Exam   2.0   IFR

        G0208   Lect INAV Review   3.0   IFR

        G0209   CAI   Meteorology   4.0   Metro

        G0210   MIL   Meteorology   3.0   Metro

        G0211   Lect Meteorology Review   2.0   Metro

        G0212   CAI   Meteorology Exam   2.0   Metro

        G0213   CAI   FRR   3.0   FRR

        G0214   Lect FRR   2.0   FRR

        G0215   P/P   FRR Practice Exam   2.0   FRR

        G0216   Lect FRR Review   1.0   FRR

        G0217   CAI   FRR Exam   2.0   FRR

        G0218   Lect Review Flight Planning   1.0   IFR

        G0290   CAI   Instrument Navigation Exam   2.0   IFR

3. Syllabus Note. All events conducted in BLDG 1824.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
G03	Class/ CAI	Systems	35	34.5	SYS

1. <u>Prerequisites</u>

   a. G0104 prior to G0301.

   b. After completion of G0301, academic instructors determine order of completion of remaining events with the exception of the Course Review, Aircraft Systems Exam, and Aircraft Systems Exam Review. These events are accomplished in order after all the other events (except G0334) in the block are completed. G0334 can be scheduled at any time prior to C2101.

2. <u>Events</u>

G0301	MIL	T-44C Introduction to Aircraft Systems	0.5
G0302	CAI	T-44C General Aircraft	0.5
G0303	MIL	T-44C General Aircraft	0.5
G0304	CAI	T-44C Power Plant and Related Systems	2.0
G0305	MIL	T-44C Power Plant and Related Systems	1.0
G0306	CAI	T-44C Propeller System	1.0
G0307	MIL	T-44C Propeller System	1.0
G0308	CAI	T-44C Fuel System	1.0
G0309	MIL	T-44C Fuel System	1.0
G0310	CAI	T-44C Flight Control System	0.5
G0311	MIL	T-44C Flight Control System	0.5
G0312	CAI	T-44C Landing Gear System	1.0
G0313	MIL	T-44C Landing Gear System	1.0
G0314	CAI	T-44C Environmental Systems	1.5

2.   <u>Events (Cont)</u>

G0315	MIL	T-44C Environmental Systems	1.5
G0316	CAI	T-44C Electrical System	1.0
G0317	MIL	T-44C Electrical System	1.5
G0318	CAI	T-44C Flight Instruments	0.5
G0319	MIL	T-44C Flight Instruments	0.5
G0320	CAI	T-44C Navigation and Communication	1.0
G0321	MIL	T-44C Navigation and Communication	1.5
G0322	SS	T-44C Weather Radar	0.5
G0323	CAI	T-44C Autopilot System	1.0
G0324	MIL	T-44C Autopilot System	1.0
G0325	CAI	T-44C Multi-Function Display	1.0
G0326	MIL	T-44C Multi-Function Display	1.0
G0327	CAI	T-44C Flight Management System	1.0
G0328	MIL	T-44C Flight Management System	1.0
G0329	SS	T-44C Flight Guidance Panel	1.0
G0330	Sqdn	T-44C Aircraft Tour	1.0
G0331	SS	T-44C Messages and Annunciations	0.5
G0332	Lect	T-44C Course Review	2.0
G0390	CAI	T-44C Aircraft Systems Exam	2.0
G0333	Lect	T-44C Aircraft Systems Exam Review	0.5
G0334	Lect	T-44C Simulator Brief	0.5

3. <u>Syllabus Notes</u>

    a. All events conducted in BLDG 1824.

    b. The following events are to be completed on the RCVA: G0322, G0329, and G0331.

4. <u>Discuss Items</u>. None.

Blk #	Media	Title	Events	Hrs	Blk Name
G04	Class/ CAI	Aerodynamics	8	24.5	AERO

1. Prerequisites

    a. G0104 prior to G0401 and G0402.

    b. G0402 prior to G0403, G0404, G0405, G0406, and G0407.

    c. G0401, G0403, G0404, G0405, G0406, and G0407 in any order prior to G0490.

2. Events

G0401	CAI	T-44C Aerodynamics/Power Performance	4.0
G0402	Lect	Introduction to T-44 Aerodynamics	5.0
G0403	Lect	T-44 Aerodynamics Lecture (Weight and Balance)	2.5
G0404	Lect	T-44 Aerodynamics Lecture (TOLD)	2.5
G0405	Lab	T-44 Aerodynamics Lab (Weight and Balance Problem)	3.0
G0406	Lab	T-44 Aerodynamics Lab (TOLD Problem)	3.0
G0407	Lect	Aerodynamics Review	0.5
G0490	P/P	T-44C Aerodynamics Exam	4.0

3. Syllabus Note. All events conducted in BLDG 1824.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
G05	Class/ CAI	Flight Procedures	6	11.75	See Below

1. Prerequisites

    a. G0104 prior to this block.

    b. Academic instructors determine order of completion.

2. Events

G0501	P/P	T-44C CRIT Exams	2.00	FP
G0502	CAI	T-44C Emergency Flight Procedures	2.00	EMFP
G0503	CAI	T-44C Contact Flight Procedures	2.00	DCONFP
G0504	Lect	T-44C Flight Procedures Lecture	2.50	FP
G0505	MIL	Course Rules Lecture	2.50	FP
G0506	Lect	Flight Line Driver's License Brief	0.75	FP

3. Syllabus Note. All events conducted in BLDG 1824.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
G06	Class	Crew Resource Management	1	2.0	CRM

1. <u>Prerequisite</u>. G0104.

2. <u>Events</u>

    G0601   MIL   Seven CRM Skills   2.0

3. <u>Syllabus Notes</u>. None.

4. <u>Discuss Items</u>. None.

Blk #	Media	Title	Events	Hrs	Blk Name
G07	Class/ SS	IFR—Phase II	10	22.0	IFR2

1. Prerequisites

    a. I3204 prior to G0701 and G0702.

    b. G0702 prior to G0703-8.

    c. G0701 and G0703-8 in any order prior to G0709.

    d. G0709 prior to G0790.

2. Events

G0701	Lect	DD-175 Lecture and Advanced Multi-Engine Fuel Log Review	1.0
G0702	Lect	Introduction to Advanced Flight Planning	1.0
G0703	SS	FLIP Review	3.0
G0704	SS	CR-2 Exercises	1.5
G0705	SS	Metro Review	1.5
G0706	SS	DD-175 Flight Plans	1.0
G0707	SS	Multi-Engine Fuel Logs	1.0
G0708	SS	Practice Flight Planning	5.5
G0709	MIL	IFR Final Exam Review	2.5
G0790	P/P	IFR Final Exam	4.0

3. Syllabus Note. Examination conducted in BLDG 1824.

4. Discuss Items. None.

<u>Chapter III</u>

<u>NATOPS Training</u>

This chapter does not apply to Multi-Engine training.

BLANK PAGE

Chapter IV

Contact Training

1. Matrices. The following matrices are an overview of the
entire Contact Stage. The purpose of these matrices is to
provide the SMA and IP the easiest way to track progress,
regression, and overall status in relation to the MIF. In
addition, there is a single matrix following each block
description throughout this chapter.

2. Contact Stage MIF
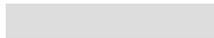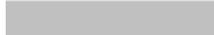
Simulator Event
Check Ride Event

	CONTACT STAGE MANEUVER ITEM FILE							
CTS REF	**MANEUVER**	**C2106**	**C4105**	**C4206**	**C3201**	**C4390**	**C4401**	**C4502**
1	General Knowledge/ Procedures	4+	4+	4+	4+	4+	4	4+
2	Emergency Procedures	3+	3+	4+	3+	4+	4	4+
2	Start Malfunctions	4+	4+	4+	4	4		4
2	Windmilling Airstart			3+				
2	Starter-Assisted Airstart			3+				
3	Headwork/Situational Awareness	2+	3+	4+	4+	4+	4	4+
4	Basic Air Work	3+	3+	4+	3+	4+	4	4+
5	Mission Planning/ Briefing/Debriefing	3+	3+	3+	3+	3+		3+
6	Ground Operations	3+	3+	4+	4+	4		4+
7	Takeoff	3+	3+	4+	4+	4+		4+
8	Aborted Takeoff	2+	3+	4+	4+	4		4+
9	Departure		3+	4+	4+	4		4+
10	SSE at Altitude		2+	3		3		
11	Dynamic Engine Cut	2	2+	4+	4	4+		

	CONTACT STAGE MANEUVER ITEM FILE							
CTS REF	MANEUVER	C2106	C4105	C4206	C3201	C4390	C4401	C4502
12	LSC		4+		4	4		
12	Turn Pattern		4+	4	4	4		
12	Slow Flight		4+	4	4	4		
12	Approach to Stalls		4+	4+	4	4+		
12	SSE Waveoff at Altitude		2+	3		3		
14	Emergency Descent		3+	3+				
15	Power On Ditch	2+	3+	4+	3	4		
15	SSE Ditch		3+	4+	3	4		
15	Power Off Ditch		3	4+	3	4		
17	In-Flight Planning		3+	4+		4+		
18	Cockpit Procedures	4+	4+	4+	4+	4+		4+
19	Radio Communications	2+	3+	3+	3	3+	3	3+
23	Overhead/Break Entry		3+	4+		4		4+
24	Course Rules		3+	4+		4		4
31	Waveoff		3+	4+	4	4+		4+
31	SSE Waveoff		2	4+	3	4+		4+
32	Landing Pattern		4+	4+		4+		4+
32	No-Flap Pattern		3+	4+		4+		4+
33	SSE Landing Pattern		2+	4+		4+		4+
34	Landing		3+	4+		4+		4+
34	NFL		3+	4+		4+		4+
34	FFL		3+	3+		3		3+
34	SSE Landing		2+	4+		4+		4+
35	Touch and Go		3+	4+		4+		4+
36	SSE Full Stop			3+				
37	Pilot Flying/CRM	2+	3+	3+	3+	3+	3	3+
38	Pilot Monitoring/CRM	2	3+	3+	3	3+	3	3+
43	Clearing		4+	4+		4+		4+
	Special Syllabus Requirements	1	1	1				1

Blk #	Media	Title	Events	Hrs	Blk Name
C01	Flight Line	Contact Brief	1	5.0	DCONFP

1. Prerequisite. G0104 (Academic Indoctrination).

2. Events

   C0101   Flight   Contact Brief   5.0
            Line

3. Syllabus Notes

   a. C0101 has no required location, but the briefing should include a visit to Base Ops/Weather Shop, Aircraft Issue, the squadron briefing spaces, and the aircraft.

   b. Although not required, C2106 will normally be completed prior to C0101.

4. Discuss Items

   C0101
   CRM – seven skills and callouts, FTI/NATOPS manual use (verify changes posted), local operations, flight schedule, PIC/CRM, observer duties, safety/standardization programs, weight and balance, performance charts, go/no-go criteria, Training Time Out policy, ditching, forced landing, area and course rules familiarization, FAA Letter of Agreement, squadron SOP, squadron standardization notes, Wing SOP, TAS operation, headset operation, personal and emergency equipment, aircraft interior/exterior inspection, emergency egress procedures, SDO indoctrination, and oxygen system operation and requirements.

Blk #	Media	Title	Events	Hrs	H/X
C21	2F129C	Cockpit Procedures	6	9.0	1.5

1. Prerequisites

    a. G0202 (Sensory Problems/Spatial Disorientation).

    b. G0322, G0329, and G0331 (RCVA events).

    c. G0218 (Review Flight Planning).

    d. G0390 (T-44C Aircraft Systems Exam).

    e. G0333 (T-44C Aircraft Systems Exam Review).

    f. G0334 (T-44C Simulator Brief).

    g. G0490 (T-44C Aerodynamics Exam).

    h. All G05 events (Flight Procedures block).

2. Syllabus Notes

    a. Practice all checklists, applicable FTI briefings, radio calls, and basic aircraft control. Ensure SMA's checklist proficiency is adequate to proceed to flight operations.

    b. Multiple items are listed as discuss items; however, due to time constraints, it will not be possible to discuss all items prior to the simulator event (SIM). Therefore, a **Discuss Item** may be addressed during the SIM and/or prior to the SIM.

    c. During all C21XX events, each normal checklist should be performed if it has been previously introduced or discussed.

3. Special Syllabus Requirements

    C2103
    Mechanical stops in throttle quadrant.

    C2105
    V_{mca} demo.

4. <u>Discuss Items</u>

   <u>C2101</u>
   Seat/rudder pedal adjustment, fuel management panel, pilot
   instrument panel, engine instruments and switches, center
   instrument panel, annunciator panel/analysis, right seat
   instrument panel, circuit breaker panels, control pedestal,
   overhead control panel, MFD, checklists: before start,
   engine start, after start, brake check (out of chocks),
   engine runup, takeoff, after landing, and secure.

   <u>C2102</u>
   Takeoff procedures, checklist management, landing
   procedures, checklists: climb, cruise, descent, approach,
   landing, start malfunctions, and MFD operations.

   <u>C2103</u>
   Loss of brakes, hot brakes, brake fire, mechanical stops in
   throttle quadrant, inadvertent condition lever to fuel
   cutoff, engine failure at altitude, autopilot disengagement,
   and ground emergencies.

   <u>C2104</u>
   Flap malfunctions, no-flap landings, gear malfunctions,
   unsafe gear/gear up landings, dynamic engine cut, engine
   failure/fire during or after takeoff, and electrical
   malfunctions.

   <u>C2105</u>
   Wing/uncontrollable fire, V_{mca} demo, fuel system
   malfunctions, engine malfunctions, smoke/fume emergencies,
   and airstarts.

   <u>C2106</u>
   Anti-ice/deice systems, CRM callouts, windshield heating
   failure, in-flight damage/bird strikes, pressurization
   system malfunctions, propeller malfunctions, and ditching.

5. Block MIF

CTS REF	MANEUVER	C2106
1	General Knowledge/Procedures	4+
2	Emergency Procedures	3+
2	Start Malfunctions	4+
3	Headwork/Situational Awareness	2+
4	Basic Air Work	3+
5	Mission Planning/Briefing/ Debriefing	3+
6	Ground Operations	3+
7	Takeoff	3+
8	Aborted Takeoff	2+
11	Dynamic Engine Cut	2
15	Power On Ditch	2+
18	Cockpit Procedures	4+
19	Radio Communications	2+
37	Pilot Flying/CRM	2+
38	Pilot Monitoring/CRM	2
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
C41	T-44C	Contact	5	10.0	2.0

1. Prerequisites

    a. C2106.

    b. G0601 (Seven CRM Skills).

    c. C0101 (Contact Brief).

2. Syllabus Notes

    a. This block should concentrate on basic air work, high work maneuvers, landing patterns, and checklist management.

    b. On-wing flights will be C4101-5 and C4201-2.

    c. On-wing SMAs shall taxi aircraft for all of C4100 block.

    d. On a flight where a system is briefed, the SMA shall be given a simulated malfunction associated with that system.

    e. Complete a minimum of two passes in landing pattern per event with IP as PF and SMA as PM.

3. Special Syllabus Requirements

    C4101
    Oxygen mask familiarization and utilization.

4. Discuss Items

    C4101
    Outside scan techniques, see and avoid, takeoff, crosswind takeoff and landing, aborted takeoff, landing pattern, full stop landings, touch-and-go procedures, Training Time Out, NATOPS brief, dual engine waveoffs, aircraft engine operating limits, engine start procedures, abnormal starts/malfunctions, and brake system/malfunctions.

C4102
Porpoised landings, aircraft airframe operating limits,
full-flap landings, engine fire on deck, MFD operation,
stalls/spin recovery, and fuel system/malfunctions.

C4103
Lost communications (VFR), smoke and fire of unknown origin,
oxygen system use, emergency descent, smoke and fume
elimination, no-flap landings, and environmental/
pressurization system/malfunctions.

C4104
Engine failure during takeoff, dynamic engine cut,
ditching - power on, right-hand pattern, simulated single
engine (SSE) at altitude, night/IMC ditch versus day VMC
ditch, and engine system/malfunctions.

C4105
Engine failure after takeoff, SSE touch-and-go procedures,
SSE waveoff at altitude, SSE ditching, PIC/crew resource
management during SSE, SSE pattern work, SSE
landings/waveoffs/touch and go, and electrical
system/malfunctions.

5. Block MIF

CTS REF	MANEUVER	C4105
1	General Knowledge/Procedures	4+
2	Emergency Procedures	3+
2	Start Malfunctions	4+
3	Headwork/Situational Awareness	3+
4	Basic Air Work	3+
5	Mission Planning/Briefing/ Debriefing	3+
6	Ground Operations	3+
7	Takeoff	3+
8	Aborted Takeoff	3+

CTS REF	MANEUVER	C4105
9	Departure	3+
10	SSE at Altitude	2+
11	Dynamic Engine Cut	2+
12	LSC	4+
12	Turn Pattern	4+
12	Slow Flight	4+
12	Approach to Stalls	4+
12	SSE Waveoff at Altitude	2+
14	Emergency Descent	3+
15	Power On Ditch	3+
15	SSE Ditch	3+
15	Power Off Ditch	3
17	In-Flight Planning	3+
18	Cockpit Procedures	4+
19	Radio Communications	3+
23	Overhead/Break Entry	3+
24	Course Rules	3+
31	Waveoff	3+
31	SSE Waveoff	2
32	Landing Pattern	4+
32	No-Flap Pattern	3+
33	SSE Landing Pattern	2+
34	Landing	3+
34	NFL	3+
34	FFL	3+
34	SSE Landing	2+
35	Touch and Go	3+
37	Pilot Flying/CRM	3+
38	Pilot Monitoring/CRM	3+
43	Clearing	4+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
C42	T-44C	Emergency Contact	6	10.0	See Syllabus Note c.

1. Prerequisite. C4105.

2. Syllabus Notes

    a. The purpose of this block is to continue basic air work while introducing additional emergency procedures, specifically Simulated Single Engine work.

    b. Crew Resource Management should be emphasized during all flights, especially during SSE training.

    c. C4201 and C4202 – 2.0 hours per event. C4203 thru C4206 – 1.5 hours per event.

    d. Windmilling airstart shall be accomplished once during C42XX and annotated in the comments section of the ATF.

    e. Starter-assisted airstart shall be accomplished once during C42XX block and annotated in the comments section of the ATF.

    f. SSE full stop shall be accomplished and graded during this block following IP demonstration.

    g. Complete a minimum of two passes in landing pattern per event with IP as PF and SMA as PM.

3. Special Syllabus Requirements

    C4201
    SSE full-stop demo.

    C4202
    Manual gear extension.

    C4206
    Right seat responsibilities as PM during three IP landings.

4. <u>Discuss Items</u>

   <u>C4201</u>
   Actual versus simulated engine shutdown, engine secure and
   restart, PIC/crew resource management during SSE, P-factor,
   starter-assisted airstart, SSE pattern work, SSE landings/
   waveoffs/touch and go, SSE full stop, Vmca, and landing gear
   system/malfunctions.

   <u>C4202</u>
   Simulated dual engine failure, ditching - power off,
   windmilling airstart, landing gear manual extension, and
   propeller system/malfunctions.

   <u>C4203</u>
   Engine fire in flight, anti-icing system, and flight control
   system/malfunctions.

   <u>C4204</u>
   Aircraft operating limits, forced landing, fuel system, and
   environmental/pressurization system.

   <u>C4205</u>
   Engine system and electrical system.

   <u>C4206</u>
   Inadvertent IMC, right seat positioning, pilot monitoring/
   right seat responsibilities, and propeller system.

5. <u>Block MIF</u>

CTS REF	MANEUVER	C4206
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
2	Start Malfunctions	4+
2	Windmilling Airstart	3+
2	Starter-Assisted Airstart	3+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	3+
6	Ground Operations	4+
7	Takeoff	4+
8	Aborted Takeoff	4+
9	Departure	4+
10	SSE at Altitude	3
11	Dynamic Engine Cut	4+
12	Turn Pattern	4
12	Slow Flight	4
12	Approach to Stalls	4+
12	SSE Waveoff at Altitude	3
14	Emergency Descent	3+
15	Power On Ditch	4+
15	SSE Ditch	4+
15	Power Off Ditch	4+
17	In-Flight Planning	4+
18	Cockpit Procedures	4+
19	Radio Communications	3+
23	Overhead/Break Entry	4+
24	Course Rules	4+
31	Waveoff	4+

CTS REF	MANEUVER	C4206
31	SSE Waveoff	4+
32	Landing Pattern	4+
32	No-Flap Pattern	4+
33	SSE Landing Pattern	4+
34	Landing	4+
34	NFL	4+
34	FFL	3+
34	SSE Landing	4+
35	Touch and Go	4+
36	SSE Full Stop	3+
37	Pilot Flying/CRM	3+
38	Pilot Monitoring/CRM	3+
43	Clearing	4+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
C32	SIM	Contact Emergency Procedures/CRM Simulator	1	1.5	1.5

1. <u>Prerequisite</u>. C4204.

2. <u>Syllabus Notes</u>

    a. At least one presentation of malfunctions for each major system should be used. In addition, instructors are encouraged to give SMAs simulated emergencies during contact maneuvers to improve basic aircraft control.

    b. Emphasis will be placed on procedural knowledge, judgment, and crew resource management skills. With two SMAs in the simulator, PM shall be evaluated on radio communications and CRM.

    c. Communications with simulated Seagull, Approach Control, or Tower are required.

    d. SMAs shall follow all EP scenarios to a logical conclusion, unless the IP resets aircraft conditions.

3. <u>Special Syllabus Requirements</u>. None.

4. <u>Discuss Items</u>. Maintaining aircraft control during emergencies, pattern considerations, communications, and CRM.

5. <u>Block MIF</u>

CTS REF	MANEUVER	C3201
1	General Knowledge/Procedures	4+
2	Emergency Procedures	3+
2	Start Malfunctions	4
3	Headwork/Situational Awareness	4+
4	Basic Air Work	3+
5	Mission Planning/Briefing/ Debriefing	3+
6	Ground Operations	4+
7	Takeoff	4+
8	Aborted Takeoff	4+
9	Departure	4+
11	Dynamic Engine Cut	4
12	LSC	4
12	Turn Pattern	4
12	Slow Flight	4
12	Approach to Stalls	4
15	Power On Ditch	3
15	SSE Ditch	3
15	Power Off Ditch	3
18	Cockpit Procedures	4+
19	Radio Communications	3
31	Waveoff	4
31	SSE Waveoff	3
37	Pilot Flying/CRM	3+
38	Pilot Monitoring/CRM	3

Blk #	Media	Title	Events	Hrs	H/X
C43	T-44C	Contact Check Ride	1	1.5	1.5

1. <u>Prerequisites</u>

    a. C4206.

    b. C3201.

2. <u>Syllabus Notes</u>

    a. This event will be an evaluation of Contact and VFR flying involving a representative cross section of maneuvers previously presented.

    b. At the discretion of IP, pilot monitoring/right seat responsibilities during three IP landings may be reaccomplished if break (Julian date – Julian date last flown) is greater than three days between C4206 and C4390.

    c. IP shall include "Safe for Solo" on the ATF for a satisfactory complete event.

3. <u>Special Syllabus Requirements</u>. None.

4. <u>Discuss Items</u>. CRM, pilot monitoring responsibilities, and touch-and-go abort decisions. Operation limits quiz and RDO briefing.

5. <u>Block MIF</u>

CTS REF	MANEUVER	C4390
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
2	Start Malfunctions	4
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	3+
6	Ground Operations	4

MIF continued on next page.

CTS REF	MANEUVER	C4390
7	Takeoff	4+
8	Aborted Takeoff	4
9	Departure	4
10	SSE at Altitude	3
11	Dynamic Engine Cut	4+
12	LSC	4
12	Turn Pattern	4
12	Slow Flight	4
12	Approach to Stalls	4+
12	SSE Waveoff at Altitude	3
15	Power On Ditch	4
15	SSE Ditch	4
15	Power Off Ditch	4
17	In-Flight Planning	4+
18	Cockpit Procedures	4+
19	Radio Communications	3+
23	Overhead/Break Entry	4
24	Course Rules	4
31	Waveoff	4+
31	SSE Waveoff	4+
32	Landing Pattern	4+
32	No-Flap Pattern	4+
33	SSE Landing Pattern	4+
34	Landing	4+
34	NFL	4+
34	FFL	3
34	SSE Landing	4+
35	Touch and Go	4+
37	Pilot Flying/CRM	3+
38	Pilot Monitoring/CRM	3+
43	Clearing	4+

Blk #	Media	Title	Events	Hrs	H/X
C44	T-44C	Student Pattern Solo	1	0.3	0.3

1. <u>Prerequisite</u>. C4390.

2. <u>Syllabus Notes</u>

   a. This event should be completed immediately following the C4490 check to the maximum extent possible. The SMA will complete a minimum of three approach flap landings as briefed by the RDO.

   b. If not completed within three days of C4390, a C4386 event shall be flown by the SMA prior to C4401.

3. <u>Special Syllabus Requirements</u>. None.

4. <u>Discuss Item</u>. RDO briefing.

5. <u>Block MIF</u>

CTS REF	MANEUVER	C4401
1	General Knowledge/Procedures	4
2	Emergency Procedures	4
3	Headwork/Situational Awareness	4
4	Basic Air Work	4
19	Radio Communications	3
37	Pilot Flying/CRM	3
38	Pilot Monitoring/CRM	3

Blk #	Media	Title	Events	Hrs	H/X
C45	T-44C	Night Contact	2	3.0	1.5

1. Prerequisite. C4401.

2. Syllabus Note. An instrument approach shall be demonstrated by the IP on each event with SMA as PM, emphasizing CRM callouts and radio communications.

3. Special Syllabus Requirements

    C4502
    Visual approach demonstration.

4. Discuss Items

    C4501
    Local operations, night flying environment, field lighting, aircraft lighting, observer duties, outside scan techniques, see and avoid, porpoised landing, CRM guidelines/callouts, and night instrument approaches.

    C4502
    Right-hand pattern and CRM night/IMC ditching, runway/ taxiway/parking signs and symbols, runway markings, and night visual approaches.

5. Block MIF

CTS REF	MANEUVER	C4502
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
2	Start Malfunctions	4
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	Mission Planning/Briefing/Debriefing	3+
6	Ground Operations	4+
7	Takeoff	4+
8	Aborted Takeoff	4+
9	Departure	4+
18	Cockpit Procedures	4+
19	Radio Communications	3+
23	Overhead/Break Entry	4+
24	Course Rules	4
31	Waveoff	4+
31	SSE Waveoff	4+
32	Landing Pattern	4+
32	No-Flap Pattern	4+
33	SSE Landing Pattern	4+
34	Landing	4+
34	NFL	4+
34	FFL	3+
34	SSE Landing	4+
35	Touch and Go	4+
37	Pilot Flying/CRM	3+
38	Pilot Monitoring/CRM	3+
43	Clearing	4+
	Special Syllabus Requirements	1

Chapter V

Instrument Training

1. Matrices. The following matrix is an overview of the entire
Instrument Stage. The purpose of this matrix is to provide the
SMA and IP the easiest way to track progress, regression, and
overall status in relation to the MIF. In addition, there is a
single matrix following each block description throughout this
chapter.

2. Instrument Stage MIF
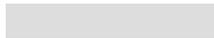
	Simulator Event
	Check Ride Event

INSTRUMENT STAGE MANEUVER ITEM FILE								
CTS REF	MANEUVER	I3103	I3204	I4104	I3304	I4204	I3401	I4390
1	General Knowledge/ Procedures	4+	4+	4+	4+	4+	4+	4+
2	Emergency Procedures	3+	3+	3+	4+	4+	4+	4+
3	Headwork/Situational Awareness	3+	3+	3+	4+	4+	4+	4+
4	Basic Air Work	4+	4+	4+	4+	4+	4+	4+
5	Mission Planning/ Briefing/Debriefing	4+	4+	4+	4+	4+	4+	4+
6	Ground Operations			4+		4+		4+
7	Instrument Takeoff	3+	4+	4+	4+	4+	4+	4
9	Departure	3+	3+	3+	4+	4+	4+	4+
12	Approach to Stalls	3+						
12	Turn Pattern	4+						
12	LSC	4+						
13	Enroute Procedures		3+	3+	4+	4+		4+
13	Point-to-Point		3+	3+	3+	3+		3

INSTRUMENT STAGE MANEUVER ITEM FILE								
CTS REF	MANEUVER	I3103	I3204	I4104	I3304	I4204	I3401	I4390
16	Partial Panel/ESIS Approach to Stalls	3+						
16	Partial Panel/ESIS Turns, Climbs/Descents	3+						
16	Bravo Pattern	4+						
16	Charlie Pattern	4+						
16	Oscar Pattern	4+						
16	Partial Panel/ESIS Oscar Pattern	3+						
16	Yankee Pattern (SSE)	3+						
16	Unusual Attitude Recovery	4+						
16	Partial Panel/ESIS Unusual Attitudes	4+						
17	In-Flight Planning/ Clearance Compliance	3+	3+	3+	4+	4+	4+	4+
18	Cockpit Procedures	3+	3+	4+	4+	4+	4+	4+
19	Radio Communications	3+	3+	3+	4+	4+	4+	4+
20	Enroute Descent			3	3	3		3
21	Holding		3+	3+	4+	4+		4+
22	High Altitude Approach		3+					
25	PAR		3+	3+	4+	4+		4
25	ILS		3+	3+	4+	4+		4
25	SSE Precision Approach				3+	3+		3
25, 26, 27	Partial Panel/ESIS Approach				3	3+		3
26, 27	VOR		3+	3+	4+	4+		4
26, 27	TAC		3+	3+	4+	4+		4

MIF continued on next page.

	INSTRUMENT STAGE MANEUVER ITEM FILE							
CTS REF	MANEUVER	I3103	I3204	I4104	I3304	I4204	I3401	I4390
26, 27	NDB		3+	3	3	3		3
26, 27	SSE Non-Precision Approach				3+	3+		3+
25, 27	Needle Only Approach		3	3+	4+	4+	4	4
27	Localizer		3+	3+	4+	4+		4
27	Localizer Back Course		3+	3	4+	4		4
27	RNAV/GPS Approach		3+	3+	4+	4+		4
27	ASR		3+	3+	4+	4+		4
28	Circling Approach		2+	3+	3+	4+		4
28	SSE Circling Approach				3+	3+		3
29	Transition to Landing		3	3+	4	4+		4+
4, 29	Visual Approach			3		3		
30	Missed Approach		3+	3+	4+	4+		4+
30	SSE Missed Approach				3+	3+		3
30	Circling Missed Approach		2+	3+	3+	4+		4
34	Landing			4+		4+		4+
35	Touch and Go			4+		4+		4
37	Pilot Flying/CRM	3+	3+	3+	4+	4+	4+	4+
38	Pilot Monitoring/CRM	3	3	3+	4	4+	4	4
39	Radar Operation			3		3		
40	Autopilot/Flight Director Operation	3	3+	3+	3+	3+	4	3
41	FMS Operation		3+	3+	3+	4+		4+
43	Clearing			4+		4+		4+
	Special Syllabus Requirements			1				

Blk #	Media	Title	Events	Hrs	Blk Name
I01	CAI/ Class	Instrument Brief/FMS	3	7.0	GPSFP

1. Prerequisite. G0104 (Academic Indoctrination) prior to I0101-3 in order.

2. Events

    I0101   Lect GPS/Radio Instrument Procedures 3.0

    I0102   MIL   ME GPS FMS 1.0

    I0103   Lect T-44C Flight Director Operation 3.0

3. Syllabus Note. SMAs will complete the RCVA flight scenario during I0103.

4. Discuss Items. CRM callouts, runway/taxiway/parking signs and symbols, runway markings, local flying environment, pub bag, NOTAMS, WX products, DoD FLIPs, FAR/AIM, Instrument Flight Manual, canned routes, coded departures, SIDs, Base OPS/filing, FSS, communications, the six T's, GPS approach, RAIM, approach modes, local instrument approaches, and RCVA operation/scenario.

Blk #	Media	Title	Events	Hrs	H/X
I31	SIM	Basic Instruments	3	4.5	1.5

1. Prerequisite. C4401.

2. Syllabus Note. This block shall emphasize control and performance of basic instrument flight.

3. Special Syllabus Requirements. None.

4. Discuss Items

    I3101
    Instrument crosscheck, instrument takeoff, full-panel approach-to-stalls, control and performance concept.

    I3102
    Pitot-static system, flight instrument characteristics, partial panel scan, wet compass characteristics, and departure procedures.

    I3103
    Unusual attitudes, anti-icing system, emergency/minimum fuel state, TERPs, IFR Enroute Supplement, Flight Information Handbook, NOTAMs, and autopilot/flight director usage.

5. <u>Block MIF</u>

CTS REF	MANEUVER	I3103
1	General Knowledge/Procedures	4+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	4+
7	Instrument Takeoff	3+
9	Departure	3+
12	Approach to Stalls	3+
12	Turn Pattern	4+
12	LSC	4+
16	Partial Panel/ESIS Approach to Stalls	3+
16	Partial Panel/ESIS Turns, Climbs/Descents	3+
16	Bravo Pattern	4+
16	Charlie Pattern	4+
16	Oscar Pattern	4+
16	Partial Panel/ESIS Oscar Pattern	3+
16	Yankee Pattern (SSE)	3+
16	Unusual Attitude Recovery	4+
16	Partial Panel/ESIS Unusual Attitudes	4+
17	In-Flight Planning/Clearance Compliance	3+
18	Cockpit Procedures	3+
19	Radio Communications	3+
37	Pilot Flying/CRM	3+
38	Pilot Monitoring/CRM	3
40	Autopilot/Flight Director Operation	3

Blk #	Media	Title	Events	Hrs	H/X
I32	SIM	Instrument Approaches	4	6.0	1.5

1. <u>Prerequisites</u>

    a. I3103.

    b. I0103 (Flight Director Operation).

2. <u>Syllabus Notes</u>

    a. Simulator equipment-dependent emphasis items are:

        (1) I3201 – GPS approaches (shall accomplish one of each) – HILO approach, "T" approach, and radar vectors.

        (2) I3202 – PAR, ASR, and ILS approaches.

        (3) I3203 – LOC and LOC-BC approaches.

        (4) I3204 – VOR, NDB, and TACAN approaches.

    b. Events shall have a minimum of three approaches per event and include at least two full procedure turn approaches.

    c. Normal two-engine approaches should be emphasized in this block, but may introduce minor malfunctions (no partial panel/ESIS or SSE).

    d. Each event shall include a minimum of one approach with the flight director and one approach without the flight director.

    e. Holding should be accomplished and graded on at least three different events.

    f. All events shall include a missed approach; include at least two circling missed approaches in the block.

    g. SMA in right seat shall be PM and graded accordingly, emphasizing CRM callouts and radio communications.

3. <u>Special Syllabus Requirements</u>. None.

4. <u>Discuss Items</u>

   <u>I3201</u>
   IAF/FAF procedures (6Ts, descent, and lead turns), CRM
   callouts and techniques, GPS approach types (LNAV,
   LNAV/VNAV, LPV, TAA, T's, and HILO), GPS configuration
   point, RAIM, GPS sensitivity modes (enroute, terminal, and
   approach), NAVAID setup (takeoff, enroute, approach, and
   missed approach), visual descent point (VDP), vertical
   descent angle (VDA), landing transition, ATIS/AWOS/ASOS, and
   cockpit procedures (long enroute procedures versus multiple
   terminal approaches/task management).

   <u>I3202</u>
   Holding, GCA approach, PAR/ILS/ASR configuration point, ASR
   recommended altitudes, NAVAID characteristics (ILS, LOC, and
   LOC-BC (service volumes, operation principles, NATOPS
   procedures, and cockpit presentation)), FLIP (GP, FIH, and
   IFR enroute supplement, AP series), and MFD usage.

   <u>I3203</u>
   ILS/LOC/LOC-BC approach (configuration, presentation, MA,
   and FAF identification by other than DME), reverse sensing,
   AIM, FAA Instrument Procedures Handbook, FAA Instrument
   Flying Handbook, NATOPS Instrument Flight Manual, SOPs,
   local instructions, NATOPS, circling procedures, and
   circling missed approach.

   <u>I3204</u>
   Point-to-point navigation, NAVAID characteristics (VOR,
   TACAN, and NDB (service volumes, operation principles,
   NATOPS procedures, and cockpit presentation)), VOR/TAC
   approach procedures, NDB approach procedures, missed
   approach (determining MAP and continuation beyond MAP), high
   altitude approach/penetration, lost communications (FIH/LOA)
   (IFR – VMC versus IMC), partial panel approach/ESIS
   procedures, needle only approach procedures, and SSE
   approach procedures (configuration, power required, and
   descent profile).

5. <u>Block MIF</u>

CTS REF	MANEUVER	I3204
1	General Knowledge/Procedures	4+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Air Work	4+
5	Mission Planning/Briefing/Debriefing	4+
7	Instrument Takeoff	4+
9	Departure	3+
13	Enroute Procedures	3+
13	Point-to-Point	3+
17	In-Flight Planning/Clearance Compliance	3+
18	Cockpit Procedures	3+
19	Radio Communications	3+
21	Holding	3+
22	High Altitude Approach	3+
25	PAR	3+
25	ILS	3+
26,27	VOR	3+
26,27	TAC	3+
26,27	NDB	3+
25,27	Needle Only Approach	3
27	Localizer	3+
27	Localizer Back Course	3+
27	RNAV/GPS Approach	3+
27	ASR	3+
28	Circling Approach	2+
29	Transition to Landing	3
30	Missed Approach	3+
30	Circling Missed Approach	2+

MIF continued on next page.

CTS REF	MANEUVER	I3204
37	Pilot Flying/CRM	3+
38	Pilot Monitoring/CRM	3
40	Autopilot/Flight Director Operation	3+
41	FMS Operation	3+

Blk #	Media	Title	Events	Hrs	H/X
I41	T-44C	Instrument Approaches	4	8.0	2.0

1. <u>Prerequisites</u>

    a. C4502.

    b. I3204.

2. <u>Syllabus Notes</u>

    a. IP shall make a note on the ATF if unable to accomplish emphasis items on appropriate flight. Weather and aircraft/ATC equipment-dependent emphasis items are:

        (1) I4101 – GPS approaches.

        (2) I4102 – PAR, ASR, and ILS approaches.

        (3) I4103 – LOC and LOC-BC approaches.

        (4) I4104 – VOR and TACAN approaches, also should include an SMA visual approach and an IP demonstration of SSE approach/ waveoff.

    b. Events should have a minimum of four approaches per event and include at least two procedure turn approaches. Normal two-engine approaches should be emphasized in this block, but may introduce minor malfunctions (no partial panel/ESIS or SSE).

    c. Each event shall include a minimum of one approach with the flight director.

    d. Holding should be accomplished and graded on at least two events, one of which should be GPS holding.

    e. All events shall include a missed approach and should include at least two circling missed approaches in the block.

   f. Minimum of one approach per event with IP as PF and SMA
as PM, emphasizing CRM callouts and radio communications. To
allow SMAs additional radio communication practice, one approach
during each event should be flown with the SMA handling radio
communications as PF.

   g. SMAs shall bring a DD-175 flight plan or FAA flight plan
to correspond with the appropriate flight plan discuss item for
each event in this block. This flight plan will be filled out
as a practice flight plan to demonstrate the applicable
knowledge of the different types of DD-175 and FAA flight plans.
Additionally, during each event brief, SMAs shall fill out a
DD-175 flight plan for the actual event profile as required.

3. Special Syllabus Requirements

   I4101
   Coupled approach demo.

   I4104
   IP demonstrate SSE approach to SSE missed approach.

4. Discuss Items

   I4101
   Local operations, NOTAMs (FDC: General/ARTCC/airports,
   facilities, procedural/special FDC, military flight
   safety/civilian "D" NOTAMS, NTAP, GPS, and DINS), IAF/FAF
   procedures (6Ts, descent, and lead turns), CRM callouts, GPS
   approach types (LNAV, LNAV/VNAV, LPV, TAA, T's, and HILO),
   GPS configuration point, RAIM, GPS sensitivity modes
   (enroute, terminal, and approach), overlay approach, IFR
   landing transition and approach lighting, observer IFR
   duties/visual clearing, spatial disorientation, UNICOM voice
   reports, LNAV, LNAV/VNAV, LPV, autopilot/flight director,
   cockpit procedures (long enroute procedures versus multiple
   terminal approaches/task management), NAVAID setup (takeoff,
   enroute, approach, and missed approach), and basic departure
   to destination DD-175.

I4102
Holding, GCA approach, PAR/ILS/ASR configuration point, PAR versus ASR descent point, ASR recommended altitudes, NAVAID characteristics (ILS, LOC, LOC-BC (service volumes, operation principles, NATOPS procedures, and cockpit presentation)), ATC communication (clearance delivery, ground, tower, center, approach, tower, and ground), uncontrolled airfields (communications, canceling IFR, and procedures), holding in lieu of (HILO) PT approach, approach plate titles and notes, ATIS/AWOS/ASOS, DD-175-1, and terminal area delay DD-175.

I4103
Procedure turns (methods and types), instrument publications (DoD (NGA), FAA (NACO), Jeppesen/other), DPs (ODP/SID/vector/diverse, and uncontrolled field), VDP, VDA, landing transition, low close-in obstacles, ILS/LOC/LOC-BC approach (configuration, presentation, MA, and FAF identification by other than DME), reverse sensing, and stopover DD-175.

I4104
Point-to-point navigation; TERPS required obstacle clearance (ROC) for initial, intermediate, final, and circling phases; NAVAID characteristics (VOR, TACAN, and NDB (service volumes, operation principles, NATOPS procedures, and cockpit presentation)); VOR/TAC/NDB approach procedures; missed approach (determining MAP and continuation beyond MAP), circling procedures and circling missed approach; procedure track (arc/radial combination and teardrop); VDP; pilot-controlled lighting; lost communications (FIH/LOA) (IFR – VMC versus IMC); windshear; visual approach; contact approach; partial panel/ESIS approach procedures; needle only approach procedures; SSE approach procedures; TERPS (FAA Order 8260.3B); Trouble T (OIS, low close-in obstacles, climb gradients, alternate routing, nonstandard takeoff weather minimums, and VCOA); and FAA flight plan.

5. Block MIF

CTS REF	MANEUVER	I4104
1	General Knowledge/Procedures	4+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	4+
6	Ground Operations	4+
7	Instrument Takeoff	4+
9	Departure	3+
13	Enroute Procedures	3+
13	Point-to-Point	3+
17	In-Flight Planning/Clearance Compliance	3+
18	Cockpit Procedures	4+
19	Radio Communications	3+
20	Enroute Descent	3
21	Holding	3+
25	PAR	3+
25	ILS	3+
26,27	VOR	3+
26,27	TAC	3+
26,27	NDB	3
25,27	Needle Only Approach	3+
27	Localizer	3+
27	Localizer Back Course	3
27	RNAV/GPS Approach	3+
27	ASR	3+
28	Circling Approach	3+

CTS REF	MANEUVER	I4104
29	Transition to Landing	3+
4,29	Visual Approach	3
30	Missed Approach	3+
30	Circling Missed Approach	3+
34	Landing	4+
35	Touch and Go	4+
37	Pilot Flying/CRM	3+
38	Pilot Monitoring/CRM	3+
39	Radar Operation	3
40	Autopilot/Flight Director Operation	3+
41	FMS Operation	3+
43	Clearing	4+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
I33	SIM	Emergency Instrument Approaches	4	6.0	1.5

1. <u>Prerequisite</u>. I4104.

2. <u>Syllabus Notes</u>

    a. Simulator equipment-dependent emphasis items are emergency procedures during:

        (1) I3301 – GPS approaches.

        (2) I3302 – PAR, ASR, and ILS approaches.

        (3) I3303 – LOC and LOC-BC approaches.

        (4) I3304 – VOR, NDB, and TACAN approaches.

    b. Minimum of three approaches per event.

    c. Each event shall include a minimum of one approach with the flight director and one approach without the flight director.

    d. Holding should be accomplished and graded on at least three different events.

    e. All events shall include a missed approach; at least two circling missed approaches in the block.

    f. SMA in right seat shall be PM and graded accordingly, emphasizing CRM callouts and radio communications.

3. <u>Special Syllabus Requirements</u>. None.

4. <u>Discuss Items</u>

    <u>I3301</u>
    SSE GPS approach, SSE configuration point with or without VNAV, emergency voice reports (souls/fuel/emergency/ intentions), flight director malfunctions, and autopilot malfunctions/disconnect procedures.

I3302
Weather filing criteria, approach and landing minimums,
partial panel/ESIS approach, SSE GCA approach, SSE PAR
configuration point, SSE ILS approach, SSE ILS configuration
point, and SSE ASR configuration point with or without
recommended altitudes.

I3303
SSE LOC approach, SSE LOC-BC approach, procedure track
(arc/radial combination and teardrop), and partial
panel/ESIS LOC/LOC-BC.

I3304
Enroute weather facilities (FSS/EFAS/METRO), STAR (filing,
planning, and lost comms), SSE VOR/TAC/NDB approach
procedures, SSE circling approach, SSE missed approach,
needle only VOR and TAC approach procedures, DPs
(SID/ODP/vector/diverse), turbulence, windshear, and icing.

5. Block MIF

CTS REF	MANEUVER	I3304
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	4+
7	Instrument Takeoff	4+
9	Departure	4+
13	Enroute Procedures	4+
13	Point-to-Point	3+
17	In-Flight Planning/Clearance Compliance	4+
18	Cockpit Procedures	4+
19	Radio Communications	4+
20	Enroute Descent	3
21	Holding	4+

CTS REF	MANEUVER	I3304
25	PAR	4+
25	ILS	4+
25	SSE Precision Approach	3+
25,26,27	Partial Panel/ESIS Approach	3
26,27	VOR	4+
26,27	TAC	4+
26,27	NDB	3
26,27	SSE Non-Precision Approach	3+
25,27	Needle Only Approach	4+
27	Localizer	4+
27	Localizer Back Course	4+
27	RNAV/GPS Approach	4+
27	ASR	4+
28	Circling Approach	3+
28	SSE Circling Approach	3+
29	Transition to Landing	4
30	Missed Approach	4+
30	SSE Missed Approach	3+
30	Circling Missed Approach	3+
37	Pilot Flying/CRM	4+
38	Pilot Monitoring/CRM	4
40	Autopilot/Flight Director Operation	3+
41	FMS Operation	3+

Blk #	Media	Title	Events	Hrs	H/X
I42	T-44C	Emergency Instrument Approaches	4	8.0	2.0

1. Prerequisite. I3304.

2. Syllabus Notes

    a. Each flight should consist of a mix of approaches flown in the I4100 block.

    b. Events should have a minimum of four approaches per event and include at least two procedure turn approaches. Emergency procedures should be emphasized in this block.

    c. Each event shall include a minimum of one approach with the flight director.

    d. Holding should be accomplished and graded on at least two events, one of which should be GPS holding.

    e. All events shall include a missed approach and should include at least two circling missed approaches in the block.

    f. Minimum of one approach per event with IP as PF and SMA as PM, emphasizing CRM callouts and radio communications. To allow SMAs additional radio communication practice, one approach during each event should be flown with the SMA handling radio communications as PF.

    g. During each event brief, SMAs shall fill out a DD-175 flight plan for the actual event profile as required.

3. Special Syllabus Requirements. None.

4. Discuss Items

    I4201
    SSE approach procedures (configuration, airspeeds/power in the descent, and descent rate), SSE circling approach/missed approach, emergency voice reports, propeller system/ malfunctions, in-flight damage/bird strikes, partial panel/ESIS approach, and simulated versus actual EP.

<u>I4202</u>
Needle only VOR and TAC approach procedures, landing
minimums, flight director malfunctions, autopilot
malfunctions/disconnect procedures, electrical
system/malfunctions, anti-ice/deice system, windshield
heating, and flight control system/malfunctions.

<u>I4203</u>
Procedure track (arc/radial combination and teardrop), VDP,
VDA, smoke and fume emergencies, smoke and fire of unknown
origin, avionics system/malfunctions, and airfield diagrams
and symbols.

<u>I4204</u>
Hazardous weather, pitot static system/malfunctions
(alternate static and related avionics equipment), engine
system/malfunctions (engine failure/fire after takeoff), STAR
(filing, planning, and lost comms), fuel planning (required
totals and reserve, and NATOPS performance information), fuel
system/malfunctions, brake system/malfunctions, wake
turbulence, windshear, PULL UP warning, and weight and
balance form F.

5. <u>Block MIF</u>

CTS REF	MANEUVER	I4204
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	4+
6	Ground Operations	4+
7	Instrument Takeoff	4+
9	Departure	4+
13	Enroute Procedures	4+
13	Point-to-Point	3+
17	In-Flight Planning/Clearance Compliance	4+

CTS REF	MANEUVER	I4204
18	Cockpit Procedures	4+
19	Radio Communications	4+
20	Enroute Descent	3
21	Holding	4+
25	PAR	4+
25	ILS	4+
25	SSE Precision Approach	3+
25,26,27	Partial Panel/ESIS Approach	3+
26,27	VOR	4+
26,27	TAC	4+
26,27	NDB	3
26,27	SSE Non-Precision Approach	3+
25,27	Needle Only Approach	4+
27	Localizer	4+
27	Localizer Back Course	4
27	RNAV/GPS Approach	4+
27	ASR	4+
28	Circling Approach	4+
28	SSE Circling Approach	3+
29	Transition to Landing	4+
4,29	Visual Approach	3
30	Missed Approach	4+
30	SSE Missed Approach	3+
30	Circling Missed Approach	4+
34	Landing	4+
35	Touch and Go	4+
37	Pilot Flying/CRM	4+
38	Pilot Monitoring/CRM	4+
39	Radar Operation	3

MIF continued on next page.

CTS REF	MANEUVER	I4204
40	Autopilot/Flight Director Operation	3+
41	FMS Operation	4+
43	Clearing	4+

Blk #	Media	Title	Events	Hrs	H/X
I34	SIM	Instrument Emergency Procedures/CRM Simulator	1	1.5	1.5

1. <u>Prerequisite</u>. I4201.

2. <u>Syllabus Notes</u>

    a. First half of event will include various aircraft and instrument malfunctions.

    b. Second half will consist of a real world scenario commencing at crew brief/takeoff. Emphasis will be placed on procedural knowledge, judgment, and crew resource management skills. PM SMA shall be graded on CRM, radio communications, and callouts. The scenario will be carried through to a logical conclusion.

    c. IP or CIS, CRM-I or CRM-F, shall evaluate SMA IAW OPNAVINST 1542.7C. Upon successful completion, CRM-I or CRM-F shall record flight evaluation on CRM Training/Evaluation Record for inclusion in SMA's NATOPS jacket. IP or CIS shall include on ATF "Successful completion of initial CRM evaluation IAW OPNAVINST 1542.7C."

3. <u>Special Syllabus Requirements</u>. None.

4. <u>Discuss Items</u>. CRM and simulated scenario background.

5. Block MIF

CTS REF	MANEUVER	I3401
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	4+
7	Instrument Takeoff	4+
9	Departure	4+
17	In-Flight Planning/Clearance Compliance	4+
18	Cockpit Procedures	4+
19	Radio Communications	4+
25,27	Needle Only Approach	4
37	Pilot Flying/CRM	4+
38	Pilot Monitoring/CRM	4
40	Autopilot/Flight Director Operation	4

Blk #	Media	Title	Events	Hrs	H/X
I43	T-44C	Instrument Check Ride	1	1.5	1.5

1. Prerequisites

    a. I4204.

    b. I3401.

    c. G0790 (IFR Final Exam).

2. Syllabus Notes

    a. This event will be an evaluation of IFR procedures, involving a representative cross section of maneuvers previously presented.

    b. SMAs shall bring one DD-175 flight plan per SMA and one DD-175-1 per aircraft for their planned profile to brief. SMAs shall draft a flight plan that will execute the required maneuvers for the event(s).

    c. Events shall have a minimum of three approaches per event and include at least one procedure turn approach and at least one precision approach.

    d. Each event shall include a minimum of one approach with the flight director and one approach without the flight director.

3. Special Syllabus Requirements. None.

4. Discuss Items. Operations limits quiz, IAF/FAF entry procedures (6Ts, descent, and lead turns), pressurization system/malfunctions, electrical system, and OPNAVINST 3710.7U weather filing criteria.

5. Block MIF

CTS REF	MANEUVER	I4390
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	4+
6	Ground Operations	4+
7	Instrument Takeoff	4
9	Departure	4+
13	Enroute Procedures	4+
13	Point-to-Point	3
17	In-Flight Planning/Clearance Compliance	4+
18	Cockpit Procedures	4+
19	Radio Communications	4+
20	Enroute Descent	3
21	Holding	4+
25	PAR	4
25	ILS	4
25	SSE Precision Approach	3
25,26,27	Partial Panel/ESIS Approach	3
26,27	VOR	4
26,27	TAC	4
26,27	NDB	3
26,27	SSE Non-Precision Approach	3+
25,27	Needle Only Approach	4
27	Localizer	4
27	Localizer Back Course	4

CTS REF	MANEUVER	I4390
27	RNAV/GPS Approach	4
27	ASR	4
28	Circling Approach	4
28	SSE Circling Approach	3
29	Transition to Landing	4+
30	Missed Approach	4+
30	SSE Missed Approach	3
30	Circling Missed Approach	4
34	Landing	4+
35	Touch and Go	4
37	Pilot Flying/CRM	4+
38	Pilot Monitoring/CRM	4
40	Autopilot/Flight Director Operation	3
41	FMS Operation	4+
43	Clearing	4+

BLANK PAGE

Chapter VI

Navigation Training

This chapter does not apply to Intermediate E-2/C-2 MPTS.

BLANK PAGE

Chapter VII

Formation Training

1. <u>Matrices</u>. There is a single matrix following the block
description of the only flight block in this chapter.

2. <u>Formation Stage MIF</u>. None.

Blk #	Media	Title	Events	Hrs	Blk Name
F01	Class	Maritime Formation Procedures	1	1.0	FORMFP

1. <u>Prerequisite</u>. I4390.

2. <u>Events</u>

   F0101 Lect Maritime Formation Procedures   1.0

3. <u>Syllabus Notes</u>. None.

4. <u>Discuss Items</u>. None.

Blk #	Media	Title	Events	Hrs	Blk Name
F02	Class	Aerial Refueling Procedures	1	1.0	FORMFP

1. Prerequisite. I4390.

2. Events

    F0201 Lect Aerial Refueling Procedures   1.0

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
F41	T-44C	Maritime Formation and Aerial Refueling Fundamentals	1	3.0	3.0

1. Prerequisites

    a. F0101 (Maritime Formation Procedures).

    b. F0201 (Aerial Refueling Procedures).

2. Syllabus Note. Complete formation sequence IAW FTI and formation brief guide.

3. Special Syllabus Requirements. None.

4. Discuss Items

    a. Formation flight procedures, flight sequence, and formation emergency procedures.

    b. Aerial refueling flight procedures, AP-1B (Chapter 4) track procedures, DD-175 filing requirements, FMS management, flight sequence, and aerial refueling emergency procedures.

5. Block MIF

CTS REF	MANEUVER	F4101
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	4+
6	Ground Operations	4+
7	Formation Takeoff	4
7	FMS Operation	4
9	Departure	4

CTS REF	MANEUVER	F4101
17	In-Flight Planning/Clearance Compliance	4+
18	Cockpit Procedures	4+
19	Radio Communications	4+
19	Communications	4+
24	Course Rules	4
24	Traffic Entry	4
34	Landing	4
37	Pilot Flying/CRM	4+
38	Pilot Monitoring/CRM	4
42	Running Rendezvous	3+
42	Parade Position	3+
42	Parade Turns	3+
42	Crossunder	3+
42	Free Cruise	3+
42	Breakup and Rendezvous	3+
42	Maritime Lead Change	3+
42	Maritime Lead	3+
43	Clearing	4+
44	Tanker Procedures	4
44	Receiver Procedures	4+
44	RV Delta (Point Parallel) Rendezvous	4+
44	RV Golf (Enroute) Rendezvous	4
44	Alternate Rendezvous	4
44	Anchor Refueling Procedures	4
44	Track Refueling Procedures	4
44	Rendezvous Overrun/Underrun	4
44	Precontact Position	4+
44	Contact Position	4+
44	Boom Limits Demonstration	4

BLANK PAGE

Chapter VIII

Tactical Training

This chapter does not apply to Intermediate E-2/C-2 MPTS.

BLANK PAGE

Chapter IX

Course Training Standards (CTS)

1. Purpose. These standards outline the tasks and proficiency required of graduates of this syllabus.

2. Student Duties and Responsibilities

    a. Plan the mission.

    b. Ensure the aircraft is preflighted, inspected, and equipped for the assigned mission.

    c. Operate the aircraft to accomplish the mission using sound judgment and airmanship.

3. General Proficiency Standards

    a. Achieve training standards for VMC maneuvers in conjunction with visual clearing.

    b. Unless otherwise specified, use **Basic Air Work (BAW)** standards for all items with altitude, airspeed, or heading parameters.

    c. "Standard" equates to **good** (G/4).

    d. Aircraft control must be smooth and positive. Performance may be within CTS and still not warrant a grade of **good** if control inputs are delayed, erratic, imprecise, or inappropriate. Slight deviations in establishing or maintaining the proper or desired aircraft attitude or position may occur during the maneuver being performed.

    e. Momentary deviations outside CTS that do not compromise flight safety are acceptable if subsequent corrections are timely.

    f. Procedural knowledge and application must comply with applicable directives and allow efficient mission accomplishment. If individual tasks require pre-mission planning, the standards from **Mission Planning** apply.

4. <u>Execution</u>. The MIF regulates SMA progression to meet required standards prior to phase completion. Instructor Pilots shall evaluate SMA performance against these standards.

5. <u>Job Tasks</u>. Specific performance and standards required are described as follows:

BEHAVIOR STATEMENT	STANDARDS
GRADED ITEM	
● A brief description of the behavior, required action, and/or conditions.	● The specific standards for the action. May be read as "The SMA …"

6. <u>Graded Items</u>. The MIF for specific graded items varies for each stage. Several items are graded on all complete syllabus events. The standards for these universally graded items are listed first.

7. <u>Course Training Standards</u>

BEHAVIOR STATEMENT	STANDARDS
1. General Knowledge/Procedures	
● Maintain working knowledge of all appropriate flight training instructions and directives.	● Recites, discusses, and/or performs all applicable items essential to the operation of the airplane.
2. Emergency Procedures	
● Maintain in-depth knowledge of NATOPS and appropriate directives.	● Correctly analyzes situation. ● Performs/recites critical action steps from memory. ● Uses checklist when conditions permit. ● Completes procedures in a timely manner.

BEHAVIOR STATEMENT	STANDARDS
3. Headwork/Situational Awareness	
• Comply with the FTI and NATOPS while maintaining situational awareness sufficient for flight safety.	• Understands instructions, demonstrations, and explanations. • Foresees and avoids possible difficulties. • Remains alert and spatially oriented.
4. Basic Air Work	
• Establish and maintain desired altitude, airspeed, and heading during flight.	• Maintains aircraft within 100 feet, 10 KIAS, 10° of heading. • Appropriately uses power, attitude, and trim. • Levels off within 100 feet of desired altitude. • Accomplishes within ±10 seconds of correct time as applicable.
5. Mission Planning/Briefing/Debriefing	
• Flight room or base operations environment.	• Plans mission in a timely manner to meet all maneuver requirements. • Acquires appropriate flight planning/weather data. • Clearly defines the mission overview and mission goals with NATOPS briefing guide. • Effectively uses the mission debriefing to reinforce skills and identify key points in mission performance.

BEHAVIOR STATEMENT	STANDARDS
6. Ground Operations	
• Begins when departing for the aircraft and ends when the power is applied for takeoff. • Begins again when aircraft clears the runway and continues until power is advanced for a subsequent takeoff or when postflight duties are complete and the aircrew is clear of the aircraft.	• Complies with NATOPS and training directives. • Determines aircraft status and TOLD. • Properly operates aircraft systems on ground. • Ensures clearance of line personnel, ground equipment, and other aircraft using appropriate signals. • Taxies aircraft at speeds commensurate with traffic and surface conditions. • Maintains taxiway boundaries (including hold-short) and gives way to other aircraft as appropriate.
7. Takeoff	
• Begins when advancing power for takeoff and ends when aircraft is safely airborne, gear and flaps are retracted, and climb power and airspeed are established.	• Checks aircraft performance IAW NATOPS. • Maintains ±10 feet of centerline. • Rotates at V_R +5/-0 knots. • Transitions to instrument flight, if required. • Smoothly accelerates to appropriate climb speed. • Maintains runway situational awareness to include Go/No-Go criteria.
8. Aborted Takeoff	
• Begins from the recognition of malfunction or possible abort condition. • Ends when aircraft is stopped and radio call is completed.	• Handles IAW NATOPS. • Verbalizes "abort" internally and on the radio. • Remains ±10 feet of centerline. • Brings aircraft smoothly to a full stop utilizing brakes and/or reverse.

BEHAVIOR STATEMENT	STANDARDS
9. Departure	
• Begins when climb airspeed is established and ends when published departure is complete or established in assigned working area. • If no published departure, begins when initiating pitch change for level-off.	• Complies with ATC/departure/ flight plan clearance or course rules, as appropriate.
10. SSE at Altitude	
• Begins with initial pitch and power setting. • Ends when aircraft is stabilized in straight-and-level flight, on climb profile (V_x or V_y), or in position for the next maneuver.	• Executes maneuver IAW NATOPS and FTI procedures. • Demonstrates appropriate rudder application. • Prevents excessive airspeed decay.
11. Dynamic Engine Cut	
• Begins with initial pitch and power setting. • Ends when aircraft is stabilized in straight-and-level flight, on climb profile (V_x or V_y), or in position for the next maneuver.	• Executes maneuver IAW NATOPS and FTI. • Maintains ±10 degrees of heading; demonstrates appropriate rudder use. • Does not descend below initial altitude, and airspeed is never below 91 knots.

BEHAVIOR STATEMENT	STANDARDS
12. Training Area Maneuvers	
- Begins with initial pitch and power setting. - Ends when aircraft is stabilized in straight-and-level flight, on climb profile (V_x or V_y), or in position for the next maneuver.	- Executes all maneuvers IAW NATOPS and FTI. - Turn pattern/steep turns: ±100 feet, ±5° bank, ±10 knots, rolls out ±5°. - Approach-to-stalls: (a) minimizes altitude loss, (b) once approach-to-stall is stopped, avoids secondary approach-to-stall indications, (c) performs smooth, controlled recovery. - Slow flight: +5/-0 knots, ±100 feet.
13. Enroute Procedures	
- Begins when established at assigned altitude, airspeed, and power setting. - Ends with initial power reduction for descent or entering enroute holding.	- Updates/validates planned time and fuel computations as required to safely and efficiently accomplish the mission. - Effectively uses FSS, PMSV, and ATIS as required. - Maintains course centerline between all NAVAIDs and fixes with minor deviations (if IFR). - Executes point-to-point within ±2 NM.
14. Emergency Descent	
- Begins with initial power reduction. - Ends when straight and level, and recovery is complete.	- Performs procedure IAW NATOPS and FTI. - Flies maneuver at maximum rate of descent for configuration. - Initiates and completes recovery IAW FTI at prescribed altitudes.

BEHAVIOR STATEMENT	STANDARDS
15. Ditching	
• Begins when the decision to ditch is made. • Ends when the aircraft arrives at simulated impact.	• Executes maneuver IAW NATOPS and FTI. • Performs simulated impact at wings-level within ±20 degrees of ditch heading and +5/-0 knots. • Maintains rate of descent at 100 feet per minute or less (SSE or dual engine) **or** less than 500 feet per minute (power off).
16. Basic Instrument Maneuvers	
• Begins with initial pitch and power setting. • Ends when aircraft is stabilized in straight-and-level flight or in position for the next maneuver.	• Accomplishes all maneuvers IAW FTI. • Maintains Basic Aircraft Control parameters. • Maintains VSI within ±200 FPM of established parameters, if applicable.
17. In-Flight Planning/Clearance Compliance	
• Has general understanding of mission flow and area orientation, both vertically and horizontally, recognizing and avoiding potential hazards.	• Demonstrates effective time management. • Accomplishes mission maneuver items. • Complies with ATC clearance. • Remains within assigned airspace.
18. Cockpit Procedures	
• Prioritizes and manages crew tasks during mission profile; ensures complete checklist discipline and the following of all standard operating procedures.	• Correctly prioritizes multiple tasks; uses all available resources to manage workload. • Accomplishes all required normal and emergency checklists for each phase of flight; completes checklists in a timely manner with all items addressed. • Completes all ground checklists and is prepared for takeoff in a timely manner.

BEHAVIOR STATEMENT	STANDARDS
19. Radio Communications	
● Performs verbal communications during mission profile (normally PM).	● Uses precise, properly formatted radio calls with standard terminology. ● Acknowledges all communications. ● Understands and prioritizes transmissions in a multiple communications environment. ● Asks for and provides clarification when necessary. ● Asks questions when uncertain.
20. Enroute Descent	
● Begins with initial power reduction at cruise. ● Ends when crossing the holding fix, IAF, or established on radar vectors cleared for approach.	● Complies with ATC/STAR/flight plan clearance. ● Arrives at assigned/briefed altitude with sufficient time to slow and configure (if required) prior to the terminal fix.
21. Holding	
● Begins when crossing the holding fix and ends when departing the holding pattern for a subsequent fix or the approach.	● Computes proper entry turn. ● Estimates wind direction and applies appropriate corrections. ● Establishes and maintains aircraft within holding airspace.
22. High Altitude Approach (Penetration)	
● Begins when crossing the high IAF and ends at the FAF.	● Complies with all altitude restrictions. ● Maintains airspeed IAW FLIP, NATOPS, and FTI.
23. Overhead/Break Entry	
● Begins when commencing the break. ● Ends when arriving wings-level on the downwind leg at pattern altitude.	● Complies with FTI procedures. ● Maintains altitude ±50 feet of FTI requirements.

BEHAVIOR STATEMENT	STANDARDS
24. Course Rules	
• Begins from VFR takeoff. • Ends when commencing the break, established on straight-in final, or wings-level on downwind.	• Accomplishes IAW NATOPS, FTI, and Course Rules, as appropriate.
25. Precision Approach	
• Begins when cleared for the approach on radar vectors or when intercepting glidepath on a published approach procedure. • Ends at transition to landing or applying power to execute a missed approach/ waveoff.	• ILS approach: Maintains ±1 dot width of localizer and glideslope. • PAR approach: Does not exceed "well above/below glidepath" or "well left/right of course." Does not receive multiple "well above/below glidepath" or "well left/right of course" calls. Complies with the controller's instructions in a timely manner. • Maintains +5/-0 knots of approach airspeed. • Maintains arcs ±1 NM.
26. Non-Precision Procedure Turn/Arc	
• Begins on crossing IAF on a published approach procedure. • Ends when crossing FAF on a published approach procedure.	• Executes course reversal IAW NATOPS, FTI, and FAR/AIM, as appropriate. • Adjusts outbound leg to stay inside "remain within distance." • Maintains +10/-0 knots of approach airspeed. • Maintains arcs ±1 NM.

BEHAVIOR STATEMENT	STANDARDS
27. Non-Precision Approach	
• Begins when cleared for the approach on radar vectors or when crossing the FAF on a published approach procedure. • Ends at transition to landing or applying power to execute a missed approach/waveoff.	• FAF to MAP: (a) Begins timing within ±5 seconds if appropriate, (b) +10/-0 knots of approach airspeed, (c) Course ±1 dot width. • Arrives at the MDA prior to MAP in a safe position to make a normal visual descent to land. • MDA +100/-0 feet. • NDB final approach: Maintains ±5° bearing. • ASR approach: Does not exceed "well left/right of course." Does not receive multiple "well left/right of course" calls. Complies with the controller's instructions in a timely manner.
28. Circling Approach	
• Begins when initiating the circle and ends at landing phase or applying power to execute a missed approach/waveoff.	• Accomplishes circle IAW FTI and FAR/AIM. • Maintains circling altitude +100/-0 feet. • Maintains circling airspeed +10/-0 knots. • Arrives at threshold +10/-0 knots of V_{REF} speed.
29. Transition to Landing	
• Begins when departing the MDA or DH on a visual glidepath to the runway and ends at landing phase.	• Maintains a normal visual glidepath to the runway. • Follows visual approach guidance as appropriate, i.e., VASI, PAPI, etc. • Arrives at threshold +10/-0 knots of V_{REF} speed.

BEHAVIOR STATEMENT	STANDARDS
30. Missed Approach	

• Begins when advancing power and ends when aircraft is safely airborne, gear and flaps are retracted, appropriate airspeed is established, and missed approach/climbout instructions are complied with or closed pullup/crosswind turn is initiated.	• Accomplishes IAW FTI and NATOPS.
	• Complies with FLIP missed approach procedures or climbout instructions, as appropriate.
	• Establishes runway/assigned heading ±5°, if appropriate.
	• Initiates when field not in sight and
	  ▶ Nonprecision
	    ▪ Inside FAF and full scale CDI deflection.
	    ▪ At specified MAP DME.
	    ▪ At expiration of timing in the absence of DME.
	  ▶ Precision, first of
	    ▪ Decision height,
	    ▪ Controller-directed,
	  ▶ Or, not in position for safe landing.

31. Waveoff/SSE Waveoff	

• Begins when advancing power levers.
• Ends when aircraft is safely airborne, gear and flaps are retracted, appropriate airspeed is established, and crosswind turn is initiated.
	• Complies with NATOPS and FTI procedures.
	• Initiates waveoff when:
	  ▶ Aircraft requires more than 30-degree AOB to avoid overshooting final.
	  ▶ Landing clearance not received by short final.
	  ▶ Directed.
	  ▶ Unsafe gear indication after rolling onto final.
	  ▶ Aircraft is not in a safe position to make a safe landing.
	• Demonstrates appropriate rudder application for SE Waveoff.

BEHAVIOR STATEMENT	STANDARDS
32. VFR Landing Pattern	
• Begins when commencing the break, initiating crosswind, wings-level on downwind leg, or established on straight-in final. • Ends at landing phase or when adding power for waveoff.	• Complies with NATOPS and FTI procedures. • Maintains +5/-0 knots of FTI established pattern airspeeds prior to threshold. • Dual engine, arrives at threshold +5/-0 knots of V_{REF} speed. • Altitude ±50 feet of FTI requirements throughout pattern.
33. SSE Landing Pattern	
• Begins when initiating crosswind traffic, wings-level on downwind leg at pattern altitude, or established on straight-in final. • Ends at landing phase or when adding power for waveoff.	• Complies with NATOPS and FTI procedures. • Maintains +5/-0 knots of FTI-established pattern airspeeds prior to threshold; arrives at threshold +10/-0 knots of V_{REF} speed. • Maintains ±50 feet of FTI requirements throughout pattern. • Demonstrates appropriate rudder applications.
34. Landing	
• Begins when crossing the threshold or initiating the roundout, whichever occurs first. • Ends when slowed to a safe taxi speed or when advancing power for touch-and-go takeoff.	• Dual engine, arrives at threshold +5/-0 knots of V_{REF} speed. • SSE, arrives at threshold +10/0 knots of V_{REF} speed. • Touches down in the prescribed landing zone. • Lands and maintains within ±10 feet of runway centerline. • Touches down <300 feet/min. • Applies proper crosswind correction.

BEHAVIOR STATEMENT	STANDARDS
35. Touch and Go	
● Begins when advancing power after landing. ● Ends when aircraft is safely airborne, gear and flaps are retracted (if appropriate), and appropriate airspeed is established.	● Accomplishes IAW NATOPS and FTI. ● Maintains runway centerline ±10 feet.
36. SSE Full Stop	
● Begins at touchdown on the runway and ends when the aircraft has come to a slow taxi speed on the runway.	● Performs maneuver IAW FTI. ● Maintains centerline ±25 feet.

BEHAVIOR STATEMENT	STANDARDS
37. Pilot Flying/Crew Resource Management (CRM)	
• Decision Making. • Assertiveness. • Mission Analysis. • Communications (PM will normally make all external radio communications, graded item 19). • Leadership. • Adaptability/ Flexibility. • Situational Awareness (individually graded item). • As PF, embraces Threat and Error Management and callouts, acting as a complete team member.	• Gathers available data before arriving at final decision; clearly states decisions to the crew; and provides rationale for decisions. • Displays assertive behavior when necessary and accepts assertive behavior from other crewmembers. • Assesses risks and makes decisions; identifies probable contingencies and alternatives. • Facilitates effective, open, and clear internal communications; uses exact checklist and callout verbiage IAW FTI and NATOPS. • Recognizes and eliminates hazardous attitudes in self and other crewmembers; resolves conflict in a positive manner. • Provides positive leadership to the crew; encourages crew participation in the decision-making process. • Adapts to meet new situational demands. • Demonstrates the ability to maintain awareness of what is happening on the ground, in the air, and with other crewmembers; copes with any subsequent mission impact as a result of these happenings.

BEHAVIOR STATEMENT	STANDARDS
38. Pilot Monitoring/CRM	
• Decision Making. • Assertiveness. • Mission Analysis. • Communications (PM will normally make all external radio communications, graded item 19). • Leadership. • Adaptability/ Flexibility. • Situational Awareness (individually graded item). • As PM, embraces Threat and Error Management and callouts, acting as a complete team member.	• Gathers available data before arriving at final decision; clearly states decisions to the crew; and provides rationale for decisions. • Displays assertive behavior when necessary and accepts assertive behavior from other crewmembers. • Assesses risks and makes decisions; identifies probable contingencies and alternatives. • Facilitates effective, open, and clear internal communications; uses exact checklist and callout verbiage IAW FTI and NATOPS. • Recognizes and eliminates hazardous attitudes in self and other crewmembers; resolves conflict in a positive manner. • Provides positive leadership to the crew; encourages crew participation in the decision-making process. • Adapts to meet new situational demands. • Demonstrates the ability to maintain awareness of what is happening on the ground, in the air, and with other crewmembers; copes with any subsequent mission impact as a result of these happenings.
39. Radar Operation	
• Understands and applies system operation and limitations.	• Demonstrates ability to use radar for weather observation and avoidance.

CNATRAINST 1542.175
6 Sep 13

BEHAVIOR STATEMENT	STANDARDS
40. Autopilot/Flight Director Operation	
• Understands and applies system operation and limitations.	• Correctly and appropriately uses autopilot in the horizontal and vertical modes to improve pilot task loading/clearing. • With autopilot engaged, maintains aircraft control within course training standards for the given phase of flight.
41. FMS Operation	
• Understands and applies system operation and limitations.	• Effectively and accurately programs and navigates using the FMS. • Able to store and retrieve flight plans. • Able to use system features to enhance situational awareness. • Accomplishes tasks in a timely manner.
42. Maritime Formation Maneuvers	
• Begins with formation taxi and ends when the formation is split up for recovery or in the pattern.	• Accomplishes maneuvers IAW the mission brief and the FTI. • Demonstrates a working knowledge of formation procedures as established in the FTI. • Maintains wingman position stabilized with safe separation between aircraft. • Demonstrates wingman consideration while lead.
43. Clearing	
• Begins at engine start and ends with both engines shut down and parking brake set.	• Accomplishes flight deck and mission tasks while remaining visually and aurally alert to and avoiding other in-flight and ground obstacles. • Effectively uses accepted visual clearing techniques to avoid conflicts. • Effectively uses radios and other crewmembers to aid in clearing.

IX-16

BEHAVIOR STATEMENT	STANDARDS
44. USN Aerial Refueling Maneuvers (AR)	
• Begins when the aircraft is maneuvered to the Aerial Refueling Initial Point or the Aerial Refueling Control Point and ends after departing the aerial refueling track.	• Accomplishes maneuvers IAW mission brief and the FTI. • Demonstrates a working knowledge of aerial refueling procedures as established in the FTI. • Maintains a stabilized rendezvous with safe separation between aircraft. • Demonstrates stabilized precontact position while receiver. • Maintains precise control of the aircraft while demonstrating aerial refueling limits.

BLANK PAGE

Chapter X

Master Materials List

Individually Issued Materials

NOMENCLATURE	IDENTIFICATION	QTY PER STUDENT

None listed at date of publication.

BLANK PAGE