NAVAL AIR TRAINING COMMAND

NAS CORPUS CHRISTI, TEXAS
CIN Q-2A-0495/0595/0295/0795/0395/0695
Q-2A-0294/0394/0794/0494/0594/0694 **CNATRAINST 1542.153C**

CHIEF OF NAVAL AIR TRAINING

MULTI-ENGINE FLIGHT INSTRUCTOR AND TRANSITION CURRICULUM

2009

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

CNATRAINST 1542.153C
N713
15 DEC 09

CNATRA INSTRUCTION 1542.153C

Subj: MULTI-ENGINE FLIGHT INSTRUCTOR AND TRANSITION CURRICULUM

1. Purpose. To promulgate the curriculum for training flight instructors in the multi-engine phase of training. Also, to promulgate information, standardization, and guidance of all Naval Test Pilot School and Maritime Transition selectees, Aircraft Commanders, and copilots.

2. Cancellation. CNATRAINST 1542.153B will be cancelled when the last enrolled Student/Instructor Under Training (IUT) completes the curriculum.

3. Action. This curriculum is effective on receipt. No changes shall be made without written authorization by the Chief of Naval Air Training (CNATRA).

4. Forms. The Aviation Training Forms required by this directive are computer generated in the Training Integration Management System (TIMS) and will have the system form number CNATRA 1542/2022. CNATRA point of contact is the current Pipeline Training Officer, CNATRA (N713), DSN 861-3654. An update of these forms shall be accomplished no later than the issuance of this curriculum.

JAMES A. CRABBE
Chief of Staff

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Original

Total number of pages is 234 consisting of the following:

Page Number	Issue
Letter - 2	
3/(4 blank)	
i - iv	
v/(vi blank)	
vii-xxxviii	
xxxix/(xl blank)	
I-1 – I-22	
II-1 – II-22	
III-1 – III-32	
IV-1 – IV-24	
IV-25/(IV-26 blank)	
V-1 – V-30	
VI-1 - VI-8	
VII-1 – VII-16	
VII-17/(VII-18 blank)	
VIII-1 - VIII-8	
VIII-9/(VIII-10 blank)	
IX-1 – IX-18	
IX-19/(IX-20 blank)	
X-1/(X-2 blank)	

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TABLE OF CONTENTS

PAGE

SUMMARY OF CHANGES.....v
COURSE DATA.....vii
ABBREVIATIONS.....xxix
GLOSSARY.....xxxvii

CHAPTER I. GENERAL INSTRUCTIONS

SYLLABUS MANAGEMENT I-1
TRAINING MANAGEMENT I-2
T-44A/TC-12 INSTRUCTOR COURSE FLOW I-4
T-44C INSTRUCTOR COURSE FLOW I-5
ADVANCED QUALIFICATIONS COURSE FLOW I-6
T-44A TO T-44C IP TRANSITION COURSE FLOW I-7
TC-12 TO T-44C IP TRANSITION COURSE FLOW I-8
T-44C TO T-44A IP TRANSITION COURSE FLOW I-9
T-44C AIR ADVISOR IUT COURSE FLOW I-10
T-44A/TC-12 MT, TPS, AND AC COURSE FLOW I-11
T-44C MT, TPS, AND AC COURSE FLOW I-12
T-44A TO T-44C AC TRANSITION COURSE FLOW I-13
T-44A/TC-12 COPILOT COURSE FLOW I-14
T-44C COPILOT COURSE FLOW I-15
T-44A TO T-44C COPILOT TRANSITION COURSE FLOW I-15
INSTRUCTOR CONTINUITY I-16
ADDITIONAL FLIGHTS/SIMULATORS I-16
GROUND TRAINING AND BRIEFING REQUIREMENTS I-16
MISSION GRADING PROCEDURES AND EVALUATION POLICIES ..I-17
SPECIAL INSTRUCTIONS AND RESTRICTIONS
(FLIGHT HOUR/EVENT REQUIREMENTS AND RESTRICTIONS) ...I-21

CHAPTER II. GROUND TRAINING

INDOCTRINATION/HIGH RISK SCREENING (G01) II-1
INSTRUMENT FLIGHT RULES (G02) II-2
SYSTEMS (G03) II-4
AERODYNAMICS (G04) II-9
FLIGHT PROCEDURES (G06) II-11
CREW RESOURCE MANAGEMENT (G07) II-12
FLIGHT INSTRUCTOR TRAINING COURSE (G09) II-13
INSTRUMENT REFRESHER (G10) II-14
CONTACT BRIEF (C01) II-15
T-44A/C DIFFERENCES BRIEF (C02) II-16

INSTRUMENT BRIEFS (I01) II-17
LOW-LEVEL NAVIGATION GROUND SCHOOL (N01) II-19
PORTABLE FLIGHT PLANNING SOFTWARE (N02) II-20
TILTROTOR FORMATION GROUND SCHOOL (F01) II-21
TACTICAL FORMATION GROUND SCHOOL (T01) II-22

CHAPTER III. NATOPS TRAINING

MATRICES III-1
STAGE MIF III-1
AA STAGE MIF III-5
COCKPIT PROCEDURES (C21) III-8
NATOPS CONTACT (C41) III-11
NATOPS RADIO INSTRUMENTS (I31) III-14
NATOPS INSTRUMENTS (I41) III-17
INSTRUMENT CHECK RIDE (I42) III-21
NATOPS CONTACT REVIEW (C42) III-24
NATOPS CHECK RIDE (C43) III-26
COPILOT NATOPS CHECK RIDE (B41) III-29
OPTIONAL CP INSTRUMENT CHECK RIDE (B42) III-31

CHAPTER IV. CONTACT TRAINING

MATRICES IV-1
STAGE MIF IV-1
T-44A/TC-12 TO T-44C IP TRANSITION STAGE MIF IV-4
T-44A TO T-44C AC TRANSIITON STAGE MIF IV-7
CONTACT DEFENSIVE POSITIONING (C31) IV-10
INSTRUCTOR CONTACT (C44) IV-12
CONTACT STANDARDIZATION CHECK RIDE (C45) IV-15
EMERGENCY PROCEDURES SIMULATOR (C32) IV-17
T-44C TRANSITION CONTACT (C46) IV-19
T-44C TRANSITION CHECK RIDE (C47) IV-21
T-44C CONTACT STANDARDIZATION CHECK RIDE (C48) IV-23
T-44C COPILOT SIMULATOR (B31) IV-25

CHAPTER V. INSTRUMENT TRAINING

MATRICES V-1
STAGE MIF V-1
AA IUT STAGE MIF V-3
T-44C IP TRANSITION STAGE MIF V-5
T-44C AC TRANSITION STAGE MIF V-7
STUDENT INSTRUMENT FLIGHT MONITOR (I43) V-9
INSTRUCTOR RADIO INSTRUMENT (I44) V-10

INSTRUMENT DEFENSIVE POSITIONING (I32) V-14
INSTRUMENT STANDARDIZATION CHECK RIDE (I45) V-16
T-44C INSTRUMENT SIMULATOR (I33) V-19
T-44C TRANSITION INSTRUMENT (I46) V-22
T-44C TRANSITION SCENARIO SIMULATOR (I34) V-25
T-44C INSTRUCTOR RADIO INSTRUMENT (I47) V-27
T-44C INSTRUMENT STANDARDIZATION CHECK RIDE (I48) ...V-29

CHAPTER VI. NAVIGATION TRAINING

MATRICES VI-1
STAGE MIF VI-1
OVER-WATER NAVIGATION STANDARDIZATION
CHECK RIDE (N41) VI-4
LOW-LEVEL NAVIGATION (N42) VI-6

CHAPTER VII. FORMATION TRAINING

MATRICES VII-1
T-44 MARITIME FORMATION STAGE MIF VII-1
T-44 AERIAL REFUELING STAGE MIF VII-2
TC-12 MARITIME/TILTROTOR FORMATION STAGE MIF VII-4
MARITIME FORMATION (F41) VII-6
MARITIME FORMATION STANDARDIZATION CHECK RIDE (F42) VII-8
AERIAL REFUELING (F43) VII-10
AERIAL REFUELING STANDARDIZATION CHECK RIDE (F44) .VII-12
TILTROTOR FORMATION (F45) VII-14
TILTROTOR FORMATION STANDARDIZATION
CHECK RIDE (F46) VII-16

CHAPTER VIII. TACTICAL TRAINING

MATRICES VIII-1
STAGE MIF VIII-1
SEARCH AND RESCUE STANDARDIZATION
CHECK RIDE (T41) VIII-3
USAF TACTICAL FORMATION (T42) VIII-5
USAF TACTICAL FORMATION STANDARDIZATION
CHECK RIDE (T43) VIII-8

CHAPTER IX. COURSE TRAINING STANDARDS

PURPOSE IX-1
DUTIES AND RESPONSIBILITIES IX-1
GENERAL PROFICIENCY STANDARDS IX-1
EXECUTION IX-1
JOB TASKS IX-2
COURSE TRAINING STANDARDS IX-2

CHAPTER X. MASTER MATERIALS LIST

NONE LISTED X-1

SUMMARY OF CHANGES

CHANGE NUMBER	DATE OF CHANGE	CHANGE DESCRIPTION	PAGES AFFECTED/ INITIALS

BLANK PAGE

COURSE DATA

1. Course Title. Multi-engine Flight Instructor and Transition Curriculum.

2. Course ID Number (CIN)

T-44A/TC-12 IUT:	Q-2A-0495
T-44C IUT:	Q-2A-0595
T-44A to T-44C IP Transition:	Q-2A-0295
TC-12 to T-44C IP Transition:	Q-2A-0795
T-44C to T-44A IP Transition:	Q-2A-0395
T-44C Air Advisor IUT:	Q-2A-0695
T-44A/TC-12 MT, TPS, and AC:	Q-2A-0294
T-44C MT, TPS, and AC:	Q-2A-0394
T-44A to T-44C AC Transition:	Q-2A-0794
T-44A/TC-12 CP:	Q-2A-0494
T-44C CP:	Q-2A-0594
T-44A to T-44C CP Transition:	Q-2A-0694

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

4. Course Status. Active.

5. Course Mission. Multi-engine Flight Instructor Training is designed to provide designated aviators with appropriate flight procedures, instructional methodology, and techniques to instruct undergraduate flight students in the Advanced Multi-engine Multi-service Pilot Training System (MPTS), E-2/C-2, E-6, and Tiltrotor phases of flight training. Air Advisor (AA) training is designed to build fundamental multi-engine instructional skills coupled with advanced automation management of the T-44C. The Naval Test Pilot School (TPS) Preparatory, Maritime Transition (MT), and Aircraft Commander (AC) training is designed to prepare designated pilots with dissimilar flying experience for Naval TPS, the Maritime Patrol Fleet Replacement Squadron (FRS), and NATOPS designated ACs. Additionally, there is a provision for Copilot (CP) training and CP designations. Requests for amendments or deviations to this instruction shall be forwarded to the Chief of Naval Air Training (N71).

6. Prerequisite Training. Designated naval aviator/military pilot.

7. Security Clearance Required. None.

8. Follow-on Training. As required to maintain currency for instructors and Naval Test Pilot School or Maritime Patrol FRS, as required.

9. Course Length. Overall time to train calculated in accordance with CNATRAINST 1550.6E. Training days are as follows:

	Calendar Weeks	Calendar Days	Training Days
a. Instructor Tracks			
(1) T-44A/TC-12 IUT:	11.5	80.8	52.0
(2) T-44C IUT:	12.4	87.1	56.1
(3) T-44A to T-44C IP Transition:	3.2	22.2	14.3
(4) TC-12 to T-44C IP Transition:	5.0	35.1	22.6
(5) T-44C to T-44A IP Transition:	2.0	14.2	9.2
(6) T-44C Air Advisor IUT:	6.6	46.0	29.6
b. Non-Instructor Tracks			
(1) T-44A/TC-12 MT, TPS, and AC:	8.3	57.8	37.2
(2) T-44C MT, TPS, and AC:	8.2	57.1	36.7
(3) T-44A to T-44C AC Transition:	4.9	34.6	22.3
(4) T-44A/TC-12 CP:	3.9	27.4	17.7
(5) T-44C CP:	4.1	28.4	18.3
(6) T-44A to T-44C CP Transition:	1.8	12.5	8.0

10. Class Capacity. Variable.

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

12. Course Curriculum Model Manager. Commander, Training Air Wing FOUR (COMTRAWING FOUR).

13. Quota Management Authority. Chief of Naval Air Training.

14. Quota Control. Chief of Naval Operations.

15. Course Training Subjects

a. T-44A/TC-12 Instructor

NOTE: While not separate events in the curriculum, specific exams are required for denoted check rides (shown in parentheses in the symbol column) and included in the Syllabus Notes of each identified event. These exams appear in the applicable Flight Support Tables in each Course Training Subjects paragraph.

(1) Ground Training

T-44A/TC-12 INITIAL INSTRUCTOR TRAINING		
Stage	**Symbol**	**Hours**
Indoctrination/High Risk Screening	G01	2.00
Instrument Flight Rules (includes 3 exams)	G02	47.50
T-44A/TC-12 Systems (includes 1 exam)	G03	30.00
Aerodynamics (includes 1 exam)	G04	24.50
Flight Procedures	G06	11.75
Crew Resource Management	G07	4.00
Flight Instructor Training Course	G09	26.00
Totals		**145.75**

T-44A/TC-12 IP (ANNUALLY)		
Stage	**Symbol**	**Hours**
Seven CRM Skills	G0701	2.0
Instrument Refresher (includes 1 exam)	G10	8.0
Totals		**10.0**

(2) Flight Support

T-44A/TC-12 INSTRUCTOR TRAINING		
Stage	**Symbol**	**Hours**
Contact Brief	C01	5.0
Instrument Briefs	I01	7.0
NATOPS Open Book Exam	(C4390)	3.0
NATOPS Closed Book Exam	(C4390)	1.5
Totals		**16.5**

T-44A/TC-12 INSTRUCTOR ADVANCED QUALIFICATIONS		
Stage	**Symbol**	**Hours**
Low-Level (LL) Navigation Ground School	N01	1.0
Portable Flight Planning Software	N02	12.0
Tactical Formation Ground School	T01	5.5
Tiltrotor Formation Ground School	F01	3.0
Day Contact Standardization Exam	(C4590)	1.0
Night Contact Standardization Exam	(C4590)	1.0
Maritime Formation Standardization Exam	(F4290)	1.0
Air Refueling Fundamentals Exam	(F4490)	1.0
LAT/Maritime Formation Standardization Exam	(F4690)	1.0
ONAV Standardization Exam	(N4190)	1.0
SAR Standardization Exam	(T4190)	1.0
USAF Tactical Form Standardization Exam	(T4390)	1.0
Totals		**29.5**

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

T-44A/TC-12 INITIAL INSTRUCTOR TRAINING						
Flight/Events	**CPT (2F129 or C12 OFT)**		**SIM (2F129 or C12 OFT)**		**T-44A/TC-12 Dual**	
	Flts	**Hrs**	**Flts**	**Hrs**	**Flts**	**Hrs**
Procedure Trainer	5	7.5				
Contact					4	8.0
NATOPS Check Ride					1	2.5
Instruments			7	10.5	10	19.5
Instrument Check Ride					1	2.0
Instrument Stan Check Ride					1	2.5
TOTALS	**5**	**7.5**	**7**	**10.5**	**17**	**34.5**

T-44A/TC-12 IP (ANNUALLY)						
Flight/Events	**CPT (2F129 or C12 OFT)**		**SIM (2F129 or C12 OFT)**		**T-44A/TC-12 Dual**	
	Flts	**Hrs**	**Flts**	**Hrs**	**Flts**	**Hrs**
Instrument Check Ride (I4290)					1	2.0
NATOPS Check Ride (C4390)					1	2.5
Contact Stan Check Ride (C4590)					1	1.5
Instrument Stan Check Ride (I4590)					1	2.5
TOTALS					**4**	**8.5**

T-44A/TC-12 INSTRUCTOR ADVANCED QUALIFICATIONS*						
Flight/Events	**CPT (2F129 or C12 OFT)**		**SIM (2F129 or C12 OFT)**		**T-44A/TC-12 Dual**	
	Flts	**Hrs**	**Flts**	**Hrs**	**Flts**	**Hrs**
Contact (includes EP)			2	3.0	4	6.1
ONAV Stan Check Ride Check Ride					1	2.0
SAR Check Ride					1	2.0
TAC LOW					4	9.2
USAF Tactical Formation Stan Check Ride					1	3.0
T44MARIFORM					2	6.8
Maritime Formation Stan Check Ride					1	3.4
Aerial Refueling					1	2.0
Aerial Refueling Stan Check Ride					1	2.0
C12TAC HIGH					2	6.8
Tiltrotor Formation Stan Check Ride					1	3.4
TOTALS			**2**	**3.0**	**19**	**46.7**

*NOTE: The total number of flights and hours for advanced qualifications depend on which advanced qualifications are flown and will vary from instructor-to-instructor.

b. T-44C Instructor

(1) Ground Training

T-44C INITIAL INSTRUCTOR TRAINING		
Stage	**Symbol**	**Hours**
Indoctrination/High Risk Screening	G01	2.00
Instrument Flight Rules (includes 3 exams)	G02	47.50
T-44C Systems (includes 1 exam)	G03	33.00
Aerodynamics (includes 1 exam)	G04	24.50
Flight Procedures	G06	11.75
Crew Resource Management	G07	4.00
Flight Instructor Training Course	G09	26.00
Totals		**148.75**

T-44C IP (ANNUALLY)		
Stage	**Symbol**	**Hours**
Seven CRM Skills	G0701	2.0
Instrument Refresher (includes 1 exam)	G10	8.0
Totals		**10.0**

(2) Flight Support

T44C INSTRUCTOR TRAINING		
Stage	**Symbol**	**Hours**
Contact Brief	C01	5.0
Instrument Briefs	I01	9.0
NATOPS Open Book Exam	(C4390)	3.0
NATOPS Closed Book Exam	(C4390)	1.5
Totals		**18.5**

T-44C INSTRUCTOR ADVANCED QUALIFICATIONS		
Stage	**Symbol**	**Hours**
Low-Level (LL) Navigation Ground School	N01	1.0
Portable Flight Planning Software	N02	12.0
Tactical Formation Ground School	T01	5.5
Tiltrotor Formation Ground School	F01	3.0
Day Contact Standardization Exam	(C4590)	1.0
Night Contact Standardization Exam	(C4590)	1.0
Maritime Formation Standardization Exam	(F4290)	1.0
Air Refueling Fundamentals Exam	(F4490)	1.0
LAT/Maritime Formation Standardization Exam	(F4690)	1.0
ONAV Standardization Exam	(N4190)	1.0
SAR Standardization Exam	(T4190)	1.0
USAF Tactical Form Standardization Exam	(T4390)	1.0
Totals		**29.5**

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

T-44C INITIAL INSTRUCTOR TRAINING						
Flight/Events	**CPT (2F129C)**		**SIM (2F129C)**		**T-44C Dual**	
	Flts	**Hrs**	**Flts**	**Hrs**	**Flts**	**Hrs**
Procedure Trainer	5	7.5				
Contact					4	8.0
NATOPS Check Ride					1	2.5
Instruments			7	10.5	13	25.5
Instrument Check Ride					1	2.0
Instrument Stan Check Ride					1	2.5
TOTALS	**5**	**7.5**	**7**	**10.5**	**20**	**40.5**

T-44C IP (ANNUALLY)						
Flight/Events	**CPT (2F129C)**		**SIM (2F129C)**		**T-44C Dual**	
	Flts	**Hrs**	**Flts**	**Hrs**	**Flts**	**Hrs**
Instrument Check Ride (I4290)					1	2.0
NATOPS Check Ride (C4390)					1	2.5
Contact Stan Check Ride (C4590)					1	1.5
Instrument Stan Check Ride (I4590)					1	2.5
TOTALS					**4**	**8.5**

T-44C INSTRUCTOR ADVANCED QUALIFICATIONS*						
Flight/Events	**CPT (2F129C)**		**SIM (2F129C)**		**T-44C Dual**	
	Flts	**Hrs**	**Flts**	**Hrs**	**Flts**	**Hrs**
Contact (includes EP)			2	3.0	4	6.1
ONAV Stan Check Ride					1	2.0
SAR Check Ride					1	2.0
TAC LOW					4	9.2
USAF Tactical Formation Stan Check Ride					1	3.0
T44MARIFORM					2	6.8
Maritime Formation Stan Check Ride					1	3.4
Aerial Refueling					1	2.0
Aerial Refueling Stan Check Ride					1	2.0
TOTALS			**2**	**3.0**	**16**	**36.5***

*NOTE: The total number of flights and hours for advanced qualifications depend on which advanced qualifications are flown and will vary from instructor-to-instructor.

c. T-44A to T-44C IP Transition

(1) Ground Training

T-44A TO T-44C IP TRANSITION		
Stage	**Symbol**	**Hours**
T-44C Electrical System (CAI)	G0316B	1.0
T-44C Flight Instruments (CAI)	G0318B	0.5
T-44C Navigation and Communication (CAI)	G0322	1.0
T-44C Autopilot System (CAI)	G0326	1.0
T-44C T-44C Multi-Function Display (CAI)	G0334	1.0
T-44C Flight Management System (CAI)	G0336	1.0
T-44C Aircraft Systems Exam	G0390B	2.0
FMS Demonstrator	G0341	2.0
Totals		**9.5**

(2) Flight Support

T-44A TO T-44C IP TRANSITION		
Stage	**Symbol**	**Hours**
ME GPS FMS	I0102	1.0
T-44C Flight Director Operation	I0103B	3.0
T-44A/C Differences Brief	C0201	3.0
Totals		**7.0**

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

T-44A TO T-44C IP TRANSITION						
Flight/Events	**CPT (2F129C)**		**SIM (2F129C)**		**T-44C Dual**	
	Flts	**Hrs**	**Flts**	**Hrs**	**Flts**	**Hrs**
T-44C Transition Contact					1	2.0
T-44C Transition Check Ride					1	1.5
T-44C Contact Stan Check Ride					1	1.5
Instruments			3	4.5	4	7.5
T-44C Instrument Stan Check Ride					1	1.5
TOTALS			**3**	**4.5**	**8**	**14.0**

d. TC-12 to T-44C IP Transition

(1) Ground Training

TC-12 TO T-44C IP TRANSITION		
Stage	**Symbol**	**Hours**
T-44C Systems (includes 1 exam)	G03	33.0
Seven CRM Skills	G0701	2.0
Totals		**35.0**

(2) Flight Support

TC-12 TO T-44C IP TRANSITIONS		
Stage	**Symbol**	**Hours**
T-44C Flight Director Operation	I0103B	3.0
T-44A/C Differences Brief	C0201	3.0
Totals		**6.0**

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

TC-12 TO T-44C IP TRANSITION						
Flight/Events	**CPT (2F129C)**		**SIM (2F129C)**		**T-44C Dual**	
	Flts	**Hrs**	**Flts**	**Hrs**	**Flts**	**Hrs**
Procedure Trainer	2	3.0				
Contact					1	2.0
NATOPS Check Ride					1	2.5
T-44C Transition Check Ride					1	1.5
T-44C Contact Stan Check Ride					1	1.5
Instruments			5	7.5	4	7.5
T-44C Instrument Stan Check Ride					1	1.5
TOTALS	**2**	**3.0**	**5**	**7.5**	**9**	**16.5**

e. T-44C to T-44A IP Transition

(1) Ground Training

T-44C to T-44A IP TRANSITION		
Stage	**Symbol**	**Hours**
T-44A Electrical System (CAI)	G0316C	1.0
T-44A Flight Instruments (CAI)	G0318C	0.5
T-44A Avionics (CAI)	G0320B	1.0
T-44A Weather Radar (CAI)	G0324B	0.5
FMS Demonstrator	G0341	2.0
T-44A Aircraft Systems Exam	G0390C	2.0
Totals		**7.0**

(2) Flight Support

T-44C TO T-44A IP TRANSITION		
Stage	**Symbol**	**Hours**
ME GPS FMS	I0102	1.0
T-44C Flight Director Operation	I0103A	1.0
Day Contact Standardization Exam*	(C4590)	1.0
Night Contact Standardization Exam*	(C4590)	1.0
Totals		**4.0**

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

T-44C TO T-44A IP TRANSITION						
Flight/Events	**CPT (2F129)**		**SIM (2F129)**		**T-44A Dual**	
	Flts	**Hrs**	**Flts**	**Hrs**	**Flts**	**Hrs**
Procedure Trainer	1	1.5				
Contact					1	2.0
Contact Stan Check Ride					1	1.5
Instruments			1	1.5	2	4.0
Instrument Stan Check Ride					1	2.5
TOTALS	**1**	**1.5**	**1**	**1.5**	**5**	**10.0**

f. T-44C Air Advisor IUT

(1) Ground Training

T-44C AIR ADVISOR IUT		
Stage	**Symbol**	**Hours**
Squadron Welcome Aboard	G0101	1.0
T-44C Systems (includes 1 exam)	G03	33.0
Aerodynamics	G0403A-B	5.0
Seven CRM Skills	G0701	2.0
Totals		**41.0**

(2) Flight Support

T-44C AIR ADVISOR IUT		
Stage	**Symbol**	**Hours**
Contact Brief	C0101	5.0
Totals		**5.0**

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

T-44C AIR ADVISOR IUT						
Flight/Events	**CPT (2F129C)**		**SIM (2F129C)**		**T-44C Dual**	
	Flts	**Hrs**	**Flts**	**Hrs**	**Flts**	**Hrs**
Procedure Trainer	2	3.0				
Contact					1	2.0
Instruments			9	13.5	9	18.0
Instrument Stan Check Ride					1	2.5
TOTALS	**2**	**3.0**	**9**	**13.5**	**11**	**22.5**

g. T-44A/TC-12 MT, TPS, and AC

(1) Ground Training

T-44A/TC-12 MT, TPS, AND AC TRAINING		
Stage	**Symbol**	**Hours**
Squadron Welcome Aboard	G0101	1.00
T-44A/TC-12 Systems (includes 1 exam)	G03	30.00
Aerodynamics(includes 1 exam)	G04	24.50
Flight Procedures	G06	11.75
Crew Resource Management	G07	4.00
Instrument Refresher (includes 1 exam)	G10	8.00
Totals		**79.25**

(2) Flight Support

T-44A/TC-12 MT, TPS, AND AC TRAINING		
Stage	**Symbol**	**Hours**
Contact Brief	C01	5.0
Instrument Briefs	I01	7.0
NATOPS Open Book Exam	(C4390)	3.0
NATOPS Closed Book Exam	(C4390)	1.5
Totals		**16.5**

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

T-44A/TC-12 MT, TPS, AND AC TRAINING						
Flight/Events	**CPT (2F129C or C12 OFT)**		**SIM (2F129 or C12 OFT)**		**T-44A/TC-12 Dual**	
	Flts	**Hrs**	**Flts**	**Hrs**	**Flts**	**Hrs**
Procedure Trainer	5	7.5				
Contact (includes EP)			1	1.5	4	8.0
NATOPS Check Ride					1	2.5
Instruments			6	9.0	5	10.0
Instrument Check Ride					1	2.0
TOTALS	**5**	**7.5**	**7**	**10.5**	**11**	**22.5**

h. T-44C MT, TPS, and AC

(1) Ground Training

T-44C MT, TPS, AND AC TRAINING		
Stage	**Symbol**	**Hours**
Squadron Welcome Aboard	G0101	1.00
T-44C Systems (includes 1 exam)	G03	33.00
Aerodynamics (includes 1 exam)	G04	24.50
Flight Procedures	G06	11.75
Crew Resource Management	G07	4.00
Instrument Refresher (includes 1 exam)	G10	8.00
Totals		**82.25**

(2) Flight Support

T44C MT, TPS, AND AC TRAINING		
Stage	**Symbol**	**Hours**
Contact Brief	C01	5.0
Instrument Briefs	I01	9.0
NATOPS Open Book Exam	(C4390)	3.0
NATOPS Closed Book Exam	(C4390)	1.5
Totals		**18.5**

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

T-44C MT, TPS, AND AC TRAINING						
Flight/Events	**CPT (2F129C)**		**SIM (2F129C)**		**T-44C Dual**	
	Flts	**Hrs**	**Flts**	**Hrs**	**Flts**	**Hrs**
Procedure Trainer	5	7.5				
Contact			1	1.5	4	8.0
NATOPS Check Ride					1	2.5
Instruments			6	9.0	6	12.0
Instrument Check Ride					1	2.0
TOTALS	**5**	**7.5**	**7**	**10.5**	**12**	**24.5**

i. T-44A to T-44C AC Transition

(1) Ground Training

T-44A TO T-44C AC TRANSITION		
Stage	**Symbol**	**Hours**
T-44C Electrical System (CAI)	G0316B	1.0
T-44C Flight Instruments (CAI)	G0318B	0.5
T-44C Navigation and Communication (CAI)	G0322	1.0
T-44C Autopilot System (CAI)	G0326	1.0
T-44C T-44C Multi-Function Display (CAI)	G0334	1.0
T-44C Flight Management System (CAI)	G0336	1.0
T-44C Aircraft Systems Exam	G0390B	2.0
FMS Demonstrator	G0341	2.0
Totals		**9.5**

(2) Flight Support

T-44A TO T-44C AC TRANSITION		
Stage	**Symbol**	**Hours**
ME GPS FMS	I0102	1.0
T-44C Flight Director Operation	I0103B	3.0
T-44A/C Differences Brief	C0201	3.0
Totals		**7.0**

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

T-44A TO T-44C AC TRANSITION						
Flight/Events	**CPT (2F129C)**		**SIM (2F129C)**		**T-44C Dual**	
	Flts	**Hrs**	**Flts**	**Hrs**	**Flts**	**Hrs**
Procedure Trainer	2	3.0				
Contact					1	2.0
T-44C Transition Check Ride					1	1.5
Instruments			4	6.0	3	6.0
TOTALS	**2**	**3.0**	**4**	**6.0**	**5**	**9.5**

j. T-44A/TC-12 Copilot

(1) Ground Training

T-44A/TC-12 COPILOT		
Stage	**Symbol**	**Hours**
Squadron Welcome Aboard	G0101	1.0
T-44A/TC-12 Systems (includes 1 exam)	G03	30.0
Aerodynamics (includes 1 exam)	G04	24.5
Crew Resource Management	G07	4.0
Instrument Refresher (Optional – pre-B4290; includes exam)	G10	8.0
Totals		**67.5***

*Includes optional event.

(2) Flight Support

T-44A/TC-12 COPILOT TRAINING		
Stage	**Symbol**	**Hours**
ME GPS FMS	I0102	1.0
T-44A/TC-12 Flight Director Operation	I0103A	1.0
NATOPS Open Book Exam	(B4190)	3.0
NATOPS Closed Book Exam	(B4190)	1.5
Totals		**6.5**

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

T-44A/TC-12 COPILOT TRAINING						
Flight/Events	**CPT (2F129C or C12 OFT)**		**SIM (2F129 or C12 OFT)**		**T-44A/TC-12 Dual**	
	Flts	**Hrs**	**Flts**	**Hrs**	**Flts**	**Hrs**
Procedure Trainer	5	7.5				
Contact (EP)			1	1.5		
NATOPS Check					1	2.0
Instrument Check (Optional)					1	2.0
TOTALS	**5**	**7.5**	**1**	**1.5**	**2**	**4.0***

*Includes optional event.

k. T-44C Copilot

(1) Ground Training

T-44C COPILOT		
Stage	**Symbol**	**Hours**
Squadron Welcome Aboard	G0101	1.0
T-44C Systems (includes 1 exam)	G03	33.0
Aerodynamics (includes 1 exam)	G04	24.5
Crew Resource Management	G07	4.0
Instrument Refresher (optional – pre-B4290; includes exam)	G10	8.0
Totals		**70.5**

(2) Flight Support

T-44C COPILOT TRAINING		
Stage	**Symbol**	**Hours**
ME GPS FMS	I0102	1.0
T-44C Flight Director Operation	I0103B	3.0
NATOPS Open Book Exam	(B4190)	3.0
NATOPS Closed Book Exam	(B4190)	1.5
Totals		**8.5**

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

T-44C COPILOT TRAINING						
Flight/Events	**CPT (2F129C)**		**SIM (2F129C)**		**T-44C Dual**	
	Flts	**Hrs**	**Flts**	**Hrs**	**Flts**	**Hrs**
Procedure Trainer	5	7.5				
Contact (EP)			1	1.5		
NATOPS Check					1	2.0
Instrument Check (Optional)					1	2.0
TOTALS	**5**	**7.5**	**1**	**1.5**	**2**	**4.0***

*Includes optional event.

1. T-44A to T-44C CP Transition

(1) Ground Training

T-44A TO T-44C CP TRANSITION		
Stage	**Symbol**	**Hours**
T-44C Electrical System (CAI)	G0316B	1.0
T-44C Flight Instruments (CAI)	G0318B	0.5
T-44C Navigation and Communication (CAI)	G0322	1.0
T-44C Autopilot System (CAI)	G0326	1.0
T-44C T-44C Multi-Function Display (CAI)	G0334	1.0
T-44C Flight Management System (CAI)	G0336	1.0
T-44C Aircraft Systems Exam	G0390B	2.0
FMS Demonstrator	G0341	2.0
Instrument Refresher (optional – pre-B4290)	G10	8.0
Totals		**17.5**

(2) Flight Support

T-44A TO T-44C CP TRANSITION		
Stage	**Symbol**	**Hours**
T-44A/C Differences Brief	C0201	3.0
ME GPS FMS	I0102	1.0
T-44C Flight Director Operation	I0103B	3.0
NATOPS Open Book Exam	(B4190)	3.0
NATOPS Closed Book Exam	(B4190)	1.5
Totals		**11.5**

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

T-44A TO T-44C CP TRANSITION						
Flight/Events	**CPT (2F129C)**		**SIM (2F129C)**		**T-44C Dual**	
	Flts	**Hrs**	**Flts**	**Hrs**	**Flts**	**Hrs**
Copilot Simulator			1	1.5		
Contact (EP)			1	1.5		
NATOPS Check					1	2.0
Instrument Check (Optional)					1	2.0
TOTALS			**2**	**3.0**	**2**	**4.0***

*Includes optional event.

m. Training Time Analysis

ADDITIONAL TRAINING TIME PER CURRICULUM HOUR/EVENT				
Training Area	**Brief/Preflight/ Taxi**	**Prep Study**	**Taxi/ Debrief**	**Total**
Flight	1.95	2.0	1.0	4.95
Simulator/CPT	0.50	2.0	0.5	3.00

16. Physical Requirements. As specified in Chapter 15 of the Manual of the Medical Department, and all applicable anthropometric standards.

17. Obligated Service. Refer to MILPERSMAN for Naval personnel or to Air Force Instruction (AFI) 36-2107 for USAF personnel.

18. Primary Instructional Methods. Lecture, computer-assisted instruction (CAI), self- and group-paced study, and in-flight instruction.

19. Preceding Curriculum Data. This curriculum replaces CNATRAINST 1542.153B CH1.

20. Student Performance Measurement/Application of Standards. The standards outlined in Chapter IX, Course Training Standards, are used to evaluate student 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 condition under which the performance is measured and the student's experience within the stage.

ABBREVIATIONS

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

AA - Air Advisor

AC - Aircraft Commander

ADC - Air Data Computer

ADIZ - Air Defense Identification Zone

AERO - Aerodynamics

AF - Adaptability/Flexibility (CRM Skill)

AFM - Air Force Manual

AGL - Above Ground Level

AHRS - Attitude Heading Reference System

AIM - Aeronautical Information Manual

AP - Area Planning

AP-1/B - Area Planning 1/B

APPR - Approach

APU - Auxiliary Power Unit

AR - Aerial Refueling

AS - Assertiveness (CRM Skill)

ASI - Aviation Student Indoctrination

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

AWL - Above Water Level

BAC - Basic Aircraft Control

BAM - Bird Avoidance Model

BC - Back Course

CAI - Computer-Assisted Instruction

CDI - Course Deviation Indicator

CDO - Command Duty Officer

CDU - Control Display Unit

CM - Communication (CRM Skill)

COMM - Communication

CP - Copilot

CPT - Cockpit Procedures Trainer

CRM - Crew Resource Management

CRP - Corpus Christi International

CTS - Course Training Standard

DCONFP - Day Contact Flight Procedures

DCP - Display Control Panel

DM - Decision Making (CRM Skill)

DOD - Department of Defense

DOHS - Department of Homeland Security

DP - Departure Procedure

EGPWS - Enhanced Ground Proximity Warning System

EMFP - Emergency Flight Procedures

EOB - End of Block

EP - Emergency Procedures

ESIS - Electronic Standby Instrument System

FAA - Federal Aviation Administration

FAF - Final Approach Fix

FAR - Federal Aviation Regulation

FFL - Full-Flap Landing

FGP - Flight Guidance Panel

FIG - Flight Instructor Guide

FIH - Flight Information Handbook

FITC - Flight Instructor Training Course

FLIP - Flight Information Publication

FMS - Flight Management System

FP - Flight Procedures

FRR - Flight Rules Review

FRS - Fleet Replacement Squadron

FSS - Flight Support Services

FTI - Flight Training Instruction

GP - General Planning

GPS - Global Positioning Satellite

GPWS - Ground Proximity Warning System

HILO - Holding-In-Lieu-Of

HWD - Horizontal Weather Depiction

H/X - Hours per event (X)

IAF - Initial Approach Fix

IAW - In Accordance With

ICAO - International Civil Aviation Organization

ICS - Interphone Communications System

IFM - Instrument Flight Manual

IFR - Instrument Flight Rules

IHAS - Integrated Hazard Avoidance System

ILS - Instrument Landing System

IMC - Instrument Meteorological Conditions

INAV - Instrument Navigation

IP - Instructor Pilot

IR - Instrument Route

IRATS - Instrument Refresher Academic Training Syllabus

ITF - Instructor Training Form

ITJ - Instructor Training Jacket

ITU - Instructor Training Unit

IUT - Instructor Under Training

JOG - Joint Operations Graphical (Chart)

LAT - Low Altitude Tactics

LD - Leadership (CRM Skill)

LL - Low-Level

LLNAVFP - Low-Level Navigation Flight Procedures

LNAV - Lateral Navigation

LOA - Letter of Agreement

LOC - Localizer

LS - Left Seat

LSC - Level Speed Change

LZ - Landing Zone

MA - Mission Analysis (CRM Skill)

MAP	-	Missed Approach Point
Mariform	-	Maritime Formation
MDA	-	Minimum Descent Altitude
Metro	-	Meteorology
MFD	-	Multifunction Display
MIF	-	Maneuver Item File
MOA	-	Military Operating Area
MPTS	-	Multi-Service Pilot Training
MSL	-	Mean Sea Level
MT	-	Maritime Transition
MTR	-	Military Training Route
NAS	-	Naval Air Station
NATO ATP-56B	-	North Atlantic Treaty Organization Air Refueling Publication
NATOPS	-	Naval Air Training Operating Procedures Standardization
NAV	-	Navigation
NAVAID	-	Navigational Aid
NCS	-	Navigation Control System
NDB	-	Non-Directional Beacon
NFL	-	No-Flap Landing
NGP	-	NAS Corpus Christi
NGW	-	Cabaniss Field
NM	-	Nautical Mile
NOTAMS	-	Notices to Airmen
ONAV	-	Over-Water Navigation

OPARS - Optimum Path Aircraft Routing System

OPNAV - Office of the Chief of Naval Operations

OSC - On-Scene Commander

PADS - Parachute Aerial Delivery System

PAPI - Precision Approach Path Indicator

PAR - Precision Approach Radar

PF - Pilot Flying

PFD - Primary Flight Display

PFPS - Portable Flight Planning Software

PI - Point of Impact

PM - Pilot Monitoring

PNF - Pilot Not Flying

PP - Partial Panel

PT - Procedure Turn

RAIM - Receiver Autonomous Integrity Monitoring

RCVA - Rockwell-Collins Virtual Avionics

RDO - Runway Duty Officer

RNAV - Area Navigation System

RNP - Required Navigation Performance

RON - Remain Overnight

RTU - Remote Tuning Unit

RV - Radar Vectors

SA - Situational Awareness (CRM Skill)

SAR - Search and Rescue

SI - Standardization Instructor

SID - Standard Instrument Departure

SIM - Simulator

SMA - Student Military Aviator

SOP - Standard Operating Procedure

SSE - Simulated Single Engine

SSR - Special Syllabus Requirement

STARS - Standard Terminal Arrivals

SYS - Systems

TAC - Tactical

TACAN - Tactical Air Navigation

TACFFP - Tactical Formation Flight Procedures

TAS - Traffic Avoidance System

TERPS - Terminal Instrument Procedures

TOLD - Takeoff and Landing Data

TOT - Time on Target

TPC - Tactical Planning (Pilotage) Chart

TPS - Test Pilot School

TTO - Training Time Out

UHF - Ultra High Frequency

UNICOM - Universal Communications

USAF - United States Air Force

VASI - Visual Approach Slope Indicator

VFR - Visual Flight Rules

VHF - Very High Frequency

VMC - Visual Meteorological Conditions

VNAV - Visual Navigation

VOR - VHF Omnidirectional Range

VR - Visual Route

GLOSSARY

1. Advancing X. Completed event within the normal syllabus flow. Excludes events with last characters in the range 85-89.

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

3. Aviation Training Jacket. The student'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 student 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. Check Ride (SXX90). A flight check in any stage of training.

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

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

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

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

11. 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.

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

13. Hours per X. The average length for each event in a block, rounded to the nearest tenth of an hour.

14. Instructor Training Form. A grade sheet documenting IUT performance for all categories of training regardless of media, phase, or stage.

15. Instructor Training Jacket. The ITJ is the IUT's training record. It contains ITFs, calendar card, grade reports, and all other associated training information. It is filed in the ITU and follows the IUT through all phases of training.

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

Char	Meaning	Remarks		
1st	Stage	G—Ground C—Contact B—Copilot	I—Instrument N—Navigation	F—Formation T—Tactical
2nd	Media	0 or 1—Ground Training/CAI	2—CPT 3—Simulator	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: 85—Practice Sim 86—Warmup 87—Extra Training		88—Initial Progress Check 89—Final Progress Check 90—Check Ride/Exam

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

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

19. Special Syllabus Requirement. One time, ungraded demonstration item.

20. 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: C4101 is in the Contact Stage).

21. Standardization Instructor. The squadron commander/FITU OIC will designate SIs for each stage.

22. Training Media. MPTS media include aircraft, simulator, CPTs, ground training, and CAI. The second character in the lesson identifier designates the training media.

23. Warmup Event (SXX86). Additional events given to allow a student to regain a level of proficiency previously demonstrated which has diminished due to an extended break in training.

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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 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. IUTs; Transition IPs; MT, TPS, AC students; AC Transition students, CP aviators, and CP Transition students will execute curriculum events as listed below:

(1) Instructors Under Training. All events through I4590 in accordance with Charts I-1 and I-2 and applicable advanced qualifications in accordance with Chart I-3.

(2) Transition IPs. T-44A or TC-12 to T-44C IP Transition – all events through C4890 in accordance with Charts I-4 and I-5. T-44C to T-44A IP Transition – all events through I4590 in accordance with Chart I-6.

(3) T-44C Air Advisor IUT. Complete all events through I4590 in accordance with Chart I-7.

(4) Maritime Transition. All events through C4390 in accordance with Charts I-8 and I-9.

(5) Test Pilot School Preparatory. All events through C4390 in accordance with Charts I-8 and I-9.

(6) Aircraft Commander. All events through C3201 in accordance with Charts I-8 and I-9.

(7) AC Transition. All events through C4790 in accordance with Chart I-10.

(8) Copilot. All events through C3201 in accordance with Charts I-11 and I-12.

(9) Copilot Transition. All events through C3201 in accordance with Chart I-12.

NOTE: B4190 and B4290 (optional) are copilot only events. B3101 is a copilot transition only event. Only copilots under training or copilot transition students will fly these events. No other syllabi will complete these events.

f. Syllabus Description. These syllabi are divided into stages. Stages are grouped by like-flight training regimes: Contact, Instrument, Copilot, Navigation, Formation, and Tactical. Each stage is subdivided into training blocks. The training blocks consist of a specified number of flights. Course Training Standards are modified by the MIFs to identify the acceptable level of performance that must be achieved at the completion of each training block.

2. Training Management

a. Syllabus Progression. Fly events within each block sequentially. Do not start a block without all prerequisites completed. Students may be in different stages simultaneously. Where applicable, students shall be prepared, and will be eligible, for more than one syllabus event. Students must complete all events except as listed in paragraph 1e. The flowcharts on pages I-4 through I-15 delineate 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 student per day.

b. Accelerated Progression. Under exceptional circumstances, an instructor's previous flight experience or demonstrated proficiency may warrant accelerated progression. The Squadron Commander may advance the instructor to the next block of instruction when all required items for the current block of instruction meet EOB MIF. This policy is not to be used to accelerate squadron production goals. It is strictly for instances where the instructor's demonstrated proficiency makes completion of all events within a block of instruction unnecessary. For example, previous instructor experience in the contact phase will warrant acceleration through the instructor contact syllabus. All records for the accelerated instructor,

including the ITJ, will be clearly marked ACCELERATED PROGRESSION. ITFs for the events not flown will be completed with a note in the remarks section stating "ACCELERATED PROGRESSION – EVENT NOT FLOWN. ITF COMPLETED FOR ADMINISTRATIVE PURPOSES ONLY IAW CNATRAINST 1542.SERIES."

c. Maneuver Continuity. IUTs and students must accomplish previously introduced maneuvers frequently enough to ensure maintaining required proficiency. Reference the ATS.

d. Hours/X. ITU IPs 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 ITF or ATF's general comments section.

e. Special Syllabus Requirements. SSRs are allocated to flights. Unless noted otherwise, IPs may accomplish SSRs on any flight within the block. SSRs shall be completed in the specified block. Annotate completed SSRs in the ITF's SSR comments section. Assign NG/1 as the SSR maneuver grade.

f. Aviation Training Jacket Reviews. Aviation Training Jackets shall be reviewed by the ITU Officer on completion of each stage of training and as required by squadron policy.

g. Aircraft and Simulator Interchangeability. In the event the T-44A/C or TC-12 simulator is not available, any simulator event may be flown in the aircraft. In the event the cockpit procedures trainer is unavailable, C21XX may be completed in the TC-12 aircraft or simulator.

T-44A/TC-12 INSTRUCTOR COURSE FLOW

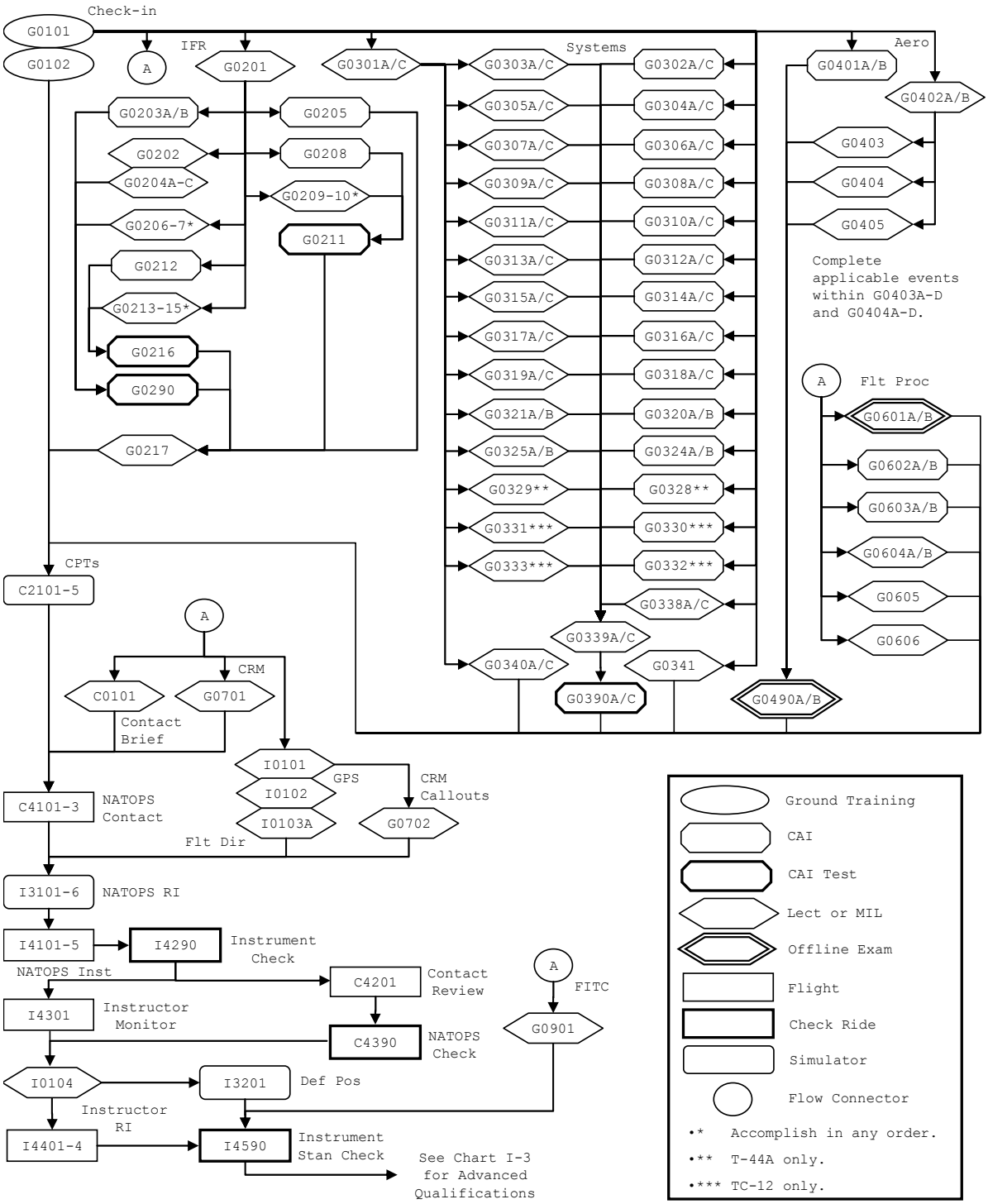


Chart I-1

T-44C INSTRUCTOR COURSE FLOW

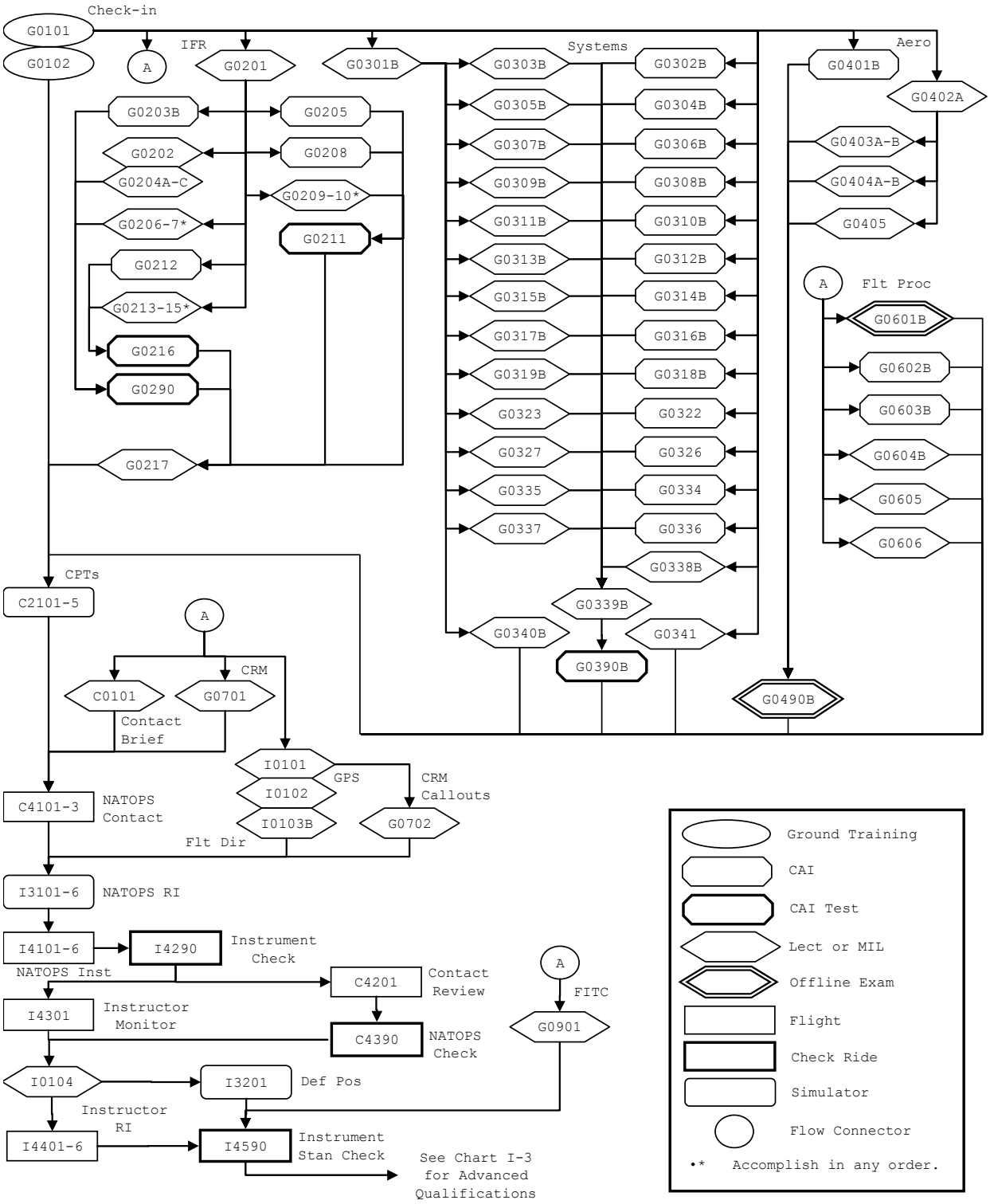


Chart I-2

ADVANCED QUALIFICATIONS COURSE FLOW

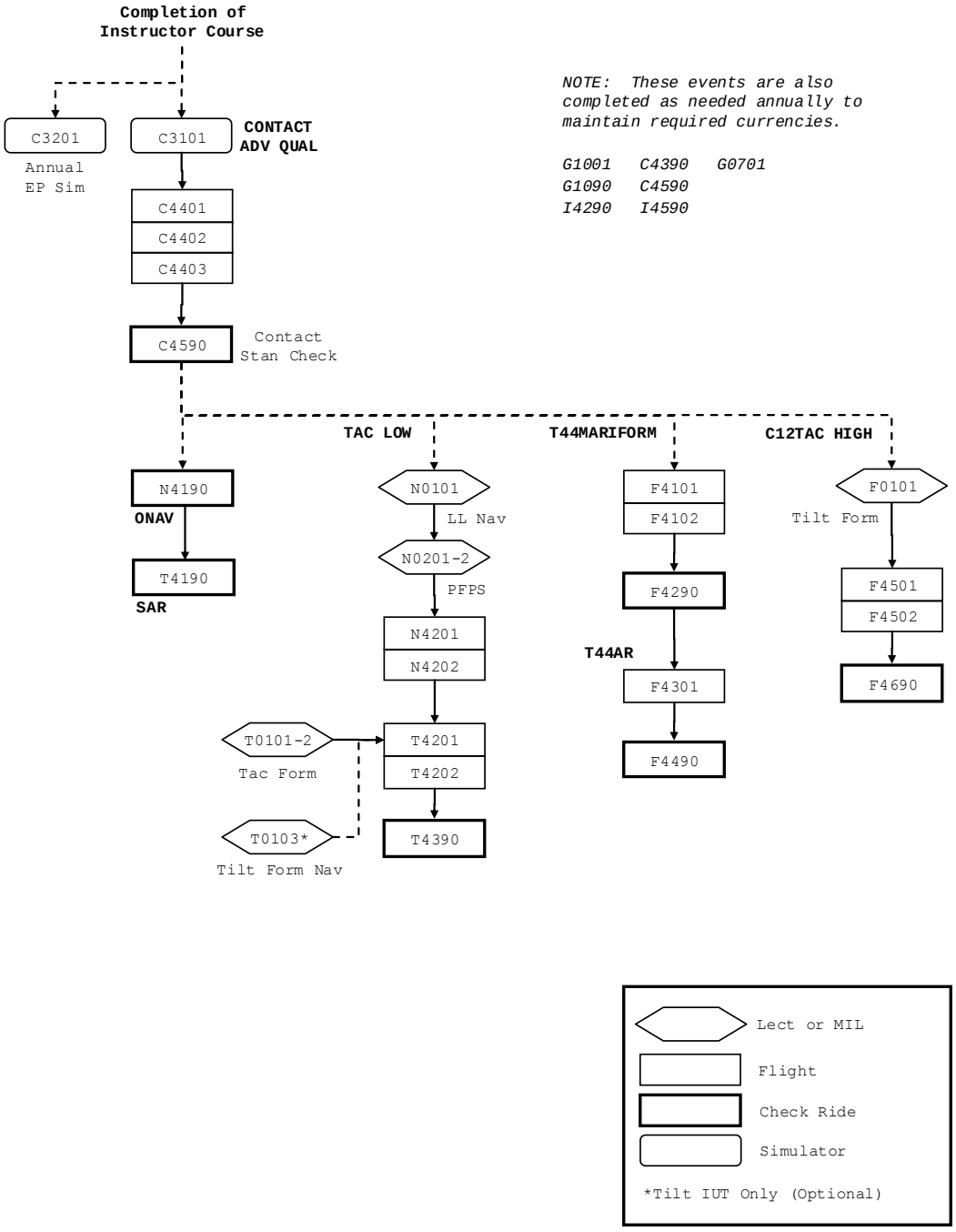


Chart I-3

T-44A TO T-44C IP TRANSITION COURSE FLOW

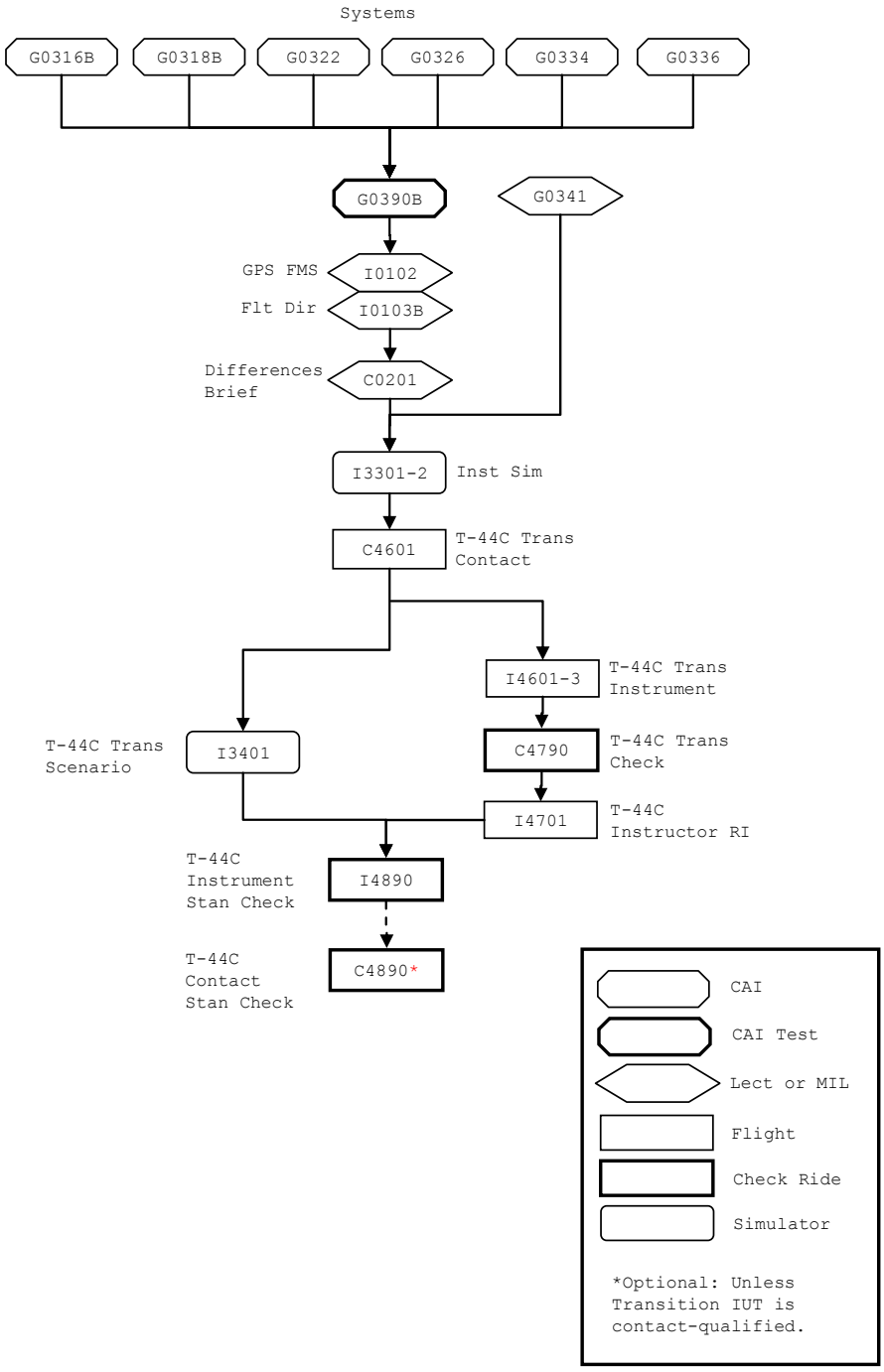


Chart I-4

TC-12 TO T-44C IP TRANSITION COURSE FLOW

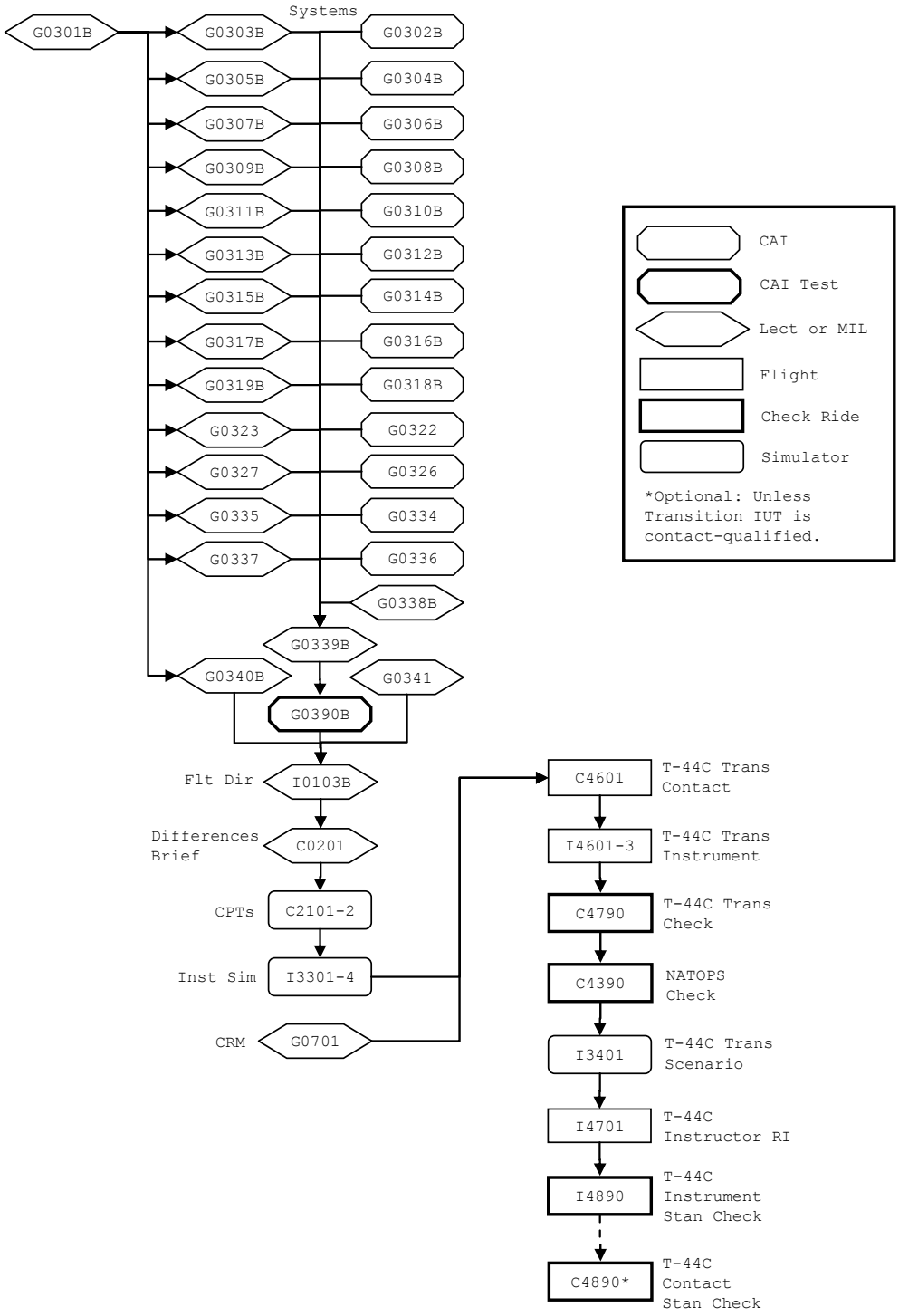


Chart I-5

T-44C TO T-44A IP TRANSITION COURSE FLOW

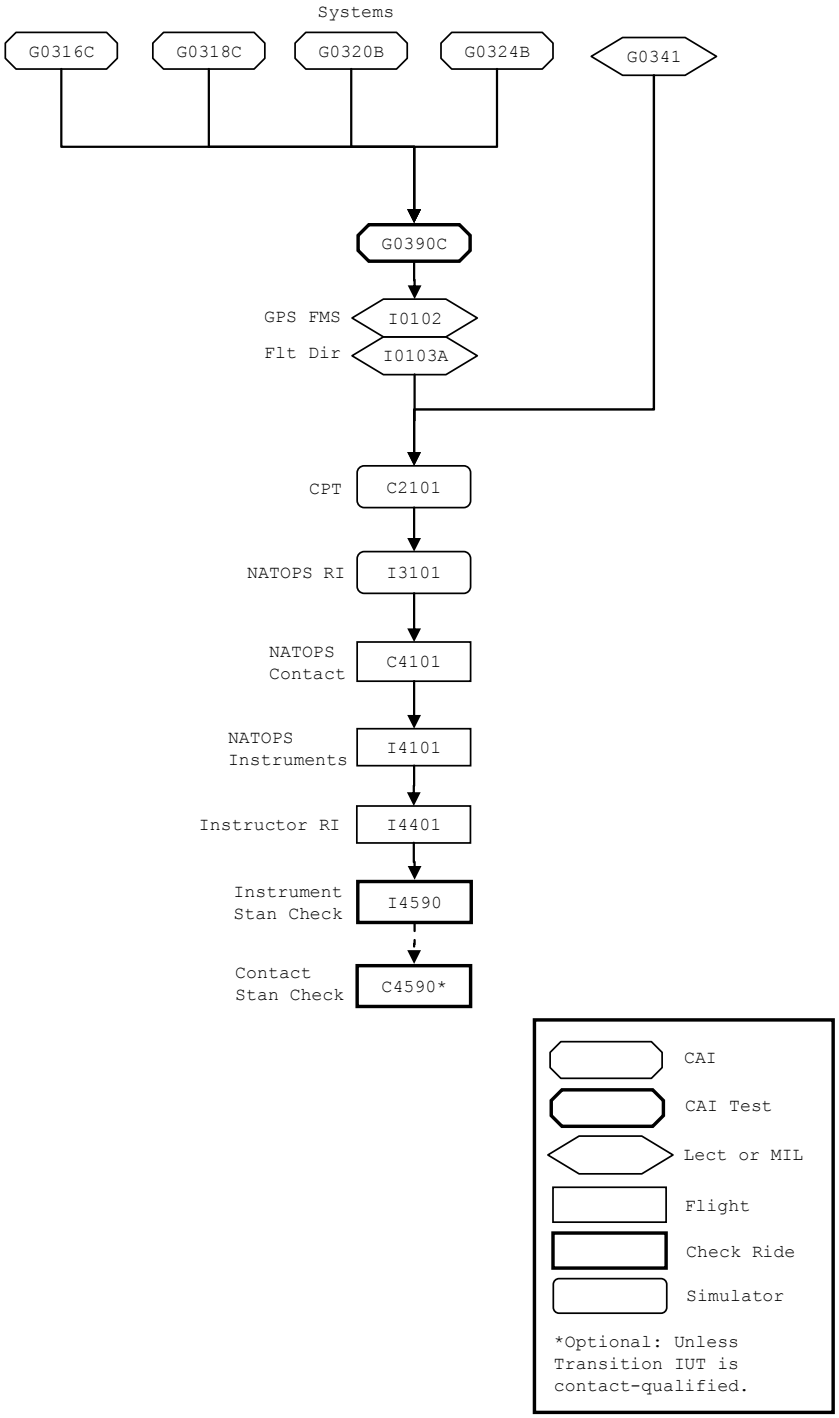


Chart I-6

T-44C AIR ADVISOR IUT COURSE FLOW

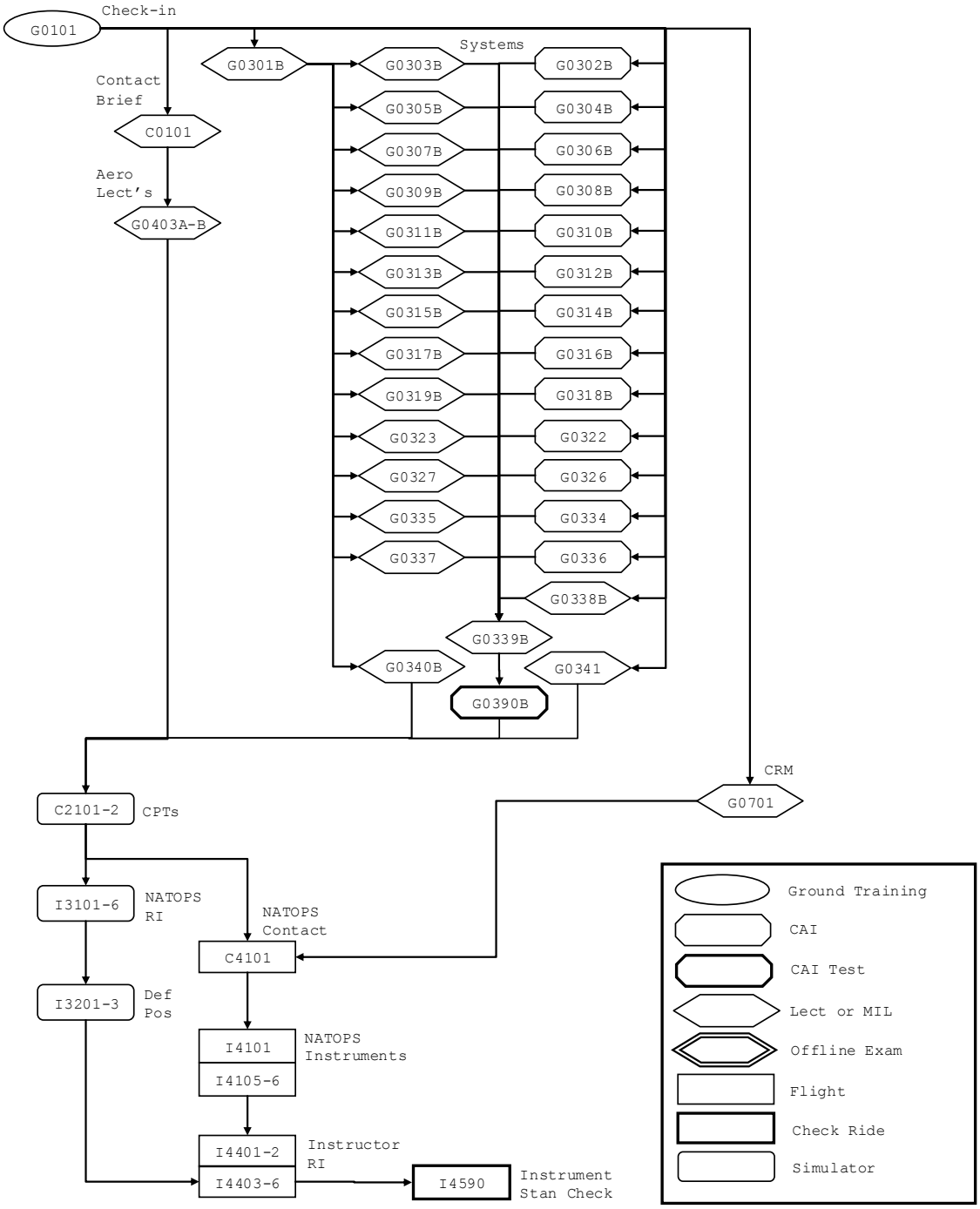


Chart I-7

T-44A/TC-12 MT, TPS, AND AC COURSE FLOW

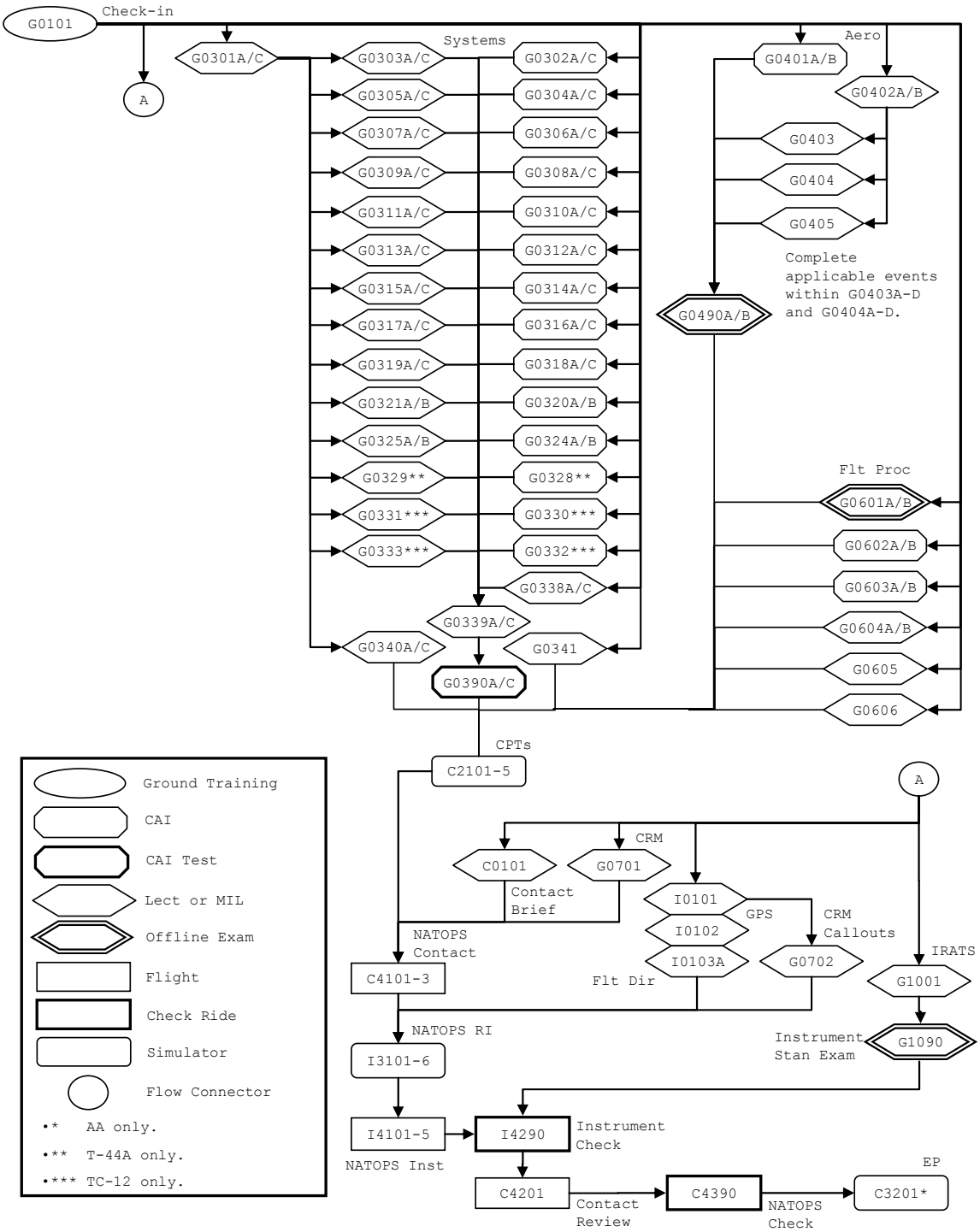


Chart I-8

T-44C MT, TPS, AND AC COURSE FLOW

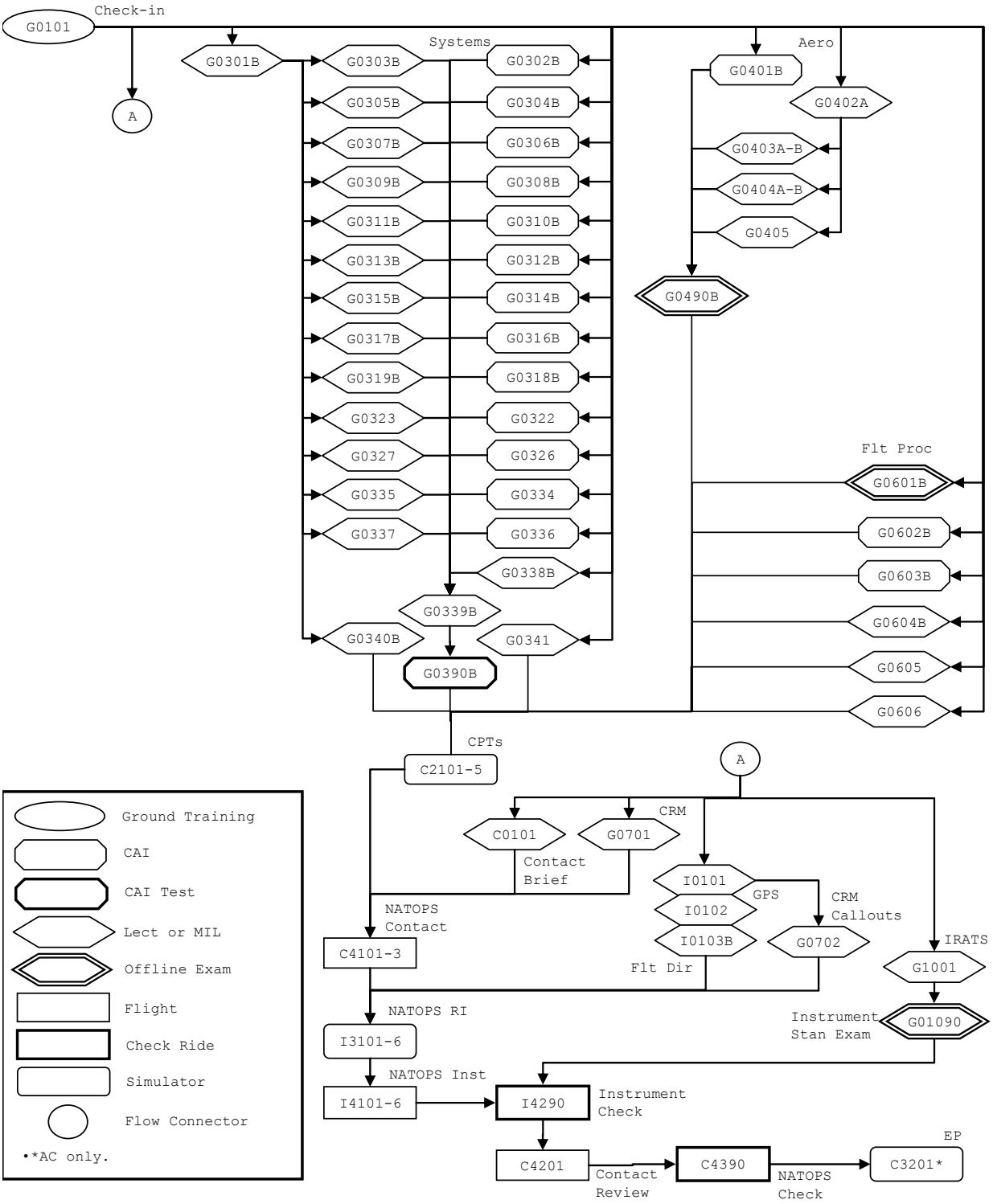


Chart I-9

T-44A TO T-44C AC TRANSITION COURSE FLOW

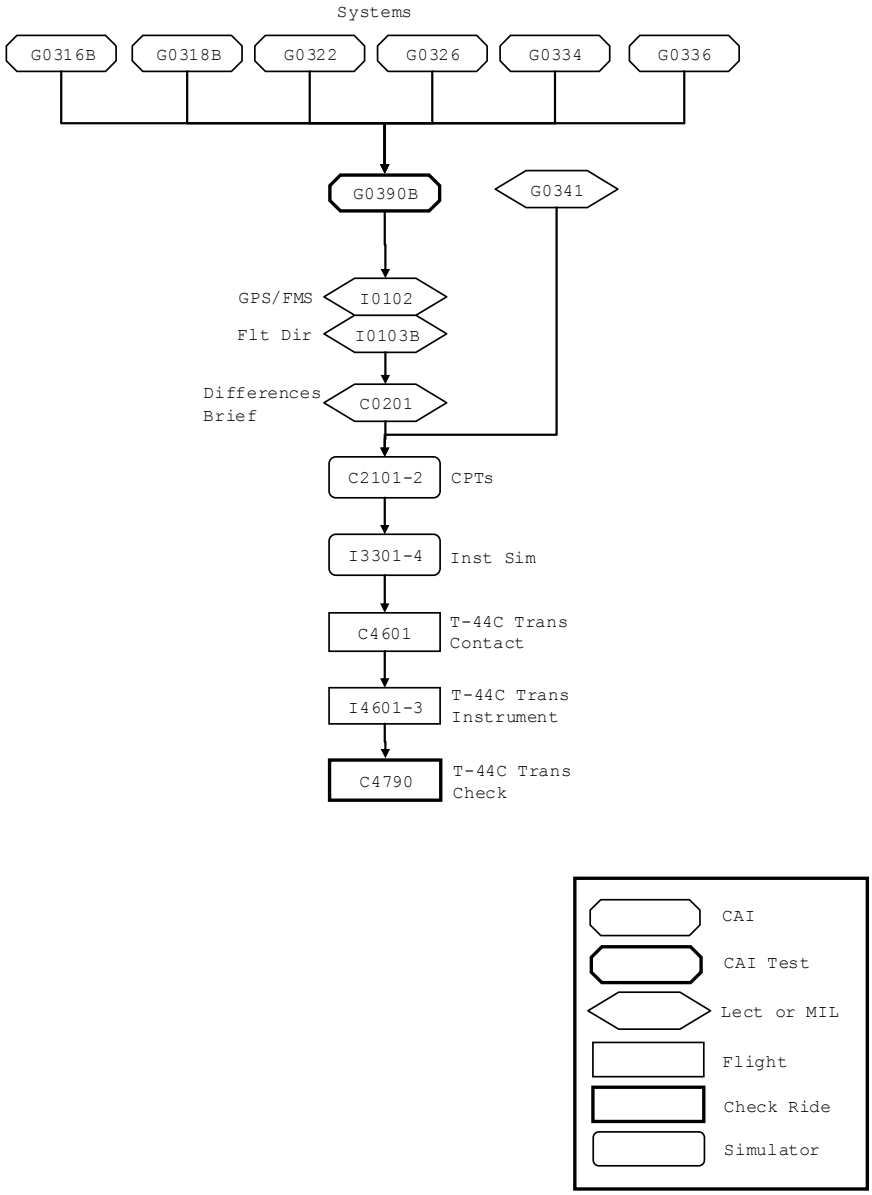


Chart I-10

T-44A/TC-12 COPILOT COURSE FLOW

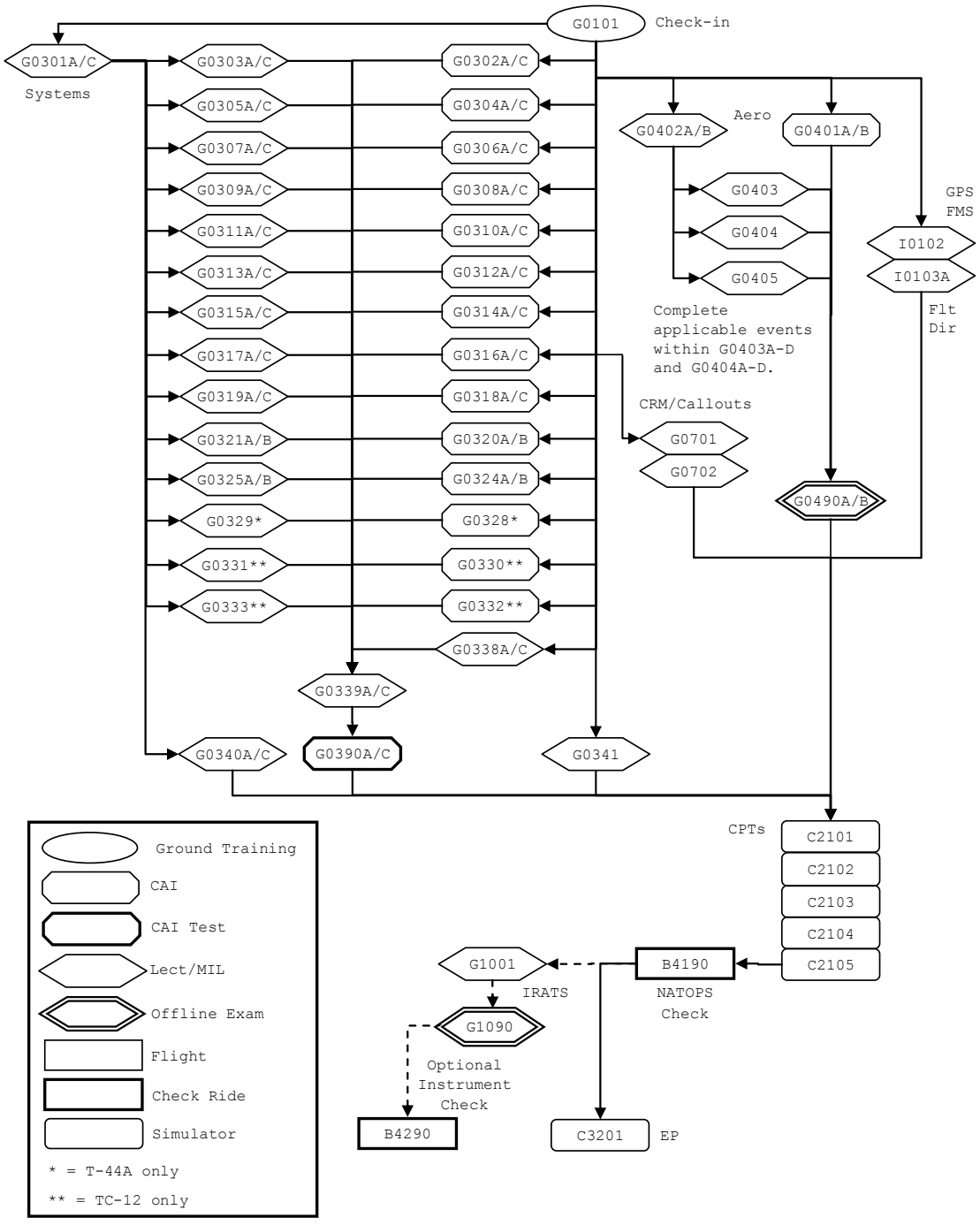
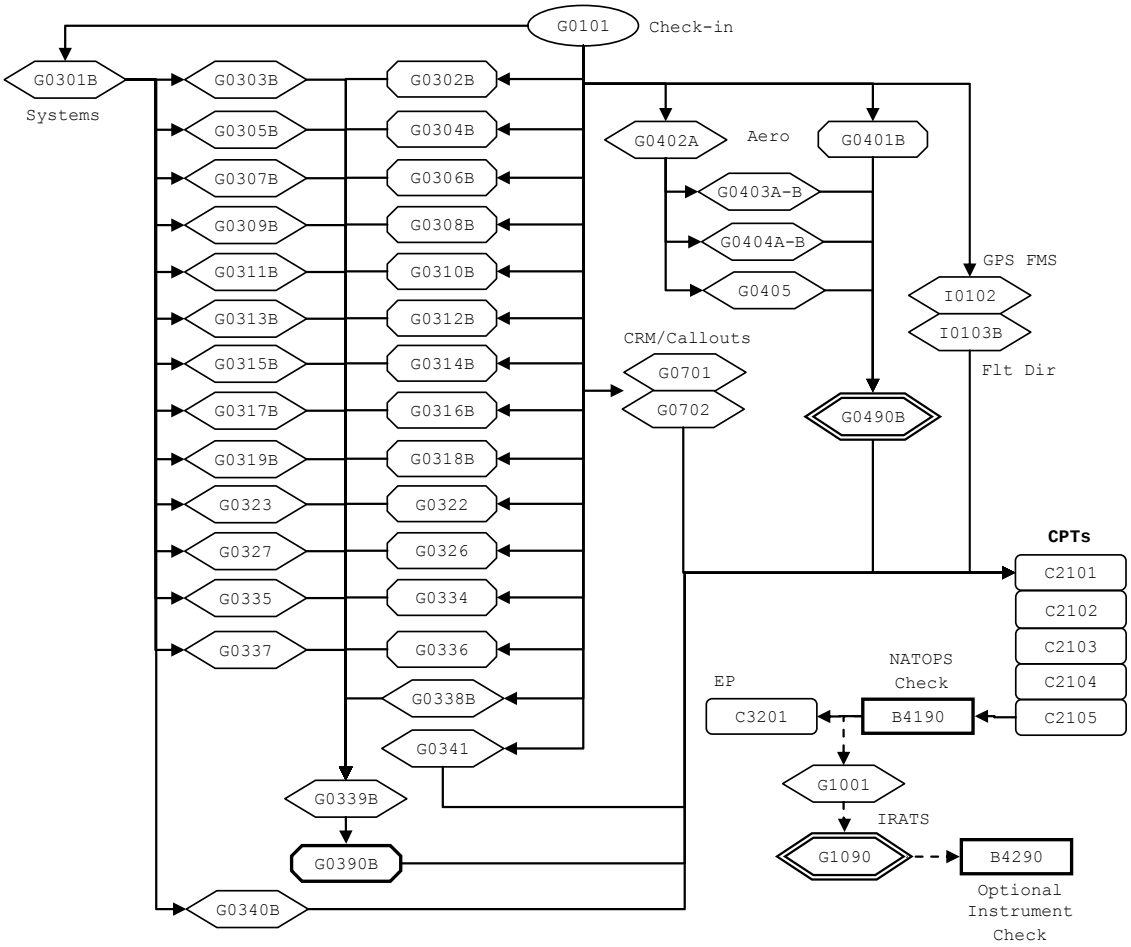


Chart I-11

T-44C COPILOT COURSE FLOW



T-44A to T-44C COPILOT TRANSITION COURSE FLOW

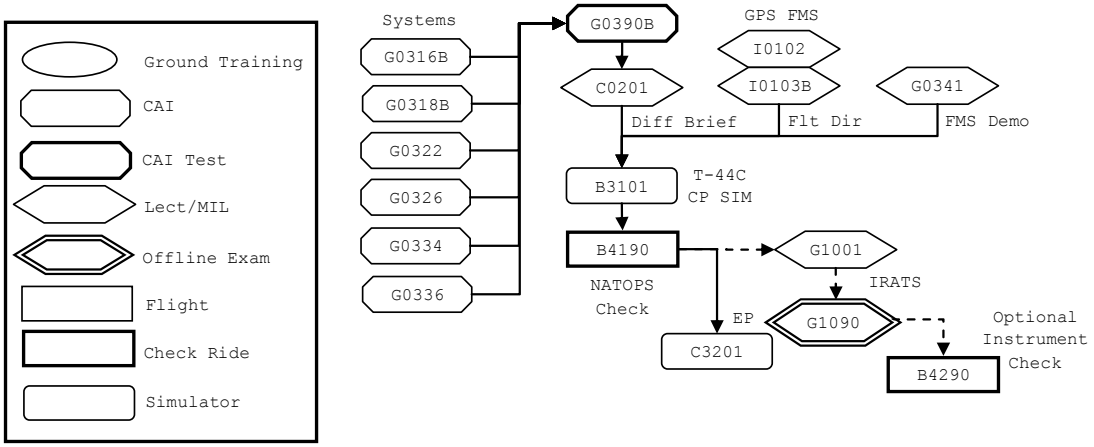


Chart I-12

3. Instructor Continuity. IUTs and students shall brief and fly events C0101, C4101, and C4102 with the same ITU instructor.

4. Additional Flights/Simulators

a. Instructor Proficiency Flights. Instructors may receive proficiency events as deemed necessary by the Squadron Commander.

b. Practice Simulators (SXX85). IUTs and students may receive practice simulator events as availability permits. These practice events are not part of the syllabus.

5. Ground Training and Briefing Requirements

a. Mission Preparation, Briefings, and Debriefings

(1) EOB Events. The SI shall carefully review the ATS 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) Preparation. IUTs and students shall arrive for each flight with:

(a) Thorough knowledge of:

1. Discuss items, as listed in Chapters III, IV, V, VI, VII, and VIII.

2. Procedural knowledge of the critical 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) Briefing. Thoroughly cover the mission's:

(a) Event discuss items, as listed in Chapters III, IV, V, VI, VII, and VIII.

(b) Specific objectives.

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

(d) Planned profile, contingencies, and ORM considerations.

(4) Debriefing

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

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

(c) The SI shall provide the IUT or student with a copy of the new ATS, and may provide a copy of the event's ATF/ITF.

b. Emergency Procedures Briefing and Training

(1) EP training builds the IUT's and student's confidence in the aircraft. The IP shall conduct emergency procedures 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 emergency procedures training into simulator events when practical; however, instructional block objectives take precedence.

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

6. Mission Grading Procedures and Evaluation Policies

a. General Grading and Evaluation Policy. Course Training Standards listed in this instruction and the MIFs are minimum stage/phase completion standards per maneuver. CTSs/MIFs are designed to allow for minimum performance in a specific area with the understanding that performance above the minimum CTS/MIF will offset the weak area.

b. Grading Procedures (Aircraft and Training Devices)

(1) NATOPS Maneuver Grading. During the NATOPS phase of training, grading will be IAW NATOPS standards. This applies to the following blocks of training, regardless of syllabus:

C4100	I4290	B4190
I3100	C4201	B4290
I4100	C4390	

Judge the IUT's or student's proficiency only against the item's CTS or NATOPS grading criteria. The grading scale will be as per the NATOPS as listed below:

5 = Not applicable to NATOPS Block Training
4 = Q
3 = CQ
2 = UQ
1 = Demonstrate

(2) Absolute Maneuver Grading. All flights with the exception of the EOB flight will be graded on a pass/fail criteria. For the EOB flight, use the following grading scale to document the IUT/student's performance on maneuvers attempted during the EOB event. This is an absolute grading scale. Judge the IUT/student's proficiency **only** against the item's course training standard.

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

1. When the ITU instructor demonstrates the maneuver and the IUT or student does not subsequently perform it during the event.

2. To indicate accomplishing SSRs. Specify incomplete SSRs in the ITF/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 IUT or student and are appropriate, smooth, and rapid.

(3) Maneuver Requirements. For each block:

(a) Mandatory Items. Items with a number and a plus (+) are mandatory and 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 student meets EOB MIF.

(b) Optional Items. Items with a number, but without a plus (+), are optional. However, if flown, they must meet the required EOB proficiency the last time the maneuver is graded in the block.

(4) Incomplete Events. In general, SIs 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 ITU instructor 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 IUT or student 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) Assessment. Assess the event complete if:

1. Seventy-five percent of the event's H/X were used for training, and

2. Sufficient events remain in the block to redress the imbalance, and

3. Individual maneuvers can still be accomplished within the block.

4. Otherwise, assess the event incomplete.

(b) Completion Events. An event may both complete a previous event and count as an advancing X.

(c) Simulator Event Completion. Assess a simulator event complete if the IUT or student has received a full 1.5-hour training period.

c. Policies for Evaluation Flights and Ground Evaluations

(1) Check Rides (SXX90). Check rides amount to single event training blocks. Therefore, all rules regarding progressing out of a block apply, except as noted below:

(a) Should fly a representative cross section of optional maneuvers.

(b) Up to two optional maneuvers may be graded F/3 where G/4 is required without requiring an overall unsatisfactory.

(c) The entire event should be devoted to assessing the IUT's or student'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.

(d) The IUT or student should be able to demonstrate required levels of proficiency without instructor assistance. However, instruction is allowed on check rides and IUTs or students may reaccomplish maneuvers at the check pilot's discretion.

(2) Incomplete Check Ride. The check ride shall be incomplete when:

(a) Any (+) item was not flown, or

(b) The check pilot was unable to sample sufficient examples of a given maneuver to assess the IUT's or student's overall performance.

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

(c) EXCEPTIONS. The check is complete and the overall grade is unsatisfactory if:

1. Any critical item is below MIF, or

2. More than two noncritical items were graded F/3 where G/4 is required, or

3. Any maneuver is U/2.

7. Special Instructions and Restrictions (Flight Hour/Event Requirements and Restrictions)

a. Programmed Hours and Events. Syllabus-programmed flight hours are listed on pages x-xxvii. Event lengths, SXX86, 87, 88, and 89 events will cause variation.

b. Minimum Night Hours

(1) Prior to C4201, the IUT or student shall receive 2.0 hours of nighttime.

(2) During I44 block, the IUT shall receive an additional 2.0 hours of nighttime.

(3) During I46 block, the IUT or student shall receive 1 hour of nighttime.

c. Minimum IUT/Student Turn-Times. One hour is required between debriefing of a flight event and the brief for a follow-on flight or simulator event. This does not apply to out-and-in and cross-country profiles. However, the ITU instructor shall ensure adequate debrief and brief time is allocated.

d. Crew Day. Crew day and flight hour limitations are established by OPNAVINST 3710.7T and applicable NATOPS.

e. Crew Rest. Crew rest limitations are established by OPNAVINST 3710.7T and applicable NATOPS.

f. Pre-Maneuver Requirements. The student shall not perform a maneuver for the first time until the IP discusses, briefs, or demonstrates the maneuver, unless previous training adequately fulfills this role.

g. IUT Flights

(1) All IUT flights will be conducted in accordance with the current T-44A/C or TC-12 NATOPS, FTI, and local SOP. No deviations from standard maneuvers are authorized except in cases of emergency. Completion of the NATOPS stage as described in this instruction meets the NATOPS qualification requirements for the T-44A/C or TC-12 aircraft.

(2) Student/Instructor Under Training seat position will be in accordance with the following list:

Left Seat:	C21	I42	C46	N42
	C41	C42	C47	T42
	I31	C43	I33	T43
	I41	C32	I46	
Right Seat:	B41	B31	I48	F45
	B42	I44	N41	F46
	C31	I32	F41	T41
	C44	I45	F42	
	C45	I34	F43	
	C48	I47	F44	

Observer Seat: I43

Chapter II

Ground Training

Block	Media	Title	Events	Hrs	Stage
G01	Class	Indoctrination/ High Risk Screening	2	2.0	ASI

1. Events

G0101	Lect	Squadron Welcome Aboard	1.0
G0102	Admin	High Risk Screening	1.0

2. Syllabus Notes

a. G0101 is conducted in Squadron spaces and is required for IUT, AA IUT, MT, TPS, AC, and CP.

b. G0102 is only required for IUT.

c. Complete G0101 prior to G0102, which is conducted in NAS Hospital.

3. Discuss Items. None.

Block	Media	Title	Events	Hrs	Stage
G02	Class/ CAI	Instrument Flight Rules	20 (TC-12) 20 (T-44A/C)	47.5	See Below

1. Events

G0201	Lect	Introduction to IFR	0.5	IFR
G0202	Lect	Navigational Aids	1.0	IFR
G0203A	CAI	TC-12 INAV Instrument Approach Procedures	3.5	IFR
G0203B	CAI	T-44A/C INAV Instrument Approach Procedures	3.5	IFR
G0204A	MIL	INAV (Day 1)	2.5	IFR
G0204B	MIL	INAV (Day 2)	6.0	IFR
G0204C	MIL	INAV (Day 3)	1.5	IFR
G0205	CAI	INAV Flight Planning	3.5	IFR
G0206	P/P	INAV Practice Exam	2.0	IFR
G0207	Lect	INAV Review	3.0	IFR
G0208	CAI	Meteorology	4.0	Metro
G0209	MIL	Meteorology	3.0	Metro
G0210	Lect	Meteorology Review	2.0	Metro
G0211	CAI	Meteorology Exam	2.0	Metro
G0212	CAI	FRR	3.0	FRR
G0213	Lect	FRR	2.0	FRR
G0214	P/P	FRR Practice Exam	2.0	FRR
G0215	Lect	FRR Review	1.0	FRR
G0216	CAI	FRR Exam	2.0	FRR
G0217	Lect	Review Flight Planning	1.0	IFR
G0290	CAI	INAV Exam	2.0	IFR

2. Syllabus Notes

a. All events conducted in BLDG 1824.

b. G02 block is only required for IUT and will serve as IRATS (G10 block) for initial IUT training.

c. Instrument review conducted during IFR will complete annual instrument requirement for IUT.

d. Complete G0101 prior to G0201.

e. Complete G0201 prior to G0202, G0203A/B, G0205, G0206, G0207, G0208, G0209, G0210, G0212, G0213, G0214, and G0215.

f. Complete G0202 prior to G0204A; complete G0204A-C in order.

g. Complete G0208, G0209, and G0210 prior to G0211.

h. Complete G0203A/B, G0204C, G0206, and G0207 prior to G0290.

i. Complete G0212-15 prior to G0216.

j. Complete G0205, G0211, G0216, and G0290 prior to G0217.

3. Discuss Items. None.

Block	Media	Title	Events	Hrs	Stage
G03	Class/ CAI	Systems	32 (TC-12) 32 (T-44C) 30 (T-44A)	30.0 33.0 30.0	See Below

1. Events

G0301A	MIL	TC-12 Introduction to Aircraft Systems	0.5	SYS
G0301B	MIL	T-44C Introduction to Aircraft Systems	0.5	T44CSYS
G0301C	MIL	T-44A Introduction to Aircraft Systems	0.5	SYS
G0302A	CAI	TC-12 General Aircraft	0.5	SYS
G0302B	CAI	T-44C General Aircraft	0.5	T44CSYS
G0302C	CAI	T-44A General Aircraft	0.5	SYS
G0303A	MIL	TC-12 General Aircraft	0.5	SYS
G0303B	MIL	T-44C General Aircraft	0.5	T44CSYS
G0303C	MIL	T-44A General Aircraft	0.5	SYS
G0304A	CAI	TC-12 Power Plant and Related Systems	2.0	SYS
G0304B	CAI	T-44C Power Plant and Related Systems	2.0	T44CSYS
G0304C	CAI	T-44A Power Plant and Related Systems	2.0	SYS
G0305A	MIL	TC-12 Power Plant and Related Systems	1.0	SYS
G0305B	MIL	T-44C Power Plant and Related Systems	1.0	T44CSYS
G0305C	MIL	T-44A Power Plant and Related Systems	1.0	SYS
G0306A	CAI	TC-12 Propeller System	1.0	SYS

1. Events (Cont)

G0306B	CAI	T-44C Propeller System	1.0	T44CSYS
G0306C	CAI	T-44A Propeller System	1.0	SYS
G0307A	MIL	TC-12 Propeller System	1.0	SYS
G0307B	MIL	T-44C Propeller System	1.0	T44CSYS
G0307C	MIL	T-44A Propeller System	1.0	SYS
G0308A	CAI	TC-12 Fuel System	1.0	SYS
G0308B	CAI	T-44C Fuel System	1.0	T44CSYS
G0308C	CAI	T-44A Fuel System	1.0	SYS
G0309A	MIL	TC-12 Fuel System	1.0	SYS
G0309B	MIL	T-44C Fuel System	1.0	T44CSYS
G0309C	MIL	T-44A Fuel System	1.0	SYS
G0310A	CAI	TC-12 Flight Control System	0.5	SYS
G0310B	CAI	T-44C Flight Control System	0.5	T44CSYS
G0310C	CAI	T-44A Flight Control System	0.5	SYS
G0311A	MIL	TC-12 Flight Control System	0.5	SYS
G0311B	MIL	T-44C Flight Control System	0.5	T44CSYS
G0311C	MIL	T-44A Flight Control System	0.5	SYS
G0312A	CAI	TC-12 Landing Gear System	1.0	SYS
G0312B	CAI	T-44C Landing Gear System	1.0	T44CSYS
G0312C	CAI	T-44A Landing Gear System	1.0	SYS
G0313A	MIL	TC-12 Landing Gear System	1.0	SYS
G0313B	MIL	T-44C Landing Gear System	1.0	T44CSYS
G0313C	MIL	T-44A Landing Gear System	1.0	SYS
G0314A	CAI	TC-12 Environmental Systems	1.5	SYS
G0314B	CAI	T-44C Environmental Systems	1.5	T44CSYS

1. Events (Cont)

G0314C	CAI	T-44A Environmental Systems	1.5	SYS
G0315A	MIL	TC-12 Environmental Systems	1.5	SYS
G0315B	MIL	T-44C Environmental Systems	1.5	T44CSYS
G0315C	MIL	T-44A Environmental Systems	1.5	SYS
G0316A	CAI	TC-12 Electrical System	1.0	SYS
G0316B	CAI	T-44C Electrical System	1.0	T44CSYS
G0316C	CAI	T-44A Electrical System	1.0	SYS
G0317A	MIL	TC-12 Electrical System	1.5	SYS
G0317B	MIL	T-44C Electrical System	1.5	T44CSYS
G0317C	MIL	T-44A Electrical System	1.5	SYS
G0318A	CAI	TC-12 Flight Instruments	0.5	SYS
G0318B	CAI	T-44C Flight Instruments	0.5	T44CSYS
G0318C	CAI	T-44A Flight Instruments	0.5	SYS
G0319A	MIL	TC-12 Flight Instruments	0.5	SYS
G0319B	MIL	T-44C Flight Instruments	0.5	T44CSYS
G0319C	MIL	T-44A Flight Instruments	0.5	SYS
G0320A	CAI	TC-12 Avionics	1.0	SYS
G0320B	CAI	T-44A Avionics	1.0	SYS
G0321A	MIL	TC-12 Avionics	1.5	SYS
G0321B	MIL	T-44A Avionics	1.5	SYS
G0322	CAI	T-44C Navigation and Communication	1.0	T44CSYS
G0323	MIL	T-44C Navigation and Communication	1.5	T44CSYS
G0324A	CAI	TC-12 Weather Radar	0.5	SYS
G0324B	CAI	T-44A Weather Radar	0.5	SYS

1. Events (Cont)

G0325A	MIL	TC-12 Weather Radar	0.5	SYS
G0325B	MIL	T-44A Weather Radar	0.5	SYS
G0326	CAI	T-44C Autopilot System	1.0	T44CSYS
G0327	MIL	T-44C Autopilot System	1.0	T44CSYS
G0328	CAI	T-44A RNAV	1.0	SYS
G0329	MIL	T-44A RNAV	1.0	SYS
G0330	CAI	TC-12 GPWS	0.5	SYS
G0331	MIL	TC-12 GPWS	0.5	SYS
G0332	CAI	TC-12 Annunciator Lights	0.5	SYS
G0333	MIL	TC-12 Annunciator Lights	0.5	SYS
G0334	CAI	T-44C Multi-Function Display	1.0	T44CSYS
G0335	MIL	T-44C Multi-Function Display	1.0	T44CSYS
G0336	CAI	T-44C Flight Management System	1.0	T44CSYS
G0337	MIL	T-44C Flight Management System	1.0	T44CSYS
G0338A	Sqdn	TC-12 Aircraft Tour	1.0	SYS
G0338B	Sqdn	T-44C Aircraft Tour	1.0	T44CSYS
G0338C	Sqdn	T-44A Aircraft Tour	1.0	SYS
G0339A	Lect	TC-12 Course Review	1.0	SYS
G0339B	Lect	T-44C Course Review	1.0	T44CSYS
G0339C	Lect	T-44A Course Review	1.0	SYS
G0390A	CAI	TC-12 Aircraft Systems Exam	2.0	SYS
G0390B	CAI	T-44C Aircraft Systems Exam	2.0	T44CSYS
G0390C	CAI	T-44A Aircraft Systems Exam	2.0	SYS
G0340A	Lect	TC-12 Aircraft Systems Exam Review	0.5	SYS

1. Events (Cont)

G0340B	Lect	T-44C Aircraft Systems Exam Review	0.5	T44CSYS
G0340C	Lect	T-44A Aircraft Systems Exam Review	0.5	SYS
G0341	Lect	FMS Demonstrator	2.0	SYS

2. Syllabus Notes

a. All events conducted in BLDG 1824.

b. G03 block is required for IUT, AA IUT, MT, TPS, AC, CP, and TC-12 to T-44C IP Transition.

c. Complete G0101 prior to G0301A/B/C, any of the G03 CAI lessons, G0338A/B/C, and G0341, as applicable for each platform.

d. Complete G0301A/B/C prior to any of the MIL lessons and G0340A/B/C; academic instructors determine the order of the MIL lessons, as applicable for each platform.

e. Complete G0302A/B/C-G0338A/B/C prior to G0339A/B/C, as applicable for each platform.

f. Complete G0339A/B/C prior to G0390A/B/C, depending on platform.

g. G0316B, G0318B, G0322, G0326, G0334, G0336, G0390B, and G0341 are required for T-44A to T-44C IP, AC, and CP Transitions; complete CAIs prior to G0390B in any order.

h. G0316C, G0318C, G0320B, G0324B, G0341, and G0390C are required for T-44C to T-44A IP Transition; complete CAIs prior to G0390C and G0341 prior to I0103A.

i. For G0341, T-44A and TC-12 will use manufacturers' demonstrator software; T-44C will use RCVA laptops as demonstrator using canned scenarios.

3. Discuss Items. None.

Block	Media	Title	Events	Hrs	Stage
G04	Class/ CAI	Aerodynamics	8 (TC-12) 8 (T-44A/C)	24.5 24.5	AERO

1. Events

G0401A	CAI	TC-12 Aerodynamics/Power Performance	4.0
G0401B	CAI	T-44A/C Aerodynamics/Power Performance	4.0
G0402A	Lect	Introduction to T-44 Aerodynamics	5.0
G0402B	MIL	Introduction to TC-12 Aerodynamics	5.0
G0403A	Lect	T-44 Aerodynamics Lecture (Weight and Balance)	2.5
G0403B	Lect	T-44 Aerodynamics Lecture (TOLD)	2.5
G0403C	MIL	TC-12 Aerodynamics Lecture (Weight and Balance)	2.5
G0403D	MIL	TC-12 Aerodynamics Lecture (TOLD)	2.5
G0404A	Lab	T-44 Aerodynamics Lab (Weight and Balance Problem)	3.0
G0404B	Lab	T-44 Aerodynamics Lab (TOLD Problem)	3.0
G0404C	MIL	TC-12 Aerodynamics Lab (Weight and Balance Problem)	3.0
G0404D	MIL	TC-12 Aerodynamics Lab (TOLD Problem)	3.0
G0405	Lect	Aerodynamics Review	0.5
G0490A	P/P	TC-12 Aerodynamics Exam	4.0
G0490B	P/P	T-44A/C Aerodynamics Exam	4.0

2. Syllabus Notes

a. All events conducted in BLDG 1824.

b. G04 block is only required for IUT, AA IUT (G0403A-B only), MT, TPS, AC, and CP.

c. Complete G0101 prior to G0401A/B and G0402A/B; complete G0402A or G0402B prior to G0403A-B or G0403C-D, G0404A-B or G0404C-D, and G0405, as applicable for each platform.

d. Complete all events in block prior to G0490A or G0490B, depending on assigned platform.

e. For AA IUT only, complete C0101 prior to G0403A-B.

3. Discuss Items. None.

Block	Media	Title	Events	Hrs	Stage
G06	Class/ CAI	Flight Procedures	6 (TC-12) 6 (T-44A/C)	11.75 11.75	See Below

1. Events

G0601A	P/P	TC-12 CRIT Exams	2.00	FP
G0601B	P/P	T-44A/C CRIT Exams	2.00	FP
G0602A	CAI	TC-12 Emergency Flight Procedures	2.00	EMFP
G0602B	CAI	T-44A/C Emergency Flight Procedures	2.00	EMFP
G0603A	CAI	TC-12 Contact Flight Procedures	2.00	DCONFP
G0603B	CAI	T-44A/C Contact Flight Procedures	2.00	DCONFP
G0604A	Lect	TC-12 Flight Procedures Lecture	2.50	FP
G0604B	Lect	T-44A/C Flight Procedures Lecture	2.50	FP
G0605	MIL	Course Rules Lecture	2.50	FP
G0606	Lect	Flight Line Driver’s License Brief	0.75	FP

2. Syllabus Notes

a. Complete G0101 prior to block.

b. Academic Instructors determine order of completion.

c. All events conducted in BLDG 1824.

d. G06 block is only required for IUT, MT, TPS, and AC.

3. Discuss Items. None.

Block	Media	Title	Events	Hrs	Stage
G07	Class	Crew Resource Management	2	4.0	CRM

1. Events

G0701	MIL	Seven CRM Skills	2.0
G0702	Lect	CRM Callouts/Instruments	2.0

2. Syllabus Notes

a. Event conducted in BLDG 1824.

b. G0701 and G0702 are required for IUT, MT, TPS, AC, and CP.

c. G0701 only is required for TC-12 to T-44C IP Transition (no prerequisite) and AA IUT.

d. Complete G0101 prior to G0701 for IUT, AA IUT, MT, TPS, AC, and CP.

e. Complete I0101 prior to G0702 (IUT, MT, TPS, and AC); complete G0701 prior to G0702 for CP.

3. Discuss Items. None.

Block	Media	Title	Events	Hrs	Stage
G09	Class	Flight Instructor Training Course	1	26.0	ASI

1. Events

G0901	MIL	Flight Instructor Training Course	26.0

2. Syllabus Notes

a. Complete G0101 prior to block.

b. Event conducted in BLDG 1824.

c. G09 block is only required for IUT.

d. CRM review conducted during FITC will complete annual CRM course requirement for initial IUT.

3. Discuss Items. None.

Block	Media	Title	Events	Hrs	Stage
G10	Class	Instrument Refresher	2	8.0	Instrument

1. Events

G1001	Lect	Instrument Refresher Training	4.0
G1090	P/P	IRATS/IFR Exam (Open/Closed)	4.0

2. Syllabus Notes

a. All events conducted in BLDG 1824 in order.

b. G10 block is only required for MT, TPS, and AC students; it is required for copilot and T-44A to T-44C Copilot Transition students only if optional B4290 is to be accomplished.

c. Complete G0101 prior to this block (MT, TPS, and AC). If applicable, complete B4190 prior to this block (Copilot and T-44A to T-44C Copilot Transition).

3. Discuss Items. None.

Block	Media	Title	Events	Hrs	Stage
C01	Class	Contact Brief	1	5.0	DCONFP

1. Events

C0101	Sqdn	Contact Brief	5.0

2. 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. C01 block is required for IUT, AA IUT, MT, TPS, and AC.

c. Complete G0101 prior to C0101.

d. Although not required, C2105 will normally be completed prior to C0101.

3. Discuss Items. FTI/NATOPS manual use (verify changes posted), local operations, flight schedule, PF/PM/CRM, observer duties, safety/standardization programs, headset operation, weight and balance, performance charts, go/no-go criteria, training time out policy, personal and emergency equipment, ditching, forced landing, aircraft interior/exterior inspection and emergency egress procedures, area and course rules familiarization, FAA Letter of Agreement, squadron SOP, wing SOP, and oxygen system operation and requirements.

Block	Media	Title	Events	Hrs	Stage
C02	Lect	T-44A/C Differences Brief	1	3.0	44CTRANS

1. Events

C0201 Lect T-44A/C Differences Brief 3.0

2. Syllabus Notes

a. C0201 has no required location, but shall be accomplished by qualified IP.

b. C02 block is required for qualified T-44A or TC-12 instructors, ACs or copilots transitioning to the T-44C.

c. Complete I0103B prior to C0201 (Instructor or AC) or B3101 (Copilot Transition).

d. T-44C CRM discussion conducted during C0201 will complete model-specific CRM requirement for upgrading instructor or copilot.

3. Discuss Items. PFD, FMS, MFD (TAS/EGPWS), autopilot, electrical system, VHF/UHF manual head, radio tuning procedures, stall system, CRM, and ESIS.

Block	Media	Title	Events	Hrs	Stage
I01	Class	Instrument Briefs	4 (TC-12)	7.0	Instrument
			4 (T-44A)	7.0	
			4 (T-44C)	9.0	

1. Events

I0101	Lect	GPS/Radio Instrument Procedures	3.0
I0102	MIL	ME GPS FMS	1.0
I0103A	Lect	T-44A/TC-12 Flight Director Operation	1.0
I0103B	Lect	T-44C Flight Director Operation	3.0
I0104	Lect	Instructor RI Brief	2.0

2. Syllabus Notes

a. Conducted in squadron spaces.

b. IUTs complete all four events. MT, TPS, and AC complete only I0101, I0102, and either I0103A or B as applicable. CPs, T-44C to T-44A IP Transition, T-44A to T-44C IP Transition, and T-44A to T-44C AC and CP Transition students complete only I0102 and either I0103A or I0103B as applicable. TC-12 to T-44C IP Transition students complete only I0103B.

c. Complete G0101 prior to I0101; I0101 prior to I0102; I0102 prior to I0103A or I0103B for IUT, MT, TPS, and AC students.

d. Complete G0101 prior to I0102 and I0102 prior to I0103A or I0103B for CPs; no prerequisite for I0102/I0103B for T-44A to T-44C Copilot Transition.

e. Complete G0390B prior to I0102/I0103B for T-44A to T-44C IP Transition and T-44A to T-44C AC Transitions; complete G0390C prior to I0102/I0103A for T-44C to T44A IP Transition; complete G0340B, G0390B, and G0341 prior to I0103B for TC-12 to T-44C IP Transition.

f. Complete C4390 and I4301 prior to I0104 for IUTs.

3. Discuss Items

I0101
Instrument procedures, approaches, DPs, STARs, arrival transitions, RNAV/GPS approaches/procedures, IFM, NATOPS, FTI, AIM/FAR, low altitude charts (L15, 16), OPNAVINST 3710.7T, FIG/SOP, monthly training plan, and Stan Program.

I0102
Checking database currency, checking RAIM, deselecting satellites, entering a flight plan from origin to destination, on-deck flight plan (ODK), discontinuities, holding setup, procedure turn setup, approach setup, entering a SID/STAR, and checking CDI sensitivity.

I0103
Flight director operation, automation pyramid, 1. FD/AP-CDI, 2. FD/MANUAL-CDI, 3. MANUAL-CDI, and 4. Manual.

I0104
Instructor instrument syllabus overview, student syllabus scenarios: I42XX, I4390, I4403, I47XX IAW CNATRAINST 1542.147, Instrument Stage defensive positioning simulator, Instrument Stage Check Ride, preparing for student syllabus events, master curriculum guide/flight instructor guide (MCG/FIG), SMA Instrument Stage scenario development, local events, out-of-area events, emergency setup/simulation, and qualification matrix.

Block	Media	Title	Events	Hrs	Stage
N01	MIL	Low-Level Navigation Ground School	1	1.0	LLNAVFP

1. Events

N0101	MIL	LL Navigation Procedures	1.0

2. Syllabus Notes

a. Conducted in squadron spaces.

b. N01 block is required for advanced qualification only.

c. Complete C4590 prior to N0101.

d. Read LL portion of FTI before class and be prepared to create charts.

3. Discuss Items. None.

Block	Media	Title	Events	Hrs	Stage
N02	MIL	Portable Flight Planning Software	2	12.0	LLNAVFP

1. Events

N0201	MIL	PFPS Lecture, Part 1	4.0
N0202	MIL	PFPS Lecture, Part 2	8.0

2. Syllabus Notes

   a. Conducted in BLDG 1824.

   b. N02 block is required for advanced qualification only.

   c. Complete N0101 prior to N0201/2.

3. Discuss Items. None.

Block	Media	Title	Events	Hrs	Stage
F01	Lect	Tiltrotor Formation Ground School	1	3.0	FORM

1. Events

F0101 Lect Tiltrotor Formation Procedures 3.0

2. Syllabus Notes

a. Conducted in squadron spaces.

b. F01 block is required for advanced qualification only.

c. Complete C4590 prior to this block.

d. Read Tactical/Aerial Refueling Procedures and Formation Stage portions of FTI before class.

3. Discuss Items. Formation brief, ground procedures, parade sequence, maneuver checkpoints, flight leader responsibilities, flight integrity, cockpit obstructions/parallax, recovery procedures, formation break, student tendencies/error detection, defensive positioning, IP assertiveness and responsiveness, formation maneuvers, prop wash/wake turbulence (including V-22 specific), IFR/departure/recovery, lookout doctrine, landing gear check, dissimilar formation, aerial refueling, tactical formation maneuvers, formation emergencies, and formation standards.

Block	Media	Title	Events	Hrs	Stage
T01	Lect/ SS	Tactical Formation Ground School	3	5.5	TACFFP

1. Events

T0101	SS	Tactical Formation Ground School	3.0
T0102	Lect	Tactical Formation Navigation Procedures	2.0
T0103	Lect	Tiltrotor Formation Navigation Procedures	0.5

2. Syllabus Notes

a. T01 block is required for advanced qualification only.

b. Conducted in squadron spaces and, although not required, T0101/2/3 are normally done in conjunction with N0101.

c. Read Tactical Formation portion of FTI before class.

d. In TAC Low advanced qualification, T0103 is only required for Tilt IUTs.

3. Discuss Items. None.

Chapter III

NATOPS Training

1. Matrices. The following matrices are an overview of the entire NATOPS Stage (AA IUT track is shown as a separate matrix). 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. Stage MIF

Simulator Event
Check Ride Event

NATOPS STAGE MANEUVER ITEM FILE										
CTS REF	**MANEUVER**	**C2105**	**C4103**	**I3106**	**I4106***	**I4290**	**C4201**	**C4390**	**B4190****	**B4290****
1	General Knowledge/ Procedures	4+	4+	4+	4+	4+	4+	4+	4+	4+
2	Emergency Procedures	4+	4+	4+	4+	4+	4+	4+	4+	4+
2	Aborted Takeoff	3+	3+				4+	4+		
2	Dynamic Engine Cut	3	4+				4+	4		
2	Power On Ditch		4+				4	4		
2	SSE Ditch		4				4+	4		
2	Power Off Ditch		4+				4	4		
3	Headwork/Situational Awareness	4+	4+	4+	4+	4+	4+	4+	4+	4+
4	Basic Air Work	3+	4+	4+	4+	4+	4+	4+		
5	Mission Planning/ Briefing/Debriefing	4+	4+	4+	4+	4+	4+	4+	4+	4+
6	Ground Operations	3+	3+	3+	4+	4+	4+	4+	4+	4+
7	Cockpit Procedures	4+	4+	4+	4+	4+	4+	4+	4+	4+
8	Instrument Takeoff			3+	4+	4+				

MIF continued on next page.

NATOPS STAGE MANEUVER ITEM FILE										
CTS REF	**MANEUVER**	**C2105**	**C4103**	**I3106**	**I4106***	**I4290**	**C4201**	**C4390**	**B4190****	**B4290****
8	Takeoff	3+	3+				4+	4+		
9	Departure	3+	3+	4+	4+	4+	4+	4+		
10	Enroute Procedures			4	4	4				4
10	Point-to-Point			3+	4	4				
12	LSC		4+				4	4		
12	Climbs/Descents		4+				4	4		
12	Turn Pattern		4+				4	4		
12	Slow Flight		4+				4	4		
12	Approach to Stalls		4+				4	4		
12	Full Stall (T-44 only)		4+				4	4		
12	SSE at Altitude	3+	4				4	4		
12	SSE Waveoff at Altitude		4				4	4		
13	Holding			4+	4+	4		4		
15	ILS			4+	4+	4		4		
15	PAR			4+	4+	4		4		
15	SSE Precision Approach			4+	4+	4		4		
15 16	Partial Panel/ESIS Approach			4+	4+	4		4		
16	VOR			4+	4+	4		4		
16	TAC			4+	4+	4		4		
16	NDB			4+	4+	4		4		
16	Needle Only Approach			4+	4+	4		4		
16	SSE Non-Precision Approach			4+	4+	4		4		
16	Localizer			4+	4+	4		4		
16	Localizer BC			4	4	4				
16	RNAV/GPS Approach			3+	4+	4				
16	ASR			4+	4+	4		4		

MIF continued on next page.

NATOPS STAGE MANEUVER ITEM FILE										
CTS REF	**MANEUVER**	**C2105**	**C4103**	**I3106**	**I4106***	**I4290**	**C4201**	**C4390**	**B4190****	**B4290****
17	Circling Approach				4+	4		4		
17	SSE Circling Approach				4+	4				
18	In-Flight Planning	3+	4+				4+	4+		
18	In-Flight Planning/ Clearance Compliance			4+	4+	4+			4+	4+
19	Enroute Descent		4	4	4	4	4	4		
20	Transition to Landing				4+	4+				
21	Traffic Entry		4+				4+	4		
22	Overhead/Break Entry		4+				4+	4+		
22	Landing Pattern		4+				4+	4+		
22	SSE Landing Pattern		4+				4+	4+		
22	No-Flap Pattern		4+				4+	4+		
23	Missed Approach				4+	4+		4		
23	SSE Missed Approach				4+	4+		4		
23	Circling Missed Approach				4+	4		4		
23	Waveoff		4+				4+	4+		
23	SSE Waveoff		4+				4+	4+		
24	Touch-and-Go		4+		4	4	4+	4		
25	Landing		4+	3	4+	4+	4+	4+		
25	SSE Landing		4+				4+	4+		
25	NFL		4+				4+	4		
25	FFL		4+				4	4		
26 28	Communications	4+	4+	4+	4+	4+	4+	4+	4+	4+
27	Clearing		4+		4+	4+	4+	4+	4+	4+
28	Pilot Flying/CRM	4+	4+	4+	4+	4+	4+	4+		
29	Pilot Monitoring/CRM	4	4	4	4			3	4+	4+
31	Radar Operation				3+	4				4

MIF continued on next page.

CTS REF	MANEUVER	C2105	C4103	I3106	I4106*	I4290	C4201	C4390	B4190**	B4290**
32	Autopilot/Flight Director Operation			3	4+	4				4
33	FMS Operation					4				4
	Special Syllabus Requirements	1	1		1					

*T-44A/TC-12 IUTs/students complete I4101-5; T-44C IUTs/students complete I4101-6.
**Only CP and CP Transition complete B4190 and optional B4290.

3. AA Stage MIF

Simulator Event

AA NATOPS STAGE MANEUVER ITEM FILE					
CTS REF	**MANEUVER**	**C2102**	**C4101**	**I3106**	**I4106***
1	General Knowledge/Procedures	4+	4+	4+	4+
2	Emergency Procedures	4+	4+	4+	4+
2	Aborted Takeoff	3+	3+		
2	Dynamic Engine Cut	3	4+		
2	Power On Ditch		4+		
2	SSE Ditch		4		
2	Power Off Ditch		4+		
3	Headwork/Situational Awareness	4+	4+	4+	4+
4	Basic Air Work	3+	4+	4+	4+
5	Mission Planning/ Briefing/Debriefing	4+	4+	4+	4+
6	Ground Operations	3+	3+	3+	4+
7	Cockpit Procedures	4+	4+	4+	4+
8	Instrument Takeoff			3+	4+
8	Takeoff	3+	3+		
9	Departure	3+	3+	4+	4+
10	Enroute Procedures			4	4
10	Point-to-Point			3+	4
12	LSC		4+		
12	Climbs/Descents		4+		
12	Turn Pattern		4+		
12	Slow Flight		4+		
12	Approach to Stalls		4+		
12	Full Stall (T-44 only)		4+		
12	SSE at Altitude	3+	4		

MIF continued on next page.

AA NATOPS STAGE MANEUVER ITEM FILE					
CTS REF	**MANEUVER**	**C2102**	**C4101**	**I3106**	**I4106***
12	SSE Waveoff at Altitude		4		
13	Holding			4+	4+
15	ILS			4+	4+
15	PAR			4+	4+
15	SSE Precision Approach			4+	4+
15 16	Partial Panel/ESIS Approach			4+	4+
16	VOR			4+	4+
16	TAC			4+	4+
16	NDB			4+	4+
16	Needle Only Approach			4+	4+
16	SSE Non-Precision Approach			4+	4+
16	Localizer			4+	4+
16	Localizer BC			4	4
16	RNAV/GPS Approach			3+	4+
16	ASR			4+	4+
17	Circling Approach				4+
17	SSE Circling Approach				4+
18	In-Flight Planning	3+	4+		
18	In-Flight Planning/ Clearance Compliance			4+	4+
19	Enroute Descent		4	4	4
20	Transition to Landing				4+
21	Traffic Entry		4+		
22	Overhead/Break Entry		4+		
22	Landing Pattern		4+		
22	SSE Landing Pattern		4+		
22	No-Flap Pattern		4+		
23	Missed Approach				4+

MIF continued on next page.

AA NATOPS STAGE MANEUVER ITEM FILE					
CTS REF	**MANEUVER**	**C2102**	**C4101**	**I3106**	**I4106***
23	SSE Missed Approach				4+
23	Circling Missed Approach				4+
23	Waveoff		4+		
23	SSE Waveoff		4+		
24	Touch-and-Go		4+		4
25	Landing		4+	3	4+
25	SSE Landing		4+		
25	NFL		4+		
25	FFL		4+		
26, 28	Communications	4+	4+	4+	4+
27	Clearing		4+		4+
28	Pilot Flying/CRM	4+	4+	4+	4+
29	Pilot Monitoring/CRM	4	4	4	4
31	Radar Operation				3+
32	Autopilot/Flight Director Operation			3	4+
	Special Syllabus Requirements	1	1		1

*AA IUTs complete only I4101, I4105, and I4106.

Block	Media	Title	Events	Hrs	H/X
C21	CPT	Cockpit Procedures	5	7.5	1.5

1. Prerequisites

a. G0102 (High Risk Screening) – IUT only.

b. G0217 (IFR) - IUT only.

c. G0340A/B/C (Aircraft Systems Exam Review) – IUT, AA IUT, MT, TPS, AC, and CP.

d. G0390A/B/C (Systems) – IUT, AA IUT, MT, TPS, AC, and CP.

e. G0341 (FMS Intro) – IUT, AA IUT, MT, TPS, AC, CP, T-44C to T-44A IP Transition, and T-44A to T-44C AC Transition.

f. G0403B (Aerodynamics Lectures) – AA IUT.

g. G0490A/B (Aerodynamics) – IUT, MT, TPS, AC, and CP.

h. G06 block (Flight Procedures) – IUT, MT, TPS, and AC.

i. G0701 (Seven CRM Skills) - AA IUT only.

j. C0101 (Contact Brief) – AA IUT only.

k. C0201 (T-44A/C Differences Brief) – T-44A to T-44C IP and AC Transitions.

l. G0702 (CRM Callouts/Instruments) – CP only

m. I0103A (T-44A/TC-12 Flight Director Operation) – T-44A to T-44C and T-44C to T-44A IP Transition and T-44A/TC-12 CP.

n. I0103B (T-44C Flight Director Operation) - T-44C CP only.

2. Syllabus Notes

a. AA IUTs, TC-12 to T-44C IP Transition and T-44A to T-44C AC Transition students complete only C2101 and C2102.

b. T-44C to T-44A IP Transition students complete only C2101.

c. Practice all checklists, applicable FTI briefings, radio calls, and basic air work. Ensure IUT's or student's checklist proficiency is adequate to proceed to flight operations.

d. 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.

e. During all C2100 events, each normal checklist should be performed if it has been previously introduced or discussed.

3. Special Syllabus Requirements

C2105
Vmca demo.

4. Discuss Items

C2101
Seat/Rudder pedal adjustment, fuel management panel, pilot instrument panel, engine instruments and switches, center instrument panel, annunciator panel, copilot instrument panel, circuit breaker panels, control pedestal, overhead control panel, brake check (out of chocks), all normal checklists: Before Start, Engine Start, After Start, Engine Runup, Takeoff, Climb, Cruise, Descent, Approach, Landing, After Landing, and Secure.

C2102
Start malfunctions, ground emergencies, loss of brakes, hot brakes, brake fire, aborts, abnormal takeoff configurations, annunciator light analysis, engine failure at altitude, and pitot/static system/malfunctions.

C2103
Flight control system/malfunctions, no flap landings, gear malfunctions, unsafe gear/gear up landings, dynamic engine cut, engine failure/fire during or after takeoff, engine fire, electrical system/malfunctions, and autopilot disengagement.

C2104
Wing/Engine/Uncontrollable fire, fuel system/malfunctions, engine system/malfunctions, loss of both engines in flight, ditching/forced landing, and airstarts.

C2105
Anti-ice and deice system/malfunctions, in-flight damage/ bird strikes, environmental/pressurization system/ malfunctions, propeller system/malfunctions, and Vmca demo.

5. Block MIF

CTS REF	MANEUVER	C2105
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
2	Aborted Takeoff	3+
2	Dynamic Engine Cut	3
3	Headwork/Situational Awareness	4+
4	Basic Air Work	3+
5	Mission Planning/Briefing/ Debriefing	4+
6	Ground Operations	3+
7	Cockpit Procedures	4+
8	Takeoff	3+
9	Departure	3+
12	SSE at Altitude	3+
18	In-Flight Planning	3+
26,28	Communications	4+
28	Pilot Flying/CRM	4+
29	Pilot Monitoring/CRM	4
	Special Syllabus Requirements	1

Block	Media	Title	Events	Hrs	H/X
C41	Acft	NATOPS Contact	3	6.0	2.0

1. Prerequisites

a. C2105 - IUT, MT, TPS, and AC

b. C0101 (Contact Brief) - IUT, MT, TPS, and AC

c. G0701 (Seven CRM Skills) - IUT, MT, TPS, AC, and AA IUT

d. I3101 - T-44C to T-44A IP Transition

e. C2102 - AA IUT

2. Syllabus Notes

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

b. Events C0101, C4101, and C4102 shall be briefed/flown with the same ITU IP.

c. AA IUTs and T-44C to T-44A IP Transition students complete only C4101.

3. Special Syllabus Requirements

C4101
Full stall demo (T-44 only), power lever restriction, oxygen mask familiarization and utilization.

C4102
Manual gear extension.

C4103
Windmilling and/or starter-assisted airstart.

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, dynamic engine cut, VMC (air/ground), training time out, NATOPS brief, dual

engine waveoffs, power lever restriction, aircraft engine operating limits, engine start procedures, abnormal starts/malfunctions, engine failure during takeoff, brake system/malfunctions, and oxygen mask familiarization and utilization.

C4102
Ditching procedures, engine failure after takeoff, SSE full stop landing, SSE touch-and-go procedures, SSE waveoff, propeller system/malfunctions, APU start procedures, gear system/malfunctions, unsafe gear/gear up landing, and manual gear extension.

C4103
V_x/V_y, fuel system/malfunctions, forced landing, engine secure/restart, environmental/pressurization system/malfunctions, short-field landing, smoke and fume removal, smoke and fire of unknown origin, dual engine failure, emergency descents, ditching, right-hand patterns, and engine fire on deck.

5. Block MIF

CTS REF	MANEUVER	C4103
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
2	Aborted Takeoff	3+
2	Dynamic Engine Cut	4+
2	Power On Ditch	4+
2	SSE Ditch	4
2	Power Off Ditch	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	4+
6	Ground Operations	3+
7	Cockpit Procedures	4+
8	Takeoff	3+

MIF continued on next page.

CTS REF	MANEUVER	C4103
9	Departure	3+
12	LSC	4+
12	Climbs/Descents	4+
12	Turn Pattern	4+
12	Slow Flight	4+
12	Approach to Stalls	4+
12	Full Stall (T-44 only)	4+
12	SSE at Altitude	4
12	SSE Waveoff at Altitude	4
18	In-Flight Planning	4+
19	Enroute Descent	4
21	Traffic Entry	4+
22	Overhead/Break Entry	4+
22	Landing Pattern	4+
22	SSE Landing Pattern	4+
22	No-Flap Pattern	4+
23	Waveoff	4+
23	SSE Waveoff	4+
24	Touch-and-Go	4+
25	Landing	4+
25	SSE Landing	4+
25	NFL	4+
25	FFL	4+
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
29	Pilot Monitoring/CRM	4
	Special Syllabus Requirements	1

Block	Media	Title	Events	Hrs	H/X
I31	SIM	NATOPS Radio Instruments	6	9.0	1.5

1. Prerequisites

a. C4103 - IUT, MT, TPS, and AC.

b. I0103A (T-44A/TC-12 Flight Director Operation) - T-44A/TC-12 IUT, MT, TPS, and AC.

c. I0103B (T-44C Flight Director Operation) - T-44C IUT, MT, TPS, and AC.

d. G0702 (CRM Callouts/Instruments) - IUT, MT, TPS, and AC.

e. C2101 – T-44C to T-44A IP Transition.

f. C2102 – T-44C AA IUT.

2. Syllabus Notes

a. Practice control and radio instrument flight.

b. T-44C to T-44A IP Transition students complete only I3101.

c. Air Advisors sit in left seat for I3101 – I3103 and right seat for I3104 – I3106.

3. Special Syllabus Requirements. None.

4. Discuss Items

I3101
Instrument takeoff/scan, flight instrument characteristics, approach-to-stalls, unusual attitudes, pilot flying/pilot monitoring communications, and NATOPS callouts. In addition, for T-44C only: discuss PFD familiarization/DCP operation, primary navigation source/bearing pointer selection, ESIS approach-to-stalls, and ESIS unusual attitudes.

I3102
VOR/TAC/NDB characteristics/approaches/missed approaches, SSE non-precision approaches/missed approach procedures, partial panel/ESIS approaches, needle only approach, FGP operation (T-44C only), and for T-44A only: NCS-31 failure.

I3103
FMS setup, GPS characteristics/approaches/missed approaches, holding, FMS holding, RNAV/GPS approach types, GPS approach procedures, GPS HILO, GPS NOTAMs, and RAIM.

I3104
ILS/LOC characteristics, ILS/LOC/PAR/ASR approaches, emergency/minimum fuel state, levels of automation, autopilot/flight director, coupled approach, and for T-44C only: FMS NAV-to-NAV transfer.

I3105
SSE approaches/missed approaches (ILS/LOC/PAR/ASR), partial panel ILS, glideslope failure, and for T-44C only: AHRS/ADC/PFD failures and ESIS ILS approach procedures.

I3106
Descent planning, point-to-point navigation, LNAV/VNAV SSE configuration considerations, RNP, and for T-44C only: VNAV setup enroute/approach, top of descent, LNAV/VNAV approaches, and green versus blue methods of intercept.

5. Block MIF

CTS REF	MANEUVER	I3106
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	3+
7	Cockpit Procedures	4+

MIF continued on next page.

CTS REF	MANEUVER	I3106
8	Instrument Takeoff	3+
9	Departure	4+
10	Enroute Procedures	4
10	Point-to-Point	3+
13	Holding	4+
15	ILS	4+
15	PAR	4+
15	SSE Precision Approach	4+
15,16	Partial Panel/ESIS Approach	4+
16	VOR	4+
16	TAC	4+
16	NDB	4+
16	Needle Only Approach	4+
16	SSE Non-Precision Approach	4+
16	Localizer	4+
16	Localizer BC	4
16	RNAV/GPS Approach	3+
16	ASR	4+
18	In-Flight Planning/Clearance Compliance	4+
19	Enroute Descent	4
25	Landing	3
26,28	Communications	4+
28	Pilot Flying/CRM	4+
29	Pilot Monitoring/CRM	4
32	Autopilot/Flight Director Operation	3

Block	Media	Title	Events	Hrs	H/X
I41	Acft	NATOPS Instruments	5 (T-44A/TC-12)	10.0	2.0
			6 (T-44C)	12.0	

1. Prerequisites

a. I3106 – IUT, MT, TPS, and AC.

b. C4101 – T-44C AA IUT; T-44C to T-44A IP Transition.

2. Syllabus Notes

a. CRM should be emphasized during all flights, especially during SSE training; emphasize GPS approaches on I4101.

b. Each event will have a minimum of three approaches and shall include at least two procedure turn low altitude approaches.

c. For AA IUTs, each event will include as a minimum: left seat takeoff and left seat landing (minimum of 5 in Contact pattern/minimum of 2 SSE).

d. All events shall include a missed approach (or SSE missed approach).

e. At least one out/in flight should be accomplished in block with emphasis on high altitude enroute procedures, descent planning, VNAV (T-44C only), and FMS operations and automation.

f. All GPS requirements from the IFM must be complete by the end of I4105 (T-44A and TC-12) or I4106 (T-44C).

g. T-44A/TC-12 IUTs complete only I4101-5; T-44C IUTs complete all events in block.

h. AA IUTs complete only I4101, I4105, and I4106.

i. T-44C to T-44A IP Transition students complete only I4101.

3. Special Syllabus Requirement

I4101
Autopilot/Flight Director Demonstration.

4. Discuss Items

I4101
TTO/NATOPS brief, lost communications and letter of agreement, UNICOM voice reports, outside scan/see and avoid, local operations, approaches (TAC, VOR, NDB, GPS), SSE non-precision approaches, circling, and electrical system/ malfunctions.

I4102
Publications (FLIP, TERPS, AIM), PAR/ASR/ILS/LOC approaches, automation pyramid, CRM callouts, PF/PM communications, flight director usage and CRM, flight control system, fuel system, pitot/static system/malfunctions, autopilot/flight director operation, and SSE missed approaches.

I4103
Enroute weather facilities, special use airspace, controlled airspace, anti-ice/deice system/malfunctions, GPS/FMS flight characteristics/approach procedures, instrument rating request (special/standard rating), and environmental/ pressurization system.

I4104
Flight planning, fuel log, civil field operations, RNAV procedures, fuel packet/servicing, navigation bag, horizontal weather depiction (HWD), visual approach, high altitude flight watch, radar operation, cruise performance, weight and balance, and engine system.

I4105
LNAV/VNAV approaches/limitations, overlay approaches, GPS HILO, autopilot disengagement/limitations, high altitude enroute procedures, descent planning, flight control system, and for T-44C only: NAV versus APPR mode.

I4106 (T-44C only)
FMS operation, VNAV, FCP utilization techniques, and flight director sync.

5. Block MIF

CTS REF	MANEUVER	I4106
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	Cockpit Procedures	4+
8	Instrument Takeoff	4+
9	Departure	4+
10	Enroute Procedures	4
10	Point-to-Point	4
13	Holding	4+
15	ILS	4+
15	PAR	4+
15	SSE Precision Approach	4+
15,16	Partial Panel/ESIS Approach	4+
16	VOR	4+
16	TAC	4+
16	NDB	4+
16	Needle Only Approach	4+
16	SSE Non-Precision Approach	4+
16	Localizer	4+
16	Localizer BC	4
16	RNAV/GPS Approach	4+
16	ASR	4+
17	Circling Approach	4+
17	SSE Circling Approach	4+

MIF continued on next page.

CTS REF	MANEUVER	I4106
18	In-Flight Planning/Clearance Compliance	4+
19	Enroute Descent	4
20	Transition to Landing	4+
23	Missed Approach	4+
23	SSE Missed Approach	4+
23	Circling Missed Approach	4+
24	Touch-and-Go	4
25	Landing	4+
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
29	Pilot Monitoring/CRM	4
32	Autopilot/Flight Director Operation	4+
31	Radar Operation	3+
	Special Syllabus Requirements	1

Block	Media	Title	Events	Hrs	H/X
I42	Acft	Instrument Check Ride	1	2.0	2.0

1. Prerequisites

a. I4105 - T-44A/TC-12 IUT, MT, TPS, and AC.

b. I4106 - T-44C IUT, MT, TPS, and AC.

c. G1090 (Instrument Stan Exam) – MT, TPS, and AC.

2. Syllabus Notes

a. This flight is to be flown IAW check ride standards.

b. This flight is to be counted as an annual instrument check if required. The IRATs/IFR exam (G1090) or INAV exam (G0290) as applicable must be successfully completed no more than sixty (60) days **PRIOR** to the check ride. If a check ride is not required, this flight should be flown as an instrument refresher/practice.

c. IUT shall bring complete instrument rating request.

d. IUT or student shall fly a minimum of 2.0 hours of nighttime prior to C4201.

3. Special Syllabus Requirements. None.

4. Discuss Items. TTO, NATOPS brief, aircraft operating limits, and systems.

5. Block MIF

CTS REF	MANEUVER	I4290
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+

MIF continued on next page.

CTS REF	MANEUVER	I4290
5	Mission Planning/Briefing/ Debriefing	4+
6	Ground Operations	4+
7	Cockpit Procedures	4+
8	Instrument Takeoff	4+
9	Departure	4+
10	Enroute Procedures	4
10	Point-to-Point	4
13	Holding	4
15	ILS	4
15	PAR	4
15	SSE Precision Approach	4
15,16	Partial Panel/ESIS Approach	4
16	VOR	4
16	TAC	4
16	NDB	4
16	Needle Only Approach	4
16	SSE Non-Precision Approach	4
16	Localizer	4
16	Localizer BC	4
16	RNAV/GPS Approach	4
16	ASR	4
17	Circling Approach	4
17	SSE Circling Approach	4
18	In-Flight Planning/Clearance Compliance	4+
19	Enroute Descent	4
20	Transition to Landing	4+
23	Missed Approach	4+
23	SSE Missed Approach	4+
23	Circling Missed Approach	4

MIF continued on next page.

CTS REF	MANEUVER	I4290
24	Touch-and-Go	4
25	Landing	4+
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
31	Radar Operation	4
32	Autopilot/Flight Director Operation	4
33	FMS Operation	4

Block	Media	Title	Events	Hrs	H/X
C42	Acft	NATOPS Contact Review	1	2.0	2.0

1. Prerequisite. I4290 - IUT, MT, TPS, and AC.

2. Syllabus Notes. None.

3. Special Syllabus Requirements. None.

4. Discuss Items. TTO, NATOPS brief, and aircraft systems/limitations.

5. Block MIF

CTS REF	MANEUVER	C4201
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
2	Aborted Takeoff	4+
2	Dynamic Engine Cut	4+
2	Power On Ditch	4
2	SSE Ditch	4+
2	Power Off Ditch	4
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	4+
6	Ground Operations	4+
7	Cockpit Procedures	4+
8	Takeoff	4+
9	Departure	4+
12	LSC	4
12	Climbs/Descents	4
12	Turn Pattern	4
12	Slow Flight	4

MIF continued on next page.

CTS REF	MANEUVER	C4201
12	Approach to Stalls	4
12	Full Stall (T-44 only)	4
12	SSE at Altitude	4
12	SSE Waveoff at Altitude	4
18	In-Flight Planning	4+
19	Enroute Descent	4
21	Traffic Entry	4+
22	Overhead/Break Entry	4+
22	Landing Pattern	4+
22	SSE Landing Pattern	4+
22	No-Flap Pattern	4+
23	Waveoff	4+
23	SSE Waveoff	4+
24	Touch-and-Go	4+
25	Landing	4+
25	SSE Landing	4+
25	NFL	4+
25	FFL	4
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+

Block	Media	Title	Events	Hrs	H/X
C43	Acft	NATOPS Check Ride	1	2.5	2.5

1. Prerequisites

a. C4201 - IUT, MT, TPS, and AC.

b. C4790 - TC-12 to T-44C IP Transition.

2. Syllabus Notes

a. Conduct IAW all current directives.

b. IUT shall bring complete NATOPS rating request.

c. NATOPS Open- and Closed-Book Examinations must be successfully completed no more than sixty (60) days **PRIOR** to the check ride.

3. Special Syllabus Requirements. None.

4. Discuss Items. Aircraft systems and emergencies.

5. Block MIF

CTS REF	MANEUVER	C4390
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
2	Aborted Takeoff	4+
2	Dynamic Engine Cut	4
2	Power On Ditch	4
2	SSE Ditch	4
2	Power Off Ditch	4
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	4+

MIF continued on next page.

CTS REF	MANEUVER	C4390
6	Ground Operations	4+
7	Cockpit Procedures	4+
8	Takeoff	4+
9	Departure	4+
12	LSC	4
12	Climbs/Descents	4
12	Turn Pattern	4
12	Slow Flight	4
12	Approach to Stalls	4
12	Full Stall (T-44 only)	4
12	SSE at Altitude	4
12	SSE Waveoff at Altitude	4
13	Holding	4
15	ILS	4
15	PAR	4
15	SSE Precision Approach	4
15,16	Partial Panel/ESIS Approach	4
16	VOR	4
16	TAC	4
16	NDB	4
16	Needle Only Approach	4
16	SSE Non-Precision Approach	4
16	Localizer	4
16	ASR	4
17	Circling Approach	4
18	In-Flight Planning	4+
19	Enroute Descent	4
21	Traffic Entry	4
22	Overhead/Break Entry	4+
22	Landing Pattern	4+
22	SSE Landing Pattern	4+

MIF continued on next page.

CTS REF	MANEUVER	C4390
22	No-Flap Pattern	4+
23	Missed Approach	4
23	SSE Missed Approach	4
23	Circling Missed Approach	4
23	Waveoff	4+
23	SSE Waveoff	4+
24	Touch-and-Go	4
25	Landing	4+
25	SSE Landing	4+
25	NFL	4
25	FFL	4
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
29	Pilot Monitoring/CRM	3

Block	Media	Title	Events	Hrs	H/X
B41	Acft	Copilot NATOPS Check Ride	1	2.0	2.0

1. Prerequisites

a. C2105 – Copilot.

b. B3101 – T-44A to T-44C CP Transition.

2. Syllabus Notes

a. Conduct IAW all current directives.

b. The B41 block is required for copilots only; NATOPS Open- and Closed-Book Examinations must be successfully completed no more than sixty (60) days PRIOR to the check ride.

c. Copilot responsibilities shall be performed during a minimum five touch-and-go landings, a minimum of two SSE touch-and-go landings, and one instrument approach.

3. Special Syllabus Requirements. None.

4. Discuss Items. Aircraft systems and emergencies, copilot responsibilities, takeoff, and touch-and-go procedures.

5. Block MIF

CTS REF	MANEUVER	B4190
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
5	Mission Planning/Briefing/ Debriefing	4+
6	Ground Operations	4+
7	Cockpit Procedures	4+
18	In-Flight Planning/Clearance Compliance	4+
26,28	Communications	4+
27	Clearing	4+
29	Pilot Monitoring/CRM	4+

Block	Media	Title	Events	Hrs	H/X
B42	T-44C	Optional CP Instrument Check Ride	1	2.0	2.0

1. Prerequisite. G1090 – Copilot and T-44A to T-44C CP Transition.

2. Syllabus Notes

a. This flight is to be flown IAW check ride standards.

b. This flight is to be counted as an annual instrument check if required. The IRATS/IFR exam must be successfully completed no more than sixty (60) days PRIOR to the check ride. If the pilot or NFO has a current OPNAVINST 3710/2 in another type/model/service, and the check ride is not required, this flight should not be flown.

3. Special Syllabus Requirements. None.

4. Discuss Items. NATOPS brief, aircraft operating limits, and systems.

5. Block MIF

CTS REF	MANEUVER	B4290
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
5	Mission Planning/Briefing/ Debriefing	4+
6	Ground Operations	4+
7	Cockpit Procedures	4+
10	Enroute Procedures	4
18	In-Flight Planning/Clearance Compliance	4+
26 28	Communications	4+
27	Clearing	4+
29	Pilot Monitoring/CRM	4+
31	Radar Operation	4
32	Autopilot/Flight Director Operation	4
33	FMS Operation	4

Chapter IV

Contact Training

1. Matrices. The first matrix is an overview of the Contact Stage for IUT, Advanced Qual, and Copilot. The next matrices provide an overview of the T-44A/TC-12 to T-44C IP Transition blocks, as well as the T-44C to T-44A IP Transition blocks. The MIF for T-44C to T-44A IP Transition track is not shown as a stage MIF as that track only includes C4590. 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. Stage MIF

Simulator Event
Check Ride Event

CONTACT STAGE MANEUVER ITEM FILE						
CTS REF	**MANEUVER**	**C3101**	**C4403**	**C4590**	**C3201***	**B3101****
1	General Knowledge/Procedures	4+	4+	4+	4	4+
2	Emergency Procedures	4+	4+	4+	4	4+
2	Aborted Takeoff	4	4+	4+		
2	Dynamic Engine Cut	4+	4+	4+		
2	Power On Ditch	4+	4+	4		
2	SSE Ditch	4+	4+	4		
2	Power Off Ditch	4+	4+	4		
3	Headwork/Situational Awareness	4+	4+	4+	4	3+
4	Basic Air Work	4+	4+	4+	4	3
5	Mission Planning/Briefing/ Debriefing	4+	4+	4+		3+
6	Ground Operations	4+	4+	4+		3+
7	Cockpit Procedures	4+	4+	4+		3+

MIF continued on next page.

CONTACT STAGE MANEUVER ITEM FILE						
CTS REF	**MANEUVER**	**C3101**	**C4403**	**C4590**	**C3201***	**B3101****
8	Takeoff	4+	4+	4+		
9	Departure	4	4+	4+		
12	LSC	4	4+	4		
12	Climbs/Descents	4	4+	4		
12	Turn Pattern	4	4+	4		
12	Slow Flight	4	4+	4		
12	Approach to Stalls	4	4+	4		
12	Full Stall (T-44 only)	4	4+	4+		
12	SSE at Altitude	4	4	4		
12	SSE Waveoff at Altitude	4	4	4		
18	In-Flight Planning/Clearance Compliance	4+	4+	4+		4+
19	Enroute Descent		4	4		
21	Traffic Entry		4+	4+		
22	Overhead/Break Entry		4+	4+		
22	Landing Pattern		4+	4+		
22	SSE Landing Pattern		4+	4+		
22	No-Flap Pattern		4+	4+		
23	Waveoff		4+	4+		
23	SSE Waveoff		4+	4+		
24	Touch-and-Go		4+	4+		
25	Landing		4+	4+		
25	SSE Landing		4+	4+		
25	NFL		4+	4+		
25	FFL		4+	4+		
26 28	Communications	4+	4+	4+		4+
27	Clearing		4+	4+		4+

MIF continued on next page.

CONTACT STAGE MANEUVER ITEM FILE						
CTS REF	**MANEUVER**	**C3101**	**C4403**	**C4590**	**C3201***	**B3101****
28	Pilot Flying/CRM	4+	4+	4+		
29	Pilot Monitoring/CRM					4+
33	FMS Operation					3+
N	No Start/Zero Oil Pressure				4	
N	Hung Start				4	
N	Hot Start				4	
N	Engine Fire During Start				4	
N	Engine Fire After Start				4	
N	Chip Light While Taxiing				4	
N	Brake Failure While Taxiing				4	
N	Engine Fire During Takeoff/Abort				4	
N	Engine Failure During Takeoff/ Abort				4	
N	Primary Governor Failure				4	
N	Single Engine Failure In Flight				4	
N	Starter-Assisted Airstart				4	
N	Dual Engine Failure In Flight				4	
N	Windmilling Propeller Airstart				4	
N	Engine Failure In Flight				4	
N	Smoke and Fire Unknown Origin				4	
N	Smoke and Fume Elimination				4	
N	Chip Light/Low Oil Press/Prop Feather				4	
N	Oil System Malfunction				4	
N	Fuel System Malfunction				4	
N	Electrical System Malfunction				4	
N	Landing Gear System Malfunction				4	
N	Jammed Power Lever				4	

MIF continued on next page.

CONTACT STAGE MANEUVER ITEM FILE						
CTS REF	**MANEUVER**	**C3101**	**C4403**	**C4590**	**C3201***	**B3101****
N	Emergency Descent				4	
N	Cracked Windshield				4	
N	Cabin Door Open Light				4	
N	Explosive Decompression				4	
N	Ditching				4	
N	Compass Failure				4	
N	ADC Failures				4	
N	ESIS				4	
	Special Syllabus Requirements					1

*CP, CP Transition, and Advanced Qualification only.
**Copilot Transition only.

3. T-44A/TC-12 to T-44C IP Transition Stage MIF

Check Ride Event

T-44A/TC-12 TO T-44C IP TRANSITION CONTACT STAGE MANEUVER ITEM FILE				
CTS REF	**MANEUVER**	**C4601**	**C4790**	**C4890**
1	General Knowledge/Procedures	4+	4+	4+
2	Emergency Procedures	4+	4+	4+
2	Aborted Takeoff	4	4	4
3	Headwork/Situational Awareness	3+	4+	4+
4	Basic Air Work	3+	4+	4+
5	Mission Planning/Briefing/Debriefing	3+	4+	4+
6	Ground Operations	3+	4+	4+
7	Cockpit Procedures	3+	4+	4+
8	Takeoff	4+	4+	4+

MIF continued on next page.

T-44A/TC-12 TO T-44C IP TRANSITION CONTACT STAGE MANEUVER ITEM FILE				
CTS REF	**MANEUVER**	**C4601**	**C4790**	**C4890**
9	Departure	3+	4+	4+
10	Point-to-Point		4	
12	Turn Pattern			4
12	Approach to Stalls	4+		4
12	Full Stall (T-44 only)	4+		4
13	Holding		4	
15	ILS		4	
15	PAR		4	
15	SSE Precision Approach		4	
15 16	ESIS Approach		4+	
16	VOR		4	
16	TAC		4	
16	NDB		4	
16	SSE Non-Precision Approach		4	
16	Localizer		4	
16	Localizer BC		4	
16	RNAV/GPS Approach		4+	
16	ASR		4	
17	Circling Approach		4	
17	SSE Circling Approach		4	
18	In-Flight Planning/Clearance Compliance		4+	4+
19	Enroute Descent		4	
20	Transition to Landing	4+	4+	4+
21	Traffic Entry	4+		4+
22	Overhead/Break Entry	4+		4+
22	Landing Pattern	4+	4+	4+
22	SSE Landing Pattern	4+	4+	4+

MIF continued on next page.

T-44A/TC-12 TO T-44C IP TRANSITION CONTACT STAGE MANEUVER ITEM FILE				
CTS REF	**MANEUVER**	**C4601**	**C4790**	**C4890**
23	Missed Approach		4+	
23	SSE Missed Approach		4	
23	Circling Missed Approach		4	
23	Waveoff	4+	4	4+
23	SSE Waveoff	4+	4+	4+
24	Touch-and-Go	4+	4+	4+
25	Landing	4+	4+	4+
25	SSE Landing	4+		4
25	NFL	4+		4+
25	FFL	4+		4+
26 28	Communications	3+	4+	4+
27	Clearing	4+	4+	4+
28	Pilot Flying/CRM	4+	4+	4+
29	Pilot Monitoring/CRM		4	4
31	Radar Operation		4+	4
32	Autopilot Operation		4+	4
33	FMS Operation	4	4+	4

4. T-44A to T-44C AC Transition Stage MIF

Check Ride Event

T-44A TO T-44C AC TRANSITION CONTACT STAGE MANEUVER ITEM FILE				
CTS REF	**MANEUVER**	**C4601**	**C4790**	**C4890**
1	General Knowledge/Procedures	4+	4+	4+
2	Emergency Procedures	4+	4+	4+
2	Aborted Takeoff	4	4	4
3	Headwork/Situational Awareness	3+	4+	4+
4	Basic Air Work	3+	4+	4+
5	Mission Planning/Briefing/Debriefing	3+	4+	4+
6	Ground Operations	3+	4+	4+
7	Cockpit Procedures	3+	4+	4+
8	Takeoff	4+	4+	4+
9	Departure	3+	4+	4+
10	Point-to-Point		4	
12	Turn Pattern			4
12	Approach to Stalls	4+		4
12	Full Stall (T-44 only)	4+		4
13	Holding		4	
15	ILS		4	
15	PAR		4	
15	SSE Precision Approach		4	
15 16	ESIS Approach		4+	
16	VOR		4	
16	TAC		4	
16	NDB		4	
16	SSE Non-Precision Approach		4	

MIF continued on next page.

T-44A TO T-44C AC TRANSITION CONTACT STAGE MANEUVER ITEM FILE				
CTS REF	**MANEUVER**	**C4601**	**C4790**	**C4890**
16	Localizer		4	
16	Localizer BC		4	
16	RNAV/GPS Approach		4+	
16	ASR		4	
17	Circling Approach		4	
17	SSE Circling Approach		4	
18	In-Flight Planning/Clearance Compliance		4+	4+
19	Enroute Descent		4	
20	Transition to Landing	4+	4+	4+
21	Traffic Entry	4+		4+
22	Overhead/Break Entry	4+		4+
22	Landing Pattern	4+	4+	4+
22	SSE Landing Pattern	4+	4+	4+
23	Missed Approach		4+	
23	SSE Missed Approach		4	
23	Circling Missed Approach		4	
23	Waveoff	4+	4	4+
23	SSE Waveoff	4+	4+	4+
24	Touch-and-Go	4+	4+	4+
25	Landing	4+	4+	4+
25	SSE Landing	4+		4
25	NFL	4+		4+
25	FFL	4+		4+
26 28	Communications	3+	4+	4+
27	Clearing	4+	4+	4+
28	Pilot Flying/CRM	4+	4+	4+
29	Pilot Monitoring/CRM		4	4

MIF continued on next page.

T-44A TO T-44C AC TRANSITION CONTACT STAGE MANEUVER ITEM FILE				
CTS REF	**MANEUVER**	**C4601**	**C4790**	**C4890**
31	Radar Operation		4+	4
32	Autopilot Operation		4+	4
33	FMS Operation	4	4+	4

Block	Media	Title	Events	Hrs	H/X
C31	SIM	Contact Defensive Positioning	1	1.5	1.5

1. Prerequisite. Complete Instructor courses (I4590).

2. Syllabus Note. Practice defensive positioning during contact flight maneuvers and training.

3. Special Syllabus Requirements. None.

4. Discuss Items. Defensive positioning, student tendencies, actual emergencies, ditching, V_{mca} demo, airstarts, IUT prepares C4205 scenario, emergency setup/simulation, Contact high/low work restrictions (SOP, FTI, NATOPS), and FIG information.

5. Block MIF

CTS REF	MANEUVER	C3101
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
2	Aborted Takeoff	4
2	Dynamic Engine Cut	4+
2	Power On Ditch	4+
2	SSE Ditch	4+
2	Power Off Ditch	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	4+
6	Ground Operations	4+
7	Cockpit Procedures	4+
8	Takeoff	4+
9	Departure	4
12	LSC	4
12	Climbs/Descents	4
12	Turn Pattern	4
12	Slow Flight	4
12	Approach to Stalls	4
12	Full Stall (T-44 only)	4
12	SSE at Altitude	4
12	SSE Waveoff at Altitude	4
18	In-Flight Planning/Clearance Compliance	4+
26,28	Communications	4+
28	Pilot Flying/CRM	4+

Block	Media	Title	Events	Hrs	H/X
C44	Acft	Instructor Contact	3	4.6	See Notes Below

1. Prerequisite. C3101 – Advanced Qualifications.

2. Syllabus Notes

a. C4401 and C4402 shall be scheduled for 1.8 hours each.

b. C4403 shall be scheduled as a 1.0-hour night event.

c. C4403 should include pattern work at Corpus Christi International (CRP), Cabaniss Field (NGW), and NAS Corpus Christi (NGP) at a minimum.

3. Special Syllabus Requirements. None.

4. Discuss Items

C4401
Area familiarization, VFR course rules, IFR course rules, student tendencies during high work, standardization versus techniques, instructor guidelines, defensive positioning, emergency setup/simulation, high-work maneuvers, landing pattern, and full/no flap landings.

C4402
Midair avoidance, single-engine full stop, smoke and fire of unknown origin, student tendencies during landing pattern, emergency setup/simulation, airstarts, and landing pattern emergencies/cases.

C4403
Departure/entry (NGP, CRP, NGW), aircraft lighting, airport lighting, night ditching, midair avoidance, student tendencies at night, instructor guidelines, defensive positioning, emergency setup/simulation, and IP assertiveness and responsiveness.

5. Block MIF

CTS REF	MANEUVER	C4403
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
2	Aborted Takeoff	4+
2	Dynamic Engine Cut	4+
2	Power On Ditch	4+
2	SSE Ditch	4+
2	Power Off Ditch	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	4+
6	Ground Operations	4+
7	Cockpit Procedures	4+
8	Takeoff	4+
9	Departure	4+
12	LSC	4+
12	Climbs/Descents	4+
12	Turn Pattern	4+
12	Slow Flight	4+
12	Approach to Stalls	4+
12	Full Stall (T-44 only)	4+
12	SSE at Altitude	4
12	SSE Waveoff at Altitude	4
18	In-Flight Planning/Clearance Compliance	4+
19	Enroute Descent	4
21	Traffic Entry	4+
22	Overhead/Break Entry	4+
22	Landing Pattern	4+
22	SSE Landing Pattern	4+

MIF continued on next page.

CTS REF	MANEUVER	C4403
22	No-Flap Pattern	4+
23	Waveoff	4+
23	SSE Waveoff	4+
24	Touch-and-Go	4+
25	Landing	4+
25	SSE Landing	4+
25	NFL	4+
25	FFL	4+
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+

Block	Media	Title	Events	Hrs	H/X
C45	Acft	Contact Standardization Check Ride	1	1.5	1.5

1. Prerequisites

a. C4403 - Advanced Qualifications.

b. I4590 - T-44C to T-44A IP Transition.

2. Syllabus Notes

a. Check ride shall be a day flight; this is an optional event for T-44C to T-44A IP Transition.

b. Day and Night Contact standardization exams must be completed no more than sixty (60) days **PRIOR** to flight.

3. Special Syllabus Requirements. None.

4. Discuss Items. Aircraft systems and course rules.

5. Block MIF

CTS REF	MANEUVER	C4590
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
2	Aborted Takeoff	4+
2	Dynamic Engine Cut	4+
2	Power On Ditch	4
2	SSE Ditch	4
2	Power Off Ditch	4
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	4+
6	Ground Operations	4+

MIF continued on next page.

CTS REF	MANEUVER	C4590
7	Cockpit Procedures	4+
8	Takeoff	4+
9	Departure	4+
12	LSC	4
12	Climbs/Descents	4
12	Turn Pattern	4
12	Slow Flight	4
12	Approach to Stalls	4
12	Full Stall (T-44 only)	4+
12	SSE at Altitude	4
12	SSE Waveoff at Altitude	4
18	In-Flight Planning/Clearance Compliance	4+
19	Enroute Descent	4
21	Traffic Entry	4+
22	Overhead/Break Entry	4+
22	Landing Pattern	4+
22	SSE Landing Pattern	4+
22	No-Flap Pattern	4+
23	Waveoff	4+
23	SSE Waveoff	4+
24	Touch-and-Go	4+
25	Landing	4+
25	SSE Landing	4+
25	NFL	4+
25	FFL	4+
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+

Block	Media	Title	Events	Hrs	H/X
C32	SIM	Emergency Procedures Simulator	1	1.5	1.5

1. Prerequisites

   a. Instructor Course – Advanced Qualifications.

   b. B4190 – CP and T-44A to T-44C CP Transition.

   c. C4390 – AC.

2. Syllabus Note. IP shall complete a minimum of ten emergencies.

3. Special Syllabus Requirements. None.

4. Discuss Items

   T-44A/TC-12
   Any emergency procedure.

   T-44C
   Electrical/avionics failures, AUX battery/ESIS, and any emergency procedure.

5. Block MIF

CTS REF	MANEUVER	C3201
1	General Knowledge/Procedures	4
2	Emergency Procedures	4
3	Headwork/Situational Awareness	4
4	Basic Air Work	4
N	No Start/Zero Oil Pressure	4
N	Hung Start	4
N	Hot Start	4
N	Engine Fire During Start	4
N	Engine Fire After Start	4

MIF continued on next page.

CTS REF	MANEUVER	C3201
N	Chip Light While Taxiing	4
N	Brake Failure While Taxiing	4
N	Engine Fire During Takeoff/Abort	4
N	Engine Failure During Takeoff/ Abort	4
N	Primary Governor Failure	4
N	Single Engine Failure In Flight	4
N	Starter-Assisted Airstart	4
N	Dual Engine Failure In Flight	4
N	Windmilling Propeller Airstart	4
N	Engine Failure In Flight	4
N	Smoke and Fire Unknown Origin	4
N	Smoke and Fume Elimination	4
N	Chip Light/Low Oil Press/Prop Feather	4
N	Oil System Malfunction	4
N	Fuel System Malfunction	4
N	Electrical System Malfunction	4
N	Landing Gear System Malfunction	4
N	Jammed Power Lever	4
N	Emergency Descent	4
N	Cracked Windshield	4
N	Cabin Door Open Light	4
N	Explosive Decompression	4
N	Ditching	4
N	Compass Failure	4
N	ADC Failures	4
N	ESIS	4

Block	Media	Title	Events	Hrs	H/X
C46	T-44C	T-44C Transition Contact	1	2.0	2.0

1. Prerequisites

a. I3302 – T-44A to T-44C IP Transition.

b. I3304 – T-44A to T-44C AC and TC-12 to T-44C IP Transition.

c. G0701 (Seven CRM Skills) – TC-12 to T-44C IP Transition.

2. Syllabus Notes

a. C4601 should include high work and pattern work.

b. This is primarily a contact flight to introduce the IP to the glass cockpit and become familiar with the glass presentation of flight data. This flight should also include working the NAV and COMM radios. Simulated single-engine work will emphasize how the slip and skid is displayed. The use of the multifunction display and radios should also be emphasized.

c. The use of the TAS should be emphasized returning from Seagull and for aircraft separation in the landing pattern.

d. The possible need and procedures for inhibiting EGPWS warnings should be discussed during pattern work.

e. This shall be a left-seat ride for the IUT.

3. Special Syllabus Requirements. None.

4. Discuss Items. Primary flight display, MFD, FMS, RTU, scan techniques, ESIS, and area management.

5. Block MIF

CTS REF	MANEUVER	C4601
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
2	Aborted Takeoff	4
3	Headwork/Situational Awareness	3+
4	Basic Air Work	3+
5	Mission Planning/Briefing/ Debriefing	3+
6	Ground Operations	3+
7	Cockpit Procedures	3+
8	Takeoff	4+
9	Departure	3+
12	Approach to Stalls	4+
12	Full Stall (T-44 only)	4+
20	Transition to Landing	4+
21	Traffic Entry	4+
22	Overhead/Break Entry	4+
22	Landing Pattern	4+
22	SSE Landing Pattern	4+
23	Waveoff	4+
23	SSE Waveoff	4+
24	Touch-and-Go	4+
25	Landing	4+
25	SSE Landing	4+
25	NFL	4+
25	FFL	4+
26,28	Communications	3+
27	Clearing	4+
28	Pilot Flying/CRM	4+
33	FMS Operation	4

Block	Media	Title	Events	Hrs	H/X
C47	T-44C	T-44C Transition Check Ride	1	1.5	1.5

1. Prerequisite. I4603 – TC-12 to T-44C/T-44A to T-44C IP Transitions and T-44A to T-44C AC Transitions.

2. Syllabus Note. This event is the transition check ride.

3. Special Syllabus Requirements. None.

4. Discuss Items. None.

5. Block MIF

CTS REF	MANEUVER	C4790
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
2	Aborted Takeoff	4
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	4+
6	Ground Operations	4+
7	Cockpit Procedures	4+
8	Takeoff	4+
9	Departure	4+
10	Point-to-Point	4
13	Holding	4
15	ILS	4
15	PAR	4
15	SSE Precision Approach	4
15,16	ESIS Approach	4+
16	VOR	4
16	TAC	4

MIF continued on next page.

CTS REF	MANEUVER	C4790
16	NDB	4
16	SSE Non-Precision Approach	4
16	Localizer	4
16	Localizer BC	4
16	RNAV/GPS Approach	4+
16	ASR	4
17	Circling Approach	4
17	SSE Circling Approach	4
18	In-Flight Planning/Clearance Compliance	4+
19	Enroute Descent	4
20	Transition to Landing	4+
22	Landing Pattern	4+
22	SSE Landing Pattern	4+
23	Missed Approach	4+
23	SSE Missed Approach	4
23	Circling Missed Approach	4
23	Waveoff	4
23	SSE Waveoff	4+
24	Touch and Go	4+
25	Landing	4+
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
29	Pilot Monitoring/CRM	4
31	Radar Operation	4+
32	Autopilot Operation	4+
33	FMS Operation	4+

Block	Media	Title	Events	Hrs	H/X
C48	T-44C	T-44C Contact Standardization Check Ride	1	1.5	1.5

1. Prerequisite. I4890 - T-44A to T-44C IP Transition and TC-12 to T-44C IP Transition.

2. Syllabus Note. Event not required unless transition IUT is contact-qualified.

3. Special Syllabus Requirements. None.

4. Discuss Items. MFD setup (TAS/EGPWS, Moving Map).

5. Block MIF

CTS REF	MANEUVER	C4890
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
2	Aborted Takeoff	4
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	4+
6	Ground Operations	4+
7	Cockpit Procedures	4+
8	Takeoff	4+
9	Departure	4+
12	Turn Pattern	4
12	Approach to Stalls	4
12	Full Stall (T-44 only)	4
18	In-Flight Planning/Clearance Compliance	4+

MIF continued on next page.

CTS REF	MANEUVER	C4890
20	Transition to Landing	4+
21	Traffic Entry	4+
22	Overhead/Break Entry	4+
22	Landing Pattern	4+
22	SSE landing Pattern	4+
23	Waveoff	4+
23	SSE Waveoff	4+
24	Touch-and-Go	4+
25	Landing	4+
25	SSE Landing	4
25	NFL	4+
25	FFL	4+
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
29	Pilot Monitoring/CRM	4
31	Radar Operation	4
32	Autopilot Operation	4
33	FMS Operation	4

Block	Media	Title	Events	Hrs	H/X
B31	SIM	T-44C Copilot Simulator	1	1.5	1.5

1. Prerequisites

a. C0201 (T-44A/C Differences Brief).

b. I0103B (T-44C Flight Director Operation).

c. G0341 (FMS Demonstrator).

2. Syllabus Note. Event required for T-44A to T-44C Copilot Transition only.

3. Special Syllabus Requirements. ESIS approach demo.

4. Discuss Items. FMS operations, MFD (TAS/EGPWS), flight instruments, radio tuning procedures (RTU, CDU, V/UHF), autopilot operation, ESIS approach procedures, electrical system, single/dual AHRS and ADC failure procedures.

5. Block MIF

CTS REF	MANEUVER	B3101
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	3+
4	Basic Air Work	3
5	Mission Planning/Briefing/ Debriefing	3+
6	Ground Operations	3+
7	Cockpit Procedures	3+
18	In-Flight Planning/Clearance Compliance	4+
26,28	Communications	4+
27	Clearing	4+
29	Pilot Monitoring/CRM	4+
33	FMS Operation	3+
	Special Syllabus Requirements	1

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Chapter V

Instrument Training

1. Matrices. The following matrix is an overview of the entire Instrument Stage (T-44C IUTs complete I4401-6; T-44A/TC-12 IUTs complete I4401-4). The next matrices provide an overview of the AA IUT and T-44C IP Transition Instrument 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. Stage MIF

Simulator Event
Check Ride Event

INSTRUMENT STAGE MANEUVER ITEM FILE					
CTS REF	**MANEUVER**	**I4301**	**I4406**	**I3201**	**I4590**
1	General Knowledge/Procedures	4+	4+	4+	4+
2	Emergency Procedures		4+	4+	4+
3	Headwork/Situational Awareness		4+	4+	4+
4	Basic Air Work		4+	4+	4+
5	Mission Planning/Briefing/Debriefing		4+	4+	4+
6	Ground Operations		4	4	4+
7	Cockpit Procedures		4+	4+	4+
8	Instrument Takeoff		4	4	4+
9	Departure		4+	4	4+
10	Enroute Procedures		4	4	4+
10	Point-to-Point		4	4	4+
13	Holding		4	4	4+
14	High Altitude Approach (Penetration)		4		
15	PAR				4
15	ILS				4
15	SSE Precision Approach		4+		4

MIF continued on next page.

INSTRUMENT STAGE MANEUVER ITEM FILE					
CTS REF	**MANEUVER**	**I4301**	**I4406**	**I3201**	**I4590**
15 16	Partial Panel/ESIS Approach		4+	4	4+
16	VOR			4	4
16	TAC			4	4
16	NDB			4	4
16	Needle Only Approach		4+	4	4
16	SSE Non-Precision Approach		4+	4+	4
16	Localizer				4
16	Localizer BC				4
16	RNAV/GPS Approach		4+	4	4
16	ASR				4
17	Circling Approach		4+		4
17	SSE Circling Approach		4+		4
18	In-Flight Planning/Clearance Compliance		4+	4	4+
19	Enroute Descent		4	4	4+
20	Transition to Landing		4+	4	4+
23	Missed Approach		4+	4	4+
23	SSE Missed Approach		4+	4	4+
23	Circling Missed Approach		4+		4
24	Touch-and-Go		4	4	4
25	Landing		4+	4	4+
26 28	Communications		4+	4+	4+
27	Clearing		4+		4+
28	Pilot Flying/CRM		4+	4+	4+
29	Pilot Monitoring/CRM		4	4	4
30	Student Scenario		4+		
31	Radar Operation		4		4
32	Autopilot Operations		4		4
33	FMS Operation		4+		4

3. AA IUT Stage MIF

Simulator Event
Check Ride Event

AA IUT INSTRUMENT STAGE MANEUVER ITEM FILE				
CTS REF	**MANEUVER**	**I4406**	**I3203**	**I4590**
1	General Knowledge/Procedures	4+	4+	4+
2	Emergency Procedures	4+	4+	4+
3	Headwork/Situational Awareness	4+	4+	4+
4	Basic Air Work	4+	4+	4+
5	Mission Planning/Briefing/Debriefing	4+	4+	4+
6	Ground Operations	4	4	4+
7	Cockpit Procedures	4+	4+	4+
8	Instrument Takeoff	4	4	4+
9	Departure	4+	4	4+
10	Enroute Procedures	4	4	4+
10	Point-to-Point	4	4	4+
13	Holding	4	4	4+
14	High Altitude Approach (Penetration)	4		
15	PAR			4
15	ILS			4
15	SSE Precision Approach	4+		4
15 16	Partial Panel/ESIS Approach	4+	4	4+
16	VOR		4	4
16	TAC		4	4
16	NDB		4	4
16	Needle Only Approach	4+	4	4
16	SSE Non-Precision Approach	4+	4+	4
16	Localizer			4
16	Localizer BC			4

MIF continued on next page.

AA IUT INSTRUMENT STAGE MANEUVER ITEM FILE				
CTS REF	**MANEUVER**	**I4406**	**I3203**	**I4590**
16	RNAV/GPS Approach	4+	4	4
16	ASR			4
17	Circling Approach	4+		4
17	SSE Circling Approach	4+		4
18	In-Flight Planning/Clearance Compliance	4+	4	4+
19	Enroute Descent	4	4	4+
20	Transition to Landing	4+	4	4+
23	Missed Approach	4+	4	4+
23	SSE Missed Approach	4+	4	4+
23	Circling Missed Approach	4+		4
24	Touch-and-Go	4	4	4
25	Landing	4+	4	4+
26 28	Communications	4+	4+	4+
27	Clearing	4+		4+
28	Pilot Flying/CRM	4+	4+	4+
29	Pilot Monitoring/CRM	4	4	4
30	Student Scenario	4+		
31	Radar Operation	4		4
32	Autopilot Operations	4		4
33	FMS Operation	4+		4

4. T-44C IP Transition Stage MIF

Simulator Event
Check Ride Event

T-44C IP TRANSITION INSTRUMENT STAGE MANEUVER ITEM FILE						
CTS REF	**MANEUVER**	**I3304***	**I4603**	**I3401**	**I4701**	**I4890**
1	General Knowledge/Procedures	4+	4+	4+	4+	4+
2	Emergency Procedures	4+	4+	4+	4+	4+
2	Aborted Takeoff		4		4	4
3	Headwork/Situational Awareness	3+	4+	4+	4+	4+
4	Basic Air Work	3+	4+	4+	4+	4+
5	Mission Planning/Briefing/Debriefing	3+	4+	4+	4+	4+
6	Ground Operations	3+	4+	4	4	4+
7	Cockpit Procedures	3+	4+	4+	4+	4+
8	Instrument Takeoff	3+	4+	4	4+	4+
9	Departure	3+	4+		4+	4+
10	Point-to-Point	4+	4+	4	4	4
11	Unusual Attitude Recovery	4+		4		
11	ESIS Unusual Attitude Recovery	4+		4		
12	Approach to Stalls	4+				
13	Holding	4+	4+	4	4	4
15	PAR	4	4+	4	4	4
15	ILS	4+	4+	4	4	4
15	SSE Precision Approach	4	4+	4	4	4
15 16	ESIS Approach	4+	4+	4	4	4
16	VOR	4+	4+	4	4	4
16	TAC	4+	4+	4	4	4
16	NDB	4+	4+	4	4	4
16	SSE Non-Precision Approach	4	4+	4	4	4
16	Localizer	4+	4+	4	4	4

MIF continued on next page.

T-44C IP TRANSITION INSTRUMENT STAGE MANEUVER ITEM FILE						
CTS REF	**MANEUVER**	**I3304***	**I4603**	**I3401**	**I4701**	**I4890**
16	Localizer BC	4+	4	4	4	4
16	RNAV/GPS Approach	4+	4+	4	4	4
16	ASR	4	4+	4	4	4
17	Circling Approach		4+	4	4	4
17	SSE Circling Approach		4+	4	4	4
18	In-Flight Planning/Clearance Compliance	4+	4+	4+	4	4+
19	Enroute Descent	4	4+	4	4	4
20	Transition to Landing		4+		4+	4+
23	Missed Approach	4+	4+	4	4	4+
23	SSE Missed Approach	4	4+	4	4	4
23	Circling Missed Approach		4		4	4
24	Touch-and-Go		4+		4	4+
25	Landing		4+		4	4+
26 28	Communications	3+	4+	4+	4+	4+
27	Clearing		4+		4+	4+
28	Pilot Flying/CRM	4+	4+	4+	4+	4+
29	Pilot Monitoring/CRM		4+	4+	4	4+
31	Radar Operation		4+		4	4
32	Autopilot Operations		4+	4	4	4
33	FMS Operation	4+	4+	4	4+	4+

*EOB for T-44A to T-44C IP Transition is I3302.

5. T-44C AC Transition Stage MIF

Simulator Event

T-44C AC TRANSITION INSTRUMENT STAGE MANEUVER ITEM FILE			
CTS REF	**MANEUVER**	**I3304**	**I4603**
1	General Knowledge/Procedures	4+	4+
2	Emergency Procedures	4+	4+
2	Aborted Takeoff		4
3	Headwork/Situational Awareness	3+	4+
4	Basic Air Work	3+	4+
5	Mission Planning/Briefing/Debriefing	3+	4+
6	Ground Operations	3+	4+
7	Cockpit Procedures	3+	4+
8	Instrument Takeoff	3+	4+
9	Departure	3+	4+
10	Point-to-Point	4+	4+
11	Unusual Attitude Recovery	4+	
11	ESIS Unusual Attitude Recovery	4+	
12	Approach to Stalls	4+	
13	Holding	4+	4+
15	PAR	4	4+
15	ILS	4+	4+
15	SSE Precision Approach	4	4+
15 16	ESIS Approach	4+	4+
16	VOR	4+	4+
16	TAC	4+	4+
16	NDB	4+	4+
16	SSE Non-Precision Approach	4	4+
16	Localizer	4+	4+

MIF continued on next page.

T-44C AC TRANSITION INSTRUMENT STAGE MANEUVER ITEM FILE			
CTS REF	**MANEUVER**	**I3304***	**I4603**
16	Localizer BC	4+	4
16	RNAV/GPS Approach	4+	4+
16	ASR	4	4+
17	Circling Approach		4+
17	SSE Circling Approach		4+
18	In-Flight Planning/Clearance Compliance	4+	4+
19	Enroute Descent	4	4+
20	Transition to Landing		4+
23	Missed Approach	4+	4+
23	SSE Missed Approach	4	4+
23	Circling Missed Approach		4
24	Touch-and-Go		4+
25	Landing		4+
26 28	Communications	3+	4+
27	Clearing		4+
28	Pilot Flying/CRM	4+	4+
29	Pilot Monitoring/CRM		4+
31	Radar Operation		4+
32	Autopilot Operations		4+
33	FMS Operation	4+	4+

Block	Media	Title	Events	Hrs	H/X
I43	Acft	Student Instrument Flight Monitor	1	1.5	1.5

1. Prerequisite. I4290 - IUT.

2. Syllabus Notes. A current Flight Instructor shall instruct an SMA on an instrument flight. The IUT shall observe and monitor the conduct of the flight.

3. Special Syllabus Requirements. None.

4. Discuss Items. None.

5. Block MIF

CTS REF	MANEUVER	I4301
1	General Knowledge/Procedures	4+

Block	Media	Title	Events	Hrs	H/X
I44	Acft	Instructor Radio	4 (T-44A/TC-12)	8.0	2.0
		Instrument	6 (T-44C)	12.0	

1. Prerequisites

a. I0104 (Instructor RI Brief) - Instructor.

b. I4106 prior to I4401 for T-44C AA IUT.

c. I3203 prior to I4403 for T-44C AA IUT.

d. I4101 – T-44C to T-44A IP Transition.

2. Syllabus Notes

a. Each event will include as a minimum: right seat takeoff, right seat landings (minimum 5 in Contact pattern/ minimum 2 SSE), precision or non-precision approach (IUT).

b. On each flight in block I44XX, the IUT will prepare and brief a student event. The event to be prepared will be as follows:

IUT Event	Prepared Student Event
I4401	I4105
I4402	I4201
I4403	I4390
I4404	I4601
I4405	I4604
I4406	I4790

c. I4405 and I4406 should be flown as an out-and-in if practicable.

d. IUT shall fly a minimum of 2.0 night hours in the I44XX block.

e. T-44C to T-44A IP Transition students complete only I4401.

f. T-44A/TC-12 IUTs complete I4401-4; T-44C IUTs and AA IUTs complete I4401-6.

3. Special Syllabus Requirements. None.

4. Discuss Items

I4401
SMA syllabus: I4101-5, local approaches, student tendencies, standardization/technique, instructional procedures, instructor guidelines, ATF write-up, unsatisfactory performance procedures, defensive positioning, simulated degradation of aircraft systems, and emergency setup/simulation.

I4402
SMA syllabus: I4201-5, emergency instrument approaches, student tendencies, standardization/technique, instructional procedures, and emergency setup/simulation.

I4403
SMA syllabus: I4401-2, student right seat emphasis, emergency/minimum fuel states, student tendencies, standardization/technique, instructional procedures, and emergency setup/simulation.

I4404
SMA syllabus: I4501-4 and I4601-4, cross country, review stage profiles, out of area approaches, outside scan/see and avoid, enroute weather, RNAV/FMS procedures, flight planning DD 175, fuel log, weight and balance, FIH lost communications, student tendencies, standardization/ technique, instructional procedures, and emergency setup/simulation.

I4405 (T-44C only)
Advanced automation emphasis, FMS lateral navigation, arrival transition, FMS use during visual approach, FGP/flight director operation procedures/techniques/CRM, and any aircraft system.

I4406 (T-44C only)
FMS vertical navigation, FMS NAV-to-NAV transfer, and any aircraft system.

5. Block MIF

CTS REF	MANEUVER	I4406
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	Cockpit Procedures	4+
8	Instrument Takeoff	4
9	Departure	4+
10	Enroute Procedures	4
10	Point-to-Point	4
13	Holding	4
14	High Altitude Approach (Penetration)	4
15	SSE Precision Approach	4+
15,16	Partial Panel/ESIS Approach	4+
16	Needle Only Approach	4+
16	SSE Non-Precision Approach	4+
16	RNAV/GPS Approach	4+
17	Circling Approach	4+
17	SSE Circling Approach	4+
18	In-Flight Planning/Clearance Compliance	4+
19	Enroute Descent	4
20	Transition to Landing	4+
23	Missed Approach	4+
23	SSE Missed Approach	4+
23	Circling Missed Approach	4+
24	Touch-and-Go	4

MIF continued on next page.

CTS REF	MANEUVER	I4406
25	Landing	4+
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
29	Pilot Monitoring/CRM	4
30	Student Scenario	4+
31	Radar Operation	4
32	Autopilot Operations	4
33	FMS Operation	4+

Block	Media	Title	Events	Hrs	H/X
I32	SIM	Instrument Defensive Positioning	3	4.5	1.5

1. Prerequisites

a. I0104 (Instructor RI Brief) - IUT.

b. I3106 – T-44C AA IUT.

2. Syllabus Notes

a. Practice defensive positioning during instrument flight training.

b. During I3201, the IUT will prepare and brief a student I42XX event.

c. T-44A/T-44C/TC-12 IUTs complete I3201 only; AA IUTs complete I3201-3.

3. Special Syllabus Requirements. None.

4. Discuss Items

I3201
Defensive positioning (student left seat and student right seat), student tendencies, actual emergencies during simulated emergencies, and malfunctions during takeoff.

I3202 (AA only)
Student tendencies and actual emergencies during simulated emergencies. Engine failure after takeoff with prop fail to feather.

I3203 (AA only)
Student tendencies and opposite rudder during SSE.

5. Block MIF

CTS REF	MANEUVER	I3201*
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	Cockpit Procedures	4+
8	Instrument Takeoff	4
9	Departure	4
10	Enroute Procedures	4
10	Point-to-Point	4
13	Holding	4
15,16	Partial Panel/ESIS Approach	4
16	VOR	4
16	TAC	4
16	NDB	4
16	Needle Only Approach	4
16	SSE Non-Precision Approach	4+
16	RNAV/GPS Approach	4
18	In-Flight Planning/Clearance Compliance	4
19	Enroute Descent	4
20	Transition to Landing	4
23	Missed Approach	4
23	SSE Missed Approach	4
24	Touch-and-Go	4
25	Landing	4
26,28	Communications	4+
28	Pilot Flying/CRM	4+
29	Pilot Monitoring/CRM	4

*EOB is I3203 for AA IUTs

Block	Media	Title	Events	Hrs	H/X
I45	Acft	Instrument Standardization Check Ride	1	2.5	2.5

1. Prerequisites

a. I3201 - Instructor.

b. G0901 (FITC) – Instructor.

c. I4404 – T-44A/TC-12 Instructor.

d. I4406 – T-44C AA IUT and Instructor.

e. I4401 – T-44C to T-44A IP Transition.

2. Syllabus Notes

a. IUT should have a minimum of 5 landings in the Contact pattern including 2 SSE.

b. IUT shall perform at least one SSE approach, either precision or non-precision is acceptable.

3. Special Syllabus Requirements. None.

4. Discuss Items. Wing/squadron SOPs, standardization notes, PP unusual attitudes/ approach to stalls, holding, SSE approach, needle only approach, PP PAR/ASR, missed approach, SSE missed approach, and right seat landings.

5. Block MIF

CTS REF	MANEUVER	I4590
1	General Knowledge	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+

MIF continued on next page.

CTS REF	MANEUVER	I4590
5	Mission Planning/Briefing/ Debriefing	4+
6	Ground Operations	4+
7	Cockpit Procedures	4+
8	Instrument Takeoff	4+
9	Departure	4+
10	Enroute Procedures	4+
10	Point-to-Point	4+
13	Holding	4+
15	PAR	4
15	ILS	4
15	SSE Precision Approach	4
15,16	Partial Panel/ESIS Approach	4+
16	VOR	4
16	TAC	4
16	NDB	4
16	Needle Only Approach	4
16	SSE Non-Precision Approach	4
16	Localizer	4
16	Localizer BC	4
16	RNAV/GPS Approach	4
16	ASR	4
17	Circling Approach	4
17	SSE Circling Approach	4
18	In-Flight Planning/Clearance Compliance	4+
19	Enroute Descent	4+
20	Transition to Landing	4+
23	Missed Approach	4+
23	SSE Missed Approach	4+
23	Circling Missed Approach	4
24	Touch-and-Go	4

MIF continued on next page.

CTS REF	MANEUVER	I4590
25	Landing	4+
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
29	Pilot Monitoring/CRM	4
31	Radar Operation	4
32	Autopilot Operations	4
33	FMS Operation	4

Block	Media	Title	Events	Hrs	H/X
I33	SIM	T-44C Instrument Simulator	4	6.0	1.5

1. Prerequisites

a. C0201 (T-44A/C Differences Brief).

b. C2102 – TC-12 to T-44C IP and T-44A to T-44C AC Transitions.

c. G0341 – T-44A to T-44C IP Transition.

2. Syllabus Note. This block is required only for T-44A to T-44C IP Transitions (I3301-2), T-44A to T-44C AC Transitions (I3301-4), and TC-12 to T-44C IP Transition (I3301-4).

3. Special Syllabus Requirements. None.

4. Discuss Items

I3301
FMS operations, MFD (TAS/EGPWS), flight instruments, radio tuning procedures.

I3302
Autopilot operation, RNAV/GPS approach procedures, ESIS approach procedures, electrical system.

I3303
Single/Dual AHRS and ADC failure procedures; approach and go-around using FMS/flight director.

I3304
FMS holding, visual approach off FMS, and autopilot limitations (NATOPS Chapter 20).

5. Block MIF

CTS REF	MANEUVER	I3304
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	3+
4	Basic Air Work	3+
5	Mission Planning/Briefing/ Debriefing	3+
6	Ground Operations	3+
7	Cockpit Procedures	3+
8	Instrument Takeoff	3+
9	Departure	3+
10	Point-to-Point	4+
11	Unusual Attitude Recovery	4+
11	ESIS Unusual Attitude Recovery	4+
12	Approach to Stalls	4+
13	Holding	4+
15	PAR	4
15	ILS	4+
15	SSE Precision Approach	4
15,16	ESIS Approach	4+
16	VOR	4+
16	TAC	4+
16	NDB	4+
16	SSE Non-Precision Approach	4
16	Localizer	4+
16	Localizer BC	4+
16	RNAV/GPS Approach	4+
16	ASR	4

MIF continued on next page.

CTS REF	MANEUVER	I3304
18	In-Flight Planning/Clearance Compliance	4+
19	Enroute Descent	4
23	Missed Approach	4+
23	SSE Missed Approach	4
26,28	Communications	3+
28	Pilot Flying/CRM	4+
33	FMS Operation	4+

Block	Media	Title	Events	Hrs	H/X
I46	T-44C	T-44C Transition Instrument	3	6.0	2.0

1. Prerequisite. C4601.

2. Syllabus Notes

a. This block is required only for T-44A to T-44C IP and AC Transitions and TC-12 to T-44C IP Transition.

b. Multiple approaches should be conducted using VOR, TACAN, NDB, and RNAV/GPS approaches. The use of the multifunction display and TAS should be emphasized. This will be a left seat ride for the IUT.

c. I4602 and I4603 are conducted as an out-and-in. All aspects of the multifunction display should be used on these flights. The FMS should be used to change the flight plan, and change airways while enroute.

d. Minimum of 1.0 hour of night is required in block to emphasize instrument and panel lighting.

3. Special Syllabus Requirements. None.

4. Discuss Items

I4601
GPS characteristics, operations, approaches; CRM; instrument scan; Moving Map Display; TAS operations; autopilot/FMS operations; UHF/VHF manual head; ESIS approach procedures.

I4602/3
Airway navigation, changing flight plans in flight, Moving Map Display, WX radar usage, TAS, aircraft/cockpit lighting.

5. Block MIF

CTS REF	MANEUVER	I4603
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
2	Aborted Takeoff	4
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	4+
6	Ground Operations	4+
7	Cockpit Procedures	4+
8	Instrument Takeoff	4+
9	Departure	4+
10	Point-to-Point	4+
13	Holding	4+
15	PAR	4+
15	ILS	4+
15	SSE Precision Approach	4+
15,16	ESIS Approach	4+
16	VOR	4+
16	TAC	4+
16	NDB	4+
16	SSE Non-Precision Approach	4+
16	Localizer	4+
16	Localizer BC	4
16	RNAV/GPS Approach	4+
16	ASR	4+
17	Circling Approach	4+
17	SSE Circling Approach	4+
18	In-Flight Planning/Clearance Compliance	4+
19	Enroute Descent	4+

MIF continued on next page.

CTS REF	MANEUVER	I4603
20	Transition to Landing	4+
23	Missed Approach	4+
23	SSE Missed Approach	4+
23	Circling Missed Approach	4
24	Touch-and-Go	4+
25	Landing	4+
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
29	Pilot Monitoring/CRM	4+
31	Radar Operation	4+
32	Autopilot Operations	4+
33	FMS Operation	4+

Block	Media	Title	Events	Hrs	H/X
I34	SIM	T-44C Transition Scenario Simulator	1	1.5	1.5

1. Prerequisites

a. C4390 - TC-12 to T-44C IP Transition.

b. C4601 - T-44A to T-44C IP Transition.

2. Syllabus Notes. Emphasis on improper PFD and FMS utilization. Instructor shall simulate possible student data entry errors and improper display setups.

3. Special Syllabus Requirements. None.

4. Discuss Items. Requirements for FMS data entry, student tendencies, actual emergencies, and emergency setup/simulation.

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+
6	Ground Operations	4
7	Cockpit Procedures	4+
8	Instrument Takeoff	4
10	Point-to-Point	4
11	Unusual Attitude Recovery	4
11	ESIS Unusual Attitude Recovery	4
13	Holding	4
15	PAR	4

MIF continued on next page.

CTS REF	MANEUVER	I3401
15	ILS	4
15	SSE Precision Approach	4
15,16	ESIS Approach	4
16	VOR	4
16	TAC	4
16	NDB	4
16	SSE Non-Precision Approach	4
16	Localizer	4
16	Localizer BC	4
16	RNAV/GPS Approach	4
16	ASR	4
17	Circling Approach	4
17	SSE Circling Approach	4
18	In-Flight Planning/Clearance Compliance	4+
19	Enroute Descent	4
23	Missed Approach	4
23	SSE Missed Approach	4
26,28	Communications	4+
28	Pilot Flying/CRM	4+
29	Pilot Monitoring/CRM	4+
32	Autopilot Operations	4
33	FMS Operation	4

Block	Media	Title	Events	Hrs	H/X
I47	T-44C	T-44C Instructor Radio Instrument	1	1.5	1.5

1. Prerequisites

a. C4790 - T-44A to T-44C IP Transition.

b. I3401 - TC-12 to T-44C IP Transition.

2. Syllabus Notes

a. This event is required for only T-44A/TC-12 to T-44C IP Transitions.

b. Minimum of three approaches.

c. Right seat event for IUT.

3. Special Syllabus Requirements. None.

4. Discuss Items. Radio management, T-44C CRM differences, MFD setup, and Flight Director usage.

5. Block MIF

CTS REF	MANEUVER	I4701
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
2	Aborted Takeoff	4
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	4+
6	Ground Operations	4
7	Cockpit Procedures	4+
8	Instrument Takeoff	4+
8	Takeoff	4+
9	Departure	4+

MIF continued on next page.

CTS REF	MANEUVER	I4701
10	Point-to-Point	4
13	Holding	4
15	PAR	4
15	ILS	4
15	SSE Precision Approach	4
15,16	ESIS Approach	4
16	VOR	4
16	TAC	4
16	NDB	4
16	SSE Non-Precision Approach	4
16	Localizer	4
16	Localizer BC	4
16	RNAV/GPS Approach	4
16	ASR	4
17	Circling Approach	4
17	SSE Circling Approach	4
18	In-Flight Planning/Clearance Compliance	4
19	Enroute Descent	4
20	Transition to Landing	4+
23	Missed Approach	4
23	SSE Missed Approach	4
23	Circling Missed Approach	4
24	Touch-and-Go	4
25	Landing	4
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
29	Pilot Monitoring/CRM	4
31	Radar Operation	4
32	Autopilot Operations	4
33	FMS Operation	4+

Block	Media	Title	Events	Hrs	H/X
I48	T-44C	T-44C Instrument Standardization Check Ride	1	1.5	1.5

1. Prerequisites

a. I3401 – T-44A to T-44C IP Transition.

b. I4701 – T-44A to T-44C IP Transition and TC-12 to T-44C IP Transition.

2. Syllabus Notes

a. This event is a Transition check ride and is required only for T-44A/TC-12 to T-44C IP Transitions.

b. Minimum of three approaches.

3. Special Syllabus Requirements. None.

4. Discuss Items. Avionics system.

5. Block MIF

CTS REF	MANEUVER	I4890
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
2	Aborted Takeoff	4
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	Mission Planning/Briefing/ Debriefing	4+
6	Ground Operations	4+
7	Cockpit Procedures	4+
8	Instrument Takeoff	4+
9	Departure	4+
10	Point-to-Point	4
13	Holding	4

MIF continued next page.

CTS REF	MANEUVER	I4890
15	PAR	4
15	ILS	4
15	SSE Precision Approach	4
15,16	ESIS Approach	4
16	VOR	4
16	TAC	4
16	NDB	4
16	SSE Non-Precision Approach	4
16	Localizer	4
16	Localizer BC	4
16	RNAV/GPS Approach	4
16	ASR	4
17	Circling Approach	4
17	SSE Circling Approach	4
18	In-Flight Planning/Clearance Compliance	4+
19	Enroute Descent	4
20	Transition to Landing	4+
23	Missed Approach	4+
23	SSE Missed Approach	4
23	Circling Missed Approach	4
24	Touch-and-Go	4+
25	Landing	4+
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
29	Pilot Monitoring/CRM	4+
31	Radar Operation	4
32	Autopilot Operations	4
33	FMS Operation	4+

Chapter VI

Navigation Training

1. Matrices. The following matrix is an overview of the entire Navigation 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. Stage MIF

Check Ride Event

NAVIGATION STAGE MANEUVER ITEM FILE			
CTS REF	**MANEUVER**	**N4190**	**N4202**
1	General Knowledge/Procedures	4+	4+
2	Emergency Procedures	4+	4+
3	Headwork/Situational Awareness	4+	4+
4	Basic Air Work	4+	4+
5	Mission Planning/Briefing/Debriefing	4+	4+
6	Ground Operations	4+	4+
7	Cockpit Procedures	4+	4+
8	Takeoff	4+	4
9	Departure	4+	4+
15 16	Precision/Non-Precision Approach	4	4
18	In-Flight Planning/Clearance Compliance	4+	4+
20	Transition to Landing	4+	4+
21	Traffic Entry	4	4
22	Landing Pattern	4	4
23	Waveoff	4	4
24	Touch-and-Go	4	4

MIF continued on next page.

NAVIGATION STAGE MANEUVER ITEM FILE			
CTS REF	**MANEUVER**	**N4190**	**N4202**
25	Right Seat Landings		4+
25	Landing	4+	4+
26 28	Communications	4+	4+
27	Clearing	4+	4+
28	Pilot Flying/CRM	4+	4+
31	Radar Operation	4	4
34	Chart Preparation		4+
34	Copilot Low-Level Responsibilities		4+
34	Night Low-Level Navigation (First Route)		4+
34	Night Low-Level Navigation (Second Route)		4+
34	Low-Level Navigation (First Route)		4+
34	Low-Level Navigation (Second Route)		4+
34	Enroute Time Control (First Route)		4+
34	Enroute Time Control (Second Route)		4+
34	Low-Level Navigation		4+
34	Enroute Time Control		4+
34 36	Night Slowdown/Airdrop/Escape		4+
34 36	Slowdown/Airdrop/Escape		4+
38	Composite Flight Plan	4+	
38	Proceed VFR	4+	
38	VFR Descent	4+	
38	VFR Climb	4+	
38	IFR Pickup	4+	
38	Fuel Planning	4+	

MIF continued on next page.

NAVIGATION STAGE MANEUVER ITEM FILE			
CTS REF	**MANEUVER**	**N4190**	**N4202**
38 40	Rigging Procedures	4+	
38 40	Operations Below 1000 Feet	4+	
39	VFR Flight Plan	4+	4+
39	VFR Enroute Navigation	4+	4+
39	Uncontrolled Airport Entry (Nonlocal)	4+	4
39	VFR Position Reporting (FSS)	4+	4+
39	Eyes-Out Doctrine	4+	4+
40	Scanning Techniques	4+	
40	Over-Water Navigation	4+	

Block	Media	Title	Events	Hrs	H/X
N41	Acft	Over-Water Navigation Standardization Check Ride	1	2.0	2.0

1. Prerequisite. C4590 - Advanced Qualifications.

2. Syllabus Notes

a. ATC limitations may prevent execution of composite flight plan. In this case, IUT will create flight plan and IP will brief execution.

b. ONAV Standardization Exam must be completed no more than sixty (60) days **PRIOR** to flight.

3. Special Syllabus Requirements. None.

4. Discuss Items. Crew coordination, composite flight plan, low-level over-water flight, sea state, OPNAVINST 3710.7T, survival conditions, controlling agencies, rigging procedures, operations below 1000 feet AGL/MSL, composite flight plan, ADIZ procedures, lost aircraft, fuel planning, ditching procedures, LPP-1 usage/demonstration, GPS usage, brief book, student tendencies, standardization/techniques, instructional procedures, instructor guidelines, ATF write-up, unsatisfactory performance procedures, and defensive positioning.

5. Block MIF

CTS REF	MANEUVER	N4190
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	Cockpit Procedures	4+

MIF continued on next page.

CTS REF	MANEUVER	N4190
8	Takeoff	4+
9	Departure	4+
15,16	Precision/Non-Precision Approach	4
18	In-Flight Planning/Clearance Compliance	4+
20	Transition to Landing	4+
21	Traffic Entry	4
22	Landing Pattern	4
23	Waveoff	4
24	Touch-and-Go	4
25	Landing	4+
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
31	Radar Operation	4
38	Composite Flight Plan	4+
38	Proceed VFR	4+
38	VFR Descent	4+
38	VFR Climb	4+
38	IFR Pickup	4+
38	Fuel Planning	4+
38,40	Rigging Procedures	4+
38,40	Operations Below 1000 Feet	4+
39	VFR Flight Plan	4+
39	VFR Enroute Navigation	4+
39	Uncontrolled Airport Entry (Nonlocal)	4+
39	VFR Position Reporting (FSS)	4+
39	Eyes-Out Doctrine	4+
40	Scanning Techniques	4+
40	Over-Water Navigation	4+

Block	Media	Title	Events	Hrs	H/X
N42	Acft	Low-Level Navigation	2	3.2	1.6

1. Prerequisite. N0201/2 (PFPS) - Advanced Qualifications.

2. Syllabus Notes

a. N4201 and N4202 should be flown together as a day/night route.

b. One flight shall be during daylight and the other shall be during night.

3. Special Syllabus Requirements. None.

4. Discuss Items

N4201
Low-level navigation, low-level mission planning and chart preparation, obstruction avoidance criteria, eyes-out doctrine, run-in/slowdown/airdrop/escape, VFR departure/ arrival, VFR enroute navigation, MTR weather requirements, threats/hazards, lost aircraft procedures, student tendencies, crew resource management during low-level flying, and visual disparity at different altitudes.

N4202
Low-level mission brief, MTR position reports/entry and exit procedures, night low level environment, night illusions and restrictions to vision, spatial disorientation (AFM 11-217, Chap. 22), night low-level navigation techniques, and descending slowdown.

5. Block MIF

CTS REF	MANEUVER	N4202
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	Cockpit Procedures	4+
8	Takeoff	4
9	Departure	4+
15,16	Precision/Non-Precision Approach	4
18	In-Flight Planning/Clearance Compliance	4+
20	Transition to Landing	4+
21	Traffic Entry	4
22	Landing Pattern	4
23	Waveoff	4
24	Touch-and-Go	4
25	Right Seat Landings	4+
25	Landing	4+
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
31	Radar Operation	4
34	Chart Preparation	4+
34	Copilot Low-Level Responsibilities	4+
34	Night Low-Level Navigation (First Route)	4+
34	Night Low-Level Navigation (Second Route)	4+
34	Low-Level Navigation (First Route)	4+

MIF continued on next page.

CTS REF	MANEUVER	N4202
34	Low-Level Navigation (Second Route)	4+
34	Enroute Time Control (First Route)	4+
34	Enroute Time Control (Second Route)	4+
34	Low-Level Navigation	4+
34	Enroute Time Control	4+
34,36	Night Slowdown/Airdrop/Escape	4+
34,36	Slowdown/Airdrop/Escape	4+
39	VFR Flight Plan	4+
39	VFR Enroute Navigation	4+
39	Uncontrolled Airport Entry (Nonlocal)	4
39	VFR Position Reporting (FSS)	4+
39	Eyes-Out Doctrine	4+

Chapter VII

Formation Training

1. Matrices. The following matrices are an overview of the entire Formation Stage. The purpose of each 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. T-44 Maritime Formation Stage MIF

Check Ride Event

T-44 MARITIME FORMATION STAGE MANEUVER ITEM FILE			
CTS REF	**MANEUVER**	**F4102**	**F4290**
1	General Knowledge/Procedures	4+	4+
2	Emergency Procedures	4+	4+
3	Headwork/Situational Awareness	4+	4+
4	Basic Air Work	4+	4+
5	Mission Planning/Briefing/Debriefing	4+	4+
6	Ground Operations	4+	4+
7	Cockpit Procedures	4+	4+
8	Formation Takeoff	4	4
9	Departure	4	4
15 16	Precision/Non-Precision Approach	4	4
18	In-Flight Planning/Clearance Compliance	4+	4+
20	Transition to Landing	4+	4+
21	Traffic Entry	4+	4+
22	Landing Pattern	4+	4+
23	Waveoff	4	4
25	Right Seat Landings	4+	4+

MIF continued on next page.

T-44 MARITIME FORMATION STAGE MANEUVER ITEM FILE			
CTS REF	**MANEUVER**	**F4102**	**F4290**
26 28	Communications	4+	4+
27	Clearing	4+	4+
28	Pilot Flying/CRM	4+	4+
35	Formation Recovery	4+	4+
35	Formation Radio Procedures	4+	4+
37	Running Rendezvous	4+	4+
37	Parade Position	4+	4+
37	Parade Turns	4+	4+
37	Crossunder	4+	4+
37	Free Cruise	4+	4+
37	Breakup and Rendezvous	4+	4+
37	Maritime Lead Change	4+	4+
37	Maritime Lead	4+	4+

3. T-44 Aerial Refueling Stage MIF

Check Ride Event

T-44 AERIAL REFUELING FORMATION STAGE MANEUVER ITEM FILE			
CTS REF	**MANEUVER**	**F4301**	**F4490**
1	General Knowledge/Procedures	4+	4+
2	Emergency Procedures	4+	4+
3	Headwork/Situational Awareness	4+	4+
4	Basic Air Work	4+	4+
5	Mission Planning/Briefing/Debriefing	4+	4+
6	Ground Operations	4	4
7	Cockpit Procedures	4+	4+

MIF continued on next page.

CTS REF	MANEUVER	F4301	F4490
9	Departure	4	4
18	In-Flight Planning/Clearance Compliance	4+	4+
21	Traffic Entry	4	4
25	Landing	4	4
26	Communications	4+	4+
27	Clearing	4+	4+
28	Pilot Flying/CRM	4+	4+
29	Pilot Monitoring/CRM	4	4
33	FMS Operation	4	4
45	Tanker Procedures	4	4
45	Receiver Procedures	4+	4+
45	RV Delta (Point Parallel) Rendezvous	4+	4+
45	RV Golf (Enroute) Rendezvous	4	4
45	Alternate Rendezvous	4	4
45	Anchor Refueling Procedures	4	4
45	Track Refueling Procedures	4	4+
45	Rendezvous Overrun/Underrun	4	4
45	Precontact Position	4+	4+
45	Contact Position	4+	4+
45	Boom Limits Demonstration	4	4

4. TC-12 Maritime/Tiltrotor Formation Stage MIF

Check Ride Event

TC-12 MARITIME/TILTROTOR FORMATION STAGE MANEUVER ITEM FILE			
CTS REF	**MANEUVER**	**F4502**	**F4690**
1	General Knowledge/Procedures	4+	4+
2	Emergency Procedures	4+	4+
3	Headwork/Situational Awareness	4+	4+
4	Basic Air Work	4+	4+
5	Mission Planning/Briefing/Debriefing	4+	4+
6	Ground Operations	4+	4+
7	Cockpit Procedures	4+	4+
8	Formation Takeoff	4	4
9	Departure	4	4
15 16	Precision/Non-Precision Approach	4	4
18	In-Flight Planning/Clearance Compliance	4+	4+
20	Transition to Landing	4+	4+
21	Traffic Entry	4+	4+
22	Landing Pattern	4+	4+
23	Waveoff	4	4
25	Right Seat Landings	4+	4+
26 28	Communications	4+	4+
27	Clearing	4+	4+
28	Pilot Flying/CRM	4+	4+
35	Formation Recovery	4+	4+
35	Formation Radio Procedures	4+	4+
37	Running Rendezvous	4+	4+
37	Parade Position	4+	4+
37	Parade Turns	4+	4+

MIF continued on next page.

CTS REF	MANEUVER	F4502	F4690
37	Crossunder	4+	4+
37	Free Cruise	4+	4+
37	Breakup and Rendezvous	4+	4+
37	Maritime Lead Change	4+	4+
37	Maritime Lead	4+	4+
41	Parade/Cruise Formation	4+	4+
41	Underrun	4	4
41	Tanker Rendezvous	4+	4+
42	Tactical Formation Maneuvering	4+	4+
42	Lead Responsibilities	4+	4+
42	Dash-2 Responsibilities	4+	4+

Block	Media	Title	Events	Hrs	H/X
F41	Acft	Maritime Formation	2	6.8	3.4

1. Prerequisite. C4590 - Advanced Qualifications.

2. Syllabus Notes. None.

3. Special Syllabus Requirements. None.

4. Discuss Items

F4101
Formation brief, ground procedures, parade sequence, maneuver checkpoints, flight leader responsibilities, flight integrity, cockpit obstructions/parallax, aborted takeoff procedures (wing/lead), recovery procedures, formation break, student tendencies/error detection, defensive positioning, IP assertiveness and responsiveness, and formation maneuvers.

F4102
Prop wash/wake turbulence, section lost communications procedures, IFR/departure/recovery, inadvertent IMC, lost sight procedures, left seat procedures, airborne damaged aircraft, controllability check, lookout doctrine, landing gear check, dissimilar formation, and student tendencies.

5. Block MIF

CTS REF	MANEUVER	F4102
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	Cockpit Procedures	4+
8	Formation Takeoff	4
9	Departure	4
15,16	Precision/Non-Precision Approach	4
18	In-Flight Planning/Clearance Compliance	4+
20	Transition to Landing	4+
21	Traffic Entry	4+
22	Landing Pattern	4+
23	Waveoff	4
25	Right Seat Landings	4+
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
35	Formation Recovery	4+
35	Formation Radio Procedures	4+
37	Running Rendezvous	4+
37	Parade Position	4+
37	Parade Turns	4+
37	Crossunder	4+
37	Free Cruise	4+
37	Breakup and Rendezvous	4+
37	Maritime Lead Change	4+
37	Maritime Lead	4+

Block	Media	Title	Events	Hrs	H/X
F42	Acft	Maritime Formation Standardization Check Ride	1	3.4	3.4

1. Prerequisite. F4102 - Advanced Qualifications.

2. Syllabus Note. Maritime Formation Standardization Exam must be completed no more than sixty (60) days **PRIOR** to flight.

3. Special Syllabus Requirements. None.

4. Discuss Items. Section instrument approach.

5. Block MIF

CTS REF	MANEUVER	F4290
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	Cockpit Procedures	4+
8	Formation Takeoff	4
9	Departure	4
15,16	Precision/Non-Precision Approach	4
18	In-Flight Planning/Clearance Compliance	4+
20	Transition to Landing	4+
21	Traffic Entry	4+
22	Landing Pattern	4+
23	Waveoff	4
25	Right Seat Landings	4+
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
35	Formation Recovery	4+
35	Formation Radio Procedures	4+
37	Running Rendezvous	4+
37	Parade Position	4+
37	Parade Turns	4+
37	Crossunder	4+
37	Free Cruise	4+
37	Breakup and Rendezvous	4+
37	Maritime Lead Change	4+
37	Maritime Lead	4+

Block	Media	Title	Events	Hrs	H/X
F43	Acft	Aerial Refueling	1	2.0	2.0

1. Prerequisite. F4290 - Advanced Qualifications.

2. Syllabus Notes. None.

3. Special Syllabus Requirements. None.

4. Discuss Items. NATO ATP-56B, 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	F4301
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	Cockpit Procedures	4+
9	Departure	4
18	In-Flight Planning/Clearance Compliance	4+
21	Traffic Entry	4
25	Landing	4
26	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
29	Pilot Monitoring/CRM	4
33	FMS Operation	4
45	Tanker Procedures	4
45	Receiver Procedures	4+
45	RV Delta (Point Parallel) Rendezvous	4+
45	RV Golf (Enroute) Rendezvous	4
45	Alternate Rendezvous	4
45	Anchor Refueling Procedures	4
45	Track Refueling Procedures	4
45	Rendezvous Overrun/Underrun	4
45	Precontact Position	4+
45	Contact Position	4+
45	Boom Limits Demonstration	4

Block	Media	Title	Events	Hrs	H/X
F44	Acft	Aerial Refueling Standardization Check Ride	1	2.0	2.0

1. Prerequisite. F4301 - Advanced Qualifications.

2. Syllabus Note. Air Refueling Fundamentals Examination must be completed no more than sixty (60) days **PRIOR** to flight.

3. Special Syllabus Requirements. None.

4. Discuss Items. Air refueling brief, seat adjustment, visual sight picture, closure, boom limits demonstration, air refueling aerodynamics, bow wave effects, flight instructor guide, and defensive positioning.

5. Block MIF

CTS REF	MANEUVER	F4490
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	Cockpit Procedures	4+
9	Departure	4
18	In-Flight Planning/Clearance Compliance	4+
21	Traffic Entry	4
25	Landing	4
26	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
29	Pilot Monitoring/CRM	4
33	FMS Operation	4
45	Tanker Procedures	4
45	Receiver Procedures	4+
45	RV Delta (Point Parallel) Rendezvous	4+
45	RV Golf (Enroute) Rendezvous	4
45	Alternate Rendezvous	4
45	Anchor Refueling Procedures	4
45	Track Refueling Procedures	4
45	Rendezvous Overrun/Underrun	4
45	Precontact Position	4+
45	Contact Position	4+
45	Boom Limits Demonstration	4

Block	Media	Title	Events	Hrs	H/X
F45	Acft	Tiltrotor Formation	2	6.8	3.4

1. Prerequisite. F0101 - Advanced Qualifications.

2. Syllabus Notes. None.

3. Special Syllabus Requirements. None.

4. Discuss Items

F4501
Parade sequence, aerial refueling, tactical formation maneuvers, formation emergencies, and formation standards.

F4502
Section instrument approach, maritime formation profiles, LAT formation profiles.

5. Block MIF

CTS REF	MANEUVER	F4502
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	Cockpit Procedures	4+
8	Formation Takeoff	4
9	Departure	4
15 16	Precision/Non-Precision Approach	4
18	In-Flight Planning/Clearance Compliance	4+

MIF continued on next page.

CTS REF	MANEUVER	F4502
20	Transition to Landing	4+
21	Traffic Entry	4+
22	Landing Pattern	4+
23	Waveoff	4
25	Right Seat Landings	4+
26 28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
35	Formation Recovery	4+
35	Formation Radio Procedures	4+
37	Running Rendezvous	4+
37	Parade Position	4+
37	Parade Turns	4+
37	Crossunder	4+
37	Free Cruise	4+
37	Breakup and Rendezvous	4+
37	Maritime Lead Change	4+
37	Maritime Lead	4+
41	Parade/Cruise Formation	4+
41	Underrun	4
41	Tanker Rendezvous	4+
42	Tactical Formation Maneuvering	4+
42	Lead Responsibilities	4+
42	Dash-2 Responsibilities	4+

Block	Media	Title	Events	Hrs	H/X
F46	Acft	Tiltrotor Formation Standardization Check Ride	1	3.4	3.4

1. Prerequisite. F4502 - Advanced Qualifications.

2. Syllabus Note. LAT/Maritime Formation Standardization Exam must be completed no more than sixty (60) days **PRIOR** to flight.

3. Special Syllabus Requirements. None.

4. Discuss Items. None.

5. Block MIF

CTS REF	MANEUVER	F4690
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	Cockpit Procedures	4+
8	Formation Takeoff	4
9	Departure	4
15 16	Precision/Non-Precision Approach	4
18	In-Flight Planning/Clearance Compliance	4+
20	Transition to Landing	4+
21	Traffic Entry	4+
22	Landing Pattern	4+
23	Waveoff	4
25	Right Seat Landings	4+

MIF continued on next page.

CTS REF	MANEUVER	F4690
26 28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
35	Formation Recovery	4+
35	Formation Radio Procedures	4+
37	Running Rendezvous	4+
37	Parade Position	4+
37	Parade Turns	4+
37	Crossunder	4+
37	Free Cruise	4+
37	Breakup and Rendezvous	4+
37	Maritime Lead Change	4+
37	Maritime Lead	4+
41	Parade/Cruise Formation	4+
41	Underrun	4
41	Tanker Rendezvous	4+
42	Tactical Formation Maneuvering	4+
42	Lead Responsibilities	4+
42	Dash-2 Responsibilities	4+

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Chapter VIII

Tactical Training

1. Matrices. The following matrix is an overview of the entire Tactical 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. Stage MIF

Check Ride Event

TACTICAL STAGE MANEUVER ITEM FILE				
CTS REF	**MANEUVER**	**T4190**	**T4202**	**T4390**
1	General Knowledge/Procedures	4+	4+	4+
2	Emergency Procedures	4+	4+	4+
3	Headwork/Situational Awareness	4+	4+	4+
4	Basic Air Work	4+	4+	4+
5	Mission Planning/Briefing/ Debriefing	4+	4+	4+
6	Ground Operations	4+	4+	4+
7	Cockpit Procedures	4+	4+	4+
8	Takeoff	4+		
8	Formation Takeoff		4	4
9	Departure	4+	4+	4+
15 16	Precision/Non-Precision Approach		4	4
18	In-Flight Planning/Clearance Compliance	4+	4+	4+
20	Transition to Landing	4+	4+	4+
21	Traffic Entry		4	4

MIF continued on next page.

TACTICAL STAGE MANEUVER ITEM FILE				
CTS REF	**MANEUVER**	**T4190**	**T4202**	**T4390**
22	Landing Pattern		4	4
23	Waveoff	4	4	4
24	Touch-and-Go	4	4	4
25	Right Seat Landings		4	4
25	Landing	4+	4	4
26 28	Communications	4+	4+	4+
27	Clearing	4+	4+	4+
28	Pilot Flying/CRM	4+	4+	4+
31	Radar Operation	4		
34	Chart Preparation		4+	4+
34	Copilot Low-Level Responsibilities		4+	4+
34	Low-Level Navigation (As Lead)		4+	4+
34	Enroute Time Control (As Lead)		4+	4+
34	Slowdown/Airdrop/Escape		4+	4+
35	Wing In-Trail Position		4+	4+
35	Line Abreast Position		4+	4+
35	Fluid Trail		4+	4+
35	Wingman Consideration		4+	4+
35	USAF Lead Change		4+	4+
35	USAF Lead		4+	4+
35	Formation Recovery		4+	4+
35	Formation Radio Procedures		4+	4+
39	VFR Position Reporting		4+	4+
40	Search Pattern	4+		
40	Survivor Relocation	4+		
40	Delivery Pattern	4+		

Block	Media	Title	Events	Hrs	H/X
T41	Acft	Search and Rescue Standardization Check Ride	1	2.0	2.0

1. Prerequisite. N4190 - Advanced Qualifications.

2. Syllabus Notes

a. Use fixed objects like oilrigs and buoys to simulate targets.

b. Avoid low altitude passes on vessels.

c. The IUT will carefully emphasize precise ICS communication and standardization requirements.

d. The Search and Rescue Standardization Exam must be completed no more than sixty (60) days **PRIOR** to flight.

3. Special Syllabus Requirements. None.

4. Discuss Items. TTO/NATOPS brief, crew coordination, National SAR Manual, low-level over-water flight, sea state, search ideology and phraseology, search patterns, on-scene-commander (OSC) responsibilities, operations below 1000 feet AGL/MSL, lost aircraft, fuel planning, ditching procedures, LPP-1 usage/ demonstration, GPS usage, brief book, student tendencies, standardization/techniques, instructional procedures, instructor guidelines, ATF write-up, unsatisfactory performance procedures, and defensive positioning.

5. Block MIF

CTS REF	MANEUVER	T4190
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	Cockpit Procedures	4+
8	Takeoff	4+
9	Departure	4+
18	In-Flight Planning/Clearance Compliance	4+
20	Transition to Landing	4+
23	Waveoff	4
24	Touch-and-Go	4
25	Landing	4+
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
31	Radar Operation	4
40	Search Pattern	4+
40	Survivor Relocation	4+
40	Delivery Pattern	4+

Block	Media	Title	Events	Hrs	H/X
T42	Acft	USAF Tactical Formation	2	6.0	3.0

1. Prerequisites

a. N4202 - Advanced Qualifications.

b. T0101/02 (USAF Tactical Formation Ground School) - Advanced Qualifications.

2. Syllabus Notes

a. Each flight shall consist of two routes.

b. One flight shall be a 3-ship formation.

c. Ideally, by completion of T4202, all three local routes should be flown.

3. Special Syllabus Requirements. None.

4. Discuss Items

T4201
Formation brief, ground procedures, formation takeoff/ departure, formation references, mission commander responsibilities, flight integrity, aborted takeoff, FLIP AP-1B (Wx, MTR's, SQ, etc.), TPC, flight navigation, formation pacing/holding about a check point, formation run-in/slowdown/airdrop/escape, emergencies, formation recoveries, tactical formations, formation lead changes (2- and 3-ship), and formation radio procedures.

T4202
Formation brief, crew coordination/cockpit procedures, threats/hazards, low-level formation mission planning/chart preparation, threat planning in formation, adjustments to timing, student tendencies, and inadvertent weather penetration procedures.

5. Block MIF

CTS REF	MANEUVER	T4202
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	Cockpit Procedures	4+
8	Formation Takeoff	4
9	Departure	4+
15,16	Precision/Non-Precision Approach	4
18	In-Flight Planning/Clearance Compliance	4+
20	Transition to Landing	4+
21	Traffic Entry	4
22	Landing Pattern	4
23	Waveoff	4
24	Touch-and-Go	4
25	Right Seat Landings	4
25	Landing	4
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
34	Chart Preparation	4+
34	Copilot Low-Level Responsibilities	4+
34	Low-Level Navigation (As Lead)	4+
34	Enroute Time Control (As Lead)	4+
34,36	Slowdown/Airdrop/Escape	4+
35	Wing In-Trail Position	4+
35	Line Abreast Position	4+
35	Fluid Trail	4+

MIF continued on next page.

CTS REF	MANEUVER	T4202
35	Wingman Consideration	4+
35	USAF Lead Change	4+
35	USAF Lead	4+
35	Formation Recovery	4+
35	Formation Radio Procedures	4+
39	VFR Position Reporting	4+

Block	Media	Title	Events	Hrs	H/X
T43	Acft	USAF Tactical Formation Standardization Check Ride	1	3.0	3.0

1. Prerequisite. T4202 - Advanced Qualifications.

2. Syllabus Notes

a. T4390 may be flown as either a 2-ship or 3-ship formation.

b. At least one route will be a student "check ride strange route" flown to the student "check ride DZ."

c. USAF Tactical Formation Standardization Examination must be completed no more than sixty (60) days **PRIOR** to flight.

3. Special Syllabus Requirements. None.

4. Discuss Items. Formation brief.

5. Block MIF

CTS REF	MANEUVER	T4390
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	Cockpit Procedures	4+
8	Formation Takeoff	4
9	Departure	4+
15,16	Precision/Non-Precision Approach	4
18	In-Flight Planning/Clearance Compliance	4+

MIF continued on next page.

CTS REF	MANEUVER	T4390
20	Transition to Landing	4+
21	Traffic Entry	4
22	Landing Pattern	4
23	Waveoff	4
24	Touch-and-Go	4
25	Right Seat Landings	4
25	Landing	4
26,28	Communications	4+
27	Clearing	4+
28	Pilot Flying/CRM	4+
34	Chart Preparation	4+
34	Copilot Low-Level Responsibilities	4+
34	Low-Level Navigation (As Lead)	4+
34	Enroute Time Control (As Lead)	4+
34,36	Slowdown/Airdrop/Escape	4+
35	Wing In-Trail Position	4+
35	Line Abreast Position	4+
35	Fluid Trail	4+
35	Wingman Consideration	4+
35	USAF Lead Change	4+
35	USAF Lead	4+
35	Formation Recovery	4+
35	Formation Radio Procedures	4+
39	VFR Position Reporting	4+

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Chapter IX

Course Training Standards (CTS)

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

2. Duties and Responsibilities

a. Student Responsibilities. Students will accomplish all assigned training and are responsible for planning simulator and aircraft missions.

b. Instructor Responsibilities. Instructors are ultimately responsible for compliance with and accurate accomplishment of all flight planning and training requirements.

3. General Proficiency Standards

a. Course training standards (CTS) equate directly to a grading scale of good (G/4) unless stated otherwise.

b. Achievement of training standards for maneuvers in VMC will be accomplished in conjunction with clearing visually outside the aircraft.

c. Aircraft control must be smooth and positive. Momentary deviations are acceptable if timely corrections are made and safety of flight is not compromised. Unless otherwise specified, use Basic Air Work standards for all items with altitude, airspeed, or heading parameters.

d. Procedural knowledge must be in accordance with applicable directives and allow the mission to be accomplished effectively. If individual tasks require pre-mission planning, the Mission Planning standards apply.

e. Additional standards are listed in the job task tables.

4. Execution. The MIF for each category of training regulates student progression to meet required standards prior to phase completion. Instructor pilots shall evaluate student performance against course training standards. A column to cross-reference the CTS is included in each MIF table.

5. Job Tasks. 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 student aviator…"

6. Course Training Standards

BEHAVIOR STATEMENT	STANDARDS
1. General Knowledge/Procedures	
• Maintains working knowledge of all appropriate flight training instructions and directives. • Has the specific knowledge required for safe, efficient flight operations and mission effectiveness.	• Recites, discusses, and/or performs all applicable items essential to the operation of the airplane. • Accurately understands and applies: (a) appropriate items as described in NATOPS, FTI, and FAR/AIM, and (b) FLIP and NOTAMs. • Is able to describe or complete all items in a timely manner.

BEHAVIOR STATEMENT	STANDARDS
2. Emergency Procedures	
• Maintains in-depth knowledge of NATOPS and appropriate directives. • Specifically applies NATOPS procedures to resolve an aircraft emergency whether airborne or on the ground.	• Correctly analyzes situation. • Performs/recites critical action steps from memory. • Uses checklist when appropriate and conditions permit. • Completes procedures in a timely manner. • Handles the emergency IAW NATOPS and FTI. • Demonstrates sound judgment when no specific guidance exists. • Resolves the emergency and carries to a logical conclusion. • Aborted takeoff: verbalizes "Abort" internally and on radio, ±25 feet of centerline. • Ditch: simulates impact wings level within FTI established parameters and +5/-0 knots. • Dynamic Engine Cut: maintains ±10° of heading, appropriate rudder use, no descent below initial altitude, and airspeed never below 91 knots (T-44) or 104 knots (TC-12).
3. Headwork/Situational Awareness	
• Complies 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.

BEHAVIOR STATEMENT	STANDARDS
4. Basic Air Work (BAW)	
• Governs the handling of the aircraft under all conditions not specifically covered by another course training standard.	• Operates the aircraft IAW NATOPS Manual, OPNAV 3710.7T, Squadron and CTW-4 SOP, FTI, FLIP, and NOTAMS. • Aircraft control is smooth and positive. • Maintains: ► ±5° of assigned heading. ► ±100 feet of assigned altitude. ► ±10 knots of assigned/briefed airspeed. ► Arcs ±1 NM. • Levels off from climbs or descents ±100 feet of assigned/briefed altitude.
5. Mission Planning/Briefing/Debriefing	
• Done in 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 post-flight 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. 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.
8. 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_{ROT} +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.

BEHAVIOR STATEMENT	STANDARDS
9. Departure	
• Begins when climb airspeed is established and ends when DP/published departure is complete or established in assigned working area. If no published departure, ends when initiating pitch change for level-off.	• Complies with ATC/DP/flight plan clearance or course rules, as appropriate.
10. 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.
11. Basic Instrument Maneuvers	
• Begins with initial pitch and power setting and 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.

BEHAVIOR STATEMENT	STANDARDS
12. Training Area Maneuvers	
• Begins with initial pitch and power setting and 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: Maintains ±100 feet, ±5° bank, ±10 knots, roll out ±5°. • Approach to stalls/full stall: (a) minimizes altitude loss, (b) avoids secondary approach to stall indications, (c) maintains smooth, controlled recovery. • Slow flight: Maintains +5/-0 knots, ±100 feet.
13. Holding	
• Begins when crossing the holding fix and ends when departing the holding pattern for a subsequent fix or the approach.	• Enters and maintains holding IAW NATOPS, FTI, and the FAR/AIM.
14. 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.
15. 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" and complies with the controller's instructions in a timely manner. • Maintains +5/-0 knots of approach airspeed. • Maintains arcs ±1 NM.

BEHAVIOR STATEMENT	STANDARDS
16. 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" and complies with the controller's instructions in a timely manner.
17. 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.
18. In-Flight Planning/Clearance Compliance	
• Has general understanding of mission flow; area orientation, both vertically and horizontally; recognizing and avoiding potential hazards.	• Demonstrates effective Time Management. • Accomplishes mission maneuver items. • Complies with ATC clearance or VFR course rules. Remains within assigned airspace.

BEHAVIOR STATEMENT	STANDARDS
19. Enroute Descent	
• Begins with initial power reduction at cruise or leaving assigned working area. Ends when crossing the holding fix, IAF, established on radar vectors and cleared the approach, or when level at VFR pattern altitude and maneuvering to enter the VFR traffic pattern.	• 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 or VFR entry.
20. 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.
21. Traffic Entry	
• Begins outside the VFR traffic pattern when maneuvering to the entry point, initial, or a visual straight in and ends when commencing the break, established on straight-in final, or wings-level on downwind.	• Accomplishes IAW NATOPS, FTI, and Course Rules, as appropriate.

BEHAVIOR STATEMENT	STANDARDS
22. VFR Patterns	
• Begins when commencing the break, initiating closed, 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. • Arrives at threshold +5/-0 knots of V_{REF} speed. • Maintains altitude ±50 feet of FTI requirements throughout pattern.
23. Missed Approach/Waveoff	
• 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 pull-up/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.
24. Touch-And-Go	
• Begins when advancing power after landing and 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.

BEHAVIOR STATEMENT	STANDARDS
25. Landing	
• Begins when crossing the threshold or initiating the roundout, whichever occurs first, and ends when slowed to a safe taxi speed or when advancing power for touch-and-go takeoff.	• Arrives at threshold +5/-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.
26. Communications	
• Performs verbal communications during mission profile.	• Uses precise, properly formatted radio calls with standard terminology. • Uses precise checklist responses. • Acknowledges all communications. • Understands and prioritizes transmissions in a multiple communications environment. • Asks for and provides clarification when necessary. • Asks questions when uncertain. • Maintains effective communications with other crewmembers.
27. Clearing	
• Begins at engine start and ends with both engines shutdown 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.

BEHAVIOR STATEMENT	STANDARDS
28. Pilot Flying/CRM	
• Decision making. • Assertiveness. • Mission analysis. • Communications (individually graded item). • Leadership. • Adaptability. • Situational awareness (individually graded item).	• Gathers available data before arriving at final decision. • Clearly states decisions to the crew. • 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. • 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.
29. Pilot Monitoring/CRM	
• Performs as Pilot Not Flying (PNF) supporting the aircraft commander.	• Performs duties IAW NATOPS, FTI, and checklists. • Completes all items in a timely and efficient manner.

BEHAVIOR STATEMENT	STANDARDS
30. Student Scenario	
• Begins at the start of the SMA scenario briefing and ends with the debrief of the SMA performance.	• Accomplishes all required scenario items with proper instructor techniques in a safe and efficient manner. • Uses proper defensive positioning skills during simulated emergency procedures. • Effectively simulates required emergencies IAW the FIG.
31. Radar Operation	
• Understands and applies system operation and limitations.	• Demonstrates ability to use radar for weather observation and avoidance.
32. Autopilot/Flight Director Operation	
• Understands and applies system operation and limitations.	• Correctly and appropriately uses 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.
33. FMS Operation	
• Understands and applies system operation and limitations.	• Effectively and accurately programs and navigates using the FMS. • Stores and retrieves flight plans. • Uses system features to enhance situational awareness. • Accomplishes tasks in a timely manner.

BEHAVIOR STATEMENT	STANDARDS
34. USAF Low-Level Maneuvers	
• Begins when the aircraft is maneuvered to enter the low-level route and ends with aircraft level off after departing the low-level route.	• Accomplishes mission IAW LL/TF FTI and Air Force Academics. • Navigates primarily by prepared low-level chart. • Arrives at brief with a neat and chummed chart. • Applies accepted techniques to correct course and timing deviations. • Directs aircraft to turnpoints, drop zone, and recovery field.
35. USAF Tactical Formation Maneuvers	
• Begins with formation taxi and ends when the formation is split up for recovery or in the pattern.	• Accomplishes mission IAW mission brief and LL/TF FTI. • Demonstrates a working knowledge of procedures in FTI. • Maintains in-trail position, co-altitude with lead, out of prop wash, and distance ±100 feet of proper position. • Maneuvers to line abreast and fluid trail positions safely.
36. USAF Airdrop	
• Begins when lead initiates slowdown and ends after the escape maneuver when established at next segment parameters.	• Positively identifies the drop zone. • Makes timely and assertive radio and ICS advisory calls to execute a safe slowdown, airdrop, and escape. • Aligns the aircraft properly over the DZ on the inbound course. • Crosses PI ±1 minute of TOT.

BEHAVIOR STATEMENT	STANDARDS
37. 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.
38. ONAV Maneuvers	
• Begins after IFR departure when initiating descent to the VFR "chop" point and ends after climbing and obtaining IFR clearance for return to base or new destination.	• Accomplishes mission IAW ONAV FTI and ONAV Student Briefing Guide. • Arrives at brief with a properly completed DD 175 IFR/VFR composite flight plan IAW ONAV FTI and FLIP GP. • Adheres to standard descent practices below 1000 feet AWL as briefed including rate of descent not in excess of altitude and level off at 500 feet AWL. • Initiates timely recovery for all deviations below minimum altitude. • Maintains good VFR scan. • Executes correct procedures for Quick and Eight Point Rig, adhering to all the rules of engagement outlined in the FTI.

BEHAVIOR STATEMENT	STANDARDS
39. VNAV Maneuvers	
• Begins at start of visual navigation route and ends at arrival/traffic entry at recovery airfield.	• Accomplishes mission IAW VNAV FTI. • Arrives at brief with a neat and properly prepared sectional and all required documents per FTI and VNAV binders. • Demonstrates a working knowledge of chart depictions and airspace limitations and rules. • Executes proper entry into uncontrolled tower pattern IAW AIM. • Makes appropriate course corrections to maneuver the aircraft to turnpoints and recovery airfield. Proactive in navigation and leg timing.

BEHAVIOR STATEMENT	STANDARDS
40. Search And Rescue (SAR) Maneuvers	
• Begins after IFR departure when initiating descent to the VFR CHOP point and ends after climbing and obtaining IFR clearance for return to base or new destination.	• Accomplishes mission IAW SAR FTI, SAR Student Briefing Guide, and National Search and Rescue Manual Volumes I and II. • Arrives at brief with a properly completed DD 175 IFR/VFR composite flight plan IAW ONAV FTI and FLIP GP. • Demonstrates knowledge of SAR terminology, responsibilities of OSC, search planning variables, and specific search plans as described in above references. • Determines correct search plan for given SAR scenario. • Briefs and uses standard techniques for scanning, sighting and identification, search pattern departure, and returning to a search pattern. • Executes Search, Survivor Relocation, PADS and Sea Rescue Kit Delivery Patterns IAW SAR FTI. • Adheres to FTI flight parameters and rules of engagement during SAR Pattern execution.
41. Parade/Cruise Formation Maneuvers	
• Begins with formation taxi. • Ends when the formation is split up for recovery or in the pattern, exclusive of tactical formation maneuvering.	• Accomplishes maneuvers IAW the mission brief and the FTI. • Demonstrates a working knowledge of formation procedures as established in the FTI. • Maintains stabilized parade/ cruise position with safe separation between aircraft. • Demonstrates Dash-2 consideration while lead.

BEHAVIOR STATEMENT	STANDARDS
42. Tactical Formation Maneuvers	
• Begins when flight assumes combat cruise/combat spread formation. • Ends when the formation returns to parade/cruise position.	• Accomplishes mission IAW mission brief and LL/TF FTI; demonstrates a working knowledge of procedures in FTI. • Maneuvers to combat cruise and combat spread positions safely. • Demonstrates ability to make proper considerations when transitioning to LZ.
43. Formation Navigation	
• Begins when the aircraft is maneuvered to enter the low-level route. • Ends with aircraft level-off after departing the low-level route.	• Accomplishes mission IAW LL/TF FTI and Tactical Formation Ground School. • Navigates primarily by prepared low-level chart; arrives at brief with a neat and chummed chart. • Applies accepted techniques to correct course and timing deviations; directs aircraft to turnpoints, drop zone, and recovery field.
44. Fuel Management	
• Maintains fuel awareness throughout flight. • Keeps track of fuel for all formation members.	• Monitors fuel status on deck at intended point of landing. • Adjusts course or destination in order to satisfy applicable directives. • As lead – keeps track of Dash-2's fuel state with appropriate fuel checks performed IAW FTI and local standards. • As Dash-2 – ensures lead is aware of fuel state through compliance with fuel checks performed IAW FTI and local standards.

BEHAVIOR STATEMENT	STANDARDS
45. USN Air Refueling Maneuvers	
• Begins when the aircraft is maneuvered to the Rendezvous Initial Point or the Rendezvous Control Point and ends after departing the air refueling track.	• Accomplishes maneuvers IAW mission brief and the FTI. • Demonstrates a working knowledge of air refueling procedures as established in the FTI and FIG. • Maintains a stabilized rendezvous with safe separation between aircraft. • Demonstrates stabilized precontact, contact, and limits demo positions while receiver. • Maintains precise control of the aircraft while acting as tanker.

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Chapter X

Master Materials List

Individually Issued Materials

NOMENCLATURE	IDENTIFICATION	QTY PER STUDENT

None listed at date of publication.

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