

NAVAL AIR TRAINING COMMAND



**NAS CORPUS CHRISTI, TEXAS
CIN Q-2A-0127**

**CNATRAINST 1542.165A
6 Feb 12**

CHIEF OF NAVAL AIR TRAINING



T-6B PRIMARY FLIGHT INSTRUCTOR TRAINING

2012



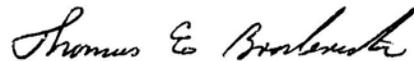
DEPARTMENT OF THE NAVY
CHIEF OF NAVAL AIR TRAINING
250 LEXINGTON BLVD SUITE 102
CORPUS CHRISTI TX 78419-5041

CNATRAINST 1542.165A
N716
6 Feb 12

CNATRA INSTRUCTION 1542.165A

Subj: T-6B PRIMARY FLIGHT INSTRUCTOR CURRICULUM

1. Purpose. To publish the curriculum for qualifying naval aviators/military pilots to instruct student military aviators in the T-6B Primary phase of Naval Air Training Command (NATRACOM) flight training.
2. Cancellation. CNATRAINST 1542.165 will be canceled when the last student enrolled completes the curriculum.
3. Action. This instruction is effective on receipt. No changes will be made without written authorization by the Chief of Naval Air Training (CNATRA).
4. Forms. The CNATRA forms required by this instruction are automated in the Training Integration Management System (TIMS) computer program. Additional CNATRA forms are available on the CNATRA website <https://www.cnatra.navy.mil/pubs/forms.htm>.


THOMAS E. BRODERICK
Chief of Staff

Distribution:
CNATRA Website

CNATRAINST 1542.165A
6 Feb 12

BLANK PAGE

LIST OF EFFECTIVE PAGES

Original

Total number of pages is 200 consisting of the following:

<u>Page Number</u>	<u>Issue</u>
Letter - 2	
3/(4 blank)	
i - ii	
iii/(iv blank)	
v/(vi blank)	
vii - xviii	
xix/(xx blank)	
xxi - xxii	
xxiii/(xxiv blank)	
I-1	
I-2/(I-3 blank)	
I-4 - I-12	
II-1 - II-10	
III-1 - III-24	
IV-1 - IV-28	
IV-29/(IV-30 blank)	
V-1 - V-16	
VI-1 - VI-18	
VII-1 - VII-28	
VII-29/(VII-30 blank)	
VIII-1/(VIII-2 blank)	
IX-1 - IX-30	

CNATRAINST 1542.165A
6 Feb 12

BLANK PAGE

TABLE OF CONTENTS

	<u>PAGE</u>
<u>SUMMARY OF CHANGES</u>	v
<u>COURSE DATA</u>	vii
<u>ABBREVIATIONS</u>	xv
<u>GLOSSARY</u>	xxi
 <u>CHAPTER I. GENERAL INSTRUCTIONS</u>	
SYLLABUS MANAGEMENT	I-1
TRAINING MANAGEMENT	I-1
T-6B IUT ACADEMICS COURSE FLOW	I-4
T-6B FLIGHT/DEVICE IUT COURSE FLOW	I-5
T-6B ADVANCED QUALIFICATIONS COURSE FLOW	I-6
GROUND TRAINING AND BRIEFING REQUIREMENTS, MISSION PREPARATION, BRIEFINGS, AND DEBRIEFINGS	I-7
MISSION GRADING PROCEDURES AND EVALUATION POLICIES ...	I-8
SPECIAL INSTRUCTIONS AND RESTRICTIONS	I-12
 <u>CHAPTER II. GROUND TRAINING</u>	
ADMINISTRATION/INDOCTRINATION (G01)	II-1
SYSTEMS (SY01/2/3)	II-3
OPERATING PROCEDURES (PR01)	II-5
COURSE RULES (G02)	II-6
FLIGHT RULES AND REGULATIONS (G03)	II-7
FIXED-WING AERODYNAMICS (G04)	II-8
NATOPS QUALIFICATION (G05/6)	II-9
NATOPS INSTRUMENT GROUND SCHOOL/IRATS (G07)	II-10
 <u>CHAPTER III. NATOPS TRAINING</u>	
MATRICES	III-1
NATOPS STAGE MANEUVER ITEM FILE MATRIX	III-1
NATOPS QUALIFICATION TRAINING (Q11)	III-6
NATOPS COCKPIT PROCEDURES (Q21)	III-7
NATOPS - CONTACT (Q31)	III-11
NATOPS - INSTRUMENT (Q32)	III-14
NATOPS (Q41)	III-16
NATOPS (Q42)	III-19
NATOPS CHECK FLIGHT (Q43)	III-22

CHAPTER IV. CONTACT TRAINING

MATRICESIV-1
CONTACT STAGE MANEUVER ITEM FILE MATRIXIV-1
CONTACT FLIGHT PROCEDURES 1 (C11)IV-4
CONTACT FLIGHT PROCEDURES 2 (C12)IV-5
OUT-OF-CONTROL FLIGHT (C13)IV-6
DAY CONTACT (C31)IV-7
DAY CONTACT (C41)IV-10
DAY CONTACT (C42)IV-13
DAY CONTACT (C43)IV-16
STANDARDIZATION DAY CONTACT CHECK FLIGHT (C44)IV-19
NIGHT CONTACT (C45)IV-22
STANDARDIZATION NIGHT CONTACT CHECK FLIGHT (C46) ...IV-24
STANDARDIZATION OUT-OF-CONTROL FLIGHT (C47)IV-26
STANDARDIZATION OUT-OF-CONTROL CHECK FLIGHT (C48) ..IV-28

CHAPTER V. INSTRUMENT TRAINING

MATRICESV-1
INSTRUMENT STAGE MANEUVER ITEM FILE MATRIXV-1
INSTRUMENTS (IN12/13)V-3
RADIO INSTRUMENTS (I31)V-4
RADIO INSTRUMENTS (I32)V-6
RADIO INSTRUMENTS (I41)V-8
RADIO INSTRUMENTS (I42)V-11
STANDARDIZATION INSTRUMENT CHECK FLIGHT (I43)V-14
NATOPS INSTRUMENT CHECK FLIGHT (I44)V-16

CHAPTER VI. NAVIGATION TRAINING

MATRICESVI-1
NAVIGATION STAGE MANEUVER ITEM FILE MATRIXVI-2
LOW-LEVEL ADVANCED QUALIFICATION MANEUVER ITEM
FILE MATRIXVI-3
NAVIGATION (NA11/LL11)VI-4
DAY NAVIGATION (N31)VI-5
NIGHT NAVIGATION (N32)VI-7
DAY NAVIGATION (N41)VI-9
NIGHT NAVIGATION (N42)VI-11
LOW-LEVEL (L31)VI-13
LOW-LEVEL (L41)VI-15
LOW-LEVEL CHECK FLIGHT (L42)VI-17

CHAPTER VII. FORMATION TRAINING

MATRICESVII-1
FORMATION STAGE MANEUVER ITEM FILE MATRIXVII-1
AF FORMATION STUDENT SYLLABUS MANAGEMENTVII-3
IUT ADVANCED QUALIFICATIONVII-3
AF FORMATION STAGE MANEUVER ITEM FILE MATRIXVII-4
FORMATION/TACTICAL FORMATION (F11/12)VII-6
AF FORMATION (F13)VII-7
FORMATION (F31)VII-8
FORMATION (F41)VII-10
FORMATION (F42)VII-13
STANDARDIZATION FORMATION CHECK FLIGHT (F43)VII-16
TACTICAL FORMATION (F44)VII-18
STANDARDIZATION TACTICAL FORMATION CHECK
FLIGHT (F45)VII-21
AF FORMATION (F46)VII-24
STANDARDIZATION AF FORMATION CHECK FLIGHT (F47) ...VII-27

CHAPTER VIII. TACTICAL TRAINING

DOES NOT APPLYVIII-1

CHAPTER IX. COURSE TRAINING STANDARDS

PURPOSEIX-1
IUT DUTIES AND RESPONSIBILITIESIX-1
GENERAL STANDARDSIX-1
EXECUTIONIX-2
JOB TASKSIX-2
GRADED ITEMSIX-2
COURSE TRAINING STANDARDSIX-2

CNATRAINST 1542.165A
6 Feb 12

BLANK PAGE

CNATRAINST 1542.165A
6 Feb 12

BLANK PAGE

COURSE DATA

1. Course Title. T-6B Primary Flight Instructor Training.
2. Course ID Number. T-6B Primary Flight Instructor Training, Q-2A-0127.
3. Location(s). NAS Corpus Christi, TX 78419-5021 and NAS Whiting Field, Milton, FL 32510-6155.
4. Course Status. Active.
5. Course Mission. T-6B Primary Flight Instructor Training is designed to provide designated naval aviators and military pilots with the appropriate flight procedures and instructional methodology to instruct undergraduate flight students in the Primary phase of flight training. Requests for amendments or deviations to this instruction shall be forwarded to CNATRA (N71).
6. Prerequisite Training. Designated Naval Aviator/military pilot.
7. Security Clearance Requirements. None.
8. Follow-on Training. As required to maintain currency.
9. Course Length. Training Air Wing (TRAWING) Commanders are directed to provide the course of instruction contained herein to include a minimum full qualification in the NATOPS, Contact, Instrument, and Navigation stages. Overall time-to-train is calculated in accordance with CNATRAINST 1550.6E. Training days are as follows:

	<u>Training Days</u>	<u>Calendar Weeks</u>
Initial IUT	72.7	16.1
10. Class Capacity. Variable.
11. Instructor Requirements. One flight instructor per eight military aviators undergoing this training.
12. Course Curriculum Model Manager. TRAWING FIVE.
13. Quota Management Authority. Chief of Naval Air Training.

14. Quota Control. Chief of Naval Operations.

15. Course Training Subjects

a. Initial IUT Ground Training

ADMINISTRATION		
Block	Symbol	Hours
Check-In	G0101	2.5
Checkout	G0111	0.5
Totals		3.0

INITIAL IUT GROUND TRAINING		
Block	Symbol	Hours
Ejection Seat/Egress Procedures/Aeromedical Aspects of Ejection	G0102	2.0
Aviation Safety Program	G0103	1.0
GLOC/GTIP	G0104	0.5
Crew Resource Management	G0105	2.0
Airsickness Awareness	G0106	1.0
Wheels Watch	G0107	2.0*
TIMS/Curriculum Review	G0108	2.0
Hypoxia Awareness/Sensory Problems	G0109	1.0
Flight Instructor Training Course	G0110	26.0
T-6B Aircraft Systems 1	SY0101-16	24.1*
T-6B Aircraft Systems 1 Exam	SY0190	1.5
T-6B Aircraft Systems 2	SY0201-12	13.9*
T-6B Aircraft Systems 2 Exam	SY0290	1.5
FMS Trainer	SY0301-2	4.0
Operating Procedures	PR0101-12	16.5*
Course Rules	G0201	4.5
Course Rules Exam	G0290	1.0
Flight Rules and Regulations	G0301	3.0
Flight Rules and Regulations Exam	G0390	1.0

INITIAL IUT GROUND TRAINING (CONTINUED)		
Block	Symbol	Hours
Fixed-Wing Aerodynamics	G0401	2.0
Fixed-Wing Aerodynamics Exam	G0490	1.0
NATOPS Open-Book Exam	G0590	3.0
NATOPS Closed-Book Exam	G0690	1.0
NATOPS Instrument Ground School/IRATS	G0701	6.0
NATOPS Instrument Ground School/IRATS Exam	G0790	2.0
Totals*		123.5

* Hours include optional events.

b. Initial IUT Flight Support

INITIAL IUT FLIGHT SUPPORT		
Block	Symbol	Hours
Contact Flight Procedures 1	C1101-7	9.4*
Contact Exam 1	C1190	1.0
Contact Flight Procedures 2	C1201-8	9.6*
Contact Exam 2	C1290	1.0
Night Procedures	C1209	0.8
Out-of-Control Flight Procedures Exam	C1390	1.0
Instruments Flight Procedures	IN1203-4	1.4
	IN1206-7	1.6
	IN1209-11	5.1
	IN1301-3	6.0
	IN1305-6	5.0*
Instruments Exam	IN1390	2.0
Navigation Flight Procedures	NA1101-4	4.0
	NA1106	2.0*
VFR Navigation Exam	NA1190	1.0
NATOPS Flight 0	Q1101	1.5
Totals*		52.4

* Hours include optional events.

c. Initial IUT Flight Training

INITIAL IUT FLIGHT TRAINING						
Block	UTD		OFT		T-6B Dual	
	Flts	Hrs	Flts	Hrs	Flts	Hrs
NATOPS Qualification	4	5.2	6	7.8	8	14.4
NATOPS Check Flight					1	1.8
Day Contact			3	3.9	9	14.4
Standardization Day Contact Check Flight					1	1.6
Night Contact					1	1.6
Standardization Night Contact Check Flight					1	1.6
Instruments			5	6.5	6	9.6
Standardization Instrument Check Flight					1	1.6
NATOPS Instrument Check Flight					1	1.6
Day Navigation			1	1.3	1	1.6
Night Navigation			1	1.3	1	1.6
Totals	4	5.2	16	20.8	31	51.4

d. Annual Ground Training

ADDITIONAL IP GROUND TRAINING (ANNUALLY)		
Block	Symbol	Hours
Ejection Seat/Egress Procedures/Aeromedical Aspects of Ejection	G0102	2.0
GLOC/GTIP	G0104	0.5
Crew Resource Management	G0105	2.0
Hypoxia Awareness/Sensory Problems	G0109	1.0
Course Rules Exam	G0290	1.0
NATOPS Open-Book Exam	G0590	3.0
NATOPS Closed-Book Exam	G0690	1.0
NATOPS Instrument Ground School/IRATS	G0701	6.0
NATOPS Instrument Ground School/IRATS Exam	G0790	2.0
Totals		18.5

e. Advanced Qualifications and Annual Flight Support

LOW-LEVEL FLIGHT SUPPORT		
Block	Symbol	Hours
Low-Level Navigation Flight Procedures	LL1101-2	4.5
Low-Level Exam	LL1190	1.0
Totals		5.5

FORMATION FLIGHT SUPPORT		
Block	Symbol	Hours
Formation Procedures	F1101	4.5
Formation Exam	F1190	1.0
Totals		5.5

TACTICAL FORMATION FLIGHT SUPPORT		
Block	Symbol	Hours
Tactical Formation Flight Procedures	F1201	1.5
Tactical Formation Exam	F1290	1.0
Totals		2.5

AF FORMATION FLIGHT SUPPORT		
Block	Symbol	Hours
AF Formation Flight Procedures	F1301	3.0
AF Formation Exam	F1390	1.0
Totals		4.0

ADDITIONAL IP FLIGHT SUPPORT (ANNUALLY)		
Block	Symbol	Hours
Out-of-Control Flight Procedures Exam	C1390	1.0
Totals		1.0

f. Advanced Qualifications and Annual Flight Training

FORMATION FLIGHT TRAINING (ADVANCED QUALIFICATION)						
Block	UTD		OFT		T-6B Dual	
	Flts	Hrs	Flts	Hrs	Flts	Hrs
Formation			1	1.3	8	12.8
Standardization Formation Check Flight					1	1.6
Totals			1	1.3	9	14.4

TACTICAL FORMATION FLIGHT TRAINING (ADVANCED QUALIFICATION)						
Block	UTD		OFT		T-6B Dual	
	Flts	Hrs	Flts	Hrs	Flts	Hrs
Tactical Formation					3	4.8
Standardization Tactical Formation Check Flight					1	1.6
Totals					4	6.4

LOW-LEVEL NAVIGATION FLIGHT TRAINING (ADVANCED QUALIFICATION)						
Block	UTD		OFT		T-6B Dual	
	Flts	Hrs	Flts	Hrs	Flts	Hrs
Low-Level			1	1.3	1	1.6
Low-Level Check Flight					1	1.6
Totals			1	1.3	2	3.2

OCF FLIGHT TRAINING (ADVANCED QUALIFICATION)						
Block	UTD		OFT		T-6B Dual	
	Flts	Hrs	Flts	Hrs	Flts	Hrs
Standardization OCF Flight					1	1.6
Standardization OCF Check Flight					1	1.6
Totals					2	3.2

AF FORMATION FLIGHT TRAINING (ADVANCED QUALIFICATION)						
Block	UTD		OFT		T-6B Dual	
	Flts	Hrs	Flts	Hrs	Flts	Hrs
AF Formation					5	8.0
Standardization AF Formation Check Flight					1	1.6
Totals					6	9.6

ADDITIONAL T-6B IP FLIGHT TRAINING (ANNUALLY)						
Block	UTD		OFT		T-6B Dual	
	Flts	Hrs	Flts	Hrs	Flts	Hrs
EP Trainer (Q2104R)			1	1.3		
NATOPS Check Flight (Q4390)					1	1.8
OCF Refresher (C4301R)					1	1.6
Standardization Day Contact Check Flight (C4490)					1	1.6
Standardization Instrument Check Flight (I4390)					1	1.6
NATOPS Instrument Check Flight (I4490)					1	1.6
Totals			1	1.3	5	8.2

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

ADDITIONAL FORMAL TRAINING TIME PER EVENT			
Training Area	Brief/Preflight/Taxi	Taxi/Debrief	Total
Flight	1.75	1.00	2.75
Simulator	0.50	0.50	1.00

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

18. Obligated Service. Refer to MILPERSMAN for naval personnel.

19. Primary Instructional Methods. Lecture, computer-assisted instruction, self- and group-paced study, and in-flight instruction.

20. Preceding Curriculum Data. None.

21. 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 to 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:

Aero	-	Aerodynamics
AF	-	Air Force
AFB	-	Air Force Base
AFFP	-	Air Force Formation Flight Procedures
AGL	-	Above Ground Level
AGSM	-	Anti-Gravity Straining Maneuver
AIM	-	Aeronautical Information Manual
ALSS	-	Aviation Life Support System
AOA	-	Angle of Attack
AOB	-	Angle of Bank
AP	-	Area Planning
ASI	-	Aviation Student Indoctrination
ASR	-	Airport Surveillance Radar
ATC	-	Air Traffic Control
ATF	-	Aviation Training Form
ATIS	-	Automatic Terminal Information Service
ATS	-	Aviation Training Summary or Approach Turn Stall
AWOS	-	Automated Weather Observation System
BASH	-	Bird/Animal Strike Hazard
BAW	-	Basic Air Work
BDA	-	Battle Damage Assessment
CAI	-	Computer-Assisted Instruction
CDI	-	Course Deviation Indicator

CNATRA - Chief of Naval Air Training
CR - Course Rules
CRM - Crew Resource Management
CTS - Course Training Standard
DA - Decision Altitude
DCONFP - Day Contact Flight Procedures
DH - Decision Height
DME - Distance Measuring Equipment
ECS - Environmental Control System
ELP - Emergency Landing Pattern
EOB - End of Block
EP - Emergency Procedure
EPT - Emergency Procedures Trainer
EST - Ejection Seat Trainer
FAF - Final Approach Fix
FAWP - Final Approach Waypoint
FFP - Formation Flight Procedures
FIH - Flight Information Handbook
FITC - Flight Instructor Training Course
FITU - Flight Instructor Training Unit
FLIP - Flight Information Publication
FMS - Flight Management System
FRR - Flight Rules and Regulations
FSS - Flight Support Services
FTI - Flight Training Instruction

GLOC - G-Induced Loss of Consciousness
GPS - Global Positioning System
GSI - Glideslope Indicator
GTIP - G-Tolerance Improvement Program
H/X - Hours per Event
HEFOE - Hydraulic, Electrical, Fuel, Oxygen, Engine
HILO - Holding-In-Lieu-Of
HUD - Head-up Display
IAF - Initial Approach Fix
IAP - Initial Approach Procedure
IAW - In Accordance With
IFR - Instrument Flight Rules
ILS - Instrument Landing System
IMC - Instrument Meteorological Conditions
IP - Instructor Pilot
IRATS - Instrument Refresher Academic Training Syllabus
ITU - Instructor Training Unit
IUT - Instructor Under Training
JPATS - Joint Primary Aircraft Training System
KIAS - Knots Indicated Airspeed
LDG - Landing
MAP - Missed Approach Point
MAWP - Missed Approach Waypoint
MDA - Minimum Descent Altitude
MIF - Maneuver Item File

MIL	-	Mediated Interactive Lecture
MOA	-	Military Operating Area
MPTS	-	Multi-Service Pilot Training System
NALCOMIS	-	Naval Aviation Logistics Command Operating Maintenance Information System
NAS	-	Naval Air Station
NATOPS	-	Naval Air Training Operating Procedures Standardization
NAV	-	Navigation
NAVAID	-	Navigational Aid
NCONFP	-	Night Contact Flight Procedures
NG	-	No Grade
NM	-	Nautical Mile(s)
OBOGS	-	On-Board Oxygen Generating System
OCF	-	Out-of-Control Flight
OCFFP	-	Out-of-Control Flight Flight Procedures
OFT	-	Operational Flight Trainer
OIC	-	Officer in Charge
OLF	-	Outlying Field
OPNAV	-	Office of the Chief of Naval Operations
OPS	-	Operations
ORM	-	Operational Risk Management
P/P	-	Pen/Pencil and Paper
PAR	-	Precision Approach Radar
PCL	-	Power Control Lever
PEL	-	Precautionary Emergency Landing

PEL/P - Precautionary Emergency Landing/Pattern
PMSV - Pilot-to-Metro Service
PMU - Power Management Unit
RVFAC - Radar Vectors to Final Approach Course
SI - Standardization Instructor
SID - Standard Instrument Departure
SOP - Standard Operating Procedure
SSR - Special Syllabus Requirement
STARs - Standard Terminal Arrivals
SYS - Systems
TIMS - Training Integration Management System
TOLD - Takeoff and Landing Data
TRAWING - Training Air Wing
UFCP - Up Front Control Panel
UHF - Ultra High Frequency
UTD - Unit Training Device (T-6B)
VFR - Visual Flight Rules
VHF - Very High Frequency
VMC - Visual Meteorological Conditions
VNAV - Visual Navigation
VOR - VHF Omnidirectional Range

CNATRAINST 1542.165A
6 Feb 12

BLANK PAGE

GLOSSARY

1. Advancing X. Completed event within the normal syllabus flow. Excludes events with last characters in the range 86-89.
2. Aviation Training Summary. A tabular sheet listing the MIF and maneuver grades within a training stage.
3. Block of Training. A sequential series of lessons within a training stage sharing an identical MIF. The fifth character in the lesson designator identifies a block.
4. Check Flight (SXX90). A flight check in any stage of training.
5. Contact. The stage of training that combines day and night flight familiarization, aerobatics maneuvers, and out-of-control flight procedures.
6. Course of Training. The entire program of preflight, flight, simulation, academics, and officer development conducted in all media during the programmed training days.
7. Course Training Standard. A description of required behaviors and standards of performance for a specific maneuver. These standards are in Chapter IX.
8. Courseware. The technical data, FTIs, audio, video, film, CAI, instructor guides, student study guides, and other training material developed to support and implement the syllabus of instruction.
9. 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.
10. Fixed-Wing Operating Procedures Manual. A training wing directive describing standard operating procedures for local fixed-wing aircraft.
11. Flight Training Instruction. A CNATRA-approved manual describing flight procedures and techniques for each training stage.

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

13. Instructor Training Form. A grade sheet documenting IUT performance for all categories of training regardless of media, phase, or stage. May also be referred to as aviation training form.

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

Char	Meaning	Remarks
1 st - 3 rd	Stage	C-Contact L-Low-Level Q-NATOPS F-Formation LL-Low-Level SY-Systems G-Ground Flt Support PR-Operating I-Instrument N-Navigation Procedures IN-Inst Flt NA-Nav Flt Support Support
4 th	Media	0-Ground 2-T-6B UTD 4-T-6B Training 3-T-6B OFT 1-Flight Support
5 th	Block	Sequential, indicating block within stage.
6 th & 7 th	Event/Check & Identifier	Sequential, indicating event within block, or other event types as shown below: 84-Adaptation 88-Initial Progress 85-Practice Sim Check 86-Warmup 89-Final Progress Check 87-Extra Training 90-Check Flight/Exam

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

16. Master Syllabus. Chapters I-VIII list all training syllabus activities, prerequisites, and desired training flow.

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

18. Stage of Training. All training of a particular type (Ground, Contact, Instruments, Navigation, Formation) within a phase. The first 1-3 letters in the lesson designator identifies the stage of each lesson (Example: F4101 is in the Formation stage; SY0101 is in the Systems stage).

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

20. Training Media. The media for this syllabus includes aircraft, UTDs, OFTs, ground training, FMS trainers, and CAI. The fourth character in the lesson identifier designates the training media.

CNATRAINST 1542.165A
6 Feb 12

BLANK PAGE

Chapter I

General Instructions

1. Syllabus Management

- a. Distribution. Participating squadron personnel.
- b. Interpretation. The syllabus is directive. Should circumstances create situations not covered within the scope of this syllabus, or 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 IAW CNATRAINST 1550.6E.
- e. Syllabus Description. The syllabus is divided into stages; the stages are grouped by flight training regimes such as Contact, Instrument, Formation, Navigation, and NATOPS flights. Each stage is subdivided into training blocks. The training blocks consist of a specified number of flights or device events. 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 stage sequentially, except as noted. Do not start a block without all prerequisites. IUTs may be in different stages simultaneously. Where applicable, IUTs shall be prepared, and will be eligible, for both a Contact and an Instrument syllabus event. IUTs must complete all events, unless approved for acceleration. System training management is designed to facilitate two graded events (flight, simulator, or exam) per IUT per day.
- b. Maneuver Continuity. IUTs must accomplish previously introduced maneuvers frequently enough to ensure maintaining required proficiency.

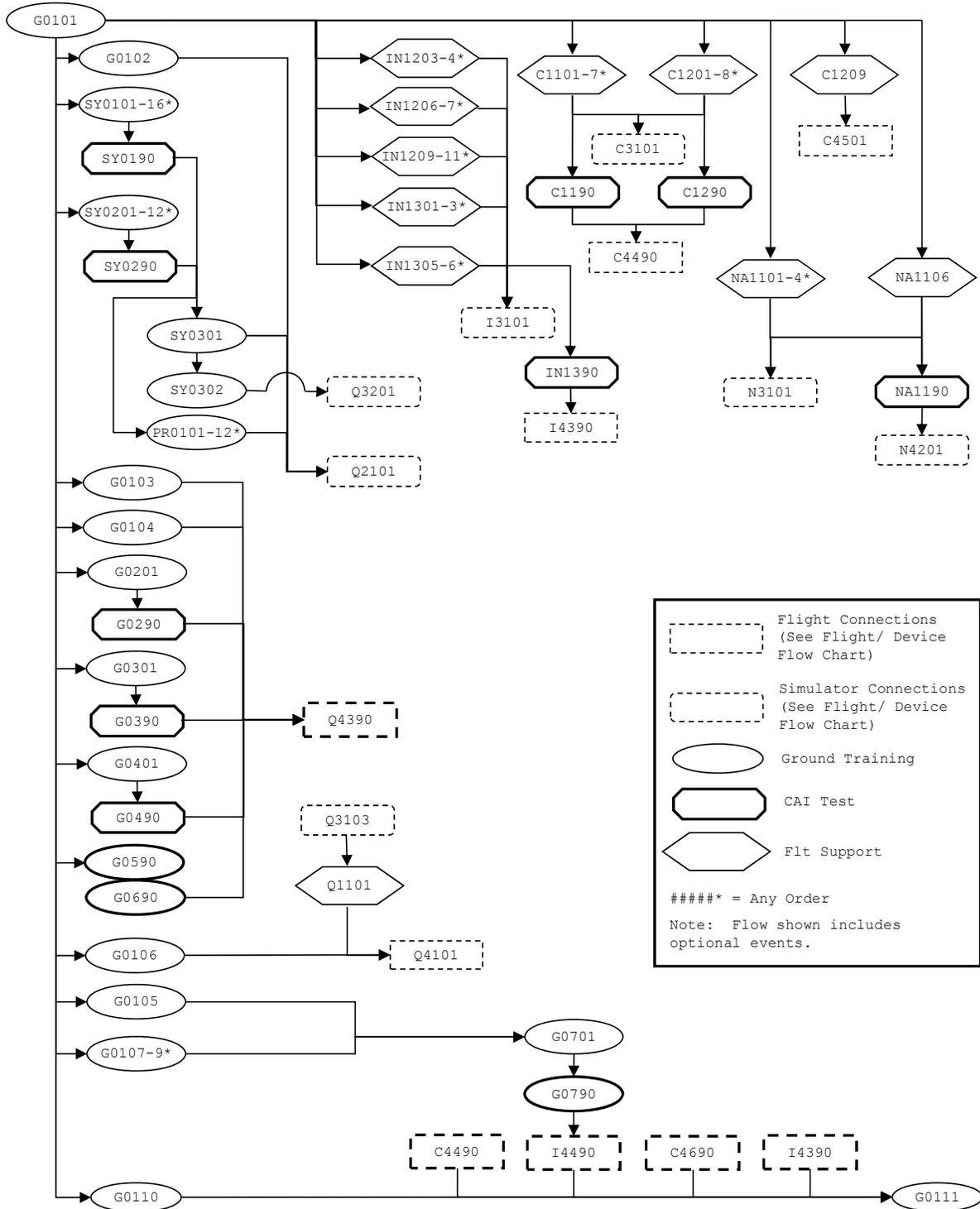
c. H/X. Standardization instructor pilots shall plan and execute missions to meet H/X as closely as practical. If actual event length varies from H/X by more than 0.3 hrs, annotate reason(s) in the general comment section of the ATF.

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

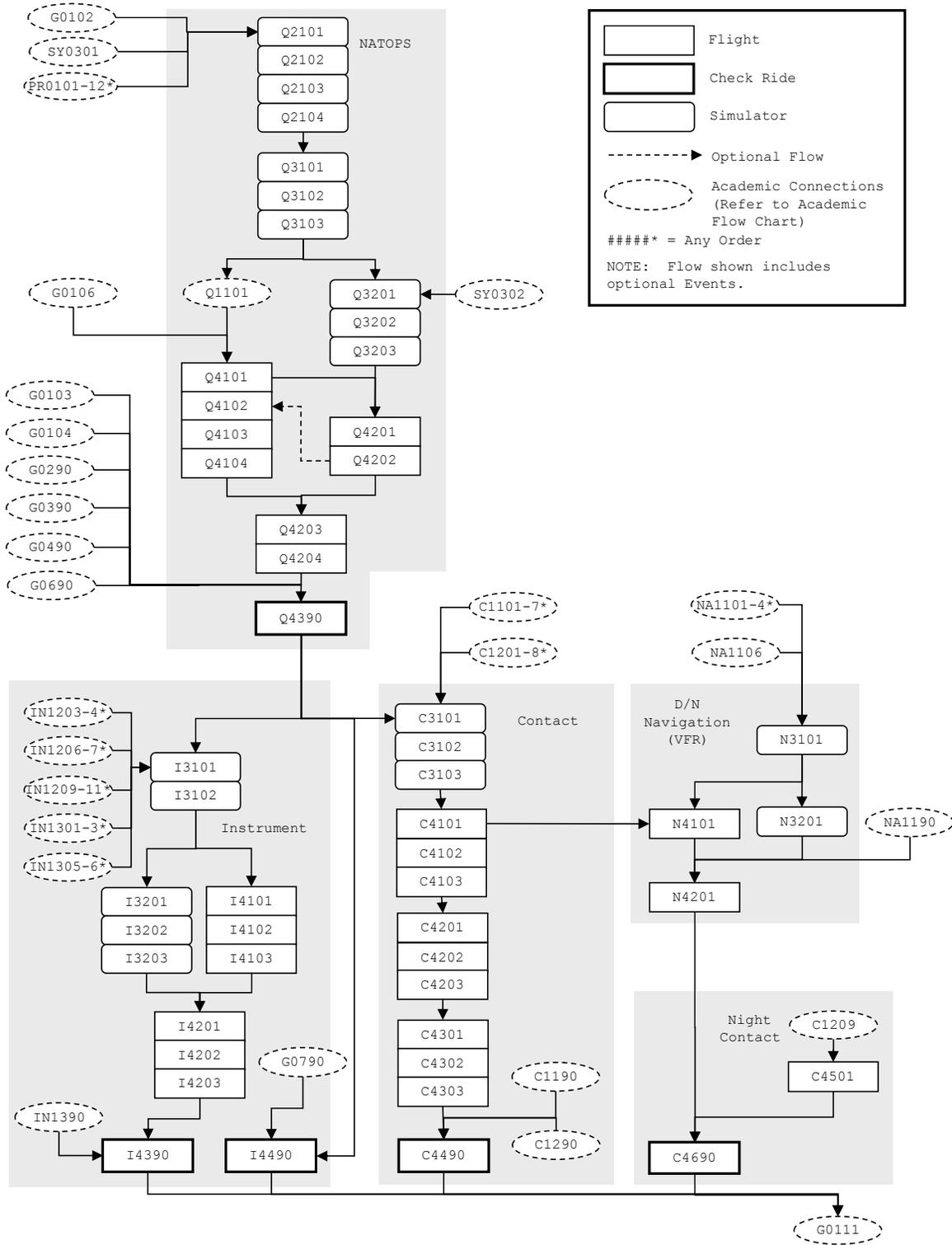
CNATRAINST 1542.165A
6 Feb 12

BLANK PAGE

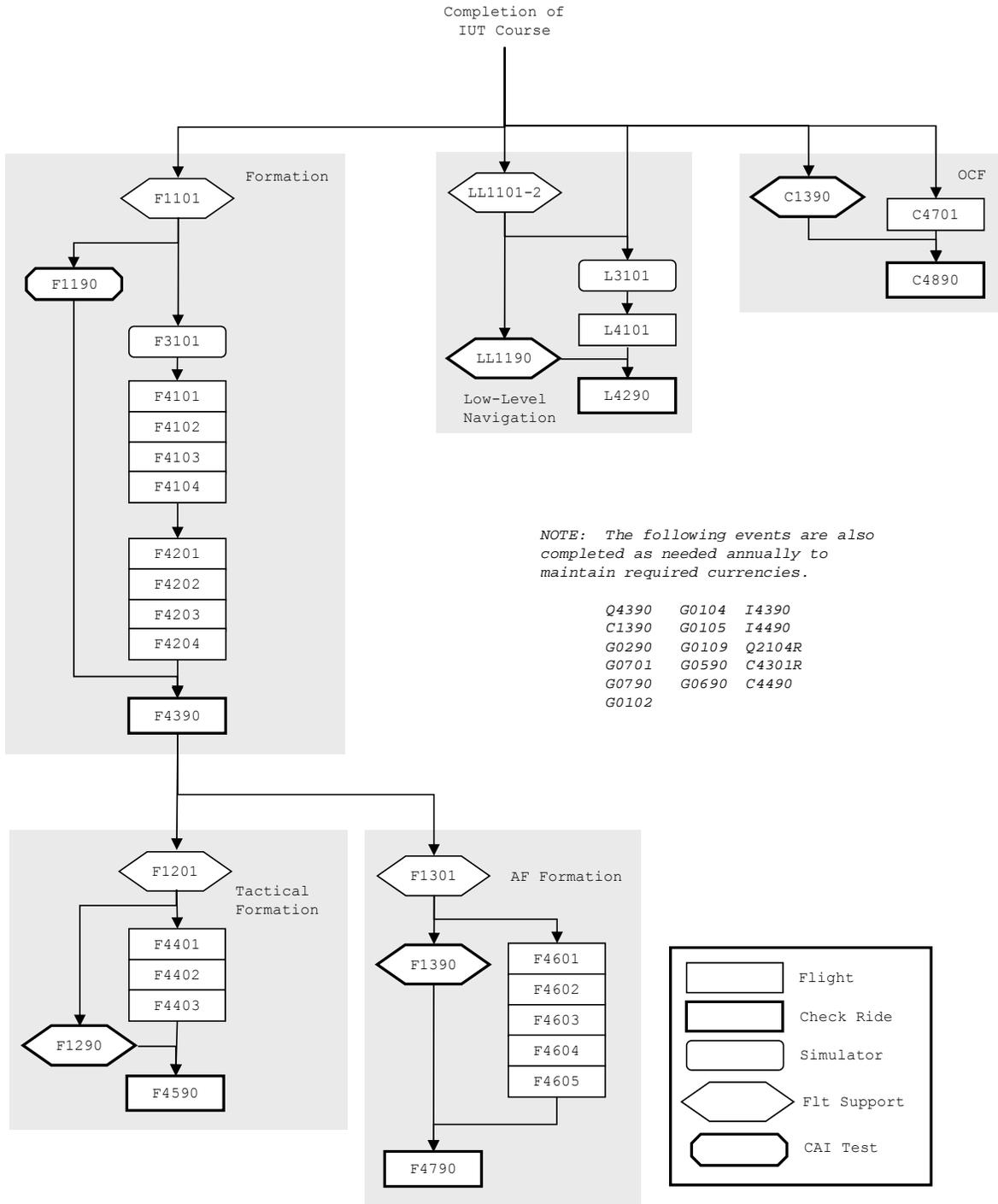
T-6B IUT ACADEMICS COURSE FLOW



T-6B FLIGHT/DEVICE IUT COURSE FLOW



T-6B ADVANCED QUALIFICATIONS COURSE FLOW



3. Ground Training and Briefing Requirements, Mission Preparation, Briefings, and Debriefings

a. 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.

b. Preparation. IUTs shall arrive for each flight with:

(1) Thorough knowledge of:

(a) The flight's discuss items as listed in Chapters III-VIII.

(b) Procedural knowledge of the critical items for the event's training block.

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

(3) The latest ATS for the stage.

c. Briefing. Thoroughly cover the mission's:

(1) Discuss items, as listed in Chapters III-VIII.

(2) Specific objectives.

(3) Required procedures for accomplishing those objectives.

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

d. Debriefing

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

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

(3) The SI shall provide the IUT with a new ATS, and may provide a copy of the event's ATF.

(4) Simulator debriefing stations should be used as required following simulator events.

4. Mission Grading Procedures and Evaluation Policies

a. General Evaluation Policy. CTSS 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) Overall Grading

(a) The overall grade for all flight and device events, with the exception of the NATOPS Check Flight, will be pass/fail.

(b) The overall grade for the NATOPS Check Flight will be UQ, CQ, or Q as described below:

1. Unqualified (UQ Level) - Fails to meet minimum acceptable criteria and needs supervised instruction.

2. Conditionally Qualified (CQ Level) - Meets minimum acceptable criteria and is safe to fly as the Mission Commander.

3. Qualified (Q Level) - Displays good knowledge of operational procedures and a thorough understanding of the aircraft.

(2) Standard Maneuver Grading. Use the following grading scale to document the characteristic performance of IUTs on all flight and device maneuvers attempted during each dual event, with the exception of maneuvers done during the NATOPS phase of training. This is an absolute grading scale. Judge their proficiency **only** against the item's course training standard.

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

1. When the SI demonstrates the maneuver and the IUT does not subsequently perform it during the event.

2. To indicate accomplishing SSRs. Specify the completed SSRs in the SSR comments section of the ATF.

(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. EXAMPLE: Using bank angle to compensate for poor rudder trim would be an inappropriate correction for heading deviations.

(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 and are appropriate, smooth, and rapid.

(3) NATOPS Maneuver Grading. During the NATOPS phase of training, grading will be IAW NATOPS standards. This criteria applies to all NATOPS chapter flight/device events.

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

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

Corresponding Course Training Standards will reference NATOPS.

(4) Progression Rule. Performance must meet MIF by the end of block. IUTs shall maintain or exceed MIF performance from one block, stage, or media to the next.

(5) 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 IUT 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.

(6) Incomplete Events. In general, SIs should consider an event complete if able to accomplish either all high or all low work. This consideration is particularly true when weather precludes one or the other, and the SI is able to emphasize training where weather permits. Subsequent events in the block, when available, can reverse this emphasis, hence achieving overall training balance. If an IUT 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. **Assess the event complete if:**

(a) Seventy-five percent of the event's H/X was used for training, and

(b) Sufficient events remain in the block to redress the imbalance, and

(c) Individual maneuvers can still be accomplished within the block.

(d) Otherwise, assess the event incomplete.

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

(8) Simulator Event Completion. Assess a simulator event complete if the IUT has received a full 1.3-hour training period.

c. Policies for Evaluation Flights and Ground Evaluations

(1) Check Flights (SXX90). Check flights amount to single event training blocks; therefore, all rules regarding progressing out of a block apply, except as noted below:

(a) 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 ability and readiness to progress to the next stage of training. All maneuvers indicated with a plus (+) are check flight critical and must be accomplished to MIF.

(d) The IUT should be able to demonstrate required levels of proficiency without SI assistance; however, instruction is allowed on check flights, and IUTs may reaccomplish maneuvers at the SI's discretion.

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

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

(b) The SI was unable to sample sufficient examples of a given maneuver to assess the IUT'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. Any maneuver is U/2.

5. Special Instructions and Restrictions

a. Schedule limitations for IUTs will be left to the discretion of the ITU or cognizant squadron, but consistent with the provisions of OPNAVINST 3710.7U.

b. IUTs are responsible for reviewing applicable source documents (NATOPS, FTIs, local SOPs, etc.) prior to commencing each stage of training.

c. All IUT flights will be conducted in accordance with the current T-6B NATOPS Flight Manual, FTI, and local SOP. No deviations from standard maneuvers are authorized except in cases of emergency.

d. Completion of the NATOPS stage as described in this instruction meets the NATOPS qualification requirements for the T-6B aircraft.

e. Aircraft/Simulator Interchangeability

(1) Simulator events may be substituted in the aircraft when the UTD/OFT is unavailable for extended periods of time.

(2) Aircraft events may not be substituted in the UTD/OFT.

(3) Any UTD event may be conducted in an OFT.

f. Reasonable accelerations and decelerations in the curriculum are authorized when warranted by previous experience or demonstrated ability. Combination of any two events is authorized. During the accelerated period, the IUT may progress to the next block of training once MIF is met within the current block of training. Accelerations of the curriculum require TRAWING Commander approval and shall be annotated in writing in the Instructor Training Jacket.

Chapter II

Ground Training

Blk #	Media	Title	Events	Hrs	Blk Name
G01	Class	Administration/ Indoctrination	11	40.5	ASI

1. Prerequisites

- a. G0101 prior to G0102-11 (any order).
- b. G0110, C4490, C4690, I4390, and I4490 prior to G0111.

2. Events

G0101	Sqdn	Check-In. IUT will check in with Squadron. This block includes Publications Issue and Flight Gear Fitting.		2.5	
G0102	Lect	Ejection Seat/Egress Procedures/Aeromedical Aspects of Ejection		2.0	
G0103	Offline MIL	Aviation Safety Program		1.0	
G0104	Offline MIL	GLOC/GTIP		0.5	
G0105	Offline MIL	Crew Resource Management		2.0	
G0106	Offline MIL	Airsickness Awareness		1.0	
G0107	Offline MIL	Wheels Watch		2.0	
G0108	Offline MIL	TIMS/Curriculum Review		2.0	

2. Events (cont)

G0109	Offline MIL	Hypoxia Awareness/Sensory Problems	1.0
G0110	Offline MIL	FITC	26.0
G0111	Sqdn	Checkout	0.5

3. Syllabus Notes

- a. G0102 requires the use of an EST and an EPT.
- b. G0107 is an optional event.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
SY01/2/3	Class	Systems	32	45.0	See Below

1. Prerequisites

- a. G0101 prior to SY0101 and SY0201.
- b. SY0101-16 (in any order) prior to SY0190.
- c. SY0201-12 (in any order) prior to SY0290.
- d. SY0190 and SY0290 prior to SY0301.
- e. SY0301 prior to SY0302.

2. Events

SY0101	MIL	Introduction to T-6B Systems		1.0	SYS1
SY0102	T-6B	Aircraft Systems Tour		1.5	SYS1
SY0103	CAI	Flight Controls		1.2	SYS1
SY0104	CAI	Hydraulic System 1		1.5	SYS1
SY0105	CAI	Hydraulic System 2		1.3	SYS1
SY0106	MIL	Systems Review		1.9	SYS1
SY0107	CAI	Up Front Control Panel		2.0	SYS1
SY0108	CAI	Flight Instruments 1		1.6	SYS1
SY0109	CAI	Flight Instruments 2		1.1	SYS1
SY0110	CAI	Head-Up Display		1.0	SYS1
SY0111	CAI	Communication System		1.8	SYS1
SY0112	CAI	Navigation Systems		1.7	SYS1
SY0113	CAI	UFPC Scenarios		1.0	SYS1
SY0114	CAI	FMS		1.0	SYS1
SY0115	MIL	Systems Review 2		3.5	SYS1
SY0116	UTD	T-6B Cockpit Familiarization		1.0	SYS1
SY0190	CAI Test	Systems 1 Exam		1.5	SYS1

2. Events (cont)

SY0201	CAI	Electrical System	1.2	SYS2
SY0202	CAI	Fuel System	1.0	SYS2
SY0203	MIL	Electrics and Fuel Review	1.4	SYS2
SY0204	CAI	Propulsion 1	1.8	SYS2
SY0205	CAI	Propulsion 2	1.1	SYS2
SY0206	MIL	Propulsion Review	1.5	SYS2
SY0207	CAI	Environmental System 1	0.8	SYS2
SY0208	CAI	Environmental System 2	0.5	SYS2
SY0209	CAI	Canopy System	0.6	SYS2
SY0210	CAI	Ejection System	1.0	SYS2
SY0211	UTD	T-6B Cockpit Familiarization 2	1.0	SYS2
SY0212	MIL	Systems Review 3	2.0	SYS2
SY0290	CAI	Systems 2 Exam Test	1.5	SYS2
SY0301	SS	FMS Trainer 1	2.0	FMS
SY0302	SS	FMS Trainer 2	2.0	FMS

3. Syllabus Note. SY0101, SY0106, SY0113, SY0115, SY0203, SY0206, and SY0212 are optional events.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
PR01	Class	Operating Procedures	12	16.5	PR

1. Prerequisites

a. SY0190 (Systems 1 Exam) and SY0290 (Systems 2 Exam).

b. PR0101-12 in any order.

2. Events

PR0101	MIL	Introduction to Operating Procedures		1.0
PR0102	CAI	Exterior Inspection		1.0
PR0103	CAI	Preflight Checks		1.3
PR0104	CAI	In-flight Checks		0.7
PR0105	CAI	Postflight Checks		0.5
PR0106	MIL	Handling Emergency Procedures		0.9
PR0107	CAI	Takeoff Emergencies		1.0
PR0108	CAI	In-flight Emergencies 1		3.0
PR0109	CAI	In-flight Emergencies 2		2.0
PR0110	CAI	In-flight Emergencies 3		2.5
PR0111	CAI	Aircraft Operating Limitations		0.6
PR0112	Lect	Emergency Procedures Review		2.0

3. Syllabus Note. PR0101, PR0106, and PR0112 are optional events.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
G02	Class	Course Rules	2	5.5	CR

1. Prerequisite. G0101 (Check-in).

2. Events

G0201 Offline Course Rules 4.5
 MIL

G0290 P/P Course Rules Exam 1.0
 Exam

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
G03	Wkbk/CAI	Flight Rules and Regulations	2	4.0	FRR

1. Prerequisite. G0101 (Check-in).

2. Events

G0301	Wkbk	Flight Rules and Regulations		3.0	
-------	------	---------------------------------	--	-----	--

G0390	CAI Test	Flight Rules and Regulations Exam		1.0	
-------	-------------	--------------------------------------	--	-----	--

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
G04	Wkbk/CAI	Fixed-Wing Aerodynamics	2	3.0	Aero

1. Prerequisite. G0101 (Check-in).

2. Events

G0401 Wkbk Fixed-Wing Aerodynamics 2.0

G0490 CAI Fixed-Wing Aerodynamics 1.0
Test Exam

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
G05/6	P/P	NATOPS Qualification	2	4.0	NATOPS

1. Prerequisites

- a. G0101 (Check-in) prior to G0590.
- b. G0590 (NATOPS Open-Book Exam) prior to G0690.

2. Events

G0590	P/P Exam	NATOPS Open-Book Exam		3.0	
G0690	P/P Exam	NATOPS Closed-Book Exam		1.0	

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
G07	Class	NATOPS Instrument Ground School/IRATS	2	8.0	IFR

1. Prerequisites

- a. G0105 (CRM).
- b. G0108 (TIMS/Curriculum Review).
- c. G0109 (Hypoxia Awareness/Sensory Problems).

2. Events

G0701	Offline MIL	NATOPS Instrument Ground School/IRATS		6.0	
G0790	P/P Exam	NATOPS Instrument Ground School/IRATS Exam		2.0	

3. Syllabus Notes. None.

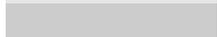
4. Discuss Items. None.

Chapter III

NATOPS Training

1. Matrices. The following matrix is an overview of the entire NATOPS stage. The purpose of this matrix is to provide the IUT and SI 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. NATOPS Stage MIF

 Simulator/Device Event
 Check Flight Event

N = NATOPS CTS

NATOPS STAGE MANEUVER ITEM FILE							
CTS REF	MANEUVER	Q2104	Q3103	Q3203	Q4104	Q4204	Q4390
1	General Knowledge/ Procedures	3+	3+	3+	3+	4+	4+
2	Emergency Procedures	3+	3+	3+	3+	4+	4+
3	Headwork/Situational Awareness	3+	3+	3+	3+	4+	4+
4	Basic Air Work	3+	3+	3+	3+	4+	4+
N	Abort Start	3+					
N	PMU Off Ground Start	3+					
N	Fire Warning on Ground (Fire Annunciator Illuminated)	3+					
N	Emergency Engine Shutdown	3+					
N	Emergency Ground Egress	3+					
N	Abort Takeoff	3+					

MIF continued on next page.

NATOPS STAGE MANEUVER ITEM FILE							
CTS REF	MANEUVER	Q2104	Q3103	Q3203	Q4104	Q4204	Q4390
N	Aircraft Departs Prepared Surface	3+					
N	Engine Failure Immediately After Takeoff	3+					
N	Engine Failure During Flight	3+					
N	PMU NORM Airstart	3+					
N	PMU OFF Airstart	3+					
N	Immediate Airstart	3+					
N	Uncommanded Propeller Feather	3+					
N	Uncommanded Power Changes/LOP	3+					
N	Fire Warning in Flight (Fire Annunciator Illuminated)	3+					4+
N	Smoke and Fume Elimination	3+					
N	PMU Failure	3+					
N	Chip Detector Warning	3+					
N	Oil System Malfunction or Low Oil Press	3+					
N	Electrical Failures	3+					
N	Avionics Failures	3+					
N	Fuel System Failures	3+					
N	Hydraulic System Failures	3+					
N	OBOGS System Fail	3+					
N	Trim System Malfunctions	3+					

MIF continued on next page.

NATOPS STAGE MANEUVER ITEM FILE							
CTS REF	MANEUVER	Q2104	Q3103	Q3203	Q4104	Q4204	Q4390
N	Controlled Ejection	3+					
N	Uncontrolled Ejection	3+					
N	Precautionary Emergency Landing	3+					
N	Landing Gear Emergency Extension	3+					
5	In-flight Checks/Fuel Management	3+	3+	3+	3+	4+	4+
6	In-flight Planning/ Area Orientation		3+	3+	3+	4+	4+
7	Task Management	3+	3+	3+	3+	4+	4+
8	Communication	3+	3+	3+	3+	4+	4+
9	Mission Planning/ Briefing/Debriefing	1	3+	3+	3+	4+	4+
10	Ground Operations	3+	3+	3+	3+	4+	4+
11	Takeoff	3	3+	3+	3+	4+	4+
12	Departure	3	3+	3+	3+	4+	4+
14	G-Awareness/Exercise				3+	4+	4+
N	Power-Off Stall		3+		4+		
N	ATS		3+		3+	4+	4+
N	Spin		3+		3+	4+	4+
N	Contact Unusual Attitudes		3+		3+	4+	4+
N	Inverted Flight		3+			4+	4+
N	Loop		3+		3+	4+	4
N	Aileron Roll		3+		3+	4+	4
N	Split-S		3+		3+	4+	4
N	Barrel Roll		3+		3+	4+	4
N	Cloverleaf		3+		3+	4+	4

MIF continued on next page.

NATOPS STAGE MANEUVER ITEM FILE							
CTS REF	MANEUVER	Q2104	Q3103	Q3203	Q4104	Q4204	Q4390
N	Immelmann		3+		3+	4+	4
N	Cuban Eight		3+		3+	4+	4
N	Wingover		3+		3+	4+	4
44	Holding			3+		4+	4
45	Enroute Procedures			3+		4+	4
46	Enroute Descent			3+		4+	4
47	High-Altitude Approach			3+		4	4
48	Teardrop Approach			3		4	4
49	Arcing Approach			3+		4+	4
50	HIL0 Approach			3+		4	4
51	Procedure Turn Approach			3+		4+	4
52	RVFAC Approach			3+		4+	4
53	GPS Approach			3+		4+	4
54	PAR Approach			3+		4+	4
55	ASR Approach			3+		4+	4
56	VOR Final			3+		4+	4
57	ILS Final			3+		4+	4
58	LOC Final			3+		4+	4
59	GPS Final			3+		4+	4
60	Backup Flight Instrument Approach			3+			
61	Circling Approach			3+		4+	4
62	Missed Approach			3+		4+	4
63	Transition to Landing/ Landing			3+		4+	4
66	OCF Recovery					4+	4+
32	Power Loss		3+		3+	4+	4+

MIF continued on next page.

NATOPS STAGE MANEUVER ITEM FILE							
CTS REF	MANEUVER	Q2104	Q3103	Q3203	Q4104	Q4204	Q4390
33	Precautionary Emergency Landing		3+		3+	4+	4+
34	PEL/P		3+		3+	4+	4+
35	ELP Landing		3+		3+	4+	4+
36	VFR Arrival/Course Rules		3+		3+	4+	4
37	Landing Pattern		3+		3+	4+	4+
38	No-Flap Landing		3+		3+	4+	4+
38	Takeoff Flap Landing		3+		3+	4+	4+
38	LDG Flap Landing		3+		3+	4+	4+
40	Waveoff		3+		3+	4+	4
	Special Syllabus Requirements	1			1		1

Blk #	Media	Title	Events	Hrs	Blk Name
Q11	Class	NATOPS Qualification Training	1	1.5	NATOPS

1. Prerequisite. Q3103.

2. Events

Q1101 Sqdn NATOPS Flight 0 1.5

3. Syllabus Notes

a. IUT shall demonstrate preflight, postflight, cockpit introduction (to include strapping in), and emergency ground egress.

b. With survival vest on, IUT shall locate, identify, and discuss function of each ALSS item.

4. Discuss Items. Discuss scheduling, brief and debrief, flight gear check, aircraft issue, weight and balance, aircraft discrepancy reporting, CTS, exams, simulator requirements, FTI reference material, and TIMS.

Blk #	Media	Title	Events	Hrs	H/X
Q21	UTD/OFT	NATOPS Cockpit Procedures	4	5.2	1.3

1. Prerequisites

- a. SY0301 (FMS Trainer 1).
- b. G0102 (Egress Procedures).
- c. PR0102-5 and PR0107-11 (Operating Procedures CAIs).

2. Syllabus Notes

a. Q2104 is also required annually to maintain qualification currency and should be conducted in the OFT. For annual qualification currency events, execute a cross-section of normal checklists and emergency procedure critical/noncritical memory items (10 minimum).

b. The following procedures should be performed by the IUT on the indicated event:

Q2101

All normal checklists, abort start (PMU abort, hung, and no-start), non-PMU abort (hot start), fire warning on ground, emergency engine shutdown, emergency ground egress, abort, and aircraft departs prepared surface.

Q2102

All normal checklists, engine failure immediately after takeoff, chip detector warning, PMU normal airstart, PMU off airstart, PMU failure, uncommanded prop feather, engine failure during flight (flameout, seized engine, loss of power), immediate airstart, PEL, and controlled and uncontrolled ejection.

Q2103

All normal checklists, hydraulic system failures, emergency landing gear extension, oil system malfunction, OBOGS system failures, fire warning in flight, trim system malfunctions, electrical failures (bus tie inoperative, battery bus inoperative, generator inoperative), and fuel system failures (imbalance on ground and in flight, low fuel pressure in flight).

Q2104

Any items required on Q2101-3 not previously covered. Cross section of normal checklists and emergency procedure critical/noncritical memory items.

3. Special Syllabus Requirements

Q2101

Loss of START READY light during start sequence.

Q2103

Blindfold Cockpit Check - IUT demonstrates a safe knowledge of location of the following: emergency firewall shutoff handle, CFS handle, PCL cutoff, flap selector, landing gear handle, emergency gear handle, backup VHF radio, bus tie switch, PMU switch, PROP SYS circuit breaker, and pressurization control switch.

4. Discuss Items

Q2101

All normal operating procedures and Q2101 required emergency procedures.

Q2102

All Q2102 required emergency procedures.

Q2103

All Q2103 required emergency procedures.

Q2104

Cross section of emergency procedure critical/noncritical memory items.

5. Block MIF

CTS REF	MANEUVER	Q2104
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Air Work	3+
N	Abort Start	3+
N	PMU Off Ground Start	3+
N	Fire Warning on Ground (Fire Annunciator Illuminated)	3+
N	Emergency Engine Shutdown	3+
N	Emergency Ground Egress	3+
N	Abort Takeoff	3+
N	Aircraft Departs Prepared Surface	3+
N	Engine Failure Immediately After Takeoff	3+
N	Engine Failure During Flight	3+
N	PMU NORM Airstart	3+
N	PMU OFF Airstart	3+
N	Immediate Airstart	3+
N	Uncommanded Propeller Feather	3+
N	Uncommanded Power Changes/LOP	3+
N	Fire Warning in Flight (Fire Annunciator Illuminated)	3+
N	Smoke and Fume Elimination	3+
N	PMU Failure	3+
N	Chip Detector Warning	3+
N	Oil System Malfunction or Low Oil Press	3+
N	Electrical Failures	3+
N	Avionics Failures	3+
N	Fuel System Failures	3+

MIF continued on next page.

CTS REF	MANEUVER	Q2104
N	Hydraulic System Failures	3+
N	OBOGS System Fail	3+
N	Trim System Malfunctions	3+
N	Controlled Ejection	3+
N	Uncontrolled Ejection	3+
N	Precautionary Emergency Landing	3+
N	Landing Gear Emergency Extension	3+
5	In-flight Checks/Fuel Management	3+
7	Task Management	3+
8	Communication	3+
9	Mission Planning/Briefing/Debriefing	1
10	Ground Operations	3+
11	Takeoff	3
12	Departure	3
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
Q31	OFT	NATOPS - Contact	3	3.9	1.3

1. Prerequisite. Q2104.

2. Syllabus Notes

a. Practice basic handling characteristics, basic maneuvers, and local procedures. Introduce and practice the following:

- (1) Ground operations.
- (2) Landing pattern procedures.
- (3) Stalls.
- (4) Contact unusual attitude recoveries.
- (5) Local departures and course rules.
- (6) Local radio procedures.
- (7) Spin recovery.

b. For the power-off stall, IUTs may reference the Emergency Landing Pattern Stall in the T-6B Contact FTI.

c. For the ATS, IUTs may reference the Landing Pattern Stall in the T-6B Contact FTI.

d. For power-off stall and ATS, IUTs shall demonstrate proficiency in stall recovery at both first indication of impending stall and onset of stall.

3. Special Syllabus Requirements. None.

4. Discuss Items

Q3101

All local procedures to include ground operations, departure, ATS, spin, slips, course rules, radio procedures, and HUD.

Q3102

Precautionary emergency landing, PEL/P, power loss (engine failure), emergency landing profile, landing pattern, waveoff, no-flap landing, takeoff flap landing, and LDG flap landings.

Q3103

Contact stage maneuvers to include: Contact unusual attitude recoveries, inverted flight, loop, aileron roll, split-S, barrel roll, cloverleaf, Immelmann, and Cuban eight.

5. Block MIF

CTS REF	MANEUVER	Q3103
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Air Work	3+
5	In-flight Checks/Fuel Management	3+
6	In-flight Planning/Area Orientation	3+
7	Task Management	3+
8	Communication	3+
9	Mission Planning/Briefing/Debriefing	3+
10	Ground Operations	3+
11	Takeoff	3+
12	Departure	3+
N	Power-off Stall	3+
N	ATS	3+
N	Spin	3+
N	Contact Unusual Attitudes	3+
N	Inverted Flight	3+
N	Loop	3+
N	Aileron Roll	3+

MIF continued on next page.

CTS REF	MANEUVER	Q3103
N	Split-S	3+
N	Barrel Roll	3+
N	Cloverleaf	3+
N	Immelmann	3+
N	Cuban Eight	3+
N	Wingover	3+
32	Power Loss	3+
33	Precautionary Emergency Landing	3+
34	PEL/P	3+
35	ELP Landing	3+
36	VFR Arrival/Course Rules	3+
37	Landing Pattern	3+
38	No-Flap Landing	3+
38	Takeoff Flap Landing	3+
38	LDG Flap Landing	3+
40	Waveoff	3+

Blk #	Media	Title	Events	Hrs	H/X
Q32	OFT/UTD	NATOPS - Instrument	3	3.9	1.3

1. Prerequisites

- a. Q3103.
- b. SY0302 (FMS Trainer 2).

2. Syllabus Notes

- a. Practice instrument flight maneuvers.
- b. Q3201 may be flown in OFT or UTD; Q3202-3 should be flown in OFT.

3. Special Syllabus Requirements. None.

4. Discuss Items

Q3201

Holding, enroute descent, missed approach, teardrop approach, arcing approach, HILO approach, and procedure turn approach.

Q3202

RVFAC, ILS, localizer, high-altitude approach, and circling approaches.

Q3203

PAR, ASR, no-gyro final, backup flight instrument approach, and GPS approaches.

5. Block MIF

CTS REF	MANEUVER	Q3203
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Air Work	3+

MIF continued on next page.

CTS REF	MANEUVER	Q3203
5	In-flight Checks/Fuel Management	3+
6	In-flight Planning/Area Orientation	3+
7	Task Management	3+
8	Communication	3+
9	Mission Planning/Briefing/Debriefing	3+
10	Ground Operations	3+
11	Takeoff	3+
12	Departure	3+
44	Holding	3+
45	Enroute Procedures	3+
46	Enroute Descent	3+
47	High-Altitude Approach	3+
48	Teardrop Approach	3
49	Arcing Approach	3+
50	HILO Approach	3+
51	Procedure Turn Approach	3+
52	RVFAC Approach	3+
53	GPS Approach	3+
54	PAR Approach	3+
55	ASR Approach	3+
56	VOR Final	3+
57	ILS Final	3+
58	LOC Final	3+
59	GPS Final	3+
60	Backup Flight Instrument Approach	3+
61	Circling Approach	3+
62	Missed Approach	3+
63	Transition to Landing/Landing	3+

Blk #	Media	Title	Events	Hrs	H/X
Q41	T-6B	NATOPS	4	7.2	1.8

1. Prerequisites

- a. G0106 (Airsickness Awareness).
- b. Q1101 (NATOPS Flight 0).

2. Syllabus Notes

- a. All events in this block shall be flown from the front cockpit.
- b. Q4201 and Q4202 may be flown prior to Q4102, Q4103, and Q4104.
- c. For the power-off stall, IUTs may refer to the Emergency Landing Pattern Stall in the T-6B Contact FTI.
- d. For the ATS, IUTs may reference the Landing Pattern Stall in the T-6B Contact FTI.
- e. For power-off stall and ATS, IUTs shall demonstrate proficiency in stall recovery at both first indication of impending stall and onset of stall.

3. Special Syllabus Requirements

Q4101
Slow flight/stall characteristics.

Q4102
OCF (controls neutral) spin recovery, progressive spin, high-speed spiral demonstration, inverted flight, and OCF/unusual attitude recovery.

Q4103
Aborted takeoff.

4. Discuss Items

Q4101

Pre-stalling, spinning and aerobatic checklist, ground emergencies/CFS, engine failure during flight, airstart, compressor stall, inadvertent departure from controlled flight, fire warning during flight, smoke and fume elimination, ejection seat/ejection, emergency landing pattern, ditching, landing gear emergencies, and local area operating procedures.

Q4102

Takeoff emergencies, chip detector warning, oil system malfunctions, fuel system failures, diverts, crosswind takeoff and landing, inverted spins, control release spin, progressive spin, aggravated spins, accelerated stalls, and OCF/unusual attitude.

Q4103

Hydraulic system failures, landing emergencies, wake turbulence, wet runway landing, hard landing, TOLD definitions, aborted takeoff, and maximum braking.

Q4104

Controllability check, trim malfunctions, flight with shattered/damaged canopy, canopy unlocked, wing flap failure, thunderstorm penetration, icing restrictions, bird strike, dive recovery, low altitude engine failure considerations, and ground roll/braking distance for PEL.

5. Block MIF

CTS REF	MANEUVER	Q4104
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Air Work	3+
5	In-flight Checks/Fuel Management	3+
6	In-flight Planning/Area Orientation	3+

MIF continued on next page.

CTS REF	MANEUVER	Q4104
7	Task Management	3+
8	Communication	3+
9	Mission Planning/Briefing/Debriefing	3+
10	Ground Operations	3+
11	Takeoff	3+
12	Departure	3+
14	G-Awareness/Exercise	3+
N	Power-off Stall	4+
N	ATS	3+
N	Spin	3+
N	Contact Unusual Attitudes	3+
N	Loop	3+
N	Aileron Roll	3+
N	Split-S	3+
N	Barrel Roll	3+
N	Cloverleaf	3+
N	Immelmann	3+
N	Cuban Eight	3+
N	Wingover	3+
32	Power Loss	3+
33	Precautionary Emergency Landing	3+
34	PEL/P	3+
35	ELP Landing	3+
36	VFR Arrival/Course Rules	3+
37	Landing Pattern	3+
38	No-Flap Landing	3+
38	Takeoff Flap Landing	3+
38	LDG Flap Landing	3+
40	Waveoff	3+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
Q42	T-6B	NATOPS	4	7.2	1.8

1. Prerequisites

- a. Q4101.
- b. Q3203.
- c. Q4104 prior to Q4203.
- d. Q4202 prior to Q4203.

2. Syllabus Notes

a. Q4201 corresponds to NA-3 in the T-6B NATOPS Flight Manual.

b. Q4201 and Q4202 may be flown prior to Q4102, Q4103, and Q4104 and may be flown from the rear cockpit; Q4203-4 shall be flown from the front cockpit.

3. Special Syllabus Requirements. None.

4. Discuss Items

Q4201

Uncommanded power change/loss of power/uncommanded propeller feather; PMU fault; PMU failure; electrical failure; avionics failure; radio failure VMC/IMC; instrument takeoff, departure, and arrival; physiological incident; OBOGS system malfunction; ECS duct overtemp; cockpit overpressurization; and rapid decompression.

Q4202-4

Any previously discussed items (as required).

5. Block MIF

CTS REF	MANEUVER	Q4204
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
14	G-Awareness/Exercise	4+
N	ATS	4+
N	Spin	4+
N	Contact Unusual Attitudes	4+
N	Inverted Flight	4+
N	Loop	4+
N	Aileron Roll	4+
N	Split-S	4+
N	Barrel Roll	4+
N	Cloverleaf	4+
N	Immelmann	4+
N	Cuban Eight	4+
N	Wingover	4+
44	Holding	4+
45	Enroute Procedures	4+
46	Enroute Descent	4+

MIF continued on next page.

CTS REF	MANEUVER	Q4204
47	High-Altitude Approach	4
48	Teardrop Approach	4
49	Arcing Approach	4+
50	HILO Approach	4
51	Procedure Turn Approach	4+
52	RVFAC Approach	4+
53	GPS Approach	4+
54	PAR Approach	4+
55	ASR Approach	4+
56	VOR Final	4+
57	ILS Final	4+
58	LOC Final	4+
59	GPS Final	4+
61	Circling Approach	4+
62	Missed Approach	4+
63	Transition to Landing/Landing	4+
66	OCF Recovery	4+
32	Power Loss	4+
33	Precautionary Emergency Landing	4+
34	PEL/P	4+
35	ELP Landing	4+
36	VFR Arrival/Course Rules	4+
37	Landing Pattern	4+
38	No-Flap Landing	4+
38	Takeoff Flap Landing	4+
38	LDG Flap Landing	4+
40	Waveoff	4+

Blk #	Media	Title	Events	Hrs	H/X
Q43	T-6B	NATOPS Check Flight	1	1.8	1.8

1. Prerequisites

- a. G0103 (Aviation Safety Program).
- b. G0104 (GLOC/GTIP).
- c. G0290 (Course Rules Exam).
- d. G0390 (FRR Exam).
- e. G0490 (Fixed-Wing Aerodynamics Exam).
- f. G0690 (NATOPS Closed Book Exam).
- g. Q4204.

2. Syllabus Notes

- a. Event shall be flown from the front cockpit.
- b. Execute comprehensive check of introduced maneuvers in accordance with Section 8 of the T-6B NATOPS Flight Manual.
- c. Discuss procedures for securing the rear cockpit for solo flight.
- d. A minimum of two aerobatic maneuvers shall be conducted.
- e. Initial qualification requires holding and precision and non-precision approach.
- f. IUT shall bring a completed T-6B Boldface Emergency Procedures/Operating Limitations Exam to the brief.
- g. IUT shall bring their updated T-6B NATOPS Flight Manual and Pocket Checklist to the brief.

3. Special Syllabus Requirements. High-speed spiral demonstration, inverted flight, progressive spin, OCF (controls neutral) spin recovery, securing the rear cockpit for solo flight, and emergency ground egress.

4. Discuss Items. Securing the rear cockpit for solo flight.
5. Block MIF

CTS REF	MANEUVER	Q4390
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
N	Fire Warning in Flight (Fire Annunciator Illuminated)	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
14	G-Awareness/Exercise	4+
N	ATS	4+
N	Spin	4+
N	Contact Unusual Attitudes	4+
N	Inverted Flight	4+
N	Loop	4
N	Aileron Roll	4
N	Split-S	4
N	Barrel Roll	4
N	Cloverleaf	4
N	Immelmann	4
N	Cuban Eight	4
N	Wingover	4

MIF continued on next page.

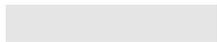
CTS REF	MANEUVER	Q4390
44	Holding	4
45	Enroute Procedures	4
46	Enroute Descent	4
47	High-Altitude Approach	4
48	Teardrop Approach	4
49	Arcing Approach	4
50	HILO Approach	4
51	Procedure Turn Approach	4
52	RVFAC Approach	4
53	GPS Approach	4
54	PAR Approach	4
55	ASR Approach	4
56	VOR Final	4
57	ILS Final	4
58	LOC Final	4
59	GPS Final	4
61	Circling Approach	4
62	Missed Approach	4
63	Transition to Landing/Landing	4
66	OCF Recovery	4+
32	Power Loss	4+
33	Precautionary Emergency Landing	4+
34	PEL/P	4+
35	ELP Landing	4+
36	VFR Arrival/Course Rules	4
37	Landing Pattern	4+
38	No-Flap Landing	4+
38	Takeoff Flap Landing	4+
38	LDG Flap Landing	4+
40	Waveoff	4
	Special Syllabus Requirements	1

Chapter IV

Contact Training

1. Matrices. The following matrix is an overview of the entire Contact stage, including two Advanced Qualification* blocks. The purpose of this matrix is to provide the IUT and SI the easiest way to track progress, regression, and overall status in relation to the MIF. In addition, there is a single matrix following each block description throughout this chapter.

2. Contact Stage MIF

 Simulator/Device Event
 Check Flight Event

CONTACT STAGE MANEUVER ITEM FILE										
CTS REF	MANEUVER	C3103	C4103	C4203	C4303	C4490	C4501	C4690	C4701*	C4890*
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+
3	Headwork/Situational Awareness	4+	4+	4+	4+	4+	4+	4+	4+	4+
4	Basic Air Work	4+	4+	4+	4+	4+	4+	4+	4+	4+
5	In-flight Checks/ Fuel Management	4+	4+	4+	4+	4+	4+	4+	4+	4+
6	In-flight Planning/ Area Orientation	4+	4+	4+	4+	4+	4+	4+	4+	4+
7	Task Management	4+	4+	4+	4+	4+	4+	4+	4+	4+
8	Communication	4+	4+	4+	4+	4+	4+	4+	4+	4+
9	Mission Planning/ Briefing/Debriefing	3+	4+	4+	4+	4+	4+	4+		
10	Ground Operations	4	4+	4+	4+	4+	4+	4+	4+	4+

MIF continued on next page.

CONTACT STAGE MANEUVER ITEM FILE										
CTS REF	MANEUVER	C3103	C4103	C4203	C4303	C4490	C4501	C4690	C4701*	C4890*
11	Takeoff	4+	4+	4+	4+	4+	4+	4+	4+	4+
12	Departure	4+	4+	4+	4+	4+	4+	4+	4+	4+
14	G-Awareness/Exercise		4+	4+	4+	4+				
15	Turn Pattern	3+	4+	4	4	4				
16	Level Speed Change	3+	4+	4	4	4				
17	Slow Flight	3+	3	4+	4	4+				
18	Power-On Stall	3+	4+	4+	4+	4+				
19	Landing Pattern Stalls	3+	4+	4+	4+	4+				
20	Emergency Landing Pattern Stalls	3+	4+	4+	4+	4+				
21	Spin	3	4	4+	4+	4			4+	4+
22	Contact Unusual Attitudes	3+	4+	4+	4+	4+			4+	4+
23	Loop	3+	3+	3+	4+	4				
24	Aileron Roll	3+	3+	3+	4+	4				
25	Split-S	3+	3+	3+	4+	4				
26	Barrel Roll	3+	3	3+	4+	4				
27	Cloverleaf	3+	3	3+	4+	4				
28	Immelmann	3+	3	3+	4+	4				
29	Cuban Eight	3+	3	3+	4+	4				
30	Wingover	3+	3	3+	4+	4				
31	Slip	3	3	4+	4+	4				
32	Power Loss	3+	3+	4+	4+	4				
33	Precautionary Emergency Landing	3+	3+	4+	4+	4	4+	4+		
34	PEL/P	3+	3+	4+	4+	4+	4+	4+		
35	ELP Landing	3+	3	3+	4+	4+	4+	4+		

MIF continued on next page.

CONTACT STAGE MANEUVER ITEM FILE										
CTS REF	MANEUVER	C3103	C4103	C4203	C4303	C4490	C4501	C4690	C4701*	C4890*
64	Progressive Spin								4+	4+
65	Spiral								4+	4+
66	OCF Recovery				4+	4			4+	4+
36	VFR Arrival/Course Rules	3	3+	4+	4+	4+	4+	4+	4	4
37	Landing Pattern	3+	3+	4+	4+	4+	4+	4+	4	4
38	No-Flap Landing	3+	3+	3+	4+	4+	4+	4+	4	4
38	Takeoff Flap Landing	3+	3+	3+	4+	4+	4+	4+	4	4
38	LDG Flap Landing	3+	3+	3+	4+	4+	4+	4+	4	4
39	AOA Pattern	3+	3+	3+	4+	4				
40	Waveoff	4	4+	4+	4+	4	4+	4+		
13	Instructional Skills/Student Management	3+	3+	3+	4+	4+	4+	4+		
	Special Syllabus Requirements			1	1				1	

*OCF Advanced Qualification

Blk #	Media	Title	Events	Hrs	Blk Name
C11	CAI/MIL	Contact Flight Procedures 1	8	10.4	Contact

1. Prerequisites

- a. G0101 (Check-in) prior to C1101-7 (any order).
- b. C1101-6 prior to C1190.

2. Events

C1101	CAI	TOLD Computations		1.0	
C1102	CAI	Clearing, Cross-check, and Basic Flight		1.6	
C1103	CAI	Taxi and Takeoff		1.3	
C1104	CAI	Departure and Climb		0.5	
C1105	CAI	Traffic Patterns		2.0	
C1106	CAI	Landing		1.0	
C1107	MIL	Contact Review 1		2.0	
C1190	CAI	Contact Exam 1		1.0	
	Test				

3. Syllabus Note. C1107 is an optional event.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
C12	CAI/MIL	Contact Flight Procedures 2	10	11.4	See Below

1. Prerequisites

a. G0101 (Check-in) prior to C1201-8 (in any order) and prior to C1209.

b. C1201-4 and C1206-8 prior to C1290.

2. Events

C1201	CAI	Stalls		1.5	DCONF
C1202	CAI	Recoveries		0.5	DCONF
C1203	CAI	Spins		1.0	DCONF
C1204	CAI	Energy Management		1.6	DCONF
C1205	MIL	Contact Review		2.0	DCONF
C1206	CAI	Rear Cockpit Preflight		0.5	DCONF
C1207	CAI	Basic Aerobatics		0.7	DCONF
C1208	CAI	Advanced Aerobatics		1.8	DCONF
C1290	CAI	Contact Exam 2 Test		1.0	DCONF
C1209	CAI	Night Procedures		0.8	NCONF

3. Syllabus Notes. C1205 is an optional event.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
C13	P/P	Out-of-Control Flight	1	1.0	OCFFP
1.	<u>Prerequisite.</u>	Completion of IUT syllabus.			
2.	<u>Events</u>				
	C1390	P/P	Out-of-Control Flight	1.0	
		Exam	Procedures Exam		
3.	<u>Syllabus Note.</u>	OCF Advanced Qualification only.			
4.	<u>Discuss Items.</u>	None.			

Blk #	Media	Title	Events	Hrs	H/X
C31	OFT	Day Contact	3	3.9	1.3

1. Prerequisites

a. C1101-6, C1201-4, and C1206-8 (Contact Flight Procedures CAIs).

b. Q4390.

2. Syllabus Note. All maneuvers performed by the IUT will emphasize instructional procedures while maintaining pilot proficiency level.

3. Special Syllabus Requirements. None.

4. Discuss Items

C3101

Spin, Contact unusual attitudes, landing pattern, crosswind landings, full-stop landings, AOA pattern, and waveoff.

C3102

Loop, aileron roll, split-S, barrel roll, cloverleaf, Immelmann, Cuban eight, and wingover.

C3103

Power loss, PEL, PEL/P, ELP, and ELP landing.

5. Block MIF

CTS REF	MANEUVER	C3103
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	3+
10	Ground Operations	4
11	Takeoff	4+
12	Departure	4+
15	Turn Pattern	3+
16	Level Speed Change	3+
17	Slow Flight	3+
18	Power-On Stall	3+
19	Landing Pattern Stalls	3+
20	Emergency Landing Pattern Stalls	3+
21	Spin	3
22	Contact Unusual Attitudes	3+
23	Loop	3+
24	Aileron Roll	3+
25	Split-S	3+
26	Barrel Roll	3+
27	Cloverleaf	3+
28	Immelmann	3+
29	Cuban Eight	3+

MIL continued on next page.

CTS REF	MANEUVER	C3103
30	Wingover	3+
31	Slip	3
32	Power Loss	3+
33	Precautionary Emergency Landing	3+
34	PEL/P	3+
35	ELP Landing	3+
36	VFR Arrival/Course Rules	3
37	Landing Pattern	3+
38	No-Flap Landing	3+
38	Takeoff Flap Landing	3+
38	LDG Flap Landing	3+
39	AOA Pattern	3+
40	Waveoff	4
13	Instructional Skills/Student Management	3+

Blk #	Media	Title	Events	Hrs	H/X
C41	T-6B	Day Contact	3	4.8	1.6

1. Prerequisite. C3103.

2. Syllabus Notes

a. All IUT events will be flown from the rear cockpit; all maneuvers will emphasize rear-cockpit proficiency.

b. Once initial proficiency is achieved, the IUT shall practice instruction.

3. Special Syllabus Requirements. None.

4. Discuss Items

C4101

Front and rear cockpit switchology differences, local course rules, and crosswind takeoffs/touch-and-goes/full-stop landings.

C4102

Area/energy management, local area fuel considerations, and aerobatic maneuvers.

C4103

Power loss, PEL, PEL/P, ELP, and ELP landing.

5. Block MIF

CTS REF	MANEUVER	C4103
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
14	G-Awareness/Exercise	4+
15	Turn Pattern	4+
16	Level Speed Change	4+
17	Slow Flight	3
18	Power-On Stall	4+
19	Landing Pattern Stalls	4+
20	Emergency Landing Pattern Stalls	4+
21	Spin	4
22	Contact Unusual Attitudes	4+
23	Loop	3+
24	Aileron Roll	3+
25	Split-S	3+
26	Barrel Roll	3
27	Cloverleaf	3
28	Immelmann	3

MIF continued on next page.

CTS REF	MANEUVER	C4103
29	Cuban Eight	3
30	Wingover	3
31	Slip	3
32	Power Loss	3+
33	Precautionary Emergency Landing	3+
34	PEL/P	3+
35	ELP Landing	3
36	VFR Arrival/Course Rules	3+
37	Landing Pattern	3+
38	No-Flap Landing	3+
38	Takeoff Flap Landing	3+
38	LDG Flap Landing	3+
39	AOA Pattern	3+
40	Waveoff	4+
13	Instructional Skills/Student Management	3+

Blk #	Media	Title	Events	Hrs	H/X
C42	T-6B	Day Contact	3	4.8	1.6

1. Prerequisite. C4103.

2. Syllabus Notes

a. All events will be flown from the rear cockpit.

b. All events will concentrate on introducing instructional procedures while continuing to build proficiency in the rear cockpit.

c. Observe a minimum of one student brief/debrief evolution during block.

3. Special Syllabus Requirements

C4201

Demonstrate visual straight-in.

C4202

Aborted takeoff demonstration.

4. Discuss Items

C4201

Working area/outlying field operations, student C4101 briefing items/profile, energy management, and visual straight-in.

C4202

Pattern chalkboard brief (IUT brief), student C4102 briefing items/profile, and aborted takeoff.

C4203

Emergency landing pattern chalkboard brief (IUT brief), student C4103 briefing items/profile, and Aldis lamp demonstration.

5. Block MIF

CTS REF	MANEUVER	C4203
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
14	G-Awareness/Exercise	4+
15	Turn Pattern	4
16	Level Speed Change	4
17	Slow Flight	4+
18	Power-On Stall	4+
19	Landing Pattern Stalls	4+
20	Emergency Landing Pattern Stalls	4+
21	Spin	4+
22	Contact Unusual Attitudes	4+
23	Loop	3+
24	Aileron Roll	3+
25	Split-S	3+
26	Barrel Roll	3+
27	Cloverleaf	3+
28	Immelmann	3+
29	Cuban Eight	3+

MIF continued on next page.

CTS REF	MANEUVER	C4203
30	Wingover	3+
31	Slip	4+
32	Power Loss	4+
33	Precautionary Emergency Landing	4+
34	PEL/P	4+
35	ELP Landing	3+
36	VFR Arrival/Course Rules	4+
37	Landing Pattern	4+
38	No-Flap Landing	3+
38	Takeoff Flap Landing	3+
38	LDG Flap Landing	3+
39	AOA Pattern	3+
40	Waveoff	4+
13	Instructional Skills/Student Management	3+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
C43	T-6B	Day Contact	3	4.8	1.6

1. Prerequisite. C4203.

2. Syllabus Notes

a. Events will be flown from the rear cockpit.

b. During this block of training, special emphasis will be placed on defensive posturing and instructional procedures. On C4302 and C4303, the IUT will practice instructing and evaluating SI in simulated student role. IUT will debrief simulated student and generate ATF.

c. C4302 will be flown as a student C4203 syllabus event.

d. C4303 will be flown as a student C4104 syllabus event.

e. Observe a minimum of one student brief/debrief evolution during block.

f. C4301 shall be repeated annually as an OCF refresher.

3. Special Syllabus Requirements

C4301

High-speed spiral demonstration and progressive spin.

C4302

SI will demonstrate a cross section of common student errors.

C4303

SI will demonstrate a cross section of common student errors.

4. Discuss Items

C4301

Out-of-control flight recognition and recovery; defensive positioning/exposure/recovery; spin versus spiral flight characteristics; and MPTS review of ATF and ATS. Common student errors; spin and stall errors; stalls during out-of-balance flight; aircraft flight characteristics associated with stalling in a skid versus a slip; skid-to-slip - rudder

swap; defensive positioning for all maneuvers listed in the MIF; and what to expect on C4302 flight profile.

C4302

Early contact defensive positioning; Contact stage student errors; and landing pattern errors to include: improper OLF entry/departure, interval errors, basic arrival deviations, improper communications, late flare, high flare, flat landings, porpoise landings, landing long, off center line, nose-wheel shimmy, landing in a crab, improper waveoffs, and low-key considerations. How to brief a typical student Contact flight (ATF, ATS, etc.), managing a typical student Contact flight (i.e., high-to-low), how to write the ATF, course training standards, and how to use the CTS.

C4303

Aborted takeoff, TOLD, minimum power-required charts/determination, and defensive positioning.

5. Block MIF

CTS REF	MANEUVER	C4303
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
14	G-Awareness/Exercise	4+
15	Turn Pattern	4

MIF continued on next page.

CTS REF	MANEUVER	C4303
16	Level Speed Change	4
17	Slow Flight	4
18	Power-On Stall	4+
19	Landing Pattern Stalls	4+
20	Emergency Landing Pattern Stalls	4+
21	Spin	4+
22	Contact Unusual Attitudes	4+
23	Loop	4+
24	Aileron Roll	4+
25	Split-S	4+
26	Barrel Roll	4+
27	Cloverleaf	4+
28	Immelmann	4+
29	Cuban Eight	4+
30	Wingover	4+
31	Slip	4+
32	Power Loss	4+
33	Precautionary Emergency Landing	4+
34	PEL/P	4+
35	ELP Landing	4+
66	OCF Recovery	4+
36	VFR Arrival/Course Rules	4+
37	Landing Pattern	4+
38	No-Flap Landing	4+
38	Takeoff Flap Landing	4+
38	LDG Flap Landing	4+
39	AOA Pattern	4+
40	Waveoff	4+
13	Instructional Skills/Student Management	4+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
C44	T-6B	Standardization Day Contact Check Flight	1	1.6	1.6

1. Prerequisites

- a. C4303.
- b. C1190 and C1290 (Contact 1 and 2 Exams).

2. Syllabus Notes

- a. Event will be flown from the rear cockpit.
- b. OCF maneuvers are required on initial qualification only. They may be flown on requalification flights if flown with an OCF instructor.
- c. A minimum of four aerobatic maneuvers (SI choice) shall be flown.

3. Special Syllabus Requirements. None.

4. Discuss Items. Any emergency procedure, defensive positioning, OCF, and OCF recovery procedures.

5. Block MIF

CTS REF	MANEUVER	C4490
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
14	G-Awareness/Exercise	4+
15	Turn Pattern	4
16	Level Speed Change	4
17	Slow Flight	4+
18	Power-On Stall	4+
19	Landing Pattern Stalls	4+
20	Emergency Landing Pattern Stalls	4+
21	Spin	4
22	Contact Unusual Attitudes	4+
23	Loop	4
24	Aileron Roll	4
25	Split-S	4
26	Barrel Roll	4
27	Cloverleaf	4
28	Immelmann	4
29	Cuban Eight	4

MIF continued on next page.

CTS REF	MANEUVER	C4490
30	Wingover	4
31	Slip	4
32	Power Loss	4
33	Precautionary Emergency Landing	4
34	PEL/P	4+
35	ELP Landing	4+
66	OCF Recovery	4
36	VFR Arrival/Course Rules	4+
37	Landing Pattern	4+
38	No-Flap Landing	4+
38	Takeoff Flap Landing	4+
38	LDG Flap Landing	4+
39	AOA Pattern	4
40	Waveoff	4
13	Instructional Skills/Student Management	4+

Blk #	Media	Title	Events	Hrs	H/X
C45	T-6B	Night Contact	1	1.6	1.6

1. Prerequisite. C1209 (Night Contact Flight Procedures).
2. Syllabus Note. Event will be flown from the rear cockpit.
3. Special Syllabus Requirements. None.
4. Discuss Items. Night flying considerations, aircraft and cockpit lighting, applicable night emergencies, local night SOP, and electrical system malfunctions.
5. Block MIF

CTS REF	MANEUVER	C4501
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
33	Precautionary Emergency Landing	4+
34	PEL/P	4+
35	ELP Landing	4+
36	VFR Arrival/Course Rules	4+
37	Landing Pattern	4+

MIF continued on next page.

CNATRINST 1542.165A
6 Feb 12

CTS REF	MANEUVER	C4501
38	No-Flap Landing	4+
38	Takeoff Flap Landing	4+
38	LDG Flap Landing	4+
40	Waveoff	4+
13	Instructional Skills/Student Management	4+

Blk #	Media	Title	Events	Hrs	H/X
C46	T-6B	Standardization Night Contact Check Flight	1	1.6	1.6

1. Prerequisites
 - a. C4501.
 - b. N4201.
2. Syllabus Notes. None.
3. Special Syllabus Requirements. None.
4. Discuss Items. Applicable night emergencies, local SOP night operations, and student Night Contact event.
5. Block MIF

CTS REF	MANEUVER	C4690
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
33	Precautionary Emergency Landing	4+
34	PEL/P	4+

MIF continued on next page.

CTS REF	MANEUVER	C4690
35	ELP Landing	4+
36	VFR Arrival/Course Rules	4+
37	Landing Pattern	4+
38	No-Flap Landing	4+
38	Takeoff Flap Landing	4+
38	LDG Flap Landing	4+
40	Waveoff	4+
13	Instructional Skills/Student Management	4+

Blk #	Media	Title	Events	Hrs	H/X
C47	T-6B	Standardization Out-of-Control Flight	1	1.6	1.6

1. Prerequisite. Completion of IUT syllabus.
2. Syllabus Notes
 - a. OCF Advanced Qualification only.
 - b. Event will be flown from the front cockpit.
3. Special Syllabus Requirements. Anti-spin recovery, demonstrate improper ELP profile, and demonstrate landing pattern errors that may lead to OCF (at altitude).
4. Discuss Items
 - a. Out-of-control flight/recovery procedures, anti-spin versus controls neutral spin recovery, progressive spin, spin versus spiral, stalls during out-of-balance flight; aircraft flight characteristics associated with stalling in a skid versus a slip; and skid-to-slip - rudder swap.
 - b. Common IUT errors, defensive positioning, and landing pattern errors to include: improper OLF entry/departure, interval errors, basic arrival deviations, improper communications, late flare, high flare, flat landings, porpoise landings, landing long, off center line, nose-wheel shimmy, landing in a crab, improper waveoffs, and low-key considerations.

5. Block MIF

CTS REF	MANEUVER	C4701
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
21	Spin	4+
22	Contact Unusual Attitudes	4+
64	Progressive Spin	4+
65	Spiral	4+
66	OCF Recovery	4+
36	VFR Arrival/Course Rules	4
37	Landing Pattern	4
38	No-Flap Landing	4
38	Takeoff Flap Landing	4
38	LDG Flap Landing	4
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
C48	T-6B	Standardization Out-of-Control Check Flight	1	1.6	1.6

1. Prerequisites

- a. C1390 (OCF Exam).
- b. C4701.

2. Syllabus Notes

- a. OCF Advanced Qualification only.
- b. Event will be flown from the front cockpit.

3. Special Syllabus Requirements. None.

4. Discuss Items. Out-of-control flight/recovery procedures, progressive spin, spin versus spiral, common IUT errors, defensive positioning, and CNATRAINST 3710.13G OCF refresher requirements.

5. Block MIF

CTS REF	MANEUVER	C4890
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
21	Spin	4+
22	Contact Unusual Attitudes	4+
64	Progressive Spin	4+
65	Spiral	4+
66	OCF Recovery	4+
36	VFR Arrival/Course Rules	4
37	Landing Pattern	4
38	No-Flap Landing	4
38	Takeoff Flap Landing	4
38	LDG Flap Landing	4

CNATRAINST 1542.165A
6 Feb 12

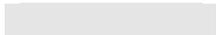
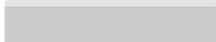
BLANK PAGE

Chapter V

Instrument Training

1. Matrices. The following matrix is an overview of the entire Instrument stage, except I4490. The purpose of this matrix is to provide the IUT and SI the easiest way to track progress, regression, and overall status in relation to the MIF. In addition, there is a single matrix following each block description throughout this chapter.

2. Instrument Stage MIF

 Simulator/Device Event
 Check Flight Event

INSTRUMENT STAGE MANEUVER ITEM FILE						
CTS REF	MANEUVER	I3102	I3203	I4103	I4203	I4390
1	General Knowledge/Procedures	3+	4+	3+	4+	4+
2	Emergency Procedures	3+	4+	3+	4+	4+
3	Headwork/Situational Awareness	3+	4+	3+	4+	4+
4	Basic Air Work	4+	4+	4+	4+	4+
5	In-flight Checks/Fuel Management	3+	4+	3+	4+	4+
6	In-flight Planning/Area Orientation	4+	4+	4+	4+	4+
7	Task Management	3+	4+	3+	4+	4+
8	Communication	4+	4+	4+	4+	4+
9	Mission Planning/Briefing/Debriefing	3+	4+	4+	4+	4+
10	Ground Operations	4	4	4+	4+	4+
11	Takeoff	4+	4+	4+	4+	4+
12	Departure	4+	4+	4+	4+	4+

MIF continued on next page.

INSTRUMENT STAGE MANEUVER ITEM FILE						
CTS REF	MANEUVER	I3102	I3203	I4103	I4203	I4390
41	Steep Turns	4+	4	4	4	4
42	IFR Unusual Attitudes	4+	4	4	4	4
43	Point-to-Point	3+	4+	3+	4+	4
44	Holding	4+	4+	4+	4+	4+
45	Enroute Procedures	4+	4+	4+	4+	4+
46	Enroute Descent	4+	4+	4+	4+	4+
47	High-Altitude Approach	3	4+	4	4	4
48	Teardrop Approach	4	4+	4	4	4
49	Arcing Approach	4	4+	4+	4	4
50	HIL0 Approach	4	4+	4	4+	4
51	Procedure Turn Approach	4	4+	4+	4+	4
52	RVFAC Approach	4	4+	4+	4+	4
53	GPS Approach	4	4+	4+	4+	4
54	PAR Approach	4	4+	4+	4+	4
55	ASR Approach	4	4+	4+	4+	4
56	VOR Final	3+	4+	4+	4+	4
57	ILS Final	3+	4+	4+	4+	4
58	LOC Final	3+	4+	4+	4+	4
59	GPS Final	3	4+	4+	4+	4
60	Backup Flight Instrument Approach	3	4+	4	4	4
61	Circling Approach	3	3+	3	4+	4
62	Missed Approach	4	4+	4+	4+	4+
63	Transition to Landing/ Landing	4+	4+	3+	4+	4+
13	Instructional Skills/Student Management	3+	4+	3+	4+	4+
	Special Syllabus Requirements			1	1	

Blk #	Media	Title	Events	Hrs	Blk Name
IN12/13	CAI	Instruments	13	21.1	See Below

1. Prerequisites

a. G0101 prior to IN1203-4, IN1206-7, IN1209-11, IN1301-3, and IN1305-6 in any order.

b. IN1203-4, IN1206-7, IN1209-11, and IN1301-3 prior to IN1390.

2. Events

IN1203	CAI	Instrument Takeoff and Departure		0.8	IN2
IN1204	CAI	Arrival Preparation and Holding		0.6	IN2
IN1206	CAI	Descent and Penetration		0.7	IN2
IN1207	CAI	Low Altitude Approaches		0.9	IN2
IN1209	CAI	Final Approach		1.2	IN2
IN1210	CAI	Radar Approaches		1.4	IN2
IN1211	CAI	Transition to Landing and Missed Approach		2.5	IN2
IN1301	CAI	Mission Planning Computations		1.5	IN3
IN1302	CAI	IFR Mission Planning		3.0	IN3
IN1303	CAI	IFR Navigation		1.5	IN3
IN1305	MIL	IFR Mission Planning Lab 1		3.0	IN3
IN1306	Offline MIL	IFR Mission Planning Lab 2		2.0	IN3
IN1390	CAI Test	Instruments Exam		2.0	IN3

3. Syllabus Note. IN1305 and IN1306 are optional events.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
I31	OFT	Radio Instruments	2	2.6	1.3

1. Prerequisites

a. IN1203-4, IN1206-7, IN1209-11, and IN1301-3, (Instruments CAI).

b. Q4390.

2. Syllabus Notes. IUTs shall meet or exceed these approach-type requirements. A minimum of six approaches are required for this block.

GCA	1 (PAR or ASR)
ILS	1
LOC	1
VOR	2

3. Special Syllabus Requirements. None.

4. Discuss Items

I3101
UFCP, FMS setup, and scan patterns.

I3102
Battery failure, generator failure, and backup flight instrument.

5. Block MIF

CTS REF	MANEUVER	I3102
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	3+
6	In-flight Planning/Area Orientation	4+

MIF continued on next page.

CTS REF	MANEUVER	I3102
7	Task Management	3+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	3+
10	Ground Operations	4
11	Takeoff	4+
12	Departure	4+
41	Steep Turns	4+
42	IFR Unusual Attitudes	4+
43	Point-to-Point	3+
44	Holding	4+
45	Enroute Procedures	4+
46	Enroute Descent	4+
47	High-Altitude Approach	3
48	Teardrop Approach	4
49	Arcing Approach	4
50	HILO Approach	4
51	Procedure Turn Approach	4
52	RVFAC Approach	4
53	GPS Approach	4
54	PAR Approach	4
55	ASR Approach	4
56	VOR Final	3+
57	ILS Final	3+
58	LOC Final	3+
59	GPS Final	3
60	Backup Flight Instrument Approach	3
61	Circling Approach	3
62	Missed Approach	4
63	Transition to Landing/Landing	4+
13	Instructional Skills/Student Management	3+

Blk #	Media	Title	Events	Hrs	H/X
I32	OFT	Radio Instruments	3	3.9	1.3

1. Prerequisite. I3102.
2. Syllabus Notes. None.
3. Special Syllabus Requirements. None.
4. Discuss Items

I3201

Clearance and departure procedures, lost communications, local procedures/FIH, and radar approaches.

I3202

FMS flight plan usage, FMS SID, FMS STAR, FMS holding, and FMS arcing approach.

I3203

FMS HILO approach, FMS procedure turn approach, GPS approach, RVFAC, and FMS missed approach.

5. Block MIF

CTS REF	MANEUVER	I3203
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4

MIF continued on next page.

CTS REF	MANEUVER	I3203
11	Takeoff	4+
12	Departure	4+
41	Steep Turns	4
42	IFR Unusual Attitudes	4
43	Point-to-Point	4+
44	Holding	4+
45	Enroute Procedures	4+
46	Enroute Descent	4+
47	High-Altitude Approach	4+
48	Teardrop Approach	4+
49	Arcing Approach	4+
50	HIL0 Approach	4+
51	Procedure Turn Approach	4+
52	RVFAC Approach	4+
53	GPS Approach	4+
54	PAR Approach	4+
55	ASR Approach	4+
56	VOR Final	4+
57	ILS Final	4+
58	LOC Final	4+
59	GPS Final	4+
60	Backup Flight Instrument Approach	4+
61	Circling Approach	3+
62	Missed Approach	4+
63	Transition to Landing/Landing	4+
13	Instructional Skills/Student Management	4+

Blk #	Media	Title	Events	Hrs	H/X
I41	T-6B	Radio Instruments	3	4.8	1.6

1. Prerequisite. I3102.

2. Syllabus Notes

a. I4101 will be flown from the rear cockpit; I4102-3 will be flown from the front cockpit.

b. One hour of nighttime should be completed during the I41 block. Discuss local night procedures prior to night flight.

c. Flights may be conducted as an out-and-in.

d. During block, IUT will fly and instruct a portion of each flight.

3. Special Syllabus Requirements

I4101

Local departure, recovery, and vertigo demonstration.

I4103

SI will demonstrate a cross section of common student errors.

4. Discuss Items

I4101

Instrument scan, local IFR departure, and local student instrument approach plates.

I4102

Hypoxia/hyperventilation and OBOGS caution/warning light, and icing considerations.

I4103

Common student errors and student grading practices.

5. Block MIF

CTS REF	MANEUVER	I4103
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	3+
6	In-flight Planning/Area Orientation	4+
7	Task Management	3+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
41	Steep Turns	4
42	IFR Unusual Attitudes	4
43	Point-to-Point	3+
44	Holding	4+
45	Enroute Procedures	4+
46	Enroute Descent	4+
47	High-Altitude Approach	4
48	Teardrop Approach	4
49	Arcing Approach	4+
50	HIL0 Approach	4
51	Procedure Turn Approach	4+
52	RVFAC Approach	4+
53	GPS Approach	4+
54	PAR Approach	4+
55	ASR Approach	4+
56	VOR Final	4+

MIF continued on next page.

CTS REF	MANEUVER	I4103
57	ILS Final	4+
58	LOC Final	4+
59	GPS Final	4+
60	Backup Flight Instrument Approach	4
61	Circling Approach	3
62	Missed Approach	4+
63	Transition to Landing/Landing	3+
13	Instructional Skills/Student Management	3+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
I42	T-6B	Radio Instruments	3	4.8	1.6

1. Prerequisites

a. I3203.

b. I4103.

2. Syllabus Notes

a. Events will be flown from the front cockpit.

b. At least two flights from the I42 block must be completed during an out-and-in or during a cross-country.

c. A minimum of three approaches and holding should be accomplished on each event.

d. Flights should represent a typical student profile.

e. During block, IUT will fly and instruct a portion of each flight.

f. Observe a minimum of one student brief/debrief evolution during block.

g. Fly at least one PAR or ASR as a no-gyro.

h. Ensure IUTs are proficient in FMS holding setup procedures.

3. Special Syllabus Requirements

I4203

SI will demonstrate a cross section of common student errors.

4. Discuss Items

I4201

Clearance and departure procedures, stereo routes (canned flight plans), airway navigation, lost communications, local procedures/FIH, PAR approach, ASR approach, and no-gyro radar approach.

I4202

FMS flight plan usage, FMS SID, FMS STAR, FMS holding, and FMS arcing approach.

I4203

FMS HILO approach, FMS procedure turn approach, GPS approach, RVFAC approach, FMS missed approach, common student errors, student grading practices, and defensive posturing.

5. Block MIF

CTS REF	MANEUVER	I4203
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
41	Steep Turns	4
42	IFR Unusual Attitudes	4

MIF continued on next page.

CTS REF	MANEUVER	I4203
43	Point-to-Point	4+
44	Holding	4+
45	Enroute Procedures	4+
46	Enroute Descent	4+
47	High-Altitude Approach	4
48	Teardrop Approach	4
49	Arcing Approach	4
50	HILO Approach	4+
51	Procedure Turn Approach	4+
52	RVFAC Approach	4+
53	GPS Approach	4+
54	PAR Approach	4+
55	ASR Approach	4+
56	VOR Final	4+
57	ILS Final	4+
58	LOC Final	4+
59	GPS Final	4+
60	Backup Flight Instrument Approach	4
61	Circling Approach	4+
62	Missed Approach	4+
63	Transition to Landing/Landing	4+
13	Instructional Skills/Student Management	4+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
I43	T-6B	Standardization Instrument Check Flight	1	1.6	1.6

1. Prerequisites

- a. I4203.
- b. IN1390 (Instruments Exam).

2. Syllabus Notes

- a. A minimum of holding, one precision, and one non-precision approach shall be flown.
- b. Event will be flown from the front cockpit.

3. Special Syllabus Requirements. None.

4. Discuss Items. Student check flight criteria, FMS operations, and lost communication (IAW local SOP).

5. Block MIF

CTS REF	MANEUVER	I4390
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+

MIF continued on next page.

CTS REF	MANEUVER	I4390
12	Departure	4+
41	Steep Turns	4
42	IFR Unusual Attitudes	4
43	Point-to-Point	4
44	Holding	4+
45	Enroute Procedures	4+
46	Enroute Descent	4+
47	High-Altitude Approach	4
48	Teardrop Approach	4
49	Arcing Approach	4
50	HILO Approach	4
51	Procedure Turn Approach	4
52	RVFAC Approach	4
53	GPS Approach	4
54	PAR Approach	4
55	ASR Approach	4
56	VOR Final	4
57	ILS Final	4
58	LOC Final	4
59	GPS Final	4
60	Backup Flight Instrument Approach	4
61	Circling Approach	4
62	Missed Approach	4+
63	Transition to Landing/Landing	4+
13	Instructional Skills/Student Management	4+

Blk #	Media	Title	Events	Hrs	H/X
I44	T-6B	NATOPS Instrument Check Flight	1	1.6	1.6

1. Prerequisites

- a. G0790 (NATOPS Instrument Ground School/IRATS Exam).
- b. Q4390.

2. Syllabus Notes

a. Nonplussed graded items are required when evaluation is not conducted under actual instrument conditions.

b. If annual CRM flight evaluation was conducted in conjunction with the NATOPS Instrument Check Flight, it shall be noted in the remarks section of the OPNAVINST 3710/2 NATOPS Instrument Rating Request Form.

3. Special Syllabus Requirements. None.

4. Discuss Items. None.

5. Block MIF

CTS REF	MANEUVER	I4490
N	Instrument Takeoff	4
N	Climbing/Descending Timed Turns	4
N	Steep Turns	4
N	Recovery From Unusual Attitudes	4
N	VOR/TACAN Positioning	4+
N	Partial Panel Air Work	4
N	Flight Planning	4+
N	Clearance Compliance	4+
N	Instrument Approaches	4+
N	Communications and Navigation Equipment	4+
N	Emergency Procedures	4+
N	Voice Procedures	4+

Chapter VI

Navigation Training

1. Matrices. The following matrices present an overview of the entire Navigation stage and Low-Level Advanced Qualification. The purpose of these matrices is to provide the IUT and SI 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. Navigation Stage MIF

Simulator/Device Event

NAVIGATION STAGE MANEUVER ITEM FILE					
CTS REF	MANEUVER	N3101	N3201	N4101	N4201
1	General Knowledge/Procedures	3+	3+	4+	4+
2	Emergency Procedures	4+	4+	4+	4+
3	Headwork/Situational Awareness	3+	3+	4+	4+
4	Basic Air Work	4+	4+	4+	4+
5	In-flight Checks/Fuel Management	3+	3+	4+	4+
6	In-flight Planning/Area Orientation	3+	3+	4+	4+
7	Task Management	3+	3+	4+	4+
8	Communication	3+	3+	4+	4+
9	Mission Planning/Briefing/Debriefing	3+	3+	4+	4+
10	Ground Operations	4	4	4+	4+
11	Takeoff	4+	4+	4+	4+
12	Departure	3+	3+	4+	4+
68	Route Management	3+	3+	4+	4+
36	VFR Arrival/Course Rules	3+	3+	4+	4+
37	Landing Pattern	4	4	4	4
38	No-Flap Landing	4	4	4	4
38	Takeoff Flap Landing	4	4	4	4
38	LDG Flap Landing	4	4	4	4
71	ATIS/PMSV/FSS/Weather	3+	3+	4+	4+
13	Instructional Skills/Student Management	3+	3+	4+	4+

3. Low-Level Advanced Qualification MIF

Simulator/Device Event

LOW-LEVEL ADVANCED QUALIFICATION MANEUVER ITEM FILE				
CTS REF	MANEUVER	L3101	L4101	L4290
1	General Knowledge/Procedures	3+	4+	4+
2	Emergency Procedures	4+	4+	4+
3	Headwork/Situational Awareness	3+	4+	4+
4	Basic Air Work	4+	4+	4+
5	In-flight Checks/Fuel Management	3+	4+	4+
6	In-flight Planning/Area Orientation	3+	4+	4+
7	Task Management	3+	4+	4+
8	Communication	3+	4+	4+
9	Mission Planning/Briefing/Debriefing	3+	4+	4+
10	Ground Operations	4	4+	4+
11	Takeoff	4+	4+	4+
12	Departure	4+	4+	4+
67	Route Entry/Exit	3+	4+	4+
68	Route Management	3+	4+	4+
69	Standard Time Corrections	3+	4+	4+
70	Standard Course Corrections	3+	4+	4+
36	VFR Arrival/Course Rules	4+	4+	4+
37	Landing Pattern	4	4	4
38	No-Flap Landing	4	4	4
38	Takeoff Flap Landing	4	4	4
38	LDG Flap Landing	4	4	4
71	ATIS/PMSV/FSS/Weather	4+	4+	4+
13	Instructional Skills/Student Management	3+	4+	4+

Blk #	Media	Title	Events	Hrs	Blk Name
NA11/LL11	CAI/MIL	Navigation	9	12.5	See Below

1. Prerequisites

- a. G0101 prior to NA1101-4, and NA1106 (in any order).
- b. NA1101-4 prior to NA1190.
- c. Completion of IUT course prior to LL1101-2 (in order).
- d. LL1102 prior to LL1190.

2. Events

NA1101	CAI	VFR Mission Planning	1.5	NA
NA1102	CAI	Lost Procedures	0.5	NA
NA1103	CAI	VFR Arrivals	1.5	NA
NA1104	CAI	Strange Field Procedures	0.5	NA
NA1106	Offline MIL	VFR Navigation Planning Lab	2.0	NA
NA1190	CAI Test	VFR Navigation Exam	1.0	NA
LL1101	CAI	Low-Level Navigation	1.5	LL
LL1102	MIL	Low-Level Planning Lab	3.0	LL
LL1190	P/P Exam	Low-Level Exam	1.0	LL

3. Syllabus Notes

- a. NA1106 is an optional event.
- b. Only Low-Level Advanced Qualification IPs complete LL1101-2 and LL1190.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
N31	OFT	Day Navigation	1	1.3	1.3

1. Prerequisites. NA1101-4 (Navigation CAIs).
2. Syllabus Notes. None.
3. Special Syllabus Requirements. None.
4. Discuss Items. VFR chart preparation, emergency field selection, airspace classification, VFR field entry/departure (AIM), and any applicable day emergency.

5. Block MIF

CTS REF	MANEUVER	N3101
1	General Knowledge/Procedures	3+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	3+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	3+
6	In-flight Planning/Area Orientation	3+
7	Task Management	3+
8	Communication	3+
9	Mission Planning/Briefing/Debriefing	3+
10	Ground Operations	4
11	Takeoff	4+
12	Departure	3+
68	Route Management	3+
36	VFR Arrival/Course Rules	3+
37	Landing Pattern	4
38	No-Flap Landing	4
38	Takeoff Flap Landing	4
38	LDG Flap Landing	4
71	ATIS/PMSV/FSS/Weather	3+
13	Instructional Skills/Student Management	3+

Blk #	Media	Title	Events	Hrs	H/X
N32	OFT	Night Navigation	1	1.3	1.3

1. Prerequisite. N3101.
2. Syllabus Notes. None.
3. Special Syllabus Requirements. None.
4. Discuss Items. Night visual navigation procedures, night VFR chart interpretation, local night VNAV SOPs, and any applicable night emergency procedure.
5. Block MIF

CTS REF	MANEUVER	N3201
1	General Knowledge/Procedures	3+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	3+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	3+
6	In-flight Planning/Area Orientation	3+
7	Task Management	3+
8	Communication	3+
9	Mission Planning/Briefing/Debriefing	3+
10	Ground Operations	4
11	Takeoff	4+
12	Departure	3+
68	Route Management	3+
36	VFR Arrival/Course Rules	3+
37	Landing Pattern	4
38	No-Flap Landing	4
38	Takeoff Flap Landing	4

MIF continued on next page.

CNATRINST 1542.165A
6 Feb 12

CTS REF	MANEUVER	N3201
38	LDG Flap Landing	4
71	ATIS/PMSV/FSS/Weather	3+
13	Instructional Skills/Student Management	3+

Blk #	Media	Title	Events	Hrs	H/X
N41	T-6B	Day Navigation	1	1.6	1.6

1. Prerequisites

- a. N3101.
- b. C4101.

2. Syllabus Notes

a. N41 block may be flown at anytime during the Day Contact syllabus after completion of C4101 and N3101.

b. Event is flown from the rear cockpit.

3. Special Syllabus Requirements. None.

4. Discuss Items. VFR chart preparation, emergency field selection, destination maintenance facilities and operating procedures, airspace classification, and VFR field entry/departure (AIM), any applicable day emergency, and local cross-country SOP.

5. Block MIF

CTS REF	MANEUVER	N4101
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
68	Route Management	4+
36	VFR Arrival/Course Rules	4+
37	Landing Pattern	4
38	No-Flap Landing	4
38	Takeoff Flap Landing	4
38	LDG Flap Landing	4
71	ATIS/PMSV/FSS/Weather	4+
13	Instructional Skills/Student Management	4+

Blk #	Media	Title	Events	Hrs	H/X
N42	T-6B	Night Navigation	1	1.6	1.6

1. Prerequisites

- a. N4101.
- b. N3201.
- c. NA1190 (VFR Navigation Exam).

2. Syllabus Notes

a. N42 block may be flown anytime after N4101 and N3201, but must be complete prior to C4690.

b. Event is flown from the rear cockpit.

3. Special Syllabus Requirements. None.

4. Discuss Items. Night visual navigation procedures, night VFR chart interpretation, local night SOPs, and applicable night emergency.

5. Block MIF

CTS REF	MANEUVER	N4201
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
68	Route Management	4+
36	VFR Arrival/Course Rules	4+
37	Landing Pattern	4
38	No-Flap Landing	4
38	Takeoff Flap Landing	4
38	LDG Flap Landing	4
71	ATIS/PMSV/FSS/Weather	4+
13	Instructional Skills/Student Management	4+

Blk #	Media	Title	Events	Hrs	H/X
L31	OFT	Low-Level	1	1.3	1.3

1. Prerequisites
 - a. Completion of IUT syllabus.
 - b. LL1102 (Low-Level Planning Lab).
2. Syllabus Note. Low-level Advanced Qualification only.
3. Special Syllabus Requirements. None.
4. Discuss Items. Low-level chart preparation, AP-1B, BASH, FMS procedures, emergency field selection, airspace classification, route entry/exit, route management, standard time corrections, standard course corrections, and any applicable day emergency.

5. Block MIF

CTS REF	MANEUVER	L3101
1	General Knowledge/Procedures	3+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	3+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	3+
6	In-flight Planning/Area Orientation	3+
7	Task Management	3+
8	Communication	3+
9	Mission Planning/Briefing/Debriefing	3+
10	Ground Operations	4
11	Takeoff	4+
12	Departure	4+
67	Route Entry/Exit	3+
68	Route Management	3+
69	Standard Time Corrections	3+
70	Standard Course Corrections	3+
36	VFR Arrival/Course Rules	4+
37	Landing Pattern	4
38	No-Flap Landing	4
38	Takeoff Flap Landing	4
38	LDG Flap Landing	4
71	ATIS/PMSV/FSS/Weather	4+
13	Instructional Skills/Student Management	3+

Blk #	Media	Title	Events	Hrs	H/X
L41	T-6B	Low-Level	1	1.6	1.6

1. Prerequisite. L3101.
2. Syllabus Notes
 - a. Low-level Advanced Qualification only.
 - b. Event is flown from the rear cockpit.
3. Special Syllabus Requirements. None.
4. Discuss Items. Low-level chart preparation, FMS procedures, emergency field selection, route entry/exit, route management, standard time corrections, standard course corrections, VFR field entry/departure (AIM), and any applicable day emergency.

5. Block MIF

CTS REF	MANEUVER	L4101
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
67	Route Entry/Exit	4+
68	Route Management	4+
69	Standard Time Corrections	4+
70	Standard Course Corrections	4+
36	VFR Arrival/Course Rules	4+
37	Landing Pattern	4
38	No-Flap Landing	4
38	Takeoff Flap Landing	4
38	LDG Flap Landing	4
71	ATIS/PMSV/FSS/Weather	4+
13	Instructional Skills/Student Management	4+

Blk #	Media	Title	Events	Hrs	H/X
L42	T-6B	Low-Level Check Flight	1	1.6	1.6

1. Prerequisites

- a. L4101.
- b. LL1190 (Low-Level Exam).

2. Syllabus Notes

- a. Low-level Advanced Qualification only.
- b. Event is flown from the rear cockpit.

3. Special Syllabus Requirements. None.

4. Discuss Items. Review low-level procedures and any applicable day emergency.

5. Block MIF

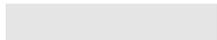
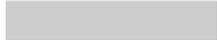
CTS REF	MANEUVER	L4290
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
11	Takeoff	4+
12	Departure	4+
67	Route Entry/Exit	4+
68	Route Management	4+
69	Standard Time Corrections	4+
70	Standard Course Corrections	4+
36	VFR Arrival/Course Rules	4+
37	Landing Pattern	4
38	No-Flap Landing	4
38	Takeoff Flap Landing	4
38	LDG Flap Landing	4
71	ATIS/PMSV/FSS/Weather	4+
13	Instructional Skills/Student Management	4+

Chapter VII

Formation Training

1. Matrices. The following matrices are overviews of the entire Formation Stage. The purpose of these matrices is to provide the IUT and SI 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. Formation Stage MIF

 Simulator/Device Event
 Check Flight Event

FORMATION STAGE MANEUVER ITEM FILE							
CTS REF	MANEUVER	F3101	F4104	F4204	F4390	F4403	F4590
1	General Knowledge/ Procedures	3+	3+	4+	4+	4+	4+
2	Emergency Procedures	3+	3+	4+	4+	4+	4+
3	Headwork/Situational Awareness	3+	3+	4+	4+	4+	4+
4	Basic Air Work	4+	4+	4+	4+	4+	4+
5	In-flight Checks/Fuel Management	4+	4+	4+	4+	4+	4+
6	In-flight Planning/Area Orientation	3+	3+	4+	4+	4+	4+
7	Task Management	3+	3+	4+	4+	4+	4+
8	Communication	3+	3+	4+	4+	4+	4+
9	Mission Planning/Briefing/ Debriefing	3+	3+	4+	4+	4+	4+
10	Ground Operations		3+	4+	4+	4+	4+
72	Lead Change	3	3+	4+	4+	4+	4+
73	Visual Signals	3+	3+	4+	4+	4+	4+
14	G-Awareness/Exercise		4+	4+	4+	4+	4+

MIF continued on next page.

FORMATION STAGE MANEUVER ITEM FILE							
CTS REF	MANEUVER	F3101	F4104	F4204	F4390	F4403	F4590
37	Landing Pattern	4	4	4	4	4	4
38	No-Flap Landing	4	4	4	4	4	4
38	Takeoff Flap Landing	4	4	4	4	4	4
38	LDG Flap Landing	4	4	4	4	4	4
76	Wingman Consideration		3+	4+	4+	4+	4+
13	Instructional Skills/ Student Management		3+	4+	4+	4+	4+
	Formation Lead						
74	Section Takeoff		3	4+	4	4	4
75	Interval Takeoff/ Rendezvous		3+	4	4	4	4
12	Departure		3+	4+	4	4+	4
83	Breakup and Rendezvous		3+	4+	4+	4+	4+
36	VFR Arrival/Course Rules		3+	4+	4+	4+	4+
88	Formation Approach		3+	4+	4	4+	4
	Formation Wingman						
74	Section Takeoff	2+	3	4+	4	4	4
75	Interval Takeoff/ Rendezvous	2+	3+	4	4	4	4
77	Parade (Straight-and- Level)	2+	3+	4+	4+	4+	4+
78	Parade/Turns Into	2+	3+	4+	4+	4+	4+
79	Parade/Turns Away (IFR)	2+	3+	4+	4+	4+	4+
80	Parade/Turns Away (VFR)	2+	3+	4+	4+	4+	4+
82	Crossunder	2+	3+	4+	4+	4	4
83	Breakup and Rendezvous	2+	3+	4+	4+	4	4
84	Running Rendezvous	2+	3+	4+	4+	4	4
85	Underrun	2+	3+	4+	4+	4	4
86	Cruise Maneuvering	2+	3+	4+	4+	4	4

MIF continued on next page.

FORMATION STAGE MANEUVER ITEM FILE							
CTS REF	MANEUVER	F3101	F4104	F4204	F4390	F4403	F4590
87	Tail-Chase	2+	3+	4+	4+	4	4
88	Formation Approach	2+	3+	4+	4	4+	4
89	Tactical Spread					4+	4+
89	Tactical - In Place (Called/Uncalled)					4+	4+
89	Tactical - Shackle					4+	4+
89	Tactical - Cross Turn					4+	4+
89	Tactical - Check Turn					4+	4+
89	Tactical Turns (Called/Uncalled)					4+	4+
	Special Syllabus Requirements			1			

3. AF Formation Student Syllabus Management. The AF Formation Top-off Syllabus is designed to prepare USAF students for advanced USAF training and contains basic AF formations, AF formation procedures, and three-dimensional maneuvering.

4. IUT Advanced Qualification. The IUT Advanced Qualification for AF Formation is designed to bring an IUT from a non-AF, non-fixed wing background to a proficiency level that is satisfactory to instruct this syllabus.

5. AF Formation Stage MIF

Check Flight Event

AF FORMATION STAGE MANEUVER ITEM FILE			
CTS REF	MANEUVER	F4605	F4790
1	General Knowledge/Procedures	4+	4+
2	Emergency Procedures	4+	4+
3	Headwork/Situational Awareness	4+	4+
4	Basic Air Work	4+	4+
5	In-Flight Checks/Fuel Management	4+	4+
6	In-Flight Planning/Area Orientation	4+	4+
8	Communication	4+	4+
9	Mission Planning/Briefing/Debriefing	4+	4+
10	Ground Operations	4+	4+
72	Lead Change	4+	4+
73	Visual Signals	4+	4+
14	G-Awareness/Exercise	4+	4+
37	Landing Pattern	4	4
38	No-Flap Landing	4	4
38	Takeoff Flap Landing	4	4
38	LDG Flap Landing	4	4
13	Instructional Skills/Student Management	4+	4+
	FORMATION LEAD		
74	Section Takeoff	4+	4
75	Interval Takeoff/Rendezvous	4	4
12	Departure	4+	4
95	Wingwork	4+	4+
96	Extended Trail Level 1	4	4
96	Extended Trail Level 2	4+	4+
96	Extended Trail Level 3	4+	4+
36	VFR Arrival/Course Rules	4+	4

MIF continued on next page.

AF FORMATION STAGE MANEUVER ITEM FILE			
CTS REF	MANEUVER	F4605	F4790
88	Formation Approach	4+	4
97	Formation Landing	4+	4
	FORMATION WING		
74	Section Takeoff	4+	4
75	Interval Takeoff/Rendezvous	4	4
77	Parade/Fingertip	4+	4+
91	Route	4+	4+
92	Echelon	4+	4+
82	Crossunder	4+	4+
93	Straight Ahead Rejoin	4+	4+
94	Turning Rejoin	4+	4+
95	Wingwork	4+	4+
96	Extended Trail Level 1	4	4
96	Extended Trail Level 2	4+	4+
96	Extended Trail Level 3	4+	4+
99	Breakout	4+	4+
88	Formation Approach	4+	4
97	Formation Landing	4+	4
	MISCELLANEOUS		
98	AF Pattern Operations	4+	4
90	Knock-It-Off Procedures	4	4
81	Lost Wingman Exercise	4+	4+
89	Tactical Maneuvering	4	4
	Special Syllabus Requirements	1	

Blk #	Media	Title	Events	Hrs	Blk Name
F11/12	MIL/CAI	Formation/ Tactical Formation	4	8.0	See Below

1. Prerequisites

a. Completion of IUT syllabus - Formation Advanced Qualification.

b. F1101 prior to F1190 - Formation Advanced Qualification.

c. F4390 prior to F1201 - Tactical Formation Advanced Qualification.

d. F1201 prior to F1290 - Tactical Formation Advanced Qualification.

2. Events

F1101	MIL	Formation Procedures		4.5	FFP1
F1190	CAI Test	Formation Exam		1.0	FFP1
F1201	Lect	Tactical Formation Flight Procedures		1.5	FFP2
F1290	P/P Exam	Tactical Formation Exam		1.0	FFP2

3. Syllabus Notes

a. Formation Advanced Qualification IPs complete F1101 and F1190.

b. IP must have Formation Advanced Qualification in order to begin Tactical Formation Advanced Qualification.

c. Tactical Formation Advanced Qualification IPs complete F1201 and F1290.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
F13	Class	AF Formation	2	4.0	AFFP

1. Prerequisites

- a. F4390 prior to F1301.
- b. F1301 prior to F1390.

2. Events

F1301	Lect	AF Formation Flight Procedures		3.0	
F1390	P/P Exam	AF Formation Exam		1.0	

3. Syllabus Note. AF Formation Advanced Qualification IPs complete both events.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
F31	OFT	Formation	1	1.3	1.3

1. Prerequisite. F1101 (Formation Procedures) - Formation Advanced Qualification only.
2. Syllabus Note. Initial IUTs do not take this block.
3. Special Syllabus Requirements. None.
4. Discuss Items. Visual signals and Formation maneuvers.
5. Block MIF

CTS REF	MANEUVER	F3101
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	3+
7	Task Management	3+
8	Communication	3+
9	Mission Planning/Briefing/Debriefing	3+
72	Lead Change	3
73	Visual Signals	3+
37	Landing Pattern	4
38	No-Flap Landing	4
38	Takeoff Flap Landing	4
38	LDG Flap Landing	4
	Formation Wingman	
74	Section Takeoff	2+
75	Interval Takeoff/Rendezvous	2+

MIF continued on next page.

CTS REF	MANEUVER	F3101
77	Parade (Straight-and-Level)	2+
78	Parade/Turns Into	2+
79	Parade/Turns Away (IFR)	2+
80	Parade/Turns Away (VFR)	2+
82	Crossunder	2+
83	Breakup and Rendezvous	2+
84	Running Rendezvous	2+
85	Underrun	2+
86	Cruise Maneuvering	2+
87	Tail-Chase	2+
88	Formation Approach	2+

Blk #	Media	Title	Events	Hrs	H/X
F41	T-6B	Formation	4	6.4	1.6

1. Prerequisite. F3101.

2. Syllabus Notes

a. Formation Advanced Qualification only.

b. F4101-2 shall be flown from the front cockpit.

c. F4103-4 shall be flown from the rear cockpit.

3. Special Syllabus Requirements. None.

4. Discuss Items

F4101

Emergency field locations in operating area, visual signals, section takeoff, interval takeoff, parade, crossunder, breakup and rendezvous, running rendezvous, underrun, area management, course rules, and lost wingman.

F4102

Aborted takeoff procedures for lead and wingman, and responsibilities of the section leader.

F4103

Cruise position, cruise turns, tail-chase, and formation approach.

F4104

Any previously discussed formation maneuver, formation emergency procedures, and landing gear inspection.

5. Block MIF

CTS REF	MANEUVER	F4104
1	General Knowledge/Procedures	3+
2	Emergency Procedures	3+
3	Headwork/Situational Awareness	3+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	3+
7	Task Management	3+
8	Communication	3+
9	Mission Planning/Briefing/Debriefing	3+
10	Ground Operations	3+
72	Lead Change	3+
73	Visual Signals	3+
14	G-Awareness/Exercise	4+
37	Landing Pattern	4
38	No-Flap Landing	4
38	Takeoff Flap Landing	4
38	LDG Flap Landing	4
76	Wingman Consideration	3+
13	Instructional Skills/Student Management	3+
	Formation Lead	
74	Section Takeoff	3
75	Interval Takeoff/Rendezvous	3+
12	Departure	3+
83	Breakup and Rendezvous	3+
36	VFR Arrival/Course Rules	3+
88	Formation Approach	3+

MIF continued on next page.

CTS REF	MANEUVER	F4104
	Formation Wingman	
74	Section Takeoff	3
75	Interval Takeoff/Rendezvous	3+
77	Parade (Straight-and-Level)	3+
78	Parade/Turns Into	3+
79	Parade/Turns Away (IFR)	3+
80	Parade/Turns Away (VFR)	3+
82	Crossunder	3+
83	Breakup and Rendezvous	3+
84	Running Rendezvous	3+
85	Underrun	3+
86	Cruise Maneuvering	3+
87	Tail-Chase	3+
88	Formation Approach	3+

Blk #	Media	Title	Events	Hrs	H/X
F42	T-6B	Formation	4	6.4	1.6

1. Prerequisite. F4104.

2. Syllabus Notes

a. Formation Advanced Qualification only.

b. The IUT must perform knock-it-off/terminate procedures as both Lead and Wing during the event block.

c. During F4203-4, IUT will fly and instruct a portion of the flight.

d. Events will be flown from the rear cockpit.

3. Special Syllabus Requirements

F4201

Demonstrate visual landing gear check, lost sight procedures, and blind procedures.

F4203

SI will demonstrate a cross section of common student errors.

F4204

SI will demonstrate a cross section of common student errors.

4. Discuss Items

F4201

Airborne damaged aircraft and visual landing gear inspection, HEFOE procedures, lost communication procedures, inadvertent instrument flight, lost sight procedures, and knock-it-off/terminate procedures.

F4202

Section ELP procedures, blind procedures, and common student errors.

F4203

Any emergency procedure and common student errors.

F4204

Any emergency procedure and common student errors.

5. Block MIF

CTS REF	MANEUVER	F4204
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
72	Lead Change	4+
73	Visual Signals	4+
14	G-Awareness/Exercise	4+
37	Landing Pattern	4
38	No-Flap Landing	4
38	Takeoff Flap Landing	4
38	LDG Flap Landing	4
76	Wingman Consideration	4+
13	Instructional Skills/Student Management	4+
	Formation Lead	
74	Section Takeoff	4+
75	Interval Takeoff/Rendezvous	4

MIF continued on next page.

CTS REF	MANEUVER	F4204
12	Departure	4+
83	Breakup and Rendezvous	4+
36	VFR Arrival/Course Rules	4+
88	Formation Approach	4+
	Formation Wingman	
74	Section Takeoff	4+
75	Interval Takeoff/Rendezvous	4
77	Parade (Straight-and-Level)	4+
78	Parade/Turns Into	4+
79	Parade/Turns Away (IFR)	4+
80	Parade/Turns Away (VFR)	4+
82	Crossunder	4+
83	Breakup and Rendezvous	4+
84	Running Rendezvous	4+
85	Underrun	4+
86	Cruise Maneuvering	4+
87	Tail-Chase	4+
88	Formation Approach	4+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
F43	T-6B	Standardization Formation Check Flight	1	1.6	1.6

1. Prerequisites

- a. F4204.
- b. F1190 (Formation Exam).

2. Syllabus Notes

- a. Formation Advanced Qualification only.
- b. Event will be flown from the rear cockpit.

3. Special Syllabus Requirements. None.

4. Discuss Items. Any previously discussed maneuver and any emergency procedure.

5. Block MIF

CTS REF	MANEUVER	F4390
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
72	Lead Change	4+

MIF continued on next page.

CTS REF	MANEUVER	F4390
73	Visual Signals	4+
14	G-Awareness/Exercise	4+
37	Landing Pattern	4
38	No-Flap Landing	4
38	Takeoff Flap Landing	4
38	LDG Flap Landing	4
76	Wingman Consideration	4+
13	Instructional Skills/Student Management	4+
	Formation Lead	
74	Section Takeoff	4
75	Interval Takeoff/Rendezvous	4
12	Departure	4
83	Breakup and Rendezvous	4+
36	VFR Arrival/Course Rules	4+
88	Formation Approach	4
	Formation Wingman	
74	Section Takeoff	4
75	Interval Takeoff/Rendezvous	4
77	Parade (Straight-and-Level)	4+
78	Parade/Turns Into	4+
79	Parade/Turns Away (IFR)	4+
80	Parade/Turns Away (VFR)	4+
82	Crossunder	4+
83	Breakup and Rendezvous	4+
84	Running Rendezvous	4+
85	Underrun	4+
86	Cruise Maneuvering	4+
87	Tail-Chase	4+
88	Formation Approach	4

Blk #	Media	Title	Events	Hrs	H/X
F44	T-6B	Tactical Formation	3	4.8	1.6

1. Prerequisite. F1201 (Tactical Formation Flight Procedures).

2. Syllabus Notes

a. Tactical Formation Advanced Qualification only.

b. F4401 shall be flown from the front cockpit; F4402-3 shall be flown from the rear cockpit.

c. During F4403, IUT will fly and instruct a portion of the flight.

3. Special Syllabus Requirements. None.

4. Discuss Items

F4401

Tactical spread, in place, shackle, cross turn, check turn, and tactical turns (called/uncalled).

F4402-3

Common student errors and any emergency procedure.

5. Block MIF

CTS REF	MANEUVER	F4403
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
72	Lead Change	4+
73	Visual Signals	4+
14	G-Awareness/Exercise	4+
37	Landing Pattern	4
38	No-Flap Landing	4
38	Takeoff Flap Landing	4
38	LDG Flap Landing	4
76	Wingman Consideration	4+
13	Instructional Skills/Student Management	4+
	Formation Lead	
74	Section Takeoff	4
75	Interval Takeoff/Rendezvous	4
12	Departure	4+
83	Breakup and Rendezvous	4+
36	VFR Arrival/Course Rules	4+
88	Formation Approach	4+

MIF continued on next page.

CTS REF	MANEUVER	F4403
	Formation Wingman	
74	Section Takeoff	4
75	Interval Takeoff/Rendezvous	4
77	Parade (Straight-and-Level)	4+
78	Parade/Turns Into	4+
79	Parade/Turns Away (IFR)	4+
80	Parade/Turns Away (VFR)	4+
82	Crossunder	4
83	Breakup and Rendezvous	4
84	Running Rendezvous	4
85	Underrun	4
86	Cruise Maneuvering	4
87	Tail-Chase	4
88	Formation Approach	4+
89	Tactical Spread	4+
89	Tactical - In Place (Called/Uncalled)	4+
89	Tactical - Shackle	4+
89	Tactical - Cross Turn	4+
89	Tactical - Check Turn	4+
89	Tactical Turns (Called/Uncalled)	4+

Blk #	Media	Title	Events	Hrs	H/X
F45	T-6B	Standardization Tactical Formation Check Flight	1	1.6	1.6

1. Prerequisites

- a. F4403.
- b. F1290 (Tactical Formation Exam).

2. Syllabus Notes

- a. Tactical Formation Advanced Qualification only.
- b. Event will be flown from the rear cockpit.

3. Special Syllabus Requirements. None.

4. Discuss Items. Any previously discussed maneuver and any emergency procedure.

5. Block MIF

CTS REF	MANEUVER	F4590
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-flight Checks/Fuel Management	4+
6	In-flight Planning/Area Orientation	4+
7	Task Management	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
72	Lead Change	4+

MIF continued on next page.

CTS REF	MANEUVER	F4590
73	Visual Signals	4+
14	G-Awareness/Exercise	4+
37	Landing Pattern	4
38	No-Flap Landing	4
38	Takeoff Flap Landing	4
38	LDG Flap Landing	4
76	Wingman Consideration	4+
13	Instructional Skills/Student Management	4+
	Formation Lead	
74	Section Takeoff	4
75	Interval Takeoff/Rendezvous	4
12	Departure	4
83	Breakup and Rendezvous	4+
36	VFR Arrival/Course Rules	4+
88	Formation Approach	4
	Formation Wingman	
74	Section Takeoff	4
75	Interval Takeoff/Rendezvous	4
77	Parade (Straight-and-Level)	4+
78	Parade/Turns Into	4+
79	Parade/Turns Away (IFR)	4+
80	Parade/Turns Away (VFR)	4+
82	Crossunder	4
83	Breakup and Rendezvous	4
84	Running Rendezvous	4
85	Underrun	4
86	Cruise Maneuvering	4
87	Tail-Chase	4
88	Formation Approach	4
89	Tactical Spread	4+

MIF continued on next page.

CTS REF	MANEUVER	F4590
89	Tactical - In Place (Called/Uncalled)	4+
89	Tactical - Shackle	4+
89	Tactical - Cross Turn	4+
89	Tactical - Check Turn	4+
89	Tactical Turns (Called/Uncalled)	4+

Blk #	Media	Title	Events	Hrs	H/X
F46	T-6B	AF Formation	5	8.0	1.6

1. Prerequisite. F1301 (AF Formation Flight Procedures).
2. Syllabus Notes
 - a. AF Formation Advanced Qualification.
 - b. IUT will occupy the front cockpit on F4601; remaining events will be flown from the rear cockpit.
3. Special Syllabus Requirements
 - F4602
Blind exercise and formation approach/go-around.
4. Discuss Items
 - F4601
AF Formation briefing and conduct of flight, profile management and efficiency, and flight path deconfliction.
 - F4602
Knock-it-off, blind procedures, and student AGSM.
 - F4603
Common student errors and any emergency procedure.
 - F4604-5
Any previous discuss item or emergency procedure.

5. Block MIF

CTS REF	MANEUVER	F4605
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-Flight Checks/Fuel Management	4+
6	In-Flight Planning/Area Orientation	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
72	Lead Change	4+
73	Visual Signals	4+
14	G-Awareness/Exercise	4+
37	Landing Pattern	4
38	No-Flap Landing	4
38	Takeoff Flap Landing	4
38	LDG Flap Landing	4
13	Instructional Skills/Student Management	4+
	FORMATION LEAD	
74	Section Takeoff	4+
75	Interval Takeoff/Rendezvous	4
12	Departure	4+
95	Wingwork	4+
96	Extended Trail - Level 1	4
96	Extended Trail - Level 2	4+
96	Extended Trail - Level 3	4+
36	VFR Arrival/Course Rules	4+

MIF continued on next page.

CTS REF	MANEUVER	F4605
88	Formation Approach	4+
97	Formation Landing	4+
	FORMATION WING	
74	Section Takeoff	4+
75	Interval Takeoff/Rendezvous	4
77	Parade/Fingertip	4+
91	Route	4+
92	Echelon	4+
82	Crossunder	4+
93	Straight Ahead Rejoin	4+
94	Turning Rejoin	4+
95	Wingwork	4+
96	Extended Trail - Level 1	4
96	Extended Trail - Level 2	4+
96	Extended Trail - Level 3	4+
99	Breakout	4+
88	Formation Approach	4+
97	Formation Landing	4+
	MISCELLANEOUS	
98	AF Pattern Operations	4+
90	Knock-It-Off Procedures	4
81	Lost Wingman Exercise	4+
89	Tactical Maneuvering	4
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
F47	T-6B	Standardization AF Formation Check Flight	1	1.6	1.6

1. Prerequisites
 - a. F1390 (AF Formation Exam).
 - b. F4605.
2. Syllabus Notes
 - a. AF Formation Advanced Qualification only.
 - b. Event will be flown from rear cockpit.
3. Special Syllabus Requirements. None.
4. Discuss Items. AF formation brief and any previously discussed items.
5. Block MIF

CTS REF	MANEUVER	F4790
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
3	Headwork/Situational Awareness	4+
4	Basic Air Work	4+
5	In-Flight Checks/Fuel Management	4+
6	In-Flight Planning/Area Orientation	4+
8	Communication	4+
9	Mission Planning/Briefing/Debriefing	4+
10	Ground Operations	4+
72	Lead Change	4+
73	Visual Signals	4+
14	G-Awareness/Exercise	4+

MIF continued on next page.

CTS REF	MANEUVER	F4790
37	Landing Pattern	4
38	No-Flap Landing	4
38	Takeoff Flap Landing	4
38	LDG Flap Landing	4
13	Instructional Skills/Student Management	4+
FORMATION LEAD		
74	Section Takeoff	4
75	Interval Takeoff/Rendezvous	4
12	Departure	4
95	Wingwork	4+
96	Extended Trail - Level 1	4
96	Extended Trail - Level 2	4+
96	Extended Trail - Level 3	4+
36	VFR Arrival/Course Rules	4
88	Formation Approach	4
97	Formation Landing	4
FORMATION WING		
74	Section Takeoff	4
75	Interval Takeoff/Rendezvous	4
77	Parade/Fingertip	4+
91	Route	4+
92	Echelon	4+
82	Crossunder	4+
93	Straight Ahead Rejoin	4+
94	Turning Rejoin	4+
95	Wingwork	4+
96	Extended Trail - Level 1	4
96	Extended Trail - Level 2	4+
96	Extended Trail - Level 3	4+
99	Breakout	4+

MIF continued on next page.

CTS REF	MANEUVER	F4790
88	Formation Approach	4
97	Formation Landing	4
	MISCELLANEOUS	
98	AF Pattern Operations	4
90	Knock-It-Off Procedures	4
81	Lost Wingman Exercise	4+
89	Tactical Maneuvering	4

CNATRAINST 1542.165A
6 Feb 12

BLANK PAGE

Chapter VIII

Tactical Training

This chapter does not apply to T-6B Primary Flight Instructor Training.

CNATRAINST 1542.165A
6 Feb 12

BLANK PAGE

Chapter IX

Course Training Standards

1. Purpose. These standards outline the tasks and proficiency required of IUTs and Transition students during the initial and upgrade training.

2. IUT Duties and Responsibilities

- a. Plan the mission.
- b. Ensure the aircraft is preflighted, inspected, and equipped for the assigned mission.
- c. Operate the aircraft to accomplish the mission using sound judgment and airmanship.

3. General Standards

- a. Achieve training standards for VMC maneuvers in conjunction with visual clearing.
- b. Unless otherwise specified, use **Basic Air Work (BAW)** standards for all items with altitude, airspeed, or heading parameters.
- c. "Standard" equates to **good** (G/4).
- d. Aircraft control must be smooth and positive. Performance may be within CTS and still not warrant a grade of **good** if control inputs are delayed, erratic, imprecise, or inappropriate. Slight deviations in establishing or maintaining the proper or desired aircraft attitude or position may occur during the maneuver being performed.
- e. Momentary deviations outside CTS that do not compromise flight safety are acceptable if subsequent corrections are timely.
- f. Procedural knowledge and application must comply with applicable directives and allow efficient mission accomplishment. If individual tasks require pre-mission planning, the standards from **Mission Planning** apply.

4. Execution. The MIF regulates IUT/student progression to meet required standards prior to phase completion. Instructor pilots shall evaluate student performance against these standards.

5. Job Tasks. Specific performance and standards required are described as follows:

BEHAVIOR STATEMENT	STANDARDS
Graded Item	
<ul style="list-style-type: none"> • A brief description of the behavior, required action, and/or conditions. 	<ul style="list-style-type: none"> • The specific standards for the action. May be read as "The IUT/student..."

6. Graded Items. The MIF for specific graded items varies for each stage. Several items are graded on all complete syllabus events. The standards for these Universally Graded Items are listed first. Then beginning with NATOPS, each stage's MIF table is listed followed by the CTSS unique to that stage. Once the standard for a graded item has been established, the description will be omitted from later stages where it is also graded.

7. Course Training Standards

UNIVERSALLY GRADED ITEMS

BEHAVIOR STATEMENT	STANDARDS
1. General Knowledge/Procedures	
<ul style="list-style-type: none"> • Demonstrate satisfactory knowledge of aircraft systems, procedures, flight training instructions, and directives. 	<ul style="list-style-type: none"> • Demonstrate a thorough understanding of aircraft system capabilities, aircraft directives, and applicable instructions. • Demonstrate the ability to apply procedures from all applicable sources of guidance.

BEHAVIOR STATEMENT	STANDARDS
2. Emergency Procedures	
<ul style="list-style-type: none"> ● Maintain in-depth knowledge of NATOPS and appropriate directives. ● Perform critical/noncritical action emergency procedures. 	<ul style="list-style-type: none"> ● Correctly analyzes situation. ● Performs/recites critical action steps from memory. ● Uses checklist when conditions permit. ● Completes procedures in a timely manner.
3. Headwork/Situational Awareness	
<ul style="list-style-type: none"> ● Maintain situational awareness to include the following: <ul style="list-style-type: none"> ▶ Awareness - Correlates and keeps track of what is happening on the ground, in own aircraft, or with other flight members, and copes with subsequent mission impact as a result of their happenings. ▶ Flexibility - Copes with rapidly changing situations or conditions in flight or on the ground, and adjusts mission as needed to obtain desired objectives. 	<ul style="list-style-type: none"> ● Demonstrates the ability to minimize the effects of adverse factors and capitalize on opportunities to avoid mission degradation. Factors to be considered may include, but are not limited to, weather conditions, airspace and approach restrictions, high-density traffic, aircraft capabilities and limitations, and fuel conservation. ● Correctly assesses all possible factors bearing on the situation and selects the best course of action.

BEHAVIOR STATEMENT	STANDARDS
3. Headwork/Situational Awareness (Continued)	
<ul style="list-style-type: none"> ▶ Capacity - Cognizant of how large a task loading they can cope with before becoming saturated, confused, or frustrated to the point safety is jeopardized or the mission is rendered ineffective. ▶ Flight Discipline - Follows orders and carries out all required steps in a procedure in the proper order. 	<ul style="list-style-type: none"> ● Makes correct decisions based on complete or incomplete knowledge of the situation. Foresees the outcome(s) of present actions and modifies those actions as necessary to obtain the best outcome. ● Decisions enhance mission effectiveness and do not hinder others from completing their missions. ● Never exceeds capabilities to control the aircraft safely. Selects an alternative course of action, when needed, to reduce task loading and allow for effective mission accomplishment. ● Has complete knowledge of all rules and regulations and carries out all duties with minimum supervision.
4. Basic Air Work	
<ul style="list-style-type: none"> ● Establish and maintain desired altitude, airspeed, and heading during flight. 	<ul style="list-style-type: none"> ● Maintains aircraft within 100 feet, 10 KIAS, 10° of heading. ● Appropriately uses power, attitude, and trim. ● Levels off within 100 feet of desired altitude. ● Maintains smooth/positive control consistent with flight conditions. ● Correctly uses trim system to maintain aircraft control.

BEHAVIOR STATEMENT	STANDARDS
5. In-Flight Checks/Fuel Management	
<ul style="list-style-type: none"> ● Complete checks as required. 	<ul style="list-style-type: none"> ● Performs: <ul style="list-style-type: none"> ▶ Operations checks at least every 20 minutes. ▶ Before landing checklist at required configuration points. ▶ Pre-stalling, spinning, and aerobatics checklist when required. ● Does not go below Joker or Bingo fuel without informing the flight leader as applicable.
6. In-Flight Planning/Area Orientation	
<ul style="list-style-type: none"> ● Perform in-flight planning to include maintaining area orientation, profile management, energy management, and remaining within area limits. 	<ul style="list-style-type: none"> ● Efficiently sequences maneuvers. ● Adjusts mission profile for external factors (weather, traffic, etc.). ● Maintains positional awareness using ground references, navigational aids, VFR charts, or FLIPs. ● Maintains appropriate boundaries and altitude block within a working area as required.
7. Task Management	
<ul style="list-style-type: none"> ● Prioritize and manage tasks, based on existing and new information, while maintaining constructive behavior under stress. 	<ul style="list-style-type: none"> ● Correctly prioritizes multiple tasks. ● Uses all available resources to manage workload. ● Asks for assistance when overloaded. ● Clearly states the problem and proposed solutions. ● Uses facts to come up with solutions.

BEHAVIOR STATEMENT	STANDARDS
8. Communication	
<ul style="list-style-type: none"> ● Perform verbal and visual communication to include: <ul style="list-style-type: none"> ▶ Use of UHF/VHF radio. ▶ Intercockpit and formation intraflight communications. 	<ul style="list-style-type: none"> ● Correctly formulated, timely response with proper radio discipline and concise terminology. ● Required radio calls made IAW FLIP requirements. ● Visual signals IAW applicable directives.
9. Mission Planning/Briefing/Debriefing	
<ul style="list-style-type: none"> ● Perform mission planning to include takeoff, climb, enroute, descent, approach, and landing data: planning mission profile and alternate course of action where appropriate. ● Plan alternate course of action. ● Prepare flight log/chart/DD 175. 	<ul style="list-style-type: none"> ● Uses required directives and forms. ● Plans mission in a timely manner to meet requirements. ● Completes all forms correctly. ● Complies with all directives.
10. Ground Operations	
<ul style="list-style-type: none"> ● Inspect and wear personal equipment. ● Prepare aircraft for flight. ● Move aircraft to and from parking area to runway. ● Perform postflight duties. 	<ul style="list-style-type: none"> ● Correctly inspects and wears personal equipment. ● Correctly and expeditiously performs exterior inspection, prestart, start, taxi, before takeoff, lineup, and shutdown checklists. ● Taxies safely via prescribed routing within three feet of centerline. ● Completes all required forms IAW directives.

BEHAVIOR STATEMENT	STANDARDS
11. Takeoff	
<ul style="list-style-type: none"> ● Perform takeoff to include: <ul style="list-style-type: none"> ▶ Checking aircraft performance by means of precomputed takeoff data. ▶ Retracting gear/flaps. ▶ Accelerate to climb airspeed. 	<ul style="list-style-type: none"> ● Does not allow aircraft to move prior to brake release for takeoff. ● Applies appropriate crosswind controls. ● Maintains runway centerline within 10 feet. ● Rotates to and maintains proper takeoff attitude, becomes airborne at appropriate airspeed for existing conditions. ● Retracts gear and flaps when safely airborne and prior to exceeding aircraft limitations. ● Transitions to cross-check scan.
12. Departure	
<ul style="list-style-type: none"> ● Perform VFR, IFR, or simulated IFR departure. 	<ul style="list-style-type: none"> ● Maintains altitudes, ground tracks, headings, and airspeeds as required. ● Complies with valid controller instructions or departure procedure.
13. Instructional Skills/Student Management	
<ul style="list-style-type: none"> ● Perform pre-mission briefing for aircraft or simulator event. ● Effectively instruct, evaluate, and document student performance. ● Perform postmission debriefing for aircraft or simulator event. 	<ul style="list-style-type: none"> ● Presents all information required to accomplish mission correctly, understandably, concisely, and in a logical sequence. ● Student aware of his weaknesses, progress, and corrective actions. ● Completely documents results.

CONTACT

BEHAVIOR STATEMENT	STANDARDS
14. G-Awareness/Exercise	
<ul style="list-style-type: none"> • Ensure proper anti-G suit operation. Perform G-awareness exercise and AGSM. Maintain awareness of G-loading through all maneuvers. 	<ul style="list-style-type: none"> • Performs G-warmup and G-awareness turns IAW directives. • Performs proper AGSM technique. • Avoids exceeding aircraft G-limitations.
15. Turn Pattern	
<ul style="list-style-type: none"> • Perform turn pattern IAW the FTI. 	<ul style="list-style-type: none"> • Perform within Basic Airwork CTS.
16. Level Speed Change	
<ul style="list-style-type: none"> • Perform level speed change IAW the FTI. 	<ul style="list-style-type: none"> • Perform within Basic Airwork CTS.
17. Slow Flight	
<ul style="list-style-type: none"> • Perform slow flight IAW the FTI. 	<ul style="list-style-type: none"> • Contact: Airspeed +5,-0 KIAS. • Maintains BAW.
18. Power-on Stall	
<ul style="list-style-type: none"> • Perform power-on stall IAW FTI. 	<ul style="list-style-type: none"> • Initiates recovery when control effectiveness is lost. • Recovers to an established climb with minimum altitude loss. • Recognizes secondary stall, if entered, and recovers properly.
19. Landing Pattern Stalls	
<ul style="list-style-type: none"> • Perform simulated landing pattern stalls in various configurations. 	<ul style="list-style-type: none"> • Recognizes approach to stall indications and recovers properly. • Recovers to an established climb with minimum altitude loss. • Recognizes secondary stall, if entered, and recovers properly.

BEHAVIOR STATEMENT	STANDARDS
20. Emergency Landing Pattern Stalls	
<ul style="list-style-type: none"> ● Perform emergency landing pattern stalls and recoveries in authorized configurations. 	<ul style="list-style-type: none"> ● Initiates recovery at the sound of the gear warning horn, stick shaker, or approach-to-stall indications as appropriate. ● Recovers by lowering pitch as appropriate. ● Maintains the turn or ground track profile as appropriate.
21. Spin	
<ul style="list-style-type: none"> ● Spin and recover per FTI. 	<ul style="list-style-type: none"> ● Performs clearing turn and check list. ● Properly enters spin IAW FTI. ● Initiates proper recovery utilizing FTI spin recovery (emphasizing departure recognition and recovery) procedures. ● Recovers from ensuing unusual attitude without exceeding aircraft limitations.
22. Contact Unusual Attitudes	
<ul style="list-style-type: none"> ● Recover from nose-high unusual attitude. ● Recover from nose-low unusual attitude. 	<ul style="list-style-type: none"> ● Nose-High: <ul style="list-style-type: none"> ▶ Minimizes airspeed loss during recovery. ▶ Does not: <ul style="list-style-type: none"> ■ Overstress or stall aircraft. ■ Enter subsequent unusual attitude. ● Nose-Low: <ul style="list-style-type: none"> ▶ Minimizes altitude loss and airspeed buildup during recovery. ▶ Does not: <ul style="list-style-type: none"> ■ Overstress or stall aircraft. ■ Enter subsequent unusual attitude.

BEHAVIOR STATEMENT	STANDARDS
22. Contact Unusual Attitudes (Continued)	
<ul style="list-style-type: none"> ● Recover from an inverted unusual attitude. 	<ul style="list-style-type: none"> ● Inverted: <ul style="list-style-type: none"> ▶ Minimizes altitude loss and airspeed buildup during recovery. ▶ Does not: <ul style="list-style-type: none"> ■ Overstress or stall aircraft. ■ Enter subsequent unusual attitude. ■ Split-S.
23. Loop	
<ul style="list-style-type: none"> ● Perform a loop IAW the FTI. 	<ul style="list-style-type: none"> ● Initiates using 4 ±1 Gs. ● Completes within: <ul style="list-style-type: none"> ▶ 200 feet of entry altitude. ▶ ±10° of entry heading.
24. Aileron Roll	
<ul style="list-style-type: none"> ● Perform an aileron roll IAW the FTI. 	<ul style="list-style-type: none"> ● Maintains minimum yaw during roll. ● Rolls out with less than 5° AOB.
25. Split-S	
<ul style="list-style-type: none"> ● Perform a split-S per the FTI. 	<ul style="list-style-type: none"> ● Initiates at: <ul style="list-style-type: none"> ▶ 120-140 KIAS. ▶ 5-10 degrees nose high. ● Recovers within: <ul style="list-style-type: none"> ▶ 2500-3000 feet below entry altitude. ▶ 20° of reciprocal heading.

BEHAVIOR STATEMENT	STANDARDS
26. Barrel Roll	
<ul style="list-style-type: none"> ● Perform a barrel roll per the FTI. 	<ul style="list-style-type: none"> ● Does not exceed 2.5 Gs. ● Arrives at 45° position: <ul style="list-style-type: none"> ▶ 80-100 degrees AOB. ▶ 55-60 degrees nose high. ● Arrives at 90° position: <ul style="list-style-type: none"> ▶ Nose 10-20 degrees above the horizon. ▶ 170-190 degrees AOB. ▶ 100-120 KIAS. ▶ 80-90 degrees of entry heading. ● Completes within: <ul style="list-style-type: none"> ▶ 200 feet of entry altitude. ▶ 10° of entry heading.
27. Cloverleaf	
<ul style="list-style-type: none"> ● Perform cloverleaf IAW the FTI. 	<ul style="list-style-type: none"> ● Arrives at 45° position: <ul style="list-style-type: none"> ▶ 80-100 degrees AOB. ▶ 55-60 degrees nose high. ● Arrives at 90° position: <ul style="list-style-type: none"> ▶ Nose 10-20 degrees above the horizon. ▶ 170-190 degrees AOB. ▶ 100-120 KIAS. ▶ 80-90 degrees of entry heading. ● Completes within 20° of entry heading.
28. Immelmann	
<ul style="list-style-type: none"> ● Perform Immelmann per the FTI. 	<ul style="list-style-type: none"> ● Initiates using 4 ±1 Gs. ● Completes within: <ul style="list-style-type: none"> ▶ 100-120 KIAS. ▶ 20° of reciprocal heading. ▶ 2500-3000 feet above entry altitude.
29. Cuban Eight	
<ul style="list-style-type: none"> ● Perform Cuban eight per the FTI. 	<ul style="list-style-type: none"> ● Initiates using 4 ±1 Gs. ● Completes within: <ul style="list-style-type: none"> ▶ 200 feet of entry altitude. ▶ 20° of reciprocal heading.

BEHAVIOR STATEMENT	STANDARDS
30. Wingover	
<ul style="list-style-type: none"> ● Perform a wingover IAW the FTI. 	<ul style="list-style-type: none"> ● Does not exceed: <ul style="list-style-type: none"> ▶ 2.5 Gs. ▶ 90° AOB. ● Arrives at 90° position: <ul style="list-style-type: none"> ▶ 80-90 degrees AOB. ▶ 85-95 degrees from entry heading. ● Arrives at level-flight position within: <ul style="list-style-type: none"> ▶ 200 feet of entry altitude. ▶ 10° of reciprocal heading.
31. Slip	
<ul style="list-style-type: none"> ● Perform a slip IAW FTI. 	<ul style="list-style-type: none"> ● Uses proper cross-control procedures. ● Terminates slip after dissipating excess energy level necessary to continue profile.
32. Power Loss (Engine Failure)	
<ul style="list-style-type: none"> ● Perform simulated emergency IAW NATOPS/FTI. 	<ul style="list-style-type: none"> ● Formulates plan to intercept ELP profile and executes successfully. ● Flies correct checkpoints on ELP. ● Establishes aircraft on final in position to make a safe landing at the selected site. ● If no suitable site for forced landing is available, verbalizes controlled ejection procedures.

BEHAVIOR STATEMENT	STANDARDS
33. Precautionary Emergency Landing	
<ul style="list-style-type: none"> ● In response to simulated EP, proceed to high key for the nearest suitable runway, then intercept the ELP. 	<ul style="list-style-type: none"> ● Performs timely procedural execution. ● Selects nearest suitable runway and appropriate high key. ● Maintains airspeed 120-125 KIAS on the ELP. ● Uses power rather than delaying configuration to maintain ELP profile. ● If conditions permit, lowers flaps at low-key. ● Establishes aircraft on final in position to make a safe landing.
34. PEL/P	
<ul style="list-style-type: none"> ● In response to simulated EP, proceed to appropriate ELP position for the nearest suitable runway, then intercept the ELP. ● Perform from initiation to crossing runway threshold. 	<ul style="list-style-type: none"> ● Performs timely procedural execution. ● Selects nearest suitable runway and intercepts appropriate ELP position. ● Maintains airspeed 120-125 KIAS on the ELP. ● Uses power rather than delaying configuration to maintain ELP profile. ● If conditions permit, lowers flaps at low-key. ● Establishes aircraft on final in position to make a safe landing.
35. ELP Landing	
<ul style="list-style-type: none"> ● Perform landing in proper ELP configuration. 	<ul style="list-style-type: none"> ● Touches down at proper pitch attitude while maintaining ground track using wing-low procedures as appropriate. ● Touches down in prescribed landing zone.

BEHAVIOR STATEMENT	STANDARDS
36. VFR Arrival/Course Rules	
<ul style="list-style-type: none"> ● Operate to and from OLF and home field using local course rules. 	<ul style="list-style-type: none"> ● Complies with the FTI, local course rules. ● Navigation: <ul style="list-style-type: none"> ▶ Proceeds under own navigation to OLF/home field entry point. ▶ Asks for, and successfully complies with, radar vectors to OLF/home field entry point.
37. Landing Pattern	
<ul style="list-style-type: none"> ● If from initial, from rolling out on downwind to the straightaway. ● If from takeoff, touch-and-go, or waveoff, commencing the crosswind turn to the straightaway. 	<ul style="list-style-type: none"> ● Complies with BAW parameters except: <ul style="list-style-type: none"> ▶ Maximum 45° AOB. ▶ TO Flap: <ul style="list-style-type: none"> ■ 115 +10/-0 KIAS from 180 until straightaway. ■ 105 +10/-0 KIAS until beginning landing flare. ▶ LDG Flap: <ul style="list-style-type: none"> ■ 110 +10/-0 KIAS from 180 until straightaway. ■ 100 +10/-0 KIAS until beginning landing flare. ▶ No-Flap: <ul style="list-style-type: none"> ■ 120 +10/-0 KIAS from 180 until straightaway. ■ 110 +10/-0 KIAS until beginning landing flare. ▶ Rolls out on final: <ul style="list-style-type: none"> ■ Within 75 feet of runway centerline. ■ With 1200-1500 feet of straightaway from the threshold. ■ Between 200 ±50 feet AGL.

BEHAVIOR STATEMENT	STANDARDS
38. Landing (No-Flap, Takeoff Flap, LDG Flap, Full-Stop)	
<ul style="list-style-type: none"> ● Execute normal landing per the FTI. ● From crossing runway threshold until: <ul style="list-style-type: none"> ▶ Touch-and-go, commencing crosswind turn. ▶ Full stop, aircraft is at taxi speed. 	<ul style="list-style-type: none"> ● Maintains: <ul style="list-style-type: none"> ▶ Correct glidepath until flare initiation. ▶ No-Flap: Minimum 110 KIAS until landing transition. ▶ Takeoff Flap: Minimum 105 KIAS until landing transition. ▶ LDG Flap: Minimum 100 KIAS until landing transition. ● Touches down with: <ul style="list-style-type: none"> ▶ Appropriate crosswind controls. ▶ Main gear first (nose-high attitude). ▶ Nose gear ± 10 feet of centerline. ● Touches down in the touchdown zone as defined by Contact FTI and local instructions. ● Full-Stop: Maintains directional control through proper use of aileron and rudder. Reduces to safe taxi speed prior to clearing runway.
39. Angle-of-Attack Pattern	
<ul style="list-style-type: none"> ● Perform AOA approach to a normal flared landing. 	<ul style="list-style-type: none"> ● Transitions to AOA when established on downwind. ● Maintains AOA ± 2 units. ● Rolls out on final: <ul style="list-style-type: none"> ▶ 1200-1500 feet of straightaway from the threshold. ▶ 200 ± 50 feet AGL. ▶ Within 75 feet of runway centerline. ● Executes normal flared landing.

BEHAVIOR STATEMENT	STANDARDS
40. Waveoff	
<ul style="list-style-type: none"> ● Discontinue approach to landing. 	<ul style="list-style-type: none"> ● Expeditiously executes waveoff procedures. ● Initiates waveoff when: <ul style="list-style-type: none"> ▶ Conflicting with PEL traffic. ▶ Stall warning system actuates (stick shaker). ▶ Aircraft requires more than 45-degree AOB to avoid overshooting final. ▶ Directed. ▶ Aircraft is not in a safe position to make a safe landing.

INSTRUMENT

BEHAVIOR STATEMENT	STANDARDS
41. Steep Turns	
<ul style="list-style-type: none"> ● Perform steep turns(45- and 60-degree AOB) using instrument references only. 	<ul style="list-style-type: none"> ● Bank angle ± 10 degrees. ● Maintain ± 15 KIAS desired airspeed. ● Rolls out on heading ± 15 degrees at 60-degree AOB and ± 10 degrees at 45-degree AOB.
42. IFR Unusual Attitudes	
<ul style="list-style-type: none"> ● Perform unusual attitude recovery using full panel references. 	<ul style="list-style-type: none"> ● Nose low: Recovers minimizing altitude loss and airspeed buildup. ● Nose high: <ul style="list-style-type: none"> ▶ Does not stall aircraft. ▶ Does not overstress aircraft. ▶ Does not enter subsequent unusual attitude.

BEHAVIOR STATEMENT	STANDARDS
43. Point-to-Point	
<ul style="list-style-type: none"> ● Proceed direct to an assigned fix using VOR/DME point-to-point per FTI. 	<ul style="list-style-type: none"> ● Applies FTI procedures to expeditiously establish a correct initial heading. ● Continuously updates heading to: <ul style="list-style-type: none"> ▶ Avoid sudden, large, heading changes. ▶ Arrive within 0.5 DME and 10 radials of desired point.
44. Holding	
<ul style="list-style-type: none"> ● Perform holding IAW FTI. 	<ul style="list-style-type: none"> ● Computes proper entry turn. ● Estimates wind direction and applies appropriate corrections. ● Establishes and maintains aircraft within holding airspace.
45. Enroute Procedures	
<ul style="list-style-type: none"> ● Maintain aircraft's track on appropriate radial or airway. ● Identify an intersection using appropriate NAVAID(s). 	<ul style="list-style-type: none"> ● Maintains ± 3 radials of centerline. ● Estimates approximate wind direction and applies proper crosswind correction. ● Positions the aircraft at a required intersection or leads the turn at an intersection to roll out on the required radial $\pm 3^\circ$. ● Gives position report as required. ● For GPS, maintains ± 2 NM of centerline.
46. Enroute Descent	
<ul style="list-style-type: none"> ● Perform IFR descent from enroute altitude or MOA. 	<ul style="list-style-type: none"> ● Maintains altitudes, ground tracks, headings, and airspeeds as required. ● Complies with BAW standards.
47. High-Altitude Approach	
<ul style="list-style-type: none"> ● Perform high-altitude approach procedure from IAF to MAP. 	<ul style="list-style-type: none"> ● Plans descent rate consistent with approach requirements. ● Maintains standards for appropriate IAP layout.

BEHAVIOR STATEMENT	STANDARDS
48. Teardrop Approach	
<ul style="list-style-type: none"> ● Perform a teardrop approach IAW FTI. 	<ul style="list-style-type: none"> ● IAF to FAF: Maintains course ± 5 degrees or valid intercept. ● By the FAF or initiating descent to MDA: <ul style="list-style-type: none"> ▶ Completes landing checklist. ▶ Has aircraft trimmed and at final approach airspeed +10/-0 KIAS.
49. Arcing Approach	
<ul style="list-style-type: none"> ● Perform an arcing approach per FTI. 	<ul style="list-style-type: none"> ● Adheres to standards for arcing. ● By the FAF or initiating descent to MDA: <ul style="list-style-type: none"> ▶ Completes landing checklist. ▶ Has aircraft trimmed and at final approach airspeed +10/-0 KIAS.
50. HILO Approach	
<ul style="list-style-type: none"> ● Perform a holding pattern approach per FTI. 	<ul style="list-style-type: none"> ● Computes proper entry turn. ● IAF to FAF: Maintains course $\pm 5^\circ$ or valid intercept. ● By the FAF or initiating descent to MDA. <ul style="list-style-type: none"> ▶ Completes landing checklist. ▶ Has aircraft trimmed and at final approach airspeed +10/-0 KIAS.
51. Procedure Turn Approach	
<ul style="list-style-type: none"> ● Perform a procedure turn approach per FTI. 	<ul style="list-style-type: none"> ● IAF to FAF: Maintains course $\pm 5^\circ$ or valid intercept. ● By the FAF or initiating descent to MDA: <ul style="list-style-type: none"> ▶ Completes landing checklist. ▶ Has aircraft trimmed and at final approach airspeed +10/-0 KIAS.

BEHAVIOR STATEMENT	STANDARDS
52. RVFAC Approach	
<ul style="list-style-type: none"> ● Perform an approach using radar vectors to final approach course per FTI. 	<ul style="list-style-type: none"> ● Responds quickly and correctly to controller instructions. ● Maintains headings $\pm 5^\circ$.
53. GPS Approach	
<ul style="list-style-type: none"> ● Perform a GPS approach IAW FTI. 	<ul style="list-style-type: none"> ● Initial approach waypoint to FAWP: Maintains course ± 0.25 NM or valid intercept. ● At 3 NM from FAWP, ensures FAWP is active waypoint. ● At 2 NM from FAWP, ensures GPS is in active mode.
54. PAR Approach	
<ul style="list-style-type: none"> ● Perform PAR approach IAW FTI. 	<ul style="list-style-type: none"> ● Responds quickly and correctly to controller instructions. ● Prior to beginning descent to DH: <ul style="list-style-type: none"> ▶ Completes landing checklist. ▶ Has aircraft trimmed and at final airspeed $+10/-0$ KIAS. ● On final: <ul style="list-style-type: none"> ▶ Maintains $\pm 3^\circ$ of desired course. ▶ Maintains airspeed $+10/-0$ KIAS. ▶ Reaches DH. ▶ Can safely land from approach.
55. ASR Approach	
<ul style="list-style-type: none"> ● Perform ASR approach IAW FTI. 	<ul style="list-style-type: none"> ● Responds quickly and correctly to controller instructions. ● Prior to beginning descent to MDA: <ul style="list-style-type: none"> ▶ Completes landing checklist. ▶ Has aircraft trimmed and at final airspeed $+10/-0$ KIAS. ● On final <ul style="list-style-type: none"> ▶ Maintains $\pm 3^\circ$ of desired course. ▶ Maintains airspeed $+10/-0$ KIAS. ▶ Reaches MDA. ▶ Can safely land from approach.

BEHAVIOR STATEMENT	STANDARDS
56. VOR Final	
<ul style="list-style-type: none"> ● Perform VOR final from FAF to MAP. 	<ul style="list-style-type: none"> ● Maintains $\pm 3^\circ$ of desired course. ● Maintains airspeed +10/-0 KIAS. ● Maintains CDI within 1 dot. ● Reaches and maintains MDA +100/-0 feet. ● Can safely land from approach.
57. ILS Final	
<ul style="list-style-type: none"> ● Perform ILS final from glideslope intercept to DH. 	<ul style="list-style-type: none"> ● Maintains $\pm 3^\circ$ of desired course. ● Maintains airspeed +10/-0 KIAS. ● Maintains CDI within 1 dot. ● Maintains GSI within 1 dot. ● Reaches DH. ● Can safely land from approach.
58. Localizer Final	
<ul style="list-style-type: none"> ● Perform LOC final from FAF to MAP. 	<ul style="list-style-type: none"> ● Maintains $\pm 3^\circ$ of desired course. ● Maintains airspeed +10/-0 KIAS. ● Maintains CDI within 1 dot. ● Reaches and maintains MDA +100/-0 feet. ● Can safely land from approach.
59. GPS Final	
<ul style="list-style-type: none"> ● Perform GPS final from FAWP to MAWP. 	<ul style="list-style-type: none"> ● Maintains $\pm 3^\circ$ of desired course. ● Maintains airspeed +10/-0 KIAS. ● Maintains CDI within 1 dot. ● Reaches and maintains MDA +100/-0 feet. ● Can safely land from approach.
60. Backup Flight Instrument Approach	
<ul style="list-style-type: none"> ● Perform final approach from descent point to DH/MDA using PAR/ASR for guidance. 	<ul style="list-style-type: none"> ● Responds quickly and correctly to controller instructions. ● By starting descent to DH/MDA: <ul style="list-style-type: none"> ▶ Completes landing checklist. ▶ Has aircraft trimmed and at final airspeed. ● Maintains airspeed +10/-0 KIAS on final. ● Can safely land from approach.

BEHAVIOR STATEMENT	STANDARDS
61. Circling Approach	
<ul style="list-style-type: none"> ● Visually align the aircraft for landing on a runway other than that to which the approach was flown, or from a circling IAP per the FTI. 	<ul style="list-style-type: none"> ● Properly orients circling instructions to the landing runway. ● Selects appropriate MDA for aircraft category. ● Maintains at/above MDA consistent with weather. ● Remains within the clear zone for the approach category. ● Executes missed approach instructions for the approach flown.
62. Missed Approach	
<ul style="list-style-type: none"> ● Perform a missed approach. 	<ul style="list-style-type: none"> ● Complies with FTI procedures. ● Initiates when field not in sight and <ul style="list-style-type: none"> ▶ Nonprecision, <ul style="list-style-type: none"> ■ Inside FAF and full scale CDI deflection, ■ At specified MAP DME, ■ At expiration of timing in the absence of DME. ▶ Precision, first of <ul style="list-style-type: none"> ■ Decision height, ■ Controller-directed, ▶ Or, not in position for safe landing.

BEHAVIOR STATEMENT	STANDARDS
63. Transition to Landing/Landing	
<ul style="list-style-type: none"> ● Execute normal landing per the FTI. ● From crossing runway threshold until: <ul style="list-style-type: none"> ▶ Touch-and-go, commencing crosswind turn. ▶ Full stop, aircraft is at taxi speed. 	<ul style="list-style-type: none"> ● Maintains: <ul style="list-style-type: none"> ▶ Correct glidepath until flare initiation. ▶ TO flap: Minimum 105 KIAS until landing transition. ▶ LDG flap: Minimum 100 KIAS until landing transition. ● Touches down with: <ul style="list-style-type: none"> ▶ Appropriate crosswind controls. ▶ Main gear first (nose-high attitude). ▶ Nose gear ±10 feet of centerline. ● Touches down in the touchdown zone as defined by Contact FTI and local instructions.

OCF

BEHAVIOR STATEMENT	STANDARDS
64. Progressive Spin	
<ul style="list-style-type: none"> ● Perform progressive spin IAW NATOPS/FTI. 	<ul style="list-style-type: none"> ● Selects altitude that allows recovery IAW FTI. ● Ensures aircraft is in steady-state spin before reversing the rudder direction. ● Recovery procedures are IAW NATOPS/FTI.

BEHAVIOR STATEMENT	STANDARDS
65. Spiral	
<ul style="list-style-type: none"> ● Perform spiral maneuver and recover per NATOPS/FTI. 	<ul style="list-style-type: none"> ● Maintains thorough knowledge of spiral indications and characteristics. ● Commences in clean configuration. ● Performs clearing turn and Pre-stalling, spin, and aerobatic checklist. ● Enters spiral at or above in order to recover IAW FTI. ● Performs entry IAW OCF FTI. ● Reports altitude, AOA, airspeed, and turn needle following spiral entry. ● Initiates proper recovery inputs. ● Does not overstress the aircraft.
66. Out-of-Control Flight Recovery	
<ul style="list-style-type: none"> ● Recognize OCF situation and promptly execute recovery procedures. 	<ul style="list-style-type: none"> ● Executes OCF recovery procedures IAW NATOPS/FTI. ● Does not overspeed gear and/or flaps. ● Does not overstress the aircraft. ● Recovers at or above FTI requirements.

NAVIGATION

BEHAVIOR STATEMENT	STANDARDS
67. Route Entry/Exit	
<ul style="list-style-type: none"> ● Perform route entry procedures. 	<ul style="list-style-type: none"> ● Accomplishes required ATC coordination, visually identifies route entry, complies with all entry time requirements, effectively maneuvers aircraft into route structure, arrives at entry point ± 1 NM.

BEHAVIOR STATEMENT	STANDARDS
68. Route Management	
<ul style="list-style-type: none"> • Navigate from point-to-point using dead reckoning and visual references. 	<ul style="list-style-type: none"> • Establishes chart position using clock-chart-ground. • Identifies chart significant landmarks along route. • Reaches each checkpoint ± 1 NM.
69. Standard Time Corrections	
<ul style="list-style-type: none"> • Navigate from point-to-point using dead reckoning and visual references. 	<ul style="list-style-type: none"> • Makes airspeed adjustments to arrive on target ± 1 minute.
70. Standard Course Corrections	
<ul style="list-style-type: none"> • Navigate from point-to-point using dead reckoning and visual references. 	<ul style="list-style-type: none"> • Makes adjustments to maintain a visual low-level course given a specified course ± 2 NM.
71. ATIS/PMSV/FSS/Weather	
<ul style="list-style-type: none"> • Use ATIS/PMSV to update destination conditions. • Use FSS as required to open, change, and close flight plans. 	<ul style="list-style-type: none"> • Checks ATIS prior to contacting destination approach control. • Updates destination and alternate weather with PMSV/AWOS/FSS enroute, when required. • Contacts FSS to: <ul style="list-style-type: none"> ▶ Open flight plans after departure. ▶ Change flight plans enroute. ▶ Close flight plans after landing.

FORMATION

BEHAVIOR STATEMENT	STANDARDS
72. Lead Change	
<ul style="list-style-type: none"> • Transfer control of the flight from lead to Dash 2. 	<ul style="list-style-type: none"> • Performs expeditiously IAW the appropriate FTI parameters and procedures.

BEHAVIOR STATEMENT	STANDARDS
73. Visual Signals	
<ul style="list-style-type: none"> Communicate using hand, head, and aircraft movements. 	<ul style="list-style-type: none"> Performs IAW FTI.
74. Section Takeoff	
<ul style="list-style-type: none"> Perform takeoff from takeoff clearance through landing gear retraction while in close formation. 	<ul style="list-style-type: none"> Performs IAW FTI. Wingman maintains takeoff position until gear retraction, and then expeditiously moves to parade/fingertip position.
75. Interval Takeoff/Rendezvous	
<ul style="list-style-type: none"> Perform takeoff as Dash 2 from takeoff clearance until in parade/fingertip position. 	<ul style="list-style-type: none"> Performs IAW FTI. Dash 2 accomplishes timely rendezvous.
76. Wingman Consideration	
<ul style="list-style-type: none"> Plan and maneuver to avoid unnecessarily complicating Dash 2's tasks. 	<ul style="list-style-type: none"> Considers airspace and weather in planning maneuvers. Monitors Dash 2. Does not exceed Dash 2 capabilities. Maneuvers smoothly and avoids abrupt power changes. Does not exceed FTI parameters.
77. Parade/Fingertip (Straight-and-Level)	
<ul style="list-style-type: none"> Maintain close formation position IAW the FTI. 	<ul style="list-style-type: none"> Maintains formation checkpoints IAW Formation FTI. Makes smooth flight control and PCL corrections. Performs checklist items, radio frequency changes, and navigational tasks expeditiously/safely.
78. Parade/Turns Into	
<ul style="list-style-type: none"> Dash 2 is on the inside of the turn while in parade. 	<ul style="list-style-type: none"> Maintains parade position.

BEHAVIOR STATEMENT	STANDARDS
79. Parade/Turns Away (IFR)	
<ul style="list-style-type: none"> ● Perform parade turns during actual/simulated IMC. 	<ul style="list-style-type: none"> ● Maintains normal parade checkpoints for all turns. ● Lead does not exceed 45° AOB.
80. Parade/Turns Away (VFR)	
<ul style="list-style-type: none"> ● Dash 2 is on the outside of the turn while in parade. 	<ul style="list-style-type: none"> ● Maintains proper position and rotates about own longitudinal axis.
81. Lost Wingman Exercise	
<ul style="list-style-type: none"> ● Execute appropriate separation procedure IAW the FTI. 	<ul style="list-style-type: none"> ● Safely executes procedures IAW the FTI.
82. Crossunder	
<ul style="list-style-type: none"> ● Dash 2 moves from parade/fingertip on one side of the formation to parade/fingertip on the other side. 	<ul style="list-style-type: none"> ● Performs IAW appropriate FTI.
83. Breakup and Rendezvous	
<ul style="list-style-type: none"> ● Separate flight and return to close formation. 	<ul style="list-style-type: none"> ● Performs IAW FTI. ● Expeditiously maneuvers to the briefed rendezvous line. ● Maintains positive overtake throughout the remainder to the rendezvous. ● Lead monitors Dash 2's position.
84. Running Rendezvous	
<ul style="list-style-type: none"> ● Reform to parade while lead is maintaining constant heading. 	<ul style="list-style-type: none"> ● Performs IAW FTI. ● Dash 2 accomplishes timely running rendezvous.
85. Underrun	
<ul style="list-style-type: none"> ● Dash 2 discontinues joinup due to being excessively acute, acute in close, or has excessive closure. 	<ul style="list-style-type: none"> ● Recognizes requirement for underrun in time to safely execute procedures IAW the appropriate FTI.

BEHAVIOR STATEMENT	STANDARDS
86. Cruise Maneuvering	
<ul style="list-style-type: none"> ● Perform cruise maneuvering sequence. 	<ul style="list-style-type: none"> ● Lead: <ul style="list-style-type: none"> ▶ Smoothly maneuvers IAW FTI parameters. ▶ Minimizes use of power to maintain stable platform. ● Wing: <ul style="list-style-type: none"> ▶ Maintains approximate cruise position according to lead's bank angle. ▶ Minimizes use of power to maintain proper position. ▶ Properly uses pursuit curves to maintain position.
87. Tail-Chase	
<ul style="list-style-type: none"> ● Perform tail-chase maneuvering as lead or wing. 	<ul style="list-style-type: none"> ● Lead: <ul style="list-style-type: none"> ▶ Smoothly maneuvers IAW FTI parameters. ▶ Monitors Dash 2. ● Wing: <ul style="list-style-type: none"> ▶ Recognizes changes in aspect, bearing line, closure, and range. ▶ Correctly establishes lead/lag/pure pursuit to maintain 800-1000 feet nose-to-tail position. ▶ Minimizes use of power to maintain position.
88. Formation Approach	
<ul style="list-style-type: none"> ● Execute an instrument or VFR straight-in approach as lead or wing. 	<ul style="list-style-type: none"> ● Lead: <ul style="list-style-type: none"> ▶ Maintains appropriate Contact, Instrument, or Formation FTI approach parameters and procedures. ▶ Maintains wingman consideration. ● Wing: <ul style="list-style-type: none"> ▶ Maintains parade/fingertip parameters. ▶ Configures on lead's signals. ▶ Sets and monitors NAVAIDS.

BEHAVIOR STATEMENT	STANDARDS
89. Tactical Formation - Spread/Turns	
<ul style="list-style-type: none"> ● Straight-and-level, wingman maintains position on lead. ● During turns, wingman maintains position on lead. 	<ul style="list-style-type: none"> ● Lead provides predictable platform for wingman. ● Wingman: <ul style="list-style-type: none"> ▶ Maintains position using energy maneuverability concepts. ▶ Fixes position IAW FTI. ▶ Deconflicts lead's flight path. ▶ Flies appropriate geometry IAW FTI.

Air Force Formation

BEHAVIOR STATEMENT	STANDARDS
90. Knock-It-Off Procedures	
<ul style="list-style-type: none"> ● Perform knock-it-off for any unsafe or other required situation. 	<ul style="list-style-type: none"> ● Maneuvers in appropriate, predictable manner to not present further hazard to the flight. ● Executes proper communications.
91. Route	
<ul style="list-style-type: none"> ● Maintain enroute medium/high level formation position IAW the FTI. 	<ul style="list-style-type: none"> ● Maintains position IAW FTI while performing required duties.
92. Echelon	
<ul style="list-style-type: none"> ● Maintain close formation when lead turns away. 	<ul style="list-style-type: none"> ● Lead: IAW FTI, 60 ±5 degrees AOB, within BAW parameters. ● Wing: Maintains position IAW FTI.
93. Straight Ahead Rejoin	
<ul style="list-style-type: none"> ● Reform to fingertip while lead is maintaining constant heading. 	<ul style="list-style-type: none"> ● Performs IAW FTI. ● Wingman does not exceed lead's 3/9 line.
94. Turning Rejoin	
<ul style="list-style-type: none"> ● Reform to fingertip while lead is maintaining constant angle-of-bank turn. 	<ul style="list-style-type: none"> ● Performs IAW FTI, correctly using lead, lag, and pure pursuit to execute rejoin.

BEHAVIOR STATEMENT	STANDARDS
95. Wingwork	
<ul style="list-style-type: none"> ● Stay in close formation. 	<ul style="list-style-type: none"> ● Lead: <ul style="list-style-type: none"> ▶ Maneuvers smoothly. ▶ Maintains FTI parameters. ▶ Monitors wingman. ▶ Maneuvering with approximately 3 Gs and 90 degrees of bank. ▶ Does not exceed 90 degrees AOB. ● Wing maintains parade/fingertip parameters.
96. Extended Trail	
<ul style="list-style-type: none"> ● Lead: Perform extended trail to include: <ul style="list-style-type: none"> ▶ Level 1: A level turning platform. ▶ Level 2: Modified Lazy Eight. ▶ Level 3: <ul style="list-style-type: none"> ■ Barrel roll. ■ Loop. ■ Cloverleaf. ■ Modified Cuban Eight. ● Wing: Perform extended trail to include: <ul style="list-style-type: none"> ▶ Level 1: maneuvering with respect to a stabilized lead platform. ▶ Level 2: Modified Lazy Eight. ▶ Level 3: <ul style="list-style-type: none"> ■ Barrel roll. ■ Loop. ■ Cloverleaf. ■ Modified Cuban Eight. 	<ul style="list-style-type: none"> ● Lead: Smoothly accomplishes maneuvers IAW FTI. <ul style="list-style-type: none"> ▶ Monitors wingman's position. ▶ Acts appropriately if any training rules are violated. ▶ Maintains situational awareness and remains within area ▶ Demonstrates safe proficiency level. ● Wing: Smoothly accomplishes maneuvers IAW FTI. <ul style="list-style-type: none"> ▶ Recognizes changes in aspect, angle-off, and closure/range from lead aircraft. ▶ Able to establish correct pursuit course. ▶ Maintains/regains sight of lead aircraft. ▶ Acts appropriately if any training rules are violated. ▶ Demonstrates safe proficiency level.

BEHAVIOR STATEMENT	STANDARDS
97. Formation Landing (USAF)	
<ul style="list-style-type: none"> ● Perform formation full-stop landing as lead and as wing. 	<ul style="list-style-type: none"> ● Formation landing: position same as formation approach stack level. <ul style="list-style-type: none"> ▶ Maintains a minimum of 20 feet wingtip clearance IAW FTI and makes smooth, positive control inputs. ▶ Does not become airborne after touchdown and maintains the respective side of the runway. ● Lands in center of appropriate side of the runway.
98. AF Pattern Operations	
<ul style="list-style-type: none"> ● Execute AF pattern operations per the FTI. ● Perform a VFR traffic entry arrival (single-ship or formation). ● Perform a 360-degree overhead pattern (no-flap, takeoff-flap, and landing-flap configurations). ● Perform formation pitchout and landing. ● Establish and maintain proper visual glidepath. ● Perform a closed pattern. ● Perform low approach/go-around as required A(single-ship or formation). 	<ul style="list-style-type: none"> ● Executes AF pattern operations per the FTI (single-ship or formation). ● Complies with published directives concerning VFR traffic arrival and entry procedures. ● Complies with standards specified for 360-degree overhead pattern and landing. ● Performs pitchout as required. <ul style="list-style-type: none"> ▶ Establishes downwind IAW formation directives. ▶ Minimum spacing of 3000 feet behind lead until crossing the threshold. ● Closed pullup: <ul style="list-style-type: none"> ▶ Airspeed minimum of 140 KIAS for start of and during pullup. ▶ Inside downwind: minimum of 120 KIAS ▶ Rolls out at overhead pattern altitude ± 100 feet ● Low approach/go-around: IAW FTI.
99. Breakout	
<ul style="list-style-type: none"> ● Separate from/break out of formation when situation requires. 	<ul style="list-style-type: none"> ● If required, does so in a safe and timely manner. ● Ensures safe separation.