

**NAVAL AIR TRAINING COMMAND**



**NAS CORPUS CHRISTI, TEXAS  
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**CNATRAINST 1542.91L  
1 Nov 2023**

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# **CHIEF OF NAVAL AIR TRAINING**



## **ADVANCE HELICOPTER FLIGHT INSTRUCTOR UNDER TRAINING (IUT) MPTS MASTER CURRICULUM GUIDE**

**2023**





**DEPARTMENT OF THE NAVY**  
CHIEF OF NAVAL AIR TRAINING  
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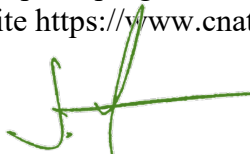
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CNATRA INSTRUCTION 1542.91L

From: Chief of Naval Air Training

Subj: ADVANCED HELICOPTER FLIGHT INSTRUCTOR UNDER TRAINING,  
MULTI-SERVICE PILOT TRAINING SYSTEM

1. Purpose. This master curriculum guide is issued for the standardization of instruction and guidance to Instructors and administrators within the Naval Air Training Command.
2. Cancellation. CNATRAINST 1542.91K will be canceled when the last student enrolled completes the curriculum, is enrolled or transitions to the 1542.91L.
3. Action. This curriculum is effective on receipt. No changes will be made without written authorization by the Chief of Naval Air Training (CNATRA).
4. Records Management. Records created as a result of this instruction, regardless of media and format, must be managed per Secretary of the Navy Manual 5210.1 of September 2019.
5. Review and Effective Date. Per this instruction, OPNAVINST 5215.17A, CNATRA N7 will review this instruction annually around the anniversary of its effective date to ensure applicability, currency, and consistency with Federal, DoD, SECNAV, and Navy policy and statutory authority using OPNAV 5215/40 Review of Instruction. This instruction will be in effect for 10 years, unless revised or cancelled in the interim, and will be reissued by the 10-year anniversary date if it is still required, unless it meets one of the exceptions in OPNAVINST 5215.17A paragraph 9. Otherwise, if the instruction is no longer required, it will be processed for cancellation as soon as the need for cancellation is known following the guidance in OPNAV Manual 5215.1 of May 2016.
6. Forms. The CNATRA forms required by this instruction are automated in the Training Learning Management System (T/LMS) computer program. Additional copies of CNATRA forms are available on the CNATRA web site <https://www.cnatra.navy.mil/pubs/forms.htm>.



J. R. FAS  
Chief of Staff

Releasability and distribution:

This instruction is cleared for public release and is available electronically only via Chief of Naval Air Training Issuances Web site,  
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COURSE DATA

1. Course Title. Advanced Helicopter Flight Instructor Under Training (IUT), Multi-Service Pilot Training System (MPTS).
2. Course ID Number (CIN). TH-57 Advanced Rotary IUT; Q-2C-1192.
3. Location. Naval Air Station, Whiting Field, Milton, Florida 32570.
4. Course Status. Active.
5. Course Mission. Advanced Helicopter Flight IUT, MPTS is designed to provide designated aviators with appropriate flight procedures, instructional methodology, and techniques to instruct undergraduate rotary-wing flight students in the Advanced Helicopter MPTS.
6. Prerequisite Training. Designated Rotary Wing Naval Aviator.
7. Security Clearance Requirements. None.
8. Follow-on Training. As required to maintain currency.
9. Course Length. For time-to-train calculations for this MCG please refer to Chief of Naval Air Training (CNATRA) N3 Annual Time-to-Train Entitlement Notice for active 1542 series instructions on the CNATRA web site: <https://cnatra.navy.mil> under Resources, Publications, CNATRA OPS Documents.
10. Class Capacity. Variable.
11. Instructor Requirements. As established by CNATRA planning factors.
12. Course Curriculum Model Manager. Commander, Training Air Wing FIVE (COMTRAWING FIVE).
13. Quota Management Authority. CNATRA.
14. Quota Control. Chief of Naval Operations (CNO).

15. Course Training Subjects

a. Ground Training

<b>HELICOPTER</b>		
<b>Subject</b>	<b>Symbol</b>	<b>Hours</b>
Indoctrination	GND01	1.5
Safety	GND02	5.0
Global Positioning System	GND03	6.0
Mission Planning System	GND04	2.0
CDRE In-Brief	GND05	1.0
FITC	GND06	26.0
MPTS	GND07	2.5
Cross-Country Procedures	GND08	0.5
HITU Checkout/Check-in Squadron	GND11	2.0
<b>Total</b>		<b>46.5</b>

b. Flight Support

<b>HELICOPTER</b>		
<b>Subject</b>	<b>Symbol</b>	<b>Hours</b>
Systems 'B'	SYS01	9.5
Basic Helicopter Aerodynamics	AER01	14.4
Crew Resource Management - Familiarization Stage	CRM01	1.0
Course Rules Flight Procedures I	CR01	3.0
NATOPS Examinations	NAT01	5.0
Preflight and Cockpit Procedures 'B'	FAM01	3.0
Autorotation Aerodynamics	AER02	2.5
Emergency Procedures	EP01	1.5
Tail-Rotor Aerodynamics	AER03	3.0
Advanced Aerodynamics	AER04	3.0
Course Rules Flight Procedures II	CR02	.75
Systems 'C'	SYS02	3.0
Logistic Flight Procedures	LOG01	0.5
Logistic Stage Exam	LOG02	1.0
Basic Instrument Flight Procedures	INS01	1.5
Visual Flight Rules Navigation	NAV01	2.5

<b>HELICOPTER (cont.)</b>		
<b>Subject</b>	<b>Symbol</b>	<b>Hours</b>
Instrument Ground School/Exam	IGS03	9.0
Instrument Navigation	INS02	7.0
Radio Instruments	RI01	5.0
Crew Resource Management-Facilitator	CRM02	2.0
Formation Procedures	FRM01	3.0
Formation Stage Exam	FRM02	1.0
Search and Rescue	SAR01	0.5
Search and Rescue Stage Exam	SAR02	1.0
Shipboard Operations	SHP01	0.5
Shipboard Operations Stage Exam	SHP02	1.0
TERF Navigation	TRF01	2.5
NITE Lab Refresher	NVG01	4.0
Course Rules Exam	CR0190	1.0
Familiarization Stage Exam	IP01	1.0
Instrument Stage Exam	IP02	1.0
TERF Stage Exam	IP03	1.0
NVG Stage Exam	IP04	1.0
<b>Total</b>		<b>96.65</b>

c. Flight Training. The programmed times for flight training events and media are:

<b>Block</b>	<b>Flight/Events</b>	<b>LVL 6 FTD</b>		<b>LVL 7 FTD</b>		<b>TH- 57B/C</b>	
		<b>Flts</b>	<b>Hrs</b>	<b>Flts</b>	<b>Hrs</b>	<b>Flts</b>	<b>Hrs</b>
FAM20	Cockpit Procedures	1	1.3				
FAM30	Cockpit Procedures and Flight Introduction			2	2.6		
FAM40	Familiarization 'B'					4	8.0
FAM41	Familiarization 'B'					2	4.6
FAM42	NATOPS Check Flight					1	2.0
FAM31	Familiarization Simulator 'C' Model Transition	1	1.3				
FAM43	Familiarization 'C'					2	3.0
FAM44	Night Familiarization 'C'					1	1.5
EP30	Emergency Procedures			1	1.3		
BI30	Basic Instruments	2	2.6				

Block	Flight/Events (CONT.)	LVL 6 FTD		LVL 7 FTD		TH- 57B/C	
		Flts	Hrs	Flts	Hrs	Flts	Hrs
BI40	Basic Instruments					2	3.6
NAV40	Day Navigation					1	1.7
RI30	Radio Instruments			5	6.5		
RI40	Radio Instruments					4	8.4
RI41	Instrument Check Flight					1	2.0
*OBS30	NVG Simulator Event Observe			1	1.3		
OBS40	Basic Instrument Flight Observe					1	1.7
OBS41	Radio Instrument Flight Observe					1	2.0
TRF40	TERF Navigation					1	1.7
TRF41	TERF Navigation					2	4.0
NVG40	Night Vision Device Familiarization Flight					3	5.4
NVG41	Night Vision Device Check Flight					1	2.0
IP30	Defensive Posturing			1	1.3		
EM40	Autorotation Energy Management					1	1.5
IP40	Instructor Pilot Familiarization					1	2.0
IP41	Instructor Pilot Night Familiarization					1	2.0
IP42	Instructor Pilot Basic Instrument					1	2.0
IP43	Instructor Pilot Radio Instrument					1	2.0
IP44	Instructor Pilot TERF					1	2.0
<b>Total</b>		<b>4</b>	<b>5.2</b>	<b>10</b>	<b>13.0</b>	<b>33</b>	<b>63.1</b>



d. Familiarization 'B' Upgrade Flight Training

FAMILIARIZATION 'B' UPGRADE FLIGHT TRAINING							
Block	Flight/Events	LVL 6 FTD		LVL 7 FTD		TH-57B/C	
		Flts	Hrs	Flts	Hrs	Flts	Hrs
*OBS32	FAM 'B' Simulator Observe			1	1.3		
FAM32	Advanced Transition FAM 'B'			1	1.3		
FAM45	Squadron Familiarization 'B'					3	6.0
FAM46	HITU FAM 'B'					2	4.0
EM31	Bravo Defensive Posturing			1	1.3		
EM41	Energy Management 'B'					3	4.5
FAM47	HITU 'B' Check Flight					1	2.0
<b>Total</b>				<b>3</b>	<b>3.9</b>	<b>9</b>	<b>16.5</b>

e. Formation Upgrade Flight Training

FORMATION UPGRADE FLIGHT TRAINING							
Block	Flight/Events	LVL 6 FTD		LVL 7 FTD		TH-57B/C	
		Flts	Hrs	Flts	Hrs	Flts	Hrs
*OBS36	FORM Sim Observe			1	1.3		
FRM40	Formation					2	4.0
FRM41	Combat Cruise Formation					1	2.0
FRM42	Formation Check Flight					1	2.0
<b>Total</b>				<b>1</b>	<b>1.3</b>	<b>4</b>	<b>8.0</b>

f. Logistics Upgrade Flight Training

LOGISTICS UPGRADE FLIGHT TRAINING							
Block	Flight/Events	LVL 6 FTD		LVL 7 FTD		TH-57B/C	
		Flts	Hrs	Flts	Hrs	Flts	Hrs
LOG40	Logistics					1	1.5
<b>Total</b>						<b>1</b>	<b>1.5</b>

g. SAR Upgrade Flight Training

SAR UPGRADE FLIGHT TRAINING							
Block	Flight/Events	LVL 6 FTD		LVL 7 FTD		TH-57B/C	
		Flts	Hrs	Flts	Hrs	Flts	Hrs
*OBS34	SAR Sim Observe			1	1.3		
SAR40	SAR Upgrade					2	2.0
<b>Total</b>				<b>1</b>	<b>1.3</b>	<b>2</b>	<b>2.0</b>

h. Shipboard Upgrade Flight Training

SHIPBOARD UPGRADE FLIGHT TRAINING							
Block	Flight/Events	LVL 6 FTD		LVL 7 FTD		TH-57B/C	
		Flts	Hrs	Flts	Hrs	Flts	Hrs
*OBS33	Shipboard Operations Observe			1	1.3		
SHP30	Shipboard VFR Operations			1	1.3		
<b>Total</b>				<b>2</b>	<b>2.6</b>		

Note: All \* Observe events count toward Time to Train but do not have a brief and debrief time.

i. Energy Management Cadre Upgrade Flight Training

ENERGY MANAGEMENT CADRE UPGRADE FLIGHT TRAINING							
Block	Flight/Events	LVL 6 FTD		LVL 7 FTD		TH-57B/C	
		Flts	Hrs	Flts	Hrs	Flts	Hrs
EM42	AEMP Cadre					4	6.0
EM43	Energy Management Principles Check Flight					1	1.5
<b>Total</b>						<b>5</b>	<b>7.5</b>

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 IUT needs. This may be up to several hours per event. For simulator and flight events, specific brief and taxi times will be programmed into T-SHARP and accounted for on the flight schedule, per the following table unless specifically stated in the syllabus notes for the event:

<b>ADDITIONAL FORMAL TRAINING TIME PER EVENT</b>			
<b>Training Area</b>	<b>Brief/Pre-flight/Taxi</b>	<b>Taxi/Debrief</b>	<b>Total</b>
Flight	2.0	0.5	2.5
Simulator/CPT	0.5	0.5	1.0

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

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

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

20. Preceding Curriculum Data. This curriculum replaces CNATRINST 1542.91K.

21. IUT Performance Measurement and Application of Standards. The standards outlined in Chapter V, Course Training Standards, are used to evaluate IUT performance of individual items and maneuvers. Final judgment regarding the satisfactory performance of any flight maneuver rests with the Standardization Instructor (SI), who must assess the environmental and systems factors affecting the conditions under which the performance is measured and the IUT's experience within the stage.

22. Proficiency Advance. SIs are encouraged to proficiency advance IUTs who meet course training standards on all required maneuvers prior to end of block.

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## GLOSSARY

1. Advancing X. Completed event within the normal syllabus flow. Excludes events with last characters in the range 84-89.
2. Aviation Training Form (ATF). A grade sheet documenting IUT performance for all categories of training regardless of media, phase, or stage.
3. Aviation Training Jacket (ATJ). The ATJ is the IUT's training record. It contains ATFs, and all other associated training information. It is filed in the HITU Administrative office and follows the IUT through all phases of training. The ATJ is forwarded to the IUT's parent command upon completion of the HITU.
4. Aviation Training Summary (ATS). A tabular sheet listing the Maneuver Item File (MIF) and maneuver grades within a training stage.
5. Block of Training. A sequential series of lessons within a training stage sharing an identical MIF.
6. Check Flight (SXX90). A flight check-in any stage of training, which is conducted by a standardization instructor qualified in that stage.
7. Class Advisor (CA). An Instructor Pilot assigned by Student Control to provide counseling and guidance to a specific student pilot throughout the applicable syllabus.
8. Commanding Officer Progress Check (CO-PC) (SXX89). A special check normally given by the Commanding Officer (CO) or Executive Officer (XO). The CO may designate, in writing, CO-PC duty to a qualified O-4 or above. This is only done if the CO or XO is unqualified or unavailable to instruct in the required stage. A satisfactory CO-PC returns the student to normal syllabus flow. An Unsatisfactory (UNSAT) CO-PC results in a Training Review Board (TRB).
9. Course of Training. The entire program of pre-flight, flight, simulation, academics, and officer development conducted in all media during the programmed training days.
10. Course Training Standard (CTS). A description of required behaviors and standards of performance for a specific maneuver.
11. Courseware. The technical data, Flight Training Instructions (FTIs), audio, video, film, CAI, instructor guides, student study guides, and other training material developed to support and implement the syllabus of instruction.
12. Deliverables. A CNATRA 1542/1827 (Rev 4-04) Training Review Board (TRB) Summary Form, generated by the TRB summarizing a specific pilot's progress in a given syllabus and provides detailed information on the application of MPTS training for that IUT. Deliverables

indicate whether the quality and continuity of training provided was per CNATRAINST 1542.91L and indicate the degree of influence by “human factors” on the pilot’s performance.

13. Emergency Procedure (EP). Any degradation of aircraft systems or flight conditions requiring pilot action or intervention.

14. End of Block (EOB). Last event in block.

15. Extra Training (ET) (SXX87). Additional IUT training flights ordered by the Operations Officer, or higher, in order to make up for documented instructional deficiencies.

16. Familiarization (FAM). The stage of training that combines both day and night familiarization.

17. Flight Training Instruction (FTI). A CNATRA-approved manual describing flight procedures and techniques for each training stage.

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

19. Initial Progress Check (IPC) (SXX88). A special check performed by the most experienced instructors that have a complete understanding of NATRACOM and PC processes, and understand the gravity of their responsibility in helping maintain the standards of Naval Aviation. An UNSAT IPC results in a CO-PC.

20. Lesson Designator. All syllabus events have a lesson designator in the following format:

Char	Meaning	Remarks	
Beginning Letters (May be 1 to 3 letters)	Stage	GND-Ground	INS-Instruments
		SYS-Systems	BI-Basic Instruments
		FAM-Familiarization	NAV-Navigation
		AER-Aerodynamics	RI-Radio Instruments
		CRM-Crew Resource Management	OBS-Observer
		CR-Course Rules	IP-Instructor Pilot
		NAT-NATOPS	TRF-Terrain Flight
		EM-Energy Management	SHP-Shipboard Operations
		EP-Emergency Procedures	SAR-Search and Rescue
		LOG-Logistics	FRM-Formation
		IGS-Instrument Ground School	
2 <sup>nd</sup>	Media	0 or 1 – Ground Training 2 or 3 – Simulator 4 – Aircraft	
3 <sup>rd</sup>	Block	Sequential, indicating block within Subject/Stage.	
4 <sup>th</sup> & 5 <sup>th</sup>	Event/Check Identifier	Sequential, indicating event within block, or other event types as shown below:	
		84 – Adaptation Flight	87 – Extra Training
		85 – Practice Simulator	88 – Initial Progress Check
		86 – Warmup	89 – CO-PC
			90 – Check Flight /Exam
Last Letter	Type of Student	A – Advanced Helicopter	I – IUT
		T – Tilt-rotor	X – Transition
			M – AMO

21. Maneuver Item File (MIF). A listing of required maneuvers and associated proficiency levels for each block of training.

22. Master Syllabus. All training syllabus activities, prerequisites, and desired training flow for MPTS.

23. Phase of Training. A major division in the course of training. Helicopter MPTS consists of two phases: Primary and Advanced.

24. Pink ATF. A standard ATF that is printed on pink paper, used to denote an UNSAT event.

25. Progress Check Pilot. An Instructor Pilot authorized to administer initial or Commanding Officer's progress checks.
26. Ready Room UNSAT (RRU). An UNSAT grade given for inadequate knowledge of flight procedures, systems, discuss items, emergency procedures, or deficient pre-flight planning during the brief. A missed brief does not constitute a "Ready Room UNSAT" and should be dealt with using other disciplinary methods.
27. Required 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.
28. Special Syllabus Requirements (SSR). One-time, ungraded demonstration items. While SSRs are recommended for certain events in block, they may be accomplished at any time during the block.
29. Stage of Training. All training involved within a particular focus of training (Ground, Familiarization, Logistics, Instrument, Navigation, Formation, Shipboard/SAR, and NVD) within a phase.
30. Standardization Instructor. The squadron commander will designate Standardization Instructors (SIs) for each stage of training.
31. Supplemental ATF. A form inserted into a student's ATJ that contains syllabus and non-syllabus information. Also referred to as a "write-up" in T-SHARP.
32. Training Media. MPTS media include aircraft, simulator, Cockpit Procedures Trainers (CPTs), ground training, and CAI.
33. Training Review Board (TRB). A fact-finding board appointed to conduct an administrative review of circumstances and procedures following an IUT's consistent demonstration of substandard performance. Recommendations for TRB shall be made by the HITU OIC to CTW-5 via the IUT's squadron CO.
34. Warmup Event (SXX86). Additional events given to allow an IUT to regain a level of proficiency previously demonstrated which has diminished due to an extended break in training.



ABBREVIATIONS

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

ADDU	-	Additional Duty
ADF	-	Automatic Direction Finder
AERO	-	Aerodynamics
AGL	-	Above Ground Level
AIM	-	Aeronautical Information Manual
AIRMET	-	Airman's Meteorological Information (In Flight Weather Advisory)
ANI	-	Assistant NATOPS Instructor
APU	-	Auxiliary Power Unit
ASI	-	Aviation Student Indoctrination
ASR	-	Airport Surveillance Radar
ATC	-	Air Traffic Control
ATF	-	Aviation Training Form
ATIS	-	Automatic Terminal Information Service
ATJ	-	Aviation Training Jacket
ATS	-	Aviation Training Summary
BAW	-	Basic Air Work
BIFP	-	Basic Instrument Flight Procedures
CAI	-	Computer Aided Instruction
CDO	-	Command Duty Officer
CNAF	-	Commander, Naval Air Forces
CO	-	Commanding Officer
CO-PC	-	Commanding Officer Progress Check
CPT	-	Cockpit Procedures Trainer

CR	-	Course Rules
CRM	-	Crew Resource Management
CTS	-	Course Training Standard
DFAMFP	-	Day Familiarization Flight Procedures
DH	-	Decision Height
DLA	-	Dynamic Landing Approach
DME	-	Distance Measuring Equipment
DP	-	Departure Procedures
EKB	-	Electronic Kneeboard
EMFP	-	Emergency Flight Procedures
EMP	-	Energy Management Principles
EOB	-	End of Block
EP	-	Emergency Procedure
ET	-	Extra Training
FAA	-	Federal Aviation Administration
FAC	-	Final Approach Course
FAR	-	Federal Aviation Regulation
FIH	-	Flight Information Handbook
FLIP	-	Flight Information Publication
FORMFP	-	Formation Flight Procedures
FP	-	Full Panel
FSS	-	Flight Service Station
FTI	-	Flight Training Instructions
GCA	-	Ground-Controlled Approach
GPS	-	Global Positioning System
GPSFP	-	Global Positioning System Flight Procedures

GPU	-	Ground Power Unit
HABD	-	Helicopter Aircrew Breathing Device
HOSTAC	-	Helicopter Operations from Ships Other Than Aircraft Carriers
HSI	-	Horizontal Situation Indicator
IAF	-	Initial Approach Fix
ICAO	-	International Civil Aviation Organization
IFM	-	Instrument Flight Manual
IFR	-	Instrument Flight Rules
IIMC	-	Inadvertent Instrument Meteorological Conditions
ILS	-	Instrument Landing System
IMC	-	Instrument Meteorological Conditions
IMS	-	International Military Student
INAV	-	Instrument Navigation
IP	-	Instructor Pilot
IPC	-	Initial Progress Check
IUT	-	Instructor Under Training
JOG	-	Joint Operations Graphic (Chart)
KNDZ	-	NAS South Whiting Field
LDI	-	Lunar Daily Illumination
LEAA	-	Lunar Elevation Angle and Azimuth
LECT	-	Lecture
LHD/CV	-	Amphibious Assault Ship (General Purpose)/Multi-Purpose Aircraft Carrier
LOA	-	Letter of Agreement
LOC	-	Localizer
LOGFP	-	Logistics Flight Procedures
LSE	-	Landing Signalman Enlisted

MAP	-	Missed Approach Point
MCA	-	Minimum Crossing Altitude
MDA	-	Minimum Descent Altitude
MIF	-	Maneuver Item File
MIL	-	Mediated Interactive Lecture
MOCA	-	Minimum Obstruction Clearance Altitude
MPS	-	Mission Planning System
MPTS	-	Multi-Service Pilot Training System
MRA	-	Minimum Reception Altitude
NATOPS	-	Naval Air Training and Operating Procedures Standardization
NAVAID	-	Navigational Aid
NDB	-	Non-Directional Beacon
NFS	-	Naval Flight Student
NG	-	No Grade
NI	-	NATOPS Instructor
NITE Lab	-	Night Image Threat Evaluation Lab
NOTAM	-	Notice to Air Missions
NVD	-	Night Vision Device
NVG	-	Night Vision Goggle
ODO	-	Operations Duty Officer
OLQ	-	Officer-Like Quality
OPNAV	-	Office of the Chief of Naval Operations
OPSO	-	Operations Officer
ORM	-	Operational Risk Management
OSC	-	On-Scene Commander
PAN	-	Word to signify urgent condition

PAR	-	Precision Approach Radar
PMSV	-	Pilot to Metro Service
PNAC	-	Pilot Not at the Controls
PP	-	Partial Panel
PT	-	Procedure Turn
RI	-	Radio Instruments
RIFP	-	Radio Instruments Flight Procedures
RNAV	-	Area Navigation System
RON	-	Remain Overnight
RPM	-	Revolutions Per Minute
RRU	-	Ready Room UNSAT
RV	-	Radar Vectors
RWOP	-	Rotary Wing Operating Procedures
SAR	-	Search and Rescue
SI	-	Standardization Instructor
SIGMET	-	Significant Meteorological Information
Sim	-	Simulator
SLAP	-	Solar/Lunar Almanac Prediction (software)
SNA	-	Student Naval Aviator
SOP	-	Standard Operating Procedure
SS	-	Self-Study
SSR	-	Special Syllabus Requirements
STARS	-	Standard Terminal Arrivals
SYS	-	Systems
TACAID	-	Tactical Aid
TACAN	-	Tactical Air Navigation System

TERF	-	Terrain Flight
TRB	-	Training Review Board
UNSAT	-	Unsatisfactory
VFR	-	Visual Flight Rules
VFRNAV	-	Visual Flight Rules Navigation
VMC	-	Visual Meteorological Conditions
VNAVFP	-	Visual Navigation Flight Procedures
VOR	-	Very High Frequency (VHF) Omnidirectional Range
VSI	-	Vertical Speed Indicator
WU	-	Warmup

## Chapter I

### General Instructions

#### 1. Syllabus Management

- a. Distribution. Participating squadron personnel.
- b. Interpretation. The syllabus is directive. Should circumstances create situations not covered within the scope of this syllabus, or specific course of action appears to conflict with other directives, consult CNATRA (N71).
- c. Deviations. Document all deviations on the event's ATF.
- d. Changes. Recommended changes shall be submitted in accordance with CNATRINIST 1550.6G.
- e. Execution. IUTs will execute all the curriculum events through GND1101I prior to designation as an Instructor Pilot. All instructor upgrades beyond GND1101I will be conducted using squadron selection criteria.
- f. Syllabus Description. Advanced Helicopter Instructor Under Training MPTS phase of flight training is designed to teach the fundamental skills of flying and instructing in rotary-wing aircraft. This phase of training is flown in either the TH-57B or the TH-57C aircraft. The syllabus is divided into two separate course flows: Basic HITU IP course flow, and Upgrade course flow. These course flows are divided into the following stages: Ground, Familiarization, Energy Management, Instrument, Navigation, Formation, Shipboard Operations, Search and Rescue Operations, Instructor Pilot, and Night Vision Goggle stages. Each stage is subdivided into blocks of training. The blocks consist of a specified number of events. Maneuver item files (MIFs) for flight and simulator events identify the required maneuvers and the acceptable level of proficiency that must be achieved by the completion of each block of training.

#### 2. Training Management

- a. Syllabus Progression. Fly syllabus events within each stage sequentially, except as noted. Do not start a block of training if the required prerequisites have not been met. IUTs may be in different stages of blocks of training simultaneously. Where applicable, IUTs will be eligible for, and shall be prepared for, more than one syllabus event. IUTs must complete all events for their prescribed syllabus. The flowcharts on pages I-5 through I-13 delineates the sequence of flying or device and their ground training prerequisites. Any block of training may be interrupted to facilitate continued progress during inclement weather or to facilitate cross-country training. System training management is designed to facilitate three graded events (flight, simulator, or exam) per IUT per day. No more than two flight or simulator events per day. An exception is made for IUTs completing cross-country navigation flights. For airways

and day or night navigation events, IUTs may complete three graded activities and not exceed 6.5 flight hours. These events may be completed in a round-robin cross-country event that originates and terminates after three legs at the same field.

b. Accelerated Progression. Under certain circumstances, an IUT's previous flight experience or demonstrated proficiency may warrant accelerated progression. A condensed ground and/or simulator curriculum may be designed by the HITU OIC and approved by CTW-5 for previously qualified Instructor Pilots. Proficiency advancing IUT flight events based on demonstrated performance is encouraged:

(1) TAP (Training Acceleration Program). Used for previous NATRACOM instructor experience in T/M/S. A pre-approved (written) syllabus deviation signed by the Commodore.

(2) Proficiency Advance. The HITU OIC may advance, and is encouraged to advance, an IUT to the next block of instruction when all required items for the current block of instruction meet or exceed performance prerequisites for the follow-on block of training.

(3) NOTE: Proficiency Advance can be recommended by any instructor (and subsequently approved by the HITU OIC) for any IUT who demonstrates exceptional performance.

c. Maneuver Continuity. IUTs should be allowed to attempt previously introduced maneuvers frequently enough to ensure maintaining required proficiency.

d. Hours/X. SIs shall plan and execute missions to meet H/X as closely as practical. If actual event length varies from H/X by more than 0.3 hours (greater or less than), the instructor shall annotate the reason(s) in the ATFs general comments section.

e. Special Syllabus Requirements. SSRs may be allocated to blocks. Unless noted otherwise, instructors may accomplish SSRs on any flight within the block. The SSRs shall be completed in the specified block. Annotate completed SSRs in the following places on the ATF: specify the SSR completed in the Comments section, assign NG/1 as the SSR maneuver grade, and save date of SSR exposure on the SSR tab.

f. Instructor Training Jacket Review. A jacket review shall be conducted during the Radio Instruments block.

g. Instructor Pilot Flights. IP flights can be flown by HITU instructors but are intended to be flown by destination squadron ADDU SIs. In the course of the ADDU SI's instruction, they shall observe HITU standardization and provide feedback to the HITU as required. These flights also serve as an opportunity for ADDU SIs to assimilate the IUTs into their destination squadron and to acquaint them with squadron operating methods.



h. Flight Instructor Designation. On completion of the IUT syllabus and an interview with the IUT's designation squadron Commanding Officer, the IUT shall be designated in writing as a flight instructor in the appropriate categories. Designation letters will be filed in the pilot's NATOPS Flight Personnel Training and Qualification Jacket (OPNAVINST 3710.7 series Form OPNAV 3760/32D).

3. Aircraft and Simulator Interchangeability

a. Simulator events may be conducted in the aircraft when the simulator is unavailable for extended periods of time. Substitutions shall be approved by COMTRAWING FIVE except where authorized by this instruction.

b. Device assignments for all events can be found in the "Media" section and in the syllabus notes for the block. Any motion device may be used as a substitute for a non-motion device when a non-motion device is unavailable, as long as appropriate motion simulator guidance is followed.

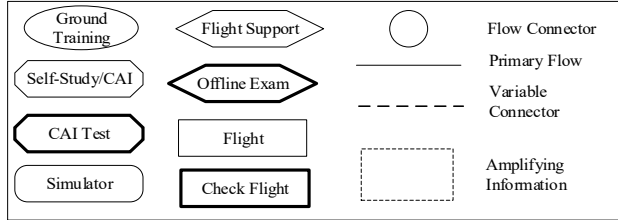
4. Course Flow Diagrams. Course Flow diagrams are on pages I-5 through I-11.

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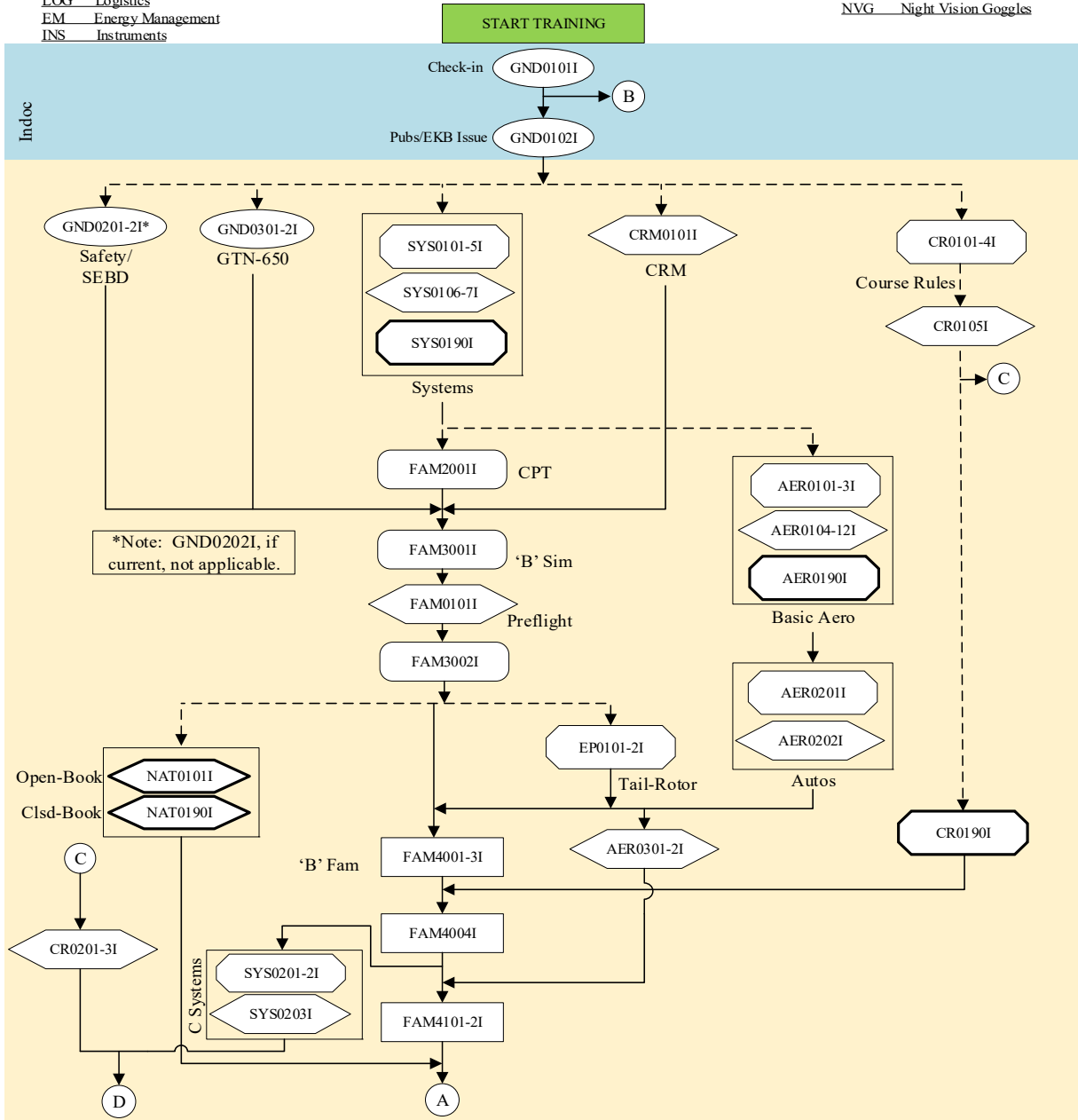
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**BASIC HITU IP COURSE FLOW (1 of 3)**

GND Ground  
SEBD Supplemental Emergency Breathing Device  
SYS Systems  
CPT Cockpit Procedures Training  
AER Aerodynamics  
CRM Crew Resource Management  
CR Course Rules  
SIM Simulator  
NAT NATOPS  
EP Emergency Procedures  
LOG Logistics  
EM Energy Management  
INS Instruments



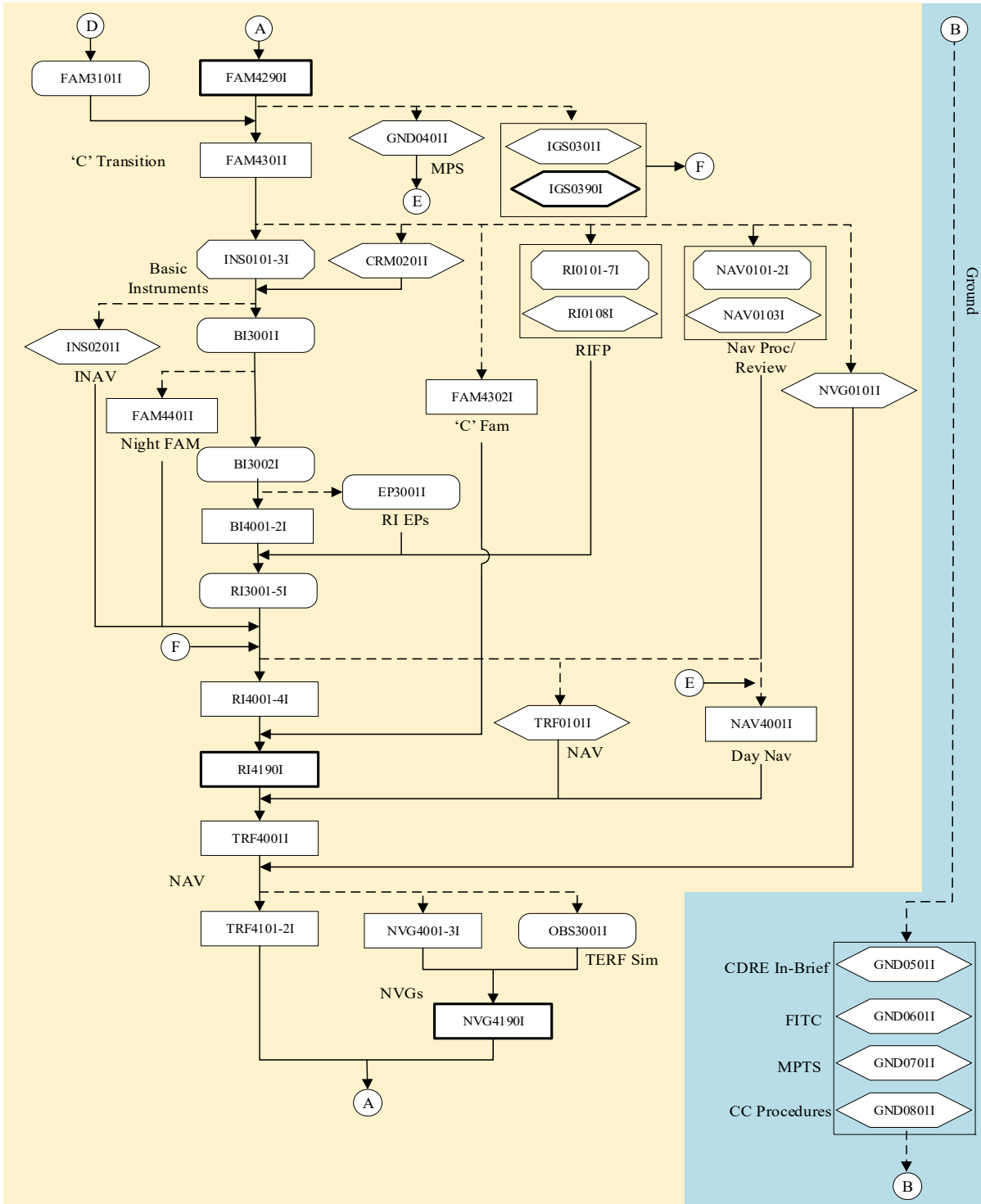
BI Basic Instruments  
NAV Navigation  
MPS Mission Planning System  
RI Radio Instruments  
INAV Instrument Navigation  
RIIP Radio Instrument Flight Planning  
CP Copilot  
CPI Copilot-Instruments  
TRF Terrain Flight  
SHP Shipboard Operations  
SAR Search and Rescue  
FRM Formation  
NVG Night Vision Goggles



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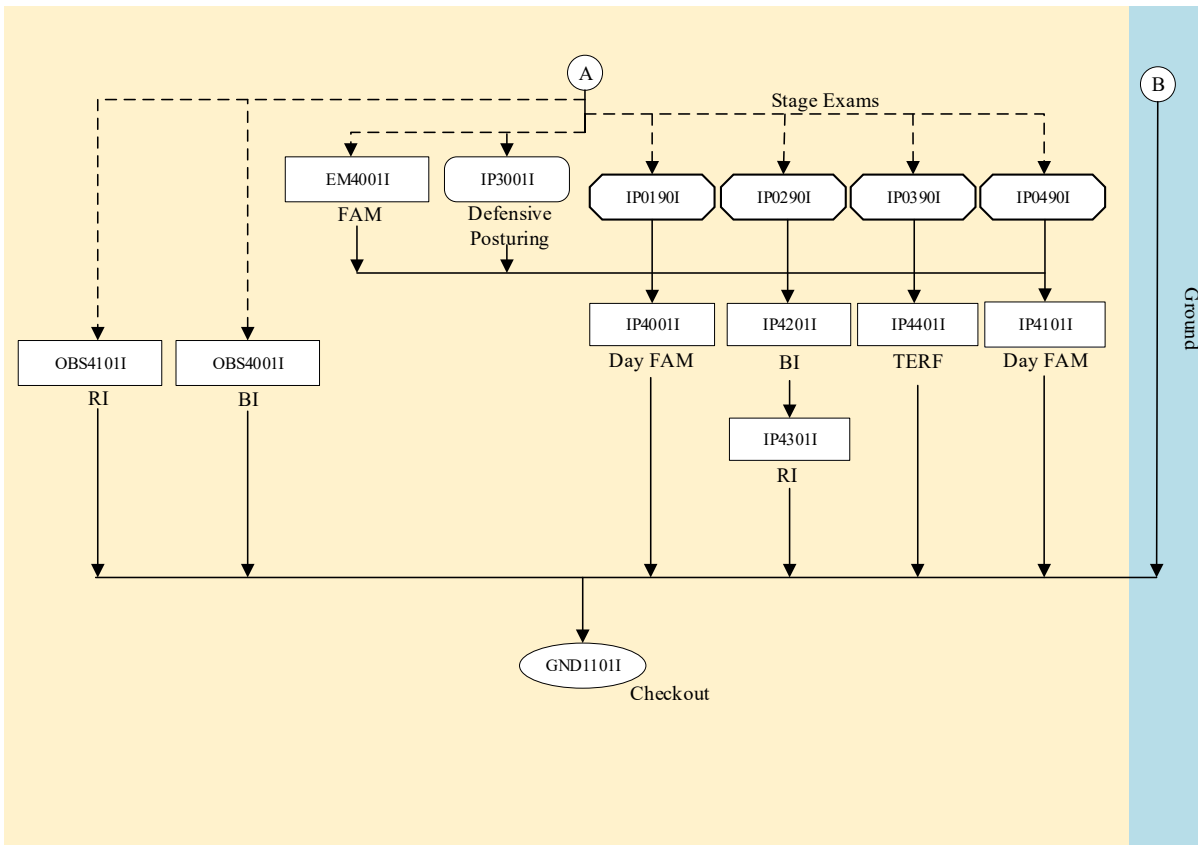
**BASIC HITU IP COURSE FLOW (2 of 3)**



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**BASIC HITU IP COURSE FLOW (3 of 3)**

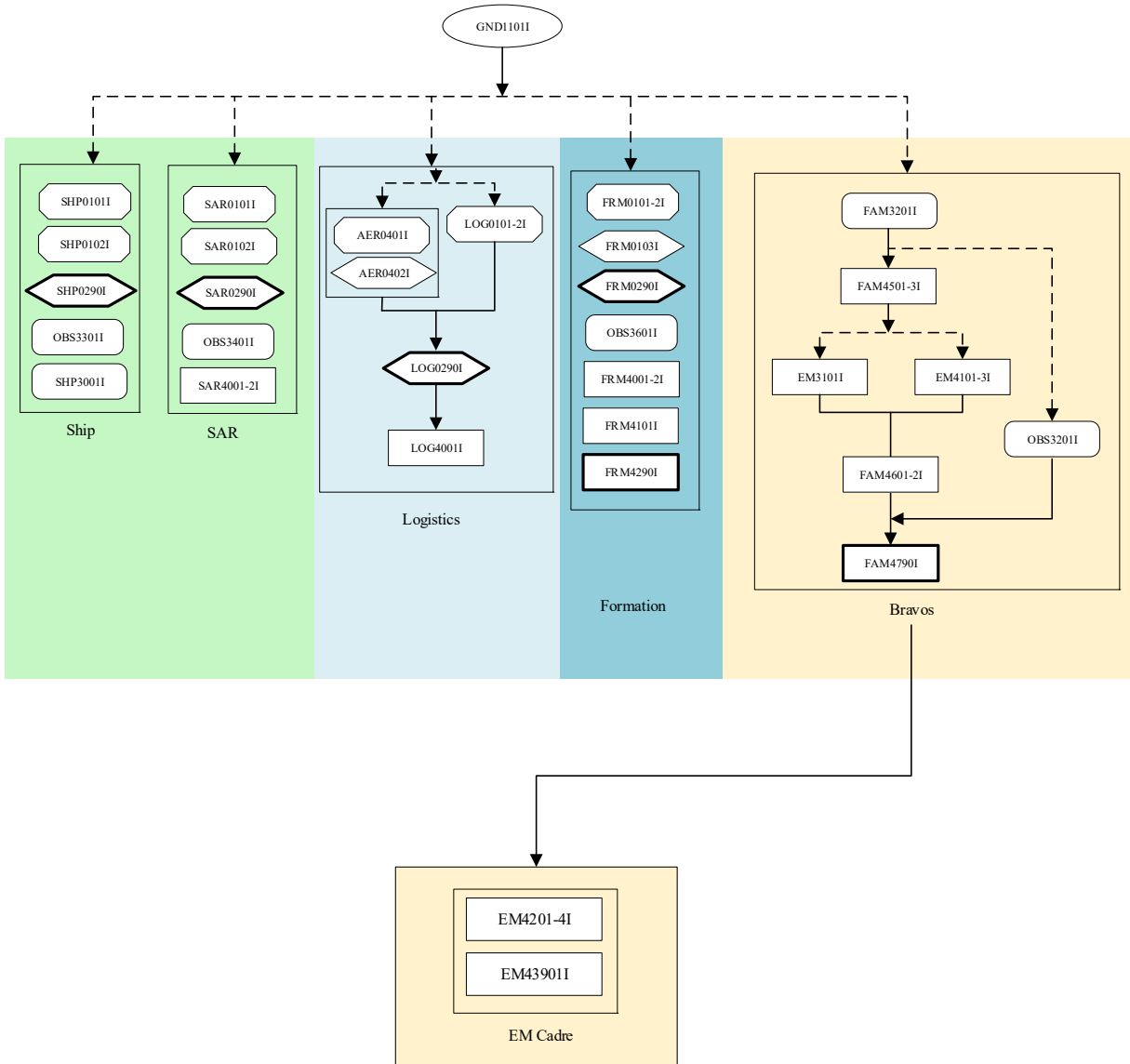


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**BASIC HITU IP UPGRADE COURSE FLOW**



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Chapter II

Instructor Under Training

Blk #	Media	Title	Events	Hrs	Blk Name
GND01	Sqdn/Issue	Indoctrination	2	1.5	GND

1. Prerequisite. None.

2. Events

GND0101I Sqdn Check-in 1.0

GND0102I Issue Training Publications/EKB Issue 0.5

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
GND02	MIL	Safety	2	5.0	GND

1. Prerequisite. GND0102I.

2. Events

GND0201I	MIL	Aviation Safety		1.0	
GND0202I	MIL	Supplemental Emergency Breathing Device		4.0	

3. Syllabus Notes

a. GND0202I, if current, not applicable.

b. GND0201I-2I may be completed in any order.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
SYS01	CAI/MIL/ Test	Systems 'B'	8	9.5	BSYS

1. Prerequisite. GND0102I.

2. Events

SYS0101I	CAI	Power Plant		0.5
SYS0102I	CAI	Fuel Supply System		0.5
SYS0103I	CAI	Transmission and Drive Train		0.5
SYS0104I	CAI	Rotor and Flight Control Systems		0.5
SYS0105I	CAI	Hydraulic System		0.5
SYS0106I	MIL	Allison 250 Turboshift Engine, Fuel Supply System and Power Train System		3.0
SYS0107I	MIL	Rotor System Hydraulic System and 'B' Electrical System		3.0
SYS0190I	CAI Test	Systems Exam		1.0

3. Syllabus Notes

a. SYS0101I-5I shall be completed prior to SYS0106I-7I.

b. SYS0106I-7I shall be completed prior to SYS0190I.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
GND03	CAI/MIL	Global Positioning System	2	6.0	GND

1. Prerequisite. GND0102I.

2. Events

GND0301I	CAI OFFLINE	GTN-650 Computer Based Training		4.0	
GND0302I	MIL	GTN-650 Aircraft Systems Interaction (TH-57C)		2.0	

3. Syllabus Notes. GND0301I-2I may be completed in any order.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
FAM20	2F302B6	Cockpit Procedures	1	1.3	1.3

1. Prerequisite. SYS0190I.
2. Syllabus Notes. The IUT shall perform the following procedures on the FAM2001I: Blindfold cockpit check, Familiarization stage checklists and voice reports, RPM beep control, normal start procedures, abnormal starts, engine fire on start, anti-ice operation, post-shutdown fire and internal, emergency shutdown.
3. Special Syllabus Requirements. None.
4. Discuss Items. IUT responsibilities and expectations for simulator events; location of 2F302B6/2F302B7/2C67 simulators and briefing spaces; curriculum introduction and general information; limits for each cockpit gauge, starter limits; use of checklists and voice reports; location, function, and operation of cockpit gauges, radios, switches, and engine and rotor controls; GPU start; RPM beep control; abnormal starts; post-shutdown fire (internal); CRM (aircraft start and shutdown, flight control check, ground emergencies).
5. Block MIF

CTS REF	MANEUVER	FAM2001I
1	General Knowledge/Procedures	3+
2	Headwork/Situational Awareness	3+
3	Crew Resource Management	3+
4	Cockpit Management	3+
5	Checklist Management	3+
6	Radio Procedures	3+
8	NATOPS Procedures and Limits	3+
8	Familiarization Stage Checklists	3+
8	Normal Start Procedures	3+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FAM2001I</b>
9	Normal Shutdown Procedures	3+
9	Emergency Procedures/System Failures	3+
9	Abnormal Starts	3+
9	Post-shutdown Fire/Internal	3+
9	Emergency Engine Shutdown	3+
9	Engine Oil System Malfunctions	3+
9	Transmission Oil System	3+
9	Tac/Gen Malfunction	3+
9	TOT Malfunction	3+
9	Over-torque/Over-temp/Over-speed	3+
9	Torque Malfunction	3+
9	Smoke and Fume Elimination	3+
20	Blindfold Cockpit Check	3+



Blk #	Media	Title	Events	Hrs	Blk Name
AER01	CAI/MIL/ Test	Basic Helicopter Aerodynamics	13	14.4	BSCAERO

1. Prerequisite. SYS0190I.

2. Events

AER0101I	CAI	The Atmosphere		0.7
AER0102I	CAI	Rotor Blade Aerodynamics		0.7
AER0103I	CAI	Powered Flight Analysis		1.0
AER0104I	MIL	Atmospherics/Overview		1.0
AER0105I	MIL	Aerodynamic Theories		1.0
AER0106I	MIL	Rotor System Design		0.5
AER0107I	MIL	Rotor System Dynamics		1.0
AER0108I	MIL	Stability and Control		1.5
AER0109I	MIL	Power and Performance		1.5
AER0110I	MIL	Hovering Flight		1.0
AER0111I	MIL	Forward and Climbing Flight		1.5
AER0112I	MIL	Aerodynamics Review		2.0
AER0190I	CAI Test	Aerodynamics Exam		1.0

3. Syllabus Notes

a. AER0104I-11I shall be completed prior to AER0112I.

b. AER0112I shall be completed prior to AER0190I.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
CRM01	MIL	Crew Resource Management – Familiarization Stage	1	1.0	CRMF

1. Prerequisite. GND0102I.

2. Events

CRM0101I	MIL	Crew Resource Management		1.0	
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3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
CR01	CAI/MIL/ Test	Course Rules Flight Procedures I	6	4.0	CR

1. Prerequisite. GND0102I.

2. Events

CR0101I	CAI	South Whiting Course Rules		.25
CR0102I	CAI	Pace Course Rules		.25
CR0103I	CAI	Spencer Course Rules		.25
CR0104I	CAI	Santa Rosa Course Rules		.25
CR0105I	MIL	Course Rules Flight Procedures I		2.0
CR0190I	CAI Test	Course Rules Exam		1.0

3. Syllabus Notes

- a. CR0101I-04I shall be completed prior to CR0105I.
- b. CR0105I shall be completed prior to CR0190I.
- c. CR0190I shall be completed prior to FAM4004I.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
FAM30	2F302B6/ 2F302B7	Cockpit Procedures and Flight Introduction	2	2.6	1.3

1. Prerequisites

- a. FAM2001I.
- b. CRM0101I.
- c. GND0302I.

2. Syllabus Notes. IUT shall conduct a complete prestart, start, hot refuel/hot-seat, and shutdown checklist on each flight in block. In-flight malfunction analysis and single-instrument indications shall be the focus of these events:

- a. FAM3001I: IUT shall fly course rules to and from Spencer OLF and split the field.
- b. FAM3001I: IUT shall conduct a battery start.
- c. FAM3002I: IUT shall conduct engine restart in flight.

3. Special Syllabus Requirements. None.

4. Discuss Items

FAM3001I

In-flight malfunctions, single-instrument indications, caution system, rotor blade stall, mast bumping, dynamic rollover, vibration identifications.

FAM3002I

Autorotation procedures (NATOPS, FTI), energy management in autorotation, autorotation to the trees, ditching, engine restart in flight, sprag clutch slippage, main driveshaft failure, vortex ring state, and power required exceeds power available.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FAM3002I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	3+
3	Crew Resource Management	3+
4	Cockpit Management	3+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	3+
8	NATOPS Procedures and Limits	4+
8	Normal Start Procedures	4+
8	Normal Shutdown Procedures	4+
9	Emergency Procedures/System Failures	3+
9	Single Instrument Indications	3+
9	In-flight Malfunction Analysis	3+
21	Course Rules	3+
30	Low Work	3+
32	Normal Approach	3+
34	Vertical Landing	3+
42	Simulated Engine Failure in a Hover (Hover Cut Gun)	3+
43	Simulated Engine Failure in a Hover Taxi (Taxi Cut Gun)	3+

Blk #	Media	Title	Events	Hrs	Blk Name
NAT01	Exam	NATOPS Examinations	2	5.0	NATOPS

1. Prerequisites

- a. FAM3002I for NAT0101I.
- b. FAM4102I for NAT0190I.

2. Events

NAT0101I	P/P Exam	NATOPS Open-Book Exam	3.0
NAT0190I	P/P Exam	NATOPS Closed-Book Exam	2.0

3. Syllabus Notes

- a. Obtain NAT0101I from HITU Admin office.
- b. NAT0101I shall be completed prior to NAT0190I.
- c. IUTs will take their squadron specific NAT0190I in HITU spaces prior to FAM4290I.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
FAM01	LECT	Preflight and Cockpit Procedures 'B'	1	3.0	BFAM

1. Prerequisite. FAM3001I.

2. Events

FAM0101I LECT 'FAM 0' 3.0

3. Syllabus Notes. None.

4. Discuss Items. Flight schedule, conduct of HITU briefs and flights, weight and balance computation, TW-5 SOP (RWOP), HITU SOP, HITU read and initial board, tour of HITU spaces, aircraft issue, aircraft discrepancy book, maintenance action forms (MAFs), engine and transmission chip MAFs, aircraft interior and exterior inspection, carbon lock and frozen turbine, emergency egress procedures, personal and emergency equipment, FTI and NATOPS manual use (verify changes posted), flight line operations, and local operations.

Blk #	Media	Title	Events	Hrs	H/X
FAM40	TH-57B	Familiarization 'B'	4	8.0	2.0

1. Prerequisite. FAM0101I.

2. Syllabus Notes

a. This block should concentrate on BAW, low work maneuvers, landing patterns, and checklist management.

b. IP should demo tail-rotor Procedures prior to end of block.

c. CR0190I shall be completed prior to FAM4004I.

3. Special Syllabus Requirements. FAM4001I: Egress drill shall be conducted. Conduct ALSS Training prior to flight.

4. Discuss Items

FAM4001I

Engine system, engine emergency procedures, hydraulics system, hydraulic emergency procedures, CRM and flight profiles during emergencies.

FAM4002I

Transmission system, transmission system emergency procedures, rotor droop, Loss of Tail-rotor Effectiveness (LTE), Loss of Tail-Rotor Authority (LTA), dynamic rollover, special VFR course rules, CRM-assertiveness, leadership.

FAM4003I

Landing criteria for emergencies, definitions, aircraft limitations, caution system and associated responses, single instrument indications, autorotative aerodynamics, autorotation procedures and recommended verbals, CRM-situational awareness, mission analysis.

FAM4004I

Flight control system, jammed flight controls, trim techniques, blowback, translational lift, pendulum effect, mechanical vs virtual axis, electrical system, electrical emergencies, smoke and fume elimination, fuselage fire, battery starts.



5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FAM4004I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	3+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
12	Ground Operations	4+
17	Wave-Off (Power-On)	1
18	Wave-Off (Power-Off)	4+
21	Course Rules	4+
22	Vertical Takeoff	4+
23	No-Hover Takeoff	3+
24	Hover	4+
25	Clearing Turn	4+
26	Hover Taxi	4+
27	Transition to Forward Flight	4+
31	Square Patterns	4+
32	Normal Approach	4+
33	Steep Approach	4+
34	Vertical Landing	4+
35	Sliding Landing	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FAM4004I</b>
36	No-Hover Landing	4+
37	Maximum Load Takeoff	3+
38	Level Speed Change From a Hover	3+
41	Hydraulic Boost Off Approach	3+
42	Simulated Engine Failure in a Hover (Hover Cut Gun)	4+
43	Simulated Engine Failure in a Hover Taxi (Taxi Cut Gun)	4+
44	Power Recovery Autorotations	3+
45	Full Autorotation	3+
46	Simulated Engine Failure at Altitude	3+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	Blk Name
AER02	CAI/MIL	Autorotation Aerodynamics	2	2.5	AUTOAERO

1. Prerequisite. AER0190I.

2. Events

AER0201I CAI Autorotation 1.0

AER0202I MIL Descending Flight and Autorotations 1.5

3. Syllabus Notes. AER0201I shall be completed prior to AER0202I.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
EP01	CAI	Emergency Procedures	2	1.5	EMFP

1. Prerequisite. FAM3002I.

2. Events

EP0101I	CAI	In-Flight Emergencies		.75	
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EP0102I	CAI	Tail-Rotor Emergency Procedures		.75	
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3. Syllabus Notes. EP0101-2I may be completed in any order.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
AER03	MIL	Tail-Rotor Aerodynamics	2	3.0	TRAERO

1. Prerequisites

- a. EP0102I.
- b. AER0202I.
- c. FAM0101I.

2. Events

AER0301I	MIL	Tail-Rotor Design and Performance	1.0
AER0302I	MIL	Hazards	2.0

3. Syllabus Notes. AER0301I shall be completed prior to AER0302I.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
CR02	CAI	Course Rules Flight Procedures II	3	.75	CR

1. Prerequisite. CR0105I.

2. Events

CR0201I	CAI	Site X Course Rules		.25	
CR0202I	CAI	Harold Course Rules		.25	
CR0203I	CAI	Night Operations		.25	

3. Syllabus Notes. None

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
FAM41	TH-57B	Familiarization 'B'	2	4.6	2.3

1. Prerequisites

- a. FAM4004I.
- b. AER0302I.

2. Syllabus Notes

a. The purpose of this block is to hone BAW skills while introducing emergency procedures, Tail-Rotor procedures, and autorotation skills. IUT shall be in the left seat.

b. Emphasize CRM during all flights, especially during simulated emergency procedures.

c. IP should brief and demonstrate AEMP autorotations if the flight is flown with a current AEMP Cadre SI.

d. IP should demonstrate a low  $N_R$  recovery autorotation during each flight.

3. Special Syllabus Requirements. None.

4. Discuss Items

FAM4101I

Wind effect on the tail-rotor, wind limits, demonstrating tail-rotor emergency procedures, LTA, LTE, complete loss of tail-rotor thrust, loss of tail-rotor control (fixed pitch), CRM-adaptability and flexibility.

FAM4102I

Fuel system, fuel system emergency procedures, any previously discussed limitation or emergency procedure, CRM-decision making, and communication.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FAM4102I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
18	Wave-Off (Power-Off)	4+
21	Course Rules	4+
22	Vertical Takeoff	4+
23	No-Hover Takeoff	4+
24	Hover	4+
25	Clearing Turn	4+
26	Hover Taxi	4+
27	Transition to Forward Flight	4+
32	Normal Approach	4+
33	Steep Approach	4+
35	Sliding Landing	4+
36	No-hover Landing	4+
37	Maximum Load Takeoff	4+
38	Level Speed Change From a Hover	4+
41	Hydraulic Boost Off Approach	4+

MIF continued on next page.



<b>CTS REF</b>	<b>MANEUVER</b>	<b>FAM4102I</b>
42	Simulated Engine Failure in a Hover (Hover Cut Gun)	4+
43	Simulated Engine Failure in a Hover Taxi (Taxi Cut Gun)	4+
44	Power Recovery Autorotations	4+
45	Full Autorotation	3+
46	Simulated Engine Failure at Altitude	4+
47	Tail-Rotor Fixed Pitch in a Hover	3+
48	Tail-Rotor Fixed Pitch at Altitude	3+
50	Complete Loss of Tail-Rotor Thrust	3+
105	Simulated Engine Failure on Takeoff	3+
106	Max Glide Autorotation	1
107	Low $N_R$ Recovery	1
114	AEMP	1

Blk #	Media	Title	Events	Hrs	H/X
FAM42	TH-57B	NATOPS Check Flight	1	2.0	2.0

1. Prerequisites

- a. NAT0190I.
- b. FAM4102I.

2. Syllabus Notes

- a. IUT NATOPS Check shall be flown with a qualified NATOPS Instructor (NI or ANI).
- b. FAM4290I should be flown to either Spencer or Santa Rosa OLF.
- c. Emphasize 90 and 180 degree autorotations.
- d. The NATOPS oral examination is part of the ground evaluation but may be conducted as part of the flight evaluation. Complete the NATOPS evaluation report OPNAV 3710/7 per the TH-57 NATOPS.
- e. A CRM flight evaluation should be conducted as part of the NATOPS check if flown with a CRMI. If a CRM flight evaluation is not conducted, it shall be annotated on the ATF and NATOPS evaluation report.

3. Special Syllabus Requirements. None.

4. Discuss Items. Any previously discussed system, limitation, or emergency procedure; and course rules.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FAM4290I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
12	Ground Operations	4+
18	Wave-Off (Power-Off)	4+
21	Course Rules	4+
22	Vertical Takeoff	4+
23	No-Hover Takeoff	4+
26	Hover Taxi	4+
32	Normal Approach	4+
33	Steep Approach	4+
34	Vertical Landing	4+
35	Sliding landing	4+
36	No-Hover landing	4+
37	Maximum Load Takeoff	4+
38	Level Speed Change From a Hover	1
41	Hydraulic Boost Off Approach	4+
42	Simulated Engine Failure in a Hover (Hover Cut Gun)	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FAM4290I</b>
43	Simulated Engine Failure in a Hover Taxi (Taxi Cut Gun)	4+
44	Power Recovery Autorotations	4+
45	Full Autorotation	3+
46	Simulated Engine Failure at Altitude	4+
47	Tail-Rotor Fixed Pitch in a Hover	3+
48	Tail-Rotor Fixed Pitch at Altitude	3+
50	Complete Loss of Tail-Rotor Thrust	3+
105	Simulated Engine Failure on Takeoff	1

Blk #	Media	Title	Events	Hrs	Blk Name
SYS02	CAI/MIL	Systems 'C'	3	3.0	CSYS

1. Prerequisite. FAM4004I.

2. Events

SYS0201I	CAI	TH-57C Electrical System	0.5
SYS0202I	CAI	TH-57C Ministab System	0.5
SYS0203I	MIL	TH-57C Helicopter Systems TH-57C Electrical System TH-57C Ministab System TH-57C Avionics	2.0

3. Syllabus Notes

- a. SYS0201I and SYS0202I may completed in any order.
- b. SYS0201I-2I shall be completed prior to SYS0203I.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
IGS03	MIL/Exam	Instrument Ground School	2	9.0	IGS

1. Prerequisite. FAM4290I.

2. Events

IGS0301I	MIL	Instrument Ground School Lecture		7.0	
IGS0390I	P/P Exam	Instrument Ground School Exam		2.0	

3. Syllabus Notes. This block of events can be completed between FAM4290I and RI4004I but should be completed in proximity to INS0201I.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
FAM31	2F302C6/ 2F302C7	Familiarization Simulator 'C' Model Transition	1	1.3	1.3

1. Prerequisites

- a. SYS0203I.
- b. CR0203I.

2. Syllabus Notes

a. The purpose of this block is to introduce the IUT to the 'C' model aircraft and the differences in cockpit configuration.

b. All TH-57C ground checklists and voice reports will be accomplished with special emphasis on the COMM/NAV checklist. IUT shall execute a blindfold cockpit check.

3. Special Syllabus Requirements. None.

4. Discuss Items. Basic instrument syllabus, pubs carried on BI flights, checklists (prestart, start, instrument takeoff (ITO), shutdown, hot refuel, hot seat, shutdown), COMM/NAV checklist, cockpit crew coordination brief.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FAM3101I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
8	NATOPS Procedures and Limits	4+
8	Comm/Nav Checklist	3+
8	Normal Start Procedures	4+
8	Normal Shutdown Procedures	4+
9	Emergency Procedures/System Failures	4+
20	Blindfold Cockpit Check	3+



Blk #	Media	Title	Events	Hrs	H/X
FAM43	TH-57C	Familiarization 'C'	2	3.0	1.5

1. Prerequisites

- a. FAM3101I.
- b. FAM4290I.

2. Syllabus Notes

a. The purpose of this block is to transition air work skills and leadership into the TH-57C model aircraft.

b. Emphasis should be placed on checklists and new requirements during start, operation, emergencies, and shutdown.

3. Special Syllabus Requirements. None.

4. Discuss Items

FAM4301I

TH-57C electrical system, trim techniques in the TH-57C, weather brief requirements, , pre-flight differences between 'C' and 'B' model aircraft, autorotative differences between 'B' and 'C' model aircraft, RWOP maneuver limitations based on aircraft weight and DA, RWOP requirements for full autorotations in the TH-57C, Instructor Resources, Flight Instructor Guide (FIG), TW-5 Flight Instructor Standardization and Training Program, CNATRA 1500.4L (TA Manual).

FAM4302I

AFCS failure, hydraulic system failure, hydraulic power cylinder malfunction, transmission chip light, sprag clutch slippage, and post-refuel/hot seat checklist, CTS for SNA Familiarization "C" flights.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FAM4302I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
8	Comm/Nav Checklist	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
12	Ground Operations	4+
12	Pre-flight Inspection	4+
16	Stab-Off Flight	4+
17	Wave-Off (Power-On)	1
18	Wave-Off (Power-Off)	4+
21	Course Rules	4+
22	Vertical Takeoff	4+
27	Transition to Forward Flight	4+
30	Low Work	4+
32	Normal Approach	4+
33	Steep Approach	4+
34	Vertical Landing	4+
35	Sliding Landing	4+
36	No-Hover Landing	4+
37	Maximum Load Takeoff	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FAM4302I</b>
41	Hydraulic Boost Off Approach	4+
42	Simulated Engine Failure in a Hover (Hover Cut Gun)	4+
43	Simulated Engine Failure in a Hover Taxi (Taxi Cut Gun)	4+
44	Power Recovery Autorotations	4+
45	Full Autorotation	1
46	Simulated Engine Failure at Altitude	4+
107	Low N <sub>R</sub> Recovery	1

Blk #	Media	Title	Events	Hrs	Blk Name
INS01	CAI	Basic Instrument Flight Procedures	3	1.5	BIFP

1. Prerequisite. FAM4301I.

2. Events

INS0101I	CAI	Departure and Arrival Procedures		0.5	
INS0102I	CAI	Basic Instrument Flight Maneuvers		0.5	
INS0103I	CAI	Advanced Instrument Flight Procedures		0.5	

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
BI30	2F302C6/ 2F302C7	Basic Instruments	2	2.6	1.3

1. Prerequisites

- a. INS0103I.
- b. CRM0201I.

2. Syllabus Notes

- a. IUT's shall fly an instrument takeoff, a departure, and an approach on each flight.
- b. A normal aircraft start shall be conducted on each event, including the Comm/Nav and level-off checklist.
- c. Events should be conducted in a Level 7 FTD on motion.
- d. Events may be flown in aircraft at the discretion of the HITU OIC if simulators are unavailable.

3. Special Syllabus Requirements. None

4. Discuss Items

BI3001I

Conduct and organization of SNA Basic Instrument simulator events, attitude instrument flight, trim and scan, approximate power settings, AFCS and force trim, crew coordination, communication procedures, ITO checklist, and level-off checklist.

BI3002I

Magnetic compass turns, Instrument autorotation, main generator failure (IMC), standby generator failure (IMC), electrical fire during IMC flight, engine fire during IMC flight, and pitot-static instrument failure.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>BI3002I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	3+
5	Checklist Management	4+
6	Radio Procedures	1
7	Basic Air Work, Scan, and Trim	3+
7	Straight and Level	3+
7	Level Standard-Rate Turns	3+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
13	Departure Procedures	1
57	Instrument Takeoff	3+
58	Level Speed Change (LSC) – Instruments	3+
59	Vertical S-1 Pattern	3+
60	Turn Pattern - Instruments	3+
61	Oscar Pattern	3+
62	Partial Panel, Directional Gyro Failure	3+
63	Partial Panel, Attitude Gyro Failure	3+
64	Unusual Attitude Recovery	3+
65	Unusual Attitude Recovery-Partial Panel	3+
69	Non-Precision Approach	3+
74	Instrument Autorotation	3+

Blk #	Media	Title	Events	Hrs	H/X
BI40	TH-57C	Basic Instruments	2	3.6	1.8

1. Prerequisite. BI3002I.

2. Syllabus Notes

a. SI shall conduct an area familiarization to both the Eastern and Western BI working areas during this block of training.

b. IP will give a spatial disorientation demonstration as well as proper use of the two-challenge rule.

3. Special Syllabus Requirements. BI4001I: SI shall demo use of the maintenance pattern for ITOs.

4. Discuss Items

BI4001I

Weather requirements for BI flights, attitude instrument flight, trim and scan, observer brief, approach brief, Instrument CRM (crew responsibilities), publications carried on instrument flights, cockpit management, ministab operation, types of spatial disorientation, vertigo parameters, NATOPS two-challenge rule, student approaches.

BI4002I

Required equipment for IMC flight, NDZ “on top” weather briefing, and NDZ stereo-type flight plans, Battery relay light, altimeter error, VFR orientation in instrument area, backup NAVAIDS, organization of an SNA basic instrument flight, CTS for SNA basic instrument flights.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>BI4002I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	3+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
7	Straight and Level	4+
7	Level Standard-Rate Turns	4+
8	NATOPS Procedures and Limits	4+
8	Instrument Flight Checklist	4+
8	Level-Off Checklist	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
12	Ground Operations	4+
13	Departure Procedures	4+
16	Stab-Off Flight	4+
19	Spatial Disorientation Recognition and Recovery	4+
57	Instrument Takeoff	4+
58	Level Speed Change (LSC) – Instruments	1
59	Vertical S-1 Pattern	1
60	Turn Pattern - Instruments	1
61	Oscar Pattern	1
62	Partial Panel, Directional Gyro Failure	1

MIF continued on next page.



<b>CTS REF</b>	<b>MANEUVER</b>	<b>BI4002I</b>
63	Partial Panel, Attitude Gyro Failure	1
64	Unusual Attitude Recovery	1
65	Unusual Attitude Recovery-Partial Panel	1
67	TACAN Point-to-Point Navigation	1
69	Non-Precision Approach	1
73	Modified Normal Approach	1
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	H/X
FAM44	TH-57C	Night Familiarization 'C'	1	1.5	1.5

1. Prerequisite. BI3001I.

2. Syllabus Notes

a. The purpose of this block is to develop air work skills during basic maneuvers and autorotation in the TH-57C model aircraft at night unaided.

b. Emphasize basic skills and straight-in and 90-degree night autorotations.

3. Special Syllabus Requirements. None.

4. Discuss Items

Dark adaptation, night hover scan, night visual scan techniques, spatial disorientation, use of lights, visual approach slope indicator (VASI), precision approach path indicator (PAPI), helicopter procedures at night, night course rules, autorotations, and CTS for SNA night fam flights.

5. Block MIF

CTS REF	MANEUVER	FAM4401I
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FAM4401I</b>
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
12	Ground Operations	4+
21	Course Rules	4+
22	Vertical Takeoff	4+
24	Hover	4+
26	Hover Taxi	4+
27	Transition to Forward Flight	4+
30	Low Work	4+
32	Normal Approach	4+
33	Steep Approach	3+
34	Vertical Landing	4+
36	No-Hover Landing	3+
44	Power Recovery Autorotations	4+

Blk #	Media	Title	Events	Hrs	Blk Name
NAV01	CAI/MIL	Visual Flight Rules Navigation	3	2.5	VNAVFP

1. Prerequisite. FAM4301I.

2. Events

NAV0101I	CAI	Day Navigation Flight Procedures		1.0	
NAV0102I	CAI	Night Navigation Flight Procedures		0.5	
NAV0103I	MIL	VFR Navigation Review		1.0	

3. Syllabus Notes. NAV0101I-2I shall be completed prior to NAV0103I.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
GND04	Lect/ Lab	Mission Planning System	1	2.0	GND

1. Prerequisite. FAM4290I.

2. Events

GND0401I	Lect/Lab	MPS Overview/Lab-Navigation	2.0
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3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
NAV40	TH-57C	Day Navigation	1	1.7	1.7

1. Prerequisites

- a. GND0401I.
- b. NAV0103I.

2. Syllabus Notes

- a. IUT shall contact the IP before the flight to obtain route for planning purposes.
- b. NAV4001I should be flown as an out-and-in profile or as part of a cross country.

3. Special Syllabus Requirements. None.

4. Discuss Items. VFR filing and flight procedures, special visual flight rules (SVFR), course rules, sectional and aeronautical charts, CRM, airspace considerations specific to planned route of flight, fuel planning and computation, lost aircraft procedures, CTS for SNA Navigation flights.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>NAV4001I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
12	Ground Operations	4+
12	Pre-flight/Post-flight	4+
12	Filing/Closing Flight Plans	4+
13	Departure Procedures	4+
14	En route Procedures	4+
14	Lost Aircraft Procedures	1
14	Groundspeed/Fuel Checks	4+
14	Use of Flight Watch/METRO/FSS	1
15	Terminal Procedures	4+
27	Transition to Forward Flight	4+
73	Modified Normal Approach	4+
75	VFR Navigation	4+
75	Flight Rules and Regulations	4+
75	Sectional Symbolology	4+

Blk #	Media	Title	Events	Hrs	Blk Name
INS02	MIL	Instrument Navigation	1	7.0	INAV

1. Prerequisites

a. INS0103I.

b. FAM4301I.

2. Events

INS0201I MIL Instrument Flight Rules 7.0

3. Syllabus Notes. None.

4. Discuss Items. None.



Blk #	Media	Title	Events	Hrs	Blk Name
RI01	CAI/MIL	Radio Instruments	8	5.0	RIFP

1. Prerequisite. FAM4301I.

2. Events

RI0101I	CAI	Introduction to NAVAIDs and RI Flight Procedures	0.4
RI0102I	CAI	Fundamentals of RI Flight Procedures	0.5
RI0103I	CAI	TACAN and VOR Approaches	0.4
RI0104I	CAI	GTN-650 Procedures	0.4
RI0105I	CAI	VOR/TACAN with Failed Directional Gyro	0.4
RI0106I	CAI	ATC Radio Procedures	0.4
RI0107I	CAI	Radar and ILS Approaches	0.5
RI0108I	MIL	Radio Instrument Flight Procedures	2.0

3. Syllabus Notes. RI0101I-7I shall be completed prior to RI0108I.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
CRM02	MIL	Crew Resource Management – Facilitator	1	2.0	CRM

1. Prerequisite. FAM4301I.

2. Events

CRM0201I MIL Crew Resource Management – Facilitator 2.0

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
EP30	2F302C6/ 2F302C7	Emergency Procedures	1	1.3	1.3

1. Prerequisite. BI3002I.
2. Syllabus Notes. None.
3. Special Syllabus Requirements. None.
4. Discuss Items. Landing Criteria when IMC, Electrical Emergencies when IMC, landing site selection, single instrument indications, in-flight malfunctions when IMC, crew coordination during emergencies, and RI SNA syllabus.
5. Block MIF

CTS REF	MANEUVER	EP3001I
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
9	Abnormal Starts	4+
9	Engine Over-speed	4+
9	Hydraulic Power Cylinder Malfunction	4+
9	Compressor Stall	4+
9	Engine Failure	4+
9	Engine Restart	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>EP3001I</b>
9	Main Driveshaft Failure	4+
9	Torque-Meter Malfunction	4+
9	Vibration Analysis	4+
9	Fuel Control Malfunction	4+
9	Generator Failure	4+
19	Spatial Disorientation Recognition and Recovery	4+
50	Complete Loss of Tail-Rotor Thrust	4+
57	Instrument Takeoff	3+
74	Instrument Autorotation	4+

Blk #	Media	Title	Events	Hrs	H/X
RI30	2F302C7/ 2F302C6	Radio Instruments	5	6.5	1.3

1. Prerequisites

- a. EP3001I.
- b. BI4002I.
- c. RI0108I.

2. Syllabus Notes

- a. IUTs shall fly approaches both with and without DME.
- b. Each event should consist of three approaches.
- c. Each event should utilize common approaches from the local area (KNDZ, KCEW, KPNS, and KJKA) for IUT familiarization.
- d. RI3004I-05I may be flown in the aircraft with OIC approval.

3. Special Syllabus Requirements. None.

4. Discuss Items

RI3001I

TACAN procedures, TACAN holding, TACAN arcing, use of course deviation indicator (CDI) and horizontal situation indicator (HSI), radial intercepts, 40-degree lock-off, cone of confusion, groundspeed check, cockpit/COMM and NAV organization, TACAN point-to-point procedures.

RI3002I

VOR procedures, VOR holding, intersection holding, VOR procedure turn, cockpit setup, NAVAID voice capability, tracking versus homing, required voice reports, initial radio contact with ATC, computing timing from FAF to MAP, approach plate symbols.

RI3003I

Failed directional gyro TACAN procedures, Flight Information Handbook, alternate requirements, fuel planning requirements, required equipment for IMC, AFCS requirements for IMC flight, low fuel state during IMC.

RI3004I

GCA procedures, GCA lost comms, lost comms while being radar vectored, ILS procedures, marker beacons, localizer holding, expected further clearance, equipment malfunction reports.

RI3005I

GPS procedures, flight plans, en route procedures, LPV and LNAV approaches, WAAS, ADS-B, RAIM, RNAV missed approach.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>RI3005I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
67	TACAN Point-to-Point Navigation	4+
68	Holding	4+
69	Non-Precision Approach	4+
70	Precision Approach	4+
71	Failed Directional Gyro Approach	3+
72	Missed Approach	4+
74	Instrument Autorotation	4+

Blk #	Media	Title	Events	Hrs	H/X
RI40	TH-57C	Radio Instruments	4	8.4	2.1

1. Prerequisites

- a. RI3005I.
- b. FAM4401I.
- c. INS0201I.

2. Syllabus Notes

a. Flights in this block should consist of a minimum of three approaches and holding. IUTs should conduct a minimum of one each of the following approaches during the block: TACAN, VOR, ILS, GPS, ASR and PAR.

b. The IUT shall fly a minimum of three failed directional gyro approaches on RI4003I with no more than one of those approaches being a failed directional gyro GCA.

c. Flights in this block are intended to be flown outside the local area and should be planned to either originate or terminate in a field other than South Whiting to the max extent possible.

d. A minimum of one flight in block shall be flown as an out-and-in profile or as part of a cross country.

3. Special Syllabus Requirements. None.

4. Discuss Items

RI4001I

TACAN procedures, copter approach procedures, publications carried on RI flights, NDZ stereotype flight plans, altitude restrictions when cleared for the approach, weather requirements for RI flights (RWOP, M-3710.7), approach brief, cockpit and COMMNAV organization, required equipment for instrument flight (NATOPS, M-3710.7), missed approach vs climb-out.

RI4002I

VOR procedures, ILS and localizer procedures, glideslope failure, course receiver failure, ILS Categories, takeoff, approach and landing minimums (RWOP and M-3710.7), precision minima, straight-in, circle to land and sidestep minimums, option approach, lost comm on NDZ stereotyped flight plans, HAA, HAT and HAL.

RI4003I

Failed directional gyro VOR/TACAN procedures, obstacle departure procedures, diverse departure, nonstandard takeoff mins (Trouble T), nonstandard alternate mins (Delta A), and airport surface hot spot

RI4004I

GPS procedures, helicopter GPS procedures, terminal arrival area (TAA), fly-by versus fly-over waypoints, HSI or CDI failure, practice approaches VFR and IFR, WAAS, ADS-B, voice reports (required and additional), criteria for continuing an instrument approach to landing, requirements for runway environment, engine malfunctions while IMC.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>RI4004I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
8	Instrument Flight Checklist	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+

MIF continued on next page.



<b>CTS REF</b>	<b>MANEUVER</b>	<b>RI4004I</b>
12	Ground Operations	4+
13	Departure Procedures	4+
14	En route Procedures	4+
15	Terminal Procedures	4+
15	Option Approach	4+
27	Transition to Forward Flight	4+
57	Instrument Takeoff	4+
67	TACAN Point-to-Point Navigation	4+
68	Holding	4+
69	Non-Precision Approach	4+
70	Precision Approach	4+
71	Failed Directional Gyro Approaches	4+
72	Missed Approach	4+
73	Modified Normal Approach	4+

Blk #	Media	Title	Events	Hrs	H/X
RI41	TH-57C	Instrument Check Flight	1	2.0	2.0

1. Prerequisites

- a. RI4004I.
- b. FAM4302I.
- c. IGS0390I.

2. Syllabus Notes

a. This event will be an evaluation of IFR procedural execution and abilities involving a representative cross section of maneuvers previously presented and/or discussed in the instrument syllabus.

b. IUT initial CRM flight evaluation may be conducted in concurrence with this event if not previously flown. Annotate completion in the Comment section of this grade sheet.

3. Special Syllabus Requirements. None.

4. Discuss Items. Any previously briefed item in the instrument syllabus with a heavy emphasis on FAR/AIM, CNAF M-3710.7, and emergency procedures, CTS for SNA radio instrument flight maneuvers.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>RI4190I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
8	Instrument Flight Checklist	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
12	Ground Operations	4+
13	Departure Procedures	4+
14	En route Procedures	4+
15	Terminal Procedures	4+
27	Transition to Forward Flight	1
57	Instrument Takeoff	1
68	Holding	1
69	Non-Precision Approach	4+
70	Precision Approach	4+
72	Missed Approach	1
73	Modified Normal Approach	1

Blk #	Media	Title	Events	Hrs	Blk Name
TRF01	MIL	TERF Navigation	1	2.5	TRFFP

1. Prerequisites

a. RI3005I.

b. NAV0103I.

2. Events

TRF0101I MIL Map Interpretation 2.5

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
TRF40	TH-57B/C	TERF Navigation	1	1.7	1.7

1. Prerequisites

- a. TRF0101I.
- b. NAV4001I.
- c. RI4190I.

2. Syllabus Notes

- a. TRF4001I shall be flown no lower than 500 feet AGL.
- b. SI should emphasize GTN-650 and cockpit set-up for TERF Navigation flights to enhance IUT situational awareness on the flight.
- c. Flight should be flown in the TH-57C, but may be flown in the TH-57B with OIC approval.

3. Special Syllabus Requirements. None.

4. Discuss Items

TRF4001I GREEN ROUTE FWD/REV, 1:250,000

Precision navigation using the global positioning system (GPS), crew comfort levels, emergencies at low altitude, disorientation procedures, DLA patterns for NOLF Site X, and other western area airfields, CRM for TERF Navigation.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>TRF4001I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
12	Ground Operations	4+
14	En route Procedures	4+
14	Groundspeed/Fuel Checks	4+
23	No-Hover Takeoff	1
36	No-Hover Landing	1
52	Landing Zone (LZ) Evaluation	1
55	Dynamic Landing Approaches (DLA)	4+
76	TERF Navigation	4+
76	Checkpoint Identification	4+
76	Terrain Feature Identification/Utilization	4+
77	Timing	4+

Blk #	Media	Title	Events	Hrs	H/X
TRF41	TH-57B/C	TERF Navigation	2	4.0	2.0

1. Prerequisite. TRF4001I.

2. Syllabus Notes

a. TRF4101I shall be flown no lower than 500 feet AGL.

b. TRF4102I shall be flown no lower than 200 feet AGL.

c. Primary purpose of the TRF4101I (Orange Route) is check point Identification via funneling and limiting features, timing is a secondary objective.

d. Flight should be flown in the TH-57C, but may be flown in the TH-57B with OIC approval.

3. Special Syllabus Requirements. None.

4. Discuss Items

TRF4101I ORANGE ROUTE FWD/REV, 1:50,000

FTI procedures and CTS for SNA TERF Navigation flights, map changeover points, GTN-650 set-up for TERF Navigation flights, DLA patterns for NOLF Harold, and other eastern area airfields, no-hover takeoff.

TRF4102I PURPLE ROUTE FWD/REV, 1:50,000

Bingo, joker, and mission fuel, effects of adverse weather on mission planning, low-level IIMC procedures, any emergency procedure or aircraft limitation.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>TRF4102I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
12	Ground Operations	4+
14	En route Procedures	4+
14	Groundspeed/Fuel Checks	4+
23	No-Hover Takeoff	4+
36	No-Hover Landing	4+
52	Landing Zone (LZ) Evaluation	4+
55	Dynamic Landing Approaches (DLA)	4+
76	TERF Navigation	4+
76	Checkpoint Identification	4+
76	Terrain Feature Identification/Utilization	4+
77	Timing	4+



Blk #	Media	Title	Events	Hrs	Blk Name
NVG01	Lab	NITE Lab	1	4.0	NVD

1. Prerequisite. FAM4301I.

2. Events

NVG0101I	Lab	Night Imaging Threat Evaluation (NITE) Lab Refresher	4.0
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3. Syllabus Notes

a. IUTs shall bring their NVG modified helmet, one set of AN/AVS-9 NVGs, and their NATOPS jacket to the NITE lab.

b. NVGs shall be checked out from the paraloft.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
NVG40	TH-57C	Night Vision Device Familiarization Flight	3	5.4	1.8

1. Prerequisites

- a. TRF4001I.
- b. NVG0101I.

2. Syllabus Notes

- a. NVG4001I shall include pattern work at NOLF Site X or an OLF with NVG compatible lighting.
- b. SI should emphasize the conduct of NVG SNA flights to include frequently used routes and airfields.

3. Special Syllabus Requirements. None.

4. Discuss Items

NVG4001I

Night environment, NVG operations at NOLF Site X, aircraft lighting NVG compatibility, TH-57 aircraft lighting considerations, RWOP and SOP considerations for NVG flights.

NVG4002I

Emergencies during NVG flights, night course rules, local airfields used for NVG training, and aircraft hazards in local operating areas to include LED lit towers.

NVG4003I

Landing site evaluation at night, engine failures at night, landing zone lighting, use of lights, autorotations at night, and night course rules, FIG-Chapter 11: NVG Stage.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>NVG4003I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
12	Ground Operations	4+
13	Departure Procedures	4+
15	Terminal Procedures	4+
21	Course Rules	4+
22	Vertical Takeoff	4+
23	No-Hover Takeoff	4+
24	Hover	4+
25	Clearing Turn	4+
26	Hover Taxi	4+
27	Transition to Forward Flight	4+
32	Normal Approach	4+
33	Steep Approach	4+
34	Vertical Landing	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>NVG4003I</b>
36	No-Hover Landing	4+
44	Power Recovery Autorotations	4+
75	VFR Navigation	4+
102	NVD Knowledge	4+
103	NVG Pre-flight	4+
104	NVG Emergency Procedures	4+

Blk #	Media	Title	Events	Hrs	H/X
NVG41	TH-57C	Night Vision Device Check Flight	1	2.0	2.0

1. Prerequisites

a. NVG4003I.

b. OBS3001I.

2. Syllabus Notes. IUT shall contact instructor the night prior to the event for route guidance.

3. Special Syllabus Requirements. None.

4. Discuss Items. FTI procedures and CTS for NVG SNA flights, any previously discussed item in this stage.

5. Block MIF

CTS REF	MANEUVER	NVG4190I
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
12	Ground Operations	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>NVG4190I</b>
13	Departure Procedures	4+
15	Terminal Procedures	4+
21	Course Rules	4+
22	Vertical Takeoff	4+
23	No-Hover Takeoff	4+
24	Hover	4+
25	Clearing Turn	4+
26	Hover Taxi	4+
27	Transition to Forward Flight	4+
32	Normal Approach	4+
33	Steep Approach	4+
34	Vertical Landing	4+
36	No-Hover Landing	4+
44	Power Recovery Autorotations	4+
75	VFR Navigation	4+
102	NVD Knowledge	4+
103	NVG Pre-flight	4+
104	NVG Emergency Procedures	4+

Blk #	Media	Title	Events	Hrs	H/X
OBS30	2F302C7/ 2F302C6	NVG Simulator Event Observe	1	1.3	1.3

1. Prerequisites

- a. RI4190I.
- b. NVG0101I.

2. Events

OBS3001I	SIM	Night Vision Device Simulator	1.3
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3. Syllabus Notes

- a. IUT will observe an SNA NVG3001A simulator event on their OBS3001I.
- b. Events should be scheduled with the IUT's parent squadron.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
OBS40	TH-57C	Basic Instrument Flight Observe	1	1.7	1.7

1. Prerequisites

a. TRF4102I.

b. NVG4190I.

2. Events

OBS4001I TH-57C Basic Instruments Flight 1.7

3. Syllabus Notes. Flight should be scheduled and flown at IUT's parent squadron.

4. Discuss Items. None.



Blk #	Media	Title	Events	Hrs	H/X
OBS41	TH-57C	Radio Instrument Flight Observe	1	2.0	2.0

1. Prerequisites

a. TRF4102I.

b. NVG4190I.

2. Events

OBS4101I TH-57C Radio Instruments Flight 2.0

3. Syllabus Notes. Flight should be scheduled and flown at IUT's parent squadron.

4. Discuss Items. None.

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Chapter III

Instructor Pilot

Blk #	Media	Title	Events	Hrs	H/X
IP30	2F302C7	Defensive Posturing	1	1.3	1.3

1. Prerequisites

- a. NVG4190I.
- b. TRF4102I.

2. Syllabus Notes

a. Emphasize error detection, analysis, and correction; defensive posturing; and instructional techniques.

b. SI shall be conducted with HITU staff with motion on.

3. Special Syllabus Requirements. None.

4. Discuss Items. Common SNA errors on TH-57C contact, instrument, and TERF flights, defensive posturing techniques, FIG Chapter 2: Philosophy of Training.

5. Block MIF

CTS REF	MANEUVER	IP3001I
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
8	NATOPS Procedures and Limits	4+
108	Error Detection, Analysis, and Correction	3+
109	Defensive Posturing	3+
110	Instructional Techniques	3+
112	Conduct of Flight	3+

Blk #	Media	Title	Events	Hrs	H/X
EM40	TH-57B	Autorotation Energy Management	1	1.5	1.5

1. Prerequisites

- a. TRF4102I.
- b. NVG4190I.

2. Syllabus Notes

a. This event provides refresher training for TH-57B energy management maneuvers. Focus shall be on: 90 and 180 autorotations, and low N<sub>R</sub> recovery techniques.

- b. Flight should be flown with an AEMP Cadre SI.

3. Special Syllabus Requirements. None.

4. Discuss Items. Engine failures at altitude (NATOPS, FTI), low N<sub>R</sub> recovery techniques, energy management in the autorotation, FIG Appendix A: Power-off Maneuvers.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>EM4001I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
44	Power Recovery Autorotations	4+
45	Full Autorotation	3+
46	Simulated Engine Failure at Altitude	4+
107	Low N <sub>R</sub> Recovery	3+

Blk #	Media	Title	Events	Hrs	Blk Name
IP01	Exam	Familiarization Stage Exam	1	1.0	IPE

1. Prerequisite. NVG4190I.

2. Events

IP0190I	Exam	Familiarization Stage Exam		1.0	
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3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
IP40	TH-57C	Instructor Pilot Familiarization	1	2.0	2.0

1. Prerequisites

- a. IP0190I.
- b. EM4001I.
- c. IP3001I.

2. Syllabus Notes

a. The SI should play the role of the SNA on these flights, allowing the IUT to “instruct” the event. Emphasis should be on error detection, analysis, and correction; defensive posturing; and instructional technique.

b. IP flights can be flown in any order.

c. IP flights should be flown with an ADDU pilot from the IUT’s parent squadron.

3. Special Syllabus Requirements. None.

4. Discuss Items

Procedures and CTS for SNA Familiarization “C” maneuvers, Santa Rosa course rules, simulated engine failure while splitting procedures and RWOP limitations, autorotation hazard areas for OLFs Santa Rosa and Site X, defensive posturing on familiarization “C” flights, any limit, any emergency procedure, FIG Chapter 6: (Charlie) Contact/Familiarization Stage.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>IP4001I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
21	Course Rules	4+
44	Power Recovery Autorotations	4+
45	Full Autorotations	1
107	Low NR Recovery	1
108	Error Detection, Analysis, Correction	3+
109	Defensive Posturing	3+
110	Instructional Techniques	3+
111	Maneuver Explanation/Demonstration	3+
112	Conduct of Flight	3+



Blk #	Media	Title	Events	Hrs	Blk Name
IP04	Exam	NVG Stage Exam	1	1.0	IPE

1. Prerequisite. NVG4190I.

2. Events

IP0490I	P/P Exam	NVG Stage Exam	1.0
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3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
IP41	TH-57C	Instructor Pilot Night Familiarization	1	2.0	2.0

1. Prerequisites

- a. IP0490I.
- b. IP3001I.

2. Syllabus Notes. This flight should be flown with an ADDU pilot from the IUT’s parent squadron.

3. Special Syllabus Requirements. IUT shall conduct unaided approaches and landings.

4. Discuss Items. Procedures and CTS for SNA night familiarization “C” maneuvers, course rules for Peter Prince, hospital route, procedures for Eglin corridor, South Whiting pattern at night, initial requirements for carrying NVGs on night flights, NVG use in a non-compatible aircraft, defensive posturing on familiarization “C” night flights, common SNA errors on familiarization night flights, any limit, any emergency procedure.

5. Block MIF

CTS REF	MANEUVER	IP4101I
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
21	Course Rules	4+
44	Power Recovery Autorotations	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>IP4101I</b>
108	Error Detection, Analysis, Correction	3+
109	Defensive Posturing	3+
110	Instructional Techniques	3+
111	Maneuver Explanation/Demonstration	3+
112	Conduct of Flight	3+
	Special Syllabus Requirements	1

Blk #	Media	Title	Events	Hrs	Blk Name
IP02	Exam	Instrument Stage Exam	1	1.0	IPE

1. Prerequisite. NVG4190I.

2. Events

IP0290I	Exam	Instrument Stage Exam		1.0	
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3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
IP42	TH-57C	Instructor Pilot Basic Instrument	1	2.0	2.0

1. Prerequisites

a. IP0290I.

b. IP3001I.

2. Syllabus Notes

a. The SI should play the role of the SNA on these flights, allowing the IUT to “instruct” the event. Emphasis should be on error detection, analysis, and correction; defensive posturing; and instructional technique.

b. IP flights can be flown in any order.

c. This flight should be flown with an ADDU pilot from the IUT’s parent squadron.

d. Flight should be a mix of BI maneuvers and RI approaches.

3. Special Syllabus Requirements. None.

4. Discuss Items. Procedures and CTS for SNA basic instrument maneuvers, BAWDI and WABEN departure procedures, South Whiting maintenance pattern procedures, use of GTN-650 for operating area orientation, any limit, and any emergency procedure, FIG Chapter 7: Basic Instrument Events.

5. Block MIF

CTS REF	MANEUVER	IP4201I
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>IP4201I</b>
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
21	Course Rules	4+
69	Non-Precision Approach	1
70	Precision Approach	1
108	Error Detection, Analysis, Correction	3+
109	Defensive Posturing	3+
110	Instructional Techniques	3+
111	Maneuver Explanation/Demonstration	3+
112	Conduct of Flight	3+

Blk #	Media	Title	Events	Hrs	H/X
IP43	TH-57C	Instructor Pilot Radio Instrument	1	2.0	2.0

1. Prerequisites

- a. IP0290I.
- b. IP3001I.
- c. IP4201I.

2. Syllabus Notes

a. Copilot shall be an IUT IP4000I and IP4201I complete or an IP with less than two months as IP.

b. IUTs shall utilize one of the HITU recommended profiles.

c. The purpose of this flight is to focus on aircraft commander decision making skills and build confidence prior to flying with SNAs.

3. Special Syllabus Requirements. None.

4. Discuss Items. Procedures and CTS for SNA RI flights, common student errors on SNA RI flights, RI ORM briefing items, use of GTN-650 on RI flights, EKB use on RI flights, any limit, any emergency procedure, FIG Chapter 7: Radio Instrument Events.

5. Block MIF

CTS REF	MANEUVER	IP4301I
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>IP4301I</b>
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
21	Course Rules	4+
68	Holding	4+
69	Non-Precision Approach	4+
70	Precision Approach	4+
108	Error Detection, Analysis, Correction	3+
109	Defensive Posturing	3+
110	Instructional Techniques	3+
111	Maneuver Explanation/Demonstration	3+
112	Conduct of Flight	3+



Blk #	Media	Title	Events	Hrs	Blk Name
IP03	Exam	TERF Stage Exam	1.0	1.0	IPE

1. Prerequisite. NVG4190I.

2. Events

IP0390I	Exam	TERF Stage Exam	1.0
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3. Syllabus Notes. IUT shall complete prior to IP4401I.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
IP44	TH-57C	Instructor Pilot TERF	1	2.0	2.0

1. Prerequisites

- a. IP0390I.
- b. IP3001I.

2. Syllabus Notes

a. The SI should play the role of the SNA on these flights, allowing the IUT to “instruct” the event. Emphasis should be on error detection, analysis, and correction; defensive posturing; and instructional technique.

b. IP flights can be flown in any order.

c. Any TERF route may be flown on this flight.

d. This flight should be flown with an ADDU pilot from the IUT’s parent squadron.

3. Special Syllabus Requirements. None.

4. Discuss Items. Procedures and CTS for SNA TERF maneuvers, common student errors on SNA TERF flights, TERF ORM briefing items, GTN-650 and EKB use on SNA TERF flights.

5. Block MIF

CTS REF	MANEUVER	IP4401I
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>IP4401I</b>
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
14	En route Procedures	4+
55	Dynamic Landing Approaches (DLA)	4+
76	TERF Navigation	4+
77	Timing	1
108	Error Detection, Analysis, Correction	3+
109	Defensive Posturing	3+
110	Instructional Techniques	3+
111	Maneuver Explanation/Demonstration	3+
112	Conduct of Flight	3+

Blk #	Media	Title	Events	Hrs	Blk Name
GND05	Lect	CDRE In-Brief	1	1.0	GND

1. Prerequisite. GND0101I.

2. Events

GND0501I	Lect	CDRE In-Brief		1.0	
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3. Syllabus Notes. Can be completed at any time during the 1542.91L syllabus.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
GND06	MIL	Flight Instructor Training Course	1	26.0	GND

1. Prerequisite. GND0101I.

2. Events

GND0601I MIL Flight Instructor Training Course 26.0

3. Syllabus Notes. Can be completed at any time during the 1542.91L syllabus.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
GND07	MIL	Multi-Service Pilot Training System	1	2.5	GND

1. Prerequisite. GND0101I.

2. Events

GND0701I MIL Multi-service Pilot Training System 2.5

3. Syllabus Notes. Can be completed at any time during the 1542.91L syllabus.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
GND08	MIL	Cross-Country Procedures	1	0.5	GND

1. Prerequisite. GND0101I.

2. Events

GND0801I Lect Cross-Country Procedures 0.5

3. Syllabus Notes. Can be completed at any time during the 1542.91L syllabus.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
GND11	Sqdn	HITU Checkout	1	2.0	GND

1. Prerequisites

- a. OBS4001I.
- b. OBS4101I.
- c. IP4101I.
- d. IP4301I.
- e. IP4401I.
- f. IP4001I.

2. Events

GND1101I Sqdn Checkout HITU/Check-in Squadron 2.0

3. Syllabus Notes. IUT shall complete an IUT course critique.

4. Discuss Items. None.



Chapter IV

Instructor Pilot Upgrade

BRAVO TRANSITION

Blk #	Media	Title	Events	Hrs	H/X
FAM32	2F302B7	Advanced Transition Familiarization 'B'	1	1.3	1.3

1. Prerequisite. GND1101I.
2. Syllabus Notes. None
3. Special Syllabus Requirements. None.
4. Discuss Items. Any limitation or emergency procedures, abnormal starts, battery starts, emergency egress.
5. Block MIF

CTS REF	MANEUVER	FAM3201I
1	General Knowledge/Procedures	3+
2	Headwork/Situational Awareness	3+
3	Crew Resource Management	3+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
9	Engine Failure In Flight	4+
9	Compressor Stall	4+
9	Under-speeding Nf/ NR	4+
9	Over-torque/Over-temp/Over-speed	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FAM3201I</b>
9	Fuel Control Failure	4+
9	Engine Chip	4+
9	Main Drive Shaft Failure	4+
9	Transmission Malfunction	4+
9	Hydraulic Power Cylinder Malfunction	4+
9	Fuel Boost Pump Failure	4+
9	High-Frequency Vibration	4+
9	Tail-Rotor Chip	4+
47	Tail-Rotor Fixed Pitch in a Hover	3+
48	Tail-Rotor Fixed Pitch at Altitude	3+
49	Loss of Tail-Rotor Effectiveness (LTE)	3+
50	Complete Loss of Tail-Rotor Thrust	3+

Blk #	Media	Title	Events	Hrs	H/X
OBS32	2F302B7	FAM 'B' Simulator Observe	1	1.3	1.3

1. Prerequisite. FAM3201I.

2. Events

OBS3201I	2F302B7	FAM 'B' Sim Observe	1.3
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3. Syllabus Notes

a. Event shall be scheduled and executed at IUT's parent squadron.

b. IUT will observe an SNA FAM3001A.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
FAM45	TH-57B	Squadron Familiarization 'B'	3	6.0	2.0

1. Prerequisite. FAM3201I.

2. Syllabus Notes

a. These flights shall be flown at the upgrade IP's squadron with a TH-57B STAN pilot.

b. The purpose of this block is to build IP proficiency at Familiarization maneuvers and instructional technique in the TH-57B.

c. Emphasize CRM during all flights, especially during simulated emergency procedures.

3. Special Syllabus Requirements. None.

4. Discuss Items

FAM4501I

Any system, limitation, and/or emergency procedure, FTI procedures for FAM maneuvers, CTS for FAM maneuvers, SNA FAM syllabus flow, conduct of SNA FAM 'B' flights. Special Syllabus Requirements for SNA FAM stage.

FAM4502I

Any system, limitation, and/or emergency procedure, initiating course change procedures at an OLF, SITE Watch responsibilities and restrictions, introducing simulated emergency procedures on SNA flights, teaching SNA autorotations.

FAM4503

Any system, limitation, and/or emergency procedure, common SNA errors on FAM maneuvers, briefing standards for on-wings, trend analysis and use of ATFs, Bravo specific squadron SOP considerations.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FAM4503I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
12	Ground Operations	4+
17	Wave-off (Power-On)	4+
18	Wave-off (Power-Off)	4+
21	Course Rules	4+
22	Vertical Takeoff	4+
23	No-Hover Takeoff	4+
27	Transition to Forward Flight	4+
30	Low Work	4+
32	Normal Approach	4+
33	Steep Approach	4+
34	Vertical Landing	4+
35	Sliding Landing	4+
36	No-Hover Landing	4+
37	Maximum Load Takeoff	4+
38	Level Speed Change From a Hover	4+
41	Hydraulic Boost Off Approach	4+

MIF Continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FAM4503I</b>
42	Simulated Engine Failure in a Hover (Hover Cut Gun)	4+
43	Simulated Engine Failure in a Hover Taxi (Taxi Cut Gun)	4+
44	Power Recovery Autorotations	4+
45	Full Autorotation	3+
46	Simulated Engine Failure at Altitude	4+
47	Tail-Rotor Fixed Pitch in Hover	3+
48	Tail-Rotor Fixed Pitch at Altitude	3+
49	Loss of Tail-Rotor Effectiveness (LTE)	3+
50	Complete loss of Tail-Rotor Thrust	3+
105	Simulated Engine Failure on Takeoff	4+
108	Error Detection, Analysis, and Correction	3+
109	Defensive Posturing	3+
110	Instructional Technique	3+
111	Maneuver Explanation/Demonstration	3+
112	Conduct of Flight	3+

Blk #	Media	Title	Events	Hrs	H/X
EM31	2F302B7	Bravo Defensive Posturing	1	1.3	1.3

1. Prerequisite. FAM4503I.
2. Syllabus Notes
  - a. Simulator shall be flown at the HITU.
  - b. Event shall be flown with a Bravo qualified HITU Staff IP.
3. Special Syllabus Requirements. None.
4. Discuss Items. Differences in error detection, analysis, and correction on Bravo events, defensive posturing, instructional technique for Bravo syllabus events. FIG Chapter 6: Bravo Familiarization Stage.
5. Block MIF

CTS REF	MANEUVER	EM3101I
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
9	High-Frequency Vibration	4+
9	Tail-Rotor Chip	4+
47	Tail-Rotor Fixed Pitch in a Hover	3+
48	Tail-Rotor Fixed Pitch at Altitude	3+
49	Loss of Tail-Rotor Effectiveness (LTE)	3+
50	Complete Loss of Tail-Rotor Thrust	3+

Blk #	Media	Title	Events	Hrs	H/X
FAM46	TH-57B	HITU Familiarization 'B'	2	4.0	2.0

1. Prerequisites

- a. EM4103.
- b. EM3101I.

2. Syllabus Notes

- a. All FAM4600I block events shall be flown at the HITU.
- b. Evaluate CRM for the Instructors ability to act as a TH-57B IP.
- c. Emphasis should be instructional technique, error detection, analysis and correction. The SI should play the role of the SNA on these flights, allowing the IUT to “instruct” maneuvers.

3. Special Syllabus Requirements. None.

4. Discuss Items

FAM4601I

Error detection, analysis and correction, defensive posturing, instructional technique, common errors on FAM4001A and FAM4200A block flight events.

FAM4602I

Role of the on-wing, common SNA errors on FAM4001A block flight event, course rules transitions between OLFs.



5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FAM4602I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
12	Ground Operations	4+
17	Wave-Off (Power-On)	1
18	Wave-Off (Power-Off)	4+
21	Course Rules	4+
22	Vertical Takeoff	4+
27	Transition to Forward Flight	4+
32	Normal Approach	4+
34	Vertical Landing	4+
35	Sliding Landing	4+
36	No-Hover Landing	4+
37	Maximum Load Takeoff	4+
38	Level Speed Change From a Hover	4+
41	Hydraulic Boost Off Approach	4+
42	Simulated Engine Failure in a Hover (Hover Cut Gun)	4+
43	Simulated Engine Failure in a Hover Taxi (Taxi Cut Gun)	4+

MIF Continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FAM4602I</b>
44	Power Recovery Autorotations	4+
45	Full Autorotation	4+
46	Simulated Engine Failure at Altitude	1
47	Tail-Rotor Fixed Pitch in a Hover	1
48	Tail-Rotor Fixed Pitch at Altitude	1
50	Complete Loss of Tail-Rotor Thrust	4+
107	Low N <sub>R</sub> Recovery	1
108	Error Detection, Analysis, and Correction	4+
109	Defensive Posturing	4+
110	Instructional Technique	4+
111	Maneuver Explanation /Demonstration	4+
112	Conduct of Flight	4+

Blk #	Media	Title	Events	Hrs	H/X
EM41	TH-57B	Energy Management 'B'	3	4.5	1.5

1. Prerequisite. FAM4503I.

2. Syllabus Notes

a. The Purpose of this block is to work on IP energy management in the autorotation, and low  $N_R$  recovery techniques.

b. All EM4100I block flights shall be flown at the HITU.

c. IUTs should reference the HITU Standardization Instructor Guide for AEMP and low  $N_R$  recovery procedures.

3. Special Syllabus Requirements. None.

4. Discuss Items

EM4101I

Any system, limitation, or emergency procedure; potential, kinetic, and rotational energy in the autorotation; low  $N_R$  recovery procedures (fly-away and touchdown).

EM4102I

Any system, limitation, and/or emergency procedure; Zero or low speed (falling leaf) AEMP autorotation, S-turn AEMP autorotation.

EM4103I

Any system, limitation, and/or emergency procedure; 360 AEMP autorotation, 180 Max-glide AEMP autorotation.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>EM4103I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
32	Normal Approach	4+
33	Steep Approach	4+
35	Sliding Landing	4+
44	Power Recovery Autorotations	4+
45	Full Autorotation	4+
47	Tail-Rotor Fixed Pitch in a Hover	1
48	Tail-Rotor Fixed Pitch at Altitude	1
49	Loss of Tail-Rotor Effectiveness (LTE)	1
50	Complete Loss of Tail-Rotor Thrust	1
105	Simulated Engine Failure on Takeoff	4+
107	Low $N_R$ Recovery	4+
114	AEMP	1

Blk #	Media	Title	Events	Hrs	H/X
FAM47	TH-57B	HITU 'B' Check Flight	1	2.0	2.0

1. Prerequisites

- a. FAM4602I.
- b. OBS3201I.

2. Syllabus Notes

- a. FAM4790I shall be flown at the HITU.
- b. Evaluate IUT's ability to present maneuvers while simultaneously executing the maneuvers within CTS.
- c. Flight shall be flown with a Familiarization 'B' Standardization Instructor.
- d. Emphasize 90/180 degree autorotations, error detection, and defensive posturing.

3. Special Syllabus Requirements. None.

4. Discuss Items. Any system, limitation, or emergency procedure; course rules; special VFR course rules.

5. Block MIF

CTS REF	MANEUVER	FAM4790I
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FAM4790I</b>
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
12	Ground Operations	4+
17	Wave-Off (Power-On)	1
18	Wave-Off (Power-Off)	4+
21	Course Rules	4+
22	Vertical Takeoff	4+
27	Transition to Forward Flight	4+
30	Low Work	4+
32	Normal Approach	4+
33	Steep Approach	4+
34	Vertical Landing	4+
35	Sliding Landing	1
36	No-Hover Landing	1
37	Maximum Load Takeoff	1
38	Level Speed Change From a Hover	1
41	Hydraulic Boost Off Approach	1
42	Simulated Engine Failure in a Hover (Hover Cut Gun)	4+
43	Simulated Engine Failure in a Hover Taxi (Taxi Cut Gun)	4+
44	Power Recovery Autorotations	4+
45	Full Autorotation	4+
107	Low N <sub>R</sub> Recovery	1
108	Error Detection, Analysis, and Correction	4+
109	Defensive Posturing	4+
110	Instructional Technique	4+
111	Maneuver Explanation /Demonstration	4+
112	Conduct of Flight	4+

LOGISTICS TRANSITION

Blk #	Media	Title	Events	Hrs	Blk Name
AER04	CAI/MIL	Advanced Aerodynamics	2	3.0	ADVERO

1. Prerequisite. GND1101I.

2. Events

AER0401I	CAI	Flight Phenomena		1.0	
AER0402I	MIL	Advanced Aero and Rotor System Dynamics		2.0	

3. Syllabus Notes. AER0401I shall be completed prior to AER0402I.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
LOG01	CAI	Logistics Flight Procedures	2	0.5	LOGFP

1. Prerequisite. GND1101I.

2. Events

LOG0101I	CAI	Confined Area Landing (CAL) and External Load Operations	0.25
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LOG0102I	CAI	Dynamic Maneuvers	0.25
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3. Syllabus Notes. None.

4. Discuss Items. None.



Blk #	Media	Title	Events	Hrs	Blk Name
LOG02	P/P Exam	Logistics Stage Exam	1	1.0	LOGFP

1. Prerequisites

a. LOG0102I.

b. AER0402I.

2. Events

LOG0290I P/P Exam Logistics Stage Exam 1.0

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
LOG40	TH-57B	Logistics	1	1.5	1.5

1. Prerequisite. LOG0290I.

2. Syllabus Notes

a. Emphasize CRM during all flights.

b. IP shall demonstrate Dynamic Landing Approaches (DLA), and the IUT shall conduct a minimum of one of each type (360, 180, and 90 degree) of DLA.

c. LOG4001I shall be flown with an aircrewman.

d. Flight shall be scheduled and flown at IUT's parent squadron.

3. Special Syllabus Requirements. SI shall demonstrate "let down" procedures for cargo hook failure with external load attached.

4. Discuss Items. Course rules for logistic OLFs (Harold and SITE X), mast bumping, power checks, weight and balance for external load events, vortex ring state, crew coordination, aircrew brief, power required exceeds power available, engine failure with external load, wave-off during CALs or externals, high-speed low-level auto demo.

5. Block MIF

CTS REF	MANEUVER	LOG4001I
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>LOG4001I</b>
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
21	Course Rules	4+
23	No-Hover Takeoff	4+
27	Transition to Forward Flight	4+
30	Low Work	4+
32	Normal Approach	4+
33	Steep Approach	4+
34	Vertical Landing	4+
36	No-Hover Landing	4+
39	Quick Stop	4+
40	High-Speed Approach	4+
44	Power Recovery Autorotations	4+
45	Full Autorotation	1
51	Power Checks	4+
52	Landing Zone (LZ) Evaluation	4+
53	Confined Area Operations	4+
54	Pinnacle Operations	4+
55	Dynamic Landing Approaches (DLA)	4+
56	External Load Operations	4+
113	High Speed Low Level Autorotation	4+
	Special Syllabus Requirements	1

FORMATION TRANSITION

Blk #	Media	Title	Events	Hrs	Blk Name
FRM01	CAI/MIL	Formation Procedures	3	3.0	FRMFP

1. Prerequisite. GND1101I.

2. Events

FRM0101I	CAI	Formation Flying		0.5	
FRM0102I	CAI	NATOPS and Mission Brief		0.5	
FRM0103I	MIL	Formation		2.0	

3. Syllabus Notes. FRM0101I-2I shall be completed prior to FRM0103I.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
FRM02	P/P Exam	Formation Stage Exam	1	1.0	FRMFP

1. Prerequisite. FRM0103I.

2. Events

FRM0290I	P/P Exam	Formation Stage Exam		1.0	
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3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	H/X
OBS36	2F302C7	Formation Simulator Observe	1	1.3	1.3

1. Prerequisite. FRM0290I.
2. Syllabus Notes. IUT shall observe an SNA FRM3102A event.
3. Discuss Items. None.
4. Special Syllabus Requirements. None.
5. Block MIF. N/A

Blk #	Media	Title	Events	Hrs	H/X
FRM40	TH-57C	Formation	2	4.0	2.0

1. Prerequisite. OBS3601I.

2. Syllabus Notes

- a. Emphasize CRM during all flights.
- b. Complete section Wave-Offs on FRM4002I.

3. Special Syllabus Requirements

- a. FRM4001I: Demonstrate section parade and home-field break.
- b. FRM4002I: Demonstrate Loss of Visual Contact and Lost Communications.

4. Discuss Items

FRM4001I

NATOPS and conduct of flight brief for formation flights, relative motion and radius of turn relationships, Lead and Wing aircraft responsibilities and considerations, cruise position, cruise maneuvers, brevity codes, over-torque, formation course rules, local formation areas, Wing awareness and lookout doctrine, down plane procedures, and CRM (inter-aircraft communication, formation maneuvers, lead change, and formation Wave-Off).

FRM4002I

Wingman awareness and lookout doctrine, IIMC, loss of visual contact, lost communications, disorientation procedures, downed aircraft, aborts, wave-offs, high speed approach, any SNA discuss item, emergency procedure, or aircraft limitation.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FRM4002I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
12	Ground Operations	4+
89	Formation Takeoffs	4+
90	Crossover	4+
91	Cruise Turns	4+
92	Cruise Climbs and Descents	4+
93	Breakup and Rendezvous	4+
94	Overrun	4+
95	Lead Change	4+
96	Cruise Formation	4+
97	Formation Landings	4+
98	Formation High-Speed Approach	4+
99	Formation Wave-Off	4+
100	Combat Cruise Flight	4+
101	Formation TERF Navigation	4+
	Special Syllabus Requirements	1



Blk #	Media	Title	Events	Hrs	H/X
FRM41	TH-57C	Combat Cruise Formation	1	2.0	2.0

1. Prerequisite. FRM4002I.
2. Syllabus Notes
  - a. Emphasize CRM during all flights.
  - b. Emphasize common student errors; error detection, analysis, and correction; defensive posturing; instructional technique; maneuver explanation and demonstration; conduct of flight.
3. Special Syllabus Requirements. None.
4. Discuss Items. Combat cruise; effects of adverse weather on mission planning; inadvertent IMC at low level; JOG AIR preparation; checkpoint selection criteria; any SNA FORM briefing item, aircraft emergency procedure, or limitation.
5. Block MIF

CTS REF	MANEUVER	FRM4101I
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
12	Ground Operations	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FRM4101I</b>
89	Formation Takeoffs	4+
90	Crossover	4+
91	Cruise Turns	4+
92	Cruise Climbs and Descents	4+
93	Breakup and Rendezvous	4+
94	Overrun	4+
95	Lead Change	4+
96	Cruise Formation	4+
97	Formation Landings	4+
98	Formation High-Speed Approach	4+
99	Formation Wave-Off	4+
100	Combat Cruise Flight	4+
101	Formation TERF Navigation	4+

Blk #	Media	Title	Events	Hrs	H/X
FRM42	TH-57C	Formation Check Flight	1	2.0	2.0

1. Prerequisite. FRM4101I.
2. Syllabus Notes. Emphasize CRM during all flights.
3. Special Syllabus Requirements. None.
4. Discuss Items

CTS for SNA FORM maneuvers, any previously briefed item in the Formation syllabus.

5. Block MIF

CTS REF	MANEUVER	FRM4290I
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
10	Flight Planning	4+
11	NATOPS/Mission Brief	4+
12	Ground Operations	4+
89	Formation Takeoffs	4+
90	Crossover	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>FRM4290I</b>
91	Cruise Turns	4+
92	Cruise Climbs and Descents	4+
93	Breakup and Rendezvous	4+
94	Overrun	4+
95	Lead Change	4+
96	Cruise Formation	4+
97	Formation Landings	4+
98	Formation High-Speed Approach	4+
99	Formation Wave-Off	4+
100	Combat Cruise Flight	4+
101	Formation TERF Navigation	4+

SEARCH AND RESCUE TRANSITION

Blk #	Media	Title	Events	Hrs	Blk Name
SAR01	CAI	Search and Rescue	2	.5	SARFP

1. Prerequisite. GND1101I.

2. Events

SAR0101I	CAI	SAR Organization and Planning	0.25
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SAR0102I	CAI	SAR Flight Procedures	0.25
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3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
SAR02	P/P Exam	Search and Rescue Stage Exam	1	1.0	SARFP

1. Prerequisite. SAR0102I.

2. Events

SAR0290I	P/P Exam	Search and Rescue Stage Exam		1.0	
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3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
OBS34	2F302B7	Search and Rescue Sim Observe	1	1.3	SARFP

1. Prerequisite. SAR0290I.
2. Syllabus Notes. IUT shall observe an SNA SAR3001A brief and simulator event.
3. Special Syllabus Requirements. None.
4. Discuss Items. None.
5. Block MIF. N/A.

Blk #	Media	Title	Events	Hrs	H/X
SAR40	TH-57C	SAR Upgrade	2	2.0	1.0

1. Prerequisite. OBS3401I.

2. Syllabus Notes

a. Emphasize CRM during flight.

b. Both events in this block can be scheduled and flown together.

c. The On-Scene Commander Checklist shall be used in conjunction with one scenario during the event.

d. Emphasize error detection, analysis, and correction; defensive posturing; instructional technique; maneuver explanation and demonstration; and conduct of flight.

3. Special Syllabus Requirements. None.

4. Discuss Items

SAR4001I

SAR planning and organization, personnel recovery operations, on-scene commander checklist and responsibilities, planned ditching considerations, required equipment for over water and shipboard operations, rescue helicopters operating over water, authorized landing areas (helicopter), hospital pad identification and landing zone evaluation.

SAR4002I

Anti-exposure suits (CNAF, RWOP, SOP), crew coordination and responsibilities, fuel management and planning, LLBI procedures, helicopter and tilt-rotor TERF operations, and helicopter and tilt-rotor night hover operations over water.



5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>SAR4002I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
11	NATOPS/Mission Brief	4+
14	En route Procedures	4+
14	Groundspeed/Fuel Checks	4+
52	Landing Zone (LZ) Evaluation	4+
78	Low-Level Basic Instruments (LLBI) – Level Speed Change	4+
79	Low-Level Basic Instruments (LLBI) – Turn Pattern	4+
81	Low-Level Basic Instruments (LLBI) – Partial Panel	4+
82	Search and Rescue Patterns	4+
83	Wind-line Rescue Pattern	4+

SHIPBOARD OPERATIONS

Blk #	Media	Title	Events	Hrs	Blk Name
SHP01	CAI	Shipboard Operations	2	.5	SHPFP

1. Prerequisite. GND1101I.

2. Events

SHP0101I	CAI	General Shipboard Operations	0.25
SHP0102I	CAI	Shipboard Qualification Procedures	0.25

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
SHP02	P/P Exam	Shipboard Operations Stage Exam	1	1.0	SHPFP

1. Prerequisite. SHP0102I.

2. Events

SHP0290I	P/P Exam	Shipboard Operations Stage Exam	1.0
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3. Syllabus Notes. None.

4. Discuss Items. None.

Blk #	Media	Title	Events	Hrs	Blk Name
OBS33	2F302C7	Shipboard Operations Observe	1	1.3	SHPFP

1. Prerequisite. SHP0290I.
2. Syllabus Notes. IUT shall observe an SNA SHP3001I sim event.
3. Special Syllabus Requirements. None.
4. Discuss Items. None.
5. Block MIF. N/A.

Blk #	Media	Title	Events	Hrs	H/X
SHP30	2F302C7	Shipboard VFR Operations	1	1.3	1.3

1. Prerequisite. OBS3301I.

2. Syllabus Notes

a. The event should be conducted using the IUT service's commonly used ships.

b. The event shall consist of a minimum of two (2) landings and takeoffs from an air capable ship (CG, DDG, LCS, LPD or WMSL) and two (2) landings and takeoffs from an aviation ship (CVN, LHD or LHA).

c. Day and night Shipboard DLQ pattern shall be conducted, with emphasis on LSE signals.

d. Shipboard instrument approaches shall be conducted.

3. Special Syllabus Requirements. None.

4. Discuss Items. Takeoff procedures, shipboard terminology, LSE signals, sea states, deck status lights, shipboard aviation facilities resume, base recovery course (BRC), wind direction and speed, radio discipline, ship ATC procedures, Case I, II, & III recoveries, air-capable ship TACAN approach.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>SHP3001I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
4	Cockpit Management	4+
5	Checklist Management	4+
6	Radio Procedures	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
19	Spatial Disorientation Recognition and Recovery	4+
84	Response to LSE	4+
87	Shipboard Landings	4+
88	Shipboard Landing - Wave-Off	4+

ENERGY MANAGEMENT PRINCIPLES (EMP)

Blk #	Media	Title	Events	Hrs	H/X
EM42	TH-57B	AEMP Cadre	4	6.0	1.5

1. Prerequisites

- a. FAM4790I.
- b. TH-57B Standardization Instructor Pilot.

2. Syllabus Notes

- a. All EM4200I block events shall be flown with an AEMP Cadre Pilot.
- b. All EM4200I block flights shall be flown at the HITU.
- c. Appropriate warm-up maneuvers shall be conducted prior to conducting AEMP maneuvers.
- d. All AEMP maneuvers should be flown to a paved surface when available.

3. Special Syllabus Requirements. None.

4. Discuss Items

EM4201I

Low  $N_R$  recovery techniques; potential, kinetic, and rotational energy in autorotations; 60 knot nose attitude; autorotative characteristics of the TH-57B; low vs. high inertia rotor heads in autorotative flight, OLF considerations and concerns for conducting AEMP.

EM4202I

Zero or low speed (falling leaf) AEMP autorotation, S-turn AEMP autorotations, defensive posturing during AEMP autorotations, common errors during AEMP autorotations.

EM4203I

360 AEMP autorotation procedures, 180 max glide AEMP autorotations.

EM4204I

Any previously discussed item.

5. Block MIF

<b>CTS REF</b>	<b>MANEUVER</b>	<b>EM4204I</b>
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
32	Normal Approach	4+
33	Steep Approach	4+
35	Sliding Landing	4+
42	Simulated Engine Failure in a Hover (Hover Cut Gun)	4+
43	Simulated Engine Failure in a Hover Taxi (Taxi Cut Gun)	4+
44	Power Recovery Autorotations	4+
45	Full Autorotation	4+
45	Zero/Low Speed AEMP Autorotation	4+
45	S-Turn AEMP Autorotation	4+
45	360 AEMP Autorotation	4+
45	180 Max Glide AEMP Autorotation	4+
107	Low NR Recovery	4+



Blk #	Media	Title	Events	Hrs	H/X
EM43	TH-57B	Energy Management Principles Check Flight	1	1.5	1.5

1. Prerequisites

a. FAM4790I.

b. EM4204I.

2. Syllabus Notes. Event shall be flown with an AEMP qualified Pilot.

3. Special Syllabus Requirements. None.

4. Discuss Items. Procedures and restrictions for conducting AEMP training at the HITU.

5. Block MIF

CTS REF	MANEUVER	EM4390I
1	General Knowledge/Procedures	4+
2	Headwork/Situational Awareness	4+
3	Crew Resource Management	4+
7	Basic Air Work, Scan, and Trim	4+
8	NATOPS Procedures and Limits	4+
9	Emergency Procedures/System Failures	4+
32	Normal Approach	4+
33	Steep Approach	4+
35	Sliding Landing	4+
42	Simulated Engine Failure in a Hover (Hover Cut Gun)	4+
43	Simulated Engine Failure in a Hover Taxi (Taxi Cut Gun)	4+

MIF continued on next page.

<b>CTS REF</b>	<b>MANEUVER</b>	<b>EM4390I</b>
44	Power Recovery Autorotations	4+
45	Full Autorotation	4+
45	Zero/low Speed AEMP Autorotation	4+
45	S-Turn AEMP Autorotation	4+
45	360 AEMP Autorotation	4+
45	180 Max Glide AEMP Autorotation	4+
107	Low N <sub>R</sub> Recovery	4+

## Chapter V

### Course Training Standards

1. Purpose. These standards outline the tasks and proficiency required of graduates of this syllabus.
2. Instructor Under Training Duties and Responsibilities
  - a. Plan the mission.
  - b. Ensure the aircraft is pre-flighted, 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 visual meteorological condition 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 Maneuver Item File regulates 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
<b>GRADED ITEM</b>	
<ul style="list-style-type: none"> <li>● A brief description of the behavior, required action, and/or conditions.</li> </ul>	<ul style="list-style-type: none"> <li>● The specific standards for the action. May be read as “The Instructor under training...”</li> </ul>

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.

7. Course Training Standards

BEHAVIOR STATEMENT	STANDARDS
<b><u>All Stages CTS Items</u></b>	
<b>1. General Knowledge/Procedures</b>	
<ul style="list-style-type: none"> <li>● Maintain working knowledge of all appropriate flight training instructions and directives.</li> </ul>	<ul style="list-style-type: none"> <li>● Recites, discusses, and/or performs all applicable items essential to the operation of the aircraft.</li> </ul>
<b>2. Headwork/Situational Awareness</b>	
<ul style="list-style-type: none"> <li>● Comply with the FTI and NATOPS using critical thinking skills while maintaining situational awareness sufficient for flight safety.</li> </ul>	<ul style="list-style-type: none"> <li>● Understands instructions.</li> <li>● Anticipates and effectively mitigates potential issues.</li> <li>● Remains alert and oriented.</li> <li>● Able to correctly receive, process, and apply information during execution.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
3. Crew Resource Management	
<ul style="list-style-type: none"> <li>● Decision Making.</li> <li>● Assertiveness.</li> <li>● Mission Analysis.</li> <li>● Communications.</li> <li>● Leadership.</li> <li>● Adaptability.</li> <li>● Situational Awareness.</li> </ul>	<ul style="list-style-type: none"> <li>● Gathers available data before arriving at final decision; clearly states decisions to the crew; and provides rationale for decisions.</li> <li>● Displays assertive behavior when necessary and accepts assertive behavior from other crewmembers.</li> <li>● Assesses requirements, risks, and makes decisions; identifies probable contingencies and alternatives.</li> <li>● Ensures effective communication.</li> <li>● Recognizes and eliminates hazardous attitudes in self and other crewmembers; resolves conflict in a positive manner.</li> <li>● Provides positive leadership to the crew; encourages crew participation in the decision making process.</li> <li>● Adapts to meet new situational demands.</li> <li>● Demonstrates the ability to maintain awareness of what is happening on the ground, in the air, and with other crewmembers; copes with any subsequent mission impact as a result of these happenings.</li> <li>● As a copilot, performs duties per the NATOPS and FTI.</li> </ul>
4. Cockpit Management	
<ul style="list-style-type: none"> <li>● Prioritizes and manages crew tasks during mission execution.</li> <li>● Effectively sets up, utilizes, and monitors aircraft systems, indicators, radios, and flight support materials in the conduct of flight duties.</li> <li>● Exercises checklist discipline and follows standard operating procedures.</li> </ul>	<ul style="list-style-type: none"> <li>● Effectively conducts cockpit setup and in-flight cockpit management.</li> <li>● Prioritizes cockpit tasks using all available resources within the cockpit.</li> <li>● Appropriately delegates cockpit management tasks and monitors performance of delegated tasks.</li> <li>● Accomplishes all required normal and emergency checklist steps in a timely manner with all items executed per NATOPS, FTIs, and SOPs.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
5. Checklist Management	
<ul style="list-style-type: none"> <li>● Properly utilizes checklists in support of mission, assisting PAC as appropriate.</li> <li>● Verbalizes checklist steps in a logical, clear, and concise manner with appropriate tempo.</li> <li>● Identifies and verbalizes checklist requirement for emergency procedures in a timely manner.</li> <li>● Efficiently executes emergency procedures.</li> <li>● Puts checklist away by 200' or upon completion as directed.</li> </ul>	<ul style="list-style-type: none"> <li>● Complies with NATOPS and FTI procedures.</li> <li>● Determines correct checklist or emergency procedure and locates it in the PCL.</li> <li>● Communicates each step clearly and concisely, with appropriate tempo.</li> <li>● Conducts PNAC duties per the FTIs and NATOPS, or as directed by PAC.</li> <li>● Secures systems and circuit breakers as briefed, with dual concurrence, as required, or as directed by the PAC.</li> </ul>
6. Radio Procedures	
<ul style="list-style-type: none"> <li>● Performs concise, professional, effective verbal communications using aircraft radios during the mission.</li> <li>● Tunes appropriate frequency, selects appropriate radio, and executes correct procedure to transmit.</li> </ul>	<ul style="list-style-type: none"> <li>● Uses concise, properly formatted radio calls with standard terminology.</li> <li>● Recognizes and acknowledges all communications directed to SNAs own aircraft/aircrew.</li> <li>● Able to understand, differentiate, and prioritize transmissions in a multiple communications environment.</li> <li>● Asks for and provides clarification when necessary.</li> <li>● Is able to explain the purpose, format, and content of radio calls for a given situation.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
7. Basic Air Work, Scan, and Trim	
<ul style="list-style-type: none"> <li>● Establish and maintain desired altitude, airspeed, and heading during flight.</li> </ul>	<ul style="list-style-type: none"> <li>● Appropriately uses collective, cyclic and pedals to adjust collective pitch, aircraft attitude, and trim.</li> <li>● Maintains an effective scan inside and outside of the cockpit throughout the flight, identifying deviations, and properly responding using appropriate corrective control inputs.</li> <li>● Maintains aircraft in balanced flight and within 100 feet, 10 KIAS, 10° of heading.</li> <li>● Levels off within 100 feet of desired altitude.</li> <li>● Accomplishes desired parameter within ±10 seconds of correct time, as applicable.</li> </ul>
8. NATOPS Procedures and Limits	
<ul style="list-style-type: none"> <li>● Maintain in-depth knowledge of NATOPS procedures, limits, and prohibited maneuvers.</li> </ul>	<ul style="list-style-type: none"> <li>● Able to utilize NATOPS Checklists in conduct of flight responsibilities.</li> <li>● Recalls NATOPS Limits, prohibited maneuvers, system limits, and operating parameters as provided in the NATOPS Manual.</li> <li>● Able to apply NATOPS Limit knowledge to decision making in the aircraft.</li> </ul>
9. Emergency Procedures/System Failures	
<ul style="list-style-type: none"> <li>● Maintain in-depth knowledge of NATOPS Emergency Procedures, System Indications, and appropriate directives.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes emergency procedures per NATOPS.</li> <li>● Maintains positive control of the aircraft.</li> <li>● Properly identifies the emergency or system failure indications, and calls for the appropriate NATOPS procedure.</li> <li>● Executes/directs CRITICAL MEMORY ITEMS in proper order and in a timely manner.</li> <li>● Calls for appropriate checklist following execution of CRITICAL MEMORY ITEMS or when no CRITICAL MEMORY ITEMS apply.</li> <li>● Applies EP and Systems knowledge to decision making using critical thinking skills.</li> <li>● Selects appropriate landing criteria.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
10. Flight Planning	
<ul style="list-style-type: none"> <li>• Completes appropriate flight planning items required for specific mission prior to scheduled brief time.</li> </ul>	<ul style="list-style-type: none"> <li>• Plans the flight thoroughly and timely using authorized weather sources and all appropriate FLIP publications and FTIs to meet mission requirements.</li> <li>• Acquires a current weather brief for the route of flight.</li> <li>• Plans and prepares an appropriate flight plan per current FLIP publications and a NavLog per INAV standards and/or Instrument Ground School, as required.</li> <li>• Ensures that flight plan meets all CNAF IFR requirements.</li> <li>• Screens all NOTAMS for the route of flight including possible divers.</li> <li>• Completes Weight and Balance and verifies mission capability within limits.</li> <li>• For navigation stage flights, neatly and accurately prepares chart, including all FTI required markings.</li> <li>• For TERF, Formation, and NVG flights, creates a professional accurate smart-pack for the mission, per MCG and FTI requirements.</li> </ul>
11. NATOPS/Mission Brief	
<ul style="list-style-type: none"> <li>• Presents appropriate NATOPS and mission brief for the flight.</li> </ul>	<ul style="list-style-type: none"> <li>• Executes brief per current NATOPS and FTI with minimal errors.</li> <li>• Delivers brief confidently and professionally with minimal distractions and mistakes.</li> <li>• Clearly and concisely briefs the mission plan resulting in comprehension by all participating aircrew.</li> <li>• Correctly briefs NATOPS considerations applicable to the specific day and mission.</li> </ul>



BEHAVIOR STATEMENT	STANDARDS
12. Ground Operations	
<ul style="list-style-type: none"> <li>● Comply with CNAF-M 3710.7, NATOPS, FTI, Local SOPs, and training directives.</li> <li>● Inspect and properly wear personal equipment.</li> <li>● Perform pre-flight duties.</li> <li>● Move aircraft to and from parking area, as required.</li> <li>● Perform post-flight duties.</li> </ul>	<ul style="list-style-type: none"> <li>● Complies with CNAF M-3710.7, NATOPS, FTI, Local SOPs, and training directives.</li> <li>● Determines aircraft status.</li> <li>● Conducts thorough inspection of flight gear and ensures gear is serviceable for the assigned mission.</li> <li>● Properly pre-flights and starts the aircraft.</li> <li>● Properly operates aircraft systems on ground.</li> <li>● Ensures line personnel, ground equipment, and other aircraft are clear prior to executing NATOPS and flight procedures, using appropriate signals.</li> <li>● Taxies aircraft at 5 ft AGL, and at speeds commensurate with safe aircraft taxi, based on location, environmental conditions, aircraft weight and power available, and pilot's own skills.</li> <li>● Maintains aircraft position within taxiway boundaries and generally aligned with taxiway centerline</li> <li>● Prevents aircraft from crossing taxi limits, including hold short line, and gives way to other aircraft when appropriate.</li> <li>● Properly shuts down the aircraft, post-flights and secures the aircraft.</li> </ul>
13. Departure Procedures	
<ul style="list-style-type: none"> <li>● Transitions from takeoff location to en route environment.</li> <li>● Executes appropriate departure briefs and procedures prior to commencing departure, as required.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes appropriate departure procedures for the mission being flown.</li> <li>● Provides appropriate brief to crew for departure.</li> <li>● For the departure, achieves assigned/required headings within 10 degrees, altitudes within 100 ft, airspeeds within 10 KIAS, and intercepts within <math>\pm 5</math> radials of assigned radial and <math>\pm 5</math> DME of assigned DME.</li> <li>● Makes appropriate radio calls, frequency changes, and NAVAID adjustments.</li> <li>● Complies with appropriate departure instructions, clearances, and/or procedures.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
14. En route Procedures	
<ul style="list-style-type: none"> <li>● Conduct appropriate en route procedures per FTIs, FLIPs, and NATOPS.</li> <li>● Maintain awareness of en route considerations necessary for successful execution of mission.</li> </ul>	<ul style="list-style-type: none"> <li>● Updates/validates planned time and fuel computations as required to safely and efficiently accomplish the mission per FAR, NATOPS, and CNAF M-3710.7.</li> <li>● Effectively uses ATC, FSS, PMSV, ATIS, and available aircraft systems, as required.</li> <li>● Maintains awareness of and updates present position while remaining established on desired flight path when navigating VFR.</li> <li>● Maintains course centerline between all NAVAIDs, fixes, and IFR checkpoints. Maintains within <math>\pm 3</math> radials of desired radial, and within <math>\pm 2</math> NM of GPS centerline, as appropriate.</li> <li>● Effectively plans for next phase of flight, and takes appropriate actions prior to transitioning out of en route portion of flight.</li> </ul>
15. Terminal Procedures	
<ul style="list-style-type: none"> <li>● Executes tasks and procedures associated with transition from the en route portion of a flight to landing at an airfield/landing area.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes procedures per NATOPS, FTIs, and Local SOPs.</li> <li>● Acquires necessary information for commencement of terminal procedures.</li> <li>● Establishes required communication with appropriate agencies in support of terminal procedures.</li> <li>● Complies with controlling agency/entity's instructions in a timely manner.</li> <li>● Establishes an appropriate flight path and landing profile for the terminal area and landing site utilizing appropriate visual references and/or pattern procedures.</li> <li>● Follows required visual approach guidance as appropriately (i.e. VASI, PAPI, Modified Normal Approach, etc.).</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
16. Stab-Off/Stub-Off Partial Panel Flight	
<ul style="list-style-type: none"> <li>● Conduct aircraft operations with automatic flight control system (AFCS) secured in both VFR and IFR conditions with full panel and partial panel scans, as appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>● Complies with NATOPS and FTI procedures.</li> <li>● Recognizes change in AFCS condition, and initiates appropriate actions per NATOPS and FTI.</li> <li>● Accounts for AFCS changes and initiates smooth coordinated control inputs to maintain control of the aircraft.</li> <li>● Maintains heading <math>\pm 15</math> degrees, altitude <math>\pm 150</math> ft, and airspeed <math>\pm 15</math> KIAS when operating in simulated instrument conditions or conducting instrument training.</li> <li>● Transitions from full panel to partial panel instrument scan while maintaining flight parameters during instrument training.</li> </ul>
17. Wave-Off (Power-On)	
<ul style="list-style-type: none"> <li>● Aborts a transition to landing or a descent using NATOPS and FTI procedures during a power-on maneuver.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS, FTI, and Local SOPs.</li> <li>● Makes appropriate Radio/ICS calls per NATOPS, FTIs, and Local SOPs.</li> <li>● Initiates smooth coordinated control inputs, increasing collective smoothly without exceeding NATOPS limits.</li> <li>● Ensures throttle is in the full open position.</li> <li>● Ensures safe flight path throughout the maneuver, remaining prepared for an emergency landing in the event of a power loss.</li> <li>● Expeditiously arrests rate of descent and transitions to a positive rate of climb while maintaining a 70 KIAS attitude in balanced flight.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
18. Wave-Off (Power-Off)	
<ul style="list-style-type: none"> <li>Aborts a simulated emergency procedure or autorotative descent using NATOPS and FTI procedures during a power-off maneuver.</li> </ul>	<ul style="list-style-type: none"> <li>Executes maneuver per NATOPS, FTI, and Local SOPs.</li> <li>Makes appropriate Radio/ICS calls per NATOPS, FTIs, and Local SOPs.</li> <li>Initiates smooth coordinated control inputs, increasing collective smoothly without exceeding NATOPS limits.</li> <li>Time permitting, ensures collective is full down prior to increasing throttle.</li> <li>Ensures safe flight path clearing the aircraft of traffic and obstacles throughout the maneuver, remaining prepared for an emergency landing in the event of a power loss.</li> <li>Expediently arrests rate of descent and transitions to a positive rate of climb while maintaining a 70 KIAS attitude in balanced flight.</li> </ul>
19. Spatial Disorientation Recognition and Recovery	
<ul style="list-style-type: none"> <li>Recognizes the signs and symptoms of spatial disorientation and initiates the appropriate actions to recover from or assist in the recovery from spatial disorientation.</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrates knowledge of spatial disorientation as explained in NATOPS, FTIs, and Local SOPs.</li> <li>Demonstrates knowledge of signs and symptoms of spatial disorientation.</li> <li>Demonstrates knowledge of recovery options for both PAC and PNAC per NATOPS and FTI procedures.</li> <li>Executes appropriate and effective CRM to avoid the occurrence of spatial disorientation.</li> <li>Executes appropriate and effective CRM upon recognizing signs or symptoms of spatial disorientation.</li> <li>Executes appropriate actions/procedures to recover from spatial disorientation with emphasis on safety of flight.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
<b><u>Familiarization Stage CTS Items</u></b>	
20. Blindfold Cockpit Check	
<ul style="list-style-type: none"> <li>● Locate and identify aircraft systems, flight controls, circuit breakers, switches and buttons at the request of the instructor.</li> </ul>	<ul style="list-style-type: none"> <li>● Without aid of visual cues, positively identify all items in the cockpit requested by the instructor.</li> <li>● Verbally explain the location of the specified cockpit item, and be able to locate the item on command.</li> </ul>
21. Course Rules	
<ul style="list-style-type: none"> <li>● Navigates local operating area using correct altitudes, airspeeds, transponder codes, and radio calls, per Local SOPs.</li> <li>● Visually identifies required checkpoints in-flight.</li> </ul>	<ul style="list-style-type: none"> <li>● Conducts course rules navigation per Local SOPs.</li> <li>● Correctly identifies course rules checkpoints.</li> <li>● Able to recall required altitudes, airspeeds, radios frequencies, transponder codes, and routes of flights for all local area course rules.</li> </ul>
22. Vertical Takeoff	
<ul style="list-style-type: none"> <li>● Maneuvers aircraft vertically from a landed condition to a 5ft AGL hover.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Ascends at a rate commensurate with conditions and skill.</li> <li>● Properly adjust control inputs throughout maneuver in response to aircraft movements and winds.</li> <li>● Stabilizes aircraft within 1 ft of a 5 ft AGL hover.</li> <li>● Maintains aircraft nose alignment within 10 degrees of desired heading.</li> <li>● Maintains aircraft position over takeoff point.</li> </ul>
23. No-Hover Takeoff	
<ul style="list-style-type: none"> <li>● Transitions from a landed state to forward flight, in a continuous maneuver without establishing a hover.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes procedures per FTI.</li> <li>● Smoothly coordinates collective pull with cyclic and pedals throughout maneuver, without exceeding FTI torque limit.</li> <li>● Maintains heading alignment within 10 degrees throughout the maneuver.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
24. Hover	
<ul style="list-style-type: none"> <li>● Maintains the aircraft in a zero ground speed, stable position over an assigned ground reference point at a consistent altitude.</li> </ul>	<ul style="list-style-type: none"> <li>● Maintains 5 ft AGL skid height <math>\pm 1</math> ft.</li> <li>● Maintains heading <math>\pm 10</math> degrees.</li> <li>● Maintains aircraft position directly over desired ground reference point.</li> <li>● Makes appropriate corrections for drift, yaw, and altitude changes.</li> <li>● Properly accounts for environmental conditions and aircraft weight and power available.</li> <li>● Maintains obstacle, personnel, and aircraft awareness while in a hover.</li> </ul>
25. Clearing Turn	
<ul style="list-style-type: none"> <li>● Maneuvers aircraft to view surrounding areas to identify traffic.</li> <li>● Executes hover turn per Local SOPs to clear aircraft of traffic.</li> </ul>	<ul style="list-style-type: none"> <li>● Properly accounts for wind direction and speed prior to commencing turn.</li> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Initiates smooth, coordinated control inputs to achieve a controlled constant rate of turn.</li> <li>● Maintains 5ft AGL skid height <math>\pm 2</math> ft.</li> <li>● Properly identifies surrounding traffic, and accounts for them prior to maneuvering aircraft.</li> </ul>
26. Hover Taxi	
<ul style="list-style-type: none"> <li>● Maneuver the aircraft in ground effect, usually below translational lift airspeed.</li> <li>● Initiates coordinated smooth control inputs to change speed, heading and altitude.</li> </ul>	<ul style="list-style-type: none"> <li>● Accounts for wind direction and speed when initiating taxi.</li> <li>● Initiates coordinated smooth control inputs appropriate to desired aircraft movement.</li> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Maintains 5ft AGL skid height <math>\pm 2</math> ft, within <math>\pm 10</math> degrees of heading, and maintains alignment <math>\pm 3</math> ft of centerline and at a speed commensurate with safety and pilot skill.</li> <li>● Smoothly transitions to a hover or to forward flight.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
27. Transition to Forward Flight	
<ul style="list-style-type: none"> <li>● Transitions from a stationary position through translational lift to establish forward flight.</li> <li>● Executes the maneuver per the FTI.</li> </ul>	<ul style="list-style-type: none"> <li>● Conducts appropriate clearing turn prior to commencing transition.</li> <li>● Properly accounts for wind direction and speed with appropriate control adjustments during transition.</li> <li>● Executes FTI Procedures within <math>\pm 5</math> ft and <math>\pm 5</math> KIAS of checkpoints.</li> <li>● Maintains within 10 degrees of takeoff heading.</li> </ul>
28. Level Speed Change (LSC) - FAM	
<ul style="list-style-type: none"> <li>● Executes a level transition between airspeeds, as required, while maintaining heading and altitude in balanced flight.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Clears aircraft for traffic prior to commencing maneuver.</li> <li>● Initiates smooth coordinated control inputs to establish appropriate and consistent deceleration/acceleration to achieve specified airspeed(s).</li> <li>● Maintains constant heading <math>\pm 10</math> degrees, constant altitude <math>\pm 75</math> ft, and does not overshoot desired indicated airspeed by more than 5 KIAS.</li> <li>● Maintains balanced flight throughout maneuver.</li> <li>● Stabilizes, momentarily, at each airspeed checkpoint, then smoothly transitions, as required.</li> <li>● Provides maneuver complete report upon completion of maneuver.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
29. Turn Pattern - FAM	
<ul style="list-style-type: none"> <li>● Executes coordinated turns at various angles of bank for specific amounts of heading change while maintaining constant altitude and airspeed in balanced flight.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Clears aircraft for traffic prior to commencing maneuver.</li> <li>● Initiates smooth coordinated control inputs to establish appropriate angle of bank.</li> <li>● Maintains constant angle of bank <math>\pm 5</math> degrees, constant airspeed <math>\pm 5</math> KIAS, constant altitude <math>\pm 75</math> ft, and rollout of turns <math>\pm 5</math> degrees of desired heading.</li> <li>● Maintains balanced flight throughout maneuver.</li> <li>● Initiates reversal using smooth coordinated control inputs.</li> <li>● Provides maneuver complete report upon completion of maneuver.</li> </ul>
30. Low Work	
<ul style="list-style-type: none"> <li>● Handles the aircraft in close proximity to the ground when not specifically covered by another course training standard.</li> <li>● Maintains awareness of obstacles, altitude, airspeed, and collective pitch throughout maneuvers.</li> </ul>	<ul style="list-style-type: none"> <li>● Complies with NATOPS, FTI, and local procedures.</li> <li>● Initiates smooth, coordinated control inputs.</li> <li>● Hover and hover taxi at an altitude of 5 ft AGL <math>\pm 2</math> feet, within <math>\pm 10</math> degrees of heading, maintaining alignment <math>\pm 3</math> feet of centerline and at a speed commensurate with safety and pilot skill.</li> <li>● Conducts clearing turns at appropriate times.</li> <li>● Maintains awareness of obstacles, traffic, personnel and vehicles while maneuvering.</li> <li>● Accounts for environmental conditions and aircraft weight and power when maneuvering.</li> </ul>



BEHAVIOR STATEMENT	STANDARDS
31. Square Patterns	
<ul style="list-style-type: none"> <li>● Executes precise aircraft patterns at hover altitude using coordinated control inputs to execute smooth aircraft movement.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per FTI.</li> <li>● Accounts for wind direction and speed prior to commencing maneuver.</li> <li>● Initiates aircraft movement using smooth coordinated control inputs appropriate to environmental conditions and desired aircraft motion.</li> <li>● Maintains 5 ft AGL skid height <math>\pm 2</math> ft, heading alignment <math>\pm 10</math> degrees, and aircraft alignment <math>\pm 3</math> ft of flight path centerline.</li> <li>● Maintains appropriate visual scan resulting in appropriately anticipating control input requirements for maneuver execution.</li> </ul>
32. Normal Approach	
<ul style="list-style-type: none"> <li>● Executes a transition to landing from a forward flight profile per FTI procedures.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Maintains desired profile <math>\pm 50</math> ft, <math>\pm 10</math> KIAS, and using 10-20 degree glideslope.</li> <li>● Accounts for winds when flying normal approach profile, initiating appropriate corrections and adjustments to arrive at the landing site.</li> <li>● Initiates smooth coordinated control inputs to establish and maintain normal approach profile.</li> <li>● Manages energy state effectively to avoid steep approaches, high rates of descent or excessive closure rates.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
33. Steep Approach	
<ul style="list-style-type: none"> <li>● Executes a transition to landing using a steeper than normal glideslope for power management and/or obstacle avoidance.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Initiates a smooth transition to enter a steep approach profile, while maintaining a safe profile that does not exceed <math>\pm 50</math> ft, <math>\pm 10</math> KIAS, and 25-45 degree glideslope en route to landing.</li> <li>● Accounts for winds and airspeed when commencing the transition, making appropriate smooth coordinated control inputs to intercept the steep approach profile.</li> <li>● Manages energy state effectively to avoid high rates of descent or excessive closure rates.</li> <li>● Effectively anticipates power requirements to arrest rates of closure and rates of descent, avoiding over controlling prior landing.</li> </ul>
34. Vertical Landing	
<ul style="list-style-type: none"> <li>● Maneuvers aircraft vertically from a hover to a landing in a smooth continuous manner.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Accounts for environmental conditions, aircraft weight and power available, and landing surface when landing.</li> <li>● Executes landing using smooth coordinated control inputs to smoothly transition to the touchdown with no sideward drift or yaw prior to touchdown.</li> <li>● Descends at a rate commensurate with conditions and skill.</li> <li>● Properly adjust control inputs throughout maneuver in response to aircraft movements and winds.</li> <li>● Maintains aircraft nose alignment within 10 degrees of desired heading.</li> <li>● Maintains aircraft position over desired landing point.</li> <li>● After touchdown, smoothly lowers collective to the full down position.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
35. Sliding Landing	
<ul style="list-style-type: none"> <li>● Executes a touchdown landing while maintaining some forward airspeed by sliding along the landing surface, minimizing power requirements.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Accounts for environmental conditions, aircraft weight and power available, and landing surface when determining landing speed.</li> <li>● Initiates landing with appropriate groundspeed for given scenario.</li> <li>● Touches down with skids in a level attitude, aligned with direction of travel.</li> <li>● Initiates smooth collective pitch reductions after landing avoiding a sudden stop, while arresting aircraft forward movement.</li> </ul>
36. No-Hover Landing	
<ul style="list-style-type: none"> <li>● Executes transition to a zero airspeed touchdown landing that does not utilize a hover in order to minimize power requirement and avoid rotor-wash related reduced visibility.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Accounts for environmental conditions, aircraft weight and power available, and landing surface when transitioning to landing profile.</li> <li>● Initiates landing using smooth coordinated control inputs to smoothly transition to the touchdown landing per NATOPS and FTI.</li> <li>● Establishes a landing profile with no sideward drift or yaw prior to touchdown, and lands in a skids level attitude.</li> <li>● Manages energy effectively to land the aircraft with minimal or no forward movement and does not result in a vertical landing from a hover.</li> </ul>
37. Maximum Load Takeoff	
<ul style="list-style-type: none"> <li>● Conduct the FTI Maximum Load Takeoff procedures.</li> <li>● Execute power limited takeoff simulating maximum aircraft loading requiring near maximum power available.</li> </ul>	<ul style="list-style-type: none"> <li>● Conducts appropriate clearing turn prior to executing maneuver, identifying traffic that could affect aircraft maneuver.</li> <li>● Accounts for wind direction and speed prior to initiating maneuver.</li> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Does not exceed assigned Ng until complete with the maneuver.</li> <li>● Safely accelerates to 40 KIAS at or below 20 ft AGL.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
38. Level Speed Change From a Hover	
<ul style="list-style-type: none"> <li>● Execute a coordinated deceleration while maintaining constant flight path and altitude.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Initiates smooth coordinated control inputs to establish a level, decelerating flight profile.</li> <li>● Decelerates to approximately 25 knots groundspeed.</li> <li>● Maintains altitude +15/-10 ft.</li> <li>● Maintains constant flight path.</li> <li>● Initiates smooth coordinated control inputs to transition to 50 KIAS.</li> <li>● Resumes transition to a forward flight profile.</li> <li>● Accounts for winds and adjusts control inputs appropriately throughout maneuver.</li> </ul>
39. Quick Stop	
<ul style="list-style-type: none"> <li>● Execute a coordinated deceleration while maintaining constant flight path and altitude.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Initiates smooth coordinated control inputs to establish a level, decelerating flight profile.</li> <li>● Maintains 50 ft AGL <math>\pm</math>10ft and decelerates to 45 KIAS.</li> <li>● Decelerate no slower than 40 KIAS.</li> <li>● Maintains constant flight path.</li> <li>● Initiates smooth coordinated control inputs to transition to 70 KIAS climb.</li> <li>● Accounts for winds and adjusts control inputs appropriately throughout maneuver.</li> </ul>
40. High-Speed Approach	
<ul style="list-style-type: none"> <li>● Conduct transition to landing beginning at higher than normal airspeed.</li> <li>● Manage energy to intercept steep approach profile to landing.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Initiates a smooth transition to reduce airspeed and intercept a steep approach profile, while maintaining a safe profile that does not exceed <math>\pm</math>50 ft, <math>\pm</math>10 KIAS until established on steep approach profile.</li> <li>● Accounts for winds when commencing the transition, adjusting inputs using smooth coordinated control inputs to intercept the steep approach profile.</li> <li>● Manages energy state effectively to avoid high rates of descent, excessive closure rates, or excessive power requirements.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
41. Hydraulic Boost Off Approach	
<ul style="list-style-type: none"> <li>● Executes flight operations with hydraulics system secured to simulate hydraulic system malfunctions.</li> <li>● Conduct transition from forward flight to hover taxi, per NATOPS and FTL.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTL.</li> <li>● Effectively transitions to a landing profile, maneuvering the aircraft while accounting for additional forces necessary to establish flight profile changes.</li> <li>● Properly assesses safe landing speed for sliding landing at an appropriate landing surface per NATOPS and FTL.</li> <li>● Executes smooth coordinate control inputs to transition to a hover taxi at a safe landing.</li> </ul>
42. Simulated Engine Failure in a Hover (Hover Cut Gun)	
<ul style="list-style-type: none"> <li>● Executes appropriate response to a simulated engine failure while in hover.</li> <li>● Executes an autorotation from the hover to safe landing.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTL.</li> <li>● Initiates timely, smooth coordinated control inputs in response to simulated engine failure initiation.</li> <li>● Upon IP initiation of the simulated engine failure, does not move collective until ready to cushion the autorotation landing.</li> <li>● Eliminates yaw and all lateral and aft drift using smooth control inputs.</li> <li>● Initiates collective pitch increase appropriately for the aircraft sink rate and remaining <math>N_R</math>, resulting in a safe autorotation landing.</li> <li>● Maintains a skid level attitude and accepts minimal forward drift at touchdown.</li> <li>● After landing, smoothly lowers collective to full down position.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
43. Simulated Engine Failure in a Hover Taxi (Taxi Cut Gun)	
<ul style="list-style-type: none"> <li>● Executes appropriate response to a simulated engine failure while in a hover taxi condition.</li> <li>● Executes an autorotation from the hover taxi to safe landing.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Initiates timely, smooth coordinated control inputs in response to simulated engine failure initiation.</li> <li>● Upon IP initiation of the simulated engine failure, does not move collective until ready to cushion the autorotation landing.</li> <li>● Eliminates yaw and all lateral and aft drift using smooth control inputs.</li> <li>● Initiates collective pitch increase appropriately for the aircraft sink rate and remaining <math>N_R</math>, resulting in a safe autorotation landing.</li> <li>● Maintains a skid level attitude at touchdown.</li> <li>● After landing, smoothly lowers collective to full down position.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
44. Power Recovery Autorotations	
<ul style="list-style-type: none"> <li>● Executes an autorotation per NATOPS, FTI, and Local SOPs and completes maneuver in a power-on condition.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Accounts for environmental conditions and aircraft weight and power available prior to executing maneuver and adheres to NATOPS, FTI, and local SOP requirements for conducting an autorotation.</li> <li>● Clears intended point of landing properly accounting for traffic, obstacles, and suitability of landing site.</li> <li>● Accounts for wind speed and direction, and adjusts flight path accordingly.</li> <li>● Verifies crew is set prior to initiating maneuver.</li> <li>● Ensures aircraft is no lower than 600 ft AGL and no slower than 70 KIAS before initiating maneuver.</li> <li>● Initiates smooth coordinated control inputs to enter and fly the maneuver maintaining balanced flight throughout.</li> <li>● Maintains <math>N_R</math> within NATOPS limits, and properly anticipates needed collective pitch changes.</li> <li>● Establishes aircraft on landing course line no lower than 200 ft AGL.</li> <li>● Executes flare and recovery commensurate with environmental conditions and aircraft weight to arrive over a safe landing area in a 0-10 knot hover taxi.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
45. Full Autorotation	
<ul style="list-style-type: none"> <li>● Executes an autorotation per NATOPS, FTI, and Local SOPs and completes maneuver in a power-off condition.</li> </ul>	<ul style="list-style-type: none"> <li>● Accounts for environmental conditions and aircraft weight and power available prior to executing maneuver and adheres to NATOPS, FTI, and local SOP requirements for initiating an autorotation.</li> <li>● Clears intended point of landing properly accounting for traffic, obstacles, and suitability of landing site.</li> <li>● Accounts for wind speed and direction, and adjusts flight path accordingly.</li> <li>● Verifies crew is set prior to initiating maneuver.</li> <li>● Ensures aircraft is no lower than 600 ft AGL and no slower than 70 KIAS before initiating maneuver.</li> <li>● Initiates smooth coordinated control inputs to enter and fly the maneuver maintaining balanced flight throughout.</li> <li>● Maintains <math>N_R</math> within NATOPS limits, and properly anticipates needed collective pitch changes.</li> <li>● Executes flare and recovery commensurate with environmental conditions and aircraft weight.</li> <li>● Executes touchdown at a safe landing area with a skids level attitude, with the aircraft aligned with the direction of travel, and having eliminated any sideward drift prior to touching down.</li> </ul>



BEHAVIOR STATEMENT	STANDARDS
46. Simulated Engine Failure at Altitude	
<ul style="list-style-type: none"> <li>● Executes appropriate response to a simulated engine failure while in forward flight.</li> <li>● Executes an autorotation, selecting and maneuvering appropriately to a safe landing area.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS, FTI, and Local SOP.</li> <li>● Initiates timely, smooth coordinated control inputs in response to simulated engine failure initiation.</li> <li>● Maintains N<sub>R</sub> within NATOPS limits throughout maneuver.</li> <li>● Executes emergency procedures per NATOPS, simulating actions as required.</li> <li>● Properly identifies and selects a safe landing area.</li> <li>● Accounts for winds when maneuvering to landing area, adjusting flight path appropriately.</li> <li>● Maneuvers aircraft to selected safe landing area while maintaining balanced flight with airspeed between 50 and 72 KIAS.</li> <li>● Terminates maneuver appropriately for given scenario. (Wave-Off, Power Recovery Autorotation, or Full Autorotation).</li> </ul>
47. Tail-Rotor Fixed Pitch in a Hover	
<ul style="list-style-type: none"> <li>● Executes a fixed pitch Tail-Rotor emergency procedure from a hover per NATOPS.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes emergency procedures per NATOPS.</li> <li>● Properly identified the emergency and initiates appropriate and timely response.</li> <li>● Executes appropriate CRM, as appropriate for the emergency.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
48. Tail-Rotor Fixed Pitch at Altitude	
<ul style="list-style-type: none"> <li>● Executes a fixed pitch Tail-Rotor emergency procedure initiated while at altitude in forward flight per NATOPS.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes emergency procedures per NATOPS.</li> <li>● Properly identified the emergency and initiates appropriate and timely response.</li> <li>● Executes appropriate CRM, as appropriate for the emergency.</li> <li>● Determines approximate power setting allowable during landing and adjusts landing profile accordingly.</li> </ul>
49. Loss of Tail-Rotor Effectiveness (LTE)	
<ul style="list-style-type: none"> <li>● Executes a loss of Tail-Rotor effectiveness emergency procedure per NATOPS.</li> </ul>	<ul style="list-style-type: none"> <li>● Demonstrates knowledge of the five contributing factors in loss of Tail-Rotor effectiveness per NATOPS.</li> <li>● Demonstrates knowledge of methods to avoid LTE.</li> <li>● Executes emergency procedures per NATOPS.</li> <li>● Properly identified the emergency and initiates appropriate and timely response.</li> <li>● Executes appropriate CRM, as appropriate for the emergency.</li> </ul>
50. Complete Loss of Tail-Rotor Thrust	
<ul style="list-style-type: none"> <li>● Executes a loss of Tail-Rotor thrust emergency procedure per NATOPS.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes emergency procedures per NATOPS.</li> <li>● Properly identified the emergency and initiates appropriate and timely response.</li> <li>● Executes appropriate CRM, as appropriate for the emergency.</li> <li>● Maintains airspeed above min rate of descent in an autorotation until the flare.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
<b><u>Logistics Stage CTS Items</u></b>	
51. Power Checks	
<ul style="list-style-type: none"> <li>● Verify aircraft power available for the mission.</li> <li>● Compare results to pre-flight performance calculations to ensure sufficient power is available to continue mission.</li> </ul>	<ul style="list-style-type: none"> <li>● Calculates expected power requirements prior to flight.</li> <li>● Validates actual aircraft loading and environmental conditions match those expected during pre-flight calculations. If they do not, reassesses power requirement for comparison to actual power available.</li> <li>● Checks aircraft power available per NATOPS and FTI procedures.</li> <li>● Exercises effective CRM with aircrew to complete power checks.</li> </ul>
52. Landing Zone (LZ) Evaluation	
<ul style="list-style-type: none"> <li>● Conducts landing zone evaluation in pre-flight and/or in-flight assessing suitability for landing and executing safe landing to appropriate landing zone.</li> </ul>	<ul style="list-style-type: none"> <li>● Demonstrates knowledge of pre-flight and in-flight LZ evaluation procedures per NATOPS and FTIs.</li> <li>● Demonstrates knowledge of LZ types, surface and lighting types, and safety considerations per FTI.</li> <li>● Conducts through landing zone pre-flight planning per NATOPS, FTIs, and local SOPs and presents information in mission briefs, as required.</li> <li>● Executes LZ evaluation per NATOPS, FTIs, and local procedures.</li> <li>● Properly accounts for environmental conditions, aircraft weight and power, identifies safety hazards and obstacles, and selects an appropriate approach and Wave-Off path for the LZ.</li> <li>● Executes appropriate and effective CRM throughout LZ evaluation.</li> <li>● Maintains situational awareness throughout in-flight LZ evaluation ensuring aircraft remains safe from traffic and obstacles and does not exceed NATOPS limits or violate CNAF M3710.7, local SOPs, or FAR/AIM requirements.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
53. Confined Area Operations	
<ul style="list-style-type: none"> <li>● Conduct flight operations into and out of areas with confined landing and operating areas with obstacles in close proximity.</li> <li>● Account for transitions in and out of ground effect and the resulting changes in power available and power required.</li> <li>● Exercise CRM working with Aircrew during confined area operations.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Exercises effective CRM with aircrew to conduct confined area operations.</li> <li>● Initiates appropriate ICS/Radio calls per local SOPs.</li> <li>● Accounts for environmental conditions and aircraft weight and power available when preparing for operations.</li> <li>● Accounts for wind effect and obstacle locations when conducting takeoffs and landings.</li> <li>● Properly assesses landing area per FTI procedures.</li> <li>● Maintains a steep approach profile for entry into and landing in the confined area.</li> <li>● Maintains safe flight profile for entry and departures from confined areas, maintaining a minimum of 10 ft of obstacle clearance.</li> <li>● Properly assesses Wave-Off options for the area of operations.</li> <li>● Initiates smooth coordinated control inputs, minimizing power required during execution of confined area operations.</li> </ul>
54. Pinnacle Operations	
<ul style="list-style-type: none"> <li>● Conduct aircraft operations using an elevated landing area or surface (IE: Building, Ship, terrain peak/hilltop).</li> <li>● Account for transitions into and out of ground effect and the resulting changes in power available and power required.</li> <li>● Exercise CRM working with Aircrew during pinnacle operations.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Exercises effective CRM with aircrew to conduct pinnacle operations.</li> <li>● Initiates appropriate ICS/Radio calls per local SOPs.</li> <li>● Accounts for environmental conditions and aircraft weight and power available when conducting takeoffs and landings.</li> <li>● Properly assesses pinnacle landing site per FTI procedures.</li> <li>● Maintains the assigned approach profile for landing on the pinnacle.</li> <li>● Properly assesses Wave-Off options for the area of operations.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
55. Dynamic Landing Approaches	
<ul style="list-style-type: none"> <li>● Executes transition to landing from various locations relative to the landing zone while travelling at en route speeds utilizing energy management principles to maneuver to intercept the landing profile.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Initiates a smooth transition to execute a 360 degree turn, while maintaining a safe profile that does not exceed <math>\pm 25</math>ft and <math>\pm 10</math> KIAS.</li> <li>● Accounts for winds and airspeed when commencing the transition, making appropriate smooth coordinated control inputs to intercept the landing profile.</li> <li>● Manages energy state effectively, maintaining positive g-loading, to avoid high rates of descent, excessive closure rates, or excessive power requirements.</li> </ul>
56. External Load Operations	
<ul style="list-style-type: none"> <li>● Conduct logistics flight operations carrying a load via external load attachment.</li> <li>● Exercises CRM with aircrew in the conduct of external load operations.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Exercises effective CRM with aircrew to conduct external load operations.</li> <li>● Initiates appropriate ICS/Radio calls per local SOPs.</li> <li>● Accounts for environmental conditions and aircraft weight and power available with and without an external load when conducting operations.</li> <li>● Properly responds to aircrew verbal directions when establishing hover over load hookup and drop site.</li> <li>● Notes the altitude on the RADALT at “tension on.”</li> <li>● Maintains an altitude at or above “Tension On” altitude plus 5 ft AGL unless directed to descend by aircrew.</li> <li>● Intercepts approach profile that does not exceed <math>\pm 50</math> ft, and <math>\pm 10</math> KIAS of the desired flight path.</li> <li>● Anticipates power requirements, and initiates control inputs appropriately to avoid high rates of closure, power required exceeding power available, and high rates of descent.</li> <li>● Properly assesses Wave-Off options and jettison considerations for the area of operations.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
<b><u>Instrument Stage CTS Items</u></b>	
57. Instrument Takeoff	
<ul style="list-style-type: none"> <li>● Transitions to forward flight without reference to a visible horizon.</li> <li>● Conducts takeoff per FTI and NATOPS procedures.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes procedures per NATOPS and FTI.</li> <li>● Maintains takeoff torque <math>\pm 5</math> percent.</li> <li>● Smoothly accelerates to appropriate climb speed.</li> <li>● Maintains nose alignment with runway/takeoff heading.</li> <li>● Climbs at 70 KIAS <math>\pm 5</math> knots.</li> </ul>
58. Level Speed Change (LSC) – Instruments	
<ul style="list-style-type: none"> <li>● Executes a level transition between airspeeds, as required, while maintaining heading and altitude in balanced flight.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Initiates smooth coordinated control inputs to establish appropriate and consistent deceleration/acceleration to achieve specified airspeed(s).</li> <li>● Maintains constant heading <math>\pm 5</math> degrees, constant altitude <math>\pm 50</math> ft, and does not overshoot desired indicated airspeed by more than 5 KIAS.</li> <li>● Maintains balanced flight throughout maneuver.</li> <li>● Stabilizes, momentarily, at each airspeed checkpoint, then smoothly transitions, as required.</li> <li>● Provides maneuver complete report upon completion of maneuver.</li> </ul>
59. Vertical S-1 Pattern	
<ul style="list-style-type: none"> <li>● Executes a coordinated transition to descend/climb for (one) 1 minute and 500 ft of altitude change followed by transitioning back to the starting altitude while maintaining constant heading and airspeed in balanced flight.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Initiates smooth coordinated control inputs to establish appropriate rate of climb/descent.</li> <li>● Maintains constant heading <math>\pm 5</math> degrees, constant airspeed <math>\pm 5</math> KIAS, and VSI at 500 FPM <math>\pm 200</math> FPM.</li> <li>● Maintains balanced flight throughout maneuver.</li> <li>● Checks progress of climb/descent every 15 seconds and makes appropriate control inputs to adjust parameters.</li> <li>● Completes maneuver <math>\pm 75</math>ft of desired altitude.</li> <li>● Provides maneuver complete report upon completion of maneuver.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
60. Turn Pattern - Instruments	
<ul style="list-style-type: none"> <li>● Executes coordinated turns at various angles of bank for specific amounts of heading change while maintaining constant altitude and airspeed in balanced flight.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Initiates smooth coordinated control inputs to establish appropriate angle of bank.</li> <li>● Maintains constant angle of bank <math>\pm 5</math> degrees, constant airspeed <math>\pm 5</math> KIAS, constant altitude <math>\pm 75</math> ft, and rollout of turns <math>\pm 5</math> degrees of desired heading.</li> <li>● Maintains balanced flight throughout maneuver.</li> <li>● Initiates reversal using smooth coordinated control inputs at <math>\frac{1}{2}</math> the angle of bank in degrees of heading prior to the desired heading.</li> <li>● Provides maneuver complete report upon completion of maneuver.</li> </ul>
61. Oscar Pattern	
<ul style="list-style-type: none"> <li>● Executes a coordinated transition requiring altitude change while doing a standard rate turn for 2 min, resulting in 1000ft of altitude change and 360 degrees of heading change, followed by a transition back to starting heading and altitude while maintaining constant airspeed in balanced flight.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Initiates smooth coordinated control inputs to establish a standard rate of turn and desired rate of climb/descent.</li> <li>● Maintains a standard rate turn <math>\pm \frac{1}{2}</math> needle width, constant airspeed <math>\pm 5</math> KIAS, and VSI at 500 FPM <math>\pm 200</math> FPM.</li> <li>● Maintains balanced flight throughout maneuver.</li> <li>● Checks progress of climb/descent every 15 seconds and makes appropriate control inputs to adjust parameters.</li> <li>● Completed maneuver <math>\pm 75</math> ft of desired altitude and <math>\pm 10</math> degrees of desired heading.</li> <li>● Provides maneuver complete report upon completion of maneuver.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
62. Partial Panel, Directional Gyro Failure	
<ul style="list-style-type: none"> <li>● Execute turns using failed directional gyro procedures while maintaining all other instrument parameters.</li> <li>● Secures equipment as necessary to ensure magnetic compass accuracy.</li> <li>● Uses magnetic compass to fly assigned/desired headings.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes magnetic compass turn procedures per FTI.</li> <li>● Executes appropriate NATOPS procedures in response to failed direction gyro.</li> <li>● Executes “Timed Turn” or “Lead Point” Technique to initiate required changes of heading.</li> <li>● Correctly determines direction of turn, and appropriate time/rollout lead heading for turn.</li> <li>● Initiates smooth coordinated control inputs to begin turn.</li> <li>● Maintains balanced flight throughout maneuver.</li> <li>● Completes turns maintaining altitude <math>\pm 75</math> ft, airspeed <math>\pm 5</math> KIAS, and arriving at <math>\pm 15</math> degrees of desired heading.</li> <li>● Provides maneuver complete report upon completion of maneuver.</li> </ul>
63. Partial Panel, Attitude Gyro Failure	
<ul style="list-style-type: none"> <li>● Execute instrument flight using failed attitude gyro procedures while maintaining assigned instrument parameters using remaining flight instruments for situational awareness.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes instrument flight per NATOPS and FTI.</li> <li>● Executes appropriate NATOPS procedures in response to failed attitude gyro.</li> <li>● Maintains balanced flight throughout maneuver.</li> <li>● Maintains smooth and positive control of the aircraft.</li> <li>● Maintains heading <math>\pm 15</math> degrees, altitude <math>\pm 150</math> ft, and airspeed <math>\pm 15</math> KIAS of assigned parameters.</li> <li>● Does not exceed standard-rate turns.</li> <li>● Remains oriented to current flight parameters and aircraft location.</li> </ul>



BEHAVIOR STATEMENT	STANDARDS
64. Unusual Attitude Recovery	
<ul style="list-style-type: none"> <li>● Executes a recovery from an unusual attitude establishing the aircraft on a desired heading, altitude, and airspeed.</li> <li>● Properly identifies unusual attitude situation and required actions.</li> <li>● Initiates recovery using smooth control inputs.</li> </ul>	<ul style="list-style-type: none"> <li>● Execute maneuver per NATOPS and FTL.</li> <li>● Recognizes deviations and/or unusual attitude and executes appropriate procedures for instrument panel condition (full or partial).</li> <li>● Initiates verbal communication or assumes controls as required for given scenario, per established NATOPS flight brief parameters.</li> <li>● Maintains smooth and positive aircraft control.</li> <li>● Does not allow aircraft to decelerate below 40 KIAS.</li> <li>● Provides maneuver complete report upon completion of maneuver.</li> </ul>
65. Unusual Attitude Recovery-Partial Panel	
<ul style="list-style-type: none"> <li>● Executes a recovery from an unusual attitude establishing the aircraft on a desired heading, altitude, and airspeed.</li> <li>● Properly identifies unusual attitude situation and required actions.</li> <li>● Initiates recovery using smooth control inputs.</li> </ul>	<ul style="list-style-type: none"> <li>● Execute maneuver per NATOPS and FTL.</li> <li>● Recognizes deviations and/or unusual attitude and executes appropriate procedures for instrument panel condition (full or partial).</li> <li>● Initiates verbal communication or assumes controls as required for given scenario, per established NATOPS flight brief parameters.</li> <li>● Maintains smooth and positive aircraft control.</li> <li>● Does not allow aircraft to decelerate below 40 KIAS.</li> <li>● Provides maneuver complete report upon completion of maneuver.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
66. Intercepts	
<ul style="list-style-type: none"> <li>● Executes the intercept of a radial or bearing using instrument navigation techniques.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes intercept per the FTI.</li> <li>● Determines the correct category for the required intercept and selects an appropriate method for executing the intercept.</li> <li>● Identifies present position bearing/radial and correctly determines the direction of turn required and desired initial heading and/or needle position.</li> <li>● Leads intercept turn appropriately and intercepts within <math>\pm 5</math> degrees of bearing, or within <math>\pm 2</math> radials of desired bearing/radial.</li> <li>● Remains oriented based upon RMI needles and is able to recognize position and deviations based on RMI reference.</li> <li>● Does not rely solely on HSI as reference for intercepts.</li> <li>● Executes initial turns and intercept maneuvering in a timely manner commensurate with skills.</li> </ul>
67. TACAN Point-to-Point Navigation	
<ul style="list-style-type: none"> <li>● Executes navigation from one TACAN radial/DME location to a different TACAN radial/DME location using a direct track.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes point-to-point navigation per the FTI.</li> <li>● Able to describe procedures for point-to-point navigation as defined by the FTI.</li> <li>● Identifies present position and is able to describe point-to-point navigation destination relative to current location.</li> <li>● Correctly determines an effective no-wind heading and applies reasonable wind corrections to initiate initial navigation to destination.</li> <li>● Re-evaluates aircraft track and adjusts the heading as required during transit.</li> <li>● Arrive at assigned destination <math>\pm 5</math> radials and <math>\pm 0.5</math> DME of the assigned TACAN radial/DME location.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
68. Holding	
<ul style="list-style-type: none"> <li>● Executes instrument holding using appropriate reference system for the assigned holding pattern.</li> <li>● Executes correct entry into holding per published procedures or holding assignment.</li> </ul>	<ul style="list-style-type: none"> <li>● Enters and maintains holding per CNAF M-3710.7, NATOPS, FTI, INAV WB, DOD FLIP, Instrument NATOPS, and applicable FAR/AIM procedures and guidance.</li> <li>● Executes instrument navigation from present position to holding location.</li> <li>● Determines correct entry method based on current location and holding pattern entry direction.</li> <li>● Executes holding entry correctly, turning in the correct directions, and remaining oriented during entry.</li> <li>● Initiates smooth coordinated control inputs to establish holding speed <math>\pm 5</math> KIAS.</li> <li>● Executes standard rate turns for holding turns, making appropriate adjustments for winds.</li> <li>● Maintains awareness of Expected Further Clearance time and is prepared for actions upon departing holding.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
69. Non-Precision Approach	
<ul style="list-style-type: none"> <li>● Executes an instrument approach using non-precision instruments and procedures.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes approaches per CNAF M-3710.7, NATOPS, FTI, INAV WB, DOD FLIP, Instrument NATOPS, and applicable FAR/AIM procedures and guidance.</li> <li>● Exercises appropriate CRM during the execution of the approach.</li> <li>● Obtains appropriate information, and accounts for current weather, winds, runway options, and available approaches when selecting an approach.</li> <li>● Conducts an approach brief prior to commencing an approach.</li> <li>● Once cleared for the approach and prior to final approach course, slows to 90 KIAS <math>\pm 5</math> KIAS, and maintains assigned altitude <math>\pm 75</math> ft.</li> <li>● Initiates timing <math>\pm 5</math> seconds of required start and maintains awareness of timing throughout the approach, as required.</li> <li>● Maintains <math>\pm 5</math> KIAS of approach speed, and remains on final approach course <math>\pm 2</math> radials for VOR/TACAN procedures, <math>\pm 5</math> degrees for NDB procedures, and/or <math>\pm 2</math> dots for RNAV/Localizer procedures from FAF to MAP.</li> <li>● Descends no lower than MDA +50/-0 ft until at MAP or until cleared to descend (i.e. by tower controller, or until visual the runway for non-towered airfields).</li> <li>● Executes appropriate transition upon reaching the MAP.</li> <li>● Transitions to land, correctly selecting a flight path and maneuvering the aircraft safely to intercept the landing profile.</li> <li>● During a GCA, complies with controller instructions in a timely manner.</li> <li>● Properly identifies the need to execute a missed approach and executes the correct missed approach procedure for the approach being flown or as assigned.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
70. Precision Approach	
<ul style="list-style-type: none"> <li>● Executes an instrument approach using precision instruments and procedures.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes approaches per CNAF M-3710.7, NATOPS, FTI, INAV WB, DOD FLIP, Instrument NATOPS, and applicable FAR/AIM procedures and guidance.</li> <li>● Exercises appropriate CRM during the execution of the approach.</li> <li>● Obtains appropriate information, and accounts for current weather, winds, runway options, and available approaches when selecting an approach.</li> <li>● Conducts an approach brief prior to commencing an approach.</li> <li>● Once cleared for the approach and prior to final approach course, slows to 90 KIAS <math>\pm</math>5 KIAS, and maintains assigned altitude <math>\pm</math>75 ft.</li> <li>● Maintains <math>\pm</math> 5 KIAS of approach speed, and remains <math>\pm</math>2 dots deviation for an ILS approach.</li> <li>● Executes appropriate transition upon reaching the DH/DA.</li> <li>● Transitions to land, correctly selecting a flight path and maneuvering the aircraft safely to intercept the landing profile.</li> <li>● During a GCA, complies with controller instructions in a timely manner.</li> <li>● Properly identifies the need to execute a missed approach and executes the correct missed approach procedure for the approach being flown or as assigned.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
71. Failed Directional Gyro Approaches	
<ul style="list-style-type: none"> <li>● Executes an instrument approach with a failed directional gyro, utilizing alternate means to maintain desired heading/track.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes approaches per CNAF M-3710.7, NATOPS, FTI, INAV WB, DOD FLIP, Instrument NATOPS, and applicable FAR/AIM procedures and guidance.</li> <li>● Executes appropriate NATOPS procedures in response to the failed directional gyro.</li> <li>● Exercises appropriate CRM during the execution of the approach.</li> <li>● Obtains appropriate information, and accounts for current weather, winds, runway options, and available approaches when selecting an approach.</li> <li>● Identifies desired alternative options to conduct approach with failed directional gyro (i.e.: No-Gyro vectors, Mag Compass Turns, etc)</li> <li>● Conducts an approach brief prior to commencing an approach.</li> <li>● Once cleared for the approach and prior to final approach course, slows to 90 KIAS <math>\pm</math> 5 KIAS, and maintains assigned altitude <math>\pm</math>75 ft.</li> <li>● Initiates timing <math>\pm</math>5 seconds of required start and maintains awareness of timing throughout the approach, as required.</li> <li>● For TACAN/VOR failed gyro begins timing within <math>\pm</math>5 sec (as required), maintains <math>\pm</math> 10 KIAS of approach speed, and remains on final approach course <math>\pm</math>5 radials from IAF to MAP.</li> <li>● Descends no lower than MDA +50/-0 ft until at MAP or until cleared to descend (i.e. by tower controller, or until visual the runway for non-towered airfields).</li> <li>● Transitions to land, correctly selecting a flight path and maneuvering the aircraft safely to intercept the landing profile.</li> <li>● During a GCA, complies with controller instructions in a timely manner.</li> <li>● Does not exceed the turn rate requirement for the segment of the approach being conducted (i.e. <math>\frac{1}{2}</math> or full SRT).</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
71. Failed Directional Gyro Approaches (cont.)	
	<ul style="list-style-type: none"> <li>● Properly identifies the need to execute a missed approach and executes the correct missed approach procedure for the approach being flown or as assigned.</li> </ul>
72. Missed Approach	
<ul style="list-style-type: none"> <li>● Executes instrument flight maneuvers to safely transition away from the terminal environment following an instrument approach.</li> <li>● Executes procedures assigned or required following an instrument approach.</li> <li>● Exercises appropriate actions when a missed approach is well before arriving at, or after departing the MAP/DH/DA.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes a missed approach per CNAF M-3710.7, NATOPS, FTI, INAV WB, DOD FLIP, Instrument NATOPS, and applicable FAR/AIM procedures and guidance.</li> <li>● Properly identifies the need to execute a missed approach and executes the correct missed approach procedure for the approach being flown or as assigned the controlling agency.</li> <li>● Exercises appropriate CRM during the execution of the missed approach.</li> <li>● Arrests rate of descent, and maintains altitude or climbs in a timely manner.</li> <li>● Initiates smooth coordinated control inputs to establish missed approach procedure flight profile.</li> <li>● Determines appropriate actions following missed approach, and makes appropriate requests to IP and/or controlling agency.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
73. Modified Normal Approach	
<ul style="list-style-type: none"> <li>● Executes a transition to landing from a non-standard pattern arrival path, intercepting the normal approach profile prior to landing.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Intercepts normal approach profile prior to landing, while maintaining a safe profile that does not exceed <math>\pm 50</math> ft, <math>\pm 10</math> KIAS, and 10-20 degrees glideslope of the desired flight path to landing.</li> <li>● Accounts for winds, airspeed, and altitude when commencing the transition to landing and makes appropriate smooth coordinated control inputs to intercept the normal approach profile.</li> <li>● Manages energy state effectively to avoid steep approaches, high rates of descent or excessive closure rates.</li> <li>● Properly assesses traffic, orientation to landing site, obstacles, and winds when determining how to maneuver to intercept the normal approach profile.</li> <li>● Does not exceed any NATOPS limit or accept any unsafe condition when executing a modified normal approach.</li> </ul>
74. Instrument Autorotation	
<ul style="list-style-type: none"> <li>● Execute an autorotation in IMC after a simulated engine failure.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS, FTI, and Local SOP.</li> <li>● Initiates timely, smooth coordinated control inputs in response to simulated engine failure initiation.</li> <li>● Maintains <math>N_R</math> within NATOPS limits throughout maneuver.</li> <li>● Maintains airspeed per FTI <math>\pm 10</math> knots and balanced flight.</li> <li>● Turns in the direction of last known winds, as appropriate.</li> <li>● Executes emergency procedures per NATOPS, simulating actions, as required.</li> <li>● Executes terminal phase of autorotation commensurate with conditions experienced upon reaching 200 ft and per FTI procedures.</li> </ul>



BEHAVIOR STATEMENT	STANDARDS
<b><u>Navigation Stage CTS Items</u></b>	
75. VFR Navigation	
<ul style="list-style-type: none"> <li>● Executes in-flight navigation in VMC using visual references, checkpoints, and applicable maps and charts.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes visual navigation per CNAF M-3710.7, NATOPS, FTI, DOD FLIPs, and applicable FAR/AIM procedures and guidance.</li> <li>● Exercises appropriate and effective CRM during the execution visual navigation.</li> <li>● Obtains appropriate flight related information, and accounts for weather, winds, airspace, obstacles, landing areas and airports when planning the navigation route.</li> <li>● Prepares a VFR navigation chart with appropriate route, markings, and information on the chart per FTI and Local SOPs.</li> <li>● Prepares an appropriate VFR flight plan for route of flight, as required by IP or and/or CNAF M-3710.7, FAR/AIM, and Local SOPs.</li> <li>● Provides mission brief that includes a detailed visual navigation route brief that specifically addresses airspace boundaries, route checkpoints, obstacles and hazards, fuel considerations, possible diverts along route of flight, and destination information, and additional information as required by FTI, IP or local SOP.</li> <li>● Demonstrates detailed knowledge of chart symbology, airspace considerations, and route information.</li> <li>● Executes effective navigation remaining aware of present position throughout the flight and adjusting course and/or route of flight as appropriate in response to weather, obstacles, fuel considerations, and/or emergencies.</li> <li>● Executes appropriate procedures to enter terminal environment utilizing appropriate radios calls and pattern entries per FAR/AIM and CNAF M-3710.7, as required.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
76. TERF Navigation	
<ul style="list-style-type: none"> <li>● Executes TERF Navigation using low level TERF profile with the aid of charts and graphics using visual reference to terrain and terrain features, manmade objects, and aircraft systems, as required.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes TERF navigation per CNAF M-3710.7, NATOPS, FTI, and applicable FAR/AIM procedures and guidance.</li> <li>● Exercises appropriate and effective CRM during the execution of TERF navigation.</li> <li>● Obtains appropriate flight related information, and accounts for weather, winds, airspace, obstacles, landing areas and airports when planning the navigation route.</li> <li>● Prepares a chart per FTI procedures with all required markings and information visible and functionally usable in-flight.</li> <li>● Prepares and provides mission smart-pack per FTI, and effectively uses smart-pack during flight to maintain situational awareness.</li> <li>● Demonstrates detailed knowledge of the planned route, terrain and terrain features, obstacles, and appropriate navigation aids (i.e. limiting features, funneling features, etc) along the route of flight.</li> <li>● Executes effective navigation remaining aware of present position throughout the flight and adjusts course and/or route of flight as appropriate in response to weather, obstacles, fuel considerations, and/or emergencies.</li> <li>● Able to accurately associate visual references, including terrain and terrain features, with navigation chart symbology to remain oriented along route of flight.</li> <li>● Executes appropriate procedures to enter terminal environment utilizing appropriate radios calls and pattern entries per FTI, FAR/AIM and CNAF M-3710.7, and Local SOPs, as required.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
77. Timing	
<ul style="list-style-type: none"> <li>● Plans and maintains awareness of mission timing required to achieve mission timeline making adjustments as required.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes procedures per current FTI.</li> <li>● Maintains route timing awareness and makes appropriate adjustments to airspeed, route, and/or authorized ETA to remain on mission timeline.</li> <li>● Exercises appropriate and effective CRM during execution to maintain timing awareness and remain on mission timeline.</li> <li>● Completes timed route at ETA <math>\pm 2</math> min, unless authorized to deviate by IP.</li> <li>● Effectively employs aircraft systems/timers in-flight to maintain timing awareness and to remain on mission timeline.</li> </ul>
<b><u>Ship/SAR Stage CTS Items</u></b>	
78. Low-Level Basic Instruments (LLBI) – Level Speed Change	
<ul style="list-style-type: none"> <li>● Executes a level transition between airspeeds, as required, while maintaining heading and altitude in balanced flight at low altitude.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Initiates smooth coordinated control inputs to establish appropriate and consistent deceleration/acceleration to achieve specified airspeed(s).</li> <li>● Maintains constant heading <math>\pm 10</math> degrees, constant altitude <math>\pm 50</math> ft, and does not overshoot desired indicated airspeed by more than 5 KIAS.</li> <li>● Maintains balanced flight throughout maneuver.</li> <li>● Stabilizes, momentarily, at each airspeed checkpoint, then smoothly transitions, as required.</li> <li>● Provides maneuver complete report upon completion of maneuver.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
79. Low-Level Basic Instruments (LLBI) – Turn Pattern	
<ul style="list-style-type: none"> <li>● Executes coordinated turns at various angles of bank for specific amounts of heading change while maintaining constant altitude and airspeed in balanced flight at low altitude.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Initiates smooth coordinated control inputs to establish appropriate angle of bank.</li> <li>● Maintains constant angle of bank <math>\pm 5</math> degrees, constant airspeed <math>\pm 10</math> KIAS, constant altitude <math>\pm 50</math> ft, and rollout of turns <math>\pm 5</math> degrees of desired heading.</li> <li>● Maintains balanced flight throughout maneuver.</li> <li>● Initiates reversal using smooth coordinated control inputs at <math>\frac{1}{2}</math> the angle of bank in degrees of heading prior to the desired heading.</li> <li>● Provides maneuver complete report upon completion of maneuver.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
80. Low-Level Basic Instruments (LLBI) – Stab Off/Stab-Off Partial Panel	
<ul style="list-style-type: none"> <li>● Conduct LLBI maneuvers with automatic flight control system (AFCS) secured with full panel and partial panel scans, as appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuvers per NATOPS and FTI procedures.</li> <li>● Recognizes change in AFCS condition, and initiates appropriate actions per NATOPS and FTI.</li> <li>● Accounts for AFCS changes and initiates smooth coordinated control inputs to maintain control of the aircraft.</li> <li>● Maintains balanced flight throughout maneuver.</li> <li>● For LLBI level speed change, initiates smooth coordinated control inputs to establish appropriate and consistent deceleration/acceleration to achieve specified airspeed(s).</li> <li>● For LLBI level speed change, maintains heading <math>\pm 10</math> degrees, and altitude <math>\pm 50</math> ft.</li> <li>● For LLBI level speed change, stabilizes, momentarily, at each airspeed checkpoint, then smoothly transitions, as required.</li> <li>● For LLBI turn pattern, maintains altitude <math>\pm 50</math> ft and airspeed <math>\pm 10</math> KIAS as required.</li> <li>● For LLBI turn pattern, initiates smooth coordinated control inputs to establish appropriate angle of bank.</li> <li>● For LLBI turn pattern, initiates reversal using smooth coordinated control inputs at <math>\frac{1}{2}</math> the angle of bank in degrees of heading prior to the desired heading.</li> <li>● Transitions from full panel to partial panel instrument scan while maintaining flight parameters during maneuvers.</li> <li>● Provides maneuver complete report upon completion of maneuver.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
81. Low-Level Basic Instruments (LLBI) – Partial Panel	
<ul style="list-style-type: none"> <li>● Execute LLBI level speed change and turn patterns using failed directional gyro procedures while maintaining all other instrument parameters.</li> <li>● Secures equipment as necessary to ensure magnetic compass accuracy.</li> <li>● Uses magnetic compass to fly assigned/desired headings.</li> <li>● Execute LLBI level speed change and turn patterns using failed attitude gyro procedures while maintaining assigned parameters using remaining flight instruments for situational awareness.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes instrument flight per NATOPS and FTI.</li> <li>● Executes magnetic compass turn procedures per FTI.</li> <li>● Executes appropriate NATOPS procedures in response to failed direction and/or attitude gyro.</li> <li>● Initiates smooth coordinated control inputs to begin turns.</li> <li>● Maintains smooth and positive control of the aircraft.</li> <li>● For failed attitude gyro, does not exceed standard-rate turns.</li> <li>● For LLBI turn patterns, executes “Timed Turn” or “Lead Point” Technique to initiate required changes of heading.</li> <li>● Initiates smooth coordinated control inputs to begin turns.</li> <li>● For LLBI turn patterns, completes turns maintaining altitude <math>\pm 50</math> ft, airspeed <math>\pm 10</math> KIAS, and arriving at <math>\pm 15</math> degrees of desired heading.</li> <li>● For LLBI level speed change, maintains heading <math>\pm 10</math> degrees, and altitude <math>\pm 50</math> ft.</li> <li>● Maintains balanced flight throughout maneuver.</li> <li>● Provides maneuver complete report upon completion of maneuver.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
82. Search and Rescue Patterns	
<ul style="list-style-type: none"> <li>● Execute search and rescue patterns as a part of a scenario utilizing appropriate standard SAR search patterns.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuvers per NATOPS, FTI, local SOP, and service specific search and rescue related instructions.</li> <li>● Determines and executes the appropriate search pattern based upon the provided scenario.</li> <li>● Executes appropriate and effective CRM throughout the scenario.</li> <li>● Initiates SAR pattern using smooth coordinated control inputs maintaining awareness of location relative to the search pattern.</li> </ul>
83. Wind-line Rescue Pattern	
<ul style="list-style-type: none"> <li>● Executes rescue pattern to place aircraft into the wind-line in a position to effect a survivor recovery.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuvers per NATOPS, FTI, local SOP, and service specific search and rescue related instructions.</li> <li>● Executes appropriate and effective CRM throughout the scenario.</li> <li>● Calculates appropriate time correction based upon last known winds for the outbound leg.</li> <li>● Determines the required turn and initiates landing checks prior to pattern entry.</li> <li>● Rolls out of turn within 30 degrees <math>\pm</math>5 degrees of desired heading.</li> <li>● Initiates smooth coordinated control inputs and maintains balanced flight throughout the maneuver.</li> </ul>
84. Response to LSE	
<ul style="list-style-type: none"> <li>● Executes commands provided by LSE via hand and arm signals.</li> <li>● Recognizes and properly adheres to all mandatory signals.</li> </ul>	<ul style="list-style-type: none"> <li>● Execute maneuvers directed by LSE per NATOPS, FTI, and Local SOPs.</li> <li>● Demonstrates knowledge of signals' meaning, and executed appropriate actions in response to LSE signals.</li> <li>● Recognizes and adheres to all mandatory signals.</li> <li>● Initiates smooth coordinated control inputs ensuring safe aircraft operation when in close proximity to LSE.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
85. Shipboard Instrument Approach	
<ul style="list-style-type: none"> <li>● Executes an instrument approach to an air capable ship using TACAN, NDB, or ASR procedures.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes approaches per NATOPS, and FTI.</li> <li>● Executes appropriate and effective CRM throughout the approaches.</li> <li>● Conducts appropriate check-in with ship.</li> <li>● Properly selects appropriate NAVAIDs for approach being flown.</li> <li>● Utilizes the RADALT as the primary altitude reference throughout the approach.</li> <li>● Initiates smooth coordinated control inputs throughout the approach and maintains altitude <math>\pm 50</math> ft and airspeed <math>\pm 5</math> KIAS.</li> <li>● Maintains balanced flight throughout.</li> <li>● Maintains <math>\pm 2</math> radials, <math>\pm 5</math> degrees of bearing, or <math>\pm 5</math> degrees of heading, as required.</li> <li>● Executes appropriate transition upon completion of the approach (i.e. landing or missed approach).</li> </ul>
86. Emergency Low Visibility Approach (ELVA)	
<ul style="list-style-type: none"> <li>● Executes an instrument approach to an air capable ship when weather is below instrument approach minimums and landing is necessary.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Appropriately determines the need to execute an ELVA due to weather.</li> <li>● Properly initiates and responds to radio calls per FTI.</li> <li>● Complies with approach controllers instructions.</li> <li>● Initiates smooth coordinated control inputs throughout the maneuver.</li> <li>● Maintains balanced flight throughout.</li> <li>● Maintains altitude <math>\pm 50</math> ft AGL, airspeed <math>\pm 5</math> KIAS.</li> <li>● Executes appropriate transition upon completion of the approach (i.e. landing or missed approach).</li> <li>● If executing missed approach, correctly navigates and complies with missed approach procedures.</li> </ul>



BEHAVIOR STATEMENT	STANDARDS
87. Shipboard Landings	
<ul style="list-style-type: none"> <li>● Executes VMC shipboard landings using normal shipboard traffic patterns, maintaining appropriate intervals and using appropriate radio calls.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes procedures per NATOPS and FTI.</li> <li>● Recognizes, responds to, and provides appropriate signals and radio calls per FTI.</li> <li>● Acknowledges or reports three indications of climb and positive airspeed indication during takeoff.</li> <li>● Initiates smooth coordinated control inputs throughout maneuvers while maintaining balanced flight.</li> <li>● Properly identifies and remains oriented to assigned landing spot and landing pattern to be used.</li> <li>● Maintains altitude <math>\pm 50</math> ft, airspeed <math>\pm 5</math> KIAS, and final approach course <math>\pm 10</math> degrees.</li> <li>● Sets appropriate lighting configuration during landing checks.</li> <li>● Intercepts line-up line with 0.5 DME of final, 200 ft AGL altitude and 50 KIAS airspeed when turning to final for landings.</li> <li>● Maintains constant glideslope on final for landings.</li> <li>● Recognizes the need for, and properly executes a Wave-Off per NATOPS and FTI procedures.</li> </ul>
88. Shipboard Landing - Wave-Off	
<ul style="list-style-type: none"> <li>● Aborts a transition to landing or a descent using NATOPS and FTI procedures during a shipboard landing.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS, FTI, and Local SOPs.</li> <li>● Appropriately responds to Wave-Off signals/calls.</li> <li>● Makes appropriate Radio/ICS calls per NATOPS, FTIs, and Local SOPs.</li> <li>● Ensures throttle is in the full open position.</li> <li>● Initiates smooth coordinated control inputs, increasing collective smoothly without exceeding NATOPS limits.</li> <li>● Ensures safe flight path throughout the maneuver, remaining prepared for an emergency landing in the event of a power loss.</li> <li>● Expeditiously arrests rate of descent and transitions to a positive rate of climb while maintaining a 70 KIAS attitude in balanced flight.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
<b><u>Formation Stage CTS Items</u></b>	
89. Formation Takeoffs	
<ul style="list-style-type: none"> <li>● Conducts transition to forward flight while in formation and while maintaining appropriate position.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes procedures per NATOPS, FTI, and Local SOP.</li> <li>● As the lead aircraft, initiates calls for the flight per NATOPS, FTIs, and local SOPs.</li> <li>● As the lead aircraft, initiates smooth coordinated control inputs to execute a normal takeoff maintaining a stable and predictable profile.</li> <li>● As the lead aircraft, maintains wingman awareness throughout the maneuver.</li> <li>● As the lead aircraft, properly accounts for winds when positioning for takeoff.</li> <li>● As the wing aircraft, properly accounts for winds and lead's position when positioning for takeoff. If lead is positioned in an upwind position, acknowledges and takes appropriate actions.</li> <li>● As the wing aircraft, initiates smooth coordinated control inputs to execute maneuver while maintaining step-up +10/-5 ft throughout the maneuver.</li> <li>● As the wing aircraft, maintains sight of lead aircraft at all times.</li> </ul>
90. Crossover	
<ul style="list-style-type: none"> <li>● Executes aircraft maneuver, while remaining in formation from the wingman position, transitioning to the opposite side of lead aircraft.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes procedures per NATOPS, FTI, and Local SOP.</li> <li>● As the lead aircraft, clears the flight of traffic and obstacles while maintaining a stable platform with constant heading <math>\pm 5</math> degrees, constant altitude <math>\pm 50</math> ft, and constant airspeed <math>\pm 5</math> KIAS.</li> <li>● As the lead aircraft, maintains wingman awareness throughout the maneuver.</li> <li>● As the wing aircraft, initiates smooth coordinated control inputs to execute maneuver while maintaining step-up throughout the maneuver.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
	<ul style="list-style-type: none"> <li>● As the wing aircraft, maintains 20 ft step-up +10/-5 ft while transitioning horizontally to the opposite side of the lead aircraft. All other times, maintains step-up per FTI.</li> <li>● As the wing aircraft, maintains sight of lead aircraft at all times.</li> </ul>
91. Cruise Turns	
<ul style="list-style-type: none"> <li>● Executes aircraft maneuver, while remaining in formation from the wingman position, using radius of turn principles to maintain position without adjusting power.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes procedures per NATOPS, FTI, and Local SOP.</li> <li>● As the lead aircraft, clears the flight of traffic and obstacles while maintaining a stable platform with constant angle of bank of <math>\pm 5</math> degrees, constant altitude <math>\pm 50</math> ft, constant airspeed <math>\pm 5</math> KIAS, and makes correction utilizing no more than 200 FPM climb/descent.</li> <li>● As the lead aircraft, maintains wingman awareness throughout the maneuver.</li> <li>● As the lead aircraft, initiates smooth coordinated control inputs to commence turns and reversals during cruise turns.</li> <li>● As the wing aircraft, initiates appropriate calls per FTI.</li> <li>● As the wing aircraft, initiates smooth coordinated control inputs to execute cruise turns and maintain position of 3-7 rotor diameters, 10 ft step up +10/-5 ft, and <math>\pm 10</math> degrees of required bearing.</li> <li>● As the wing aircraft, anticipates control input requirements necessary to maintain position, and initiates smooth control inputs avoiding high closure rates with lead aircraft.</li> <li>● As the wing aircraft, maintains sight of lead aircraft at all times.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
92. Cruise Climbs and Descents	
<ul style="list-style-type: none"> <li>● Executes climbs and descents maintaining cruise formation.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes procedures per NATOPS, FTI, and Local SOP.</li> <li>● As the lead aircraft, clears the flight of traffic and obstacles, smoothly initiates a shallow turn, maintaining a constant angle of bank of <math>\pm 5</math> degrees, constant airspeed <math>\pm 5</math> KIAS, and 500 FPM climb/descent <math>\pm 100</math> FPM.</li> <li>● As the lead aircraft, maintains wingman awareness throughout the maneuver.</li> <li>● As the lead aircraft, initiates smooth coordinated control inputs to commence maneuver.</li> <li>● As the wing aircraft, initiates appropriate calls per FTI.</li> <li>● As the wing aircraft, initiates smooth coordinated control inputs to maintain position with 10ft step up +10/-5 ft, and <math>\pm 10</math> degrees of required bearing.</li> <li>● As the wing aircraft, anticipates control input requirements necessary to maintain position, and initiates smooth control inputs avoiding high closure rates with lead aircraft.</li> <li>● As the wing aircraft, maintains sight of lead aircraft at all times.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
93. Breakup and Rendezvous	
<ul style="list-style-type: none"> <li>● Executes a formation break-up and rendezvous using radius of turn principles to initiate the formation join-up.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes procedures per NATOPS, FTI, and Local SOP.</li> <li>● As the lead aircraft, clears the flight of traffic and obstacles, identifies and acknowledges the appropriate signal from wing aircraft and smoothly initiates the break turn.</li> <li>● As the lead aircraft, initiates a wing flash, and then a shallow turn, maintaining a constant angle of bank of <math>\pm 5</math> degrees, constant airspeed of 80 KIAS <math>\pm 5</math> KIAS, and constant altitude <math>\pm 75</math> ft.</li> <li>● As the lead aircraft, maintains wingman awareness throughout the maneuver.</li> <li>● As the lead aircraft, initiates smooth coordinated control inputs to commence maneuver.</li> <li>● As the wing aircraft, initiates appropriate calls per FTI.</li> <li>● As the wing aircraft, initiates smooth coordinated control inputs to execute break-up and commence rendezvous while keeping lead on the horizon.</li> <li>● As the wing aircraft, anticipates control input requirements necessary to execute maneuver, and initiates smooth control inputs avoiding high closure rates with lead aircraft.</li> <li>● As the wing aircraft, joins-up in cruise position with 10 ft step up +10/-5 ft, and <math>\pm 10</math> degrees of required bearing on the inside of lead aircraft's turn.</li> <li>● As the wing aircraft, maintains sight of lead aircraft at all times.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
94. Overrun	
<ul style="list-style-type: none"> <li>● Executes maneuver as wing aircraft to discontinue join-up on lead aircraft due to excessive closure rate and/or an unsafe condition.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes procedures per NATOPS, FTI, and Local SOP.</li> <li>● As the lead aircraft, maintains wingman awareness throughout the maneuver.</li> <li>● As the wing aircraft, recognizes the need to initiate overrun and elects to do so, anticipating control input requirements necessary to execute maneuver.</li> <li>● As the wing aircraft, initiates smooth coordinated control inputs to execute overrun procedures and increases step-up to 20 ft +10/5-ft, and levels the wings.</li> <li>● As the wing aircraft, initiates appropriate calls per FTI.</li> <li>● As the wing aircraft, maintains sight of lead aircraft at all times.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
95. Lead Change	
<ul style="list-style-type: none"> <li>● Initiates an exchange of flight lead responsibilities with a corresponding maneuver to position aircraft in the appropriate formation position for the responsibility being assumed.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes procedures per NATOPS, FTI, and Local SOP.</li> <li>● As the lead aircraft, clears the flight of traffic and obstacles while maintaining a stable platform with constant heading <math>\pm 5</math> degrees, constant altitude <math>\pm 50</math> ft, and constant airspeed <math>\pm 5</math> KIAS.</li> <li>● As the lead aircraft, maintains wingman awareness throughout the maneuver, and ensures the pilot on the side of the wing aircraft is at the controls.</li> <li>● As the lead aircraft, establishes and maintains sight of wing aircraft prior to and throughout maneuver.</li> <li>● As the lead aircraft, upon assuming position and role as wing aircraft, establishes appropriate formation position per FTI.</li> <li>● As the wing aircraft, maintains sight of lead aircraft throughout the maneuver, and ensures the pilot on the side of the lead aircraft is at the controls.</li> <li>● As the wing aircraft, initiates maneuver per FTI.</li> <li>● As the wing aircraft, initiates smooth coordinated control inputs, ensuring safe lateral separation is maintained throughout the maneuver.</li> <li>● As the wing aircraft, upon assuming position and role as lead aircraft, establishes appropriate formation position per FTI.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
96. Cruise Formation	
<ul style="list-style-type: none"> <li>● Executes a formation used by aircraft flying together as part of a flight with separation facilitating safety and wing aircraft maneuvering flexibility.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes procedures per NATOPS, FTI, and Local SOP.</li> <li>● As the lead aircraft, clears the flight of traffic and obstacles, and maintains a stable platform throughout the flight.</li> <li>● As the lead aircraft, maintains parameters <math>\pm 50</math> ft of altitude, <math>\pm 5</math> KIAS, <math>\pm 5</math> degrees heading, and rate of climb/descent 200 FPM <math>\pm</math> 100 FPM, as required, unless specified otherwise per CTS and/or FTI procedures.</li> <li>● As the lead aircraft, maintains wingman awareness throughout the flight.</li> <li>● As the lead aircraft, initiates smooth coordinated control inputs to commence and maneuvers.</li> <li>● As the wing aircraft, maintains step-up of 10 ft +10/-5ft, 30 degree bearing line <math>\pm 10</math> degrees, and 3 rotor diameters distance <math>\pm 1</math> rotor diameter.</li> <li>● As the wing aircraft, initiates smooth coordinated control inputs to maintain position, anticipating power requirements to avoid large power changes and high closure rates.</li> <li>● As the wing aircraft, maintains sight of lead aircraft at all times.</li> </ul>



BEHAVIOR STATEMENT	STANDARDS
97. Formation Landings	
<ul style="list-style-type: none"> <li>● Conducts transition to landing while in formation and while maintaining appropriate position.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes procedures per NATOPS, FTI, and Local SOP.</li> <li>● Recognizes the need for a Wave-Off and executes the Wave-Off in a safe manner based on aircraft positioning in the formation.</li> <li>● As the lead aircraft, initiates smooth coordinated control inputs to execute a normal approach maintaining a stable and predictable profile.</li> <li>● As the lead aircraft, properly accounts for winds when selecting landing location and position.</li> <li>● As the lead aircraft, maintains wingman awareness throughout the maneuver.</li> <li>● As the wing aircraft, maintains cruise position <math>\pm 10</math> degrees of bearing line, and step-up +10/-5 ft until short final.</li> <li>● As the wing aircraft, properly accounts for winds and lead's position when positioning for landing. If lead is positioned for an upwind landing position, acknowledges and takes appropriate actions.</li> <li>● As the wing aircraft, initiates smooth coordinated control inputs to execute maneuver while anticipating control input requirements avoiding high closure rates with lead and lead's rotor-wash.</li> <li>● As the wing aircraft, does not overtake lead aircraft during landing.</li> <li>● As the wing aircraft, maintains sight of lead aircraft at all times.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
98. Formation High-Speed Approach	
<ul style="list-style-type: none"> <li>● Conduct transition to landing beginning at higher than normal airspeed while in formation, maintaining position.</li> <li>● Manage energy to intercept steep approach profile to landing.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS and FTI.</li> <li>● Recognizes the need for a Wave-Off and executes the Wave-Off in a safe manner based on aircraft positioning in the formation.</li> <li>● Accounts for winds when commencing the transition, adjusting inputs using smooth coordinated control inputs to intercept the steep approach profile.</li> <li>● Manages energy state effectively to avoid high rates of descent, excessive closure rates, or excessive power requirements.</li> <li>● As the lead aircraft, initiates smooth transition to reduce airspeed and intercept a steep approach profile, while maintaining a stable and predictable profile that does not exceed <math>\pm 50</math> ft, <math>\pm 5</math> KIAS until established on steep approach profile.</li> <li>● As the lead aircraft, properly accounts for winds when selecting landing location and position.</li> <li>● As the lead aircraft, maintains wingman awareness throughout the maneuver.</li> <li>● As the wing aircraft, maintains cruise position <math>\pm 10</math> degrees of bearing line, and step-up <math>+10</math> until short final.</li> <li>● As the wing aircraft, properly accounts for winds and lead's position when positioning for landing. If lead is positioned for an upwind landing position, acknowledges and takes appropriate actions.</li> <li>● As the wing aircraft, initiates smooth coordinated control inputs to execute maneuver while anticipating control input requirements avoiding high closure rates with lead and lead's rotor-wash.</li> <li>● As the wing aircraft, does not overtake lead aircraft during landing.</li> <li>● As the wing aircraft, maintains sight of lead aircraft at all times.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
99. Formation Wave-Off	
<ul style="list-style-type: none"> <li>● Aborts a transition to landing or a descent using NATOPS and FTI procedures during a formation maneuver either as a flight or as individual aircraft.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes maneuver per NATOPS, FTI, and Local SOPs.</li> <li>● Makes appropriate Radio/ICS calls per NATOPS, FTIs, and Local SOPs when wave off is conducted by individual aircraft.</li> <li>● Responds appropriately and timely to a call to Wave-Off.</li> <li>● Ensures throttle is in the full open position.</li> <li>● Initiates smooth coordinated control inputs, increasing collective smoothly without exceeding NATOPS limits.</li> <li>● Ensures safe flight path throughout the maneuver, maintaining safe separation from external traffic and company formation traffic.</li> <li>● Expeditiously arrests rate of descent and transitions to a positive rate of climb while maintaining a 70 KIAS attitude in balanced flight.</li> <li>● As the lead aircraft, maintains wingman awareness throughout the maneuver.</li> <li>● As the lead aircraft, makes appropriate Radio/ICS calls per NATOPS, FTIs, and Local SOPs when the flight waves off.</li> <li>● As the wing aircraft, maintains sight of lead aircraft at all times.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
100. Combat Cruise Flight	
<ul style="list-style-type: none"> <li>● Executes a formation used by aircraft flying together as part of a flight with extended separation facilitating the flight lead's flexible control of the flight and the wing's maximum maneuvering flexibility with a reduced workload.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes procedures per NATOPS, FTI, and Local SOP.</li> <li>● As the lead aircraft, clears the flight of traffic and obstacles, and maintains a stable platform throughout the flight <math>\pm 50</math> ft of altitude, <math>\pm 5</math> KIAS, and climbs/descends no greater than 200 FPM <math>\pm 100</math> FPM.</li> <li>● As the lead aircraft, notifies wing aircraft prior to commencing sharp turns into wing aircraft position, as required.</li> <li>● As the lead aircraft, maintains wingman awareness throughout the flight.</li> <li>● As the wing aircraft, maintains position on lead anywhere from 10 degrees forward of abeam <math>\pm 5</math> degrees, at a distance of 4-5 rotor diameters <math>\pm</math> rotor diameter, and avoids prolonged flight in the area <math>\pm 30</math> degrees of lead aircraft's tail.</li> <li>● As the wing aircraft, initiates smooth coordinated control inputs primarily using radius of turn to maintain position.</li> <li>● As the wing aircraft, remain prepared to support lead aircraft.</li> <li>● As the wing aircraft, remains alert for lead aircraft maneuvering and appropriately maneuvers to maintain safe separation from lead while maintaining position.</li> <li>● As the wing aircraft, maintains sight of lead aircraft at all times.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
101. Formation TERF Navigation	
<ul style="list-style-type: none"> <li>● Executes TERF Navigation using low level TERF profile with the aid of charts and graphics using visual reference to terrain and terrain features, manmade objects, and aircraft systems, while a in a flight of aircraft remaining in formation.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes TERF navigation per CNAF M-3710.7, NATOPS, FTI, and applicable FAR/AIM procedures and guidance.</li> <li>● Exercises appropriate and effective CRM within the individual cockpit and as a formation during the execution of TERF navigation.</li> <li>● Obtains appropriate flight related information, and accounts for weather, winds, airspace, obstacles, landing areas and airports when planning the navigation route.</li> <li>● Demonstrates detailed knowledge of the planned route, terrain and terrain features, obstacles, and appropriate navigation aids (i.e. limiting features, funneling features, etc) along the route of flight.</li> <li>● Executes effective navigation remaining aware of present position throughout the flight and adjusts course and/or route of flight as appropriate in response to weather, obstacles, fuel considerations, and/or emergencies.</li> <li>● Able to accurately associate visual references, including terrain and terrain features, with navigation chart symbology to remain oriented along route of flight.</li> <li>● Executes formation flight per NATOPS, FTI, and Local SOP.</li> <li>● As the lead aircraft, notifies wing aircraft prior to commencing sharp turns into wing aircraft position, as required.</li> <li>● As the lead aircraft, maintains wingman awareness throughout the flight.</li> <li>● As the wing aircraft, maintains position on lead as required.</li> <li>● As the wing aircraft, maintains awareness throughout route of flight and remains prepared to support lead aircraft with backup navigation and aircraft clearing.</li> </ul> <p>As the wing aircraft, maintains sight of lead aircraft at all times.</p>

BEHAVIOR STATEMENT	STANDARDS
101. Formation TERF Navigation (cont.)	
	<ul style="list-style-type: none"> <li>● As the wing aircraft, remains alert for lead aircraft maneuvering and appropriately maneuvers to maintain safe separation from lead while maintaining position.</li> <li>● As the wing aircraft, maintains sight of lead aircraft at all times.</li> </ul>
<b><u>NVD Stage CTS Items</u></b>	
102. NVD Knowledge	
<ul style="list-style-type: none"> <li>● Demonstrates and is able to recall FTI information required for the safe and effective use of NVGs during flight operations and remains able to apply that information during execution of the mission.</li> </ul>	<ul style="list-style-type: none"> <li>● Demonstrates in-depth knowledge of NVG operations, NVG parts and functions, procedures, emergencies, and requirements per CNAF M-3710.7, NATOPS, FTI, and local SOPs.</li> <li>● Demonstrates knowledge of light effects, atmospheric effects, and associated light level effects on NVG performance per FTI.</li> <li>● Demonstrates knowledge of the proper use of aircraft interior and exterior lighting when on NVGs.</li> <li>● Demonstrates knowledge of and is able to exercise an effective NVG scan pattern during flight operations.</li> <li>● Demonstrates knowledge SLAP data and how to use it for NVG mission planning.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
103. NVG Pre-flight	
<ul style="list-style-type: none"> <li>● Executes proper NVG adjustment and assessment procedures per FTI procedures ensuring NVGs are fully functional prior to the mission.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes adjustment and assessment procedures per FTI.</li> <li>● Demonstrates in-depth knowledge of NVG adjustment and assessment procedures.</li> <li>● Verifies proper fit of helmet and ensures NVG bracket and battery mounting brackets are free and clear of debris.</li> <li>● Inspects all parts and accessories, ensuring all controls move freely and appropriately and wires are intact.</li> <li>● Loads batteries, and mounts battery pack and NVG mount to helmet.</li> <li>● Inspects NVG binocular assembly, ensuring lenses are clean and free of scratches, debris, or other damage.</li> <li>● Appropriately presets eyepiece or diopter adjustment ring and fore-and-aft or eye relief adjustment.</li> <li>● Centers tilt, sets IPD, adjusts vertical position, and dons helmet.</li> <li>● Attaches and removes binocular assembly verifying proper seating, correct mounting direction, and that the bearings are properly aligned.</li> <li>● Ensures battery switch is off prior to lowering the binocular assembly.</li> <li>● Conducts proper alignment and focus procedures utilizing available tools to ensure image quality is sufficient for mission execution.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
104. NVG Emergency Procedures	
<ul style="list-style-type: none"> <li>● Executes emergency procedures per NATOPS, using sound judgement for issues not specifically addressed, and applying considerations specific to NVG flight.</li> </ul>	<ul style="list-style-type: none"> <li>● Executes emergency procedures per NATOPS.</li> <li>● Maintains positive control of the aircraft.</li> <li>● Properly identifies the emergency or system failure indications, and calls for the appropriate NATOPS procedure.</li> <li>● Demonstrates sound judgment and takes safe and appropriate action when no specific guidance exists.</li> <li>● Executes/directs CRITICAL MEMORY ITEMS in proper order and in a timely manner.</li> <li>● Calls for appropriate checklist following execution of CRITICAL MEMORY ITEMS or when no CRITICAL MEMORY ITEMS apply.</li> <li>● Applies EP and Systems knowledge to decision making using critical thinking skills.</li> <li>● Selects appropriate landing criteria.</li> <li>● Continues to work through the emergency until resolved.</li> <li>● Executes appropriate and effective CRM throughout the emergency</li> <li>● Maneuvers the aircraft in a safe manner per NATOPS, FTI, and local SOPs.</li> <li>● Is able to state the indications of and procedures for NVG battery failure and NVG tube failure.</li> <li>● Recognizes indications of and executes appropriate responses to NVG battery failure and NVG tube failure.</li> </ul>



BEHAVIOR STATEMENT	STANDARDS
<b><u>IP/UPGRADE Stage CTS Items</u></b>	
105. Simulated Engine Failure on Takeoff	
<ul style="list-style-type: none"> <li>• Begin when in position for a safe autorotative landing can be made to a suitable surface.</li> <li>• End in either a full or power recovery touchdown.</li> </ul>	<ul style="list-style-type: none"> <li>• Makes appropriate traffic call prior to maneuver</li> <li>• Executes maneuver per FTI.</li> <li>• Maintains <math>N_R</math> within limits and touches down with 10 knots of groundspeed or less.</li> </ul>
106. Max Glide Autorotation	
<ul style="list-style-type: none"> <li>• Executes procedures per NATOPS and FTI.</li> <li>• End in either a full or power recovery touchdown.</li> </ul>	<ul style="list-style-type: none"> <li>• Initiates entry at or above 72 knots.</li> <li>• Maintains max glide profile until the flare.</li> </ul>
107. Low $N_R$ Recovery	
<ul style="list-style-type: none"> <li>• Executes procedures per NATOPS and Local SOPs.</li> <li>• End in either a fly-away or touchdown.</li> </ul>	<ul style="list-style-type: none"> <li>• Initiates from an autorotative profile.</li> <li>• Levels the aircraft prior to rotating twist grip from flight idle position.</li> <li>• Uses the appropriate amount of twist grip to prevent an over-torque or hard landing.</li> <li>• Completes the maneuver to a fly-away or touchdown.</li> </ul>
108. Error Detection, Analysis, and Correction	
<ul style="list-style-type: none"> <li>• Identify typical student errors and propose effective, corrective solutions.</li> </ul>	<ul style="list-style-type: none"> <li>• Enables a positive learning environment through accurate, timely error detection.</li> </ul>
109. Defensive Posturing	
<ul style="list-style-type: none"> <li>• Manage posture and cockpit duties to facilitate rapid assumption of the controls to prevent errant and critical inputs in the wrong direction.</li> </ul>	<ul style="list-style-type: none"> <li>• Maintains a position conducive to assuming controls in a timely manner or preventing erroneous control input.</li> </ul>
110. Instructional Technique	
<ul style="list-style-type: none"> <li>• Provide further explanation that amplifies the procedures.</li> </ul>	<ul style="list-style-type: none"> <li>• Provides explanation that is an enhancement of the FTI and enables further understanding of procedures.</li> </ul>
111. Maneuver Explanation/Demonstration	
<ul style="list-style-type: none"> <li>• Present maneuver in a clear, verbal, standard method while performing the maneuver.</li> </ul>	<ul style="list-style-type: none"> <li>• Makes clear, verbal presentation that is per FTI and enhances understanding of the basic procedure.</li> </ul>

BEHAVIOR STATEMENT	STANDARDS
112. Conduct of Flight	
<ul style="list-style-type: none"> <li>• Manage flight to adequately utilize allotted time to conduct all necessary maneuvers in an organized manner.</li> </ul>	<ul style="list-style-type: none"> <li>• Safely conducts flight per all applicable procedures and manuals.</li> </ul>
113. High Speed Low Level Autorotation	
<ul style="list-style-type: none"> <li>• Executes appropriate response to a simulated engine failure while in high speed, low-level flight.</li> </ul>	<ul style="list-style-type: none"> <li>• Executes maneuver per FTI to a power recovery or full landing.</li> </ul>
114. Autorotation Energy Management Principles (AEMP)	
<ul style="list-style-type: none"> <li>• Executes appropriate response to a simulated engine failure during flight.</li> </ul>	<ul style="list-style-type: none"> <li>• Executes maneuver per FTI to a power recovery or full landing.</li> </ul>

Chapter VI

Training Materials and References

1. Individually Issued Materials

Pub ID	Title	QTY	CNATRA Stage Manager
NAVAIR 01-H57BC-1	TH-57 NATOPS	1	N/A
NAVAIR 01-H57BC-1B	TH-57 NATOPS Pocket Checklist	1	N/A
CNATRA P-421	Aerodynamics Workbook	1	Ground
CNATRA P-422	Systems Workbook	1	Ground
CNATRA P-423	Familiarization FTI	1	Familiarization
CNATRA P-424	Logistics FTI	1	Logistics
CNATRA P-425	Instrument FTI	1	Instrument
CNATRA P-426	Instrument Navigation Workbook	1	Instrument
CNATRA P-427	Flight Planning Work Book	1	Instrument
CNATRA P-428	Navigation FTI	1	Navigation
CNATRA P-429	Shipboard Operations and SAR FTI	1	Ship/SAR
CNATRA P-430	Formation FTI	1	Formation
CNATRA P-431	NVG FTI	1	NVG
	TH-57B Cockpit Poster	1	Familiarization
	TH-57C Cockpit Poster	1	Familiarization
COMTRAWINGFIVEINST 3710.8	Rotary-Wing Operations Procedures (RWOP)	1	N/A
COMTRAWINGFIVEINST 3710.9	TH-57 In-Flight Guide	1	N/A
COMTRAWINGFIVEINST 3710.15A	TH-57 Checklist Study Guide	1	Familiarization
TRAWING FIVE 46C	Student Instrument Approach Plates	1	Instrument

2. Training References

<b>Training Reference Material</b>			
<b>Source</b>	<b>Pub ID</b>	<b>Title</b>	<b>Web-site/Digital Location</b>
CNAF	COMNAVAIRFOR M3710.7	CNAF M-3710.7	<a href="https://www.secnav.navy.mil/doni/SECNAV%20Manuals1/Forms/AllItems.aspx">https://www.secnav.navy.mil/doni/SECNAV%20Manuals1/Forms/AllItems.aspx</a>
CNATRA	CNATRAINST 1500.4 (Series)	Training and Administration Manual**	<a href="https://cpf.navy.deps.mil/sites/cnatra/Pages/Instructions.aspx">https://cpf.navy.deps.mil/sites/cnatra/Pages/Instructions.aspx</a>
FAA	FAR	Title 14 Aeronautics and Space Federal Aviation Regulations	<a href="https://www.faa.gov/regulations_policies/faa_regulations/">https://www.faa.gov/regulations_policies/faa_regulations/</a>
FAA	FAR AIM	FAR Aeronautical Information Manual (AIM)	<a href="https://www.faa.gov/air_traffic/publications/">https://www.faa.gov/air_traffic/publications/</a>
CNATRA	CNATRAINST 1550.6 (Series)	Training Improvement Program (TIP)*	<a href="https://cpf.navy.deps.mil/sites/cnatra/Pages/Instructions.aspx">https://cpf.navy.deps.mil/sites/cnatra/Pages/Instructions.aspx</a>
NAVAIR	NAVAIR 00-80-T-112	Instrument NATOPS***	<a href="https://mynatec.navair.navy.mil/natechome.htm">https://mynatec.navair.navy.mil/natechome.htm</a>
MAWTS-1	N/A	MAWTS-1 NVD Manual (FOUO)***	<a href="https://mceits.usmc.mil/sites/mawts1">https://mceits.usmc.mil/sites/mawts1</a>
FAA	FAA Order 8260.3D	United States Standard for Terminal Instrument Procedures (TERPS)	<a href="https://www.faa.gov/regulations_policies/orders_notices/index.cfm/go/document.information/documentid/1032731">https://www.faa.gov/regulations_policies/orders_notices/index.cfm/go/document.information/documentid/1032731</a>
FAA	FAA-H-8083-25B	Pilot's Handbook of Aeronautical Knowledge	<a href="https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/phak/">https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/phak/</a>
FAA	FAA Aeronautical Chart User's Guide	FAA Aeronautical Chart Users Guide	<a href="https://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/aero_guide/">https://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/aero_guide/</a>
FAA	FAA-H-8083-16B	FAA Instrument Procedures Handbook	<a href="https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/instrument_procedures_handbook/">https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/instrument_procedures_handbook/</a>
FAA	FAA-H-8083-21B	Helicopter Flying Handbook	<a href="https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/helicopter_flying_handbook/">https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/helicopter_flying_handbook/</a>

FAA	AC 90-66B	Non-Towered Airport Flight Operations	<a href="https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/1032988">https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/1032988</a>
FAA	AC 90-114B	Automatic Dependent Surveillance-Broadcast Operations	<a href="https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/1036989">https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/1036989</a>
GARMIN	190-02327-03	GTN-650 Pilot's Guide	<a href="http://static.garmin.com/pumac/190-02327-03_b.pdf">http://static.garmin.com/pumac/190-02327-03_b.pdf</a>
NAVAIR	NWP 3-22.5-SAR-TAC	SAR TACAID	<a href="https://www.public.navy.mil/airfor/srss/Documents/PUBS/NWP%203-22-5-SARTAC.pdf">https://www.public.navy.mil/airfor/srss/Documents/PUBS/NWP%203-22-5-SARTAC.pdf</a>
MAWTS-1	NTTP-3-22.3-ASTACSOP	USMC Assault Support Tactical SOP***	<a href="https://mceits.usmc.mil/sites/mawts1">https://mceits.usmc.mil/sites/mawts1</a>
HITU SIG	COMTRAWINGFIVEI NST 3710.23	HITU Standardization Instructor Guide	HITU University Web site
<b><i>*Training references requiring special access are not necessary to successfully complete the syllabus. Any information found in those documents is additional, and will not be used to as a basis for grading criteria for training standards.</i></b>			
<b><i>** Requires CAC Card Access, All SNAs authorized to have access.</i></b>			
<b><i>*** Requires CAC Card Access, US SNAs authorized to have access. FMS SNAs must request CNATRA approval for access to reference documents.</i></b>			

### 3. CNATRA Stage Manager Course Responsibilities

#### a. Ground Stage Manager

Event Code	Media Type	Title
AER0101I	CAI	The Atmosphere
AER0102I	CAI	Rotor Blade Aerodynamics
AER0103I	CAI	Powered Flight Analysis
AER0104I	MIL	Atmospheric/Overview
AER0105I	MIL	Aerodynamic Theories
AER0106I	MIL	Rotor System Design
AER0107I	MIL	Rotor System Dynamics
AER0108I	MIL	Stability and Control
AER0109I	MIL	Power and Performance
AER0110I	MIL	Hovering Flight

<b>Event Code</b>	<b>Media Type</b>	<b>Title</b>
AER0111I	MIL	Forward and Climbing Flight
AER0112I	MIL	Aerodynamics Review
AER0190I	CAI-Test	Aerodynamics Exam
AER0201I	CAI	Autorotation
AER0202I	MIL	Descending Flight and Autorotations
AER0301I	MIL	Tail-Rotor Design and Performance
AER0302I	MIL	Hazards
CR0101I	CAI	South Whiting Course Rules
CR0102I	CAI	Pace Course Rules
CR0103I	CAI	Spencer Course Rules
CR0104I	CAI	Santa Rosa Course Rules
CR0105I	MIL	Course Rules Flight Procedures I
CR0190I	CAI Test	Course Rules Exam
CR0201I	CAI	Site X Course Rules
CR0202I	CAI	Harold Course Rules
CR0203I	CAI	Night Operations
GND0101I	Sqdn	Check-In
GND0102I	Issue	Training Publications Issue
GND0201I	MIL	Aviation Safety
GND0202I	MIL	Supplemental Emergency Breathing Device
GND0301I	MIL	GTN-650 Aircraft Systems Interaction (TH-57B)
GND0302I	CAI-Offline	GTN-650 Computer Based Training
GND0303I	MIL	GTN-650 Aircraft Systems Interaction (TH-57C)
GND0401I	Lecture/Lab	MPS Overview/Lab Navigation
GND0402I	Lecture/Lab	MPS Overview/Lab Mission Planning
GND0501I	Lecture	CDRE In-Brief
GND0601I	MIL	FITC
GND0701I	Lecture	MPTS
GND0801I	Lecture	Cross-Country Procedures
GND1101I	Sqdn	HITU Checkout
SYS0101I	CAI	Power Plant
SYS0102I	CAI	Fuel Supply System
SYS0103I	CAI	Transmission and Drive Train
SYS0104I	CAI	Rotor and Flight Control Systems
SYS0105I	CAI	Hydraulic System

Event Code	Media Type	Title
SYS0106I	MIL	Allison 250 Turboshaft Engine Fuel Supply System Power Train System
SYS0107I	MIL	Rotor System Hydraulic System 'B' Electrical System
SYS0190I	CAI Test	Systems Exam
SYS0201I	CAI	TH-57C Electrical System
SYS0202I	CAI	TH-57 Ministab System
SYS0203I	MIL	TH-57C Helicopter Systems TH-57C Electrical System TH-57C Ministab System TH-57 Avionics

b. Familiarization Stage Manager

Event Code	Media Type	Title
CRM0101I	MIL	Crew Resource Management-Familiarization Stage
EM3101I	Sim (57B/FTD-7)	Bravo Defensive Posturing
EP0101I	CAI	In-Flight Emergencies
EP3001I	Sim (57C/FTD-7)	Emergency Procedures
FAM0101I	LECT	FAM '0'
FAM2001I	CPT (TH- 57B/FTD-6)	Cockpit Procedures
FAM3001I	Sim (57B/FTD-7)	Cockpit Procedures and Flight Introduction
FAM3002I	Sim (57B/FTD-7)	Cockpit Procedures and Flight Introduction
FAM3101I	Sim (57C/FTD-6)	Familiarization Simulator 'C' Model Transition
FAM4001I	TH-57B	Familiarization 'B'
FAM4002I	TH-57B	Familiarization 'B'
FAM4003I	TH-57B	Familiarization 'B'
FAM4004I	TH-57B	Familiarization 'B'
FAM4101I	TH-57B	Familiarization 'B'
FAM4102I	TH-57B	Familiarization 'B'
FAM4290	TH-57B	NATOPS Check Flight
FAM4301I	TH-57C	Familiarization 'C'
FAM4302I	TH-57C	Familiarization 'C'
FAM4401I	TH-57B	Night Familiarization 'C'

Event Code	Media Type	Title
FAM4402I	TH-57B	Night Familiarization 'C'
NAT0101I	P/P Exam	NATOPS Open-Book Exam
NAT0190I	P/P Exam	NATOPS Closed-Book Exam

c. Logistics Stage Manager

Event Code	Media Type	Title
AER0401I	CAI	Flight Phenomena
AER0402I	MIL	Advanced Aerodynamics and Rotor System Dynamics
LOG0101I	CAI	Confined Area Landing and External Load Operations
LOG0102I	CAI	Dynamic Maneuvers
LOG4001I	TH-57B	Logistics
OBS3104I	Sim (FTD-6/7)	NVG Simulator Event Observe

d. Instrument Stage Manager

Event Code	Media Type	Title
BI3001I	Sim (57C/FTD-6)	Basic Instruments
BI3002I	Sim (57C/FTD-6)	Basic Instruments
BI4001I	TH-57C	Basic Instruments
BI4002I	TH-57C	Basic Instruments
CRM0201I	MIL	Crew Resource Management - Instrument
IGS0301I	MIL	Instrument Ground School
IP0290I	P/P Exam	Instrument Ground School Exam
INS0101I	CAI	Departure and Arrival Procedures
INS0102I	CAI	Basic Instrument Flight Maneuvers
INS0103I	CAI	Advanced Instrument Flight Procedures
INS0201I	MIL	Instrument Flight Rules
RI0101I	CAI	Introduction to NAVAIDs and RI Flight Procedures
RI0102I	CAI	Fundamentals of RI Flight Procedures
RI0103I	CAI	TACAN and VOR Approaches
RI0104I	CAI	GTN-650 Procedures
RI0105I	CAI	VOR/TACAN with Failed Directional Gyro
RI0106I	CAI	ATC Radio Procedures
RI0107I	CAI	Radar and ILS Approaches
RI0108I	MIL	Radio Instrument Flight Procedures
RI3001I	Sim (57C/FTD-7)	Radio Instruments
RI3002I	Sim (57C/FTD-7)	Radio Instruments



Event Code	Media Type	Title
RI3003I	Sim (57C/FTD-7)	Radio Instruments
RI3004I	Sim (57C/FTD-7)	Radio Instruments
RI3005I	Sim (57C/FTD-7)	Radio Instruments
RI4001I	TH-57C	Radio Instruments
RI4002I	TH-57C	Radio Instruments
RI4003I	TH-57C	Radio Instruments
RI4004I	TH-57C	Radio Instruments
RI4190I	TH-57C	Instrument Check Flight

e. Navigation Stage Manager

Event Code	Media Type	Title
NAV0101I	CAI	Day Navigation Flight Procedures
NAV0102I	CAI	Night Navigation Flight Procedures
NAV0103I	MIL	VFR Navigation Review
NAV4001I	TH-57C	Day Navigation
TRF0101I	MIL	Map Interpretation
TRF4001I	TH-57C	TERF Navigation
TRF4101I	TH-57C	TERF Navigation
TRF4102I	TH-57C	TERF Navigation

f. NVG Stage Manager

Event Code	Media Type	Title
NVG0101I	LAB	NITE Lab Refresher
NVG4001I	TH-57C	Night Vision Device Familiarization Flight
NVG4002I	TH-57C	Night Vision Device Familiarization Flight
NVG4190I	TH-57C	Night Vision Device Check Flight

g. Helicopter Instructor Training Unit

Event Code	Media Type	Title
EM4001I	TH-57B	Autorotation Energy Management
OBS3001I	Sim (57C/FTD-7)	TERF Simulator Event Observe
OBS3101I	Sim (57C/FTD-7)	Night Vision Device Simulator Event Observe
OBS4001I	TH-57C	Basic Instrument Brief Observe
IP0190I	P/P Exam	Familiarization Stage Exam
IP0290I	P/P Exam	Instrument Stage Exam
IP0390I	P/P Exam	TERF Stage Exam
IP3001I	Sim (57C/FTD-7)	Defensive Posturing
IP0490I	P/P Exam	NVG Stage Exam
IP4001I	TH-57C	Instructor Pilot Familiarization

Event Code	Media Type	Title
IP4101I	TH-57C	Instructor Pilot Night Familiarization
IP4201I	TH-57C	Instructor Pilot Basic Instrument
IP4301I	TH-57C	Instructor Pilot Radio Instrument
IP4401I	TH-57C	Instructor Pilot TERF

h. Instructor Pilot Upgrade Course Flow

Event Code	Media Type	Title
<b>BRAVO TRANSITION</b>		
EM3101I	Sim (57B/FTD-7)	Bravo Defensive Posturing
EM4101I	TH-57B	Energy Management 'B'
EM4102I	TH-57B	Energy Management 'B'
EM4103I	TH-57B	Energy Management 'B'
FAM3201I	Sim (57B/FTD-7)	Advanced Transition Familiarization 'B'
FAM4501I	TH-57B	Squadron Familiarization 'B'
FAM4502I	TH-57B	Squadron Familiarization 'B'
FAM4503I	TH-57B	Squadron Familiarization 'B'
FAM4601I	TH-57B	HITU Familiarization 'B'
FAM4790I	TH-57B	HITU Bravo Check Flight
OBS3201I	Sim (57B/FTD-7)	Familiarization 'B' Simulator Observe
<b>LOGISTICS TRANSITION</b>		
AER0401I	CAI	Flight Phenomena
AER0402I	MIL	Advanced Rotor System Dynamics
LOG0101I	CAI	Confined Area Landing and External Load Operations
LOG0102I	CAI	Dynamic Maneuvers
LOG0290I	P/P EXAM	Logistics Stage Exam
LOG4001I	TH-57B	Logistics
OBS3104I	TH-57B	Logistics Brief Observe
<b>Event Code</b>	<b>Media Type</b>	<b>Title</b>
OBS4101I	TH-57B	Radio Instrument Flight Observe
<b>FORMATION TRANSITION</b>		
FRM0101I	CAI	Formation Flying
FRM0102I	CAI	NATOPS and Mission Brief
FRM0103I	MIL	Formation
FRM0290I	P/P EXAM	Formation Stage Exam
FRM4001I	TH-57C	Formation
FRM4002I	TH-57C	Formation
FRM4101I	TH-57C	Combat Cruise Formation
FRM4290I	TH-57C	Formation Check Flight
OBS3601I	Sim (57B/FTD-7)	Formation Simulator Observe

<b>SEARCH AND RESCUE TRANSITION</b>		
OBS3401I	Sim (57B/FTD-7)	Search and Rescue Simulator Observe
SAR0101I	CAI	Search and Rescue Organization and Planning
SAR0102I	CAI	Search and Rescue Flight Procedures
SAR0290I	P/P EXAM	Search and Rescue Stage Exam
SAR4001I	TH-57C	Search and Rescue Upgrade
SAR4002I	TH-57C	Search and Rescue Upgrade
<b>SHIPBOARD OPERATIONS TRANSITION</b>		
OBS3301I	TH-57C	Shipboard Operations Observe
SHP0101I	CAI	General Shipboard Operations
SHP0102I	CAI	Shipboard Qualification Procedures
SHP0290I	P/P EXAM	Shipboard Operations Stage Exam
SHP3001I	Sim (57B/FTD-7)	Shipboard VFR Operations
<b>ENERGY MANAGEMENT</b>		
EM4201I	TH-57B	AEMP Cadre
EM4202I	TH-57B	AEMP Cadre
EM4203I	TH-57B	AEMP Cadre
EM4204I	TH-57B	AEMP Cadre
EM4390I	TH-57B	Energy Management Principles Check Flight

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- 104. UNFORESEEN SITUATIONS
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- 909. CENTRIFUGE-BASED FLIGHT ENVIRONMENT TRAINING (CFET)

**CHAPTER 10: NFS FITNESS REPORTS**

- 1000. BACKGROUND
- 1001. ACTION

**APPENDICES**

- APPENDIX A: LIST OF FORMS
- APPENDIX B: TRAINING REPORT REQUIREMENTS
- APPENDIX C: NFS PROCUREMENT SOURCES
- APPENDIX D: SEX, RACE, AND ETHNIC CODES
- APPENDIX E: ATTRITION/NON-GRAD CODES
- APPENDIX F: ATJ CONSTRUCTION
- APPENDIX G: GRADING PROCEDURES
- APPENDIX H: PRIMER ON DESCRIPTIVE STATISTICS AND NORMING
- APPENDIX I: GLOSSARY

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APPENDIX B

Student Course Completion Tracker

Done	Event Code	Acft/Device/Media	Event Name	Date
<input type="checkbox"/>	GND0101I	Sqdn	Check-in	
<input type="checkbox"/>	GND0102I	Issue	Training Publications/EKB Issue	
<input type="checkbox"/>	GND0201I	MIL	Aviation Safety	
<input type="checkbox"/>	GND0202I	MIL	Supplemental Emergency Breathing Device	
<input type="checkbox"/>	SYS0101I	CAI	Power Plant	
<input type="checkbox"/>	SYS0102I	CAI	Fuel Supply System	
<input type="checkbox"/>	SYS0103I	CAI	Transmission and Drive Train	
<input type="checkbox"/>	SYS0104I	CAI	Rotor and Flight Control Systems	
<input type="checkbox"/>	SYS0105I	CAI	Hydraulic System	
<input type="checkbox"/>	SYS0106I	MIL	Allison 250 Turboshaft Engine, Fuel Supply System and Power Train System	
<input type="checkbox"/>	SYS0107I	MIL	Rotor System, Hydraulic System and 'B' Electrical System	
<input type="checkbox"/>	SYS0190I	CAI TEST	Systems Exam	
<input type="checkbox"/>	GND0301I	CAI Offline	GTN-650 Computer Based Training	
<input type="checkbox"/>	GND0302I	MIL	GTN-650 Aircraft Systems Interaction (TH-57C)	
<input type="checkbox"/>	FAM2001I	CPT (TH-57B/FTD-6)	Cockpit Procedures	
<input type="checkbox"/>	AER0101I	CAI	The Atmosphere	
<input type="checkbox"/>	AER0102I	CAI	Rotor Blade Aerodynamics	
<input type="checkbox"/>	AER0103I	CAI	Powered Flight Analysis	
<input type="checkbox"/>	AER0104I	MIL	Atmospherics/Overview	
<input type="checkbox"/>	AER0105I	MIL	Aerodynamic Theories	
<input type="checkbox"/>	AER0106I	MIL	Rotor System Design	
<input type="checkbox"/>	AER0107I	MIL	Rotor System Dynamics	
<input type="checkbox"/>	AER0108I	MIL	Stability and Control	
<input type="checkbox"/>	AER0109I	MIL	Power and Performance	
<input type="checkbox"/>	AER0110I	MIL	Hovering Flight	
<input type="checkbox"/>	AER0111I	MIL	Forward and Climbing Flight	
<input type="checkbox"/>	AER0112I	MIL	Aerodynamics Review	
<input type="checkbox"/>	AER0190I	CAI TEST	Aerodynamics Exam	

Done	Event Code	Acft/Device/Media	Event Name	Date
<input type="checkbox"/>	CRM0101I	MIL	Crew Resource Management Familiarization Stage	
<input type="checkbox"/>	CR0101I	CAI	South Whiting Course Rules	
<input type="checkbox"/>	CR0102I	CAI	Pace Course Rules	
<input type="checkbox"/>	CR0103I	CAI	Spencer Course Rules	
<input type="checkbox"/>	CR0104I	CAI	Santa Rosa Course Rules	
<input type="checkbox"/>	CR0105I	MIL	Course Rules Flight Procedures I	
<input type="checkbox"/>	CR0190I	CAI Test	Course Rules Exam	
<input type="checkbox"/>	FAM3001I	Sim (57B/FTD-7)	Cockpit Procedures and Flight Introduction	
<input type="checkbox"/>	FAM3002I	Sim (57B/FTD-7)	Cockpit Procedures and Flight Introduction	
<input type="checkbox"/>	NAT0101I	P/P Exam	NATOPS Open-Book Exam	
<input type="checkbox"/>	NAT0190I	P/P Exam	NATOPS Closed-Book Exam	
<input type="checkbox"/>	FAM0101I	LECT	FAM '0'	
<input type="checkbox"/>	FAM4001I	TH-57B	Familiarization 'B'	
<input type="checkbox"/>	FAM4002I	TH-57B	Familiarization 'B'	
<input type="checkbox"/>	FAM4003I	TH-57B	Familiarization 'B'	
<input type="checkbox"/>	FAM4004I	TH-57B	Familiarization 'B'	
<input type="checkbox"/>	AER0201I	CAI	Autorotation	
<input type="checkbox"/>	AER0202I	MIL	Descending Flight And Autorotations	
<input type="checkbox"/>	EP0101I	CAI	In-Flight Emergencies	
<input type="checkbox"/>	EP0102I	CAI	Tail-Rotor Emergency Procedures	
<input type="checkbox"/>	AER0301I	MIL	Tail-Rotor Design and Performance	
<input type="checkbox"/>	AER0302I	MIL	Hazards	
<input type="checkbox"/>	CR0201I	CAI	Site X Course Rules	
<input type="checkbox"/>	CR0202I	CAI	Harold Course Rules	
<input type="checkbox"/>	CR0203I	CAI	Night Operations	
<input type="checkbox"/>	FAM4101I	TH-57B	Familiarization 'B'	
<input type="checkbox"/>	FAM4102I	TH-57B	Familiarization 'B'	
<input type="checkbox"/>	FAM4290I	TH-57B	NATOPS Check Flight	
<input type="checkbox"/>	SYS0201I	CAI	TH-57C Electrical System	
<input type="checkbox"/>	SYS0202I	CAI	TH-57C Ministab System	
<input type="checkbox"/>	SYS0203I	MIL	TH-57C Helicopter Systems TH-57C Electrical System TH-57C Ministab System TH-57C Avionics	

Done	Event Code	Acft/Device/Media	Event Name	Date
<input type="checkbox"/>	IGS0301I	MIL	Instrument Ground School Lecture	
<input type="checkbox"/>	IGS0390I	P/P Exam	Instrument Ground School Exam	
<input type="checkbox"/>	FAM3101I	Sim (57B/FTD-6)	Familiarization Simulator 'C' Model Transition	
<input type="checkbox"/>	FAM4301I	TH-57C	Familiarization 'C'	
<input type="checkbox"/>	FAM4302I	TH-57C	Familiarization 'C'	
<input type="checkbox"/>	INS0101I	CAI	Departure and Arrival Procedures	
<input type="checkbox"/>	INS0102I	CAI	Basic Instrument Flight Maneuvers	
<input type="checkbox"/>	INS0103I	CAI	Advanced Instrument Flight Procedures	
<input type="checkbox"/>	BI3001I	Sim (57B/FTD-6/7)	Basic Instruments	
<input type="checkbox"/>	BI3002I	Sim (57B/FTD-6/7)	Basic Instruments	
<input type="checkbox"/>	BI4001I	TH-57C	Basic Instruments	
<input type="checkbox"/>	BI4002I	TH-57C	Basic Instruments	
<input type="checkbox"/>	FAM4401I	TH-57C	Night Familiarization 'C'	
<input type="checkbox"/>	NAV0101I	CAI	Day Navigation Flight Procedures	
<input type="checkbox"/>	NAV0102I	CAI	Night Navigation Flight Procedures	
<input type="checkbox"/>	NAV0103I	MIL	VFR Navigation Review	
<input type="checkbox"/>	GND0401I	Lect/Lab	MPS Overview/Lab-Navigation	
<input type="checkbox"/>	NAV4001I	TH-57C	Day Navigation	
<input type="checkbox"/>	INS0201I	MIL	Instrument Flight Rules	
<input type="checkbox"/>	RI0101I	CAI	Introduction to NAVAIDs and RI Flight Procedures	
<input type="checkbox"/>	RI0102I	CAI	Fundamentals of RI Flight Procedures	
<input type="checkbox"/>	RI0103I	CAI	TACAN and VOR Approaches	
<input type="checkbox"/>	RI0104I	CAI	GTN-650 Procedures	
<input type="checkbox"/>	RI0105I	CAI	VOR/TACAN with Failed Direction Gyro	
<input type="checkbox"/>	RI0106I	CAI	ATC Radio Procedures	
<input type="checkbox"/>	RI0107I	CAI	Radar and ILS Approaches	
<input type="checkbox"/>	RI0108I	MIL	Radio Instrument Flight Procedures	
<input type="checkbox"/>	CRM0201I	MIL	Crew Resource Management – Facilitator	
<input type="checkbox"/>	EP3001I	Sim (57B/FTD-7)	Emergency Procedures	
<input type="checkbox"/>	RI3001I	Sim (57C/FTD-7)	Radio Instruments	
<input type="checkbox"/>	RI3002I	Sim (57C/FTD-7)	Radio Instruments	
<input type="checkbox"/>	RI3003I	Sim (57C/FTD-7)	Radio Instruments	
<input type="checkbox"/>	RI3004I	Sim (57C/FTD-7)	Radio Instruments	
<input type="checkbox"/>	RI3005I	Sim (57C/FTD-7)	Radio Instruments	

Done	Event Code	Acft/Device/Media	Event Name	Date
<input type="checkbox"/>	RI4001I	TH-57C	Radio Instruments	
<input type="checkbox"/>	RI4002I	TH-57C	Radio Instruments	
<input type="checkbox"/>	RI4003I	TH-57C	Radio Instruments	
<input type="checkbox"/>	RI4004I	TH-57C	Radio Instruments	
<input type="checkbox"/>	RI4190I	TH-57C	Instrument Check Flight	
<input type="checkbox"/>	TRF0101I	MIL	Map Interpretation	
<input type="checkbox"/>	TRF4001I	TH-57B/C	TERF Navigation	
<input type="checkbox"/>	TRF4101I	TH-57/BC	TERF Navigation	
<input type="checkbox"/>	TRF4102I	TH-57B/C	TERF Navigation	
<input type="checkbox"/>	NVG0101I	Lab	NITE Lab Refresher	
<input type="checkbox"/>	NVG4001I	TH-57C	Night Vision Device Familiarization Flight	
<input type="checkbox"/>	NVG4002I	TH-57C	Night Vision Device Familiarization Flight	
<input type="checkbox"/>	NVG4003I	TH-57C	Night Vision Device Familiarization Flight	
<input type="checkbox"/>	NVG4190I	TH-57C	Night Vision Device Check Flight	
<input type="checkbox"/>	OBS3001I	Sim (57C/FTD-7)	NVG Simulator Event Observe	
<input type="checkbox"/>	OBS4001I	TH-57C	Basic Instrument Flight Observe	
<input type="checkbox"/>	OBS4101I	TH-57C	Radio Instrument Flight Observe	
<input type="checkbox"/>	IP3001I	Sim (57B/FTD-7)	Defensive Posturing	
<input type="checkbox"/>	EM4001I	TH-57B	Autorotation Energy Management	
<input type="checkbox"/>	IP0190I	Exam	Familiarization Stage Exam	
<input type="checkbox"/>	IP0490I	P/P Exam	NVG Stage Exam	
<input type="checkbox"/>	IP4001I	TH-57C	Instructor Pilot Familiarization	
<input type="checkbox"/>	IP4101I	TH-57C	Instructor Pilot Night Familiarization	
<input type="checkbox"/>	IP0290I	Exam	Instrument Stage Exam	
<input type="checkbox"/>	IP4201I	TH-57C	Instructor Pilot Basic Instrument	
<input type="checkbox"/>	IP4301I	TH-57C	Instructor Pilot Radio Instrument	
<input type="checkbox"/>	IP0390I	Exam	TERF Stage Exam	
<input type="checkbox"/>	IP4401I	TH-57C	Instructor Pilot TERF	
<input type="checkbox"/>	GND0501I	Lect	CDRE In-Brief	
<input type="checkbox"/>	GND0601I	MIL	Flight Instructor Training Course	
<input type="checkbox"/>	GND0701I	MIL	Multi-Service Pilot Training System	
<input type="checkbox"/>	GND0801I	MIL	Cross-Country Procedures	
<input type="checkbox"/>	GND1101I	Sqdn	HITU Checkout	
<input type="checkbox"/>	FAM3201I	Sim (57B/FTD-7)	Advanced Transition Familiarization 'B'	
<input type="checkbox"/>	OBS3201I	Sim (57B/FTD-7)	FAM 'B' Simulator Observe	

Done	Event Code	Acft/Device/Media	Event Name	Date
<input type="checkbox"/>	FAM4501I	TH-57B	Squadron Familiarization 'B'	
<input type="checkbox"/>	FAM4502I	TH-57B	Squadron Familiarization 'B'	
<input type="checkbox"/>	FAM4503I	TH-57B	Squadron Familiarization 'B'	
<input type="checkbox"/>	EM3101I	Sim (57B/FTD-7)	Bravo Defensive Posturing	
<input type="checkbox"/>	FAM4601I	TH-57B	HITU Familiarization 'B'	
<input type="checkbox"/>	FAM4602I	TH-57B	HITU Familiarization 'B'	
<input type="checkbox"/>	EM4101I	TH-57B	Energy Management 'B'	
<input type="checkbox"/>	EM4102I	TH-57B	Energy Management 'B'	
<input type="checkbox"/>	EM4103I	TH-57B	Energy Management 'B'	
<input type="checkbox"/>	FAM4701I	TH-57B	HITU 'B' Check Flight	
<input type="checkbox"/>	AER0401I	CAI	Flight Phenomena	
<input type="checkbox"/>	AER0402I	MIL	Advanced Aero and Rotor System Dynamics	
<input type="checkbox"/>	LOG0101I	CAI	CAL and External Load Ops	
<input type="checkbox"/>	LOG0102I	CAI	Dynamic Maneuvers	
<input type="checkbox"/>	LOG0290I	P/P Exam	Logistics Stage Exam	
<input type="checkbox"/>	LOG4001I	TH-57B	Logistics	
<input type="checkbox"/>	FRM0101I	CAI	Formation Flying	
<input type="checkbox"/>	FRM0102I	CAI	NATOPS and Mission Brief	
<input type="checkbox"/>	FRM0103I	MIL	Formation	
<input type="checkbox"/>	FRM0290I	P/P Exam	Formation Stage Exam	
<input type="checkbox"/>	OBS3601I	Sim (57B/FTD-7)	Formation Simulator Observe	
<input type="checkbox"/>	FRM4001I	TH-57C	Formation	
<input type="checkbox"/>	FRM4002I	TH-57C	Formation	
<input type="checkbox"/>	FRM4101I	TH-57C	Combat Cruise Formation	
<input type="checkbox"/>	FRM4290I	TH-57C	Formation Check Flight	
<input type="checkbox"/>	SAR0101I	CAI	SAR Organization and Planning	
<input type="checkbox"/>	SAR0102I	CAI	SAR Flight Procedures	
<input type="checkbox"/>	SAR0290I	P/P Exam	Search and Rescue Stage Exam	
<input type="checkbox"/>	OBS3401I	Sim (57B/FTD-7)	SAR Simulator Observe Event	
<input type="checkbox"/>	SAR4001I	TH-57C	SAR Upgrade	
<input type="checkbox"/>	SAR4002I	TH-57C	SAR Upgrade	
<input type="checkbox"/>	SHP0101I	CAI	General Shipboard Operations	
<input type="checkbox"/>	SHP0102I	CAI	Shipboard Qualification Procedures	
<input type="checkbox"/>	SHP0290I	P/P Exam	Shipboard Operations Stage Exam	

<b>Done</b>	<b>Event Code</b>	<b>Acft/Device/Media</b>	<b>Event Name</b>	<b>Date</b>
<input type="checkbox"/>	OBS3301I	Sim (57B/FTD-7)	Shipboard Operations Observe	
<input type="checkbox"/>	SHP3001I	Sim (57B/FTD-7)	Shipboard VFR Operations	
<input type="checkbox"/>	EM4201I	TH-57B	AEMP Cadre	
<input type="checkbox"/>	EM4202I	TH-57B	AEMP Cadre	
<input type="checkbox"/>	EM4203I	TH-57B	AEMP Cadre	
<input type="checkbox"/>	EM4204I	TH-57B	AEMP Cadre	
<input type="checkbox"/>	EM4390I	TH-57B	Energy Management Principles Check Flight	