

Requirement

Discuss:

High density altitude.
Blowing sand.
Brown-out conditions.
Aircraft hot weather performance limitations.

Introduce: Desert landing techniques.

Review: NATOPS Chapter 13.

Performance Standards. Pilots shall fly pattern within 50 feet and 10 kts of briefed altitude and airspeed, fly established pattern checkpoints, recognize closure to landing point, remain oriented on zone, land within 2 rotors of intended point of landing, demonstrate ability to perform no-hover landings.

Prerequisites. CAL-211.

External Syllabus Support. Desert environment.

4. Water Landings (WTR)

- a. Purpose. To develop water landing skills.
- b. General. Pilots shall practice landings in fresh water.
- c. Crew Requirements. P/CP/CC.
- d. Ground/Academic Training. Review CH-46E NATOPS Flight Manual, Chapter 9.8.
- e. Flight and Simulator Event Training (1 Event, 1.0 Hour)

WTR-623

1.0

1 CH-46E A

Goal. Demonstrate the ability to conduct day water takeoffs and landings.

Requirement

Discuss:

CRM requirements for water landings.
Water landing checklist.
Waterfall effect and salt encrustation.
Rescue with the side door down procedures and limitations.
Inadvertent HEFS deployment.
Ditching.

Introduce:

Water taxi.
Vertical water takeoff.
Vertical water landing.
Running water takeoff.
Running water landing.

Review: Over-water rescue hoist operations.

Performance Standards. Pilots shall recognize and control closure and descent rates, perform vertical landing and takeoff, perform water taxi.

Prerequisite. CAL-211.

External Syllabus Support. Authorized fresh water landing area.

5. Air Combat Maneuvering (ACM)

a. Purpose. To introduce ACM in the simulator.

b. General

(1) Conduct ACM with a section of helicopters against 1 or 2 RW/FW bandits.

(2) SACM-625 shall be instructed by a DMI.

c. Crew Requirements. P/CP.

d. Ground/Academic Training. Utilize academic courseware as outlined in the MAWTS-1 Course Catalog.

e. Flight and Simulator Event Training (1 Event, 2.0 Hours)

SACM-624 2.0 WST S

Goal. Introduce helicopter ACM.

Requirement

Discuss:

- CRM.
- Crew comfort levels.
- Lookout doctrine.
- Common terminology.
- Closure rate/radius of turn/energy state.
- Use of onboard ASE.
- Use of onboard defensive weapons.

Introduce: Helicopter ACM in a section versus RW/FW bandits per the Air NTTP 3-22 publications.

Review: Helicopter performance characteristics and NATOPS limitations.

Performance Standards. Pilots shall demonstrate effective flight leadership and maneuvering in response to threat, maintain SA of wingman prior to and through evasive maneuvering, demonstrate proper ASE employment WRT threat, execute within NATOPS limits, demonstrate effective threat evaluation, appropriate threat response, effective inter and intra cockpit communication, meet learning objectives as established by Air NTTP CH46-E 3.22.3 Appendix B, demonstrate

understanding of mutual supportability, recognize closure rate, effectively utilize radius of turn, maintain energy state, utilize proper terminology, effective 360 degree lookout doctrine, demonstrate proper response to aircrew threat calls, proper utilization of onboard defensive systems, understanding of threat weapons capabilities and appropriate flight response.

Prerequisite. DMQ.

External Syllabus Support. ACM capable WST/APT.

6. Functional Check Flights (FCF)

- a. Purpose. To obtain an FCF designation.
- b. General. Conduct the full range of FCF procedures.
- c. Crew Requirements. P/CP/CC.
- d. Ground/Academic Training. NATOPS Chapter 10, Functional Check Flight checklist, squadron SOP for maintenance flights, and 4790 parameters and requirements.
- e. Flight and Simulator Event Training. (1 Event, 2.0 Hours)

FCF-630 2.0 R,E 1 CH-46E A

Goal. Functional Check Flight designation.

Requirement. Effectively demonstrate the ability to perform a full card Functional Check Flight.

Discuss:

Maintenance test procedures.
Troubleshooting techniques.
Squadron SOP for maintenance flights.
MIMS.

Review: NATOPS Chapter 10, Functional Check Flight Checklist.

Performance Standards. Pilots shall demonstrate the ability to conduct a full-card Functional Check Flight correctly, efficiently, and demonstrate the ability to troubleshoot aircraft problems.

Prerequisite. Squadron FCF syllabus and reading.

7. CRM Training

- a. Purpose. To conduct annual CRM training.
- b. General. Aircrew shall be NSQ (appropriate light level) for all NS flights.
- c. Minimum Crew Requirement. P/CP/CC (AGO if NS are used).

d. Ground/Academic Training. Annual CRM training as outlined in the CH-46E NATOPS Flight Manual and OPNAVINST 1542.7.

e. Flight and Simulator Event Training (1 Event, 2.0 Hours)

CRM-640 1.5 R,E 1 CH-46E/WST A/S (N)

Goal. Practice/review CRM principles presented in the CH-46E CRM Training course while executing a simulated mission scenario.

Requirement

Discuss:

Decision making.
Assertiveness.
Mission analysis.
Communication.
Leadership.
Adaptability/flexibility.
Situational awareness.

Evaluate:

Decision making.
Assertiveness.
Mission analysis.
Communication.
Leadership.
Adaptability/Flexibility.
Situational Awareness.
CRM during emergencies and system failures.

Performance Standards. Pilots shall demonstrate effective use of the CRM 7 critical skills areas.

Prerequisite. Completion of the CH-46E CRM course.

External Syllabus Support. WST/APT.

153. QUALIFICATION AND DESIGNATION TRACKING. The purpose of this section is to establish training codes to track qualifications, designations, and instructor and flight leadership proficiency. The listed training codes shall not have any associated flight hour requirement or CRP.

1. Qualifications

a. Purpose. To establish training codes in order to track qualifications.

b. General

(1) Qualification training codes (QUAL) shall not have any associated flight time requirement or CRP. Qualification training codes can be logged on the effective date of a qualification and should be a one-time occurrence unless the qualification is lost. If a qualification is lost, the previously logged qualification code should be removed and subsequently re-entered upon becoming re-qualified.

(2) Prerequisites. IAW MCO P3500.14, MCO P3500.50, and MAWTS-1 Course Catalog.

c. Crew Requirement. IAW MCO P3500.14, MCO P3500.50, and MAWTS-1 Course Catalog.

d. Ground/Academic Training. IAW MCO P3500.14, MCO P3500.50, and MAWTS-1 Course Catalog.

e. Flight and Simulator Event Training. None.

QUAL-650

Goal. Tracking for TERF Qualification.

Requirement. At the discretion of the squadron commanding officer a letter assigning the individual as TERF Qualified shall be placed in the NATOPS jacket and APR.

Prerequisite. TERF Qualified IAW MCO P3500.14 and MCO P3500.50.

QUAL-651

Goal. Tracking for NS HLL Qualification.

Requirement. At the discretion of the squadron commanding officer a letter assigning the individual as NS HLL Qualified shall be placed in the NATOPS jacket and APR.

Prerequisite. NS HLL Qualified IAW MCO P3500.14 and MCO P3500.50.

QUAL-653

Goal. Tracking for CQ Qualification.

Requirement. At the discretion of the squadron commanding officer a letter assigning the individual as CQ Qualified shall be placed in the NATOPS jacket and APR.

Prerequisite. CQ Qualified IAW MCO P3500.14 and MCO P3500.50.

QUAL-654

Goal. Tracking for NS LLL Qualification.

Requirement. At the discretion of the squadron commanding officer a letter assigning the individual as NS LLL Qualified shall be placed in the NATOPS jacket and APR.

Prerequisite. NS LLL Qualified IAW MCO P3500.14 and MCO P3500.50.

QUAL-655

Goal. Tracking for DM Qualification.

Requirement. At the discretion of the squadron commanding officer a letter assigning the individual as DM Qualified shall be placed in the NATOPS jacket and APR.

Prerequisite. DM Qualified IAW MCO P3500.14 and MCO P3500.50.

QUAL-657

Goal. Tracking for FRS TERFQ Qualification.

Requirement. At the discretion of the squadron commanding officer a letter assigning the individual as FRS TERFQ shall be placed in the NATOPS jacket and APR.

Prerequisite. FRS TERFQ Qualified IAW MCO P3500.14 and MCO P3500.50.

QUAL-658

Goal. Tracking for FRS NSQ.

Requirement. At the discretion of the squadron commanding officer a letter assigning the individual as FRS NSQ shall be placed in the NATOPS jacket and APR.

Prerequisite. FRS NSQ IAW MCO P3500.14 and MCO P3500.50.

2. Designations

a. Purpose. To establish training codes in order to track instructor and flight leadership designations.

b. General

(1) Designation training codes for instructors (IDESIG) and flight leadership (DESIG) shall not have any associated flight time requirements or CRP. Designation training codes shall be logged for each event in which the individual acts in the capacity of the associated designation (IDESIG-660: instructing a TERFI required event; DESIG-670: leading a section). Effective use of these training codes will facilitate accurate tracking of instructor and flight leadership proficiency at the squadron level.

(2) Prerequisites. IAW MCO P3500.14, MCO P3500.50, and MAWTS-1 Course Catalog.

c. Crew Requirement. IAW MCO P3500.14, MCO P3500.50, and MAWTS-1 Course Catalog.

d. Ground Training. IAW MCO P3500.14, MCO P3500.50, and MAWTS-1 Course Catalog.

e. Flight and Simulator Event Training. IAW MCO P3500.14, MCO P3500.50, and MAWTS-1 Course Catalog.

IDESIG-660

Goal. Tracking for TERFI designation/proficiency.

Requirement. At the discretion of the squadron commanding officer a letter designating the individual as TERFI shall be placed in the NATOPS jacket and APR.

Prerequisite. Successful completion of the TERFI syllabus IAW MCO P3500.14, MCO P3500.50, and the MAWTS-1 Course Catalog.

IDESIG-661

Goal. Tracking for DMI designation/proficiency.

Requirement. At the discretion of the squadron commanding officer a letter designating the individual as DMI shall be placed in the NATOPS jacket and APR.

Prerequisite. Successful completion of the DMI syllabus IAW MCO P3500.14, MCO P3500.50, and the MAWTS-1 Course Catalog.

IDESIG-662

Goal. Tracking for NSFI designation/proficiency.

Requirement. At the discretion of the squadron commanding officer a letter designating the individual as NSFI shall be placed in the NATOPS jacket and APR.

Prerequisite. Successful completion of the NSFI syllabus IAW MCO P3500.14, MCO P3500.50, and the MAWTS-1 Course Catalog.

IDESIG-663

Goal. Tracking for NSI designation/proficiency.

Requirement. At the discretion of the squadron commanding officer a letter designating the individual as NSI shall be placed in the NATOPS jacket and APR.

Prerequisite. Successful completion of the NSI syllabus IAW MCO P3500.14, MCO P3500.50, and the MAWTS-1 Course Catalog.

IDESIG-666

Goal. Tracking for WTI designation/proficiency.

Requirement. At the discretion of the squadron commanding officer a letter designating the individual as WTI shall be placed in the NATOPS jacket and APR.

Prerequisite. Successful completion of the WTI syllabus IAW MCO P3500.12, MCO P3500.14, MCO P3500.50, and the MAWTS-1 Course Catalog.

IDESIG-667

Goal. Tracking for NSSI designation/proficiency.

Requirement. At the discretion of the squadron commanding officer a letter designating the individual as NSSI shall be placed in the NATOPS jacket and APR.

Prerequisite. Successful completion of the NSSI syllabus IAW MCO P3500.14, MCO P3500.50, and the MAWTS-1 Course Catalog.

IDESIG-668

Goal. Tracking for FRSI designation/proficiency.

Requirement. At the discretion of the squadron commanding officer a letter designating the individual as FRSI shall be placed in the NATOPS jacket and APR.

Prerequisite. Successful completion of the FRSI syllabus IAW MCO P3500.14 and MCO P3500.50.

DESIG-670

Goal. Tracking for Section Leader designation/proficiency.

Requirement. At the discretion of the squadron commanding officer a letter designating the individual as a Section Leader shall be placed in the NATOPS jacket and APR.

Prerequisite. Successful completion of the Section Leader syllabus IAW MCO P3500.14 and MCO P3500.50.

DESIG-671

Goal. Tracking for Division Leader designation/proficiency.

Requirement. At the discretion of the squadron commanding officer a letter designating the individual as a Division Leader shall be placed in the NATOPS jacket and APR.

Prerequisite. Successful completion of the Division Leader syllabus IAW MCO P3500.14 and MCO P3500.50.

DESIG-672

Goal. Tracking for Flight Leader designation/proficiency.

Requirement. At the discretion of the squadron commanding officer a letter designating the individual as a Flight Leader shall be placed in the NATOPS jacket and APR.

Prerequisite. Successful completion of the Flight Leader syllabus IAW MCO P3500.14 and MCO P3500.50.

DESIG-673

Goal. Tracking for AMC designation/proficiency.

Requirement. At the discretion of the squadron commanding officer a letter designating the individual as an AMC shall be placed in the NATOPS jacket and APR.

Prerequisite. Successful completion of the AMC syllabus IAW MCO P3500.14 and MCO P3500.50.

DESIG-674

Goal. Tracking for FCF designation/proficiency.

Requirement. At the discretion of the squadron commanding officer a letter assigning the individual as FCF designated shall be placed in the NATOPS jacket and APR.

Prerequisite. FCF designated IAW MCO P3500.14, MCO P3500.50, OPNAVINST 4790, and Squadron SOPs.

154. GROUND TRAINING/ACADEMIC TRACKING. The purpose of this section is to establish training codes (ACAD-700 through ACAD-899) to track the completion of ground training/academic requirements IAW MCO P3500.14, MCO P3500.50, and the MAWTS-1 Course Catalog. The listed training codes shall not have any associated flight hour requirement or CRP.

1. Ground/Academic Training

a. Purpose. To establish training codes in order to track ground training/academic requirements.

b. General

(1) Ground training/academic training codes (ACAD) shall not have any associated flight time requirements or CRP. Ground training/academic training codes shall be logged each time the requirement is completed.

(2) **THIS STAGE WILL BE COMPLETED AT A LATER DATE FOLLOWING THE REVISION AND UPDATE OF THE MAWTS-1 COURSE CATALOG.**

(3) Prerequisites. IAW MCO P3500.14, MCO P3500.50, and MAWTS-1 Course Catalog.

c. Ground Training. IAW MCO P3500.14, MCC P3500.50, and MAWTS-1 Course Catalog.

d. Flight and Simulator Event Training. N/A.

ACAD-700
ACAD-899

160. ORDNANCE REQUIREMENTS

PLT's REQ'D TO BE CSP	# CC & AG/O REQ'D TO BE CSP		T&R CODE	INDIVIDUAL REQUIREMENTS						
				EXPENDABLES		.50 CAL		OTHER		
				TOTAL CHF/FLR REQ'D PER "X"		RNDS REQ'D PER "X"		ORD REQ'D PER "X"		
	1-CC	AG/O	CHAFF	FLARE	PILOT	CC/AG	SMKE	PYRO	7.62	
(100 LEVEL)										
NO ORDNANCE REQUIRED										
(200 LEVEL)										
CORE SKILLS										
16	8	8	AG 281			500*	500	2		
			282				500			
			283				500			
(300 LEVEL)										
CORE SKILLS										
16	8	8	AG 321	as req'd	as req'd	500*	500			
			332				500			
12			GTR 331	0	60	500	500			
12			GTR 332	40	20			2	Any avl	
12	6	6	TAC371	opt.	opt.					
			372	opt.	opt.	opt.				
			374	20	40	opt.	500			
			375	20	40	opt.	500			
(400 level)										
CORE PLUS SKILLS (Note: DM 441/442 req'd to be DM qual'd)										
12	6	6	TAC401	20	40	500*	500			
			402	20	40	500*	500			
12	6	6	DM 441	20	40					
			442	20	40					
6	6		TG 481						500	
6	6		482						500	

100-400 LEVEL PHASES							
	CHAFF	FLARE	.50 CAL	SMOKE	PYRO	7.62	
Sub TOTAL:	160	320	0	5,500	4	Any avl	1000

Rounds required for aircrew annotated with an asterisk (*) are shown for planning purposes only. In order to meet learning objectives for the event, an initial/Refresher/delinquent aircrew shall be afforded the exposure to the requisite ordnance in order to be complete/qualified for the given event. Consideration should be given to meeting learning objectives by matching up an initial/Refresher/delinquent pilot with an initial/Refresher/delinquent crew chief, aerial gunner/observer who are required to expend the appropriate ordnance.

PLT's REQ'D TO BE CSP	# CC & AG/O REQ'D TO BE CSP		T&R CODE	UNIT REQUIREMENTS						
				EXPENDABLES		.50 CAL			OTHER	
				TOTAL CHF/FLR REQ'D TO BE CORE COMPETENT		TOTAL RND'S REQ'D PER TO BE CORE COMPETENT			TOTAL ORD REQ'D TO BE CORE COMPETENT	
	2-CC	AG/O	CHAFF	FLARE	PLT	CC	AG/O	SMKE	PYRO	7.62
(100 LEVEL)										
NO ORDNANCE REQUIRED										
(200 LEVEL)										
CORE SKILLS										
16	8	8	AG 281				4000	4000	24	
			282				4000	4000		
			283				4000	4000		
(300 LEVEL)										
CORE SKILLS										
16	8	8	AG 321				4000	4000	24	any avl
			332				4000	4000		
12	6	6	GTR 331	0	720		3000	3000		
12	6	6	GTR 332	480	240		3000	3000	24	any avl
			TAC371							
			372							
12	6	6	374	240	480					
			375	240	480					
(400 LEVEL)										
CORE PLUS SKILLS (Note: DM 441/442 req'd to be DM qual'd)										
12	6	6	TAC401	240	480		3000	3000		
			402	240	480		3000	3000		
12	6	6	DM 441	240	480					
			442	240	480					
	6		TG 481							3000
	6		482							3000

REQ'D TO ACHIEVE/MAINTAIN CORE COMPETENCY						
	CHAFF	FLARE	.50 CAL(CC&AG/O)	SMKE	PYRO	7.62
Sub TOTAL:	1460	2880	64,000	48	Any avl	6000

DOES NOT INCLUDE ORD REQ'D FOR TAC 401/402 (CORE PLUS SKILLS)

PLT's REQ'D TO BE CORE COMPETENT	# CC & AG/O REQ'D TO BE CORE COMPETENT		T&R CODE	INDIVIDUAL REQUIREMENTS						
				EXPENDABLES		.50 CAL		OTHER		
				TOTAL CHF/FLR REQ'D PER "X"		RNDS REQ'D PER "X"		ORD REQ'D PER "X"		
	3-CC	AG/O	CHAFF	FLARE	PILOT	CC/AG	SMKE	PYRO	7.62	
INSTRUCTOR CERTIFICATION (500 LEVEL)										
X	2		AG 540				500	2	Any avl	
			541				500			
			542				500			
			543				500			
2	2		581	20	40					
			582	20	40					
X	2		TG 545							500
			546							500
			547							500

INSTRUCTOR PHASE							
	CHAFF	FLARE	.50 CAL	SMKE	PYRO	7.62	
Sub TOTAL:	40	80	0 2,000	0	Any avl	1500	

PLT's REQ'D TO BE CORE COMPETENT	# CC & AG/O REQ'D TO BE CORE COMPETENT		T&R CODE	UNIT REQUIREMENTS						
				EXPENDABLES		.50 CAL			OTHER	
				TOTAL CHF/FLR REQ'D TO BE CORE COMPETENT		TOTAL RNDS REQ'D PER TO BE CORE COMPETENT			TOTAL ORD REQ'D TO BE CORE COMPETENT	
	4-CC	AG/O	CHAFF	FLARE	PLT	CC	AG/O	SMKE	PYRO	7.62
INSTRUCTOR CERTIFICATION										
X	2		AG 540				1000			
			541				1000			
			542				1000			
			543				1000			
2	2		581	40	80					
			582	40	80					
X	2		TG 545							500
			546							500
			547							500

REQ'D TO FOR INITIAL CERTIFICATION/CORE COMPETENCY							
	CHAFF	FLARE	.50 CAL	SMKE	PYRO	7.62	
Sub TOTAL:	80	160	4,000	0	Any avl	3000	

PLT's REQ'D TO BE CORE COMPETENT	# CC & AG/O REQ'D TO BE CORE COMPETENT		T&R CODE	INDIVIDUAL REQUIREMENTS						
	5-CC	AG/O		EXPENDABLES		.50 CAL		OTHER		
				TOTAL CHF/FLR REQ'D PER "X"	RNDS REQ'D PER "X"	ORD REQ'D PER "X"	CHAFF	FLARE	PILOT	CC/AG
REQUIREMENTS, QUALIFICATIONS AND DESIGNATION (600 LEVEL)										
12	 		FL 602							
			603							
			604							
			605							
6	 		606	as req'd	as req'd	as req'd				
			607	as req'd	as req'd	as req'd				
			608	20	40	200				
4	 		609	as req'd	as req'd	as req'd				
			610	as req'd	as req'd	as req'd				
			611	20	40	200				
2	 		612	20	40	200				
2	 		613							

FLIGHT LEADERSHIP STAGE						
	CHAFF	FLARE	.50 CAL	SMOKE	PYRO	
Sub TOTAL:	60	120	600	0	0	Any avl

PLT's REQ'D TO BE CORE COMPETENT	# CC & AG/O REQ'D TO BE CORE COMPETENT		T&R CODE	UNIT REQUIREMENTS											
	6-CC	AG/O		EXPENDABLES		.50 CAL		OTHER							
				TOTAL CHF/FLR REQ'D TO BE CORE COMPETENT	TOTAL RNDS REQ'D PER TO BE CORE COMPETENT	TOTAL ORD REQ'D TO BE CORE COMPETENT	CHAFF	FLARE	PLT	CC	AG/O	SMKE	PYRO		
REQUIREMENTS, QUALIFICATIONS AND DESIGNATION (600 LEVEL)															
12	 		FL 602												
			603												
			604												
			605												
6	 		606												
			607												
			608	120	240		1200								
4	 		609												
			610												
			611	80	160		800								
2	 		612	40	80		400								
2	 		613												

REQ'D FOR INITIAL DESIGNATION/CORE COMPETENCY						
	CHAFF	FLARE	.50 CAL(CC &AG/O)	SMKE	PYRO	
Sub TOTAL:	240	480	2,400	0	Any avl	

In order for an individual to meet all event requirements, the following ordnance is required:

INDIVIDUAL REQUIREMENTS							
	EXPENDABLES		.50 CAL		OTHER		
	CHAFF	FLARE	PILOT	CC, AG/O	SMOKE	PYRO	7.62
TOTAL:	280	500	1100	7500	0	As req'd	1000

In order for a unit to meet all core skill and core competency requirements, the following ordnance is required:

UNIT REQUIREMENTS						
	EXPENDABLES		.50 CAL		OTHER	
	CHAFF	FLARE		SMOKE	PYRO	7.62
TOTAL:	1760	3520	64,000	46	As req'd	9000

The above is not tied to annual requirements, rather to the attainment of core competency. Annual requirements (e.g. to maintain individuals proficiency, unit's core competency) may exceed the totals above due to a specific refly interval of less than 365 days (e.g. TAC codes).

100-400 LEVEL PHASES						
	CHAFF	FLARE	.50 CAL		SMOKE	PYRO
Sub TOTAL:	180	300	0	5,500	4	Any avl.

Rounds required for pilots annotated with an asterisk (*) are shown for planning purposes only. In order to meet learning objectives for the event for an initial/Refresher/delinquent pilot shall be afforded the exposure to the requisite ordnance in order to be complete/qualified for the given event. Consideration should be given to meeting learning objectives by matching up an initial/Refresher/delinquent pilot with an initial/Refresher/delinquent crew chief, aerial gunner/observer who are required to expend the appropriate ordnance.

170. MOS SYLLABUS MATRIX. These tables display specific 100 - 600 level event information such as; flight/simulator hours, refly interval, prerequisites, CRP, chaining, etc. in a table format.

CH-46 PILOT														
100 SERIES CORE SKILL INTRODUCTION														
STAGE	TRNG CODE	FLT HOURS	SIM HOURS	REFLY INT	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	CHAINING	EVENT DESC	OLD CODE
ACADEMICS														
ACAD	001		30.0	*									PFAM CLASS	001
ACAD	002		1.0	*									WELCOME ABOARD	002
ACAD	003		0.5	*									ODO CLASS	003
ACAD	004		0.5	*									SDO CLASS	004
ACAD	005			*					R,MR				COURSE RULES CLASS	005
ACAD	006		1.0	*					R,MR				LOAD COMP CLASS	006
ACAD	007			*									CNCS/PFPS INTRO	007
ACAD	008		3.0	*					R,MR				ECCS CLASS	008
ACAD	009		1.0	*					R,MR				CBTs	009
ACAD	010			*					R,MR				NATOPS OPEN BOOK EXAM	010
ACAD	011			*					R,MR				COURSE RULES EXAM	011
ACAD	012			*					R,MR				SOP EXAM	012
ACAD	021		0.5	*									NAVIGATION CLASS	021
ACAD	022		0.5	*									TERF CLASS	022
ACAD	023		2.0	*									PFPS ADVANCED CLASS	023
ACAD	031		1.0	*									NS CLASS	031
ACAD	041			*					R,MR				CLOSED BOOK EXAM	041
FAM														
SFAM	100		2.0	*	S	D			R,MR	E	0.5		SIM-START	100
SFAM	101		2.0	*	S	D	100			E	0.5		SIM-PATTERN	101
SFAM	102		2.0	*	S	D	101			E	0.5		SIM-ENG MAL	102
SFAM	103		2.0	*	S	D	102			E	0.5		SIM-RUN LAND	103
SFAM	104		2.0	*	S	D	103		R,MR	E	0.5		SIM-AUTO	104
SFAM	105		2.0	*	S	D	104			E	0.5		SIM-EMER THROT	105
SFAM	106		2.0	*	S	D	105			E	0.5		SIM-REVIEW	106
SFAM	107		2.0	*	S	D	106		R,MR	E	0.5		SIM-ALL FAM	107
SFAM	118		2.0	*	S	D	107		R,MR	E	0.0		SIM-ECCS GRD	190
SFAM	119		2.0	*	S	D	118		R,MR	E	0.0		SIM-ECCS FLIGHT	191
FAM	108	0.0		*	A	1	D 119		R,MR	E	0.0		GROUND	108
FAM	109	2.0		*	A	1	D 001,002,003,004,005,006,007,008,009,010,011,012,108			E	1.0		START	109
FAM	110	2.0		*	A	1	D 109			E	1.0		PATTERN	110
FAM	111	2.0		*	A	1	D 110			E	1.0		REV FAM	111
FAM	112	2.0		*	A	1	D 111			E	1.0		AFCS	112
FAM	113	1.5		*	A	1	D 112		R,MR	E	1.0		EMER THROT	113
FAM	114	1.5		*	A	1	D 113			E	1.0		ETS	114
FAM	115	1.5		*	A	1	D 114			E	1.0		REV	115
FAM	116	1.5		*	A	1	D 115		R,MR	E	1.0		PROG CHECK	116
FAM	117	1.5		*	A	1	N* 116		R,MR	E	1.0		NIGHT FAM	117
											13.0			

CH-46 PILOT														
100 SERIES CORE SKILL INTRODUCTION														
STAGE	TRNG CODE	FLT HOURS	SIM HOURS	REFLY INT	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	CHAINING	EVENT DESC	OLD CODE
INST														
SINST	120		2.0	*	S		D			E	1.0		SIM-CNCS FAM	
SINST	121		2.0	*	S		(N*)	120	R,MR	E	1.0		SIM-BI/RI	121
SINST	122		2.0	*	S		(N*)	121	R,MR	E	1.0		SIM-TACAN/GCA	120
INST	123	1.5		*	A/S	1	(N*)	122	R,MR	E	1.0		TACAN/GCA	123
INST	124	1.5		*	A/S	1	(N*)	123	R,MR	E	1.0		ENROUTE	124
INST	125	1.5		*	A/S	1	(N*)	124	R,MR	E	1.0		INST EVAL	126
											6.0			
NAV														
NAV	131	1.5		*	A	1	D	021,023,112		E	1.0		DAY NAV-1:250	130
NAV	132	1.5		*	A	1	D	131		E	1.0		DAY NAV-1:50	131
NAV	133	1.5		*	A	1	N*	117,132		E	1.0		UNAIDED NAV	132
											3.0			
CAL														
SCAL	140		2.0	*	S		D	116		E	0.5		CAL	140
CAL	141	1.5		*	A	1	D	116	R	E	0.5		DAY CAL	141
CAL	142	1.5		*	A	2	D	152,141		E	1.0		DAY SEC CAL	NEW
											2.0			
FORM														
SFORM	150		2.0	*	S		(NS)	140		E	0.5		DAY/NS FORM	150
FORM	151	1.5		*	A	2	D	141	R	E	1.0		DAY FORM CRUISE	151
FORM	152	1.5		*	A	2	D	151		E	1.0		DAY FORM PARADE	152
											2.5			
EXT														
SEXT	160		2.0	*	S		D	140		E	0.5		EXT	160
EXT	161	1.5		*	A	1	D	141		E	1.0		EXT	161
											1.5			
TERF														
TERF	171	1.5		*	A	1	D	022,116	R,MR	E	0.5		TERF	171
											0.5			
NS														
SNS	180		2.0	*	S		NS	031,107		E	0.5		SIM-NS FAM	118
NS	181	2.0		*	A	1	NS	031,NS LAB, 117	R	E	1.0		NS FAM	119
NS	182	1.5		*	A	1	NS	031,133,181		E	1.0		NS NAV	133
NS	183	1.5		*	A	1	NS	031,141,182		E	1.0		NS CAL	142
											3.5			
REV														
SREV	190		2.0	*	S		D	ALL PREVIOUS STAGES COMPLETE	R	E	1.0		SIM-REV	180
REV	191	1.5		*	A	1	D	190		E	1.0		REV	181
											2.0			
CSIX														
CSIX	192	1.5		*	A	1	D	041,191	R,MR	E	1.0		NATOPS	182
											1.0			
CRP TOTAL FOR PHASE											35.0			

CH-46 PILOT														
200 SERIES CORE SKILL BASIC														
STAGE	TRNG CODE	FLT HOURS	SIM HOURS	REFLY INT	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	CHAINING	EVENT DESC	OLD CODE
FAM/INST														
SFAM/INST	200		2.0	*	S/A	1	(N)				0.3		SFAM/INST	200
FAM/INST	201	2.0		180	A	1	(N)	200	R		0.5	200	FAM	202
FAM/INST	202	1.5		180	A	1	(N)	200	R		0.5	200	INST	202
											1.3			
CAL														
SCAL	210		2.0	*	S		D				0.3		SIM CALS	210
CAL	211	1.5		180	A	1	D	210			0.5	210	CALS	211
CAL	212	1.5		180	A	2	D	211	R		0.5	210,211	MULTI A/C CALS	212
											1.3			
EXT														
SEXT	220		2.0	*	S		D				0.3	210	SIM EXTERNALS	220
EXT	221	1.5		365	A	1	D	220,211	R		0.5	210,211,220	DAY EXTERNALS	221
											0.8			
FORM														
SFORM	230		2.0	*	S		D				0.3		SIM FORM	230
FORM	231	1.5		180	A	2	(NS)	230	R		0.5	230	TACFORM	231
											0.8			
TERF														
STERF	240		2.0	*	S		D				0.3		SIM TERF	240
TERF	241	1.5		180	A	1	D	240			0.5	240	TERF MANEUVERS	241
TERF	242	1.5		180	A	1	D	241			0.5	240,241	TERF	242
TERF	243	1.5		180	A	2	D	242	R		1.0	230,231,240,241,242	SEC TERF	243
											2.3			
NS														
SNS	250		2.0	*	S		NS				0.3	210	SIM NS FAM	250
NS	251	1.5		180	A	1	NS	250	R		0.5	210,211,250	HLL CALS	251
NS	252	1.5		180	A	2	NS	231,251			0.5	230,231,250	HLL FORM	252
NS	253	1.5		180	A	2	NS	212,252	R		1.0	210,211,212,230,231, 250,251,252	HLL SEC CALS	253
NS	254	1.5		*	A	3	NS	253			1.0	210,211,212,230,231, 250,251,252,253	HLL DIV CALS/FORM	254
NS	255	1.5		180	A	1	NS	TERFQ, 251			1.0	240,241,242,243,250	HLL TERF	255
NS	256	1.5		180	A	2	NS	TERFQ, 252,255			1.0	230,231,240,241,242, 243,250,252,255	HLL SEC TERF	256
NS	257	1.5		180	A	2	NS	253,256	R		1.2	210,211,212,230,231, 240,241,242,243,250, 251,252, 253,255,256	HLL SEC TERF/CALS	257
											6.5			

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CH-46 PILOT														
200 SERIES CORE SKILL BASIC														
STAGE	TRNG CODE	FLT HOURS	SIM HOURS	REFLY INT	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	CHAINING	EVENT DESC	OLD CODE
AG														
AG	281	1.5		365	A	1	D		R		0.5		DAY AG	281
											0.5			
CQ														
SCQ	290		2.0	*	S		(N)	NONE			0.5		SIM D/N/ UNDAIDED CQ	290
CQ	291	1.0		365	A	1	D	290			0.5	290	DAY FCLP	291
CQ	293	1.0		365	A	1	NS	291			0.5	290, 291	NS FCLP	293
											1.5			
CRP TOTAL FOR PHASE											15.0			

CH-46 PILOT														
300 SERIES CORE SKILL ADVANCED														
STAGE	TRNG CODE	FLT HOURS	SIM HOURS	REFLY INT	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	CHAINING	EVENT DESC	OLD CODE
CQ														
CQ	300	1.0		365	A	1	D	291 (If available)			0.7	210, 211, 290, 291	DAY CQ	300
CQ	301	1.0		365	A	1	NS	293 (If available), 300	R		1.0	210, 211, 250, 251, 290, 291, 293, 300, (310 LLL), (311 LLL)	NS CQ	301
											1.7			
NS														
SNS	310		2.0	*	S		NS	250			0.5	210, 250	SIM LLL TERF/NAV/CALS	310
NS	311	1.5		180	A	1	NS	310	R		1.0	210, 211, 250, 251, 310	LLL CALS	311
NS	312	1.5		180	A	2	NS	311	R		1.0	210, 211, 212, 250, 251, 252, 253, 310, 311	LLL SEC CALS	312
NS	313	1.5		180	A	3	NS	312	R		1.5	210, 211, 212, 250, 251, 252, 253, 254, 310, 311, 312	LLL DIV CALS	313
NS	314	1.5		180	A	2	NS	313	R		1.5	210, 211, 212, 230, 231, 240, 241, 242, 243, 250, 251, 252, 253, 255, 256, 257, 310, 311, 312	LLL TERF/FORM /CALS	314
											5.5			
AG														
AG	321	1.5		365	A	1	NS	281, 251	R		0.7	281	NS AG	321
											0.7			
GTR														
SGTR	330		2.0	*	S		(NS)	230			0.5	230, 240	SIM GRD THREAT REACT	330
GTR	331	1.5		365	A	2	(NS)	231, 330, TERFQ	R		1.5	230, 231, 240, 241, 242, (250, 252), 281, (310, 321)	NON-RADAR THREAT REACT	331
GTR	332	1.5		365	A	2	(NS)	231, 330, TERFQ	R		1.5	230, 231, 240, 241, 242, (250, 252, 310)	RADAR THREAT REAC	332
											3.5			
MAT														
SMAT	350		2.0	*	S		D	210			0.5	210	SIM MAT	350
MAT	351	1.5		365	A	1	D	211	R		0.7	210, 211, 350	DAY MAT	351
											1.2			
HIE														
SHIE	360		2.0	*	S		D				0.3	210	SIM HIE	360
HIE	361	1.0		365	A	1	D	211, 221, 360	R		0.6	210, 211, 360	FASTROPE/ RAPPEL	361
HIE	362	1.0		*	A	1	NS	361			0.6	210, 211, 250, 251, 360, 361, (310 LLL), (311 LLL)	NS FASTROPE/ RAPPEL	362
											1.5			

CH-46 PILOT														
300 SERIES CORE SKILL ADVANCED														
STAGE	TRNG CODE	FLT HOURS	SIM HOURS	REFLY INT	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	CHAINING	EVENT DESC	OLD CODE
TAC														
STAC	370		2.0	*	S		(NS)				0.5	210,230, (250 HLL), (310 LLL)	SIM D/N LOW THREAT	370
TAC	371	1.5		180	A	2	D	212,370, TERFQ			1.0	210,211,212,230,231,370	DAY LOW THREAT	371
TAC	372	1.5		180	A	2	NS	371,NSQ FOR APPT LL			1.1	210,211,212,230,231,250,251,252,253,370,371,(310 LLL),(311 LLL),(312 LLL)	NS LOW THREAT	372
STAC	373		2.0	*	S	2	(NS)	370			0.5	210,230, (250 HLL), (310 LLL),370	SIM D/N MED THREAT	373
TAC	374	1.5		180	A	2	D	373			1.0	210,211,212,230,231,370,371,373	DAY MED THREAT	374
TAC	375	1.5		180	A	2	NS	374	R		1.2	210,211,212,230,231,250,251,252,253,370,371,372,373,374,(310 LLL),(311 LLL),(312 LLL)	NS MED THREAT	375
											5.3			
EXT														
SEXT	390		2.0	*	S		(NS)	220,240,250			0.1	210,220	SIM D/N TERF EXT	390
EXT	392	1.5		365	A	1	NS	221	R		0.5	210,211,220,221,250,251,390,(310 LLL),(311 LLL)	NS EXT	392
											0.6			
CRP TOTAL FOR PHASE											20.0			

CH-46 PILOT														
400 SERIES CORE PLUS														
STAGE	TRNG CODE	FLT HOURS	SIM HOURS	REFLY INT	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	CHAINING	EVENT DESC	OLD CODE
TAC														
STAC	400		2.0	*	S		(NS)	STAC-373			0.2	210,230,240,330,370,373	SIM D/N HI THREAT	400
TAC	401	1.5		365	A	2	D	332,374,400			0.4	210,211,212,230,231,240,241,242,243,330,331,332,370,371,373,374,400	DAY HI THREAT	401
TAC	402	1.5		365	A	2	NS	375,401, NSQ FOR APPT LL	R		0.4	210,211,212,230,231,240,241,243,250,251,252,253,255,256,257,330,331,332,370,371,372,373,374,375,400,401,(310 LLL),(311 LLL),(312 LLL),(314 LLL)	NS HI THREAT	402
											1.0			
CAL														
CAL	413	1.5		365	A	1	N*	201,211	R		0.3	210,211	UNAIDED CALS	213
											0.3			
EXT														
EXT	420	1.5		365	A	1	D	221,242	R		0.3	210,211,220,221,240,241,242,390	DAY TERF EXT	420
											0.3			
NBC														
SNBC	430		2.0	365	S		(NS)	210			0.2	210	SIM NBC	380
NBC	431	1.0		365	A	1	D	211,430	R		0.3	210,211,430	DAY NBC	430
NBC	432	1.0		*	A	1	NS	431, HLL NSQ			0.3	210,211,250,251,430,431,(310 LLL),(311 LLL)	NS NBC	431
											0.8			
DM														
SDM	440		2.0	*	S		D				0.2	230	SIM A-A DM	440
DM	441	1.5		365	A	2	D	231, TERFQ	R		0.3	230,231,440,442	RW DM	441
DM	442	1.5		365	A	2	D	231, TERFQ	R		0.3	230,231,440,441	FW DM	442
											0.8			
MAT														
MAT	450	1.5		365	A	2	D	212,351	R		0.3	210,211,212,350,351	DAY SEC MAT	450
MAT	451	1.5		365	A	1	NS	351, NSQ FOR APPT LL	R		0.3	210,211,250,251,350,351,(310 LLL),(311 LLL)	NS MAT	451
											0.6			

CH-46 PILOT														
400 SERIES CORE PLUS														
STAGE	TRNG CODE	FLT HOURS	SIM HOURS	REFLY INT	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	CHAINING	EVENT DESC	OLD CODE
HIE														
HIE	460	1.0		365	A	1	(NS)	221, (NS-392 FOR EVENTS CONDUCTED WITH NS)	R		0.2	210,211,220,221	SPIE	460
HIE	461	1.0		365	A	1	(NS)	(NSQ FOR APPRT LL)	R		0.2		AERIAL DELIVERY	461
HIE	462	1.0		365	A	1	(NS)	(NSQ FOR APPRT LL)	R		0.2		HELOCAST/SOFTDUCK	462
HIE	463	1.0		365	A	1	(NS)	221 (NSQ FOR APPT LL WITH NS)	R		0.2	210,211,220,221	HOIST OPS	463
											0.8			
CQ	490	1.0		365	A	1	N*	291			0.2	290,291	UNAIDED FCLP	292
CQ	491	1.0		365	A	1	N*	300,490 (IF AVAILABLE)	R		0.2	210,211,290,291,300,413,490	UNAIDED CQ	491
											0.4			
CRP TOTAL FOR PHASE											5.0			

CH-46 PILOT														
500 SERIES INSTRUCTOR														
STAGE	TRNG CODE	FLT HOURS	SIM HOURS	REFLY INT	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	CHAINING	EVENT DESC	OLD CODE
FAM														
FAM	500	1.5		*	A	1	D	005,006, 007,008, 009,010, 011,012		E	0.0	200,201	DAY INSTR TECH	500
FAM	501	1.5		*	A/S	1	D	500		E	0.0	200,201	DAY INSTR TECH	501
FAM	502	1.5		*	A/S	1	N*	501		E	0.0	200,201	NIGHT INSTR TECH	502
											0.0			
INST														
INST	503	1.5		*	A/S	1	D			E	0.0	200,202	INST INSTR TECH	503
INST	504	1.5		*	A/S	1	D	503		E	0.0	200,202	INST INSTR TECH	504
											0.0			
NAV														
NAV	505	1.5		*	A	1	D	021		E	0.0	210,211,350,351	NAV INSTR TECH	505
											0.0			
EXT														
EXT	506	1.5		*	A	1	D			E	0.0	210,211,220,221	EXT INSTR TECH	506
											0.0			
CAL														
CAL	507	1.5		*	A/S	1	D	022		E	0.0	210,211,240,241,242	CAL/TERF INSTR TECH	507
											0.0			
FAM														
FAM	508	1.5		*	A/S	1	D	008		E	0.0	200,201	FAM INSTR TECH	508
											0.0			
FORM														
FORM	509	1.5		*	A	1	D			E	0.0	230,231	FORM INSTR TECH	509
											0.0			
IUT														
IUT	511	3.0		*	A	1	D	041		E	0.0		STAN CHECK	511
											0.0			
NS														
NS	513	1.5		*	A	1	NS	031		E	0.0	250,251	HLL NS INSTR TECH	513
											0.0			
NSI														
NSI	550	1.5		*	A	1	NS			E	0.0	200,201,210,211	NS SS WORK	550
NSI	551	1.5		*	A	1	NS			E	0.0	201,202,203,210,211,250, 251,310,311	LLL CALC/NAV	551
NSI	552	1.5		*	A	1	NS			E	0.0	201,202,203,210,211,250, 251,310,311	LLL CALS/ NAV INSTR TECH	552
											0.0			

CH-46 PILOT														
500 SERIES INSTRUCTOR														
STAGE	TRNG CODE	FLT HOURS	SIM HOURS	REFLY INT	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	CHAINING	EVENT DESC	OLD CODE
NSFI														
NSFI	560	1.5		*	A	1	NS			E	0.0	200,201	HLL SS WORK	560
NSFI	561	1.5		*	A	1	NS			E	0.0	200,201,210,211,250,251	HLL CAL/NAV	561
NSFI	562	1.5		*	A	1	NS			E	0.0	200,201,210,211,250,251	HLL INSTR TECH	562
											0.0			
TERF														
TERFI	570	1.5		*	A	1	D			E	0.0	220,221,240,241,242,390,420	DAY TERF MAN INSTR TECH	570
TERFI	571	1.5		*	A	2	D			E	0.0	230,231,240,241,242,243	DAY TERF NAV INSTR TECH	571
TERFI	572	1.5		*	A	2	D			E	0.0	230,231,240,241,242,243	TERFI CHECK	572
											0.0			
DM														
DMI	581	1.5		*	A	2	D			E	0.0	230,231,240,241	RW/FW DM INSTR TECH	581
DMI	582	1.5		*	A	2	D			E	0.0	230,231,240,241	RW/FW DMI CHECK	582
											0.0			
NSI														
NSI	590	1.5		*	A	1	NS			E	0.0	200,201,210,211,250,251,290,291,293,(310 LLL),(311 LLL)	NS INSTR TECH	590
NSI	591	1.5		*	A	1	NS			E	0.0	200,201,210,211,220,221,250,251,390,392,(310 LLL),(311 LLL)	NS LOW WORK INSTR TECH	591
NSI	592	1.5		*	A	2	NS			E	0.0	200,201,210,211,212,250,251,252,253,(310 LLL),(311 LLL),(312 LLL),(314 LLL)	NS FORM/NAV/CAL INSTR TECH	592
NSI	593	1.5		*	A	2	NS			E	0.0	200,201,210,211,212,240,241,242,243,250,251,252,253,255,256,257,(310 LLL),(311 LLL),(312 LLL),(314 LLL)	NS SEC TERF INSTR TECH	593
NSI	594	1.5		*	A	1	NS			E	0.0	200,201,210,211,220,221,250,251,290,291,293,311,390,392	LLL NSI CHECK	594
NSI	595	1.5		*	A	2	NS			E	0.0	200,201,210,211,212,230,231,240,241,242,243,250,251,252,253,255,256,257,310,311,312,314	LLL SEC NSI CHECK	595
											0.0			
CRP TOTAL FOR PHASE											0.0			

CH-46 PILOT														
600 SERIES REQUIREMENTS, QUALIFICATIONS, DESIGNATIONS														
STAGE	TRNG CODE	FLT HOURS	SIM HOURS	REFLY INT	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	CHAINING	EVENT DESC	OLD CODE
RQD														
RQD	600	1.5		365	A/S	1	(N)	QUALIFIED H2P		E	0.0	200, 201	NATOPS CHECK	600
RQD	601		1.5	365	S/A	1	(N)	PER OPNAV 3710.7		E	0.0	200, 202	INSTR CHECK	601
											0.0			
FL														
HAC	602	1.5		*	A	1	D	PER NATOPS, SQUADRON SOP		E	0.0		HAC REV	602
HAC	603	1.5		*	A	1	N	NSQ, PER NATOPS, SQUADRON SOP		E	0.0		NIGHT HAC REV	603
HAC	604	1.5		*	A	1	D	PER NATOPS, SQUADRON SOP, 602, 603		E	0.0		DAY HAC CHECK	604
HAC	605	1.5		*	A	1	N	PER NATOPS, SQUADRON SOP, 602, 603		E	0.0		NIGHT HAC CHECK	605
SL	606	1.0		*	A	2	D	DESIGNATED HAC		E	0.0		SLUI TACFORM	
SL	607	1.0		*	A	2	D	DESIGNATED HAC		E	0.0		SLUI TERF	
SL	608	1.0		*	A	2	NS	DESIGNATED HAC		E	0.0		SLUI NVG CALS	
SL	609	1.0		*	A	2	NS	DESIGNATED HAC		E	0.0		SLUI NVG TERF	
SL	610	1.0		*	A	2	(N)	DESIGNATED HAC, 321		E	0.0		SLUI AG	
SL	611	1.5		*	A	2	(N)	606, 607, 608, 609, 610		E	0.0		SEC REV	607
SL	612	1.5		*	A	2	(N)	611	R	E	0.0		SEC CHECK	608
DL	613	1.0		*	A	3	D	DESIGNATED SEC LEAD		E	0.0		DLUI DIV CALS / SEC TERF	
DL	614	1.0		*	A	3	NS	DESIGNATED SEC LEAD		E	0.0		DLUI NVG DIV CALS / SEC TERF	
DL	615	1.5		*	A	3	(N)	613, 614		E	0.0		DIV REV	610
DL	616	1.5		*	A	3	(N)	615	R	E	0.0		DIV CHECK	611
FL	617	1.5		*	A	5	(N)	375, 611	R	E	0.0		FLT LDR CHK/REV	612
MC	618	1.5		*			(N)	402, 617	R	E	0.0		AMC CHK/REV	613
											0.0			
SPECIAL TRAINING														
SSPEC TRNG	620		2.0	*	S	1	(N)	210			0.0			620
AWT	621	2.0		*	A	1	(N)	211			0.0		ARCTIC WTHR TRNG	620
DES	622	2.0		*	A	1	(N)	211			0.0		DES OPS	630
WTR	623	1.0		*	A	1	D	211			0.0		WTR LANDINGS	650
SACM	624		2.0	*	S		D	DMQ			0.0		SIM ACM	660
											0.0			
FCF														
FCF	630	2.0		*	A	1	D	SQUADRON FCF SYLLABUS AND READING	R	E	0.0		FCF	670
											0.0			

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SCRM													
SCRM	640	1.5		365	A/S	1	(N)	COMPLETION OF THE CH-46E CRM COURSE	R	E	0.0	SIM/AC CRM	640
											0.0		
CRP TOTAL FOR PHASE											0.0		

Enclosure (1)

1-166

CH-46 PILOT														
600 SERIES REQUIREMENTS, QUALIFICATIONS, DESIGNATIONS														
STAGE	TRNG CODE	FLT HOURS	SIM HOURS	REFLY INT	DEVICE	# OF A/C	CONDITIONS	PREREQ	POI	EVAL	CRP	CHAINING	EVENT DESC	OLD CODE
QUAL														
QUAL	650										0.0		TERF QUAL	
QUAL	651										0.0		HLL QUAL	
QUAL	653										0.0		CQ QUAL	
QUAL	654										0.0		NSQ LLL	
QUAL	655										0.0		DM QUAL	
QUAL	657												FRS TERFO	
QUAL	658												FRS NSQ	
											0.0			
INST DESIG														
IDESIG	660										0.0		TERFI	
IDESIG	661										0.0		DMI	
IDESIG	662										0.0		NSFI	
IDESIG	663										0.0		NSI	
IDESIG	666										0.0		WTI	
IDESIG	667										0.0		NSI	
IDESIG	668										0.0		FRSI	
IDESIG	670										0.0		SEC LDR	
IDESIG	671										0.0		DIV LDR	
IDESIG	672										0.0		FLT LEADER	
IDESIG	673										0.0		AMC	
IDESIG	674										0.0		FCP	
											0.0			
CRP TOTAL FOR PHASE											0.0			

SL-611/612 SECTION LEADER EVALUATION KNEEBOARD					
MISSION PLANNING					
<input type="checkbox"/>	STUDENT/INSTRUCTOR USE OF PLANNING PROCESS PRIOR TO BRIEF				
<input type="checkbox"/>	MISSION ANALYSIS BASED ON METT-TSL				
<input type="checkbox"/>	INTEGRATE MISSION TASKS/GUIDANCE INTO MISSION PLANNING & EXECUTION				
<input type="checkbox"/>	USE OF S-2 TO BRIEF THREAT / EVASION PLAN				
<input type="checkbox"/>	FIRE SUPPORT COORDINATION MEASURES AND CONTROL MEASURES				
<input type="checkbox"/>	DETAILED FUEL PLANNING AND PRIMARY AND ALTERNATE ROUTING				
<input type="checkbox"/>	INTEGRATED OBJECTIVE AREA PLANNING				
<input type="checkbox"/>	INTEGRATE LZ CONSIDERATIONS WITH GROUND SCHEME OF MANEUVER				
<input type="checkbox"/>	INTEGRATED CONTROL OF FIRES DURING ALL PHASES / TARGETING				
<input type="checkbox"/>	INTEGRATED MISSION TIMELINE / EXECUTION CHECKLIST				
<input type="checkbox"/>	COMM ARCHITECTURE INCLUDING HAVEQUICK / SINGGARS / CLEAR & SECURE				
<input type="checkbox"/>	DETAILED CONTINGENCY PLANNING				
<input type="checkbox"/>	BRIEF USING POWERPOINT FORMAT SLIDE FORMAT / MAPS				
<input type="checkbox"/>	MISSION DELEGATION OF TASKS / SMARTPACK & PRODUCT DEVELOPMENT				
<input type="checkbox"/>	INCORPORATION OF MARINE AVIATION COMMAND AND CONTROL SYSTEM				
<input type="checkbox"/>	INTEGRATED ESCORT CONSIDERATIONS				
<input type="checkbox"/>	WEAPONS & ASE EMPLOYMENT, EVASIVE ACTIONS, SECTORS OF FIRE				
<input type="checkbox"/>	INTEGRATE NIGHT PLANNING CONSIDERATIONS (IF FLOWN AT NIGHT)				
PERFORMANCE STANDARDS					
<input type="checkbox"/>	DEMONSTRATE THE FLIGHT LEADERSHIP NECESSARY FOR EFFECTIVE MISSION ACCOMPLISHMENT				
<input type="checkbox"/>	PLAN AND BRIEF A TACTICAL MISSION IAW R/W TACSOP AND ANTPP 3-22.3				
<input type="checkbox"/>	REMAIN ORIENTED IAW R/W TACSOP MAGELLAN CRITERIA WHILE NAVIGATING TO A MINIMUM OF FIVE CHECKPOINTS WHILE USING 1:250,000 AND 1:50,000 SCALE MAPS				
<input type="checkbox"/>	DEMONSTRATE PROFICIENCY WITH AIRCRAFT NAVIGATION SYSTEMS				
<input type="checkbox"/>	ARRIVE AT LZ OR PRE-BRIEFED POINT WITHIN +/- 30 SECONDS OF L-HOUR AND WITHIN 50M OF PRE-BRIEFED LANDING POINT				
DEMONSTRATE IN FLIGHT					
<input type="checkbox"/>	FLIGHT DELEGATION OF RESPONSIBILITIES				
<input type="checkbox"/>	ACTIVE / SECURE NET FOR MISSION CNTR / EMCON, TRANSEC, COMSEC				
<input type="checkbox"/>	ASE / ORDNANCE UTILIZATION				
<input type="checkbox"/>	SITUATIONAL AWARENESS / CONTROL OF MISSION				
<input type="checkbox"/>	RESPONSE TO CONTINGENCIES				
<input type="checkbox"/>	ENCRYPTION				
<input type="checkbox"/>	IN-FLIGHT REPORTING PROCEDURES				
DISCUSS IN FLIGHT					
<input type="checkbox"/>	EVASIVE MANEUVERING FOR RADAR AND NON-RADAR THREATS				
<input type="checkbox"/>	SECTION EMERGENCIES				
MAP	SMARTPACK	ENROUTE	PEN / DE-PEN		
PREPARATION PROCEDURES	PREP / USE	PROCEDURES	CHECKS		
COMMUNICATION PROCEDURES	OBJ AREA / LZ	CONTINGENCIES	EGRESS		
	WIN +/- 30 SEC		RETROGRADE		
NOTES:					

DL-615/616 DIVISION LEADER EVALUATION KNEEBOARD					
MISSION PLANNING					
<input type="checkbox"/>	USE PLANNING PROCESS / MISSION ANALYSIS / METT-TSL PRIOR TO BRIEF				
<input type="checkbox"/>	INTEGRATE MISSION TASKS / GUIDANCE INTO MISSION PLANNING & EXECUTION				
<input type="checkbox"/>	MISSION DELEGATION OF TASKS / SMARTPACK & PRODUCT DEVELOPMENT				
<input type="checkbox"/>	ASSET ALLOCATION TO SUPPORT GIVEN MISSION				
<input type="checkbox"/>	DETAILED MISSION PLANNING AND BRIEFING USING AMC / FL / EFL / BRIEF GUIDE LOCATED IN THE POCKET TACTICAL GUIDE				
BRIEF/PRE-FLIGHT DISCUSSION					
<input type="checkbox"/>	REVIEW: CREW RESOURCE MANAGEMENT				
<input type="checkbox"/>	REVIEW: PLANNING BASED ON METT-TSL				
<input type="checkbox"/>	REVIEW: ROUT PLANNING AND OBJECTIVE AREA PLANNING				
<input type="checkbox"/>	REVIEW: AIR AND GROUND UNIT COORDINATION)				
<input type="checkbox"/>	REVIEW: EMCON, TRANSEC, AND COMSEC				
<input type="checkbox"/>	REVIEW: L-HOUR (EVENT vs. TIME-DRIVEN)				
<input type="checkbox"/>	REVIEW: ASE CONSIDERATIONS				
<input type="checkbox"/>	REVIEW: TACTICAL MISSION ANALYSIS, PLANNING, BRIEFING EXECUTION, AND DEBRIEFING IN SUPPORT OF ASSIGNED TASKS				
<input type="checkbox"/>	REVIEW: MISSION SMARTPACK				
<input type="checkbox"/>	REVIEW: FLIGHT LEADERSHIP				
<input type="checkbox"/>	REVIEW: EMBARK AND DEBARK OF TROOPS AND EQUIPMENT				
<input type="checkbox"/>	REVIEW: FIRE SUPPORT COORDINATION MEASURES				
<input type="checkbox"/>	DISCUSS: DIVISION TACTICS				
PERFORMANCE STANDARDS					
<input type="checkbox"/>	DEMONSTRATE THE FLIGHT LEADERSHIP NECESSARY FOR EFFECTIVE MISSION ACCOMPLISHMENT				
<input type="checkbox"/>	PLAN AND BRIEF A TACTICAL MISSION IAW R/W TACSOP AND ANTPP 3-22.3				
<input type="checkbox"/>	REMAIN ORIENTED IAW R/W TACSOP MAGELLAN CRITERIA WHILE NAVIGATING TO A MINIMUM OF FIVE CHECKPOINTS WHILE USING 1:250,000 AND 1:50,000 SCALE MAPS				
<input type="checkbox"/>	DEMONSTRATE PROFICIENCY WITH AIRCRAFT NAVIGATION SYSTEMS				
<input type="checkbox"/>	ARRIVE AT LZ OR PRE-BRIEFED POINT WITHIN +/- 30 SECONDS OF L-HOUR AND WITHIN 50M OF PRE-BRIEFED LANDING POINT				
DEMONSTRATE / DISCUSS IN FLIGHT					
<input type="checkbox"/>	FLIGHT DELEGATION OF RESPONSIBILITIES				
<input type="checkbox"/>	ASE / ORDNANCE UTILIZATION				
<input type="checkbox"/>	CONTROL OF MISSION / RESPONSE TO CONTINGENCIES				
<input type="checkbox"/>	ENCRYPTION / IN-FLIGHT REPORTING PROCEDURES				
<input type="checkbox"/>	EVASIVE MANEUVERING				
<input type="checkbox"/>	DIVISION EMERGENCIES				
MAP	SMARTPACK	ENROUTE	PEN / DE-PEN		
PREPARATION PROCEDURES	PREP / USE	PROCEDURES	CHECKS		
COMMUNICATION PROCEDURES	OBJ AREA / LZ	CONTINGENCIES	EGRESS		
	WIN +/- 30 SEC		RETROGRADE		
NOTES:					

APPENDIX A: RECOMMENDED INSTRUCTOR KNEEBOARD CARDS

FL-617 FL EVALUATION KNEEBOARD					
MISSION PLANNING					
<input type="checkbox"/>	USE PLANNING PROCESS / MISSION ANALYSIS / METT-TSL PRIOR TO BRIEF				
<input type="checkbox"/>	INTEGRATE MISSION TASKS / GUIDANCE INTO MISSION PLANNING & EXECUTION				
<input type="checkbox"/>	MISSION DELEGATION OF TASKS / SMARTPACK & PRODUCT DEVELOPMENT				
<input type="checkbox"/>	ASSET ALLOCATION TO SUPPORT GIVEN MISSION				
<input type="checkbox"/>	DETAILED MISSION PLANNING AND BRIEFING USING AMC / FL / EFL / BRIEF GUIDE LOCATED IN THE POCKET TACTICAL GUIDE				
BRIEF/PRE-FLIGHT DISCUSSION					
<input type="checkbox"/>	REVIEW: CREW RESOURCE MANAGEMENT				
<input type="checkbox"/>	REVIEW: PLANNING BASED ON METT-TSL				
<input type="checkbox"/>	REVIEW: ROUTE PLANNING AND OBJECTIVE AREA PLANNING				
<input type="checkbox"/>	REVIEW: AIR AND GROUND UNIT COORDINATION				
<input type="checkbox"/>	REVIEW: MARINE AVIATION COMMAND AND CONTROL SYSTEM (MACCS)				
<input type="checkbox"/>	REVIEW: L-HOUR (EVENT vs. TIME-DRIVEN)				
<input type="checkbox"/>	REVIEW: ASE CONSIDERATIONS				
<input type="checkbox"/>	REVIEW: TACTICAL MISSION ANALYSIS, PLANNING, BRIEFING EXECUTION, AND DEBRIEFING IN SUPPORT OF ASSIGNED TASKS				
<input type="checkbox"/>	REVIEW: MISSION SMARTPACK				
<input type="checkbox"/>	REVIEW: FLIGHT LEADERSHIP				
<input type="checkbox"/>	REVIEW: FIRE SUPPORT COORDINATION MEASURES				
PERFORMANCE STANDARDS					
<input type="checkbox"/>	DEMONSTRATE THE FLIGHT LEADERSHIP NECESSARY FOR EFFECTIVE MISSION ACCOMPLISHMENT				
<input type="checkbox"/>	PLAN AND BRIEF A TACTICAL MISSION IAW RW TACSOP AND ANITP 3-22.3				
<input type="checkbox"/>	REMAIN ORIENTED IAW RW TACSOP MAGELLAN CRITERIA WHILE NAVIGATING TO A MINIMUM OF FIVE CHECKPOINTS WHILE USING 1:250,000 AND 1:50,000 SCALE MAPS.				
<input type="checkbox"/>	DEMONSTRATE PROFICIENCY WITH AIRCRAFT NAVIGATION SYSTEMS				
<input type="checkbox"/>	ARRIVE AT LZ OR PRE-BRIEFED POINT WITHIN +/- 30 SECONDS OF L-HOUR AND WITHIN 50M OF PRE-BRIEFED LANDING POINT.				
DEMONSTRATE / DISCUSS IN FLIGHT					
<input type="checkbox"/>	FLIGHT DELEGATION OF RESPONSIBILITIES				
<input type="checkbox"/>	ASE / ORDNANCE UTILIZATION				
<input type="checkbox"/>	CONTROL OF MISSION / RESPONSE TO CONTINGENCIES				
<input type="checkbox"/>	ENCRYPTION / IN-FLIGHT REPORTING PROCEDURES				
<input type="checkbox"/>	EVASIVE MANEUVERING				
<input type="checkbox"/>	FLIGHT EMERGENCIES				
MAP PREPARATION PROCEDURES	SMARTPACK PREP / USE	ENTROUTE PROCEDURES	PEN / DE-PEN CHECKS		
COMMUNICATION PROCEDURES	OBJ AREA / LZ WITHIN +/- 30 SEC	CONTINGENCIES	EGRESS		
			RETROGRADE		
NOTES:					

MC-618 AMC EVALUATION KNEEBOARD					
MISSION PLANNING					
<input type="checkbox"/>	USE PLANNING PROCESS / MISSION ANALYSIS / METT-TSL PRIOR TO BRIEF				
<input type="checkbox"/>	INTEGRATE MISSION TASKS / GUIDANCE INTO MISSION PLANNING & EXECUTION				
<input type="checkbox"/>	MISSION DELEGATION OF TASKS				
<input type="checkbox"/>	COORDINATION AND SUPERVISION OF KEY PERSONNEL (FL, EFL, SFL & HUC)				
<input type="checkbox"/>	ASSET ALLOCATION TO SUPPORT GIVEN MISSION				
<input type="checkbox"/>	DETAILED MISSION PLANNING AND BRIEFING USING AMC / FL / EFL / BRIEF GUIDE LOCATED IN THE POCKET TACTICAL GUIDE				
BRIEF/PRE-FLIGHT DISCUSSION					
<input type="checkbox"/>	DISCUSS: HELICOPTER OPERATION PLANNING CHECKLIST				
<input type="checkbox"/>	DISCUSS: LANDING ZONE, LANDING SITE, LANDING POINT CONSIDERATIONS				
<input type="checkbox"/>	DISCUSS: MULTIPLE WAVE REQUIREMENTS FOR AN OBJECTIVE AREA				
<input type="checkbox"/>	DISCUSS: DECONFLICTION/INTEGRATION OF MULTIPLE FLIGHT ELEMENTS				
<input type="checkbox"/>	DISCUSS: C&C PLATFORM SELECTION AND UTILIZATION				
<input type="checkbox"/>	REVIEW: TACTICAL PLANNING, BRIEFING, AND EXECUTION				
<input type="checkbox"/>	REVIEW: TASK DELEGATION AND FLIGHT ELEMENT CONTROL				
<input type="checkbox"/>	REVIEW: MULTIPLE FLIGHT ELEMENT INTEGRATION				
<input type="checkbox"/>	REVIEW: RADIO PROCEDURES AND DISCIPLINE CONSISTENT WITH EMCON CONDITIONS				
<input type="checkbox"/>	REVIEW: IN-FLIGHT CHANGES/RETASKING				
<input type="checkbox"/>	REVIEW: CONTINGENCY MISSION ASSIGNMENT AND CONTROL				
PERFORMANCE STANDARDS					
<input type="checkbox"/>	DEMONSTRATE THE FLIGHT LEADERSHIP NECESSARY FOR EFFECTIVE MISSION ACCOMPLISHMENT				
<input type="checkbox"/>	PLAN AND BRIEF A TACTICAL MISSION IAW RW TACSOP AND ANITP 3-22.3				
<input type="checkbox"/>	REMAIN ORIENTED IAW RW TACSOP MAGELLAN CRITERIA WHILE NAVIGATING TO A MINIMUM OF FIVE CHECKPOINTS WHILE USING 1:250,000 AND 1:50,000 SCALE MAPS.				
<input type="checkbox"/>	DEMONSTRATE PROFICIENCY WITH AIRCRAFT NAVIGATION SYSTEMS				
<input type="checkbox"/>	ARRIVE AT LZ OR PRE-BRIEFED POINT WITHIN +/- 30 SECONDS OF L-HOUR AND WITHIN 50M OF PRE-BRIEFED LANDING POINT.				
DEMONSTRATE / DISCUSS IN FLIGHT					
<input type="checkbox"/>	FLIGHT DELEGATION OF RESPONSIBILITIES				
<input type="checkbox"/>	CONTROL OF MISSION / RESPONSE TO CONTINGENCIES				
<input type="checkbox"/>	IN-FLIGHT REPORTING PROCEDURES				
<input type="checkbox"/>	SA OF ALL AIRCRAFT WITHIN FLIGHT				
<input type="checkbox"/>	APPROPRIATE RESPECT FOR THREAT FROM PLANNING THROUGH EXECUTION				
<input type="checkbox"/>	PROPER UNDERSTANDING OF C4I UTILIZATION TO FACILITATE EXECUTION AND INFORMATION FLOW				
MAP PREPARATION PROCEDURES	SMARTPACK PREP / USE	ENTROUTE PROCEDURES	PEN / DE-PEN CHECKS		
COMMUNICATION PROCEDURES	OBJ AREA / LZ WITHIN +/- 30 SEC	CONTINGENCIES	EGRESS		
			RETROGRADE		
NOTES:					

CHAPTER 2

CH-46E CREW CHIEF/AERIAL GUNNER/OBSERVER

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CHAPTER 2

CH-46E CREW CHIEF/AERIAL GUNNER/OBSERVER

200. MARINE MEDIUM HELICOPTER SQUADRON (CH-46E) UNIT CORE COMPETENCY. Marine Aviation plays a crucial role in the MAGTF's ability to conduct Maneuver Warfare. The ultimate goal of Marine Aviation is to attain the highest possible combat readiness to support Expeditionary Maneuver Warfare while at the same time preserving and conserving our Marines and equipment. Embedded within our combat readiness is the ability to rapidly, effectively, and efficiently deploy on short notice and the ability to quickly and effectively plan for crises and/or contingency operations thereby ensuring Marine Aviation remains ready for combat when and where the need arises. The CH-46E T&R Manual represents the collaborative effort of CH-46E Subject Matter Experts who designed training standards to maximize the full combat capabilities of the CH-46E and its crew. These standards, intrinsic in the core competency section, describe and define unit capabilities and requirements necessary to maintain like-squadron proficiency in core skills and combat leadership. Training events are based on specific requirements and performance standards to ensure aircrew maintain a common base of training and depth of combat capabilities. Together, the T&R comprises a building block approach to ensure that trained aircrews remain ready, relevant, and fully capable of supporting the MAGTF commander.

1. Mission. Support the MAGTF Commander by providing assault support transport of combat troops, supplies and equipment, day or night under all weather conditions during expeditionary, joint or combined operations.

2. Mission Essential Task List (METL)

a. (UJTL TA 1.1.2) Conduct Shipboard Deck helicopter Landing Qualifications

b. (UJTL TA 1.1.4) Conduct Sea and Air Deployment Operations

(1) Maintain the capability to deploy and operate from advanced bases, expeditionary airfields, Forward Operating Bases (FOBs), and naval shipping.

(2) Perform organizational maintenance on assigned aircraft.

c. (UJTL TA 1.2.1) Conduct Air Assault Operations and Air Assault

(1) Provide assault support transport of combat troops.

(2) Provide support for casualty evacuation operations.

(3) Maintain self-defense capability from ground-to-air and air-to-air threats.

d. (UJTL TA 1.2.3) Conduct Amphibious Assault and Raid Operations

(1) Conduct assault support for maritime special operations.

e. (UJTL TA 4.2) Distribute Supplies and Provide Transport Service

(1) Conduct aerial re-supply.

(2) Provide support for mobile Forward Arming and Refueling Points (FARPS).

f. (UJTL TA 6.2) Conduct Joint Personnel Recovery

(1) Conduct Tactical Recovery of Aircraft and Personnel (TRAP) operations.

(2) Augment local Search and Rescue (SAR) assets.

g. (UJTL TA 6.4) Conduct Noncombatant Evacuation

(1) Provide support for evacuation operations.

3. Table of Organization. Refer to Table of Organization 8940 managed by Total Force Structure, MCCDC, for current authorized organizational structure and personnel strength for CH-46 units. As of this publication date, CH-46 units are authorized:

Squadron
12 aircraft
28 Pilots/19 Crew Chiefs/19 Aerial Gunner/Observers

4. Core Capability. A core capable squadron is able to sustain 20 sorties on a daily basis during contingency/combat operations. The above sortie rates are based on 1.5 hour average sortie duration and assumes > 70 percent FMC aircraft and > 90 percent T/O aircrew. If unit FMC aircraft < 70 percent or assigned crew < 90 percent T/O, core capability will be degraded by a like percentage. A core capable squadron is able to accomplish all tasks designated in the unit METL from a main base, expeditionary base, and/or carrier/amphibious platform (as appropriate per aircraft/system).

5. METL/Core Skill Matrix. CH-46 core skills directly support the METL as follows:

METL	FAM/ INST	CAL	EXT	FORM	TERF	NS HLL	NS LLL
a. Conduct Shipboard Deck helicopter Landing qualifications	X					X	X
b. Conduct Sea and Air Deployment Operations	X	X	X	X	X	X	X
c. Conduct Air Assault Operations and Air Assault	X	X	X	X	X	X	X
d. Conduct Amphibious Assault and Raid Operations	X	X	X	X	X	X	X
e. Distribute Supplies and Provide Transport Service	X	X	X	X	X	X	X
f. Conduct Joint Personnel Recovery	X	X		X	X	X	X
g. Conduct Noncombatant Evacuation	X	X		X	X	X	X

METL	AG	GTR	MAT	HIE	TAC	CQ
a. Conduct Shipboard Deck helicopter Landing qualifications						X
b. Conduct Sea and Air Deployment Operations	X	X	X		X	X
c. Conduct Air Assault Operations and Air Assault	X	X	X	X	X	X
d. Conduct Amphibious Assault and Raid Operations	X	X	X	X	X	X
e. Distribute Supplies and Provide Transport Service	X	X	X		X	X
f. Conduct Joint Personnel Recovery	X	X	X	X	X	X
g. Conduct Noncombatant Evacuation	X		X		X	X

METL	SFAM	*TAC	*CAL	*EXT	*NBC	*DM	*MAT	*HIE	*TG	*CQ
a. Conduct Shipboard Deck helicopter Landing qualifications	X									X
b. Conduct Sea and Air Deployment Operations	X	X	X	X	X	X	X		X	X
c. Conduct Air Assault Operations and Air Assault	X	X	X	X	X	X	X	X	X	X
d. Conduct Amphibious Assault and Raid Operations	X	X	X	X	X	X	X	X	X	X
e. Distribute Supplies and Provide Transport Service	X	X	X	X	X	X	X	X	X	X
f. Conduct Joint Personnel Recovery	X	X	X			X	X	X	X	X
g. Conduct Noncombatant Evacuation	X	X	X			X	X		X	X
* Core Plus Skill										

6. Core Model Minimum Requirements (CMMR). CMMR is measured in terms of the minimum number of Core Skill Proficiency (CSP) crews and minimum numbers of combat leaders per paragraphs a. and b. below:

a. Minimum Unit CSP Requirements. As a minimum, in order to be considered Core Competent, a unit must possess the following numbers of crews who are proficient in each core skill (Unit CSP):

CH-46E CMMR (Unit CSP Requirements)				
CORE SKILL	SQDN Pilots	SQDN Crew Chiefs	SQDN AG/O	SQDN Crews
FAM/INST	16	8	8	8
CAL	16	8	8	8
EXT	12	6	6	6
FORM	16	8	8	8
TERF	16	8	8	8
NS HLL	16	8	8	8
NS LLL	16	8	8	8
AG	16	8	8	8
GTR	12	6	6	6
MAT	12	6	6	6
HIE	12	6	6	6
TAC	12	6	6	6
CQ	12	6	6	6

CH-46E CMMR (Unit CSP Requirements)				
CORE PLUS SKILL	SQDN Pilots	SQDN Crew Chiefs	SQDN AG/O	SQDN Crews
SFAM	-	6	-	6
TAC	12	6	6	6
CAL	12	6	6	6
EXT	12	6	6	6
NBC	12	6	6	6
DM	12	6	6	6
MAT	12	6	6	6
HIE	12	6	6	6
TG	-	6	-	6
CQ	12	6	6	6

b. A standard CH-46 crew consists of 2 pilots, 1 crew chief, and an AG/O. A CSP crew consists of individuals representing each crew position who have achieved and maintain individual CSP. In order to be considered proficient in a core skill, a crewmember must attain and maintain proficiency in core skill events as delineated in paragraphs (1) and (2) below.
* Proficiency in Core Plus Skills is not required to obtain unit CSP

(1) Events Required to Attain Individual CSP. To initially attain CSP in a core skill, an individual must simultaneously have a 'proficient' status in all of the Core (200-300) T&R events listed in the table below for that core skill:

Individual CSP Attain Table						
Crew Chief/AGO	FAM/ INST	CAL	EXT	FORM	TERF	NS HLL
T&R event requirements to attain CSP	201R	211 212R	221R 392R	231R	241 242 243R	251R 252 253R 254 255 256 257R
R = Refresher POI event						

Individual CSP Attain Table							
Crew Chief/AGO	AG	CQ	NS LLL	GTR	MAT	HIE	TAC
T&R event requirements to attain CSP	280 281 282R 283R 320R 321 322R	291 293 300 301R	311R 312R 313R 314R	331R 332R	351R	361R 362	371 372R 374 375R
R = Refresher POI event S = Event conducted in simulator							

(2) Events Required to Maintain Individual CSP. To maintain CSP in a core skill, an individual must maintain proficiency in all of the Core (200-300) T&R events listed in the table below for that core skill.

Individual CSP Maintain Table							
Crew Chief/AGO	FAM/ INST	CAL	EXT	FORM	TERF	NS HLL	NS LLL
T&R event requirements to maintain CSP	201R	212R	221R 392R	231R	243R	257R	313R 314R
R = Refresher POI event							

Crew Chief/AGO	AG	GTR	MAT	HIE	TAC	CQ
T&R event requirements to maintain CSP	282R 283R 322R	331R 332R	351R	361R	375R	301R

(3) Events Required to Attain Individual Proficiency in Core Plus Skills. Proficiency in core plus skills is not required to obtain unit CSP. Training to core plus skills is at the discretion of the unit commanding officer. To initially attain proficiency in a core plus skill, an individual must simultaneously have a 'proficient' status in all of the T&R events listed in the table below for that core plus skill:

Individual Core Plus Skills Attain Table										
CH-46 Crew Chief/AGO	TAC	CAL	EXT	NBC	DM	MAT	HIE	SFAM	TG	CQ
T&R event requirements to attain competency	401 402R	413R	420R	431R 432	441R 442R	450 451R	460R 461R 462R 463R	470	481R 482R	490 491R

(4) Events Required to Maintain Individual Proficiency in Core Plus Skills. To maintain proficiency in a core plus skill, an individual must maintain proficiency in all of the T&R events listed in the table below for that core plus skill:

Individual Core Plus Skills Maintain Table										
CH-46 Crew Chief/AGO	TAC	CAL	EXT	NBC	DM	MAT	HIE	SFAM	TG	CQ
T&R event requirements to attain competency	402R	413R	420R	431R	441R 442R	451R	460R 461R 462R 463R	470R	481R 482R	491R

7. Qualifications, Designations, and Instructor Requirements Tables. The tables below delineate T&R events required to be completed to attain initial qualifications, to re-qualify, and to attain designations. All stage lectures, briefs, squadron training and prerequisites shall be complete prior to completing final events. Qualification and designation letters signed by the commanding officer shall be placed in individual NATOPS and APR/MPR jackets. Loss of proficiency in all qualification events causes the associated qualification to be lost. Regaining a qualification requires completing all R coded syllabus events associated with that qualification. Designations are command specific. Therefore, if the crew chief/AGO has not had PCS or PCA orders since previous designation letter, no additional designation letter is required. Follow-on commands shall repeat "initial documentation procedure."

Qualification (TRACKING CODE)	Initial Event Qualification Requirements
NATOPS (600E)	IAW OPNAVINST 3710.7.
CRM (640E)	IAW OPNAVINST 1542.7
TERF (650)	241, 242, 243
NSQ HLL (651)	251, 252, 253, 254, 255, 256, 257
AG (EAC) (652)	281, 282, 283, 321, 322
CQ (653)	300, 301
NSQ LLL (654)	311, 312, 313, 314
DM (655)	441, 442
TG (EAC) (656)	481, 482
FRS TERFQ	241
FRS NSQ	251

Designation (TRACKING CODE)	Designation Requirements
TERFI (660)	IAW MAWTS-1 Course Catalog
DMI (661)	IAW MAWTS-1 Course Catalog
NSFI (662)	IAW MAWTS-1 Course Catalog
NSI (663)	IAW MAWTS-1 Course Catalog
AGI (664)	IAW MAWTS-1 Course Catalog
TGI (665)	IAW MAWTS-1 Course Catalog
WTI (666)	IAW MAWTS-1 Course Catalog
NSSI (667)	IAW MAWTS-1 Course Catalog
FRSCCI (668)	500,501,502,503,504,505, 506
FCF (674)	IAM OPNAVINST 4790 AND COMMAND SPECIFIC DIRECTED 630E

8. Enlisted Instructor Qualifications. As a minimum, for a squadron to be considered Core Competent, it must possess the following numbers of aircrew in the listed instructor categories. (Note: If the squadron is < T/O, required numbers are reduced by a like %).

INSTRUCTOR DESIGNATION	Pilots	C/C
TERFI	6	6
DMI	2	2
NSI	4	4
WTI	2*	2**
AGI	N/A	4+
TGI	N/A	2

*One shall be assigned as the squadron WTI.

**One shall be assigned in Operations as the squadron enlisted WTI.

+AG/O's holding AGI designation cannot be included in this number.

201. PROGRAMS OF INSTRUCTION (POI) FOR BASIC CREW CHIEF. Transition and Conversion crew chiefs will fly the basic POI.

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-22	Core Skill Introduction	FRS
23-29	Core Skill Basic	Tactical Squadron
30-38	Core Skill Advanced	Tactical Squadron
39-48	Core Plus	Tactical Squadron

202. POI FOR BASIC AERIAL GUNNER/OBSERVER. Transition and Conversion Aerial Gunner/Observers will fly the basic POI.

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-16	Core Skill Basic	Tactical Squadron
17-20	Core Skill Advanced	Tactical Squadron
21-24	Core Plus	Tactical Squadron

203. POI FOR REFRESHER CREW CHIEF

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
0	Core Skill Introduction	Tactical Squadron
1-10	Core Skill Basic	Tactical Squadron
11-18	Core Skill Advanced	Tactical Squadron
19-26	Core Plus	Tactical Squadron

204. POI FOR REFRESHER AERIAL GUNNER/OBSERVER

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-13	Core Skill Basic	Tactical Squadron
14-18	Core Skill Advanced	Tactical Squadron
19-22	Core Plus	Tactical Squadron

210. GROUND/ACADEMIC TRAINING COURSES OF INSTRUCTION. Utilize academic courseware as outline in the Computer Based Training (CBT) program and the Chapter 6 and 9 of the MAWTS-1 Course Catalog.

230. EVENT PERFORMANCE REQUIREMENTS

1. General

a. The following conditions apply:

- (1) D = Shall be flown during the day
- (2) N = Shall be flown at night (utilizing available night vision devices or flown unaided)
- (3) (N) = May be flown day or night; if flown at night, available night vision devices may be utilized or flown unaided
- (4) NS = Shall be flown at night utilizing available night vision devices
- (5) (NS) = May be flown day or night; if flown at night, available night vision devices shall be utilized
- (6) N* = Event shall be flown at night unaided
- (7) (N*) = Event may be flown at night; if flown at night, shall be flown unaided

b. Waived/Deferred events. Commanding officers may waive or defer events per the Aviation T&R Manual. If the commanding officer has waived/deferred a syllabus event, the enlisted WTI must place a waiver/deferral letter in section 3 of the APR.

c. Designation as Aerial Gunner/Observer. After being qualified NSQ LLL, AG and completion of RQD-600 an AGOUI may be designated an Aerial Gunner/Observer by the commanding officer. A qualification letter, signed by the commanding officer is required. The original shall be placed in the AGO's NATOPS jacket, and a copy in his APR with a corresponding logbook entry.

d. Aerial Gunnery Simulator Training. Although a current simulator does not exist, a request for an Aerial Gunner simulator has been forwarded. The

commanding officer may waive AG simulator codes until a simulator becomes available.

e. Aircraft And Simulator Codes. These codes are assigned to delineate whether the event uses a simulator or an airframe. The codes are located in the event header following the POI codes. A= aircraft, S= simulator, A/S= aircraft preferred/simulator optional, S/A= simulator preferred/aircraft optional. Until an aircraft simulator becomes operational, unit commanders may waive appropriate syllabus events per paragraph 306 of the Aviation Program Manual.

2. Evaluation Sorties. These events shall be flown with an experienced aerial gunner instructor or crew chief instructor designated for the specific flight instruction required.

a. A designated NATOPS Instructor/Assistant NATOPS Instructor shall evaluate RQD-600 for both the crew chief and aerial gunner/observer. AGOUI shall fly RQD-600 prior to being designated an aerial gunner/observer and after being qualified NSQ LLL and AG qualified.

b. A crew chief instructor proficient in a given event shall evaluate any initial event required for a Basic, Conversion, Transition, or Refresher crew chief or aerial gunner/observer. A qualified and designated crew chief instructor or AGI will complete an ATF. Pilots and observers will not sign off crew chief ATFs with the exception of initial SFAM-470.

c. All flights annotated with an E shall be evaluated per T&R Program Manual.

d. The Enlisted WTI shall ensure all Aircrew Training Forms (ATFs) are entered in section 3 of the APR for all initial events flown. These ATFs shall remain until a more current ATF replaces it.

e. Refresher aircrews shall have ATFs entered in section 3 of the APR for all flights designated by an R in the flight description. These ATFs will replace ATFs previously entered in section 3.

f. All 200-600 level ATFs will be developed and maintained by the Syllabus Sponsor. Updated ATFs will be disseminated in conjunction with publication of Interim Approved T&Rs.

3. Syllabus Assignment

a. Basic, Conversion and Transition crew chiefs will be assigned to fly the entire syllabus. Refresher crew chiefs will fly those flights designated by an 'R' in the T&R matrix in paragraph 170. Basic, Conversion and Transition aerial gunner/observers will fly the same syllabus as the respective crew chief except as noted in the crew requirements for each stage as listed in paragraph 170. AGOs training to become Secondary MOS Crew Chiefs shall fly those events designated by an 'O' in the T&R matrix in paragraph 170.

b. Refresher Syllabus. Aircrew who have been previously assigned to the Basic POI, but are not proficient shall be assigned to fly the Refresher POI per the Aviation T&R Program Manual. The Refresher syllabus is predicated on the experience of the Refresher crew chief or aerial gunner/observer. A Refresher crew chief or aerial gunner/observer need not fly every event within a stage of training to be re-qualified in that stage. A crew chief or aerial gunner/observer in the Refresher syllabus should fly all R coded

events. The commanding officer may tailor the Refresher syllabus to fit the experience of the Refresher crew chief or aerial gunner/observer per the T&R Program Manual. When the R coded events within a stage of training are complete, the crew chief or aerial gunner/observer may be credited with the CRP for the entire stage of training. This assumes that the Refresher has previous proficiency in that stage of training. If the Refresher crew chief or aerial gunner/observer has no previous proficiency in a stage or particular event, then the Refresher shall fly the entire stage or all events not previously flown.

c. Secondary MOS Crew Chief. All efforts shall be made with MMEA-84 to receive assignment of Primary MOS crew chiefs prior to utilizing secondary AMOS program. If inventory shortages cannot be filled through MMEA-84, authorization is granted to individual unit COs to train secondary AMOS 6172 under the following Guidelines:

(1) The number of secondary MOS crew chiefs that an individual unit Commander may train is limited to the current staffing formula; $1.6 \text{ CC} \times \text{primary assigned aircraft (PAA)} = \text{number of crew chiefs} - \text{primary/additional MOS crew chiefs on hand}$. For example, if a squadron has 14 primary/additional MOS crew chiefs assigned, and the staffing formula computes to 19 total crew chiefs, unit commanders may only request to train a maximum of 5 secondary AMOS crew chiefs to equal PAA.

(2) To ensure standardization of training and aviation adaptability, all requested trainees shall be designated an aerial gunner/observer prior to starting secondary AMOS training.

(3) The source population shall be restricted to aviation maintenance MOS of 611x, 615x, and 632x only. All requests shall be submitted via DMS format to CGG TECOM ATB (C4610) for approval prior to trainee starting flight syllabus. MSG shall include:

- (a) Organization requesting training of secondary AMOS crew chief.
- (b) Name, rank, MOS, and SSN of trainee.
- (c) Total number of crew chiefs rated by PAA.
- (d) Total number of primary and secondary AMOS crew chiefs assigned to requesting MCC.
- (e) Adequate justification for training a secondary AMOS crew chief.
- (f) Faxed copy of initial AGO NATOPS evaluation report (OPNAV 3710/7 form).

(4) Upon receipt of request, ATB will approve/disapprove request via ASL/ASM and notify requesting command through DMS format. Approved training will be conducted in strict compliance with this manual and MCO P1200.7, Military Occupational Specialties Manual. Additional requirements are outlined below:

- (a) To ensure MOS standardization all core skill introduction (100 Level series) codes shall be flown with a current Enlisted Weapons and Tactics Instructor (MOS 6177) or NATOPS Evaluator/Instructor holding a

primary MOS of 6172. Only a currently assigned and designated FRS crew chief instructor (CCI) shall administer the core skill introduction evaluation flight (CSIX 192).

(b) The Total Time to Train (TTT) secondary AMOS crew chiefs shall not exceed six months. The date of initial flight and completion of evaluation flight define the TTT.

(c) Core Skill Basic, Advanced and Plus flights previously flown as an Aerial Gunner/Observer shall not transfer to the training of the secondary AMOS crew chief. All flights must be flown with CCUI acting in the capacity of a crew chief.

(5) Only the FRS COs have the authority to designate the secondary AMOS of 6172. The evaluation flight may be flown at the respective FRS or individual requesting squadron. Requesting commands shall coordinate with FRS for scheduling of the evaluation flight. TAD funding for either the trainee or FRS CC instructor shall be the responsibility of the requesting squadron.

(6) The FRS CCI shall administer the oral and Core Skill Introduction evaluation flight and closed book NATOPS examination. Prior to core skill introduction evaluation flight parent commands shall ensure:

(a) Nominees complete squadron approved open book NATOPS examination.

(b) Nominees are designated a plane captain by unit CO.

(c) Prior to designation, nominees shall attend SERE training.

(7) Upon completion of core skill introduction evaluation flight, copies of all certifications and evaluations shall be submitted to respective FRS COs for secondary AMOS certification/approval. Documents to be submitted are:

(a) Copy of current flight physical.

(b) Copy of physiology/water survival Form 3760/32.

(c) Copy of all crew chief 100 series ATFs.

(d) Copy of current flight orders.

(e) Copy of section III(c), examination record, OPNAV 3760/32G.

(f) Copy of current plane captain designation.

(g) Copy of initial AGO evaluation form, OPNAV 3710/7.

(h) Original crew chief evaluation form, OPNAV 3710/7.

(i) Copy of SERE completion certificate.

(j) Marines listed as instructor on 100 series ATFs must submit a copy of respective WTI certificate or NATOPS Evaluator/Instructor designation. The primary purpose of this documentation is to assist the

model manager in tracking the certification process and identifies positive/negative trends in the training process. Evaluation standards applicable to primary MOS crew chiefs shall be strictly adhered to.

(8) The FRS CCI shall forward original OPNAV 3710/7 form to FRS CO for approval. The FRS CO shall sign the NATOPS evaluation and a crew chief designation letter and forward to the originating command for insertion into trainees NATOPS jacket.

(9) In order to facilitate management of the MOS end strengths, secondary AMOS crew chiefs desiring a primary 6172 MOS, will forward the appropriate AA form to MMEA-6 requesting a lateral move from a secondary AMOS crew chief to a primary MOS crew chief.

(10) On hand primary designated MOS crew chiefs shall have priority for crewmember flight orders IAW MCO1326.2G.

(11) This policy applies to Marines currently in training and is effective immediately. This is not applicable to Marines designated prior to this revision, or Marines currently assigned to the Executive Flight Detachment of HMX-1.

4. Reply Interval. Paragraph 170 shows reply interval and CRP for all events.

5. Crew Resource Management (CRM). CRM shall be briefed for all flights and/or events.

6. Definitions

a. Demonstrate. The description and performance of a particular procedure by the instructor, observed by the CCUI. The CCUI is responsible for knowledge of the procedures prior to the demonstration.

b. Discuss. An explanation of systems or procedures during the brief, in flight, or post flight.

c. Evaluate. Any flight designed to evaluate aircrew standardization.

d. Introduce. The instructor may demonstrate a procedure to a student, or may coach the CCUI through the procedure without demonstration. The CCUI performs the procedures with coaching as necessary. The CCUI is responsible for knowledge of the procedures.

e. Review. Demonstrated proficiency by the CCUI.

231. CORE SKILL INTRODUCTION PHASE

1. Familiarization (FAM)

a. Purpose. To develop preliminary skills as a crew chief in the CH-46E and become familiar with flight characteristics, aircraft systems, limitations, and emergency procedures. To develop proficiency in assisting pilots in all aspects of FAM flight, both day and night.

b. General

(1) These flights may be flown with any flight of the basic pilot POI.

(2) The newly designated crew chief assigned to the FRS may fly a TERF-241 with a CCI and receive a FRS TERFQ only when determined proficient by the CCI. This qualification will allow the crew chief to fly only with a Pilot Under Instruction (PUI) during a TERF-171.

(3) The newly designated crew chief assigned to the FRS may fly a NS-251 with a CCI and receive a FRS NSQ only when determined proficient by the CCI. This qualification will allow the crew chief to fly only with a PUI during a NS-181, NS-182, and NS-183.

(4) On FAM-109 the CCUI will act as an observer. Subsequent to FAM-109 the CCUI will act in the capacity of crew chief.

(5) The CH-46E FRS shall develop the standardization of introductory flight maneuvers, classroom materials and procedures for instructional/student training and maintain the Core Skill Introduction Phase syllabus for the CH-46E T&R.

c. Crew Requirement. CCI/CCUI.

d. Ground/Academic Training. Prior to FAM-110, Aviation Physiology and flight physical, swim qualifications, and applicable ground training must be completed.

e. Flight Training. (4 Flights, 6.5 Hours).

FAM-109 2.0 O 1 CH-46E A

Goal. Introduce ground and normal flight procedures.

Requirement

Discuss:

- Use of ICS.
- Standard terminology.
- Voice procedures.
- Interaction with pilots.
- Lookout doctrine.
- Estimating distances.
- Emergency procedures.
- Fuel surveillance.
- Crew comfort levels.
- Vertigo.
- Takeoff and landing emergencies.
- CRM.
- Communication.
- SA.

Introduce:

- Basic crew duties.
- Daily/turnaround inspections.
- Servicing requirements.
- Startup/shutdown procedures.
- Hotseat procedures.
- Takeoff.
- Operation of communications equipment.
- Inflight lookout.
- Headwork.
- Aft station check procedures.

Aircraft fueling procedures.
Crew comfort levels.
Depth perception.
Taxiing/directing procedures.
Back taxi procedures.
Hot fuel procedures.

Review:

Limitations.
SOPs.
Crew chief duties.
Startup/shutdown procedures.
Aircraft security: Ship/shore based procedures.
Daily/Turnaround inspections.
Hotseat procedures.

Performance Standards. Exhibit basic understanding of crewchief duties.

Prerequisite. CRM and completion of plane captain oral sign-offs.

FAM-110

2.0 O 1 CH-46E A

Goal. Introduce communications, passenger briefing, normal and emergency procedures.

Requirement

Discuss:

Standard terminology.
Interaction with pilots.
Takeoff and landing emergencies.
Engine limitations.
Transmission limitations.
Inflight fire.
Smoke elimination.
CRM.
SA.
Leadership.
Ditching procedures.

Introduce:

Precautionary landings.
Emergency landings.
Autorotations.
SA.
Ground handling procedures.
Crew chief responsibilities during loading.
T&R Program Manual.
Aft station check procedures.

Review:

ICS usage.
Taxi procedures.
AFT station check procedures.
Hot fuel procedures.

Performance Standards. Demonstrate application of crew chief duties.

Prerequisite. FAM-109.

FAM-111 2.0 O 1 CH-46E A

Goal. Introduce communications, passenger briefing, normal and emergency procedures.

Requirement

Discuss:

- Standard terminology.
- Interaction with pilots.
- Takeoff and landing emergencies.
- Engine limitations.
- Transmission limitations.
- Inflight fire.
- Smoke elimination.
- CRM.
- SA.
- Leadership.
- Ditching procedures.

Introduce:

- Precautionary landings.
- Emergency landings.
- Autorotations.
- SA.
- Ground handling procedures.
- Crew chief responsibilities during loading.
- T&R Program Manual.
- Aft station check procedures.
- Introduce MCO P3500.14
- Introduce MCO P3500.50 chapter 2

Review:

- ICS usage.
- Taxi procedures.
- AFT station check procedures.
- Hot fuel procedures.

Performance Standards. Demonstrate application of crew chief duties.

Prerequisite. FAM-110.

FAM-116 1.5 O 1 CH-46E A

Goal. Introduce communications, aircraft procedures, normal and emergency procedures.

Requirement

Discuss:

- Standard terminology.
- Use of ICS.
- Interaction with pilots.
- Takeoff and landing emergencies.
- Engine limitations.
- Transmission limitations.

Inflight fire.
Smoke elimination.
CRM.
Aft station check procedures.
Aircraft fueling procedures.

Introduce:
Daily/Turnaround inspections.
Blade fold/unfold procedures.
APU start-up/shut-down procedures.
Aircraft power checks.

Review:
ICS usage.
Taxi procedures.
AFT station check procedures.
Hot fuel procedures.
Standard terminology.
Emergency procedures.
Basic crew duties.
Aircraft limitations.

Performance Standards. Demonstrate application of crew chief duties.

Prerequisite. FAM-111.

FAM-117

1.5 O 1 CH-46E A N*

Goal. Introduce night operations.

Requirement

Discuss:
Lighting systems.
Night operations.
Estimating distances.
CRM.
Adaptability/flexibility.
Decision making.

Introduce:
Daily at night.
Turnaround at night.
Light discipline.
Aircraft lighting.
Airfield lighting.
Night lookout doctrine.

Review:
Night precautionary Landings.
Night emergency landings.
Overview of duties.
SA.
Night startup/shutdown procedures.
Limitations.
Hot seat procedures.

Performance Standards. Demonstrate a basic knowledge of night operations IAW NATOPS.

Prerequisite. FAM-116.

2. Navigation (NAV)

- a. Purpose. To familiarize the CCUI with navigation responsibilities while navigating primarily using charts and maps.
- b. General. At the completion of this stage, the CCUI will be able to demonstrate the ability to assist the pilots in all aspects of navigation.
- c. Crew Requirement. CCI/CCUI.
- d. Academic Training. FRS Navigation class.
- e. Flight Training. (2 Flights, 3.0 Hours).

NAV-131 1.5 O 1 CH-46E A (N)

Goal. Introduce flight duties during navigation.

Requirement

Discuss:

Fuel management checks.
Crew participation.
CRM.
Communication.
Decision making.

Introduce:

Use of appropriate maps and checkpoints.
Time distance checks.
Barrier features.
Prominent terrain features.
Additional crew chief responsibilities over unfamiliar terrain.
Navigation procedures.

Review:

Communication.
SA.
Night startup/shutdown.
Aircraft lighting.
Taxiing at night.
Light discipline.
Crew duties.
Night lookout doctrine.

Performance Standards. Demonstrate ability to assist the pilots during navigation.

Prerequisite. FAM-110 (if flown at night, FAM-117).

3. Confined Area Landings (CAL)

- a. Purpose. To develop crew chief responsibilities during CALs.
- b. General. At the completion of this stage, the CCUI will be able to demonstrate the ability to assist in all aspects of CALs.

- c. Crew Requirement. CCI/CCUI.
- d. Academic Training. FRS CAL class.
- e. Flight Training. (2 Flights, 3 Hours).

CAL-141 1.5 O 1 CH-46E A

Goal. Introduce CAL responsibilities.

Requirement

Discuss:

- Obstacle clearance.
- Standard terminology.
- Crew comfort levels.
- Clearance in confined areas.
- Emergencies during low level operations.
- CRM.
 - Assertiveness.
 - Leadership.

Introduce:

- Aircraft clearance while operating in confined areas.
- Terrain suitability.
- Main-mount landings.
- Slope landings.
- Wave off.
- Low level operations.

Review:

- Crew responsibilities.
- Clearance calls.

Performance Standards. Demonstrate the ability to successfully crew the aircraft to the deck for a minimum of 5 landings.

Prerequisite. FAM-116.

External Syllabus Support. Various CAL sites.

External Syllabus Support. CAL sites suitable for NS use.

4. Formation (FORM)

- a. Purpose. To familiarize the CCUI with functions and responsibilities during formation flying.
- b. General. At the completion of this stage, the CCUI will be able to demonstrate the ability to assist pilots in all aspects of formation flight.
- c. Crew Requirement. CCI/CCUI.
- d. Academic Training. FRS Formation Flying class.
- e. Flight Training. (2 Flights, 3 Hours).

FORM-151 1.5 O 2 CH-46E A

Goal. Introduce formation flight/section CAL responsibilities.

Requirement

Discuss:

Lost communications procedures.
Crew chief responsibilities during inadvertent IMC.
CRM.
Communication.
Leadership.

Introduce:

Lookout procedures for wingman.
Turn patterns.
Breakup and rendezvous.
Section takeoffs and landings to an unimproved surface.

Review:

Crew responsibilities.
SA.
Distance estimation.
Crew coordination.
Lookout doctrine.

Performance Standards

Maintain SA of wingman throughout evolution.
Demonstrate proper crew chief duties.
Utilize standard terminology.
Demonstrate proper distance estimation within two feet of actual height.

Prerequisite. CAL-141.

External Syllabus Support. Availability of large LZ.

5. External Loads (EXT)

- a. Purpose. To develop CCUI skills necessary for external cargo operations.
- b. General. At the completion of this stage, the CCUI will be able to demonstrate the ability to assist the pilot during day external operations.
- c. Crew Requirement. CCI/CCUI.
- d. Academic Training. Review of NAVAIR 01-250-HDA-9.
- e. Flight Training. (1 Flight, 1.5 Hours).

EXT-161 1.5 O 1 CH-46E A

Goal. Introduce external cargo operations.

Requirement

Discuss:

Standard terminology.

Static discharge precautions.
Lost communications.
Hand signals.
Emergency procedures.
Emergency release procedures.
Crew duties.
CRM.
Decision making.
Communication.

Introduce:
Communications.
External operations.
Hook and pendant preflight.
Load release procedures.

Review:
Obstacle clearance.
SA.

Performance Standards
Properly configure aircraft.
Successfully complete five pickups and dropoffs.
Demonstrate standard terminology.
Execute proper safety precautions.

Prerequisite. FAM-116.

External Syllabus Support. External load.

5. Terrain Flight (TERF)

a. Purpose. To introduce the CCUI to TERF maneuvers and to emphasize the importance of crew coordination, crew comfort level, and standard terminology.

b. General. At the completion of this stage of flight, the CCUI will be able to demonstrate the ability to assist the pilots during day TERF maneuvers.

c. Crew Requirement. CCI/CCUI.

d. Academic Training. FRS TERF class.

e. Flight Training. (1 Flight, 1.5 Hours).

TERF-171 1.5 0 1 CH-46E A

Goal. Introduce TERF maneuvers.

Requirement

Discuss:
Obstacle clearance.
Standard terminology.
Crew comfort levels.
Wave off.
Clearance in confined areas.
Emergencies during low level operations.
CRM.

Assertiveness.
Communication.

Introduce:

Blade walk.
Hover check theory.
TERF maneuvers.
Bunts.
Rolls.
Masking and unmasking.
Spiral approach.
Low level quick stop.
Zoom climb.

Review:

Crew responsibilities.
Clearance calls.

Performance Standards. Demonstrate a basic understanding of TERF maneuvers.

Prerequisite. ACAD022, FAM-116.

External Syllabus Support. Low level TERF area in controlled airspace.

6. Night Systems (NS), High Light Level (HLL)

a. Purpose. To introduce skill in the use of NS under light levels greater than .0022 LUX (HLL) as predicted by the computer generated light level calendar.

b. General

(1) All initial and Refresher flights require a Enlisted Night Systems Instructor (ENSI) or a enlisted Night Systems Familiarization Instructor (ENSFI).

c. Crew Requirement. CC/ENSFI.

d. Prerequisite. FAM-141.

e. Academic Training. NS Nite Lab.

f. Flight Training. (1 Flights, 1.5 Hours).

NS-181 1.5 O CH-46E A NS

Goal. Introduce NS flight.

Requirement

Discuss:

Crew comfort levels.
NS failures.
Depth perception.
Aircraft lighting.
Emergency procedures.
CRM.
Mission analysis.

Assertiveness.

Introduce:

Use of NS during low level operations.
Aircraft configuration.
Taxiing on NS.
Use of NS at an unlit field.
Ground relationships.

Review:

Communication.
Lookout doctrine.
Night startup/shutdown.
Aircraft lighting.
Taxiing signals.
Light discipline.
Crew duties.
Vertigo.

Performance Standards. Apply basic NS skills as outlined in the MAWTS-1 NVD manual.

Prerequisite. Completion of NITE Lab and FAM-117.

NS-182

1.5 O 1 CH-46E A NS

Goal. Introduce flight duties during NS navigation.

Requirement

Discuss:

Fuel management checks.
Crew comfort Levels.
NS failures.
Emergency procedures.
CRM.
Adaptability/flexibility.
Mission analysis.

Introduce:

Additional crew chief responsibilities over unfamiliar terrain on NS.

Review:

Use of appropriate maps and checkpoints.
Time distance checks.
Barrier features.
Prominent terrain features.
Assisting pilots.
Light discipline.
Aft station checks.

Performance Standards. Demonstrate ability to assist pilots during NS navigation.

Prerequisite. NAV-131 and NS-181.

NS-183 1.5 O 1 CH-46E A NS

Goal. Introduce NS CALs.

Requirement

Discuss:

Obstacle clearance.
Task saturation.
Crew comfort levels.
Wave off.
Distance estimation.
Clearance in confined areas.
Emergency procedures.
CRM.
SA.
Assertiveness.

Introduce:

LZ lighting.
Aircraft clearance on NS.
LZ suitability.

Review:

Headwork.
Crew responsibilities.
Light discipline.
Clearance calls.
NS failures.
Depth perception.

Performance Standards. Demonstrate the ability to successfully call the aircraft to the deck utilizing NS a minimum of five times using standardized terminology.

Prerequisite. NS-181 and CAL-141.

External Syllabus Support. CAL sites suitable for NS use.

6. Crew Chief Evaluation (CSIX)

a. Purpose. To review all duties and emergency procedures of a Core Skill Introduction crew chief per this syllabus and NATOPS publications.

b. General

(1) Completion of this stage meets the requirements for designation as a crew chief.

(2) The CCI shall be a designated NATOPS Evaluator and CRM Facilitator/Instructor.

c. Crew Requirement. CCI/CCUI.

d. Academic Training

(1) Completion of open/closed book and 12-week evaluations.

(2) Completion of plane captain syllabus.

e. Flight Training. (2 Flights, 3.5 Hours).

REW-191 1.5 O E 1 CH-46E A (N)

Goal. Review duties, limitations, responsibilities, taxiing procedures, and emergency procedures.

Requirement

Discuss:

Preparation.
Time management.
Daily/turnaround procedures.
Startup/shutdown.
Taxi procedures.
Back taxi procedures.
Application of CRM.

Introduce:

Total crew chief responsibility for the aircraft.
Plane captain responsibilities.

Review:

Crew/passenger brief.
Aircraft configuration.
Emergency procedures.
Limitations.
ICS usage.
Estimating distances.
Safety precautions.
Systems knowledge.
Crew duties.
Lookout doctrine.

Performance Standards. Demonstrate proficiency as a crew chief as stated in the NATOPS and OPNAV 3710.7.

Prerequisite. ACAD 031, NS LAB, FAM-117.

CSIX-192 1.5 O E 1 CH-46E A (N)

Goal. Evaluate CCUI's systems knowledge of the CH-46E and the capability to perform duties as a Core Skill Introduction complete crew chief.

Requirement

Discuss:

Preparation.
Time management.
Daily/turnaround procedures.
Taxi procedures.
Aircraft systems.

Review

Crew/passenger brief.
Aircraft configuration.
Emergency procedures.
Limitations.
ICS usage.